SITE HAZARD ASSESSMENT Worksheet 1 Summary Score Sheet

SITE INFORMATION: Cleanup Site ID: 11447

Mount Baker Cleaners Facility/Site ID: 96127971

2864 S McClellan St

Seattle, King County, WA 98144

 Section:
 9
 Latitude:
 47.57859

 Township:
 24N
 Longitude:
 -122.29539

 Range:
 4E
 Tax/Parcel ID:
 0003600031

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

SITE DESCRIPTION:

The Mount Baker Cleaners site (Site) is a former (and current) dry cleaning business located in Seattle, King County, Washington. The 0.11-acre property is located approximately 2,700 feet from Lake Washington, and zoned for mixed (SM-65) use.

The Site is located on the northeast corner of the intersection of South McClellan Street and 29th Avenue South.

The Site is currently operated as Mount Baker Cleaners by Sung K. and Hwa Sun Kim.

Adjacent properties include apartment buildings to the north and east, single family residences to the west and southeast, and a dental office and retail store to the south.

Current activities at the Site include the operation of a dry cleaning business, including use of solvents such as tetrachloroethylene (PCE).

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>
	1983	Don J and Sarah R Jensen	
1983	2004	William J and Susan Wolfenbarger	Dry cleaning business
2004	2014	Sung K and Hwa Sun Kim	Dry cleaning business

SITE CONTAMINATION:

In 2009 the Mount Baker Cleaners site was reported to Washington State Department of Ecology (Ecology) and placed on the Confirmed and Suspected Contaminated Sites (CSCSL) list with ID number 11447.

The Site was reported to Ecology in 2009, when the property owner of 2806 South McClellan St (tax parcel 0003600032, west of the Site), collected a groundwater sample as part of preparation for a real estate transaction. The groundwater sample (collected at approximately 10 feet below ground surface [bgs]) reportedly contained 2,200 milligrams per liter (mg/L) of tetrachloroethylene (PCE), which the owner suspected was coming from the Mount Baker Cleaners Site, located less than 100 feet uphill to the east.

In 2010, a Limited Phase II Site Assessment was completed at the Site. As part of the assessment, three soil borings were completed at the Site (B1 through B3). Three soil samples were collected at a depth of approximately 3 feet below the building floor, and two groundwater samples were collected from the same borings at a depth of approximately 16 feet bgs. One UST was identified in the northeast corner of the Site using ground-penetrating radar (exact location unknown).

The soil sample collected from B2 contained PCE at a concentration (0.09 mg/kg) above the MTCA Method A cleanup level for soil. Groundwater samples collected from B2 and B3 contained PCE and trichloroethylene (TCE) above the MTCA Method A cleanup levels for groundwater. The highest reported concentrations of PCE

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and TCE were 3,700 micrograms per liter (ug/L) and 57 ug/L respectively. Cis-1,2-dichloroethylene (cis-1,2-DCE) was also detected in groundwater at a concentration (49 ug/L) above the MTCA Method B cleanup level (non-carcinogen).

A hazardous waste compliance inspection was conducted at the Site in September 2010, and several compliance issues were noted, including staining on the floor, and improper chemical storage. These issues were addressed and the Site was in compliance during a follow-up inspection later in 2010.

In July 2010, a well construction coordinator with Ecology visited the Site and noticed two improperly constructed wells. A notice of correction was reportedly sent to the contractor who installed the wells, however it is unknown whether any actions to remedy the situation were undertaken.

PAST REMEDIATION ACTIVITIES:

No reports of remedial activities were available for review in Ecology's files.

CURRENT SITE CONDITIONS:

Groundwater at the Site contains PCE, TCE, and cis-1,2-DCE at concentrations above the MTCA Method A (or B) cleanup levels. Site soil also contains PCE at a concentration above the MTCA Method A cleanup level. PCE above the MTCA Method A cleanup level has also been detected in groundwater at a property to the west of the Site, and is suspected to be part of the same groundwater plume. The extent of soil and groundwater impacts have not been characterized.

The approximate depth to groundwater is 10 feet below ground surface, with groundwater flowing to the west (estimated based on surface topography). Subsurface soils are expected to be sand and silt.

