SITE INFORM	ATION:	Cle	eanup Site ID:	5071
NC Machinery Tu	kwila	Fa	acility/Site ID:	2227
17025 West Valle	ey Highway			
Tukwila, King Cou	unty, WA 98188			
Section:	25	Latitude:	47.45091	
Township:	23N	Longitude:	-122.24362	
Range:	4E	Tax/Parcel ID:	2523049047,	2523049046

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

## SITE DESCRIPTION:

The NC Machinery Tukwila site (Site) is a former (and current) machinery storage, maintenance, and rental facility located in Tukwila, King County, Washington. The 15.28-acre property is located adjacent to the Green River, and zoned for commercial/light industrial (C/LI) use.

The Site is bordered on the west and south by the Green River, and on the east by the West Valley Highway (WA-181). To the north of these parcels is another parcel (parcel number 2523049010) also operated as NC Machinery. This parcel is listed as state cleanup site NC Machinery Lift Truck, Cleanup Site ID (CSID) 8917.

The Site is currently operated as NC Machinery by Tractor & Equipment Co.

Current activities at the Site include equipment storage, a maintenance department, vehicle fueling, steam cleaning, and operation of a covered outdoor wash rack. An office is also located at the Site.

The name of this Site has been written as both "NC Machinery" and "N C Machinery."

## SITE BACKGROUND:

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

<u>From</u>	<u>To</u>	Operator/Tenant	<u>Activity</u>
	2000	Tractor & Equipment Co	NC Machinery (tax parcel 2523049046)
	2015	Tractor & Equipment Co	NC Machinery (tax parcel 2523049047)
2000	2015	Harnish Group Inc	NC Machinery (tax parcel 2523049046)

## SITE CONTAMINATION:

In 1991 the NC Machinery Tukwila site was reported to Washington State Department of Ecology (Ecology) and placed on the Leaking Underground Storage Tank (LUST) list.

The Site had several interactions with Ecology prior to 1991. NC Machinery was reported to Ecology in 1969, for reportedly discharging wash water and cooling water to the Green River. The wash water and cooling water systems are now reportedly on a closed system. In 1989, a visqueen-lined hole was reportedly filled with shop debris and accumulated sediments from steam cleaning. The hole had been covered with soil. The soil and fill were reportedly disposed of offsite.

## PAST REMEDIATION ACTIVITIES:

In 1991 and 1992, seven underground storage tanks (USTs; tanks 1 through 5, 7, and 8) were excavated and removed from the Site, and one UST (tank 6) was closed in place.

In 1991, tank 1 (10,000-gallon diesel UST) and tank 2 (10,000-gallon unleaded gasoline UST) and associated

piping and pump islands were excavated and removed from the Site. The report detailing this tank removal was not available for review in Ecology's files; however, several summaries were available in subsequent reports. Approximately 280 cubic yards of petroleum-impacted soil was removed from this excavation area. Confirmation soil samples were analyzed for gasoline and BTEX constituents, and samples collected from the final excavation limits did not contain concentrations of these constituents above the laboratory reporting limit, with the exception of samples from the south side of the pump island, near the northwest corner of the adjacent building. These samples contained concentrations of gasoline-range hydrocarbons [120 and 130 milligrams per kilogram (mg/kg)] greater than the MTCA Method A cleanup level. The impacted soil was not removed due to the proximity of the building foundation. An estimated 9 cubic yards of petroleum-impacted soil remain in this area. The remainder of the soil was disposed of offsite. One new 10,000-gallon diesel UST was placed in the tank 1 and 2 excavation.

In July 1992, tanks 3 and 4 (both 1,000-gallon lube oil USTs) were excavated and removed from the Site. Petroleum-impacted soil was present in the excavation; however, due to the proximity of the Main Shop Building, approximately 32 cubic yards of diesel- and oil-impacted soil with concentrations greater than MTCA Method A cleanup levels were left in place beneath the southwest corner of the main building. Groundwater was not encountered in the excavation. The excavation was lined with visqueen and backfilled with imported soil, and the excavated soil was disposed of offsite.

