SITE HAZARD ASSESSMENT
Worksheet 1
Summary Score Sheet

SITE INFORMATION:

Cleanup Site ID: 6936

Waste Management of Seattle 1st Ave

Facility/Site ID: 95878752

7901 1st Ave S

Seattle, King County, WA 98108

Section:	31	Latitude:	47.53144
Township:	24N	Longitude:	-122.33583
Range:	4E	Tax/Parcel ID:	3124049001

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

SITE DESCRIPTION:

The Waste Management of Seattle 1st Ave site (Site) is a former gas station, freight warehouse, and recycling sorting facility located in Seattle, King County, Washington. The 3.09-acre property is located approximately 2,600 feet from the Duwamish River, and zoned for industrial (IG2 U/85) use.

Adjacent properties include a Waste Management truck facility to the west, a Waste Management operations building and parking lot to the south, and a gas station and Seaport Petroleum warehouse to the north, across Southwest Kenyon Street. To the east of the Site is 1st Avenue South and Highway 509. The Site is located on the southwest corner of the intersection of 1st Avenue South and Southwest Kenyon Street.

The Site is currently operated as an Intermountain Supply by LMNG LLC.

Current activities at the Site include the manufacturing and distribution of roofing and building products. The facility generates approximately 100 pounds per month of waste adhesives. Other activities at the Site include loading and unloading of large trucks, and vehicle washing. The Site is under an Industrial Stormwater General Permit (permit number WAR000582).

Nearby state cleanup sites include Northwest Enviroservice 2 (Cleanup Site ID (CSID) 2421) to the south of the Site, Northwest Enviroservice 2W (CSID 2447) approximately 800 feet north of the Site, and Ryder Student Transportation Services (CSID 6414) approximately 500 feet northeast of the Site, across Highway 509.

SITE BACKGROUND:

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

From	To	Operator/Tenant	Activity
1955	1966		Texaco gasoline station
1966	1976		Retail property
1979	1985	Global Moving and Storage	Maintenance and fueling yard for trucks
1979	1988	TW Express, AVL Freight	Freight warehouse
1988	2001	Frank T. and Louise F. Holert	Waste Management of Seattle, Inc. (Recycle America)
2001	2005	WS Junction Building LLC	Waste Management of Seattle, Inc. (Recycle America)
2006	2014	LMNG LLC	Intermountain Supply

SITE CONTAMINATION:

In 1997 the Waste Management of Seattle 1st Ave site was reported to Washington State Department of Ecology (Ecology) and placed on the Leaking Underground Storage Tank (LUST) list.

A release at the Site was reported to Ecology in September 1997, when one 6,000-gallon gasoline UST and one

8,000-gallon diesel UST were removed from the Site. The tanks were tested for tightness on September 28, 1997, and both reportedly passed. Upon visual inspection, the tanks appeared to contain several pin-sized holes. Field screening indicated that petroleum-impacted soil was present at the Site beneath the USTs. Groundwater was reported at 11 feet below ground surface (bgs), and was noted to have a black “froth” on the surface, though free product was reportedly not visible.

In 1966, the underground storage tanks (USTs), pumps, and building associated with a former gasoline service station were reportedly removed. The Site was reportedly graded and filled between the late 1960's and 1979. The fill material used is suspected to be cement kiln dust (CKD).

PAST REMEDIATION ACTIVITIES:

During UST removal activities in 1997, soil samples were collected from the excavation sidewalls, floor, and stockpiled soil. Excavation floor samples, and samples from the west, south, and east sidewalls contained gasoline-range petroleum hydrocarbons and benzene, toluene, ethylbenzene, and xylenes (BTEX) at concentrations above the Model Toxics Control Act (MTCA) Method A cleanup levels. Diesel was also detected in these samples, but at concentrations below the MTCA Method A cleanup level. Additional soil was excavated from the Site, including one to two feet from the base of the excavation and from the east and south sidewalls. The west sidewall could not be overexcavated due to onsite structures. Confirmation soil samples were collected, and soil samples from the east and south sidewalls contained gasoline, diesel, and BTEX constituents at concentrations above the respective MTCA Method A cleanup levels. A total of approximately 300 to 400 cubic yards of petroleum-impacted soil from the UST removal area were excavated and disposed of offsite.

