Palermo Wellfield

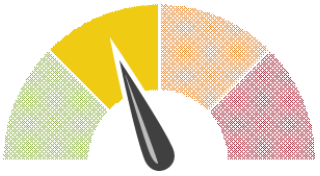
Site Hazard Assessment and Ranking Process (SHARP) Report

Go to site contamination history

Location and land use info		Ecology Info	
Palermo Ave SE & O St SE, Tumwater , Thurston County, 98501		CSID	4616
		FSID	55237647
Land use	commercial	VCP	none
Responsible unit	EPA	ERTS	none
Cleanup milestone	cleanup action plan	UST ID	none
Parcel numbers	67100500100	LUST ID	none

SHARP Results

Assessed by	John Pearch
SHARP Date	05/15/2026
Environmental justice concerns?	No EJFlag - No Override
EJ confidence level	low



SHARP Rating: Medium

Site Points: 720

SHARP Media	Scores	Confidence	Additional Factors	
Indoor air	C1	medium	multiple chemical types	no
Groundwater	**A1**	high	risk to off-site people	no
Surface water	D4	high	climate change impacts	yes
Sediment	B4	low	plant/animal tissue data	no
Soil	C1	high		

Media score = exposure and severity. Exposure score: A to D, A=current exposure. Severity score, 1 is the most severe. See https://ecology.wa.gov/SHARP for more information.

This section is blank if this is the first SHARP

Sources reviewed

- 2024, Proposed Plan and ROD Amendment, Palermo Wellfield OU-2, EPA
- 2023/2024, Supplemental RI/ FS, Palermo Wellfield OU-2,EA
- 2020 & 2023, OU-1 Data Gaps Investigation & Supplmental RI, Palermo Wellfield Superfund Site, GeoEngineers
- 2011, Optimization Evaluation, Palermo Wellfield Superfund Site, Tetra Tech
- 2000, Southgate Dry Cleaners and the Palermo Wellfield Removal Report, URS
- 1999, Final Record of Decision, Palermo Wellfield, EPA,
- 1999, URS Group, Inc (URS), RI/FS Palermo Wellfield Superfund Site,
- 1993, Summary Report TCE Contamination at the Palermo Well Field, PGG & RH2

Primary census tract	Associated census tracts
53067010802	53067010920

Local demographics comments

The Site is split into two separate census tracts (CT), east of I-5 in CT 53067010802 and west of I-5 CT 53067010920. Although the EHD Ranking scored low for both census tracts (4 or 5), vulnerable populations exist, with a daycare in CT 53067010920 and commercial, residential and recreational areas within CT 53067010802.

Source/source area description

The Site is split into two Operable Units (OUs), OU-1 which addresses the release of trichloroethene (TCE) from the Washington State Dept of Transportation (WSDOT) material testing laboratories, and OU-2 which addresses the source of tetrachloroethene (PCE) from the Southgate Dry Cleaners. The source areas of TCE are from the WSDOT former material testing lab (FMTL) and current material testing lab (CMTL). Both sources of contamination have stopped using TCE and PCE products. Regardless of different sources, both TCE and PCE are comingled in groundwater beneath the Southgate area, that makes Palermo as one Site.

Soil comments

Contaminants of Concern (COCs) for soil at the site include TCE and PCE. PCE is only contaminating soil within the OU-2 Southgate Dry Cleaner and shopping center. TCE did not contaminate soil at the OU-2 Southgate shopping area but contaminated soil near the two WSDOT material testing labs. TCE or PCE contaminated soil is currently paved over or has commercial buildings overtop that prevents direct exposure to COCs.

Groundwater comments

The TCE groundwater (GW) plume follows regional GW flow eastward and impacts Tumwater's water supply wellfield and also extends east beneath the Palermo neighborhood area. TCE is treated in the wellfield air strippers and / or in the aeration lagoon. The PCE GW plume is captured at the base of the bluff in the subdrain system and treated in the aeration lagoon. GW monitoring is ongoing throughout the site for PCE, TCE, and other volatiles. The OU-2 Record of Decision (ROD) Amendment will treat GW in place within the PCE plume in the Southgate area. OU-1 is still developing alternatives for GW cleanup.

Surface water comments

GW seeps collected in a subdrain system and eastern ditch water are treated in aeration lagoon. Treated lagoon water then discharges to the Deschutes River, that is monitored 1000 feet downstream that indicates no TCE or PCE contamination discharges into the Deschutes River. EPA's Screening Level Ecological Risk Assessment (SLERA) also found PCE not identified as a COC for ecological receptors in nearby ditches in wetlands. TCE is detected above screening levels in some isolated surface water ditch locations near Tumwater's wellfield. Surface water monitoring is ongoing to determine best cleanup alternatives.

Sediment comments

Sediment sampling in ditches was identified as a datagap in the RI.

