TABLES

Table 1
Sediment Samples Collected Near the Slip 2 to Slip 3 Source Control Area

Location Name	Date Collected	Collection Depth (feet)	Event Name	Source
c-1	6/23/1995	0 to 4	Lone Star Northwest and Hardie Gypsum	Hartman 1995
c-2		0 to 5		
EST200	10/6/1997	Surface	Duwamish Waterway Sediment Characterization Study	NOAA 1998
EST197	10/7/1997			
EST199				
EST195	10/14/1997			
CH0028	10/16/1997			
CH0029				
EIT081	10/17/1997			
EST196	10/22/1997			
EIT079	11/4/1997			
EST198	11/13/1997			
205	6/23/1998	Surface	Puget Sound Sediment Sampling	Ecology 2000a
DR165	8/13/1998	Surface	EPA Site Inspection	Weston 1999
DR166				
DR103	8/18/1998			
DR104				
DR146	8/19/1998			
DR094	8/20/1998			
DR095				
DR097				
DR098				
DR099				
DR100				
DR101				
DR102				
DR096	9/2/1998			
DR147				
DR101	9/21/1998	0 to 2		
DR101		2 to 4		
3	11/28/1998	0 to 4	Hardie Gypsum Round 1	Spearman 1999
4				
5				
3	7/15/1999	0 to 3	Hardie Gypsum Round 2	Spearman 1999
4				
5.2				
C				
D				
E				
B1	8/26/1999	4 to 8	PSDDA Sediment Characterization	SEA 2000a, 2000b
S10		0 to 4		
S12				
S6				
S8				
JHGSA-SD1-COMP27-00	7/3/2000	Surface	James Hardie Outfall and Nearshore Sediment Sampling	Weston 2000
C5	8/27/2004	Surface	LDW RI Phase 2 Round 1	Windward 2005a
LDW-SS63	1/21/2005			
LDW-SS67	1/21/2005			

Table 1
Sediment Samples Collected Near the Slip 2 to Slip 3 Source Control Area

Location Name	Date Collected	Collection Depth (feet)	Event Name	Source
LDW-SS65	3/8/2005	Surface	LDW RI Phase 2 Round 2	Windward 2005b
LDW-SS71	3/15/2005			
LDW-SS69b	3/16/2005			
LDW-SS327	10/2/2006	Surface	LDW RI Phase 2 Round 3	Windward 2007b
LDW-SS328				
LDW-SS329				
LDW-SC201	2/10/2006	0 to 1.5	LDW RI Phase 2 Subsurface	Windward 2007a
LDW-SC201		1.5 to 4		
LDW-SC201		4 to 6		
LDW-SC201		8 to 10		
LDW-SC32		0 to 1		
LDW-SC32		1 to 2		
LDW-SC32		2 to 4		
LDW-SC32		5 to 8		
LDW-SC33		0 to 0.5		
LDW-SC33		0.5 to 1		
LDW-SC33		0 to 2		
LDW-SC33		1 to 1.5		
LDW-SC33		1.5 to 2		
LDW-SC33		2 to 2.5		
LDW-SC33		2 to 4		
LDW-SC33		2.5 to 3		
LDW-SC33		4 to 6		
LDW-SC33		8 to 10		
LDW-SC31	2/16/2006	0 to 1		
LDW-SC31		1 to 3		
LDW-SC31		3 to 4		

Table 2
Chemicals Detected Above Screening Levels in Surface Sediment Samples Associated with the Slip 2 to Slip 3 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
PAHs											
Puget Sound Sediment Sampling	205	6/23/1998	Benzo(g,h,i)perylene	0.59	1.33	44	31	78	mg/kg OC	1.4	<1
Puget Sound Sediment Sampling	205	6/23/1998	Chrysene	1.5	1.33	111	100	460	mg/kg OC	1.1	<1
Puget Sound Sediment Sampling	205	6/23/1998	Indeno(1,2,3-cd)pyrene	0.62	1.33	47	34	88	mg/kg OC	1.4	<1
Phthalates											
Puget Sound Sediment Sampling	205	6/23/1998	Butyl benzyl phthalate	0.086	1.33	6.5	4.9	64	mg/kg OC	1.3	<1
Other SVOCs											
Puget Sound Sediment Sampling	205	6/23/1998	Benzoic acid	5.9 J	1.33	446	650	650	ug/kg DW	9.1	9.1
PCBs											
Puget Sound Sediment Sampling	205	6/23/1998	PCBs (total calc'd)	0.67 J	1.33	50	12	65	mg/kg OC	4.2	<1
EPA Site Inspection	DR147	9/2/1998		0.46	2.02	23	12	65	mg/kg OC	1.9	<1
EPA Site Inspection	DR099	8/20/1998		0.39 J	1.02	38	12	65	mg/kg OC	3.2	<1
LDW RI Phase 2 Round 1	LDW-SS67	1/21/2005		0.35	2.71	13	12	65	mg/kg OC	1.1	<1
LDW RI Phase 2 Round 3	LDW-SS329	10/2/2006		0.34	2.61	13	12	65	mg/kg OC	1.1	<1
EPA Site Inspection	DR147	9/2/1998		0.30	2.04	15	12	65	mg/kg OC	1.2	<1
EPA Site Inspection	DR103	8/18/1998		0.26	1.78	15	12	65	mg/kg OC	1.2	<1
EPA Site Inspection	DR100	8/20/1998		0.24	1.50	16	12	65	mg/kg OC	1.3	<1
EPA Site Inspection	DR100	8/20/1998		0.18	1.47	12	12	65	mg/kg OC	1.0	<1
EPA Site Inspection	DR098	8/20/1998		0.12	0.972	13	12	65	mg/kg OC	1.1	<1

mg/kg - Milligram per kilogram
ug/kg - Microgram per kilogram
DW - Dry weight
TOC - Total Organic Carbon
OC - Organic carbon normalized
SQS - SMS Sediment Quality Standard
CSL - SMS Cleanup Screening Level
PAH - Polycyclic aromatic hydrocarbon
SVOC - Semivolatile organic compound
PCB - Polychlorinated biphenyl
J - Estimated value between the method detection limit and the laboratory reporting limit
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentrations to the CSL or SQS; exceedance factors are shown only if they are greater than 1.
Sampling events are listed in Table 1.

Table 3
Chemicals Detected Above Screening Levels in Subsurface Sediment Samples Associated with the Slip 2 to Slip 3 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Metals												
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	0 - 1.5	Lead	772	1.88		450	530	mg/kg DW	1.7	<1
Hardie Gypsum Round 2	D	7/15/1999	0 - 3	Mercury	0.43	1.8		0.41	0.59	mg/kg DW	1.0	<1
PAHs												
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2	Acenaphthene	1.4	1.16	121	16	57	mg/kg OC	7.5	2.1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	4 - 6		1.0	2.1	48	16	57	mg/kg OC	3.0	<1
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	4 - 6		0.71	2.13	33	16	57	mg/kg OC	2.1	<1
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	2 - 4		0.30	1.47	20	16	57	mg/kg OC	1.3	<1
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	4 - 6	Fluoranthene	5.0	2.13	235	160	1200	mg/kg OC	1.5	<1
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2		2.5	1.16	216	160	1200	mg/kg OC	1.3	<1
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2	Fluorene	1.9	1.16	164	23	79	mg/kg OC	7.1	2.1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	4 - 6		0.63	2.1	30	23	79	mg/kg OC	1.3	<1
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	4 - 6		0.51	2.13	24	23	79	mg/kg OC	1.0	<1
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2	Phenanthrene	3.7	1.16	319	100	480	mg/kg OC	3.2	<1
Hardie Gypsum Round 2	C	7/15/1999	0 - 3		2.2	1.9	116	100	480	mg/kg OC	1.2	<1
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2	Total LPAH (calc'd)	7.5	1.16	647	370	780	mg/kg OC	1.7	<1
Phthalates												
EPA Site Inspection	DR101	9/21/1998	2 - 4	Bis(2-ethylhexyl)phthalate	1.4	2.34	60	47	78	mg/kg OC	1.3	<1
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2		0.65	1.16	56	47	78	mg/kg OC	1.2	<1
Other SVOCs												
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	1 - 2	Dibenzofuran	1.2	1.16	103	15	58	mg/kg OC	6.9	1.8
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	4 - 6		0.38	2.1	18	15	58	mg/kg OC	1.2	<1
Hardie Gypsum Round 1	4	7/15/1999	0 - 4	Hexachlorobenzene	0.013	2.0	0.65	0.38	2.3	mg/kg OC	1.7	<1
PCBs												
LDW RI Phase 2 Subsurface	**LDW-SC33**	**2/10/2006**	**1 - 1.5**	PCBs (total calc'd)	**4.7**	**2.53**	**186**	**12**	**65**	**mg/kg OC**	**15**	2.9
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	0 - 2		3.1	3.34	93	12	65	mg/kg OC	7.7	1.4
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	1.5 - 2		2.5 J	2.42	103	12	65	mg/kg OC	8.6	1.6
LDW RI Phase 2 Subsurface	**LDW-SC32**	**2/10/2006**	**2 - 4**		**2.5**	**1.47**	**167**	**12**	**65**	**mg/kg OC**	**14**	2.6
LDW RI Phase 2 Subsurface	**LDW-SC32**	**2/10/2006**	**1 - 2**		**1.7**	**1.16**	**148**	**12**	**65**	**mg/kg OC**	**12**	2.3
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	0 - 1.5		1.5	1.88	77	12	65	mg/kg OC	6.4	1.2
LDW RI Phase 2 Subsurface	LDW-SC32	2/10/2006	0 - 1		1.0	1.81	56	12	65	mg/kg OC	4.7	<1
Hardie Gypsum Round 2	D	7/15/1999	0 - 3		1.0	1.8	56	12	65	mg/kg OC	4.7	<1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	2.5 - 3		0.94	1.98	47	12	65	mg/kg OC	4.0	<1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	0.5 - 1		0.79	2.14	37	12	65	mg/kg OC	3.1	<1
PSDDA Sediment Characterization	S12	8/26/1999	0 - 4		0.68	2.4	28	12	65	mg/kg OC	2.4	<1
Hardie Gypsum Round 2	E	7/15/1999	0 - 3		0.59	1.5	39	12	65	mg/kg OC	3.3	<1
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	1.5 - 4		0.53 J	1.33	40	12	65	mg/kg OC	3.3	<1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	0 - 0.5		0.49	1.76	28	12	65	mg/kg OC	2.3	<1

