SITE HAZARD ASSESSMENT
Worksheet 1
Summary Score Sheet

SITE INFORMATION:

Cleanup Site ID: 4796

Spencer Industries, Inc

Facility/Site ID: 13132191

8410 Dallas Ave S & 1205 S Orr St

Seattle, King County, WA 98108

Section:	32	Latitude:	47.52854
Township:	24N	Longitude:	-122.31700
Range:	4E	Tax/Parcel ID:	2185001130, 2185001160, 2185001140

Site scored/ranked for the Hazardous Sites List Publication: August 2015

SITE DESCRIPTION:

The Spencer Industries, Inc site (Site) is a former manufacturing and distribution center located in Seattle, King County, Washington. The 1.14-acre property is located approximately 360 feet from the Duwamish River, and zoned for regional business (RB) use.

Adjacent properties include residences to the north, south, east, and west, and a vacant lot to the southeast with residences beyond.

The Site is currently operated as a manufacturing facility by JAC Corporate LLC/JAC Plastics LLC.

Current activities at the Site include the design, manufacture, and distribution of industrial parts. The company manufactures plastic and rubber using an injection mold technique. Metal waste is generated at the Site by grinding parts and molds.

Spencer Industries operated at the site until 1996, and distributed aircraft hydraulic components and fasteners. A portion of the Site was used for assembly and repair, and the remainder of the Site was used as a storage and distribution center. Historically, the Site used a degreaser that contained TCE; used drums were stored outside and were reportedly punctured to prevent rainwater accumulation.

State cleanup site South Park Marina (Cleanup Site ID (CSID) 2858) is located two blocks to the east.

The Site is located within the West Riverside Drive Source Control Area (River mile 2.2 to 3.4 West) of the Lower Duwamish Waterway.

SITE BACKGROUND:

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

From	To	Operator/Tenant	Activity
1946	1996	Spencer Industries, Inc.	Assembly and distribution of industrial supplies
1996	2009	Various	Light industrial
2009	2014	National Products	Manufacturing

SITE CONTAMINATION:

In 1999 the Spencer Industries, Inc site was reported to Washington State Department of Ecology (Ecology) and placed on the Voluntary Cleanup Program (VCP) list with ID number NW0238.

A Phase I Environmental Site Assessment (ESA) was conducted in 1991. A 200-gallon used oil aboveground storage tank (AST) and a 200-gallon fuel oil AST were documented at the Site. Petroleum-impacted soil was suspected to be present beneath these tanks, based on visual observations. Both ASTs were removed from the Site between 1991 and 1992, and the underlying soil was excavated and disposed offsite.

On May 5, 1992, a soil sample was collected at an unknown depth near the former AST area and was analyzed for diesel-range hydrocarbons. A concentration of 221 milligrams per kilogram (mg/kg) of diesel was detected, which is below the current (2015) Model Toxics Control Act (MTCA) Method A cleanup level. On June 30, 1992, three additional soil samples, TPL-A, TPL-B, and TPL-C, were collected near the former AST area and were analyzed for diesel- and heavy oil-range petroleum hydrocarbons. Diesel and oil were not detected above laboratory reporting limits in the samples. The location and depth of these samples are unknown.

PAST REMEDIATION ACTIVITIES:

In 1996, a supplementary soil and groundwater investigation was conducted at the Site. Three soil borings, CB-1, CB-2, and CB-3, and three monitoring wells, MW-1, MW-2, and MW-3, were advanced at the Site. Soil samples collected from the borings were analyzed for metals, diesel-range hydrocarbons (CB-1 and CB-2 only), polychlorinated biphenyls (PCBs) (CB-2 and CB-3 only), and volatile organic compounds (VOCs) (CB-3 only). The concentrations of all analytes detected in soil were below the MTCA Method A cleanup levels.

