



# Motorola 52<sup>nd</sup> St. Superfund Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • January 2012

## The U.S. Environmental Protection Agency (EPA) invites you to a community meeting to learn about:

- » Indoor Air Investigation and Findings, Next steps – Janet Rosati, Project Manager, EPA, 20 min.
- » Indoor Air Results and EPA's Health-based Screening Levels – Gerry Hiatt, Toxicologist, EPA, 20 min.

There will be short presentations on each topic from 6:15-7:00, followed by a poster session for one-on-one comments and questions.



### Community Meeting/ Open House

**Wednesday, February 15, 2012**  
6:15 p.m. – 8:15 p.m.

Brunson-Lee Elementary School  
1350 North 48th Street,  
Phoenix, AZ 85008  
Activities Room

The US Environmental Protection Agency (EPA) invites you to a community meeting to discuss the results of the indoor air investigation at the Motorola 52<sup>nd</sup> Street Superfund Site, the actions planned, and the next round of indoor air sampling in the area. The results of the July 2011 and October 2011 sampling events will be shared. Indoor air and sub-slab samples were collected in the residential area west of the former Motorola 52<sup>nd</sup> Street facility, part of the Lindon Park neighborhood, and in the area north of McDowell Road on E. Almeria Road and 44<sup>th</sup> Street. These samples were collected in order to re-evaluate whether there may be a **vapor intrusion** (see Figure 1) issue in the area. The work was conducted by Freescale Semiconductor Inc., under EPA oversight.

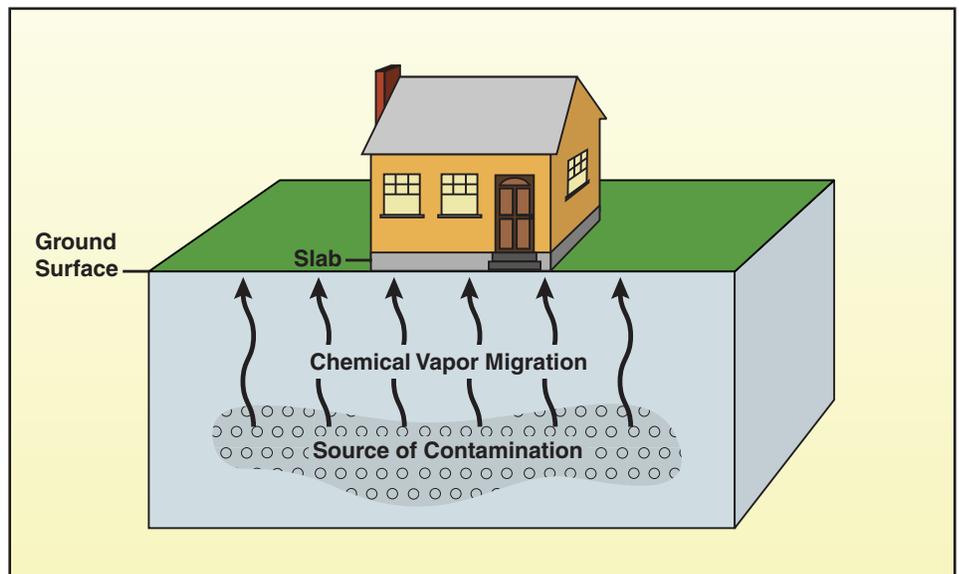


Figure 1: “**Vapor intrusion**” is the migration of chemicals that are in the subsurface that volatilize (become a gas) easily and can migrate into the air of overlying buildings. These chemicals include those called volatile organic compounds (VOCs), such as trichloroethene (TCE) and perchloroethylene (PCE) which are contaminants at the Motorola 52<sup>nd</sup> Street Site.

The area where indoor air and sub-slab sampling occurred or will occur is bounded by Coronado Street to the north, Culver St. to the south, 50<sup>th</sup> Street to the east, and State Route 143 (the Old Cross Cut Canal) to the west (see Fig. 2).

## Findings

From April to August 2011, soil gas samples were collected at 15 feet and 5 feet below the ground surface. The initial 26 sample locations were expanded to include 53 additional locations since data from some of the initial locations showed chemicals above EPA's Soil Gas Human Health Screening Levels (SGHHSLs). Data above SGHHSLs does not necessarily mean that vapor intrusion is occurring; only that additional work, such as indoor air sampling, is needed. The area sampled and the soil gas sampling results are available on the EPA website: [www.epa.gov/region9/motorola52ndst](http://www.epa.gov/region9/motorola52ndst), under "Community Involvement," called "Soil gas sampling results for OU1."