Soil in the vicinity of tank 5 (750-gallon waste water UST) and tank 6 (1,000-gallon used oil UST) was excavated in July 1992. Tank 5 was removed; however, due to Site constraints, tank 6 was closed-in-place. A water line within the excavation area prevented further excavation of soil. An estimated 55 cubic yards of soil with concentrations of diesel- and oil-range hydrocarbons greater than MTCA Method A cleanup levels was left in this area.

Tank 7, a 500-gallon diesel UST, was also removed in July 1992. Groundwater was encountered at approximately 11 feet bgs in this excavation, though it was not sampled. Soil samples collected from the base of the excavation contained concentrations of diesel-range hydrocarbons above the 1992 MTCA Method A cleanup level, but less than the current MTCA Method A cleanup level. The excavation was terminated at 11 feet below ground surface (bgs), lined with visqueen, and backfilled with imported fill.

Tank 8 was also removed in 1992. This tank was never in service at the Site, and soil samples collected from the excavation did not contain concentrations of petroleum hydrocarbons greater than laboratory reporting limits.

Between 1992 and 1993, monitoring wells (MW-1 through MW-12) were installed at the Site. No report detailing the well installation was available for review in Ecology's files.

In 1995, additional soil excavation and characterization was conducted at the Site. In the area of former tanks 3 and 4, approximately 103 cubic yards of petroleum-impacted soil were excavated. An estimated 25 cubic yards of soil with concentrations of oil greater than the MTCA Method A cleanup level are still in place in this area. Excavation also occurred in the area of the former engine sump and the former transmission sump, where 5 and 60 cubic yards of petroleum-impacted soil were left in place, respectively. Soil in the former engine sump and transmission sump area contained concentrations of oil-range hydrocarbons greater than the 1995 MTCA Method A cleanup level; however the concentrations were less than the current MTCA Method A cleanup level. In the area of tanks 5 and 6, approximately 100 cubic yards of petroleum-impacted soil were removed. Confirmation soil samples indicated that concentrations of oil-range hydrocarbons in the remaining soil were less than the current MTCA Method A cleanup level. Approximately 57 cubic yards of additional soil were removed from the tank 7 area. Diesel-range hydrocarbon concentrations in the excavation sidewalls was less than the MTCA Method A cleanup level. Impacted soil surrounding six former dry wells was also removed at this time.

Groundwater was monitored quarterly in wells MW-1 through MW-12 from August 1993 to May 1997. As of May 1997, gasoline (MW-2), benzene (MW-2), ethylbenzene (MW-2, MW-5), xylenes (MW-2, MW-5), and vinyl chloride (MW-5) were present in Site groundwater at concentrations greater than MTCA Method A cleanup levels.

In 1999, King County Department of Health was scheduled to conduct a Site Hazard Assessment (SHA) of the Site; however, the Site joined the Independent Remedial Action Program (IRAP), the predecessor of the Voluntary Cleanup Program (VCP), and the Site was not ranked.

In 1999, 18 soil borings were advanced at the Site. Thirteen of the borings (SP-1 through SP8; SP-14 through SP-18) were located in the vicinity of former tank 2, and five were located near former tanks 5 and 6 (SP-9 through

SP-13). Soil and groundwater samples were collected and analyzed for gasoline-range petroleum hydrocarbons and volatile organic compounds (VOCs). One new monitoring well (MW-14) was also installed. Soil collected from SP-14 contained gasoline-range hydrocarbons (340 mg/kg) above the MTCA Method A cleanup level. Groundwater sampled from borings SP-1 and SP-2 and well MW-2 in the vicinity of former tank 2 contained concentrations of gasoline-range hydrocarbons greater than the MTCA Method A cleanup level. Toluene, ethylbenzene, and xylenes were detected in groundwater at concentrations less than their respective MTCA Method A cleanup levels.

