

SITE HAZARD ASSESSMENT

Worksheet 1

Summary Score Sheet

SITE INFORMATION:

Herzog Glass
1300 S Dearborn
Seattle, King County, WA 98144

Cleanup Site ID: 7629
Facility/Site ID: 5264467

Section:	24N	Latitude:	47.59625
Township:	4E	Longitude:	-122.31556
Range:	5	Tax/Parcel ID:	8170100570, 0524049017

Site scored/ranked for the Hazardous Sites List Publication: February 2018

SITE DESCRIPTION:

The Herzog Glass site (Site) is an unused property located in Seattle, King County, Washington. The 0.88-acre property is located approximately 6,300 feet from Elliott Bay, and zoned for commercial (C) use.

The Site is located along the north side of South Dearborn Street in Seattle. Adjacent properties include a Goodwill Industries store, donation center, and parking lot to the north and east of the Site; a Public Storage facility to the west of the Site; and a vacant property abutting Interstate 90 to the south of the Site, across South Dearborn Street.

The Site is currently operated as an unused facility by Ronald C. Herzog and Robert E. Herzog Jr..

This site was formerly two sites, CSIDs 7629 and 8489. The sites have been merged into one site. Previously, CSID 8489 was associated with a heating oil UST removed from the Site in 1991, and CSID 7629 was associated with two former gasoline underground storage tanks (USTs), both of which have been removed. According to Ecology databases, one tank stored leaded gasoline and one tank stored unleaded gasoline. These tanks are now all considered part of CSID 7629.

The tanks that had been previously identified at the property included a 2,000-gallon bunker oil UST located in the central courtyard of the property and two gasoline USTs (4,000- and 6,000-gallon capacity). According to Evergreen Environmental, the 2,000-gallon tank stored bunker oil for use in a boiler located in a paint shop onsite. In the 1970's, the boiler was converted to diesel, and the tank was used to store diesel until removal in 1991. One inactive heating oil tank was reportedly suspected to be present along the western side of the building based on the location of a vent pipe; however, this UST was not located during site characterization activities.

The Site was reportedly used for automotive repair operations prior to 1965, including metal finishing and painting (Heiser Body Company). In 1965, WSDOT purchased the property in anticipation of the construction of I-90. Herzog Glass was reportedly established at the site in 1971. The property was leased to Herzog Glass until 1994, when the property was sold to Goodwill Industries and then subsequently sold to Herzog Glass.

SITE BACKGROUND:

A summary of prior operations/tenants at the subject property is presented below.

<u>From</u>	<u>To</u>	<u>Operator/Tenant</u>	<u>Activity</u>
	1965	Heiser Body Company	Truck paint shop and automotive-related activities
1965	1994	WSDOT	Operated as Herzog Glass
	2011	Valley Rubber & Gasket Co.	warehouse of critical hose, sealing and belting products

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1994	2018	Herzog Glass (owner)	Operated as Herzog Glass, then subsequently leased to other businesses
1994	2018	Goodwill Industries	(parcel 0524049017)

SITE CONTAMINATION:

In 1991 the Herzog Glass site was reported to Washington State Department of Ecology (Ecology) and placed on the Confirmed and Suspected Contaminated Sites List (CSCSL).

On July 1, 1991, one 2,000-gallon heating oil UST was removed from the site by Evergreen Environmental Consulting. Thirteen soil samples were collected from the UST excavation and stockpiled soil, and one water sample was collected from water entering the excavation. Based on field screening with a vapor analyzer, seven of the soil samples were analyzed for total petroleum hydrocarbons (TPH) by EPA Method 418.1. One soil sample, collected from the west sidewall, contained TPH at a concentration of 27,578 mg/kg, well above the current MTCA Method A cleanup levels (CULs) for diesel-, oil-, or gasoline-range hydrocarbons in soil. The soil sample collected from the south sidewall contained TPH (1,208 mg/kg) at a concentration below the current MTCA Method A diesel- and oil-range hydrocarbon CUL, but above the current Method A CUL for gasoline-range hydrocarbons. Hydrocarbons encountered near this tank are expected to be in the diesel or oil range. The water sample did not contain concentrations of TPH above current MTCA Method A CULs for any petroleum compound. According to later reports, soil was overexcavated, and confirmation soil samples reportedly did not contain TPH (no type specified) above MTCA Method A (1994) cleanup levels; however, this information was not included in the Evergreen Environmental Consulting report.