SPECIAL CONSIDERATIONS:

Checked boxes indicate routes applicable for Washington Ranking Method (WARM) scoring
☐ Surface Water
Release is expected to have occurred to subsurface soil.
✓ Air
PCE, TCE, and cis-1,2-DCE have been detected in groundwater at concentrations above the MTCA Method A (or B) cleanup levels. The impacted groundwater is known to be located below several buildings
✓ Groundwater

PCE, TCE, and cis-1,2-DCE have been detected in Site groundwater.

The source of the release is unknown, but may be related to releases within the building, or from the UST located at the Site. The UST is reportedly used for storage of PCE.

ROUTE SCORES:

Surface Water/ Human Health:

Air/ Human Health:

44.9

Air/ Environment:

2.0

Groundwater/ Human Health:

35.9

Overall Rank: 3

SITE HAZARD ASSESSMENT Worksheet 1 Summary Score Sheet

REFERENCES:

- 1 Kee, LLC, 2010, Limited Phase II Site Assessment Mt. Baker Cleaners 2864 S McClellan St Seattle, WA 98144. Prepared for Sung K Kim. September 17, 2010.
- 2 King County GIS Center iMAP application, Property Information, Groundwater Program, and Sensitive Areas mapsets. Accessed October 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 October 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 Isopluvial Maps, January 2006 update. http://www.wsdot.wa.gov/publications/fulltext/Hydraulics/Wa24hrlspoluvials.pdf
- 8 Washington State Department of Ecology, 2009, ERTS Report #613896. July 8, 2009.
- 9 Washington State Department of Ecology, 2010, Compliance Certificate RCRA Site ID #WAD081927550. September 24, 2010.
- 10 Washington State Department of Ecology, 2010, ERTS Report #620108. May 25, 2010.
- 11 Washington State Department of Ecology, 2010, Letter Re: Complaint received by the Washington State Department of Ecology Regarding Mt. Baker Dry Cleaners - Inspection date: September 1, 2010. September 24, 2010.

SITE HAZARD ASSESSMENT Worksheet 2 Route Documentation

Cleanup Site ID: 11447 Mount Baker Cleaners

Facility/Site ID: 96127971

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:

PCE, TCE, cis-1,2-DCE

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

Prior detection in groundwater at concentrations above the MTCA Method A (or B) cleanup level

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:

PCE, TCE, cis-1,2-DCE

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

Prior detection in groundwater at concentrations above the MTCA Method A (or B) cleanup level

List those management units to be considered for scoring:

Groundwater

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

Presence in Site groundwater

Air Route

CSID: 11447 **Site Name**: Mount Baker Cleaners

1.0 Substance Characteristics

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

1.2 Human Toxicity

··- ······				
	Ambient Air	Acute Toxicity	Chronic Toxicity	Carcinogenicity
Substance	Standard Value	Value	Value	Value
Tetrachloroethylene	9	5	Х	Х
Trichloroethylene	10	3	Х	4
Cis-1,2-dichloroethylene	1	3	X	Х

Highest Value	10
Bonus Points?	2
Toxicity Value	12

1.3 Mobility

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

1.4 Final Human Health Toxicity/Mobility Matrix Value

HH Final Matrix Value 24

1.5 Environmental Toxicity/Mobility

	Non-human Mammalian	Acute		Table A-7
Substance	Inhalation Toxicity (mg/m3)	Value	Mobility Value	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: Approximately 3,000 square feet Basis: Estimated extent of impacted soil

Substance Quantity Value

Air Route

CSID: 11447 Site Name: Mount Baker Cleaners

2.0 Migration Fotential		
2.1 Containment	Containment Value	5
Explain Basis: At least 2 feet of soil cover but no vapor collection system 3.0 Targets 3.1 Nearest Population Less than 200 feet to the nearest dwelling 3.2 Distance to and name of nearest sensitive environments Approximately 450 feet to the Franklin High School field 3.3 Population within 0.5 miles 5,118 population 4.0 Release 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 _A = Release to Air TAR _{AH} = Nearest Population + Population within 1/2 mile Pathway Scoring - Air Route, Environmental Pathway AIR _E = (SUB _{AE} *60/329)*[REL _A +(TAR _{AE} *35/85)]/24 Where:		
but no vapor collection system		
3.0 Targets		
3.1 Nearest Population	Population Distance Value	10
Less than 200 feet to the nearest dwelling		
3.2 Distance to and name of nearest sensitive environments	Sensitive Environment Value	7
Approximately 450 feet to the Franklin High School field		
3.3 Population within 0.5 miles	Population Value	72
5,118 population		
4.0 Release	Release to Air Value	C
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} 176	
REL _A = Release to Air	REL _A 0	
TAR _{AH} = Nearest Population + Population within 1/2 mile	TAR _{AH} 81.5	
	AIR _H 44.9	
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} 92	
	REL _A 0	
I AK _{AE} = Nearest Sensitive Environment	TAR _{AE} 7.0	
	AIR _E 2.0	