Indoor air comments

Soil gas (SG) and indoor air at Southgate Dry Cleaner OU-2 in 2000 were contaminated by PCE, despite the SVE operation that ran from 1998 to 2000. As part of the 2024 OU-2 ROD Amendment, a new horizontal SVE system was installed beneath the Southgate plaza above the GW table, to remove PCE vapors and other volatiles. TCE has not been detected above screening levels in soil gas in OU-2. SG monitoring is also ongoing throughout OU-1 for TCE and other volatiles. OU-1 has data gaps for SG and the Feasibility Study is developing the best alternative for cleaning up TCE related vapor intrusion, leading to medium confidence.

Additional factors comments

The Site may be vulnerable to climate change impacts. The site lies within the floodplain of the Deschutes River, where flooding is known to occur in the area.

Site history

Go to top

In 1993, the City of Tumwater detected TCE in three of the six drinking water supply wells at the Palermo Wellfield. These water supply wells draw water from the shallow alluvial aquifer. TCE concentrations in the three wells ranged from 1.1 to 12.6 micrograms per liter (µg/L), which was above the EPA drinking water maximum contaminant level (MCL) of 5 µg/L. As a result, the City temporarily removed the three affected wells from service.

In 1994, the City of Tumwater and Ecology also identified the Southgate Dry Cleaners as a source of PCE. The PCE source location was identified as a subsurface sump located within the Southgate Dry Cleaners facility, which leaked and released PCE into surrounding subsurface soil and groundwater. In 1999, the Southgate Development Company settled with the EPA and entered into the Settlement Agreement.

In April 1997, the EPA listed the Site on the National Priorities List (NPL) as part of the Superfund Program. The EPA completed the Site's Remedial Investigation (RI) between 1997 and 1999. The 1999 Record of Decision (ROD) called for the installation and continued operation of a soil vapor extraction (SVE) system at the source of the PCE contamination, continued operation of the Palermo Wellfield wellhead treatment systems (comprised of two air strippers), and construction of a subdrain collection system and treatment lagoon designed to intercept contaminated groundwater and lower the water table elevation in the Palermo residential neighborhood.

In July 2012, the EPA and WSDOT entered into an Administrative Settlement Agreement and Order on Consent stipulating that WSDOT is the responsible party for response actions related to TCE and the portion of the Site where TCE and PCE comingle. The source of the TCE was determined to be from historic operations conducted at the WSDOT former and current materials testing labs, located upgradient, or west of I-5. Operations at the WSDOT materials testing labs resulted in TCE releases into surrounding soil and groundwater.

WSDOT began air and groundwater monitoring in 2013, to address the needs identified in the 2011 Optimization Evaluation. WSDOT completed a Data Gap Investigation Report in 2020, conducted in 2016 and 2017 to fulfill the data gaps identified in the 2011 Optimization Evaluation. WSDOT prepared a Supplemental Remedial Investigation (SRI) Report including the findings specific to OU-1 following these investigations. The SRI documents activities from 2016 through 2020 and the nature and extent of TCE contamination. WSDOT's Feasibility Study for the TCE plume is still under review by the EPA.

Overflow - Site contamination and cleanup history

Concurrent with WSDOT's investigation activities, the EPA further investigated the PCE plume at the Southgate Dry Cleaners. Semiannual groundwater and remedy-performance monitoring have occurred since 2001.

OU-2 Supplemental RI was completed in 2023 and OU-2 FS was completed in 2024.
In 2024, EPA issued the Record of Decision Amendment (RODA) for Operable Unit-2 that includes PCE contamination in soil and groundwater from the Southgate Dry Cleaners in Tumwater. The soil cleanup includes soil vapor extraction of the contaminated soil beneath the dry cleaning business and the remedy was constructed in fall 2024. The groundwater cleanup includes a permeable reactive barrier technology and injecting amendments into the shallow aquifer to treat the groundwater. These groundwater cleanup actions are anticipated to start in summer 2026. The EPA will bill Ecology under the Superfund State Contract after construction activities for the state's 10% legal obligation.

The City of Tumwater's wellfield is within parcels 67100500100 and 12835320200, and the Palermo neighborhood contains multiple parcels. WSDOT FMTL is within Parcel 53067010920 and WSDOT CMTL is within 12834430901.

The Southgate dry cleaner is within Parcel 09080037000, and OU-2 contains multiple parcels of Southgate commercial area.

Note: MTCA cleanup milestone was selected as "Cleanup Action Plan" since SHARP does not have EPA Superfund "Record of Decision Amendment" milestone option. The ROD Amendment at OU-2 is generally equivalent to MTCA's cleanup action plan milestone but is not a legal MTCA Cleanup Action Plan approved by Ecology.

Palermo Wellfield

4616 Palermo Wellfield 20260515
First SHARP
SHARP rating — Medium

SHARP Report — Part 2 of 2

Conceptual site model
05/15/2026

SHARP