Table 3
Chemicals Detected Above Screening Levels in Subsurface Sediment Samples Associated with the Slip 2 to Slip 3 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	2 - 4		0.42	1.62	26	12	65	mg/kg OC	2.2	<1
LDW RI Phase 2 Subsurface	LDW-SC31	2/10/2006	0 - 1		0.37	2.52	15	12	65	mg/kg OC	1.2	<1
LDW RI Phase 2 Subsurface	LDW-SC201	2/10/2006	4 - 6		0.34	2.13	16	12	65	mg/kg OC	1.3	<1
LDW RI Phase 2 Subsurface	LDW-SC31	2/10/2006	1 - 2.8		0.33	2.18	15	12	65	mg/kg OC	1.3	<1
Hardie Gypsum Round 1	4	7/15/1999	0 - 4		0.30	2.0	15	12	65	mg/kg OC	1.3	<1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	4 - 6		0.28	2.1	13	12	65	mg/kg OC	1.1	<1
PSDDA Sediment Characterization	B1	8/26/1999	4 - 8		0.22	1.5	15	12	65	mg/kg OC	1.2	<1
LDW RI Phase 2 Subsurface	LDW-SC33	2/10/2006	2 - 2.5		0.21	1.35	16	12	65	mg/kg OC	1.3	<1

DW - Dry weight
TOC - Total Organic Carbon
OC - Organic carbon normalized
SQS - SMS Sediment Quality Standard
CSL - SMS Cleanup Screening Level

PAH - Polycyclic aromatic hydrocarbon
SVOC - Semivolatile organic compound
PCB - Polychlorinated biphenyl
J - Estimated value between the method detection limit and the laboratory reporting limit
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentrations to the CSL or SQS; exceedance factors are shown only if they are greater than 1.
For illustrative purposes, chemicals with concentrations that exceed screening levels by more than an order of magnitude (i.e., exceedance factors greater than 10) are show in **Bold**.
Sampling events are listed in Table 1.

Table 4
CSO/EOF Discharges to the Lower Duwamish Waterway

Outfall	Type (Owner)	Discharge Serial Number	Location	Average Overflow Frequency (events/year) 2000 to 2007	Annual Average Volume (mgy) 2000 to 2007
Diagonal Avenue S.[a]	CSO (SPU) SD (SPU)	NA	RM 0.5 E	20.1	15.8[b]
Hanford No. 1[c]	CSO (King County)	031	RM 0.5 E	9	18.75
Duwamish pump station East	CSO (King County)	035	RM 0.5 E	<1.0	0.51
Duwamish pump station West	CSO (King County)	034	RM 0.5 W	<1.0	0.60
S. Brandon Street	CSO (King County)	041	RM 1.1 E	23	31.63
Terminal 115	CSO (King County)	038	RM 1.9 W	3	3.52
S. Brighton Street	CSO (SPU) SD (SPU)	NA	RM 2.1 E	NA[g]	NA
King County Airport SD#3/PS44 EOF[d]	SD (King County) EOF (SPU)	NA	RM 2.8 E	NA	NA
E. Marginal Way S. pump station	EOF (King County)	043	RM 2.8 E	None recorded	NA
8th Avenue S.	CSO (King County)	040	RM 2.8 W	0	0
King County Airport SD#2/PS78 EOF[e]	SD (King County) EOF (SPU)	NA	RM 3.8 E	NA	NA
Michigan Street	CSO (King County)	039	RM 1.9 E	11	17.58
W. Michigan	CSO (King County)	042	RM 2.0 W	4	1.23
Norfolk	CSO (King County) SD (King County) EOF (SPU)[f]	044	RM 4.8 E	4	0.28

a - The Diagonal Avenue S. SD outfall is shared by stormwater and seven separate overflow points, including the City's Diagonal CSOs and the County's Hanford No. 1 CSO. The overflow frequency and volume listed are for the Diagonal CSOs only.

b - This average volume does not include the contribution from King County's Hanford No. 1 CSO, but does include the remaining seven overflow points that discharge through the Diagonal Avenue S. CSO/SD.

c - Hanford No. 1 discharges to the LDW through the Diagonal Avenue S. SD.

d – SPU Pump Station 44 discharges via EOF No. 117 to King County Airport SD#3 at Slip 4.

e – SPU Pump Station 78 discharges via EOF No. 156 to King County Airport SD#2, near Boeing Isaacson.

f – SPU Pump Station 17 discharges to the Norfolk CSO/SD.

g – Has not overflowed since monitoring began in March 2000.

mgy – million gallons per year

NA – Not available

SOURCE: Tiffany 2008a

Table 5
Chemicals Detected Above Screening Levels in Seep Samples Associated with the Slip 2 to Slip 3 Source Control Area

Source	Sample Location	Date Collected	Chemical	Conc'n (ug/L)	Marine Chronic WQS	Marine Acute WQS	Chronic WQS Exceedance Factor	GW-to-Sediment Screening Level (Based on CSL)[a]	GW-to-Sediment Screening Level Exceedance Factor
Filtered Samples									
Windward 2004	SP-82 (Dup)	7/1/2004	Copper	8.3 J	3.1	4.8	2.7	120	<1
Windward 2004	SP-82	7/1/2004		8.2 J	3.1	4.8	2.7	120	<1
Windward 2004	SP-82	7/1/2004	Zinc	164	81	90	2.0	76	2.2
Windward 2004	SP-82 (Dup)	7/1/2004		158	81	90	2.0	76	2.1
Unfiltered Samples									
Windward 2004	SP-82 (Dup)	7/1/2004	Copper	13 J	3.1	4.8	4.3	120	<1
Windward 2004	SP-82	7/1/2004		11 J	3.1	4.8	3.5	120	<1
Windward 2004	SP-82 (Dup)	7/1/2004	Lead	8.3	8.1	210	1.0	13	<1
Windward 2004	SP-82	7/1/2004	Mercury	0.017	0.03	1.8	<1	0.0074	2.3
Windward 2004	SP-82 (Dup)	7/1/2004		0.012	0.03	1.8	<1	0.0074	1.6
Windward 2004	SP-82 (Dup)	7/1/2004	Zinc	201	81	90	2.5	76	2.6
Windward 2004	SP-82	7/1/2004		186	81	90	2.3	76	2.4

ug/L - Microgram per Liter
WQS - Water Quality Standards, November 2006
CSL - SMS Cleanup Screening Level
Dup - Laboratory Duplicate Sample
J - Estimated value between the method detection limit and the laboratory reporting limit
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

[a] - Groundwater-to-sediment screening level, based on sediment CSLs (from SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the screening level; exceedance factors are shown only if they are greater than or equal to 1.