Groundwater Route

CSID: 11447 Site Name: Mount Baker Cleaners

1.0 Substance Characteristics

1.1 Human Toxicity

1.1 Human Toxicity					
	Drinking Water	Acute Toxicity	Chronic Toxicity	Carcinogenicity	
Substance	Standard Value	Value	Value	Value	
PCE	8	5	3	4	
TCE	8	3	X	4	
Cis-1,2-DCE	6	Х	3	Х	
	•			Highest Value	8
				Bonus Points?	2
				Toxicity Value	10
1.2 Mobility					
Cations/Anions	Max Value:				
Solubility	Max Value:	3		Mobility Value	3
1.3 Substance Quantity					
Amount	t: Approximately 350 cub	oic yards			
Basis	: Estimated extent of im	pacted soil			
			Substar	nce Quantity Value	3
2.0 Migration Potential					
2.1 Containment			(Containment Value	10
Explain Basis	: Contaminated soil			_	
2.2 Net Precipitation	>10 to 20	inches	Net I	Precipitation Value	2
				_	
2.3 Subsurface Hydraulic (Conductivity		•	Conductivity Value	3
Sand with silt					
2.4 Vertical Depth to Groun			feet		
	Confirmed release:	Yes	Dep	th to Aquifer Value	8
3.0 Targets				-	
3.1 Groundwater Usage				Aquifer Use Value	3
Irrigation and industrial					

>10,000 feet

Well Distance Value

Population Served Value

0 people

3.2 Distance to Nearest Drinking Water Well

3.3 Population Served within 2 Miles

Groundwater Route

CSID: 11447

Site Name: Mount Baker Cleaners

3.4 Area Irrigated by GW Wells within 2 miles
6 acres

4.0 Release

Release to Groundwater Value

5

Explain basis for scoring a release to groundwater:

Confirmed release to groundwater

Pathway Scoring - Groundwater Route, Human Health Pathway		
$GW_H = (SUB_{GH}^*40/208)^*[(MIG_G^*25/17) + REL_G + (TAR_{GH}^*30/165)]/24$ Where:		
SUB _{GH} =(Human toxicity + mobility + 3) * (Containment + 1) + Substance Qty MIG _G =Depth to Aquifer+Net Precip + Hydraulic Conductivity	SUB _{GH}	179 13
REL _G = Release to Groundwater	REL _G	5
TAR _{GH} = Aquifer Use + Well Distance + Population Served + Area Irrigated	TAR_GH	4.8
	GW _H	35.9

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: Mount Baker Cleaners CSID: 11447

Site Address: 2864 South McClellan St FSID: 96127971

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group		
Surface Water	ns	0		
Air	44.9	5		
Groundwater	35.9	3		

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	2.0	2

Comments/Notes:

FINAL MATRIX RANKING

3

FOR REFERENCE:

Final WARM Bin Ranking Matrix

Tillal WARIN Dill Raliking Watrix								
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		

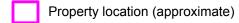
Quintile Values for Route Scores - February 2015 Values

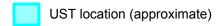
	Human Health						Environment			
	Surface				Ground		Surface			
Quintile	Water		Air		Water		Water		Air	
5	>=	30.7	>=	37.6	>=	51.6	>=	50.9	>=	29.9
4	>=	23.1	>=	23.8	>=	40.9	>=	31.2	>=	22.5
3	>=	14.1	>=	15.5	>=	33.2	>=	23.6	>=	14.0
2	>=	7.0	>=	8.5	>=	23.5	>=	11.0	>=	1.6
1	<=	6.9	"	8.4	"	23.4	<=	10.9	"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

Quintile value associated with each route score entered above



Legend:





• Soil boring/groundwater sample location (approximate)

DEPARTMENT OF FCOLOGY

Mount Baker Cleaners 2864 S McClellan Street Seattle, WA 98144

Site Overview Map

CSID 11447CSID11447.vsd

Notes:

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