Groundwater samples collected in 1996 were analyzed for metals, diesel-range hydrocarbons, and VOCs. Lead and arsenic were detected in groundwater at MW-1 and MW-3 at concentrations above the MTCA Method A cleanup levels. Diesel-range hydrocarbons were not detected in the groundwater samples above the laboratory detection limits. Tetrachloroethylene (PCE), trichloroethylene (TCE), and trichloroethane (TCA) were detected in the groundwater sample from MW-1 at concentrations of 48.8 micrograms per liter (ug/L), 16.9 ug/L, and 41.5 ug/L, respectively, above the MTCA Method A cleanup levels for PCE and TCE. Dichloroethane (DCA) and cis-1,2-dichloroethylene (cis-1,2-DCE) were detected at MW-1, and the reported concentration of DCA was below the MTCA Method A cleanup level. No MTCA Method A cleanup level has been established for cis-1,2-DCE, but the reported concentration of cis-1,2-DCE at MW-1 was below the MTCA Method B cleanup level. TCE and cis-1,2-DCE were detected at MW-2 at 54 ug/L and 15.3 ug/L, respectively. The concentrations of TCE at MW-1 and MW-2, and PCE at MW-1 were above the MTCA Method A cleanup levels. The consultant, Conestoga-Rovers & Associates (CRA), suspected that the lack of detections of VOCs in groundwater from MW-3, an upgradient well, indicated an onsite source of TCE/PCE.

In 1996, a soil and groundwater investigation was conducted at the Site by Hart-Crowser to assess the extent of groundwater impacts from chlorinated VOCs and to identify possible sources of VOCs in soils onsite. Fourteen soil borings (SP-1 through SP-14) were advanced, and soil and groundwater samples were collected. Two additional deep borings were advanced for groundwater sampling (D-1 and D-2). Groundwater was encountered at approximately 10 feet below ground surface (bgs), and reportedly fluctuated between 9 and 11 feet bgs due to tidal influences. PCE was detected at a concentration above the MTCA Method A cleanup level in a groundwater sample from SP-1, collected at a depth of 10 to 12 feet below ground surface (bgs), and from D-1 at depths of 25 to 28 feet bgs and 37.5 to 39 feet bgs. TCE was detected above the MTCA Method A cleanup level in MW-1 and MW-2, and PCE was detected above the MTCA Method A cleanup level at MW-1. Cis-1,2-DCE was detected in a groundwater sample from D-2 at a concentration above the MTCA Method B cleanup level at a depth of 40 to 44 ft bgs. Hart-Crowser estimated that two chemically distinct areas of groundwater inpacts were present onsite; PCE and TCE impacts in the area of MW-1, and TCE impacts with detections of cis-1,2-DCE in the area of MW-2. The concentrations of analytes detected in soil were below the MTCA Method A cleanup levels.

In 1997, an additional groundwater investigation was conducted by Hart-Crowser to investigate possible sources of solvent in Site soils for the two areas of groundwater impacts, and to characterize the depth to which solvent was present in Site groundwater. Six borings, B-1 through B-6, were advanced around the perimeter of the septic tank and drainfield. Soil samples were collected and analyzed for VOCs, and PCE was not detected at or above the laboratory detection limit. Ten hand-auger borings, B-7 through B-16, were advanced to a depth of 2 feet in the area of the repair shop. Borings B-10, B-11, B-14, and B-16 were advanced to a depth of 8 to 14 feet bgs. Twelve soil samples were collected from the borings and analyzed for VOCs, and PCE was reported at concentrations below the MTCA Method A cleanup level ranging from not detected at or above laboratory detection limits to 0.310 mg/kg.

Two cone penetrometers were used to collect five groundwater samples at CPT-1 and CPT-2 at various depths up to 62 feet bgs, and samples were analyzed for VOCs. A groundwater sample collected from CPT-1 at a depth of 23 feet bgs contained concentrations of TCE below the MTCA Method A cleanup level, and VOCs were not detected in the remaining groundwater at or above laboratory detection limits.