Table 6
Facilities within the Michigan Street CSO Basin that are Listed in Ecology's Facility/Site Database

Ecology Facility/ Site ID	Facility Name	Facility Address	Data Gaps Report	Active EPA ID No.	NPDES Permit	Ecology UST/ LUST List	Ecology CSCSL	Ecology NFA Deter-mination	KCIW Discharge Authorization or Permit
11634416	1st Ave Bridge BBC2	NE Corner of S Michigan Street & 1st Avenue S	□						
44977427	1st Avenue South and South Michigan Street	NW Corner of 1st Avenue S & S Michigan Street	□						
9169543	6249 Airport Way S	6249 Airport Way S							
4784534	88 Construction	5338 15th Avenue S				●			
7723743	ABX Air Inc., Seattle	8075 Perimeter Road S	■		●				
75472189	AC Propeller Service Inc	925 S Nebraska		●					
1078998	Aero Copters, Inc.	8013 Perimeter Road S	■		●				
7318944	Aeroflight National Charter Network	8535 Permieter Road S	■			●			
59377658	Air National	7277 Perimeter Road S and 215 Main Street	■				●		
63123962	Alaska Logistics LLC	7400 8th Avenue S	■				●		
58266151	Alki Auto Body Inc	5958 Corson Avenue S							
6368989	All Alaskan Seafoods Inc	501 S Myrtle Street	■						
61468944	All City Grinders	9401 Carleton Avenue S							
5274463	All Metal Company	5610 Airport Way S							
39659753	American Avionics King County Airport	7023 Perimeter Road S	■					●	
29782814	American Dry Ice Corporation Repair Division	745 S Myrtle Street	■						
47512364	American Dry Ice Orcas	672 S Orcas Street		●					
6346940	American Motor Freight LLC	5700 6th Avenue S, Suite 203		●					
8137128	Ameriflight Inc. Hangar 5	7585 Perimeter Road S	■		●				
63713485	Arco 5218	7200 East Marginal Way S	■			●			
69693852	Arrow Transportation	6737 Corson Avenue S	■			●			
64987158	AT&T Pump	6525 Ellis Avenue S				●			
9970306	AT&T Wireless Boeing Field	8300 Military Road							
7411374	AT&T Wireless Georgetown	945 A S Doris Street		●					
6254510	AT&T Wireless Tempress	701 S Orchard Street	■						
51878272	Atwood Adhesives, Inc.	945 S Doris Street		●					
44648718	Aviation Fuel Storage, Shultz Distributing	1495 S Hardy Street	■		●	●			
47726656	B & G Machine Inc	6400 Corson Avenue S							
4738343	Baxter Rutherford	911 S Homer Street				●			
74169521	Bens Truck Parts Inc Seattle	6655 Corson Avenue S	■			●		●	
52822581	Benz Friendz Inc	6249 Flora Avenue S							
44383713	Big Johns Truck Repair Inc	6533 3rd Avenue S	■				●		
73142589	Boeing A&M Electronic Mfg Facility	7355 Perimeter Road S	■	●		●	●		
76249648	Boeing Air Traffic Control Tower	8200 East Marginal Way S	■						
63879778	Boeing Electronic Manufacturing	7300 Perimeter Road S	■				●		
2050	Boeing-North Boeing Field	7370 East Marginal Way S	■				●		
2753918	Boeing-North Boeing Field	7500 East Marginal Way S	■	●		●			●
2053	Boeing-North Boeing Field, JP4 Tanks	Ellis Avenuenue & East Marginal Way S	■				●		
72432377	Breese Jones Refinishers	5626 Airport Way S							
57331171	Bunge Foods Corporation	6901 Fox Avenue S	■	●					●
33269789	Burlington Resource Aviation	7777 Perimeter Road Hangar B	■						
95419266	Business Card Express	6510 5th Avenue S							
18182664	Caliber Inspection	7500 Perimeter Road Boeing Field	■	●					●
12872193	Carrier Corp Buildings System & Svcs	655 S Orcas Street Ste 100							
3338163	Cedar Grove Compost, Webster Yard	7343 East Marginal Way S	■		●				●
99747798	Cenveo Graphic Arts Center	832 S Fidalgo Street							

Table 6
Facilities within the Michigan Street CSO Basin that are Listed in Ecology's Facility/Site Database

Ecology Facility/ Site ID	Facility Name	Facility Address	Data Gaps Report	Active EPA ID No.	NPDES Permit	Ecology UST/ LUST List	Ecology CSCSL	Ecology NFA Deter-mination	KCIW Discharge Authorization or Permit
83494216	Clough Equipment Co S Front S	515 S Front Street							
67744521	Coastal Alaska Marine Lines	745 S Orchard Street	■						
26167272	Collins Aviation	6660 Perimeter Road S							
56476471	Commercial Welding & Fabrication Inc	711 S Myrtle Street	■						
85969894	Contour Laminates LPA Wash Ltd Part	5910 Corson Avenue S							
39361526	Contract Applications Inc Seattle	7600 Perimeter Road	■						
1940187	Crowley Marine Services	7400 8th Avenue S	■				●		
60563321	Crown Delta Environmental	792 S Michigan Street							
343781	Denco Sales Co	711 Fidalgo Street							
43327381	DHL Express	707 S Orcas Street							
76518153	Dinol US Inc Seattle	650 S Othello Street	■						
71371939	Duwamish Marine Center	16 S Michigan Street	□	●					
21945598	Duwamish Marine Center	6365 1st Avenue S	□				●		
3856442	Ecolights Northwest Seattle	1915 S Corgiat Drive							
78563473	Emerald City Freight Distribut	6003 6th Avenue S							
89553582	Emerald Services Inc	7343 East Marginal Way S	■						●
2084	Emerald Tool Inc	6332 6th Avenue S	□	●			●		
23176116	Estate of Gloria Miller	1226 S Bailey Street							
2462	Evergreen Marine Leasing, Parcel E	7343 East Marginal Way S	■			●		●	
94389497	FAMCO Transport, Inc.	6640 Ellis Avenue S							
75575157	Federal Express Perimeter Road, Seattle	7607 Perimeter Road	■			●			
54361353	Fedex Bfi Vm	7440 Perimeter Road S	■						
6436627	Flightcraft, Inc., Seattle	8285 Perimeter Road S	■			●		●	
54757868	Former Consolidated Freightways	6050 East Marginal Way S	□			●	●		
2825755	Former UNOCAL Service Station 0907	1121 S Bailey Street	□			●			
48956635	Forrest Taylor	6505 Perimeter Road Boeing Field				●			
95644588	Fosters Service Corporation	934 S Harney Street				●			
2282	Fox Ave Bldg (Former Great Western Chemical)	6900 Fox Avenue S	■	●		●	●		
97897644	Fox Brighton Barrel	Fox Avenue S and S Brighton Street							
74428866	Galvin Flying Center UST 507162	7675 Perimeter Road S	■			●			
71267563	Galvin Flying Service	6987 Perimerter Road S	■						
13168148	Galvin Flying Services, Inc.	7149 Perimeter Road S	■		●				
50426433	Galvin Flying Svc	7205 Perimeter Road S							
64981477	Gas N Wash	551 S Michigan Street				●		●	
95662832	GE Aircraft Engines Front St	540 S Front St							
96679259	Georgetown Center	NW Corner of Corson Avenue S & S Michigan						●	
63485131	Georgetown Steamplant	1131 S Elizabeth Street	■			●			
7465257	Georgetown Yard	6640 Ellis Avenue			●				
2817992	Gibson Company	1900 S Corgiat Drive				●			
68985258	Griffin Fuel Co	1210 S Bailey Street				●			
92551337	Hamilton Building	6007 12th Avenue S							
29651292	Hammer Auto Rebuild & Sales Inc	1209 S Bailey Street							
72811433	Hangar Holdings, Inc.	7675 Perimeter Road S	■			●	●		
38639721	Industrial Magic Homer	927 S Homer Street							
2134	Inland Transporation Company	6737 Corson Avenue S	■					●	
76388258	Julius Rosso Wholesale Nursery Co. UST	6404 Ellis Avenue S				●			

Table 6
Facilities within the Michigan Street CSO Basin that are Listed in Ecology's Facility/Site Database

