

SITE HAZARD ASSESSMENT

Worksheet 1

Summary Score Sheet

SITE INFORMATION:

Jergens Painting

415 18th Ave S

Seattle, King County, WA 98144

Cleanup Site ID: 8860

Facility/Site ID: 35763494

Section: 4

Latitude: 47.59860

Township: 24N

Longitude: -122.30930

Range: 4E

Tax/Parcel ID: 3319501505

Site Scored/ranked for the August 2015 Hazardous Sites List Publication

SITE DESCRIPTION:

The Jergens Painting site (Site) is a former (and current) commercial property located in Seattle, King County, Washington. The 0.25-acre property is located approximately 5,700 feet from Lake Washington, and zoned for lowrise (LR2) use.

Adjacent properties include a buddhist temple to the south, an education center and a janitorial service company to the north, and residential properties to the east and west.

The Site is currently operated as a painting company by Timothy Jergens.

The Site is currently used as a base of operations for Jergens Painting Company, including parking and storage of vehicles and equipment.

The Site is located on the west side of 18th Avenue South, between South Jackson Place to the north and South King Street to the South.

Nearby state cleanup sites include Gai's Bakery (Cleanup Site ID (CSID) 9939) to the east.

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>
	1991	Sam & Fumie Taniguchi	
1991	2014	Deluxe Properties/Timothy Jergens	Jergens Painting Company

SITE CONTAMINATION:

In 1990 the Jergens Painting site was reported to Washington State Department of Ecology (Ecology) and placed on the Leaking Underground Storage Tank (LUST) list.

Ecology was notified of the Site in 1990 when seven underground storage tanks (USTs) were excavated and removed from the Site. Visual evidence of petroleum-impacted soil was observed in the excavation, however removal of impacted soil was discontinued due to concerns regarding the proximity to the building foundation. A previous report by Enviro, which was not available for review, reportedly noted that petroleum-impacted soil in the vicinity of six of the USTs appeared to be similar to mineral spirits, and that one tank (on the northern portion of the Site) had contained fuel oil.

Two wells were installed at the Site in 1990 (JVE-1 and JVE-2). At depths of approximately 10 to 15 feet below ground surface (bgs), gasoline-range petroleum hydrocarbons were present in soil samples collected from both wells at concentrations above the Model Toxics Control Act (MTCA) Method A cleanup level. Groundwater samples did not contain gasoline or benzene, toluene, ethylbenzene, or xylenes (BTEX) above the MTCA Method A cleanup levels.

The two wells were also used for a vapor extraction (VE) pilot test. Based on the VE test, Enviro estimated that a

SITE HAZARD ASSESSMENT

Worksheet 1

Summary Score Sheet

VE system would likely work to remediate soil at the Site within 3 to 5 years. A vapor extraction system was designed, however it is unclear if the system was ever constructed.

In 1997, seven additional soil borings (JP-GAS1, JP-GAS2, JP3 through JP5, JP-HO1, and JP-HO2) were advanced at the Site, in the vicinity of the former USTs. Soil samples collected from soil borings JP3, JP4, and JP5 (3 to 4 feet below ground surface) contained concentrations of cadmium and lead above the MTCA Method A cleanup levels, and JP3 contained concentrations of mercury above the MTCA Method A cleanup level. Gasoline was detected at a concentration above the MTCA Method A cleanup level in soil collected from JP-GAS1 at 10 and 20 feet bgs, and from JP-GAS2 at 10 feet bgs. Xylenes were also detected in JP-GAS1 at 10 feet bgs at a concentration above the MTCA Method A cleanup level. Groundwater collected from JVE-1 did not contain concentrations of gasoline or BTEX constituents above the laboratory reporting limits.

PAST REMEDIATION ACTIVITIES:

No reports regarding remedial actions were available for review in Ecology's files.

CURRENT SITE CONDITIONS:

Cadmium, lead, mercury, gasoline, and xylenes were detected in Site soil at approximately 10 feet bgs at concentrations above the MTCA Method A cleanup levels. Groundwater (approximately 55 feet bgs) did not contain concentrations of these analytes above the MTCA Method A cleanup levels, however the potential for impacts to shallow, perched groundwater may not have been fully characterized.

The approximate depth to groundwater is 55 feet below ground surface, likely with shallower perched groundwater within approximately 25 feet below ground surface, with groundwater flowing to the southwest (estimated based on surface topography). Subsurface soils are sand with silt (based on soil borings).

SPECIAL CONSIDERATIONS:

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

☐ **Surface Water**

Release occurred in the subsurface.

☒ **Air**

Release of volatile compounds occurred to subsurface soils. The Site is predominantly paved, or covered by a building, so metals in particulate form are not expected to be available to the air route.

☒ **Groundwater**

Site soils contain concentrations of metals and petroleum products above the MTCA Method A cleanup levels, and have the potential to impact groundwater.