The soil gas results showed that the highest chemical concentrations in soil gas were under 50<sup>th</sup> St., Willetta St., and the Monterey Village apartments. Using this information as a guide to focus the indoor air sampling effort, Freescale sampled homes in these areas in July 2011. Because some indoor air samples exceeded EPA's conservative indoor air screening levels, another sampling event took place in October 2011, where Freescale, with EPA approval, moved outward to sample additional homes in the Monterey Village complex and in the area of E. Almeria Road.

In order to protect the privacy of those who volunteered to have their residences tested, EPA will not publish test results by address. However all of the data without addresses is publicly available at the website above under "Technical Documents",

called "Validated Indoor Air and Sub-Slab Data for July Sampling Event" and, once available, "Validated Data for the October Sampling Event".

In July and October 2011, Freescale sampled indoor air and sub-slab soil gas for 9 chemicals in a total of 39 residences, 5 commercial buildings and 2 schools. Sub-slab only samples were collected in 1 residence. Of the Site-related chemicals, only TCE and/or PCE were detected slightly above their health-based screening levels in 15 of the 39 homes and 3 of the commercial buildings. With the exception of one sample that was below the screening level for TCE, no TCE was detected in the schools. PCE was detected slightly above its screening level in one room in each of the schools (several rooms were sampled at both schools).

For residential structures, where PCE was detected above screening levels in indoor air, it was either not detected in the sub-slab samples or was detected at very low concentrations in the sub-slab samples. For the schools, no PCE was detected in the shallow soil gas samples adjacent to the buildings. Therefore, this data indicates that the PCE is likely from a product present indoors.

The majority of indoor air samples were either "non-detect" (meaning they were not high enough to be detected by the laboratory) or were below the health-protective screening levels for both TCE and PCE. The health-protective screening level for TCE is 0.43 µg/m<sup>3</sup> and the level for PCE is 0.41 µg/m<sup>3</sup>. These levels are based on an exposure to these chemicals 24-hours per day, 350 days per year, for 30 years. Exposures that are shorter and/or less frequent would result in lower risk. Where TCE or PCE were detected at or above their screening level in indoor air, TCE was detected at concentrations ranging from 0.43 µg/m<sup>3</sup> to 3.8 µg/m<sup>3</sup> and PCE was detected between 0.55 µg/m<sup>3</sup> to 4.4 µg/m<sup>3</sup>. There were two higher values that

## Summary of Findings

Indoor air and sub-slab samples were collected from a total of 39 residences, 5 commercial buildings, and 2 schools. Sub-slab only samples were collected from 1 residence.

Of the 39 residences, 24 had neither TCE nor PCE detected above the screening level in indoor air, while 15 residences showed TCE and/or PCE detected at or slightly above the screening level. One residence had sub-slab levels that were high, but indoor air levels were below the screening levels. Based on an assessment of both indoor air and sub-slab data, 16 residences were identified to have systems installed to mitigate the potential for vapor intrusion.

Out of the 5 commercial buildings, 2 had TCE and 1 had PCE above the screening levels. EPA will work with the owners to insure the Heating, Ventilation and Air Conditioning Systems are operating properly, collect another round of indoor air samples to verify the data, and then determine whether mitigation is needed.

Several rooms were sampled at both schools. With the exception of one sample that was below the screening level for TCE, no TCE was detected in the schools. PCE was detected slightly above its screening level in one room in each school, however neither TCE nor PCE concentrations were high enough to pose a potential risk to children at the schools. Neither school showed evidence of vapor intrusion.

were outliers: one residence had an indoor air concentration of PCE at  $9.3 \mu\text{g}/\text{m}^3$ . However, a duplicate sample did not detect PCE and PCE was not detected in the sub-slab sample. Also, there was one vacant commercial building that had an indoor air concentration for TCE of  $8.6 \mu\text{g}/\text{m}^3$ , but its ventilation system was not operating.

## What actions will be taken?

Where indoor air concentrations of TCE exceeded the screening level and sub-slab concentrations of TCE were high enough to indicate the potential for vapor intrusion, EPA has recommended, and Freescale has agreed, to install sub-slab depressurization systems. The systems will be installed in 4 homes, 1 apartment building and 1 four-plex for a total of 16 units. These systems are similar to systems installed in many homes in this country to prevent vapor intrusion from radon. U.S. EPA and Freescale are working together to move forward in installing the systems. EPA has been contacting residents and property owners to discuss their sampling results, and to discuss the next steps for system installation. The mitigation systems will be installed and maintained by Freescale at no cost to the owner or resident.

For the commercial buildings where TCE or PCE exceeded the screening levels, EPA will work with the owners to insure the Heating, Ventilation and Air Conditioning Systems are operating properly. A second round of indoor air samples will then be collected, after which EPA will determine whether mitigation is needed.