Ecology Facility/ Site ID	Facility Name	Facility Address	Data Gaps Report	Active EPA ID No.	NPDES Permit	Ecology UST/ LUST List	Ecology CSCSL	Ecology NFA Deter-mination	KCIW Discharge Authorization or Permit
77227688	K&N Meats Seattle	2900 4th Avenue							
2593632	Kelly Moore Paint Airport Way	6101 Airport Way S	□	●					
2163	Kelly Moore Paint Co	5410 Airport Way S	□	●		●	●		
41478228	Kemper Systems, Inc.	5810 Airport Way S		●					
3210980	King County Airport Staging Yard	6640 Ellis Avenue	■		●				
2051	King County International Airport	6518 Ellis Avenue	■		●	●		●	●
2387398	King County International Airport	7299 Perimeter Road S	■						
76197432	Kohl & Madden	1017 S Myrtle Street		●					
89285628	Laucks Testing Laboratories	940 S Harney Street		●					
32245858	Laucks Testing Laboratories Harney St	921 S Harney Street		●					
74836763	Le Tracon Enviromental Inc	7343 East Marginal Way S		●					
71277652	Lockwood Marine Inc	6502 East Marginal Way S							
95841929	Lumber Trucking	943 S Nebraska Avenue							
35945241	MAC Machinery	4239 Corson Avenue S							
95712969	Machinists Inc Plant 1	751 S Michigan Street		●					
13593282	Mail Dispatch, Inc.	917 S Nebraska Avenue				●			
2216	Marine Vacuum Service Inc	1516 S Graham Street	■	●			●		●
24632415	Mastermark	6550 4th Avenue S							
62364372	McCaw Flight Operations	7777 Perimeter Road S							
6924961	Mike's Mobil Service	6235 Airport Way S				●			
97999646	Mill Log Marine Inc Seattle	6345 6th Avenue S							
51945779	Miller Paint Company Corson Ave	5959 Corson Avenue S				●			
38243619	Milwaukee Electric Tool Corp Seattle	5419 Maynard Avenue S							
46977612	Moore Data Management Services Division	725 S Fidalgo Street							
12153465	Myrtle Street Property	606 S Myrtle Street	■					●	
66879333	Nelson Trucking Co Inc	7130 8th Avenue S	■						
19371183	Nivas Bussiness Corp	6100 6th Avenue S							
36699669	Nordstrom Inc	7979 Perimeter Road S	■	●		●			
2117	North Boeing Field	7700 East Marginal Way S	■		●				
2153	North Coast Chemical Company	1615 S Graham Street	■	●	●	●	●		
22653378	Northland Services Inc	6701 Fox Avenue S.	■	●					
22653378	Northland Services Inc Fox Ave	6701 Fox Avenue S.	■	●	●	●			
42824221	Northland Services Inc Transfer Facility	7400 8th Avenue S	■		●				
1565848	Northwest Bottling Co	1136 Albro Place S		●		●			
4524834	Northwest Container Svcs Inc Seattle	600 S Garden Street	■		●				●
96854446	Northwest Nut & Bolt Co	6795 East Marginal Way S							
55473184	Northwest Service, Inc.	6715 Corson Avenue S				●			
29775533	Orcas Business Park LLC	650 S Orcas Street							
12545978	Ostex Intl Inc 5955 Airport Way	5955 Airport Way S							
41689573	Pacific Terminals Limited	660 S Othello Street	■						
43114188	Perkins Lot	719 S Myrtle Street	■			●		●	
47779679	Philips Services Corporation	734 S Lucile Street	■ □	●		●	●		●
26468911	Phils Finishing Touch Inc	7401 8th Avenue S	■						
2161	Pioneer Enamel Manufacture	5531 Airport Way S	□				●		●
27585467	PNB Building	707 S Orcas Street				●			
38171386	PSE Georgetown Base	6500 Ursula Place S		●					

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73263954	PTL Partnership	6314 7th Avenue S				●			
51647545	Puget Sound Energy UST 9864	6349 18th Avenue S				●			
41684823	Puget Sound Trk Lines Sea	7303 8th Avenue S	■		●	●			
4581549	Quick Start Northwest Inc	913 S Doris Street							
65877631	Rainier Ice & Cold Storage Inc	6004 Airport Way S	■		●	●			
65141181	Remarkable Tire	7115 East Marginal Way S				●			
55698119	Riveretz's Auto Care	6185 4th Avenue S	□			●			
65495133	Royal Line Cabinet Co Seattle	700 S Orchard Street	■						
13751941	RS Hughes Co Inc	6530 5th Place S							
93637295	Scougal Rubber Corp	6239 Corson Avenue S	□	●		●	●		
34383748	SCS Industries, Seattle	303 S River Street	■	●	●				
4522442	SEA A AFSS	6526 Ellis Avenue S				●			
14811879	Sea Pac Resources Inc	8465 Perimeter Road S							
17577864	Seattle Boiler Works	500 S Myrtle Street	■		●	●			
7107057	Seattle City DOT Airport Way Argo Bridge	Airport Way S between Summerville Place							
6487827	Seattle City Light, Georgetown Steamplant	6700 13th Avenue S	■				●		
2309	Seattle Commercial Finishing	5700 Corson Avenue S						●	
72625161	Seattle Fire Station 27	1000 S Myrtle Street				●			
94727791	Seattle Iron Metals Corp	601 S Myrtle Street	■	●	●	●			●
55416995	Seattle Jet Services	8013 Perimeter Road S				●			
17819358	Seattle School Dist 1 Cleveland HS	5511 15th Avenue S							
24471658	Seattle Truck Repairs, Inc.	6401 Occidental Avenue S	□			●			
11354986	Shell Station 121450	6200 Corson Avenue S				●			
95498891	Shultz Distributing Inc Marginal Way	6851 East Marginal Way S	■	●	●	●			
94368646	Shultz Distributing, Inc., Falcon Fast Fuel	6760 West Marginal Way		●		●			
745462	Sonn Property	950 S Nebraska Street	□				●		
2563	Sons of Italy Chevron 93189	5337 15th Avenue S				●		●	
11887871	South Seattle Community College	6770 East Marginal Way S	■			●			
84173356	Springs Printing Inc Michigan	151 S Michigan Street							
2057	Sternoff Metals	7201 East Marginal Way S	■				●		
41677496	Sudden Printing	571 S Michigan Street							
19688471	Texaco 121430	600 S Michigan Street				●			
33732426	TEXACO INC	7000 Airport Road S				●			
15318746	THAW Corp	8300 Military Road S							
93184477	Trim Systems	701 S Orchard Street	■	●					
93694734	Tukwila Lucile Intersection Stage 1	MP 158							
48578491	Tyee Industries	765 S Myrtle Street	■						
4151794	United Bldg Svcs	6259 Airport Way S							
59737155	United Couriers, Inc.	7595 Perimeter Road							
58169621	Universal Metal Fabricators Seattle	6553 5th Avenue S							
62411353	Universal Printing	6600 Ursula Place S				●			
15215836	UPS Boeing Field	7575 Perimeter Road S	■	●	●				●
33482323	UPS Seattle Export	500 S Front Street							
16264836	US West Communications W00D04	7679 Perimeter Road S							
64775371	USWCOM Seattle Duwamish Co	7000 E Marginal Way S				●			
68427684	V Van Dyke Inc	150 S River Street	■	●	●	●			

Table 6
Facilities within the Michigan Street CSO Basin that are Listed in Ecology's Facility/Site Database

Ecology Facility/ Site ID	Facility Name	Facility Address	Data Gaps Report	Active EPA ID No.	NPDES Permit	Ecology UST/ LUST List	Ecology CSCSL	Ecology NFA Deter-mination	KCIW Discharge Authorization or Permit
9726741	VA PSHCS Seattle Division	1660 S Columbian Way		●		●			
37289288	Vacuum Truck Svc Inc	220 S River Street	■			●			
21468652	Valco Graphics Inc Seattle	674 S Orcas Street							
4256186	Vic Markov Tire Company	7300 East Marginal Way S				●			
3856995	Viox Corporation	6701 6th Avenue S	□	●				●	●
62732399	Viox Corporation 6th & River	6701 6th Avenue S	□			●			●
2260	Viox McDowell Site	551 S River Street	□					●	
3796155	WA Air National Guard, North Boeing Field	7277 Perimeter Road S and 215 Main Street	■	●		●			
61845527	WA DNR Corson Avenue Site Hats and Boots	6800 East Marginal Way S	■			●			
82347852	WA DOT Corson	6431 Corson Avenue S		●		●			
73975933	WA DOT Spokane	I5 S MP 160.1							
5972170	WA DOT Spokane St Storage 1017XG01	Airport Way and Diagonal Avenue S							
11546487	WA DOT State Ferries Airport	6301 Airport Way S							
63579524	WA GA Seattle Motor Pool	6650 Ellis Avenue S				●			
39352815	Western Parcel Express Seattle	525 S Front Street				●		●	
3895194	Western Trailer Repair Inc	707 S Lucile Street							
33942516	Western Union Tel Co. UST 97407	808 S Fildalgo Street				●			
18985948	Western Washington Apprent T	6770 East Marginal Way S Bldg D							
97262395	Western Wood Products of Seattle, Inc.	6520 5th Avenue S							
56533162	Westmar Services Inc	5930 6TH Avenue S				●			
9872313	Whitehead Company Corporation	600 S Myrtle Street	■			●			
17791926	Zellerbach Paper Company	6301 Airport Way S				●			

