

# SITE HAZARD ASSESSMENT

## Worksheet 1

### Summary Score Sheet

#### SITE INFORMATION:

Upper Hudson Street  
4815 15th Avenue SW  
Seattle, King County, WA 98106

Cleanup Site ID: 2597

Facility/Site ID: 6149702

Section:	19	Latitude:	47.55925
Township:	24N	Longitude:	-122.35357
Range:	4E	Tax/Parcel ID:	2840700005, 2840700070

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

#### SITE DESCRIPTION:

The Upper Hudson Street site (Site) is a former (and current) single family residence located in Seattle, King County, Washington. The 3.67-acre property is located approximately 775 feet from the Lower Duwamish Waterway (LDW), and zoned for residential (SF 7200) use.

Adjacent properties include Puget Park (Cleanup Site ID (CSID) 3076) to the south and west of the Site, and single family residences to the north of the Site. To the northwest of the Site, north of Puget Park, is Pigeon Point Park. To the east of the Site are several warehouses (Fog Tite Meter and Seal) and outdoor storage yards.

The Site is currently operated as a single family residence by Thomas S McFarland.

The Site is bordered on the west by Puget Boulevard Southwest, and on the north by the Southwest Edmunds Street right-of-way (ROW).

The McFarland family previously owned several other tax parcels in the area, including parcel 2840700135, which is currently part of Puget Park (CSID 3076) but was formerly referred to as the McFarland Property (CSID 280, now merged with Puget Park).

The McFarland family also previously owned several parcels north of the Southwest Edmunds Street ROW, which were sold in 2005 to West Seattle Estates LLC. These properties were part of a cleanup action under the Voluntary Cleanup Program (VCP) in 2007 through 2009, under the name West Seattle Estates LLC (CSID 3423), which received a No Further Action (NFA) determination in 2009.

#### 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>
	1963	John Neville	
1963	2014	John McFarland, Thomas McFarland	Single family residence

#### SITE CONTAMINATION:

In 2006 the Upper Hudson Street site was reported to Washington State Department of Ecology (Ecology) and placed on the Confirmed and Suspected Contaminated Sites (CSCSL) list with ID number 2597.

The Site was used as an operating base in 1968 and 1969 while areas to the west of the Site were filled with cement kiln dust. These adjacent areas include Puget Park, part of which was previously owned by the McFarland family, and the roadway beneath Puget Boulevard Southwest. During this time, CKD is suspected to have been stockpiled at the Site, and trucks carrying CKD were likely present at the Site. CKD is also suspected to have been used as fill at the Upper Hudson Street Site. Areas adjacent to the Site, including the roadway to the west and Puget Park, have been documented to have CKD fill.

In 1993 and 1994, several subsurface investigations regarding CKD were conducted in the adjacent roadway to the west of the Site. The CKD encountered in these investigations is expected to be similar in composition to

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CKD at the Site.

In 1993, a subsurface investigation was conducted and included two soil borings and five test pits located in a 400-foot section of roadway south of Southwest Edmunds Street and 16th Avenue Southwest, to assess a road realignment project in the vicinity of current Puget Boulevard Southwest. The subsurface investigation also reportedly utilized data from a subsurface investigation conducted in 1992 by Dames and Moore, which was not available for review. The road right-of-way was reportedly covered with 16 to 17 feet of white ash, which was assumed to contain cement kiln dust.

In 1994, a limited environmental assessment was conducted to the west of the Site to assess the metals present in soils below two proposed road realignment alternatives for Puget Boulevard Southwest. This property was owned at the time by John McFarland, however this area was later given to the City of Seattle (2002). Twenty-eight soil samples were collected from depths of between 0.5 to 4 feet below ground surface (bgs). Concentrations of arsenic, cadmium, and lead were present in soil at concentrations above MTCA Method A cleanup levels. Some concentrations of chromium (total) were below the MTCA Method A cleanup level for chromium III but above the MTCA Method A cleanup level for chromium VI. The pH of soil samples ranged from 7.87 to 12.39. Soil samples were analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) analysis. The results indicated that the soil did not meet the criteria to be designated as toxicity characteristic dangerous or hazardous waste.