Between October 7 and 12, 1998, groundwater flow direction was assessed by measuring groundwater levels in

existing monitoring wells to assist in choosing appropriate locations for additional downgradient monitoring wells. The groundwater flow direction ranged from approximately 37 degrees east of north and 14 degrees west of north (average of approximately 6 degrees east of north). Monitoring wells HC-1, HC-2, and HC-3 were advanced downgradient from the existing monitoring wells in October 1998. Slug tests were also performed at the Site, and the mean hydraulic conductivity was estimated to be 0.0065 centimeters per second.

Seven groundwater monitoring events were conducted for existing onsite wells between November 1996 and February 1999, and samples were analyzed for VOCs. For all seven sampling events, groundwater samples collected from MW-1 and MW-2 contained concentrations of TCE above the MTCA Method A cleanup level, and MW-1 contained PCE at a concentration above the MTCA Method A cleanup level. Concentrations of cis-1,2-DCE were detected in the groundwater samples from MW-2, ranging from 1.6 ug/L to 15.3 ug/L. A MTCA Method A cleanup level has not been assigned for cis-1,2-DCE, but the samples contained concentrations below the federal maximum contaminant level (MCL) and the MTCA Method B (non-cancer) cleanup level. In October 1988, TCE was detected in groundwater samples from HC-1, HC-2 and HC-3 at concentrations below the MTCA Method A cleanup level. In February 1999, PCE and TCE were detected in groundwater samples from HC-3 at concentrations below the MTCA Method A cleanup levels. In January 1999, groundwater samples from MW-3, HC-1, HC-2, and HC-3 contained TCE above the MTCA Method A cleanup level; however, the consultant noted that the values in that round of sampling were reportedly anomalous. They suggested that elevated values of PCE and TCE in January 1999 were likely due to sampling or analysis error and were not representative of Site groundwater.

In 1999, Hart-Crowser suggested that natural attenuation was a viable remedial action. Groundwater chemistry was reportedly suitable for reductive dechlorination of chlorinated solvents, and mixing and dispersion of groundwater was high due to tidal influences on groundwater flow directions and velocities. TCE and PCE concentrations in downgradient wells from the impacted areas are below the MTCA Method A cleanup levels, reportedly indicating that the substances are naturally degrading and dispersing before migrating offsite.

The Site entered the Voluntary Cleanup Program (VCP) on April 2, 1999. On August 16, 1999, the Site was given an Interim No Further Action (NFA) determination for soils only. On July 1, 1999, Ecology met with Hart-Crowser to discuss potential remedial activities at the Site. They reportedly planned to conduct eight consecutive quarters of groundwater monitoring. The property owner reportedly agreed to notify King County of the PCE contamination below South Orr Street. No record of further groundwater monitoring is on file at Ecology. The site was terminated from the VCP on May 30, 2006 due to inactivity. The Interim NFA for soils only was rescinded on May 30, 2006, and Ecology notified the owner that further action was required to address the presence of PCE at the Site.

CURRENT SITE CONDITIONS:

Lead and arsenic were detected in groundwater samples from MW-1 and MW-3 in November 1996 at concentrations above the MTCA Method A cleanup levels; however, metals were not analyzed for in subsequent groundwater monitoring events. TCE and PCE impacts remain in groundwater onsite near MW-1 below the northwest corner of the repair shop and possibly extending beneath the northeast corner of the Spencer Manufacturing building and South Orr Street. A reportedly separate area of TCE impacts remain onsite near MW-2 below the northeast corner of the repair shop and offices and possibly extending beneath South Orr Street, and also contains cis-1,2-DCE.

TCE, PCE, lead, and arsenic have been detected in groundwater at concentrations above the MTCA Method A cleanup levels. Cis-1,2-DCE has been detected in groundwater at concentrations above the MTCA Method B cleanup level, but below the federal and state MCL.

The approximate depth to groundwater is 9 to 11 feet below ground surface, with groundwater flowing to the north-northwest (based on water level monitoring data). Subsurface soils are brown to gray-black fine to medium sand with lenses of sandy silt and organic material based on field observations.