In 2000, in-situ bioremediation was conducted in the area of former tank 2. According to a summary of remedial actions in a later report (ENSR Corporation, 2008), this remedial action was not successful in reducing concentrations of gasoline-range hydrocarbons in groundwater to below the MTCA Method A cleanup level. Reportedly, Site groundwater in the vicinity of former tank 2 contains residual petroleum impacts.

In 2008, groundwater samples were collected from two onsite wells (MW-2 and MW-10) in the vicinity of former tank 2, and analyzed for gasoline-range hydrocarbons and benzene, toluene, ethylbenzene, and xylenes (BTEX). Gasoline-range hydrocarbons was detected in primary and duplicate groundwater samples collected from MW-2 at concentrations of 5,500 and 6,000 micrograms per liter (ug/L), respectively, greater than the MTCA Method A cleanup level.

## **CURRENT SITE CONDITIONS:**

Approximately 70 cubic yards of gasoline-impacted soil is present near former tanks 1 and 2, approximately 25 cubic yards of oil-impacted soil is present near the excavation of tanks 3 and 4, and approximately 55 cubic yards of oil-impacted soil are present near tank 6. Gasoline-impacted groundwater is present near former tanks 1 and 2.

The approximate depth to groundwater is 5 to 23 feet below ground surface, with groundwater flowing to the west. Subsurface soils are sandy silt (based on soil borings).

## **SPECIAL CONSIDERATIONS:**

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

## ✓ Surface Water

The Site is located adjacent to the Green River, and impacted groundwater may discharge to surface water in the river.

✓ Air

Release of gasoline occurred to subsurface soil, and gasoline is present in soil beneath the northwest corner of one of the onsite buildings. Soil beneath the onsite buildings has not been fully characterized.

## Groundwater

Gasoline-impacted groundwater is present at the Site. Remaining diesel- and oil-impacted soil at the Site may be available for transport to groundwater, and may not have been adequately characterized in groundwater throughout the Site.

It is unclear if vinyl chloride or other chlorinated solvents have been used at the Site.

## **ROUTE SCORES:**

Surface Water/ Human Health:	31.0	Surface Water/ Environment:	45.2
Air/ Human Health:	3.3	Air/ Environment:	1.5
Groundwater/ Human Health:	43.2		

**Overall Rank: 1** 

## **REFERENCES:**

- 1 Dames & Moore, 1997, Quarterly Groundwater Monitoring, NC Machinery Facility Seattle Branch Tukwila, Washington. Prepared for NC Machinery. October 6.
- 2 Dames & Moore, Inc., 1995, Final Report Soil and Groundwater Assessment and Independent Remedial Action, NC Machinery Facility, Seattle Branch, Corporate, and Lift Truck Facilities, Tukwila, Washington. Prepared for SC Distribution Co. June 30.
- 3 Ecology Water Resources Explorer, accessed April 2015. https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx
- 4 ENSR Corporation, 2008, 2008 Groundwater Monitoring Report, NC Machinery Facility 17035 West Valley Highway, Tukwila, Washingotn. Prepared for Harnish Group. August.
- 5 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed April 2015. http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx
- 6 Missouri Census Data Center, Circular Area Profiles 2010 census data around a point location. http://mcdc.missouri.edu/websas/caps10c.html. Accessed April 2015.
- 7 N C Machinery Co., 1992, Site Assessment Report for Underround Storage Tank Removal - N C Machinery Co. 17025 W. Valley Highway, Tukwila, Washington. September 11.
- 8 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
- 9 Seattle-King County Department of Public Health, 1999, Site Hazard Assessment Worksheet 1, N.C. Machinery Site. January 13.
- 10 URS Corporation, 2002, Final Cleanup Action, NC Machinery Facility, 17035 West Valley Hwy, Tukwila, Washington. April 18.
- 11 WARM Scoring Manual
- 12 WARM Toxicological Database
- 13 Washington Department of Transportation 24-hour Isopluvial Maps, January 2006 update. http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrlspoluvials.pdf