In December 1994, the Static Acute Fish Toxicity Test was used to determine whether the CKD fill constituted a dangerous or extremely hazardous waste, and was determined to be toxic to fish at a concentration of 1,000 milligrams per liter (mg/L) but not at 100 mg/L. Fish bioassays were conducted using CKD fill materials and the results were reportedly within the acceptable range (as of 1994). Based on this information, Ecology determined that the CKD would not constitute a dangerous waste. Additionally, Holnam, the source of the CKD fill, reportedly received an exemption from the dangerous waste designation for CKD used as fill.

#### **PAST REMEDIATION ACTIVITIES:**

The Upper Hudson Street site joined the VCP in 2006 with ID number NW1585.

In January 2006, approximately 2,767 tons of stockpiled CKD was excavated and removed from the Site. The excavation continued several feet below ground surface in the area of the stockpile. Trucks transporting CKD were washed prior to leaving the Site, and the loading and washing area was overexcavated following removal of the CKD from the Site. Groundwater was reportedly not encountered during excavation activities. Following excavation, three soil samples were collected from the base of the excavation, and seven soil samples were collected from the excavation sidewalls. One sample collected from the northeast sidewall contained arsenic (27.3 mg/kg) above the MTCA Method A cleanup level. Other soil samples did not contain arsenic above the MTCA Method A cleanup level, but all soil samples contained arsenic concentrations above the MTCA Method B (carcinogenic) cleanup level. Sample S-6, from the center base of the excavation, contained lead (1,470 mg/kg) at concentrations above the MTCA Method A cleanup level (unrestricted and industrial land use). pH values for collected soil samples ranged from 6.74 to 11.1.

In April 2006, approximately 198 tons of battery casing material was excavated from the area north of the January 2006 CKD excavation and removed from the Site. The casings were reportedly discovered during the January removal of CKD. Confirmation soil sampling following excavation indicated that soil containing concentrations of arsenic and lead above MTCA Method A cleanup levels remained in the sidewalls of the excavation. One sample collected from the northeast sidewall contained arsenic (25.7 mg/kg) and lead (1,220 mg/kg) above the MTCA Method A cleanup level, and two samples collected from the south sidewall contained lead above the MTCA Method A cleanup level.

In a separate remedial action conducted in April 2006, seventeen test pits were excavated at the Site to assess areas of the Site which may possibly contain CKD material. The test pits were excavated to depths of approximately 7 feet bgs. Perched groundwater was reportedly observed at 4 feet bgs in test pit TP-8. Soil samples were collected from the base of each test pit. The sample collected from TP-13 contained arsenic (33 mg/kg) at a concentration above the MTCA Method A cleanup level. Lead (242 mg/kg) was present in a soil sample from this test pit at a concentration below the MTCA Method A cleanup level for lead. A soil sample from TP-16 contained arsenic and lead at concentrations above the MTCA Method A cleanup levels. Test pits TP-13 and TP-16 are located to the north of the January 2006 excavation, and to the east of the April 2006 excavation.

# SITE HAZARD ASSESSMENT

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### Summary Score Sheet

Arsenic was present in all collected soil samples at concentrations above the MTCA Method B (carcinogenic) cleanup level. Reportedly, an additional 15 foot by 35 foot area of CKD fill was discovered to the west of the January 2006 CKD excavation, and approximately 178 tons of soil were removed from this area and disposed of offsite.

A further action letter was sent to the property owner in June 2006, indicating that the remedial actions performed at the Site were not sufficient to characterize the Site with respect to lead in soil. Additionally, Ecology requested further characterization south of the January 2006 excavation, where a Site map indicated that the area was "Inaccessible-Pallets with Concrete" and "Inaccessible-Area with Debris."

In September 2006, approximately 20 cubic yards of soil were excavated in the vicinity of the battery casing excavation where lead was above the MTCA Method A cleanup level, and TP-13 and TP-16 (April 2006 test pits). Confirmation soil samples were collected in each of these areas, and concentrations of lead and arsenic were below MTCA Method A cleanup levels. Three test pits (TP-18, TP-19, and TP-20) were excavated to the south of the January 2006 excavation, and soil samples collected from the test pits contained concentrations of lead and arsenic below the MTCA Method A cleanup levels.

The Site was terminated from the VCP in 2009 following the death of the VCP applicant.