In 1993, two gasoline USTs were excavated and removed from the Site. Six soil samples were collected from the excavation limits, and six samples were collected from the stockpiled soil. All soil samples were analyzed for gasoline-range hydrocarbons and benzene, toluene, ethylbenzene and xylenes (BTEX); these compounds were not detected in the soil samples at concentrations above current MTCA Method A CULs. Selected samples were also analyzed for total petroleum hydrocarbons and diesel- and oil-range hydrocarbons, and only one sample collected from the stockpiled soil contained a concentration of TPH (Method 418.1) above current MTCA Method A CULs for diesel- and oil-range hydrocarbons. The report from Stemen Environmental concludes that this soil should be disposed of offsite, and the excavation backfilled with clean imported fill. The disposal of the impacted soil is not documented, though handwritten reports suggest that the volume of the impacted soil was approximately 40 cubic yards, and that the soil was planned to be moved to "Rebanko" (possibly Rabanco, a disposal company that operates a landfill).

According to a 1994 Dames & Moore report, a preliminary environmental investigation and limited soil and groundwater investigation were completed in 1993 by Hart Crowser; however, these reports were not available for review in Ecology's files. Subsequent reports note that the Hart Crowser investigations identified TPH concentrations above MTCA Method A (1993) soil cleanup levels. Four monitoring wells were installed at the Site. At downgradient well HC-4, 1,1-dichloroethane (1,1-DCA) was reportedly detected in groundwater at a concentration of 28 ug/L, 1,1,1-trichloroethane (1,1,1-TCA) was detected in groundwater at a concentration of 3 ug/L, and chromium was detected at a concentration of 130 ug/L. The concentration of chromium was above the current MTCA Method A CUL for groundwater, and the concentration of 1,1-DCA was above the current MTCA Method B (cancer) CUL for groundwater. No mention of detections of petroleum hydrocarbons were noted in the subsequent reports. The original results were not available for review.

In 1994, Dames & Moore conducted an investigation at the Site, including advancement of 8 soil borings (B-1 through B-8). Soil samples were collected from each borings and analyzed for petroleum hydrocarbons. Based on results from these samples, an independent remedial action was completed at the Site, which consisted of excavation and disposal of approximately 800 tons of petroleum-impacted soil, closure-in-place of one 500-gallon fuel oil UST located beneath the existing building, removal of a previously unknown 2,000-gallon gasoline UST and adjacent soils, and collection of confirmation soil samples. It is unknown whether these tanks are considered to be part of CSID 7629 or CSID 8489.

Confirmation soil samples collected from the excavation limits did not contain concentrations of petroleum hydrocarbons above MTCA Method A CULs, with the exception of one sample collected near the base of the

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building foundation. Confirmation soil samples collected from the 2,000-gallon gasoline UST removal area, from 1.5 to 2.5 feet bgs, contained gasoline-range hydrocarbons and BTEX constituents above MTCA Method A CULs; however, additional soil could not be removed without undermining the building foundation. The 500-gallon fuel oil UST was closed in place. No evidence of a petroleum release was observed in this area.

Groundwater samples were collected from the four onsite monitoring wells in 1994 by Dames & Moore. Samples were analyzed for a limited list of VOCs, hexavalent chromium, and petroleum hydrocarbons by EPA Method 418.1. Concentrations of methylene chloride and TPH were below laboratory reporting limits; however, the laboratory reporting limits were above the current MTCA Method A CULs. Concentrations of dissolved chromium (total and hexavalent) were above current MTCA Method A CULs in the sample collected from well HC-4-1.

REMEDIATION ACTIVITIES:

In August 1995, Herzog Glass demolished the storage structure at the Site. Soil beneath the former storage shed was sampled and analyzed for RCRA 8 metals and TPH as diesel and oil. Cadmium, lead, diesel- and oil-range hydrocarbons were detected at concentrations above MTCA Method A CULs. A limited soil excavation was conducted in the area, and confirmation samples indicated that the excavation sidewalls did not contain concentrations above MTCA Method A CULs; however, one area located beneath the existing building contained soil with concentrations of oil-range hydrocarbons above MTCA Method A CULs. This soil could not be excavated due to the existing building.