ROUTE SCORES:

Surface Water/ Human Health:

Surface Water/ Environment:

Air/ Human Health: 40.4

Air/ Environment: 1.5

Groundwater/ Human Health: 23.3

Overall Rank: 3

SITE HAZARD ASSESSMENT

Worksheet 1

Summary Score Sheet

REFERENCES:

- 1 Enviros, Inc., 1993, Site Assessment and Vapor Extraction Remediation Design. Prepared for L.C. Jergens Painting Co. July 13, 1993.
 - 2 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed March 2014.
<http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx>
 - 3 Missouri Census Data Center, Circular Area Profiles - 2010 census data around a point location. <http://mcdc.missouri.edu/websas/caps10c.html>. Accessed March 2014.
 - 4 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>
 - 5 WARM Scoring Manual
 - 6 WARM Toxicological Database
 - 7 Washington Department of Transportation 24-hour Isopleth Maps, January 2006 update. <http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIsopleths.pdf>
 - 8 Woodward-Clyde, 1997, Update Phase I Environmental Site Assessment Jergens Painting Company Seattle, Washington. Prepared for L.C. Jergens Painting Company. March 31, 1997.
-

SITE HAZARD ASSESSMENT
Worksheet 2
Route Documentation

Cleanup Site ID: 8860

Jergens Painting

Facility/Site ID: 35763494

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, xylenes; metals are not scored because the Site is paved and particulates are not expected to be available to the air route

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

Prior detection in Site soil at concentrations above the MTCA Method A cleanup levels

List those management units to be considered for scoring:

Soil vapor

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

Potential for vapor transport

3. GROUNDWATER ROUTE

List those substances to be considered for scoring:

Gasoline, xylenes, cadmium, lead, mercury

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

Prior detection in Site soil at concentrations above the MTCA Method A cleanup levels

List those management units to be considered for scoring:

Groundwater

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

Potential for transport to groundwater

Worksheet 5**Air Route**

CSID: 8860

Site Name: Jergens Painting

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	10	3	X	5
Xylenes	1	3	1	X

Highest Value 10

Bonus Points? 0

Toxicity Value **1.3 Mobility**

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

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

Substance	Non-human Mammalian Inhalation Toxicity (mg/m3)	Acute Value	Mobility Value	Table A-7 Matrix Value
Gasoline	31947	3	4	6
Xylenes	21714	3	3	5

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

Amount: Approximately 200 square feet

Basis: Estimated extent of remaining impacted soil

Substance Quantity Value

Worksheet 5**Air Route**

CSID: 8860

Site Name: Jergens Painting

2.0 Migration Potential**2.1 Containment**Containment Value

Explain Basis: At least 2 feet of soil cover but
no vapor collection system present

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

Less than 100 feet to the nearest dwelling

3.2 Distance to and name of nearest sensitive environmentsSensitive Environment Value

Approximately 600 feet to Pratt Park

3.3 Population within 0.5 milesPopulation Value

7,609 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}	152
REL _A	0
TAR _{AH}	85.0
AIR _H	40.4

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}	68
REL _A	0
TAR _{AE}	7.0
AIR _E	1.5

Worksheet 6
Groundwater Route

CSID: 8860

Site Name: Jergens Painting

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Cadmium	8	5	5	X
Lead	6	X	10	X
Mercury	8	X	5	X
Gasoline	8	3	X	5
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: 15 cubic yards

Basis: Estimated volume of impacted soil

Substance Quantity Value

2.0 Migration Potential

2.1 Containment

Containment Value

Explain Basis: Contaminated soil

2.2 Net Precipitation

>10 to 20 inches

Net Precipitation Value

2.3 Subsurface Hydraulic Conductivity

Sand with silt

Conductivity Value

2.4 Vertical Depth to Groundwater

55 feet

Confirmed release: No

Depth to Aquifer Value

3.0 Targets

3.1 Groundwater Usage

Industrial, domestic, irrigation

Aquifer Use Value

3.2 Distance to Nearest Drinking Water Well

9,800 feet

Well Distance Value

3.3 Population Served within 2 Miles

3 people

Population Served Value

Worksheet 6
Groundwater Route

CSID: 8860

Site Name: Jergens Painting

3.4 Area Irrigated by GW Wells within 2 miles

Area Irrigated Value

0.2 acres

4.0 Release

Release to Groundwater Value

Explain basis for scoring a release to groundwater:

No 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}	200
MIG_G	9
REL_G	0
TAR_{GH}	7.1
GW_H	23.3

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: Jergens Painting

CSID: 8860

Site Address: 415 18th Avenue S

FSID: 35763494

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	40.4	5
Groundwater	23.3	1

H=	5
M=	1
L=	0

$$\begin{array}{c} H^2 \\ 25 \end{array} + \begin{array}{c} 2M \\ 2 \end{array} + \begin{array}{c} L \\ 0 \end{array} = \frac{\quad}{8}$$

Human Health
Priority Bin Score:
4
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	1

H=	1
L=	0

$$\begin{array}{c} H^2 \\ 1 \end{array} + \begin{array}{c} 2L \\ 0 \end{array} = \frac{\quad}{7}$$