#### **CURRENT SITE CONDITIONS:**

Groundwater has not been characterized at the Site, though perched groundwater was observed in one soil boring in 1993, and in a test pit in 2006. Arsenic and lead have been detected in Site soils at concentrations above MTCA Method A cleanup levels. Groundwater was observed and analyzed (from two monitoring wells) at the West Seattle Estates LLC cleanup site, located to the north, and groundwater at that site did not contain concentrations of arsenic and lead above the MTCA Method A cleanup levels. To the west, at Puget Park, groundwater is known to discharge to surface water (Puget Creek).

Test pit samples were collected from the base of each excavation. It is unclear if soil impacts exist throughout the Site at depths of less than 7 feet bgs.

The approximate depth to groundwater is 2 to 7 feet below ground surface, with groundwater flowing to the east (estimated based on surface topography). Subsurface soils are sand and silt (based on test pits, excavations, and information from adjacent state cleanup sites).

#### **SPECIAL CONSIDERATIONS:**

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

**Surface Water**

CKD was present in near-surface soils at the Site, where it was used as fill. Groundwater at an adjacent site is known to discharge to a local stream, and there is potential for arsenic and lead in soil and/or groundwater to impact surface water at this Site.

**Air**

CKD fill with arsenic and lead was present at this Site, and residual amounts that may remain at the Site may be available to the air route in particulate form.

**Groundwater**

CKD was present as Site fill, and arsenic and lead have been detected in Site soil at concentrations above the MTCA Method A cleanup level, which has the potential to impact groundwater.

CKD was present at this Site as fill. Cadmium was detected in fill to the west of the Site at concentrations above the MTCA Method A cleanup level. However, cadmium has not been detected in soil at the Site. The addition of cadmium would not affect the overall scoring of the Site.

#### **ROUTE SCORES:**

Surface Water/ Human Health: 28.0

Surface Water/ Environment: 51.0

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Air/ Human Health: 11.3

Air/ Environment:

Groundwater/ Human Health: 31.4

**Overall Rank: 2**

#### REFERENCES:

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<https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx>
- 3 Geo Group Northwest, Inc., 1993, Geotechnical Engineering Study, Puget Way SW Street Improvement W. Marginal Way SW to SW Alaska Street Seattle, Washington. Prepared for Mr. Kurt Mayer. December 30, 1993.
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- 7 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed August 2014.  
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- 8 McFarland, John M., 2002, Gift to the City of Seattle, Parcel of Real Estate Adjoining Puget Park. June 10, 2002.
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- 10 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>
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- 12 Preston Gates & Ellis, 1995, Letter Re: Hudson Street Project -- Cement Kiln Dust. January 17, 1995.
- 13 RZA Agra, Inc., 1994, Limited Environmental Assessment of Mayer Hudson Street Project. Prepared for Gordon, Thomas, Honeywell, Malanca, Peterson & Daheim. July 18, 1994.
- 14 SESCO Group, 2006, Battery Casing Excavation Completion Report, Upper Hudson Street Site, 4815 15th Ave SW Seattle, WA TCPID NW1585. May 18, 2006.
- 15 SESCO Group, 2006, Excavation Completion Report, Upper Hudson Street Site, 4815 15th Avenue SW Seattle, WA TCPID NW1585. March 2, 2006.
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- 17 SESCO Group, 2006, Site Assessment Completion Report, Upper Hudson Street Site, 4815 15th Avenue SW Seattle, WA TCPID NW1585. October 5, 2006.
- 18 WARM Scoring Manual
- 19 WARM Toxicological Database
- 20 Washington Department of Transportation 24-hour Isopluvial Maps, January 2006 update. <Http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrIspluvials.pdf>

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- 21 Washington State Department of Ecology, 1995, Letter Re: Analytical Results for Additional Environmental Assessment for Mayer Hudson Street Project, Seattle, WA. February 7, 1995.
  - 22 Washington State Department of Ecology, 2006, Letter Re: Partial Sufficiency and Further Action Determination under WAC 173-340-515 (5) for the following Hazardous Waste Site: Name: Upper Hudson Street Site, Address: 4815 15th Ave. SW, Seattle WA 98106. June 30, 2006.
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**SITE HAZARD ASSESSMENT**  
**Worksheet 2**  
**Route Documentation**