CURRENT SITE CONDITIONS:

Residual impacted groundwater and soil remain at the Site. The VOCs and hexavalent chromium previously detected in groundwater are not expected to be related to releases from onsite USTs, but may be related to former Site uses.

The approximate depth to groundwater is 6-13 feet below ground surface, with groundwater flowing to the southeast (Dames & Moore 1994). Subsurface soils are sand silt & clay mixtures.

SPECIAL CONSIDERATIONS:

Checked boxes indicate routes applicable for Washington Ranking Method (WARM) scoring

☐ **Surface Water**

Release occurred in the subsurface and is not expected to impact surface water.

☒ **Air**

Prior detection of volatiles in groundwater at concentrations above MTCA Method A CULs.

☒ **Groundwater**

Prior detection of metals, hydrocarbons, and volatiles in groundwater at concentrations above MTCA Method A CULs.

It is unclear whether constituents of concern in groundwater and residual soil impacts are considered to be part of this site, or CSID 7629. To be conservative, each site is scored using all available information for the property.

ROUTE SCORES:

Surface Water/ Human Health:

Surface Water/ Environment:

Air/ Human Health: 47.3

Air/ Environment: 1.5

Groundwater/ Human Health: 41.6

Overall Rank: 1

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Summary Score Sheet

REFERENCES:

- 1 Dames & Moore. 1994. UST Site Assessment and Independent Remedial Action. Prepared for Washington State Department of Transportation. 6 May 1994.
 - 2 Evergreen Environmental Consulting. Underground Storage Tank Assessment. Prepared for Washington State Department of Transportation. 13 August 1991.
 - 3 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed December 2017.
<http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx>
 - 4 Missouri Census Data Center, Circular Area Profiles - 2010 census data around a point location. <http://mcdc.missouri.edu/websas/caps10c.html>. Accessed December 2017.
 - 5 National Climatic Data Center 2011 Local Climatological Data for Seattle, Seattle Tacoma Airport. <http://www1.ncdc.noaa.gov/pub/orders/IPS-90B1F39F-6CFA-4A6B-AA82-5ED1FF897CCC.pdf>
 - 6 Stemen Environmental, Inc. 1993. Underground Storage Tanks Removal at 1300 S. Dearborn St., Seattle, WA, Site #009748.
 - 7 WARM Scoring Manual
 - 8 WARM Toxicological Database
 - 9 Washington Department of Transportation 24-hour Isopleth Maps, January 2006 update. <http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIsopleths.pdf>
 - 10 Washington State Department of Ecology. 1993. ERT System - Initial Report/Followup, Unique Record #N13194. 2 August 1993.
 - 11 Washington State Department of Ecology. 2013. Letter Re: Status Update Letter, Site Name: WA DOT Herzog Glass, Inc. 10 June 2013.
 - 12 Washington State Department of Transportation, Environmental Affairs Office. 1995. Independent Remedial Actions Report Herzog Glass Site. 3 November 1995.
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SITE HAZARD ASSESSMENT

Worksheet 2

Route Documentation

Cleanup Site ID: 7629

Herzog Glass

Facility/Site ID: 5264467

1. SURFACE WATER ROUTE

List those substances to be considered for scoring:

Not applicable

Explain the basis for choice of substances to be used in scoring:

List those management units to be considered for scoring:

Explain basis for choice of unit to be used in scoring:

2. AIR ROUTE

List those substances to be considered for scoring:

Gasoline (benzene), toluene, ethylbenzene, xylenes; 1,1-dichloroethane; diesel (naphthalene)

Explain the basis for choice of substances to be used in scoring:

Prior detection in site soil or groundwater at concentrations above MTCA Method A CULs

List those management units to be considered for scoring:

Soil vapor

Explain basis for choice of unit to be used in scoring:

Potential for transport from groundwater or soil to soil vapor

3. GROUNDWATER ROUTE

List those substances to be considered for scoring:

Gasoline (benzene), 1,1-dichloroethane; diesel (naphthalene); total and hexavalent chromium, toluene, ethylbenzene, xylenes

Explain the basis for choice of substances to be used in scoring:

Prior detection in site soil or groundwater at concentrations above MTCA Method A CULs

List those management units to be considered for scoring:

Groundwater

Explain basis for choice of unit to be used in scoring:

Prior detection in groundwater or potential for transport to groundwater

Worksheet 5**Air Route**

CSID: 7629

Site Name: Herzog Glass

1.0 Substance Characteristics**1.1 Introduction (WARM Scoring Manual) - Please Review before scoring****1.2 Human Toxicity**

Substance	Ambient Air Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Gasoline (benzene)	10	3	8	5
1,1-Dichloroethane	10	3	X	3
Diesel (naphthalene)	10	X	10	5
Toluene	1	X	3	X
Ethylbenzene	10	X	3	X
Xylenes	X	3	5	X

Highest Value 10

Bonus Points? 2

Toxicity Value **12****1.3 Mobility**

Gaseous Mobility	Max Value:	4
Particulate Mobility	Soil Type:	
	Erodibility:	
	Climatic Factor:	

Mobility Value **4****1.4 Final Human Health Toxicity/Mobility Matrix Value**HH Final Matrix Value **24****1.5 Environmental Toxicity/Mobility**

Substance	Non-human Mammalian Inhalation Toxicity (mg/m3)	Acute Value	Mobility Value	Table A-7 Matrix Value
Gasoline (benzene)	31,947	3	4	6
1,1-Dichloroethane	X	X	4	X
Diesel (naphthalene)	X	X	3	X
Toluene	X	X	4	
Ethylbenzene	X	X	3	
Xylenes	21714	3	3	5

Env. Final Matrix Value **6****1.6 Substance Quantity**

Amount: Approximately 2,000 square feet

Basis: Estimated extent of impacted soil

Substance Quantity Value **4**

Worksheet 5**Air Route**

CSID: 7629

Site Name: Herzog Glass

2.0 Migration Potential**2.1 Containment**Containment Value

Explain Basis: Release to subsurface soil with no vapor collection system

3.0 Targets**3.1 Nearest Population**Population Distance Value

Approximately 250 feet to Goodwill Store; onsite building previously occupied

3.2 Distance to and name of nearest sensitive environmentsSensitive Environment Value

Approximately 500 feet to Sturgus Park

3.3 Population within 0.5 milesPopulation Value

7226 population

4.0 ReleaseRelease to Air Value

Explain basis for scoring a release to air:

No confirmed release to air

Pathway Scoring - Air Route, Human Health Pathway

$$AIR_H = (SUB_{AH} * 60/329) * [REL_A + (TAR_{AH} * 35/85)] / 24$$

Where:

$$SUB_{AH} = (\text{Human toxicity} + 5) * (\text{Containment} + 1) + \text{Substance Qty}$$

$$REL_A = \text{Release to Air}$$

$$TAR_{AH} = \text{Nearest Population} + \text{Population within 1/2 mile}$$

SUB _{AH}	178
REL _A	0
TAR _{AH}	85.0
AIR _H	47.3

Pathway Scoring - Air Route, Environmental Pathway

$$AIR_E = (SUB_{AE} * 60/329) * [REL_A + (TAR_{AE} * 35/85)] / 24$$

Where:

$$SUB_{AE} = (\text{Environmental Toxicity Value} + 5) * (\text{Containment} + 1) + \text{Substance Qty}$$

$$REL_A = \text{Release to Air}$$

$$TAR_{AE} = \text{Nearest Sensitive Environment}$$

SUB _{AE}	70
REL _A	0
TAR _{AE}	7.0
AIR _E	1.5

Worksheet 6
Groundwater Route

CSID: 7629

Site Name: Herzog Glass

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Diesel (naphthalene)	X	5	1	X
Gasoline (benzene)	8	3	3	5
1,1-Dichloroethane	X	9	3	3
Total chromium	6	X	1	X
Hexavalent chromium	6	X	3	X
xylenes	2	10	1	X

Highest Value 10

Bonus Points? 2

Toxicity Value

1.2 Mobility

Cations/Anions Max Value:

Solubility Max Value: 3

Mobility Value

1.3 Substance Quantity

Amount: Approximately 200 cubic yards

Basis: Estimated volume of impacted soil

Substance Quantity Value

2.0 Migration Potential

2.1 Containment

Containment Value

Explain Basis: Spill, release

2.2 Net Precipitation >10-20 inches

Net Precipitation Value

2.3 Subsurface Hydraulic Conductivity

Conductivity Value

Sand & silt

2.4 Vertical Depth to Groundwater 0-25 feet

Confirmed release: Yes

Depth to Aquifer Value

3.0 Targets

3.1 Groundwater Usage

Aquifer Use Value

Private supply but alternate sources available with minimum hookup requirements

3.2 Distance to Nearest Drinking Water Well 3600 feet

Well Distance Value

3.3 Population Served within 2 Miles

Population Served Value

3 people

Worksheet 6
Groundwater Route

CSID: 7629

Site Name: Herzog Glass

3.4 Area Irrigated by GW Wells within 2 miles

Area Irrigated Value

5 acres

4.0 Release

Release to Groundwater Value

Explain basis for scoring a release to groundwater:

Confirmed release to groundwater

Pathway Scoring - Groundwater Route, Human Health Pathway

$$GW_H = (SUB_{GH} * 40 / 208) * [(MIG_G * 25 / 17) + REL_G + (TAR_{GH} * 30 / 165)] / 24$$

Where:

SUB_{GH} = (Human toxicity + mobility + 3) * (Containment + 1) + Substance Qty

MIG_G = Depth to Aquifer + Net Precip + Hydraulic Conductivity

REL_G = Release to Groundwater

TAR_{GH} = Aquifer Use + Well Distance + Population Served + Area Irrigated

SUB_{GH}	201
MIG_G	13
REL_G	5
TAR_{GH}	9.4
GW_H	41.6

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: Herzog Glass **CSID:** 7629

Site Address: 1300 S Dearborn St, Seattle, WA **FSID:** 5264467

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	47.3	5
Groundwater	41.6	4

H=	5
M=	4
L=	0

$$\begin{array}{c}
 H^2 + 2M + L \\
 \begin{array}{|c|c|c|}
 \hline
 25 & + & 8 & + & 0 \\
 \hline
 \end{array} \\
 \hline
 8
 \end{array}$$

**Human Health
Priority Bin Score:**
5
rounded up to next
whole number

ENVIRONMENT ROUTE SCORES

Enter Environment Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	1.5	2

H=	2
L=	0

$$\begin{array}{c}
 H^2 + 2L \\
 \begin{array}{|c|c|}
 \hline
 4 & + & 0 \\
 \hline
 \end{array} \\
 \hline
 7
 \end{array}$$

**Environment
Priority Bin Score:**
1
rounded up to next
whole number

Comments/Notes:

**FINAL MATRIX
RANKING**

1

FOR REFERENCE:

Final WARM Bin Ranking Matrix

Human Health Priority	Environment Priority					
	5	4	3	2	1	N/A
5	1	1	1	1	1	1
4	1	2	2	2	3	2
3	1	2	3	4	4	3
2	2	3	4	4	5	3
1	2	3	4	5	5	5
N/A	3	4	5	5	5	NFA

Quintile Values for Route Scores - August 2017 Values

Quintile	Human Health			Environment	
	Surface Water	Air	Ground Water	Surface Water	Air
5	>= 29.8	>= 39.1	>= 50.3	>= 49.7	>= 27.8
4	>= 21.4	>= 25.0	>= 40.3	>= 32.1	>= 15.3
3	>= 15.5	>= 15.8	>= 33.1	>= 24.2	>= 1.6
2	>= 8.0	>= 8.4	>= 24.0	>= 11.6	>= 1.3
1	<= 7.9	<= 8.3	<= 23.9	<= 11.5	<= 1.2

Quintile value associated with each route score entered above

Path: Q:\Projects\2016\1696059.00 WDOE LDW LUSTs-SHA Support\Sites\SHA Only\Herzog Glass\GIS\HerzogGlass.mxd ©2017 Kennedy/Jenks Consultants



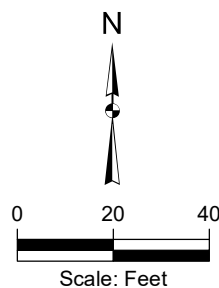
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Boring Location
- ⊕ Monitoring Well Location
- ▨ Excavation
- ▭ Tank
- ▭ King County Tax Parcel

Note:

1. All locations are approximate.
2. Wells may no longer exist.



Herzog Glass
1300 S Dearborn St
Seattle, Washington

Site Overview Map

CSID 7629