

State of Oregon
Department of Environmental Quality

Memorandum

Date: February 21, 2025

To: FILE

Through: Brad Shultz and Don Hanson

From: Sarah Kingery
Western Region

Subject: Winston Auto Fuel, LUST 10-08-0121; Staff Memorandum in support of a No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for the Winston Auto Fuel, in Winston, Oregon. As discussed in this report, contaminant concentrations in soil and groundwater are below acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 360; and ORS 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. A copy of the administrative record index is presented at the end of this report.

1. BACKGROUND

Site location.

The site's location can be described as 391 S Main Street, Winston, Douglas County, Oregon. The county assessor refers to the site as being at 391 SW Main Street and some maps refer to Main Street as Old Highway 99. The site's latitude is 43°07'06" north and longitude 123°24'47" west, tax lots 7500, 7900, and 8000, Township 28 south, Range 6 west, Section 21(Figure 1).

Site setting.

The site is a flat triangular lot zoned General Commercial. The western adjoining properties are zoned Residential Low Density. Houses on these adjoining lots are located approximately 45 feet west of the property line. The eastern property is bounded by S Main Street. A commercial single-story building is located to the north side of the site.

Physical setting.

The site is at approximately 500 feet above mean sea level. The site is mostly paved. The southern portion of the site is gravel surfaced. Borings at the site encountered gravel to 1.5 feet below ground surface (bgs) and then a clay layer from 8 to 13 feet bgs. The clay was underlain by a gravelly sandy clay layer with lenses of sand that were saturated with water. A basalt

bedrock layer was encountered between 16 to 19 feet bgs. Groundwater was encountered at depths ranging from 5 to 11 feet bgs with a southeast flow direction. The nearest surface water is the South Umpqua River, located approximately 1,600 from the site.

Site history.

The property was developed as an auto parts store in 1973. Fuel service at the site began in 1995 and was discontinued in 2008 under a temporary closure permit. The underground storage tanks (USTs) were decommissioned by removal in 2014. The site is currently occupied by an auto parts store.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

The site and other properties located along S Main Street are zoned General Commercial (C-G). C-G zoning allows for family dwellings on the second floor only above a business. Properties to the west of the site are zoned Low Density Residential. This land use is expected to remain the same in the future.

Groundwater use.

Shallow groundwater is not used for drinking water on site or at surrounding properties. Water is supplied by the Winston-Dillard Water District who source water from the South Umpqua River from an intake located in the Oglala Creek/Lookingglass Creek Watershed. No water supply wells were identified on the site or adjoining properties. DEQ has concluded that the use of wells for drinking water supply at and in the vicinity of the site is not reasonably likely in the future.

Surface water use.

The nearest surface water to the site is the South Umpqua River located approximately 1,600 feet to the southwest. Storm water at the site drains to the street and enters a storm drain at the corner of S Main Street and SW Hart Avenue and ultimately empties into the South Umpqua River downstream of the city water intake.

3. INVESTIGATION AND CLEANUP WORK

In 2008 during a UST inspection, free product was observed floating on water around the USTs. This was reported to DEQ, and a leaking UST (LUST) file was opened (10-08-0121). The USTs were granted a temporary closure by DEQ in 2008 and remained closed and not in use until 2014 when two 12,000-gallon USTs and three 4,000-gallon USTs were decommissioned by removal. Soil samples were collected from beneath the ends of the USTs and analyzed for gasoline and diesel-range hydrocarbons.

Subsurface assessments were conducted at the site in 2009 and 2024. A total of 18 boreholes were completed at the site and 32 soil samples analyzed. Analysis included Northwest total petroleum hydrocarbon identification (NWTPH-HCID), total petroleum hydrocarbons-gasoline range (TPH-Gx), total petroleum hydrocarbons-diesel range (TPH-Dx), benzene, toluene ethylbenzene, and total xylenes (BTEX by 8260B), risk-based decision manual volatile organic

compounds (RBDM VOCs by EPA method 8260), and risk-based decision manual polycyclic aromatic hydrocarbons (RBDM PAHs by EPA method 8270D).

