# Fact Sheet: Proposed Plan for Palermo Wellfield OU-2 Cleanup

#### April 2024

The U.S. Environmental Protection Agency proposes to amend the final cleanup plan, or Record of Decision, for the Palermo Wellfield Superfund Site Operable Unit 2. EPA's Preferred Alternatives will provide additional remediation of soil and groundwater impacted by trichloroethylene (TCE) and tetrachloroethylene (PCE) at the site. The Proposed Plan describes the cleanup alternatives evaluated and EPA's Preferred Alternatives for a ROD Amendment.

## Where is the Palermo Superfund Site Located?



The 150-acre site is in a light commercial and residential area in Tumwater, Washington, approximately 60 miles south of Seattle. The western part of the site is an uplands area that straddles Interstate 5 and

Skeo: NORTH Palermo Well Field Ground Water Contamination Superfund City of Turnwater, Thurston County, Washington

contains the Southgate Shopping Center which includes a dry cleaner facility, restaurants and other small businesses, and the Washington State Department of Transportation (WSDOT) testing laboratories. A 60-foot bluff separates the western uplands area from the eastern lowland part of the site in the Deschutes River Valley. Immediately below the bluff is the eastern part of the site that includes the Palermo residential neighborhood comprised of approximately 50 houses and the Palermo City Wellfield.

## Share your opinion!

**30-Day Public Comment Period** April 9 through May 11, 2024

You can provide comments on the Proposed Plan in the following ways:

#### **1.** By Mail

ATTN: Palermo Proposed Plan c/o James Hall U.S. EPA Region 10, 1200 Sixth Avenue, Suite 155 Seattle, WA 98101

- 2. Attending the public meeting and providing oral and/or written comments (for more details please visit www.epa.gov/superfund/palermo.
  - EPA will hold an in-person public meeting on **Tuesday, April 23, 2024.**

**To learn more about the Proposed Plan,** please visit EPA's Palermo website (<u>epa.gov/superfund/palermo</u>) for the most up-to-date information on:

- ✓ **The public meeting** outlined above.
- ✓ Supporting materials, including the full Proposed Plan.

To receive updates on the Palermo Proposed Plan by email, please contact **Julie Congdon** (congdon.julie@epa.gov).

# What is CERCLA and Superfund?

The Comprehensive Environmental Response, Compensation, and Liability Act was passed into law by Congress in 1980. This law created the Superfund program, which is responsible for cleaning up some of the nation's most contaminated sites, and responding to environmental emergencies, oil spills, and natural disasters. This includes cleaning up the Palermo Wellfield Superfund Site.

# Why does the Palermo Site need to be cleaned up?



EPA Graphic

Groundwater and soils in the Palermo Wellfield Superfund Site are contaminated with chlorinated solvents including TCE and PCE. In 1993, the City of Tumwater detected TCE in three drinking water supply wells. The city initially removed the impacted wells from service. The source of the TCE was determined to be from industrial operations from former and current WSDOT facilities. EPA listed the site on the Superfund program's National Priorities List in 1997.

In 1998 and 1999, EPA installed "<u>air stripping</u>" treatment systems at the City of Tumwater Wellfield to treat contaminated groundwater. A soil vapor extraction system beneath the dry-cleaning facility was installed to treat PCE in soil. A subdrain was installed to intercept shallow contaminated groundwater for treatment and lower the water table in the Palermo neighborhood.

Although these cleanup actions have reduced people's exposure to TCE and PCE, the contamination persists. As a result, EPA determined that the remedy established for the site should be reevaluated and amended.

EPA intends to issue ROD Amendments to separately address the impacts from TCE and PCE. "Operable Units" (OUs) have been established to administratively separate the site. EPA began evaluating remedial alternatives for the site in 2023 after performing additional investigations at the site. EPA intends to have individual ROD Amendments for the TCE plume that originated from WSDOT activities (will be called OU-1) and the PCE plume that originated from the Southgate Shopping Center Dry Cleaners (will be called OU-2).

EPA is the lead agency for the remediation of the PCE contamination at OU-2, and will utilize Superfund funding to construct the selected remedy. EPA has a Proposed Plan for cleanup of the OU-2 PCE source and its resulting contaminant plume from the Southgate Dry Cleaners located in the Southgate Shopping Center. WSDOT is currently working with EPA to develop remedial alternatives to treat TCE contamination in OU-1.