# SITE HAZARD ASSESSMENT Worksheet 2 Route Documentation

Cleanup Site ID: 5071

NC Machinery Tukwila

Facility/Site ID: 2227

## **1. SURFACE WATER ROUTE**

## List those substances to be considered for scoring:

Gasoline (benzene), diesel (oil is not scored as WARM does not contain toxicity data for oil), ethylbenzene, xylenes, vinyl chloride

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

Prior detection in Site soil and/or groundwater at concentrations above 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 discharge of impacted groundwater to surface water in the Green River

## 2. AIR ROUTE

## List those substances to be considered for scoring:

Gasoline (benzene), ethylbenzene, xylenes, vinyl chloride

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

Release of gasoline to subsurface soil

## 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 (benzene), diesel (oil is not scored as WARM does not contain toxicity data for oil), ethylbenzene, xylenes, vinyl chloride

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

Prior detection in Site soil and/or soil at concentrations above 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:

Prior detection in groundwater, or detection in soil that may be in contact with groundwater

## Worksheet 4 Surface Water Route Site Name: NC Machinery Tukwila

## **CSID:** 5071

## **1.0 Substance Characteristics**

## 1.1 Human Toxicity

	Drinking Water	Acute Toxicity	Chronic Toxicity	Carcinogenicity
Substance	Standard Value	Value	Value	Value
Gasoline (benzene)	8	3	Х	5
Diesel	4	5	3	Х
Ethylbenzene	4	3	1	Х
Xylenes	2	10	1	Х
Vinyl chloride	8	5	Х	7

**Highest Value** 10

**Bonus Points?** 

2 12

5

Human Health Toxicity Value

## 1.2 Environmental Toxicity

	Acute Water C	Acute Water Quality Criteria		Non-human Mammalian Acute Toxicity	
Substance	ug/L	Value	mg/kg	Value	
Gasoline (benzene)	5300	2	3306	3	
Diesel	2300	2	490	5	
Ethylbenzene	32000	2	3500	3	
Xylenes	Х	Х	5000	3	
Vinyl chloride	Х	Х	500	5	
	Environmental Toxicity Value				

Substance Quantity Value

#### **1.3 Substance Quantity**

Amount: Approximately 650 square feet

Basis: Estimated extent of gasoline-impacted soil

2.0 Migration Potential		
2.1 Containment	Containment Value	10
Explain Basis: Potential release of impacted groundwater to		
surface water in the Green River		
2.2 Surface Soil Permeability	Soil Permeability Value	3
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	2
Site is in the 100 year floodplain		
2.6 Terrain Slope	Slope Value	3
2 to 4% slope		

# Worksheet 4 Surface Water Route

**CSID:** 5071

Site Name: NC Machinery Tukwila

3.0 Targets		
3.1 Distance to Surface Water	Surface Water Distance Value	10
Site is located adjacent to the Green River		
3.2 Population Served within 2 miles	Population Value	0
0 people		
3.3 Area Irrigated within 2 miles	Irrigation Value	7
97 acres		
3.4 Distance to Nearest Fishery Resource	Fishery Value	12
Site is located adjacent to the Green River		
3.5 Distance to and Name of Nearest Sensitive Environment	Sensitive Environment Value	12
Site is located adjacent to the Green 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 <sub>H</sub> = (SUB <sub>SH</sub> *40/175)*[(MIG <sub>S</sub> *25/24) + REL <sub>S</sub> + (TAR <sub>SH</sub> *30/115)]/24 Where:		
SUB <sub>SH</sub> = (Human Toxicity Value + 3)*(Containment + 1) + Substance Quantity	SUB <sub>SH</sub>	170
MIG <sub>S</sub> = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain + Slope	MIGs	14
REL <sub>s</sub> = Release to Surface Water	RELs	0
TAR <sub>SH</sub> = Distance to Surface Water + Population Served by Surface Water + Area Irrigated	TAR <sub>SH</sub>	17.4
	SW <sub>H</sub>	31.0