■ - Facility is included in a previous Data Gaps report
□ - Facility is included in the current (Slip 2 to Slip 3) Data Gaps report
● - Additional information regarding this facility is available in Appendix C.
EPA - U.S. Environmental Protection Agency
UST - Underground Storage Tank
LUST - Leaking Underground Storage Tank
CSCSL - Confirmed or Suspected Contaminated Sites List
NFA - No Further Action
KCIW - King County Industrial Waste

Table 7
Property Ownership Within the Slip 2 to Slip 3 Source Control Area

Tax Parcel No.	Parcel No. Designation on Figure 4	Property Owner (Current Taxpayer)[1]	Property Address[1]	Property Name[1]	Current Parcel Use	Former Parcel Use
1924049075	9075a	Glacier Northwest, Inc.	5975 East Marginal Way S	Glacier Northwest	Glacier Northwest	Kaiser Cement
5367204505	4505	Lone Star Investors LP	6335 1st Avenue S	Glacier Northwest	Seattle Biodiesel, other industrial operations	AR Torrico Sons Shipping
5367204545	4545	Gilmur, James	6351 1st Avenue S	Vacant	Samson Tug and Barge (outdoor storage)	Various
5367204560	4560	Gilmur, James & Jacqueline H.	6361 1st Avenue S	Duwamish Marine Center	Samson Tug and Barge	Burgess Enterprises
5367204565	4565	Gilmur, James D.	6365 1st Avenue S	Hale's Construction	Samson Tug and Barge (outdoor storage)	Various
5367203415	3415	Gilmur, James	6365 1st Avenue S	Hale's Construction	Duwamish Marine Center	Various
5367203447	3447	Gilmur, James	16 S Michigan Street	Duwamish Marine Center	Duwamish Marine Center	Various
5367203635	3635	Gilmur, James	16 S Michigan Street	Duwamish Marine Center	Duwamish Marine Center, Duwamish Metal Fabricators, Annette Island Construction	Various
5367202410	2410	Seattle Dept. of Transportation	6501 1st Avenue S	Vacant	Biofiltration swale for Outfall 2503	Unknown
5367200029	0029	State of Washington - DOT	None Listed	None Listed	Vacant	Unknown
5367200025	0025	Evergreen Properties LLC	6401 Occidental Avenue S	Seattle Truck Repair	Seattle Truck Repair/Evergreen Tractor	Unknown
5367200050	0050	Evergreen Properties LLC	None Listed	Vacant Lot	Seattle Truck Repair/Evergreen Tractor	Unknown
5367200160	0160	Evergreen Properties LLC	164 S Michigan Street	Cascade Pacific	Seattle Truck Repair/Evergreen Tractor	Unknown
5367203745	3745	AK Media NW	6309 East Marginal Way S	Vacant Land	Vacant (billboard)	Frank's Used Cars
2024049067	9067	Michigan Properties	5960 1st Avenue S	Multi Tenant Whse	Bank & Office Interiors	Unknown
2024049075	9075b	Dahava Financial LP	59909 1st Avenue S	B & OI	Bank & Office Interiors	Unknown
2024049076	9076	Michigan Properties	None Listed	Parking Area	Bank & Office Interiors	Unknown
2024049077	9077	Michigan Properties	None Listed	Easement To 9076 & 9075	Bank & Office Interiors	Unknown
5367204646	4646	Shippers Transport Express	None Listed	Consolidated Freightways	Shippers Transport Express (storage/trucking services)	Consolidated Freightways
5367204685	4685	Hackett, Richard M.	5979 4th Avenue S	Fittings Inc.	Fittings, Inc.	Unknown
5367200300	0300	East Marginal TT LLC	6442 East Marginal Way S	Taco Time	Vacant	Taco Time

[1] Source: King County GIS Parcel Viewer

Table 8
Chemicals Detected Above Screening Levels in Soil
Duwamish Marine Center

Source	Sample Location	Sample Date	Sample Depth (ft)	Chemical	Soil Conc'n (mg/kg DW)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL)[b] (mg/kg)	Exceedance Factor
Metals								
The Riley Group, Inc. 2000	B-3-3	Aug-00	12.5-14	Antimony	47	32		1.5
Farallon Consulting 2002d	B13-0-3	Mar-02	0-3	Antimony	37	32		1.2
Farallon Consulting 2002d	**B10-1-3**	**Mar-02**	**1-3**	**Arsenic**	**12**	**0.67**	12000	**18**
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Cadmium**	**43**	**2**	**1.7**	**25**
The Riley Group, Inc. 2000	TP-1-1.5'	Jul-00	1.5	Cadmium	7.1	2	34	3.6
The Riley Group, Inc. 2000	TP-3-5.5'	Jul-00	5.5	Cadmium	5.3	2	34	2.7
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Cadmium	2.4	2	34	1.2
Farallon Consulting 2002d	**B4-0-3**	**Mar-02**	**0-3**	**Chromium**	**2700**	**19**	5400	**142**
Farallon Consulting 2002d	**B3-0-3**	**Mar-02**	**0-3**	**Chromium**	**400**	**19**	5400	**21**
Farallon Consulting 2002d	**B7-2-4**	**Mar-02**	**2-4**	**Chromium**	**260**	**19**	5400	**14**
Farallon Consulting 2002d	**B5-3-4**	**Mar-02**	**3-4**	**Chromium**	**230**	**19**	5400	**12**
The Riley Group, Inc. 2000	TP-4-2'	Jul-00	2	Chromium	150	19	5400	7.9
The Riley Group, Inc. 2000	B-2-1	Aug-00	2.5-4.0	Chromium	110	19	5400	5.8
The Riley Group, Inc. 2000	B-3-3	Aug-00	12.5-14	Chromium	80	19	270	4.2
The Riley Group, Inc. 2000	TP-3-5.5'	Jul-00	5.5	Chromium	61	19	5400	3.2
Farallon Consulting 2002d	B2-0-3	Mar-02	0-3	Chromium	40	19	5400	2.1
Farallon Consulting 2002d	B8-2-3	Mar-02	2-3	Chromium	40	19	5400	2.1
Farallon Consulting 2002d	MW2-2-4	Mar-02	2-4	Chromium	38	19	5400	2.0
Farallon Consulting 2002d	B13-0-3	Mar-02	0-3	Chromium	36	19	5400	1.9
Farallon Consulting 2002d	B18-0-3	Mar-02	0-3	Chromium	33	19	5400	1.7
Farallon Consulting 2002d	B16-0-1.5	Mar-02	0-1.5	Chromium	28	19	5400	1.5
Farallon Consulting 2002d	B17-0-3	Mar-02	0-3	Chromium	26	19	5400	1.4
Farallon Consulting 2002d	MW1-5-6.5	Mar-02	5-6.5	Chromium	25	19	5400	1.3
Farallon Consulting 2002d	B12-0-1	Mar-02	0-1	Chromium	24	19	5400	1.3
Farallon Consulting 2002d	B15-0-3	Mar-02	0-3	Chromium	23	19	5400	1.2
The Riley Group, Inc. 2000	TP-2-3.5'	Jul-00	3.5	Chromium	22	19	5400	1.2
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Chromium	21	19	270	1.1
Farallon Consulting 2002d	MW3-3.5-4	Mar-02	3.5-4	Chromium	21	19	5400	1.1
Farallon Consulting 2002d	MW-3-2.5-4	Mar-02	2.5-4	Chromium	21	19	5400	1.1
The Riley Group, Inc. 2000	B-3-3	Aug-00	12.5-14	Copper	7400	3000	780	9.5
Farallon Consulting 2002d	B7-2-4	Mar-02	2-4	Copper	6900	3000	780	8.8
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Copper	91	3000	39	2.3
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Lead**	**12000**	**250**	**67**	**179**
Farallon Consulting 2002d[c]	EX1-11.0-11.5	May-02	11.0-11.5	Lead	1500	250	67	22
Farallon Consulting 2002d	**SP3**	**May-02**		**Lead**	**1300**	**250**	**67**	**19**