A second round of indoor air and sub-slab sampling will take place in February covering all homes, schools and commercial buildings sampled so far with the exception of those homes that will be remediated. The purpose of this round is to determine if there are seasonal variations in indoor air data to confirm that vapor intrusion is not occurring.

Freescale will also sample additional homes in the area of E. Almeria Road and on 50<sup>th</sup> Street in February. A second round of indoor air and sub-slab samples will be collected this summer for these homes.

## Motorola 52<sup>nd</sup> St. Superfund Site Background

The Motorola 52<sup>nd</sup> Street Superfund Site is located in the City of Phoenix, Maricopa County, Arizona. The Site is divided into three adjoining Operable Units (OUs). OU1 is the easternmost area and includes the former Motorola 52<sup>nd</sup> Street Semiconductor facility. The OU1 boundaries are 52<sup>nd</sup> Street to the east, Palm Lane to the north, Roosevelt Street to the south, and 44<sup>th</sup> Street to the west.

Motorola Semiconductor Products Sector (Motorola) owned and operated the 52<sup>nd</sup> Street facility from 1956 to 1999. As part of its electronics manufacturing operation, Motorola used solvents, including VOCs such as TCE and PCE to clean and degrease parts and equipment. Investigations in the 1980s revealed groundwater contamination at the 52<sup>nd</sup> Street facility and to the west. In 1989 the site was added to the Superfund National Priorities List, or NPL. Freescale (formerly a part of Motorola) has been operating a groundwater extraction and treatment system since 1992 to contain and treat the contaminated groundwater. Groundwater treatment is expected to continue for many years.

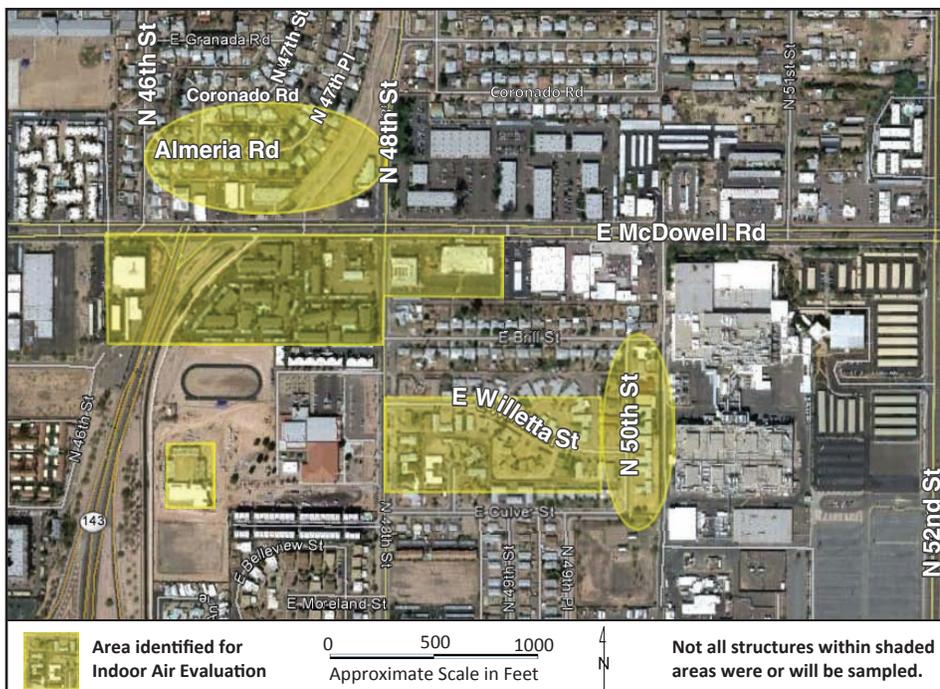


Figure 2: General areas that have been sampled, and the general area where new sampling will be.

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The EPA invites you to a community meeting on Wednesday, February 15, 2012

## For additional information, contact:

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## Information Repositories:

Community members can review site information at the following repositories or on the EPA or ADEQ websites at:



[www.epa.gov/region09/motorola52ndst](http://www.epa.gov/region09/motorola52ndst)

[www.azdeq.gov/environ/waste/sps/phxsites.html#mot52a](http://www.azdeq.gov/environ/waste/sps/phxsites.html#mot52a)

### Burton Barr Public Library

1221 N. Central Avenue  
(602) 262-4636

### ADEQ Records

**Management Center**  
(M-F 8:30 am - 4:30 pm)  
1110 W. Washington St.  
(602) 771-4380

### Phoenix Public Library, Saguaro Branch

(Information primarily  
stored on CD's)  
2802 North 46<sup>th</sup> Street  
(602) 262-6801

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