Pathway Scoring -Surface Water Route, Environmental Pathway		
SW <sub>E</sub> = (SUB <sub>SE</sub> *40/153)*[(MIG <sub>S</sub> *25/24) + REL <sub>S</sub> + (TAR <sub>SE</sub> *30/34)]/24 Where:		
SUB <sub>SE</sub> = (Env Tox Value + 3) * (Containment + 1) + Substance Qty	SUB <sub>SE</sub>	93
MIG <sub>S</sub> = Soil Permeability + Annual Precip + Rainfall Frequency + Floodplain		
+ Slope	MIGs	14
REL <sub>S</sub> = Release to Surface Water	RELs	0
TAR <sub>SE</sub> = Distance to Surface Water + Distance to Fishery + Distance to		
Sensitive Environment	TAR <sub>SE</sub>	34.0
	014/	
	SWE	45.2

## Worksheet 5 Air Route Site Name: NC Machinery Tukwila

### **1.0 Substance Characteristics**

### 1.1 Introduction (WARM Scoring Manual) - Please Review before scoring

CSID: 5071

### 1.2 Human Toxicity

	Ambient Air	Acute Toxicity	Chronic Toxicity	Carcinogenicity
Substance	Standard Value	Value	Value	Value
Gasoline (benzene)	10	3	Х	5
Ethylbenzene	1	Х	Х	Х
Xylenes	1	3	1	Х
Vinyl chloride	10	1	Х	Х

#### 1.3 Mobility

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

### 1.4 Final Human Health Toxicity/Mobility Matrix Value

### 1.5 Environmental Toxicity/Mobility

	Non-human Mammalian	Acute		Table A-7
Substance	Inhalation Toxicity (mg/m3)	Value	Mobility Value	Matrix Value
Gasoline	31947	3	4	6
Ethylbenzene	Х	Х	3	Х
Xylenes	21714	3	3	5
Vinyl chloride	460123	1	4	2
			•	

Env. Final Matrix Value 6

### **1.6 Substance Quantity**

Amount: Approximately 650 square feet

Basis: Estimated extent of gasoline-impacted soil

Substance Quantity Value 4

**Highest Value** 10 Bonus Points? 2 **Toxicity Value** 12

Mobility Value 4

## HH Final Matrix Value

24

### Worksheet 5

### Air Route

<b>CSID:</b> 5071	Site Name: NC Machinery Tukwila
2.0 Migration Potential	
2.1 Containment	Containment Value 5
Explain Basis: At least 2 feet of soil cover bu	ut no vapor
collection system present	
3.0 Targets	
3.1 Nearest Population	Population Distance Value 6
Approximately 2,100 feet to a Residence Inn	
3.2 Distance to and name of nearest sensitive environm	nents Sensitive Environment Value 7
Site is located adjacent to the Green River	
3.3 Population within 0.5 miles	Population Value 0
0 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:	

 $SUB_{AH} = (Human toxicity + 5) * (Containment + 1) + Substance Qty REL<sub>A</sub> = Release to Air$ 

TAR<sub>AH</sub> = Nearest Population + Population within 1/2 mile

SUB <sub>AH</sub>	178
REL <sub>A</sub>	0
TAR <sub>AH</sub>	6.0
AIR <sub>H</sub>	3.3

Pathway Scoring - Air Route, Environmental Pathway		
AIR <sub>E</sub> = (SUB <sub>AE</sub> *60/329)*[REL <sub>A</sub> +(TAR <sub>AE</sub> *35/85)]/24 Where:		
SUB <sub>AE</sub> =(Environmental Toxicity Value +5)*(Containment +1) +Substance Qty REL <sub>A</sub> = Release to Air TAR <sub>AE</sub> = Nearest Sensitive Environment	SUB <sub>AE</sub> REL <sub>A</sub> TAR <sub>AE</sub>	70 0 7.0
	AIR <sub>E</sub>	1.5