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Duwamish Marine Center

Source	Sample Location	Sample Date	Sample Depth (ft)	Chemical	Soil Conc'n (mg/kg DW)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL)[b] (mg/kg)	Exceedance Factor
Farallon Consulting 2002d[c]	EX1-8.5-10.0	May-02	8.5-10.0	Lead	510	250	67	7.6
The Riley Group, Inc. 2000	TP-3-5.5'	Jul-00	5.5	Lead	1400	250	1300	5.6
Farallon Consulting 2002d	B7-2-4	Mar-02	2-4	Lead	850	250	1300	3.4
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Lead	670	250	1300	2.7
Farallon Consulting 2002d	B18-0-3	Mar-02	0-3	Lead	540	250	1300	2.2
Farallon Consulting 2002d	EX1-ESW-4.0	May-02	4.0	Lead	510	250	1300	2.0
The Riley Group, Inc. 2000	TP-1-1.5'	Jul-00	1.5	Lead	430	250	1300	1.7
Farallon Consulting 2002d	B3-0-3	Mar-02	0-3	Lead	360	250	1300	1.4
The Riley Group, Inc. 2000	TP-4-2'	Jul-00	2	Lead	340	250	1300	1.4
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	Lead	340	250	1300	1.4
Farallon Consulting 2002d	B1-0-3	Mar-02	0-3	Lead	330	250	1300	1.3
Farallon Consulting 2002d	B8-2-3	Mar-02	2-3	Lead	310	250	1300	1.2
Farallon Consulting 2002d	EX1-15.0-15.5	May-02	15.0-15.5	Lead	79	250	67	1.2
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Lead	70	250	67	1.0
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Mercury**	**1.5**	2	**0.030**	**50**
Farallon Consulting 2002d	B18-0-3	Mar-02	0-3	Mercury	1.1	2	0.59	1.9
The Riley Group, Inc. 2000	TP-1-1.5'	Jul-00	1.5	Mercury	0.85	2	0.59	1.4
The Riley Group, Inc. 2000	B-3-3	Aug-00	12.5-14	Silver	4.6	400	0.61	7.5
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Zinc**	**31000**	**24000**	**38**	**816**
The Riley Group, Inc. 2000	**B-1-6**	**Aug-00**	**14-14.5**	**Zinc**	**2100**	24000	**38**	**55**
The Riley Group, Inc. 2000	TP-3-5.5'	Jul-00	5.5	Zinc	1700	24000	770	2.2
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	Zinc	1400	24000	770	1.8
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Zinc	860	24000	770	1.1
PAHs								
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	2-Methylnaphthalene	0.21	320	0.073	2.9
The Riley Group, Inc. 2000	**B-1-6**	**Aug-00**	**14-14.5**	**Acenaphthene**	**3**	4800	**0.06**	**50**
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Anthracene	2.4	2400	1.2	2.0
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Benzo(a)anthracene	2.4		0.27	8.9
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Benzo(a)pyrene	0.91	0.1	0.21	9.1
Farallon Consulting 2002d	B1-0-3	Mar-02	0-3	Benzo(a)pyrene	0.38	0.1	4.2	3.8
Farallon Consulting 2002d	B8-2-3	Mar-02	2-3	Benzo(a)pyrene	0.37	0.1	4.2	3.7
Farallon Consulting 2002d	B7-2-4	Mar-02	2-4	Benzo(a)pyrene	0.15	0.1	4.2	1.5
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Benzo(b)fluoranthene	1		0.45	2.2
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Benzo(g,h,j)perylene	0.32		0.078	4.1
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Benzo(k)fluoranthene	0.8		0.45	1.8
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Chrysene	3.4		0.46	7.4
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Dibenzo(a,h)anthracene	0.096		0.033	2.9

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Duwamish Marine Center

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The Riley Group, Inc. 2000	**B-1-6**	**Aug-00**	**14-14.5**	**Fluoranthene**	**12**	3200	**1.2**	**10**
The Riley Group, Inc. 2000	**B-1-6**	**Aug-00**	**14-14.5**	**Fluorene**	**4.3**	3200	**0.081**	**53**
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Indeno(1,2,3-cd)pyrene	0.31		0.088	3.5
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Naphthalene	0.8	5	0.20	4.0
Farallon Consulting 2002d	**B1-0-3**	**Mar-02**	**0-3**	**PAHs (total)**	**2.29**	**0.14**		**16**
Farallon Consulting 2002d	**B8-2-3**	**Mar-02**	**2-3**	**PAHs (total)**	**2.01**	**0.14**		**14**
Farallon Consulting 2002d	B7-2-4	Mar-02	2-4	PAHs (total)	1.02	0.14		7.3
Farallon Consulting 2002d	B19-1.5-3	Mar-02	1.5-3	PAHs (total)	0.3	0.14		2.1
The Riley Group, Inc. 2000	**B-1-6**	**Aug-00**	**14-14.5**	**Phenanthrene**	**14**		**0.49**	**29**
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Pyrene	8.2	2400	1.4	5.9
PCBs								
Farallon Consulting 2002d	**B7-2-4**	**Mar-02**	**2-4**	**Aroclor 1242**	**34**	**0.5**		**68**
Farallon Consulting 2002d	**B3-0-3**	**Mar-02**	**0-3**	**Aroclor 1242**	**6.0**	**0.5**		**12**
Farallon Consulting 2002d	**B5-3-4**	**Mar-02**	**3-4**	**Aroclor 1242**	**5.8**	**0.5**		**12**
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Aroclor 1242**	**5**	**0.5**		**10**
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	Aroclor 1242	3.7	0.5		7.4
The Riley Group, Inc. 2000	TP-3-5.5'	Jul-00	5.5	Aroclor 1242	2.3	0.5		4.6
Farallon Consulting 2002d	B1-0-3	Mar-02	0-3	Aroclor 1242	1.7	0.5		3.4
The Riley Group, Inc. 2000	B-2-1	Aug-00	2.5-4.0	Aroclor 1242	1	0.5		2.0
The Riley Group, Inc. 2000	TP-4-2'	Jul-00	2	Aroclor 1242	0.53	0.5		1.1
Farallon Consulting 2002d	B2-0-3	Mar-02	0-3	Aroclor 1242	0.50	0.5		1.0
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Aroclor 1254**	**3.1**	**0.5**	**0.065**	**48**
Farallon Consulting 2002d	B3-0-3	Mar-02	0-3	Aroclor 1254	2.5	0.5	1.3	5.0
Farallon Consulting 2002d	B1-0-3	Mar-02	0-3	Aroclor 1254	1.8	0.5	1.3	3.6
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	Aroclor 1254	1.7	0.5	1.3	3.4
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Aroclor 1254	1.7	0.5	1.3	3.4
The Riley Group, Inc. 2000	TP-4-2'	Jul-00	2	Aroclor 1254	1.6	0.5	1.3	3.2
Farallon Consulting 2002d	B2-0-3	Mar-02	0-3	Aroclor 1254	0.97	0.5	1.3	1.9
Farallon Consulting 2002d	B7-6-7.5	Mar-02	6-7.5	Aroclor 1254	0.19	1	0.065	2.9
Farallon Consulting 2002d	B1-0-3	Mar-02	0-3	Aroclor 1260	2.4	0.5	1.3	4.8
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Aroclor 1260**	**1.7**	**0.5**	**0.065**	**26**
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Aroclor 1260	0.79	0.5	1.3	1.6
The Riley Group, Inc. 2000	B-1-6	Aug-00	14-14.5	Aroclor 1260	0.15	0.5	0.065	2.3
The Riley Group, Inc. 2000	**B-3-3**	**Jul-00**	**12.5-14**	**PCBs (total)**	**9.8**	**0.5**	**0.065**	**151**
Farallon Consulting 2002d	**B7-2-4**	**Mar-02**	**2-4**	**PCBs (total)**	**34**	**0.5**	**1.3**	**68**
Farallon Consulting 2002d	B3-0-3	Mar-02	0-3	PCBs (total)	8.5	0.5	1.3	17
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	PCBs (total)	8.29	0.5	1.3	17

Table 8
Chemicals Detected Above Screening Levels in Soil
Duwamish Marine Center

Source	Sample Location	Sample Date	Sample Depth (ft)	Chemical	Soil Conc'n (mg/kg DW)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL)[b] (mg/kg)	Exceedance Factor
Farallon Consulting 2002d	B1-0-3	Mar-02	0-3	PCBs (total)	5.9	0.5	1.3	12
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	PCBs (total)	5.4	0.5	1.3	11
Farallon Consulting 2002d	B7-6-7.5	Mar-02	6-7.5	PCBs (total)	0.54	0.5	0.065	8.3
The Riley Group, Inc. 2000	TP-3-5.5'	Jul-00	5..5	PCBs (total)	2.3	0.5	1.3	4.6
The Riley Group, Inc. 2000	TP-4-2'	Jul-00	2	PCBs (total)	2.13	0.5	1.3	4.3
Farallon Consulting 2002d	B2-0-3	Mar-02	0-3	PCBs (total)	1.86	0.5	1.3	3.7
The Riley Group, Inc. 2000	B-2-1	Jul-00	2.5-4.0	PCBs (total)	1.49	0.5	1.3	3.0
The Riley Group, Inc. 2000	B-1-6	Jul-00	14-14.5	PCBs (total)	0.15	0.5	0.065	2.3
Petroleum Hydrocarbons								
The Riley Group, Inc. 2000	B-3-3	Aug-00	12.5-14	Diesel-Range Hydrocarbons	5100	2000		2.6
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Diesel-Range Hydrocarbons	4800	2000		2.4
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Diesel-Range Hydrocarbons	4800	2000		2.4
The Riley Group, Inc. 2000	**B-3-3**	**Aug-00**	**12.5-14**	**Heavy Oil-Range Hydrocarbons**	**21000**	**2000**		**11**
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Heavy Oil-Range Hydrocarbons	10000	2000		5.0
Farallon Consulting 2002d	B5-3-4	Mar-02	3-4	Heavy Oil-Range Hydrocarbons	10000	2000		5.0
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	Heavy Oil-Range Hydrocarbons	3700	2000		1.9
Farallon Consulting 2002d	B7-2-4	Mar-02	2-4	Heavy Oil-Range Hydrocarbons	3700	2000		1.9
Farallon Consulting 2002d	B4-0-3	Mar-02	0-3	Heavy Oil-Range Hydrocarbons	3700	2000		1.9
Farallon Consulting 2002d	B7-2-4	Mar-02	2-4	Heavy Oil-Range Hydrocarbons	3700	2000		1.9