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

Comments/Notes:

**FINAL MATRIX
RANKING**

3

FOR REFERENCE:

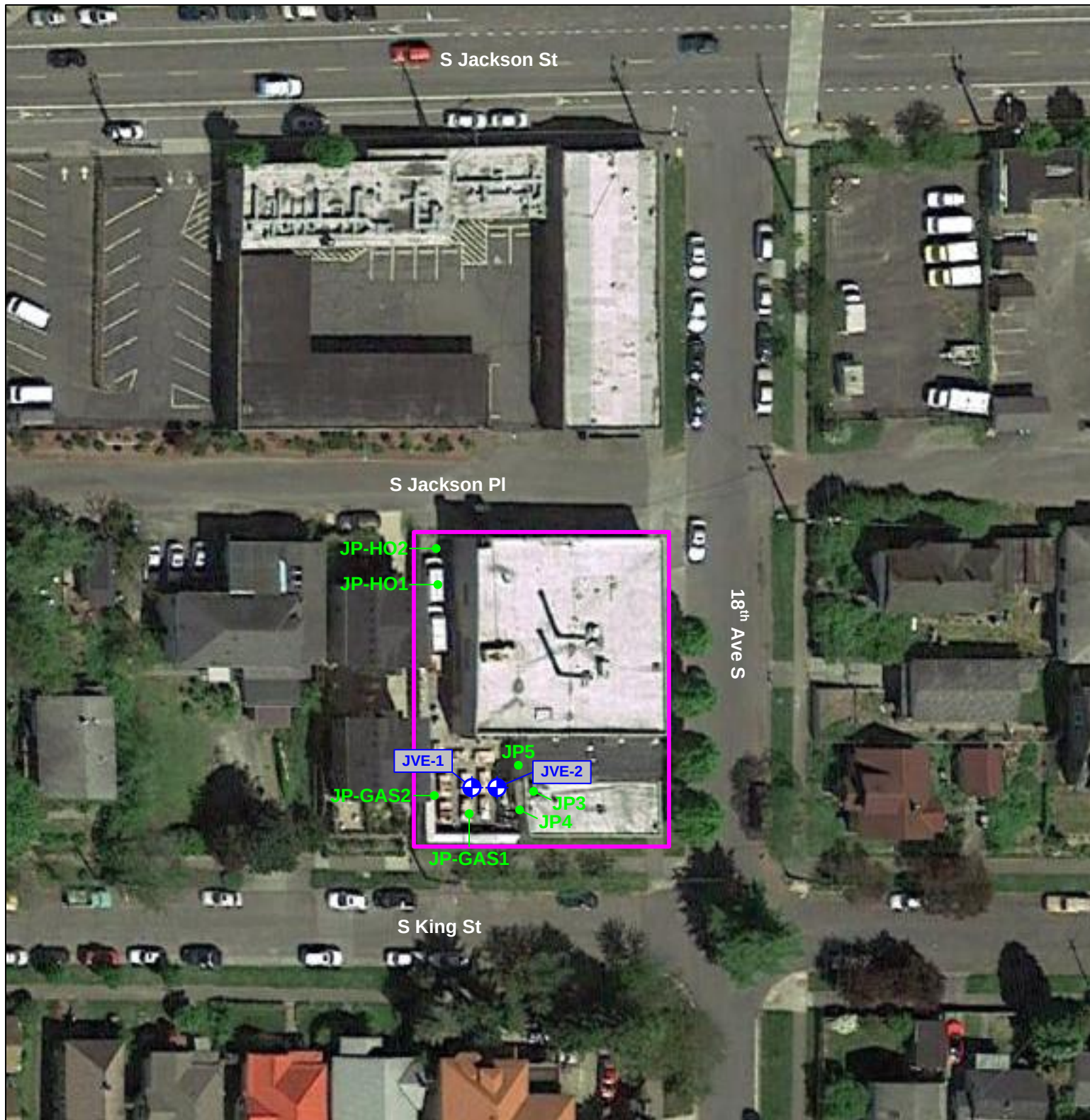
Final WARM Bin Ranking Matrix

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 - February 2015 Values

Quintile	Human Health			Environment	
	Surface Water	Air	Ground Water	Surface Water	Air
5	>= 30.7	>= 37.6	>= 51.6	>= 50.9	>= 29.9
4	>= 23.1	>= 23.8	>= 40.9	>= 31.2	>= 22.5
3	>= 14.1	>= 15.5	>= 33.2	>= 23.6	>= 14.0
2	>= 7.0	>= 8.5	>= 23.5	>= 11.0	>= 1.6
1	<= 6.9	<= 8.4	<= 23.4	<= 10.9	<= 1.5

Quintile value associated with each route score entered above



Legend:

- Property location (approximate)
- ⊕ Monitoring well (approximate)
- Soil sample (approximate)

Notes:

1. All locations are approximate, and not to scale.



Jergens Painting
415 18th Avenue South
Seattle, WA 98144

Site Overview Map

CSID 8860
 CSID8860.vsd