## Worksheet 6

### **Groundwater Route**

Site

Site Name: NC Machinery Tukwila

## **1.0 Substance Characteristics**

**CSID:** 5071

## 1.1 Human Toxicity

···· ·······	Drinking Water	Acute Toxicity	Chronic Toxicity	Carcinogenicity	
Substance	Standard Value	Value	Value	Value	
Gasoline (benzene)	8	3	Х	5	
Diesel	4	5	3	Х	
Ethylbenzene	4	3	1	Х	
Xylenes	2	10	1	Х	
Vinyl chloride	8	5	Х	7	
				Highest Value	10
				Bonus Points?	2
				Toxicity Value	12
1.2 Mobility					
Cations/Anions	Max Value:				
Solubility	Max Value:	3		Mobility Value	3
1.3 Substance Quantity					
-	Approximately 155 cut	nic vards			
	Estimated volume of ir	-			
Da313.	LSumated volume of it	ilpacted soli	Substar	nce Quantity Value	3
			Substal		5
2.0 Migration Potential					
2.1 Containment			C	Containment Value	10
	Contaminated soil				10
Explain Buolo.	Containination Con				
2.2 Net Precipitation	>10 to 20	inches	Net I	Precipitation Value	2
2.3 Subsurface Hydraulic C	onductivity		(	Conductivity Value	3
Sandy silt					
2.4 Vertical Depth to Groun	dwater	5	feet		
	Confirmed release:	Yes	Dep	th to Aquifer Value	8
3.0 Targets					
3.1 Groundwater Usage				Aquifer Use Value	4
Private supply but alternate s	ources available with m	ninimum bookun re			т
3.2 Distance to Nearest Dri		5,400			
	ining match men	3,400		ell Distance Value	1
			vv		I
3.3 Population Served with	in 2 Miles		Popula	ation Served Value	1
			Fopula	ation berved value	4
15	people				

## Worksheet 6

## **Groundwater Route**

#### **CSID:** 5071 Site Name: NC Machinery Tukwila 3.4 Area Irrigated by GW Wells within 2 miles Area Irrigated Value 66 acres 4.0 Release

Release to Groundwater Value

6

5

Explain basis for scoring a release to groundwater: Confirmed release to groundwater

Pathway Scoring - Groundwater Route, Human Health Pathway		ľ
GW <sub>H</sub> = (SUB <sub>GH</sub> *40/208)*[(MIG <sub>G</sub> *25/17)+REL <sub>G</sub> +(TAR <sub>GH</sub> *30/165)]/24 Where:		
$SUB_{GH} = (Human toxicity + mobility + 3) * (Containment + 1) + Substance Qty$	SUB <sub>GH</sub>	201
MIG <sub>G</sub> =Depth to Aquifer+Net Precip + Hydraulic Conductivity	MIG <sub>G</sub>	13
REL <sub>G</sub> = Release to Groundwater	REL <sub>G</sub>	5
TAR <sub>GH</sub> = Aquifer Use + Well Distance + Population Served + Area Irrigated	TAR <sub>GH</sub>	15.0
	GW <sub>H</sub>	43.2