"Vapor intrusion" is the movement of chemicals in the soil or groundwater that become a gas easily and can travel into the indoor air of overlying buildings through joints, cracks in the foundation, around pipes, or through a sump or drain system. These chemicals include those called volatile organic compounds, such as TCE and PCE, which are contaminants at the Palermo Wellfield Superfund Site. EPA graphics



## What is the risk to people and wildlife from contamination in the Palermo Superfund Site?

A human health risk assessment, conducted in 1999, determined potential cancer risks and cancer hazards for adult and child residents exposed to PCE and TCE from drinking, smelling, or coming in contact with tap water over a lifetime. To avoid these potential risks, in 2000, EPA installed a soil vapor extraction system to minimize exposure to vapors and remediate soil beneath Southgate Dry Cleaners. The air stripper system that is currently in place at the Palermo Wellfield was installed to treat groundwater and prevent PCE and TCE from entering the public water supply system.

The 1999 risk assessment found that children (ages 4 to 11 years old) playing in an impacted ditch behind the homes on Rainier Avenue were not at risk of exposure to PCE and TCE through contact with water in the ditch. However, the risk assessment did find that children and adults could be exposed to breathing high air levels of PCE and TCE that come into the home from vapors diffusing into the home from contaminated groundwater.

Based on the most recent screening level ecological risk assessment update conducted in 2021, PCE is not identified as a contaminant of concern for plants and wildlife.

### What are the Contaminants of Concern at the Palermo Superfund site?

The following contaminants of concern pose the greatest potential for risks to people's health and the environment.

**PCE** (Tetrachloroethylene) is a human-made chemical that is widely used in the dry-cleaning industry to clean fabrics and is also used as a degreaser. PCE is found in some paint and spot removers, water repellents, brake and wood cleaners, glues, and suede protectors. People may be exposed to PCE in air, water, and food. Exposure can also occur when PCE or material containing PCE (for example, soil) gets on the skin. For most people, almost all exposure is from PCE in air. In humans, PCE may affect the central nervous system, the liver, kidneys, blood, immune system, and perhaps the reproductive system.

**TCE** (Trichloroethylene) is also a human-made chemical. TCE is volatile, meaning it readily evaporates into the air at room temperature, where people can sometimes smell it. It is used as a solvent to remove grease from metal, spots from clothing, and as a paint stripper. Like PCE, people can be exposed to TCE from air, water, food, or skin contact with material and soils containing it. The most common TCE exposures come from breathing indoor air where it is present. TCE exposure can cause health effects on the central nervous system, liver, kidneys, and immune system, and can affect fetal heart development during pregnancy. EPA classifies TCE as a chemical that causes cancer in humans. As with all exposures, whether or not a person experiences a health effect depends on how much of a chemical they are exposed to, how often the exposure occurs, and how long the exposures last. Individual characteristics such as age, health, lifestyle, and genetics also play a role.

# **EPA's Preferred Alternative**

EPA has evaluated a range of cleanup alternatives for soil, soil gas and groundwater cleanup, which are presented in the Focused Feasibility Study. EPA's primary objective is to reduce contaminant concentrations in soil, soil gas, and groundwater to levels that protect people's health and the environment. EPA's long-term vision for the Palermo Wellfield Superfund Site is to:

- 1. Reduce contaminants in groundwater to a level that meets drinking water standards within a reasonable time frame.
- 2. Prevent soil from contaminating groundwater above health-based levels;
- 3. Prevent the flow of contaminated groundwater to the Deschutes River; and
- 4. Reduce cancer and non-cancer risk to acceptable levels for people exposed to contaminants via vapor intrusion.

EPA proposes the following specific cleanup components for soil, soil gas and groundwater:

- Cleanup Plan for Contaminated Soil/Soil Gas: Soil vapor extraction will be used to remove PCE from soil
  gas and soil that is present beneath the Southgate Dry Cleaners using a horizontal extraction well (Figure
  2). Extracted vapors will be treated before they are released into the air. Soil vapor extraction will reduce
  contamination into the groundwater from contaminated soils. EPA will conduct soil vapor and groundwater
  monitoring to verify the effectiveness of cleanup.
- Timeframe to cleanup soils and achieve EPA's cleanup objectives is within 3 years of the remedy's implementation. Cleanup Plan for Contaminated Groundwater:
  - In Situ Sequestration with In Situ Chemical Reduction: The cleanup uses activated carbon barriers to capture and slow the movement of contaminants through groundwater. A barrier of zero valent iron, which is a non-toxic chemical that breaks down pollutants, will reduce the amount of contamination. When the activated carbon and zero valent iron are injected into groundwater to form barriers, this will treat the groundwater as it moves naturally through the groundwater.
  - EPA will conduct groundwater **monitoring** to verify and track the effectiveness of groundwater cleanup.
  - Institutional controls, like water use restrictions and other ordinances, will be implemented to control local groundwater use, and will prevent on-site access to groundwater.
  - Engineering controls, such as fencing or barriers, will be in place during construction of the remedy to restrict access to the construction area.
  - The current subdrain will continue to contain the down-gradient extent of the PCE groundwater plume. The aerators in the treatment lagoon will continue to treat PCE impacted water.