SPECIAL CONSIDERATIONS:

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

☑ **Surface Water**

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Release occurred in the subsurface, however the Site has tidal influences and known impacts to groundwater.

☑ **Air**

Release of volatile substances occurred to groundwater at concentrations above the MTCA Method A cleanup levels. The source of the release is suspected to be onsite, and has the potential to affect the air route. Concentrations of these substances were detected below the MTCA Method A cleanup levels in Site soils; however, the source of the release has not been located.

☑ **Groundwater**

Release occurred to groundwater at concentrations above the MTCA Method A cleanup levels.

ROUTE SCORES:

Surface Water/ Human Health:	21.3	Surface Water/ Environment:	46.7
Air/ Human Health:	36.1	Air/ Environment:	2.1
Groundwater/ Human Health:	41.0		

Overall Rank: 2

REFERENCES:

1 Converse Consultants NW, 1991. Level I Environmental Site Assessment, Spencer Industries, Inc. May 1, 1991.

2 Ecology, 2006. Letter to John Mahoney of Spencer Industries, RE: Determination Status for the following Hazardous Waste Site enrolled in the Voluntary Cleanup Program, Spencer Industries, Inc. May 31, 2006.

3 Ecology, 2006. Letter to John Mahoney of Spencer Industries, RE: Further Action Determination under WAC 173-340-515(5) for Spencer Industries, Inc. May 31, 2006.

4 Ecology, 2006. VCP Site Log, Spencer Industries. May 2006.

5 Hart-Crowser, 1999. Letter to Ecology, RE: Groundwater Monitoring Plan, Spencer Industries, Inc. July 8, 1999.

6 Hart-Crowser, 1999. Summary of Site Investigations, Spencer Industries, Inc. Vol. I. April 1, 1999.

7 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

8 Missouri Census Data Center, Circular Area Profiles - 2010 census data around a point location. http://mcdc.missouri.edu/websas/caps10c.html. Accessed March 2014.

9 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

10 WARM Scoring Manual

11 WARM Toxicological Database

12 Washington Department of Transportation 24-hour Isopluvial Maps, January 2006 update. http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIspoluvials.pdf

13 Water Resources Explorer : Ecology Water Resources Explorer, accessed June 2014. https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx

SITE HAZARD ASSESSMENT
Worksheet 2
Route Documentation

Cleanup Site ID: 4796 Spencer Industries, Inc

Facility/Site ID: 13132191

1. SURFACE WATER ROUTE

List those substances to be considered for scoring:

Tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, lead, and arsenic

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

Confirmed presence in groundwater. Groundwater is tidally influenced.

List those management units to be considered for scoring:

Surface water

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

Potential for transport to surface water

2. AIR ROUTE

List those substances to be considered for scoring:

Tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene

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

Presence in groundwater

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:

Tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, lead, and arsenic

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

Confirmed presence in groundwater

List those management units to be considered for scoring:

Groundwater

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

Confirmed presence in groundwater onsite

Worksheet 4

Surface Water Route

CSID: 4796 **Site Name:** Spencer Industries, Inc.

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Tetrachloroethylene	8	5	3	4
Trichloroethylene	8	3	X	4
cis-1,2-dichloroethylene	6	X	3	X
Lead	6	X	10	X
Arsenic	8	5	5	7

Highest Value 10

Bonus Points? 2

Human Health Toxicity Value 12

1.2 Environmental Toxicity

Substance	Acute Water Quality Criteria		Non-human Mammalian Acute Toxicity	
	ug/L	Value	mg/kg	Value
Tetrachloroethylene	5280	2	800	5
Trichloroethylene	45000	2	2402	3
cis-1,2-dichloroethylene	11600	2	X	X
Lead	82	6	X	X
Arsenic	360	4	763	5