## Washington Ranking Method

## **Route Scores Summary and Ranking Calculation Sheet**

PathwayRoute ScoreQuintile GroupSurface Water $31.0$ $5$ Air $3.3$ $1$ Groundwater $43.2$ $4$ $4$ $1$ <th>Site Name:</th> <th>NC Machinery</th> <th>Tukwila</th> <th></th> <th></th> <th>CSID:</th> <th>5071</th> <th></th>	Site Name:	NC Machinery	Tukwila			CSID:	5071	
Enter Human Health Route Scores for all Applicable Routes: Pathway       Route Score       Quintile Group         Surface Water       31.0       5         Air       3.3       1         Groundwater       43.2       4         L=       1       25       +       8       +       1       =	Site Address:	17025 West Va	lley Highway, Tuk	wila, 98188		FSID:	2227	
Pathway       Route Score       Quintile Group         Surface Water       31.0       5         Air       3.3       1         Groundwater       43.2       4         L=       1       25       +       8       +       1       =	HUMAN HEALTH R	OUTE SCORES						
PathwayRoute ScoreQuintile GroupSurface Water31.05Air3.31Groundwater43.24ENVIRONMENT ROUTE SCORESEnter Environment Route Scores for all Applicable Routes:PathwayRoute ScoreQuintile GroupSurface Water45.2Air1.51 $H^2$ $H^2$ $+$ $2t$ $+$ $Route ScoreQuintile GroupSurface Water45.245.24L=16H^2+2t+$	Enter Human Healt	h Route Scores for a	II Applicable Routes	:				Human Healt
Surface watchImage: state of the state of th	Pathway	Route Score	Quintile Group		H <sup>2</sup>	+ 2M	+ L	Priority Bin Score
Air 3.3 1   Groundwater 43.2   43.2 4     L=   1     8        Enter Environment Route Scores for all Applicable Routes:   Pathway   Route Score   Quintile Group   Surface Water   45.2   4ir   1.5   1   H=   4   L=   1     H <sup>2</sup> +   2   =   Priority Bin   16   -   7   rounded up t   whole minimic out the score state of the score of th	Surface Water	31.0	5	H= 5	25	1 O	1	= 5
Environment Route Scores for all Applicable Routes:     H <sup>2</sup> +     2L     Environ Priority Bin       Surface Water     45.2     4     H=     4     16     +     2     =	Air	3.3	1	M= 4	25	то	Ŧ I	- 3
ENVIRONMENT ROUTE SCORES         Enter Environment Route Scores for all Applicable Routes:       Environ         Pathway       Route Score       Quintile Group         Surface Water       45.2       4         Air       1.5       1         U       16       +       2       =	Groundwater	43.2	4	L= 1		8		rounded up to nex
Air 1.5 1 L= 1 7 rounded up t whole no rounded up t t t whole no rounded up t t t t whole no rounded up t t t t t t t t t t t t t t t t t t	Pathway	Route Score	Quintile Group		H <sup>2</sup>	+ 2L		Priority Bin Score
Surface Water         45.2         4         H=         4         16         +         2         =         Interview         Interview <th< th=""><th>Enter Environment</th><th></th><th></th><th></th><th></th><th></th><th></th><th>Environmer</th></th<>	Enter Environment							Environmer
Air 1.5 1 L= 1 7 rounded up t whole no rounded up t t t whole no rounded up t t t t whole no rounded up t t t t t t t t t t t t t t t t t t	-					+ 2L		Priority Bin Score
Comments/Notes: FINAL MATRIX 1			-		16	+ 2	=	3
Comments/Notes:	Air	1.5	1			7		rounded up to nex
FINAL MATRIX						/		whole numbe
1	Comments/Note	<u>es:</u>						
1								
RANKING 1						FINAL	MATRIX	
						RAI	NKING	1

#### FOR REFERENCE:

### Final WARM Bin Ranking Matrix

Human											
Health	Environment Priority										
<u>Priority</u>											
	5	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

	Human Health						Environment					
	Sur	face			Gro	ound	Sui	rface				
Quintile	Water		Air		· Air		W	ater	W	ater	Å	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:



Excavation area (approximate)

Property location (approximate)

- Former UST location (approximate)
- Bioremediation area (approximate)
- Monitoring well (approximate)
- 1999 Soil boring (approximate)

## <u>Notes:</u>

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

NC Machinery Tukwila 17025 West Valley Highway Seattle, WA 98188



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# Site Overview Map

CSID 5071 CSID5071.vsd