Cleanup Site ID: 2597

Upper Hudson Street

Facility/Site ID: 6149702

**1. SURFACE WATER ROUTE**

**List those substances to be considered for scoring:**

Arsenic, lead

**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:**

Surface water

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

Potential for groundwater to impact surface water; potential for near-surface soil impacts to affect surface water runoff

**2. AIR ROUTE**

**List those substances to be considered for scoring:**

Arsenic, lead

**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:**

Surface soil

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

Potential for particulate transport

**3. GROUNDWATER ROUTE**

**List those substances to be considered for scoring:**

Arsenic, lead

**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 soil to impact groundwater

**Worksheet 4**  
**Surface Water Route**

CSID: 2597

Site Name: Upper Hudson Street

**1.0 Substance Characteristics**

**1.1 Human Toxicity**

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Arsenic	8	5	5	7
Lead	6	X	10	X

Highest Value 10  
 Bonus Points? 2  
 Human Health Toxicity Value

**1.2 Environmental Toxicity**

Substance	Acute Water Quality Criteria		Non-human Mammalian Acute Toxicity	
	ug/L	Value	mg/kg	Value
Arsenic	69	6	763	5
Lead	140	4	X	X

Environmental Toxicity Value

**1.3 Substance Quantity**

Amount: 1,000 feet

Basis: Estimated extent of remaining impacted soil

Substance Quantity Value

**2.0 Migration Potential**

**2.1 Containment**

Containment Value

Explain Basis: Impacted soil is present at the surface with no runoff controls, and groundwater has the potential to discharge to surface water

**2.2 Surface Soil Permeability**

Soil Permeability Value

Sands and silts

**2.3 Total Annual Precipitation**

Total Precipitation Value

37 inches

**2.4 Max 2-yr/24-hour Precipitation**

2YR/24HR Precipitation Value

2.4 inches

**2.5 Floodplain**

Floodplain Value

Not in the floodplain

**2.6 Terrain Slope**

Slope Value

>8% slope

**Worksheet 4**  
**Surface Water Route**

CSID: 2597

Site Name: Upper Hudson Street

**3.0 Targets**

**3.1 Distance to Surface Water**

Approximately 775 feet to the LDW, small streams nearby in Puget Park

Surface Water Distance Value

**3.2 Population Served within 2 miles**

people

Population Value

**3.3 Area Irrigated within 2 miles**

acres

Irrigation Value

**3.4 Distance to Nearest Fishery Resource**

Approximately 775 feet to the LDW, small streams nearby in Puget Park

Fishery Value

**3.5 Distance to and Name of Nearest Sensitive Environment**

Puget Park is located directly to the west of the Site

Sensitive Environment Value

**4.0 Release**

Explain basis for scoring a release to surface water

No confirmed release to surface water

Release to Surface Water Value

**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

$MIG_S$  = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope

$REL_S$  = Release to Surface Water

$TAR_{SH}$  = Distance to Surface Water + Population Served by Surface Water + Area Irrigated

$SUB_{SH}$	171
$MIG_S$	14
$REL_S$	0
$TAR_{SH}$	10.0
$SW_H$	28.0

**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

$MIG_S$  = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope

$REL_S$  = Release to Surface Water

$TAR_{SE}$  = Distance to Surface Water + Distance to Fishery + Distance to Sensitive Environment

$SUB_{SE}$	105
$MIG_S$	14
$REL_S$	0
$TAR_{SE}$	34.0
$SW_E$	51.0



**Worksheet 5**

**Air Route**

CSID: 2597

Site Name: Upper Hudson Street

**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
Arsenic	10	X	X	9
Lead	10	X	X	X

Highest Value 10

Bonus Points? 2

Toxicity Value

**1.3 Mobility**

Gaseous Mobility	Max Value:
Particulate Mobility	Soil Type: Sand and silt Erodibility: 86 Climatic Factor: 1 to 10

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
Arsenic	X	X	1	X
Lead	X	X	1	X