Environmental Toxicity Value 6

1.3 Substance Quantity

Amount: 6,000 square feet

Basis: Estimated based on approximate aerial extent of groundwater impacts

Substance Quantity Value 7

2.0 Migration Potential

2.1 Containment

Containment Value 10

Explain Basis: Impacted groundwater is expected to discharge to surface water in the Lower Duwamish Waterway

2.2 Surface Soil Permeability

Soil Permeability Value 3

Sand and sandy silt

2.3 Total Annual Precipitation

Total Precipitation Value 3

37 inches

2.4 Max 2-yr/24-hour Precipitation

2YR/24HR Precipitation Value 3

2.4 inches

2.5 Floodplain

Floodplain Value 0

Not in a floodplain

2.6 Terrain Slope

Slope Value 1

<2%

Worksheet 4

Surface Water Route

CSID: 4796 **Site Name:** Spencer Industries, Inc.

3.0 Targets

3.1 Distance to Surface Water	Surface Water Distance Value	10
360 feet to Duwamish River		
3.2 Population Served within 2 miles	Population Value	0
0 people		
3.3 Area Irrigated within 2 miles	Irrigation Value	0
0 acres		
3.4 Distance to Nearest Fishery Resource	Fishery Value	12
360 feet to Duwamish River		
3.5 Distance to and Name of Nearest Sensitive Environment	Sensitive Environment Value	12
360 feet to Duwamish River		

4.0 Release	Release to Surface Water Value	0

Explain basis for scoring a release to surface water

No confirmed release to surface water

Pathway Scoring - Surface Water Route, Human Health Pathway

$SW_H = (SUB_{SH}*40/175)*[(MIG_S*25/24) + REL_S + (TAR_{SH}*30/115)]/24$

Where:

SUB_{SH} = (Human Toxicity Value + 3)*(Containment + 1) + Substance Quantity	SUB_{SH}	172
MIG_S = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope	MIG_S	10
REL_S = Release to Surface Water	REL_S	0
TAR_{SH} = Distance to Surface Water + Population Served by Surface Water + Area Irrigated	TAR_{SH}	10.0
	SW_H	21.3

Pathway Scoring -Surface Water Route, Environmental Pathway

$SW_E = (SUB_{SE}*40/153)*[(MIG_S*25/24) + REL_S + (TAR_{SE}*30/34)]/24$

Where:

SUB_{SE} = (Env Tox Value + 3) * (Containment + 1) + Substance Qty	SUB_{SE}	106
MIG_S = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope	MIG_S	10
REL_S = Release to Surface Water	REL_S	0
TAR_{SE} = Distance to Surface Water + Distance to Fishery + Distance to Sensitive Environment	TAR_{SE}	34.0
	SW_E	46.7

Worksheet 5

Air Route

CSID: 4796 **Site Name:** Spencer Industries, Inc.

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
Tetrachloroethylene	9	5	X	X
Trichloroethylene	10	3	X	4
cis-1,2-dichloroethylene	1	3	X	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
Tetrachloroethylene	4000	5	4	10
Trichloroethylene	15583	3	4	6
cis-1,2-dichloroethylene	65000	3	4	6

Env. Final Matrix Value 10

1.6 Substance Quantity

Amount: 6,000 square feet

Basis: Estimated based on approximate aerial extent of groundwater impacts

Substance Quantity Value 5

Worksheet 5

Air Route

CSID: 4796 **Site Name:** Spencer Industries, Inc.

