

ENVIRONMENTAL Fact Sheet



Palermo Wellfield, Tumwater, Washington

U.S. Environmental Protection Agency, Region 10

December 2003

Palermo Superfund cleanup gets a checkup

The U.S. Environmental Protection Agency (EPA) does regular checkups, called Five-Year Reviews, on certain Superfund cleanups to make sure they continue to protect people and the environment. We recently completed a Five-Year Review for the Palermo Superfund site.

This fact sheet briefly describes what the review found and what future work may be needed. It also provides some background for people unfamiliar with the Palermo Wellfield cleanup. If you have other questions, please feel free to contact us at the numbers listed on page 3.

What is a Five-Year Review?

EPA considers three basic questions in a Five-Year Review:

1. Is the cleanup working as well as expected?
2. Have any of the technical guidelines used in designing the cleanup changed?
3. Is there any other new information that should be considered?

What did we find?

The Five-Year Review found that most of the work that has been done to prevent people from being exposed to TCE and PCE that remains in groundwater has been effective. However, the review recommends further evaluation of indoor air in the Palermo neighborhood (*see page 2 for more details about this issue*).

When is the next Five-Year Review?

The next review is scheduled to be completed by September 30, 2008.

KEY SUCCESS

City's drinking water continues to show no contamination.

The treatment system installed at Tumwater's Palermo Wellfield is working well. No TCE or PCE has been detected in the City's water supply system since the completion of the treatment system.

Where can I find a copy of the full Five-Year Review?

Tumwater Public Library,
7023 New Market Street,
call for hours: 360-943-7790.
EPA's Washington Operations Office,
300 Desmond Drive SE, Suite #102, in Lacey,
(8:00 a.m. to 4:30 p.m. M-F).
On the Web: <http://yosemite.epa.gov/r10/cleanup.nsf/sites/palermo>

Indoor air in the Palermo neighborhood

What has been done?

In the Palermo Neighborhood, groundwater contaminated with TCE and PCE is not very far beneath the ground's surface. As a result, it is possible that chemical vapors could get into the air inside homes and pose a health risk to residents.

In 2001, EPA tested the air in seven homes in the Palermo neighborhood for TCE and PCE. Low levels of the chemicals were found in three of the seven homes tested, including one home with levels slightly higher than our cleanup goal for TCE (3.1 parts per billion measured, compared to the cleanup goal of 1.46 parts per billion). However, the risk of getting cancer from breathing these levels was not considered significant. At the time, the Washington Department of Health concluded that the low levels of TCE and PCE found in the indoor air did not pose a health risk.

What has changed?

EPA's Five-Year Review recommended reevaluating indoor air to make sure the long-term risk is still not a concern. Two important considerations for reevaluating the indoor-air risk are: (1) how effective the "french drain" was at lowering the groundwater level in the Palermo neighborhood, and (2) new cancer-risk calculation factors for TCE and PCE.

1. French Drain

Because groundwater contaminated with TCE and PCE is not very far below the surface, the vapors could possibly get into the air in homes and pose a health risk to residents. To eliminate this risk, EPA built a sub-drain system ("french drain") in 2001 to lower the groundwater level in the area. Although the french drain has fixed the problem of contaminated water pooling up under homes, it may still not have lowered the groundwater level enough to keep contaminated vapors from getting inside homes.

2. New risk factors for TCE and PCE

Risk is calculated using complex equations that help us estimate how likely a chemical is to cause cancer at certain concentrations. EPA now uses more protective numbers for TCE and PCE than we did in our original risk calculations. When these new risk numbers are applied to the indoor air samples collected in 2001, the risk is just at or slightly above where EPA would normally require further action.

What are the options?

We are considering testing more homes in the Palermo neighborhood to see if there is TCE and/or PCE in the indoor air. A larger number of samples would help us better determine the level of risk.

EPA also may offer to install a permanent vapor barrier and/or air vents in the crawl spaces beneath your homes. A vapor barrier can be as simple as a thick plastic tarp that prevents chemical vapors from rising into your home through the ground.

Participation would be voluntary, and EPA would pay for any additional indoor air tests, installing vapor barriers, or other work if needed.

Next steps

The risk of getting cancer from TCE and PCE in indoor air due to contaminated groundwater is still considered very small. Before EPA does any more work, we want to talk with residents of the Palermo neighborhood about their concerns, and get feedback about whether they would like to have their indoor air tested or additional safety measures installed at their home. Palermo neighborhood residents will receive a separate letter with this fact sheet asking them to contact us. We may also hold a public meeting if requested.

Indoor air — *Next steps* (continued)

EPA will complete a plan for additional work by the end of April 2004. We will continue to keep you updated by sending fact sheets and other information to this mailing list.

**Background**

The Palermo Wellfield is located just east of Interstate 5, near the intersection of Trospen Road and Capitol Boulevard in Tumwater, Washington. The area has six drinking water wells that provide up to 50% of the drinking water for the City of Tumwater. The Palermo Neighborhood has about 50 homes within the Wellfield area.

In 1993, routine sampling detected *trichloroethylene* (TCE), a solvent commonly used for metal degreasing and dry cleaning, in three of the wells. EPA investigations revealed that the TCE, as well as another industrial solvent called *tetrachloroethylene* (PCE), came from several businesses in the nearby commercial area.

Since the cleanup began, EPA has removed contamination from soil at a dry cleaning business, built a water treatment system at the city's wellfield, and built a french drain and lagoon system to help control the groundwater level in the Palermo neighborhood.

EPA has turned over most of the operation and maintenance activities associated with the cleanup to the Washington Department of Ecology and the City of Tumwater.

What are TCE and PCE?

Trichloroethylene (TCE) and tetrachloroethylene (PCE) are common industrial solvents used for dry cleaning and metal degreasing. Health effects from exposure to these chemicals depend on many factors, such as:

- How much you are exposed to,
- How long you are exposed,
- Age,
- Exposure to certain other chemicals, and
- Personal health conditions.

The amounts of TCE and PCE we have measured in indoor air in the Palermo Neighborhood in the past are not considered high enough to cause immediate health concerns. However, long-term exposure to both TCE and PCE is suspected to cause cancer. Consequently, there may be an increased risk, even if extremely small, for developing cancer from breathing low levels of the chemicals. This risk is above and beyond the normal risks people have of developing cancer due to other causes.

For more Information

If you have questions or would like to talk more about the cleanup, please contact:

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For TTY users, please call the Federal Relay Service at 1-800-877-8339.



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*PALERMO WELLFIELD SUPERFUND SITE
TUMWATER, WASHINGTON
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www.epa.gov/r10earth

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then "Palermo Wellfield."
