

Health Consultation Summary

Modesto Dry Cleaner Investigation: “Jerry’s Drapery Service” and “Hi-Grade Drive-In Cleaners”

California Department of Public Health (CDPH) investigates dry cleaner releases in Modesto, California

The California Department of Public Health (CDPH) worked with the federal Agency for Toxic Substances and Disease Registry (ATSDR) to investigate two former dry cleaners in your neighborhood: “Jerry’s Drapery Service” at 123 Phoenix Avenue and “Hi-Grade Drive-In Cleaners” at 1915 Yosemite Boulevard. This investigation was done because of concerns about past releases of a dry cleaning chemical called tetrachloroethylene (PCE) and how it could affect nearby workers and residents. This is a summary of our investigation of potential exposures to PCE based on the information that the City of Modesto and the California Department of Toxic Substances Control (DTSC) provided. CDPH and ATSDR are committed to providing the best scientific information available and to promoting the health of the community.

Conclusions and Recommendations

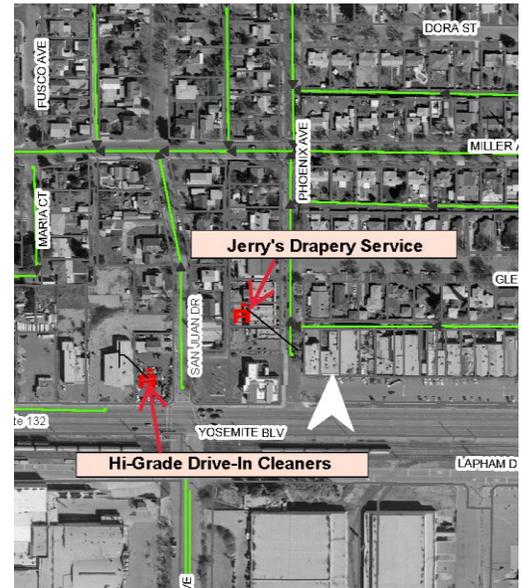
Currently, we do not know the concentrations of PCE in indoor air in nearby homes and other buildings. We recommend that the City of Modesto, under DTSC oversight, offers sampling of indoor air in homes and businesses in locations where the estimated PCE concentration in indoor air (based on 5 ft. soil gas concentrations) exceeds the DTSC Screening Level of 2 $\mu\text{g}/\text{m}^3$ for businesses or 0.46 $\mu\text{g}/\text{m}^3$ for homes. This is currently the case for buildings within 500 feet of the former dry cleaners. We recommend that residents and workers request and allow the indoor air testing.

Currently, we do not know the extent of the soil gas contamination and its effect on residential homes and commercial buildings. We recommend that the City of Modesto, under DTSC oversight, delineates the soil gas plume: the area where the estimated PCE concentration in indoor air (based on 5 ft. soil gas concentrations) exceeds the DTSC Screening Level of 2 $\mu\text{g}/\text{m}^3$ for businesses or 0.46 $\mu\text{g}/\text{m}^3$ for homes. The corresponding soil gas concentrations are 67 $\mu\text{g}/\text{m}^3$ for businesses and 15 $\mu\text{g}/\text{m}^3$ for homes.

In 2014, a soil vapor extraction (SVE) system was installed underground to remove PCE from the soil underneath buildings. The SVE system was shut off in 2015 for license renewal and was never turned on again due to subsequent theft and vandalism of the equipment. We recommend that the City of Modesto, under DTSC oversight, continue operation of the SVE until soil gas concentrations are stably below the concentration which correlates to the indoor air DTSC-Screening Level for businesses of 2 $\mu\text{g}/\text{m}^3$ or 0.46 $\mu\text{g}/\text{m}^3$ for homes.

History of dry cleaner investigations in Modesto

Since 2001, the City of Modesto has investigated toxic chemicals released from dry cleaners into the local soil and groundwater. Since 2011, DTSC has overseen the cleanup of the former Service and Sparkleen dry cleaners. In April 2010, DTSC asked CDPH for help in responding to a Modesto community member who had health concerns about exposures to chemicals from dry cleaners near their home. We reviewed the information and responded to the concerned community member. After reviewing additional information, we decided to conduct health consultations for 23 dry cleaners in Modesto. This is a summary of the investigation of the former Jerry's and Hi-Grade dry cleaners. Other Health Consultation can be found on the [CDPH webpage](https://goo.gl/rviVvS) (<https://goo.gl/rviVvS>).