2.0 Migration Potential

2.1 Containment Containment Value 5

Explain Basis: Confirmed release to groundwater

3.0 Targets

3.1 Nearest Population Population Distance Value 10

20 feet

3.2 Distance to and name of nearest sensitive environments Sensitive Environment Value 7

360 feet to the Duwamish River

3.3 Population within 0.5 miles Population Value 55

2,972 population

4.0 Release Release to Air Value 0

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} =(Human toxicity + 5) * (Containment + 1) + Substance Qty	SUB_{AH}	179
REL_A = Release to Air	REL_A	0
TAR_{AH} = Nearest Population + Population within 1/2 mile	TAR_{AH}	65
	AIR_H	36.1

Pathway Scoring - Air Route, Environmental Pathway

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

Where:

SUB_{AE} =(Environmental Toxicity Value +5)*(Containment +1) +Substance Qty	SUB_{AE}	95
REL_A = Release to Air	REL_A	0
TAR_{AE} = Nearest Sensitive Environment	TAR_{AE}	7
	AIR_E	2.1

Worksheet 6

Groundwater Route

CSID: 4796 **Site Name:** Spencer Industries, Inc.

1.0 Substance Characteristics

1.1 Human Toxicity

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Tetrachloroethylene	8	5	3	4
Trichloroethylene	8	3	X	4
cis-1,2-dichloroethylene	6	X	3	X
Lead	6	X	10	X
Arsenic	8	5	5	7

Highest Value 10

Bonus Points? 2

Toxicity Value 12

1.2 Mobility

Cations/Anions Max Value: 3

Solubility Max Value: 3 Mobility Value 3

1.3 Substance Quantity

Amount: 445 cubic yards

Basis: Estimated from approximate groundwater impacts, assuming 2 ft thickness

Substance Quantity Value 3

2.0 Migration Potential

2.1 Containment Containment Value 10

Explain Basis: Confirmed release to groundwater

2.2 Net Precipitation >10 - 20 inches Net Precipitation Value 2

2.3 Subsurface Hydraulic Conductivity Conductivity Value 3

Silty sand

2.4 Vertical Depth to Groundwater 10 feet

Confirmed release: Yes Depth to Aquifer Value 8

3.0 Targets

3.1 Groundwater Usage Aquifer Use Value 4

Domestic and irrigation

3.2 Distance to Nearest Drinking Water Well 9,600 feet

Well Distance Value 1

3.3 Population Served within 2 Miles Population Served Value 2

3 people

Worksheet 6

Groundwater Route

CSID: 4796 **Site Name:** Spencer Industries, Inc.

3.4 Area Irrigated by GW Wells within 2 miles Area Irrigated Value 1

1 acres

4.0 Release Release to Groundwater Value 5

Explain basis for scoring a release to groundwater:

Confirmed release to groundwater above the MTCA Method A cleanup levels

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	SUB_{GH}	201
MIG_G=Depth to Aquifer+Net Precip + Hydraulic Conductivity	MIG_G	13
REL_G = Release to Groundwater	REL_G	5
TAR_{GH} = Aquifer Use + Well Distance + Population Served + Area Irrigated	TAR_{GH}	7.5
	GW_H	41.0

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: Spencer Industries, Inc. **CSID:** 4796

Site Address: 8410 Dallas Ave S & 1205 S Orr St **FSID:** 13132191

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	21.3	3
Air	36.1	4
Groundwater	41.0	4

H= 4
M= 4
L= 3

$$\frac{H^2 + 2M + L}{8} = \frac{16 + 8 + 3}{8}$$

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	46.7	4
Air	2.1	2

H= 4
L= 2

$$\frac{H^2 + 2L}{7} = \frac{16 + 4}{7}$$

Environment Priority Bin Score: **3**

rounded up to next whole number

Comments/Notes:

FINAL MATRIX RANKING **2**

FOR REFERENCE:

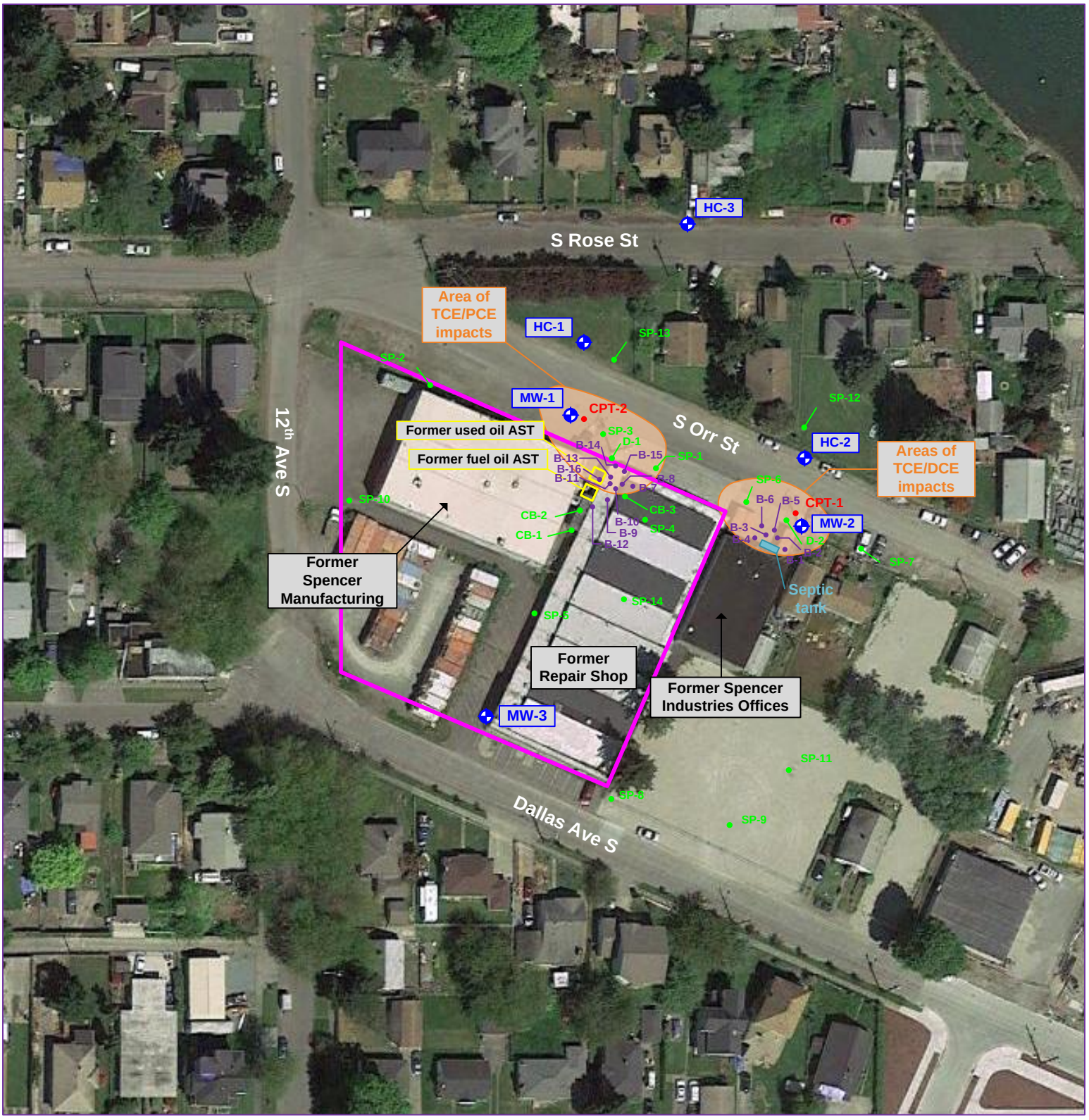
Final WARM Bin Ranking Matrix

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 Surface Water	Air	Ground Water	Environment 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)
- Former AST location (approximate)
- Groundwater plume boundary (approximate)
- Monitoring well (approximate)
- 1996 soil sample location (approximate)
- 1997 soil sample location (approximate)
- 1997 groundwater sample location (approximate)

Notes:

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

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Spencer Industries Inc
8410 Dallas Avenue South &
1205 South Orr Street
Seattle, WA 98108

DEPARTMENT OF ECOLOGY
State of Washington

Site Overview Map

CSID 4796
CSID4796.vsd