Figure 2. Soil Vapor Extraction System Alignment

# What happens now?

The figure to the right shows the Superfund process, including Record of Decision Amendments. The objective of this Proposed Plan is to present EPA's Preferred Alternatives for additional remediation of soil/soil gas and groundwater impacted by PCE at the Palermo Wellfield Superfund Site. We are currently at the first Proposed Plan stage of the cleanup for the Southgate Shopping Center Dry Cleaners, to address PCE in soil and groundwater. EPA is requesting your comments on the Proposed Plan. Under this proposed cleanup:

- EPA is the lead agency, and the Washington State Department of Ecology is the support agency for the remedial action at the site. After reviewing and considering all information submitted during the 30-day public comment period, EPA, in consultation with Ecology, will issue an amendment to the 1999 Record of Decision.
- Once the ROD Amendment is finalized and signed, the remedy will be designed, constructed, and implemented. Construction of the remedy is expected to take less than one year. Clean up of soil is expected to be completed within 3 years, and groundwater is anticipated to reach cleanup levels in about 10 years after the remedy is constructed. EPA would collect data during this time to understand the effectiveness of the cleanup.
- After the construction of the remedy is complete, EPA will continue to monitor and collect data that will be assessed during five-year reviews.
- It is anticipated that a second Proposed Plan will be prepared in the next few years by WSDOT for the OU-1 TCE plume that originated at the WSDOT facilities with any additional actions deemed necessary.

# What happens after this public comment period?

EPA will consider public comments when selecting the final cleanup actions for the Palermo Superfund site. EPA may modify the Preferred Alternative or select another cleanup alternative based on new information or public comments and then issue the Record of Decision Amendment. You are encouraged to review and comment on all the alternatives in the Proposed Plan, available on EPA's Palermo Wellfield website (www.epa.gov/superfund/palermo). The RODA will include a Responsiveness Summary that will summarize and respond to public comments on the Proposed Plan.

# Who is involved in the Palermo Cleanup?

EPA will oversee cleanup of the Palermo Wellfield Superfund Site which is expected to be conducted primarily by EPA for the PCE plume (OU-2) and WSDOT for the TCE plume (OU-1). EPA consulted with WSDOT during the preparation of the Proposed Plan. Additionally, many others are involved with the cleanup including:

- The Washington Department of Ecology is the support agency for the remedial action at the site. EPA, in consultation with Ecology, will issue an amendment to the cleanup decision previously described in the Record of Decision after reviewing and considering information submitted during the 30-day public comment period.
- The City of Tumwater continues to treat groundwater in the Palermo neighborhood by maintaining air strippers and the operation and maintenance of a treatment lagoon.
- Interested community groups and community members who are affected by the cleanup activities. Community involvement is a crucial, and required, part of the Superfund process. As a result, EPA provided this fact sheet to help the community better understand how EPA can best keep community members informed and involved in the cleanup process, including the release of this Proposed Plan for the Palermo Wellfield Superfund Site OU-2.



## **For More Information**

#### **Site Contacts**

- James Hall, EPA Remedial Project Manager hall.james@epa.gov 206-553-1809
- Stephen Lukas, EPA Remedial Project Manager lukas.stephen@epa.gov 206-553-2111
- Julie Congdon, EPA Community Involvement Coordinator congdon.julie@epa.gov 206-553-2752

#### Web Page

For information on EPA's work on the Palermo Superfund site, please visit: epa.gov/superfund/palermo

If you need materials in an alternative format, please contact Julie Congdon at 206-553-2752.

**Stay Connected:** If you would like regular updates about this site, email **Julie Congdon** at <u>congdon.julie@epa.gov</u> to join our listserv. If you prefer printed information, include your mailing address. To opt-out of emails, type "UNSUBSCRIBE" in the subject line.



Region 10 1200 Sixth Avenue, Suite 155 Mail Stop 12-D12 Seattle, Washington 98101

April 2024

# Fact Sheet:

**Proposed Plan for Palermo Wellfield OU-2 Cleanup**