Groundwater was assessed by collecting grab samples from 6 borings and by collecting two rounds of samples from the three monitoring wells onsite (MW-1, MW-2, and MW-3). Groundwater samples were analyzed for Petroleum Hydrocarbons, RBDM VOCs, RBDM PAHs, and dissolved lead by EPA method 200.8.

Nature and extent of contamination.

The contaminants of interest at this site are gasoline and diesel-range hydrocarbons and VOCs in soil and groundwater. Gasoline, diesel, and oil-range hydrocarbons were initially detected in soil samples obtained during the UST decommissioning. Subsequent confirmation samples collected from borings around the former USTs contained diesel and oil-range hydrocarbons in only one sample at a depth of 15 feet. Concentrations of gasoline-range hydrocarbons were also significantly less in the confirmation samples than the UST excavation samples. This indicates that the soil contamination related to the USTs is very localized and that natural attenuation is likely occurring.

Soil samples collected in 2024 did not detect diesel or oil-range hydrocarbons, however gasoline-range hydrocarbons remain at low concentrations in soil collected at 11 feet bgs in the vicinity of the former fuel dispensers. Various VOCs were also detected in soil samples from the former fuel dispenser area at concentrations less than the risk-based concentrations (RBCs) for occupational receptors. Soil contamination does not extend offsite and does not appear to extend beneath the occupied portions of the existing building.

Groundwater contamination is present in a triangular zone defined by samples from PP-2, MW-2, MW-3 and PP-8 (Figure 2). Groundwater contamination consists of gasoline and diesel-range hydrocarbons and various petroleum VOCs. Concentrations of gasoline-range hydrocarbons ranged from 119 to 2,260 µg/l in MW-1, MW-3, and grab sample PP-2 (north of former USTs). Most VOCs detected are below RBCs except for ethylbenzene which was detected in MW-3 at a concentration of 188 µg/l. Groundwater grab samples obtained on the southern gravel surfaced portion of the site contained low concentrations of oil-range hydrocarbons. Monitoring wells MW-2 and MW-3 are located approximately 12 feet west of SW Main Street. We do not have evidence to determine whether groundwater contamination extends beneath the street. However, concentrations of contaminants in these wells are less than the RBCs for groundwater in excavations. Concentrations of groundwater beneath the SW Main Street right-of-way should be well below the RBCs.

4. RISK EVALUATION

Conceptual site model.

The primary source of contamination at the site was the former UST system which has been removed. The contaminants remaining in soil are gasoline-range hydrocarbons. The

contaminants remaining in groundwater are gasoline and diesel-range hydrocarbons, ethylbenzene and various other VOCs.

To evaluate human exposure to residual chemical contamination requires an assessment of the type and extent of that exposure. This is based on current and reasonably likely future site use. DEQ publishes risk-based concentrations (RBCs) for contaminants commonly encountered, for different types of exposure scenarios. These RBCs are conservative estimates of protective levels of contaminants in soil, groundwater and air. Table 1 shows potential exposure pathways and receptors for this site. Based on this, applicable RBCs are identified and used for risk screening.

CONCEPTUAL SITE MODEL TABLE

Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

	Pathway	Receptor			
			Is pathway complete?	Is RBC Exceeded?	Comments
Soil	Ingestion, Dermal Contact, and Inhalation	Residential and/or Urban Residential	No	No	There is no residential use of the property.
		Occupational	No	No	
		Construction Worker	Yes	No	
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	No	No	There is no residential use of the site.
		Occupational	Yes	No	Soil contamination in vadose zone is less than the RBCs.
	Volatilization to Indoor Air	Residential			See Note
		Commercial			
	Leaching to Groundwater	Residential and/or Urban residential	No	Yes	Municipal water is provided to the site and adjacent properties. There is no beneficial use of shallow groundwater.
		Occupational	No	Yes	
Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	No	Yes	Municipal water is provided to the site and adjacent properties. There is no beneficial use of shallow groundwater.
		Occupational	No	Yes	
	Volatilization to Outdoor air	Residential	No	No	
		Urban residential	No	No	
		Occupational	Yes	No	
	Vapor Intrusion into Buildings	Residential	No	N/A	Contaminated groundwater is greater than 50 feet from residential buildings.
		Commercial	Yes	Yes	

	Groundwater in Excavation	Construction & excavation worker	Yes	No	
Ecological		Terrestrial & Surface Water	No	No	

DEQ does not have RBCs for volatilization to indoor air from soil. However, soil contaminated with greater than 500 ppm for diesel and 80 ppm for gasoline is considered a potential VI source.