In February 1999, four groundwater monitoring wells were installed at the Site to depths of 15 to 17 feet bgs. Soil samples from each well were screened using a photoionization detector (PID), with the highest measurements reported at MW-1. Samples were not submitted to a laboratory for analysis. During drilling, a gray to white silt was observed within 5 feet bgs, and was reported as having a strong ammonia odor. Fill soils are suspected to contain CKD. No petroleum sheen was observed in groundwater samples. The groundwater sample collected from MW-2 contained concentrations of gasoline, diesel, oil, and benzene above MTCA Method A cleanup levels. Groundwater samples collected from monitoring wells MW-3 and MW-4 contained benzene at concentrations above the MTCA Method A cleanup level, and MW-1 contained oil-range petroleum hydrocarbons at a concentration above the MTCA Method A cleanup level. Gasoline and xylenes were also detected in groundwater at MW-1, but at concentrations below the MTCA Method A cleanup levels.

In October 1999, seven additional soil borings were advanced at the Site, four of which were completed as monitoring wells MW-5 through MW-8. Soil samples collected and analyzed from these borings did not contain concentrations of petroleum hydrocarbons at or above laboratory reporting limits. Groundwater samples collected at this time from MW-1 and MW-4 reportedly contained gasoline-range petroleum hydrocarbons and benzene at concentrations above the MTCA Method A cleanup levels. The groundwater sample collected from MW-1 also contained toluene, ethylbenzene, and xylenes at concentrations above the MTCA Method A cleanup levels, and diesel-range petroleum hydrocarbons were present at concentrations above MTCA Method A cleanup levels in groundwater samples collected from MW-1, MW-4, MW-5, and MW-7.

In June 2000, three soil borings were advanced to approximately 8 feet bgs at the Site and completed as vapor extraction wells VEW-1 through VEW-3. A fourth soil boring was advanced to a depth of 20 feet bgs and was completed as an air sparge (AS) well. Soil samples were reportedly collected, but analytical results were not available for review. An AS/Soil Vapor Extraction (SVE) pilot test was performed at the Site in June 2000, and results indicated that AS/SVE remediation would be effective at the Site.

From May 2001 to December 2002, the AS/SVE system operated at the Site, and extracted 11 pounds of benzene and 80 pounds of gasoline. The system was turned off in December 2002, because it was reportedly no longer recovering detectable concentrations of VOCs.

Quarterly groundwater monitoring was conducted at the Site from March 1999 to July 2001. Groundwater was monitored semi-annually from June 2002 until December 2004.

In March 2004, the Site was enrolled in the VCP. After review of Site documents, Ecology identified several data gaps, including the location of soil samples from the 1997 UST removal, and the rationale for well screening intervals.

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In December 2004, soil sampling was conducted within and around the perimeter of the 1997 UST excavation. In one location, a soil sample reportedly indicated the presence of petroleum hydrocarbons at a concentration above the MTCA Method A cleanup level, however analytical results were not available for review. The consultant estimated that the volume of remaining petroleum-impacted soil was approximately one cubic yard.

Two additional monitoring wells were installed at the Site in 2005. From May 2005 to February 2006 (most recent groundwater monitoring report available), groundwater samples reportedly did not contain petroleum hydrocarbons or BTEX constituents. Beginning in May 2005, groundwater was also analyzed for metals, due to the presence of CKD fill on the Site, and potential for transport to groundwater. Arsenic was present in all wells at concentrations above the MTCA Method A and B (carcinogen) cleanup levels, and mercury (MW-10) and lead (MW-11) were detected in groundwater at concentrations above the MTCA Method A cleanup levels once during four quarters of monitoring (May 2005 to February 2006). Dissolved arsenic concentrations over these four quarters ranged from 5 micrograms per liter (ug/L) to 91 ug/L.

In 2007, Ecology determined that cleanup activities to address hydrocarbon impacts to soil and groundwater were completed, however impacts related to historic use of CKD fill materials have not been fully addressed. The Site was not issued a No Further Action determination due to confirmed concentrations of arsenic, lead, and mercury in groundwater above the MTCA Method A cleanup level.