Table presents detected chemicals with exceedance factors greater than 1 only.

mg/kg - Milligram per kilogram
DW - Dry weight
MTCA - Model Toxics Control Act
CSL - SMS Cleanup Screening Level
PAH - Polycyclic aromatic hydrocarbon
PCB - Polychlorinated biphenyl
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

[a] - The lower of MTCA Method A or B cleanup levels was selected from CLARC database
[b] - Soil-to-sediment screening level, based on sediment CSLs (from SAIC 2006); samples collected between 0 and 9 feet bgs were compared to screening levels for vadose zone soils; samples collected below 9 feet bgs were compared to the screening levels for saturated soils
[c] - Sample location was within the area of excavation near the former junk shop (Farallon Consulting 2002d)

Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or soil-to-sediment screening levels, whichever is lower.
For illustrative purposes, chemicals with concentrations that exceed screening levels or MTCA cleanup levels by more than an order of magnitude (i.e., exceedance factors greater than 10) are shown in Bold.

Table 9
Chemicals Detected Above Screening Levels in Groundwater
Duwamish Marine Center

Source	Sample Location	Sample Date	Chemical	GW Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level (Based on CSL)[b] (ug/L)	Exceedance Factor
Metals							
Farallon Consulting 2002d	MW-2	Mar-02	Antimony	56	6.4		8.8
Farallon Consulting 2002d	MW-3	Mar-02	Antimony	7.9	6.4		1.2
Farallon Consulting 2002d	MW-1	Mar-02	Antimony	7.1	6.4		1.1
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Arsenic**	**220**	**0.058**	370	**3793**
Farallon Consulting 2002d	**MW-2**	**May-02**	**Arsenic**	**13**	**0.058**	370	**224**
Farallon Consulting 2002d	**MW-3**	**Mar-02**	**Arsenic**	**12**	**0.058**	370	**207**
Farallon Consulting 2002d	**MW-4**	**Mar-02**	**Arsenic**	**8**	**0.058**	370	**138**
Farallon Consulting 2002d	**MW-4**	**May-02**	**Arsenic**	**5.7**	**0.058**	370	**98**
The Riley Group, Inc. 2000	**B-3-W**	**Aug-00**	**Arsenic**	**3.9**	**0.058**	370	**67**
The Riley Group, Inc. 2000	**B-2-W**	**Aug-00**	**Arsenic**	**3.6**	**0.058**	370	**62**
Farallon Consulting 2002d	MW-2	Mar-02	Cadmium	12	5	3.4	3.5
Farallon Consulting 2002d	MW-2	Mar-02	Chromium	140	50	320	2.8
Farallon Consulting 2002d	MW-3	Mar-02	Chromium	58	50	320	1.2
Farallon Consulting 2002d	MW-2	Mar-02	Copper	810	590	120	6.8
Farallon Consulting 2002d	MW-3	Mar-02	Copper	140	590	120	1.2
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Lead**	**2100**	**15**	**13**	**162**
Farallon Consulting 2002d	MW-3	Mar-02	Lead	89	15	13	6.8
Farallon Consulting 2002d	MW-1	Mar-02	Lead	59	15	13	4.5
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Mercury**	**2**	2	**0.0074**	**270**
Farallon Consulting 2002d	**MW-3**	**Mar-02**	**Mercury**	**0.55**	2	**0.0074**	**74**
Farallon Consulting 2004	**MW-3**	**May-04**	**Mercury (total)**	**0.5**	2	**0.0074**	**68**
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Zinc**	**2000**	4800	**76**	**26**
Farallon Consulting 2002d	MW-1	Mar-02	Zinc	500	4800	76	6.6
The Riley Group, Inc. 2000	B-3-W	Aug-00	Zinc	300	4800	76	3.9
Farallon Consulting 2002d	MW-3	Mar-02	Zinc	150	4800	76	2.0
PAHs							
Farallon Consulting 2002d	MW-2	Mar-02	1-Methylnaphthalene	8.4	2.4		3.5
Farallon Consulting 2002d	MW-2	Mar-02	Acenaphthene	13	960	9.3	1.4
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Benzo(a)anthracene**	**11**		**0.63**	**17**
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Benzo(a)pyrene**	**13**	**0.012**	**0.27**	**1083**

Table 9
Chemicals Detected Above Screening Levels in Groundwater
Duwamish Marine Center

Source	Sample Location	Sample Date	Chemical	GW Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level (Based on CSL)[b] (ug/L)	Exceedance Factor
Farallon Consulting 2002d	MW-3	Mar-02	Benzo(a)pyrene	0.084	0.012	0.27	7.0
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Benzo(b)fluoranthene**	**9.6**		**0.56**	**17**
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Benzo(g,h,i)perylene**	**7**		**0.029**	**241**
Farallon Consulting 2002d	MW-3	Mar-02	Benzo(g,h,i)perylene	0.05		0.029	1.7
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Benzo(k)fluoranthene**	**13**		**0.029**	**448**
Farallon Consulting 2002d	MW-2	Mar-02	Chrysene	15		1.9	7.9
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Dibenzo(a,h)anthracene**	**0.68**		**0.013**	**52**
Farallon Consulting 2002d	MW-3	Mar-02	Dibenzo(a,h)anthracene	0.021		0.013	1.6
Farallon Consulting 2002d	MW-2	Mar-02	Fluorene	9.7	640	7.0	1.4
Farallon Consulting 2002d	**MW-2**	**Mar-02**	**Indeno(1,2,3-c,d)pyrene**	**6.8**		**0.033**	**206**
Farallon Consulting 2002d	MW-3	Mar-02	Indeno(1,2,3-c,d)pyrene	0.05		0.033	1.5
Farallon Consulting 2002d	MW-2	Mar-02	Naphthalene	140	160	92	1.5
Farallon Consulting 2002d	MW-2	Mar-02	Phenanthrene	29		23	1.3
Farallon Consulting 2002d	MW-2	Mar-02	Pyrene	24	480	20	1.2
Pentachlorophenol							
Farallon Consulting 2002d	MW-2	Mar-02	Pentachlorophenol	3.5	0.73	10	4.8
PCBs							
Farallon Consulting 2002d	MW-4	Mar-02	Aroclor 1242	0.67	0.1		6.7
Farallon Consulting 2002d	MW-2	Mar-02	Aroclor 1242	0.15	0.1		1.5
Farallon Consulting 2002d	MW-4	Mar-02	Aroclor 1254	0.17	0.1	0.86	1.7
Farallon Consulting 2002d	MW-2	Mar-02	Aroclor 1260	0.13	0.1	0.86	1.3
Farallon Consulting 2002d	MW-4	Mar-02	Aroclor 1260	0.11	0.1	0.31	1.1
Farallon Consulting 2002d	**MW-4**	**Mar-02**	**PCB (total)**	**0.95**	**0.044**	1.5	**22**
Farallon Consulting 2002d	MW-2	Mar-02	PCB (total)	0.28	0.044	1.5	6.4
VOCs							
The Riley Group, Inc. 2000	B-3-W	Aug-00	Benzene	2.7	0.8		3.4
Farallon Consulting 2002d	MW-1	Mar-02	Tetrachloroethene	0.69	0.081		8.5
Farallon Consulting 2002d	MW-2	Mar-02	Tetrachloroethene	0.69	0.081		8.5
Petroleum Hydrocarbons							
Farallon Consulting 2002d	MW-2	Apr-02	Diesel-Range Hydrocarbons	2700	500		5.4
Farallon Consulting 2002d	MW-2	Mar-02	Diesel-Range Hydrocarbons	2700	500		5.4

Table 9
Chemicals Detected Above Screening Levels in Groundwater
Duwamish Marine Center