Based on the current and anticipated future use of the land and groundwater, pathways by which this contamination could reach human receptors are:

- Soil ingestion, dermal contact, and inhalation
- Soil volatilization to outdoor air
- Groundwater vapor intrusion into buildings
- Groundwater volatilization to outdoor air
- Groundwater in excavations

Contaminant concentrations.

Soil data collected from the 2024 soil borings indicates that soil contamination remains in the vicinity of the former fuel dispensers (boring pp-1) between 2 and 11 feet bgs, specifically concentrations of gasoline-range hydrocarbons, benzene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, isopropylbenzene, and lead. Gasoline concentrations ranged from 6.18 to 12.9 mg/kg. One duplicate sample from a depth of 11 feet had a gasoline concentration of 347 mg/kg. The remaining contaminants were detected at concentrations below all RBCs.

Except for samples from MW-3, groundwater contained low concentrations of gasoline and diesel-range hydrocarbons and VOCs that were below RBCs. Groundwater contamination in MW-3 is the highest with concentrations of gasoline and ethylbenzene detected at 625 µg/l and 75 µg/l respectively in July of 2024. Naphthalene was detected in MW-3 in February 2024 at a concentration of 85.3µg/l and then dropped to non-detect in July. We do not have evidence to determine whether groundwater contamination extends beneath the street. However, concentrations of contaminants in these wells are less than the RBCs for groundwater in excavations.

Human health risk.

Low concentrations of soil contamination remain in the subsurface at the site including soils at depths less than 3 feet. The concentrations of soil contamination are below the soil ingestion, dermal contact, and inhalation RBCs for occupational, construction worker, and excavation worker receptors. Soil contamination is also below the soil volatilization to outdoor air RBCs. Deeper soil contamination also remains in the vicinity of the former USTs, at about 15 feet bgs. The concentrations are below the construction and excavation worker RBCs that could apply to the deeper soil. No soil contamination is believed to extend off site beneath the adjacent right-of-way.

Groundwater beneath the site was shown to have no beneficial use. The site and surrounding properties obtain drinking water from the local municipality. Therefore, the leaching to groundwater and the ingestion & inhalation from tap water pathways are considered incomplete. Groundwater from MW-3 has concentrations of gasoline and ethylbenzene above the groundwater commercial vapor intrusion RBC. Human health risks related to gasoline and ethylbenzene in MW-3 are considered acceptable based on the following lines of evidence:

- MW-3 is located greater than 75 feet from occupied structures,
- soil contamination is not present in the vadose zone,
- depth to water is greater than 5 feet bgs.

These factors create an environment where natural attenuation reduces vapor intrusion risk. Additionally, MW-3 is located within 12 feet of the road making development on this part of the site unlikely. Concentrations of contaminants in MW- 3 are below the RBCs for groundwater in excavations and do not pose a risk to workers in the right-of-way if it is encountered.

Ecological risk.

The site is mostly covered by buildings, parking lots and sidewalks and therefore there is no ecological habitat at the site. There are, therefore, no unacceptable ecological risks identified for the site. There is no surface soil contamination that could run off and affect storm water and downstream receptors, including the Umpqua River.

5. RECOMMENDATION

Based on sample results for soil and groundwater, acceptable risk levels are not exceeded, and a no further action determination is recommended for this site. The No Further Action determination should be recorded in DEQ's environmental data management system also known as Your DEQ Online (YDO) to reflect this decision.

6. ADMINISTRATIVE RECORD

2009-03-23_10-08-0121_Limited_subsurface_Investigation
2008-02-22_10-08-0121_TwentyDayReport
2024-08-04_10-08-0121_Monitoring Well Sampling Report.pdf
2024-03-12_10-08-0121_Site_Investigation_Report.pdf

7. ATTACHMENTS

1. Figure 1 Vicinity Map
2. Figure 2 2009 and 2024 Push Probe Locations (RYSE Environmental LLC)

Vicinity Map-LUST 10-08-0121



Figure 1 1/30/2025

■ LUST 10-08-0121
Referenced in the DEQ Staff Memo

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