CURRENT SITE CONDITIONS:

No record of groundwater monitoring after February 2006 was available for review.

Arsenic, mercury, and lead are present in Site groundwater at concentrations above the MTCA Method A cleanup levels.

The approximate depth to groundwater is 4 to 13 feet below ground surface, with groundwater flowing to the east (based on groundwater monitoring records). Subsurface soils are cement kiln dust overlying grey silt.

SPECIAL CONSIDERATIONS:

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

☐ **Surface Water**

Cement kiln dust is suspected to be present in surface soils at the Site, however the surface soil is covered by pavement. Additionally, arsenic and lead are covered under the Site's stormwater permit.

☐ **Air**

Volatile compounds were released to subsurface soils, but have been remediated to concentrations below the MTCA Method A cleanup levels. Cement kiln dust fill is not expected to impact the air route due to pavement at the Site serving as a protective cap.

☑ **Groundwater**

Arsenic, mercury, and lead are present in Site groundwater at concentrations above the MTCA Method A cleanup levels.

CKD is present at the Site below the pavement.

ROUTE SCORES:

Surface Water/ Human Health:

Surface Water/ Environment:

Air/ Human Health:

Air/ Environment:

Groundwater/ Human Health: 41.3

Overall Rank: 3

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Summary Score Sheet

REFERENCES:

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

2 Environmental Partners Inc., 2006, Supplemental Investigation Report, Former Recycle America Facility, 7901 First Avenue South Seattle, Washington. December 21, 2006.

3 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

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

5 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

6 Riley Environmental, LLC, 1998, UST Removal and Independent Cleanup Action Letter Report, Recycle America Facility, 7901 First Avenue South, Seattle, Washington 98108. November 3, 1998.

7 Science Applications International Corporation, 2012, Lower Duwamish Waterway RM 2.1 West, 1st Avenue South Storm Drain, Summary of Existing Information and Identification of Data Gaps. September 2012.

8 The Riley Group, Inc., 1999, Phase I Environmental Site Assessment, Recycle America Facility, 7901 First Avenue South Seattle, Washington 98108. August 31, 1999.

9 The Riley Group, Inc., 1999, Phase II Groundwater Investigation Report, Recycle America Facility, 7901 First Avenue Seattle, Washington 98108. May 20, 1999.

10 The Riley Group, Inc., 2000, Corrective Action Plan and Remedial Design Report, Recycle America Facility, 7901 First Avenue South Seattle, Washington, 98108. August 25, 2000.

11 The Riley Group, Inc., 2004, Letter Re: Confirmation Soil Sampling Work Plan, Recycle America Facility, 7901 First Avenue South, Seattle, Washington 98108, Independent Remedial Action Review #NW1261. September 28, 2004.

12 The Riley Group, Inc., 2004, Letter Re: Independent Remedial Action Review #NW1261, Recycle America Facility, 7901 First Avenue South, Seattle, Washington 98108. August 4, 2004.

13 The Riley Group, Inc., 2004, Project Status, Recycle America Facility, 7901 First Avenue South Seattle, Washington 98108. March 18, 2004.

14 The Riley Group, Inc., 2005, Underground Storage Tank Independent Cleanup Action Report, Recycle America Facility, 7901 First Avenue South, Seattle, Washington 98108, Independent Remedial Action Review #NW1261. February 18, 2005.

15 WARM Scoring Manual

16 WARM Toxicological Database

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

18 Washington State Department of Ecology, 2004, Letter Re: #NW1261, Request for Review: Independent Remedial Action, Recycle America, 7901 First Avenue South, Seattle, WA 98108. August 17, 2004.

19 Washington State Department of Ecology, 2004, Letter Re: #NW1261, Request for Review: Independent Remedial Action, Recycle America, 7901 First Avenue South, Seattle, WA 98108. July 22, 2004.

20 Washington State Department of Ecology, 2004, Letter Re: #NW1261, Request for Review: Independent Remedial Action, Recycle America, 7901 First Avenue South, Seattle, WA, 98108. October 5, 2004.

21 Washington State Department of Ecology, 2004, Letter Re: Independent Remedial Action Review of conceptual work plan for kiln dust, #NW1261, Recycle America Facility, 7901 First Avenue South, Seattle, 98108. December 14, 2004.