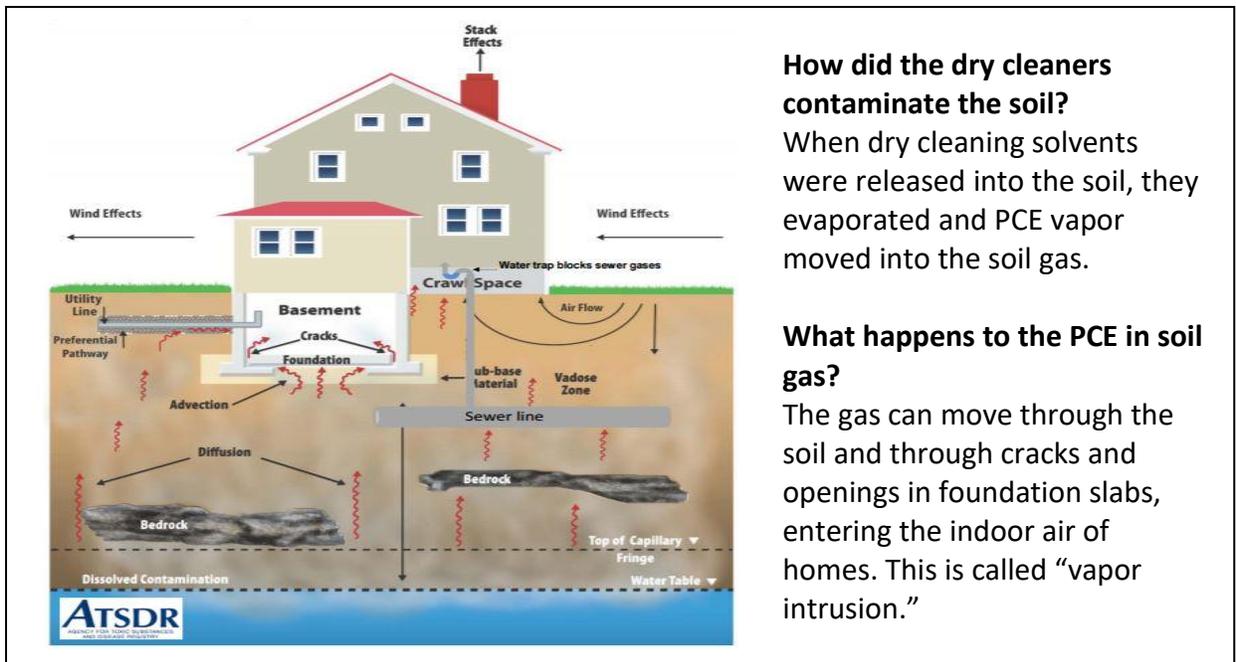
Modesto community concerns

During our outreach activities we received calls from community members who were concerned about the safety of their soil, drinking water, and air. The dry cleaner sites are fenced or paved, so there is no contact with contaminated soil. We also provided a contact to Modesto's Drinking Water Services. We looked at how the dry cleaner chemicals could affect the indoor air in the former dry cleaner buildings and nearby homes.

What is vapor intrusion?

All soils contain numerous tiny air pockets (soil gas), like the air spaces in a sponge. If a volatile solvent like PCE is present in the soil, it evaporates and becomes part of the soil gas. Vapor intrusion occurs when soil gas enters a building through cracks in the slab, foundation, basement floor, sewer lines, or other openings. The amount of soil gas that moves into a building depends on the soil type and wetness of the soil, the air conditioning and heating settings in the building, the time residents keep windows open, the type and condition of the floor (cracks in the concrete, holes for utilities), and other factors. Once inside the building, the solvent vapors are part of the indoor air and we breathe them in.

In the past, some dry cleaners in Modesto spilled solvents like tetrachloroethylene or "PCE" on the ground or flushed them down the drains. PCE evaporates easily and can move from the soil and groundwater into soil gas. In 2014, DTSC installed a Soil Vapor Extraction (SVE) system under a commercial building at 1925 Yosemite Boulevard. The SVE served to reduce vapor intrusion in the building until it was shut off in 2015 for a license renewal. It was not turned on again due to theft and vandalism of the machine.



How did the dry cleaners contaminate the soil?
 When dry cleaning solvents were released into the soil, they evaporated and PCE vapor moved into the soil gas.

What happens to the PCE in soil gas?
 The gas can move through the soil and through cracks and openings in foundation slabs, entering the indoor air of homes. This is called “vapor intrusion.”

What did CDPH do?

We reviewed information on PCE concentrations in soil gas from 2002 to 2016. We reviewed information on PCE concentrations in indoor air in the commercial building at 1925 Yosemite Boulevard in 2012. We assessed the potential cancer and non-cancer health risks from breathing PCE in indoor air.

What did CDPH find?

- We do not know the current or past levels of PCE in indoor air in homes or in the former Jerry’s or Hi-Grade dry cleaners. No indoor air measurements are available.
- There is not enough information to determine whether breathing PCE in indoor air at 1925 Yosemite Blvd could have harmed people’s health. We only have one measurement of indoor air from 2012.
- Based on the high concentration of PCE in soil gas at some locations (2002-2016), it is likely that concentrations of PCE in indoor air were elevated in some buildings.

What is PCE and what are its health effects?

PCE is a solvent that was used by many dry cleaners in the past. PCE is also commonly found in outdoor air as well as indoor air of homes. Many home cleaning products, solvents, and paint thinners contain PCE. ATSDR found that exposure to PCE might harm the nervous system, liver, kidneys and reproductive system. It can be harmful to unborn children and increase the risk for certain cancers. Scientists do not know if children are more at risk than adults to the effects of PCE.

Our investigations cannot predict if an exposed person will develop health effects. This depends on how much PCE a person is exposed to (how often and how long), exposures to other chemicals, and the age, sex, diet, heredity, lifestyle, and health of the person exposed.

How can Modesto residents protect their health?

- We encourage residents and workers to have the indoor air tested.
- Residents and workers who might have been exposed to PCE in the past, and who have health or exposure concerns related to these dry cleaners, should contact their doctor and give them a copy of this summary and the health consultation. We can refer your health care provider to additional resources.
- We encourage residents and workers to review the two factsheets included in this letter. These factsheets give more information about the health effects of PCE and explain vapor intrusion.

What can other organizations do?

CDPH recommends that:

- The City of Modesto, under DTSC oversight, offers testing of indoor air for buildings within 500 feet of the former drycleaners.
- The City of Modesto, under DTSC oversight, delineates the soil gas plume.
- The City of Modesto, under DTSC oversight, continues operating the Soil Vapor Extraction system that removes PCE from the soil gas.

Where can you learn more?

The complete Health Consultation document is available in English and Spanish at the [CDPH website](https://goo.gl/rviVvS) (<https://goo.gl/rviVvS>). You can also contact us via phone, email or letter to receive a copy. In addition, CDPH has a webpage on [Vapor Intrusion and PCE](https://goo.gl/pouPYV) (<https://goo.gl/pouPYV>).

Please contact us if you have any questions about this investigation.

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