Env. Final Matrix Value

**1.6 Substance Quantity**

Amount: 1,000 square feet

Basis: Estimated extent of potential remaining impacted surface soil

Substance Quantity Value

**Worksheet 5**

**Air Route**

**CSID:** 2597

**Site Name:** Upper Hudson Street

**2.0 Migration Potential**

**2.1 Containment**

Containment Value

Explain Basis: Uncontaminated soil cover of variable thickness

**3.0 Targets**

**3.1 Nearest Population**

Population Distance Value

A single family residence is located on the site

**3.2 Distance to and name of nearest sensitive environments**

Sensitive Environment Value

Approximately 775 feet to the LDW

**3.3 Population within 0.5 miles**

Population Value

1,974 population

**4.0 Release**

Release 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<sub>A</sub> = Release to Air

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

SUB <sub>AH</sub>	70
REL <sub>A</sub>	0
TAR <sub>AH</sub>	51.4
AIR <sub>H</sub>	11.3

**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<sub>A</sub> = Release to Air

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

SUB <sub>AE</sub>	X
REL <sub>A</sub>	0
TAR <sub>AE</sub>	10.0
AIR <sub>E</sub>	not scored

**Worksheet 6**  
**Groundwater Route**

CSID: 2597

Site Name: Upper Hudson Street

**1.0 Substance Characteristics**

**1.1 Human Toxicity**

Substance	Drinking Water Standard Value	Acute Toxicity Value	Chronic Toxicity Value	Carcinogenicity Value
Arsenic	8	5	5	7
Lead	6	X	10	X

Highest Value 10  
 Bonus Points? 2  
 Toxicity Value

**1.2 Mobility**

Cations/Anions Max Value: 3  
 Solubility Max Value: Mobility Value

**1.3 Substance Quantity**

Amount: 300 cubic yards  
 Basis: Estimated volume of impacted soil

Substance Quantity Value

**2.0 Migration Potential**

**2.1 Containment**

Explain Basis: Contaminated soil

Containment Value

**2.2 Net Precipitation**

>10 to 20 inches

Net Precipitation Value

**2.3 Subsurface Hydraulic Conductivity**

Sand and silt

Conductivity Value

**2.4 Vertical Depth to Groundwater**

< 7 feet

Confirmed release: No

Depth to Aquifer Value

**3.0 Targets**

**3.1 Groundwater Usage**

Groundwater not used, but usable

Aquifer Use Value

**3.2 Distance to Nearest Drinking Water Well**

>10,000 feet

Well Distance Value

**3.3 Population Served within 2 Miles**

0 people

Population Served Value

**Worksheet 6**  
**Groundwater Route**

CSID: 2597

Site Name: Upper Hudson Street

**3.4 Area Irrigated by GW Wells within 2 miles**

Area Irrigated Value

0 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:

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

$MIG_G = \text{Depth to Aquifer} + \text{Net Precip} + \text{Hydraulic Conductivity}$

$REL_G = \text{Release to Groundwater}$

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

SUB <sub>GH</sub>	201
MIG <sub>G</sub>	6
REL <sub>G</sub>	0
TAR <sub>GH</sub>	2.0
GW <sub>H</sub>	14.8

## Washington Ranking Method

### Route Scores Summary and Ranking Calculation Sheet

**Site Name:** Upper Hudson Street

**CSID:** 2597

**Site Address:** 4815 15th Avenue SW

**FSID:** 6149702

#### HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	28.0	4
Air	11.3	2
Groundwater	31.4	2

H=	4
M=	2
L=	2

$$\begin{array}{c} H^2 \\ 16 \end{array} + \begin{array}{c} 2M \\ 4 \end{array} + \begin{array}{c} L \\ 2 \end{array} = \frac{\quad}{8}$$

**Human Health  
Priority Bin Score:**  
**3**  
rounded up to next  
whole number

#### ENVIRONMENT ROUTE SCORES

Enter Environment Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	51.0	5
Air	ns	0

H=	5
L=	0

$$\begin{array}{c} H^2 \\ 25 \end{array} + \begin{array}{c} 2L \\ 0 \end{array} = \frac{\quad}{7}$$

**Environment  
Priority Bin Score:**  
**4**  
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			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)
-  Excavation area (approximate)
-  Remaining soil contamination (approximate)
-  Soil sample (approximate)

**Notes:**

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



**Upper Hudson Street  
4815 15<sup>th</sup> Avenue Southwest  
Seattle, WA 98106**



**DEPARTMENT OF  
ECOLOGY**  
State of Washington

**Site Overview Map**

**CSID 2597**

CSID2597\_UpperHudson.vsd