22 Washington State Department of Ecology, 2007, Letter Re: Partial Sufficiency and Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Former Recycle America Facility, 7901 First Avenue South Seattle WA 98382, Facility/Site No. 95878752, VCP No. NW1261. January 24, 2007.

SITE HAZARD ASSESSMENT
Worksheet 2
Route Documentation

Cleanup Site ID: 6936 Waste Management of Seattle 1st Ave

Facility/Site ID: 95878752

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:

The Site is covered by a stormwater permit, there is no evidence of surface impacts, and no data is available for parameters not covered by the permit.

2. AIR 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:

3. GROUNDWATER ROUTE

List those substances to be considered for scoring:

Arsenic, mercury, and lead

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

Prior detections in groundwater 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:

Presence of arsenic, mercury, and lead in groundwater at concentrations above the MTCA Method A cleanup levels

Worksheet 6

Groundwater Route

CSID: 6936 **Site Name:** Waste Management of Seattle 1st Ave

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
Mercury	8	X	5	X

Highest Value 10

Bonus Points? 2

Toxicity Value 12

1.2 Mobility

Cations/Anions Max Value: 3

Solubility Max Value:

Mobility Value 3

1.3 Substance Quantity

Amount: 500 cubic yards

Basis: Estimated volume of impacted soil (cement kiln dust)

Substance Quantity Value 3

2.0 Migration Potential

2.1 Containment

Containment Value 10

Explain Basis: Contaminated soil (cement kiln dust)

2.2 Net Precipitation >10 to 20 inches

Net Precipitation Value 2

2.3 Subsurface Hydraulic Conductivity

Conductivity Value 3

Silt

2.4 Vertical Depth to Groundwater 4 to 13 feet

Confirmed release: Yes

Depth to Aquifer Value 8

3.0 Targets

3.1 Groundwater Usage

Aquifer Use Value 4

Private supply, but alternate sources available with minimum hookup requirements

3.2 Distance to Nearest Drinking Water Well 7,840 feet

Well Distance Value 1

3.3 Population Served within 2 Miles

Population Served Value 3

12 people

Worksheet 6

Groundwater Route

CSID: 6936 **Site Name:** Waste Management of Seattle 1st Ave

3.4 Area Irrigated by GW Wells within 2 miles Area Irrigated Value 0

0 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	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}	8.5
	GW_H	41.3

Washington Ranking Method

Route Scores Summary and Ranking Calculation Sheet

Site Name: Waste Management of Seattle 1st Ave **CSID:** 6936

Site Address: 7901 First Avenue South **FSID:** 95878752

HUMAN HEALTH ROUTE SCORES

Enter Human Health Route Scores for all Applicable Routes:

Pathway	Route Score	Quintile Group
Surface Water	ns	0
Air	ns	0
Groundwater	41.3	4

H=	4
M=	0
L=	0

$$\frac{H^2 + 2M + L}{8} = \frac{16 + 0 + 0}{8}$$

Human Health Priority Bin Score: **2**

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	ns	0

H=	0
L=	0

$$\frac{H^2 + 2L}{7} = \frac{0 + 0}{7}$$

Environment Priority Bin Score: **N/A**

rounded up to next whole number

Comments/Notes:

FINAL MATRIX RANKING **3**

FOR REFERENCE:

Final WARM Bin Ranking Matrix

Human Health Priority	Environment Priority 5	4	3	2	1	N/A
5	1	1	1	1	1	1
4	1	2	2	2	3	2
3	1	2	3	4	4	3
2	2	3	4	4	5	3
1	2	3	4	5	5	5
N/A	3	4	5	5	5	NFA

Quintile Values for Route Scores - February 2015 Values

Quintile	Human Health 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)
- Excavation area (approximate)
- Estimated extent of CKD fill (approximate)
- Former building location (approximate)
- Former UST location (approximate)
- Monitoring well (approximate)
- Vapor extraction or air sparge well (approximate)
- Soil sample (approximate)

Notes:

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

N

Waste Management of Seattle 1st Ave
7901 1st Avenue South
Seattle, WA 98108

DEPARTMENT OF ECOLOGY
State of Washington

Site Overview Map

CSID 6936
CSID6936.vsd