Source	Sample Location	Sample Date	Chemical	GW Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level (Based on CSL)[b] (ug/L)	Exceedance Factor
The Riley Group, Inc. 2000	B-2-W	Aug-00	Diesel-Range Hydrocarbons	520	500		1.0
The Riley Group, Inc. 2000	B-3-W	Aug-00	Diesel-Range Hydrocarbons	520	500		1.0
Farallon Consulting 2002d	MW-2	Apr-02	Heavy Oil-Range Hydrocarbons	4900	500		9.8
Farallon Consulting 2002d	MW-2	Mar-02	Heavy Oil-Range Hydrocarbons	4900	500		9.8
The Riley Group, Inc. 2000	B-3-W	Aug-00	Heavy Oil-Range Hydrocarbons	1600	500		3.2
Farallon Consulting 2002d	MW-4	Apr-02	Heavy Oil-Range Hydrocarbons	820	500		1.6
Farallon Consulting 2002d	MW-4	Mar-02	Heavy Oil-Range Hydrocarbons	820	500		1.6
The Riley Group, Inc. 2000	B-2-W	Aug-00	Heavy Oil-Range Hydrocarbons	650	500		1.3
Farallon Consulting 2004	MW-3	Feb-04	Heavy Oil-Range Hydrocarbons	550	500		1.1

Table presents detected chemicals with exceedance factors greater than 1 only.

ug/L - Microgram per Liter
MTCA - Model Toxics Control Act
CSL - SMS Cleanup Screening Level
PAH - Polycyclic aromatic hydrocarbon
PCB - Polychlorinated biphenyl
VOC - Volatile organic compound
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

[a] - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
[b] - Groundwater-to-sediment screening level, based on sediment CSLs (from SAIC 2006).

Exceedance factors are the ratio of the detected concentration to the MTCA cleanup level or groundwater-to-sediment screening level, whichever is lower.
For illustrative purposes, chemicals with concentrations that exceed screening levels or MTCA cleanup levels by more than an order of magnitude (i.e., exceedance factors greater than 10) are shown in **Bold**.

Table 10
Chemicals Detected Above Screening Levels in Soil
Former Frank's Used Cars

Source	Sample Location	Sample Date	Sample Depth (ft)	Chemical	Soil Conc'n (mg/kg DW)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL)[b] (mg/kg)	Exceedance Factor
Metals								
Environmental Associates 1993	**Surface Composite 3**	**1992**		**Arsenic**	**17**	**0.67**	12000	**25**
Environmental Associates 1993	**Surface Composite 2**	**1992**		**Arsenic**	**13**	**0.67**	12000	**19**
Environmental Associates 1993	**Surface Composite 1**	**1992**		**Arsenic**	**12**	**0.67**	12000	**18**
Ecology 1991i	Frank-1	Feb-91		Cadmium	14.5 J	2	34	7.3
Environmental Associates 1993	Surface Composite 3	1992		Cadmium	3.7	2	34	1.9
Environmental Associates 1993	Surface Composite 2	1992		Cadmium	2.7	2	34	1.4
Ecology 1991i	**Frank-1**	**Feb-91**		**Chromium**	**372**	**19**	5400	**20**
Environmental Associates 1993	Surface Composite 3	1992		Chromium	21	19	5400	1.1
Environmental Associates 1993	TP2-2	1992	4	Chromium	21	19	5400	1.1
Ecology 1991i	Frank-1	Feb-91		Lead	995	250	1300	4.0
Environmental Associates 1993	Surface Composite 3	1992		Lead	370	250	1300	1.5
Ecology 1991i	Frank-1	Feb-91		Zinc	1332	24000	770	1.7
PCBs								
NATEX 1991	Frank-1	Feb-91		Aroclor-1248	0.65	0.5	1.3	1.3
Environmental Associates 1993	Surface Composite 3	1992		PCBs (total)	0.60	0.5	1.3	1.2
VOCs								
NATEX 1991	Frank-1	Feb-91		Ethylbenzene	18	6		3.0
NATEX 1991	Frank-1	Feb-91		Ethylbenzene	17 D	6		2.8
NATEX 1991	Frank-1	Feb-91		Toluene	31 D	7		4.4
NATEX 1991	**Frank-1**	**Feb-91**		**Xylenes (total)**	**96 D**	**9**		**11**
Petroleum Hydrocarbons								
NATEX 1991	Frank-1	Feb-91		Total Volatile Petroleum Hydrocarbons	550 J	100		5.5

Table presents detected chemicals with exceedance factors greater than 1 only.

mg/kg - milligram per kilogram
DW - dry weight
MTCA - Model Toxics Control Act
CSL - SMS Cleanup Screening Level
PCB - polychlorinated biphenyl
VOC - volatile organic compound
SMS - Sediment Management Standard (Washington Administrative Code 173-204)
J - Estimated value between the method detection limit and the laboratory reporting limit.
D - diluted sample

[a] - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
[b] - Soil-to-sediment screening level for vadose zone soils, based on sediment CSLs (from SAIC 2006).

Exceedance factors are the ratio of the detected concentration to the MTCA cleanup level or soil-to-sediment screening level, whichever is lower.
For illustrative purposes, chemicals with concentrations that exceed screening levels or MTCA cleanup levels by more than an order of magnitude (i.e., exceedance factor greater than 10) are shown in **Bold**.

Table 11
Chemicals Detected Above Screening Levels in Soil
Former Consolidated Freightways

Source	Sample Date	Sample Location	Sample Depth (ft)	Chemical	Soil Conc'n (mg/kg DW)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL)[b] (mg/kg)	Exceedance Factor
PAHs								
Golder Associates 1998a	**Apr-98**	**RW1-7.0**	**7.0**	**2-Methylnaphthalene**	**16**	320	**0.073**	**219**
Golder Associates 1998a	**Apr-98**	**RW2-4.0**	**4.0**	**2-Methylnaphthalene**	**16**	320	**0.073**	**219**
Golder Associates 1998a	**Apr-98**	**RW2-7.0**	**7.0**	**2-Methylnaphthalene**	**11**	320	**0.073**	**151**
Golder Associates 1998a	**Apr-98**	**RW1-7.0**	**7.0**	**Acenaphthene**	**1.8**	4800	**0.060**	**30**
Golder Associates 1998a	**Apr-98**	**RW2-7.0**	**7.0**	**Acenaphthene**	**0.93**	4800	**0.060**	**16**
Golder Associates 1998a	Apr-98	CF-T1		Acenaphthene	0.21	4800	0.060	3.5
Golder Associates 1998a	Apr-98	MW2-2.0	2.0	Acenaphthene	0.071	4800	0.060	1.2
Golder Associates 1998a	Apr-98	RW1-7.0	7.0	Anthracene	2.2	2400	1.2	1.8
Golder Associates 1998a	**Apr-98**	**RW1-7.0**	**7.0**	**Fluorene**	**2.5**	3200	**0.081**	**31**
Golder Associates 1998a	**Apr-98**	**RW2-7.0**	**7.0**	**Fluorene**	**2**	3200	**0.081**	**25**
Golder Associates 1998a	Apr-98	RW2-4.0	4.0	Fluorene	1.9	3200	1.6	1.2
Golder Associates 1998a	Apr-98	CF-T1		Fluorene	0.21	3200	0.081	2.6
Golder Associates 1998a	Apr-98	RW2-4.0	4.0	Naphthalene	8.1	5	3.8	2.1
Golder Associates 1998a	**Apr-98**	**RW2-7.0**	**7.0**	**Naphthalene**	**6.5**	5	**0.20**	**33**
Golder Associates 1998a	**Apr-98**	**RW1-7.0**	**7.0**	**Naphthalene**	**6.2**	5	**0.20**	**31**
Golder Associates 1998a	**Apr-98**	**RW1-7.0**	**7.0**	**Phenanthrene**	**7**		**0.49**	**14**
Golder Associates 1998a	Apr-98	RW2-7.0	7.0	Phenanthrene	3.6		0.49	7
VOCs								
Golder Associates 1998a	Apr-98	RW2-4.0	4.0	Ethylbenzene	7.4	6		1
Golder Associates 1998a	Apr-98	RW2-4.0	4.0	Xylenes (m,p)	30	9		3.3
Golder Associates 1998a	Apr-98	RW2-7.0	7.0	Xylenes (m,p)	29	9		3.2
Golder Associates 1998a	Apr-98	RW2-7.0	7.0	Xylenes (o)	26	9		2.9
Golder Associates 1998a	Apr-98	RW2-4.0	4.0	Xylenes (o)	18	9		2.0
Petroleum Hydrocarbons								
Blymyer & Sons Engineers, Inc. 1988a	**Apr-88**	**T-3**		**Diesel-Range Hydrocarbons**	**43602**	**2000**		**22**
Blymyer & Sons Engineers, Inc. 1988a	**Apr-88**	**T-1**		**Diesel-Range Hydrocarbons**	**41294**	**2000**		**21**
Fluor Daniel GTI 1998	**Jul-98**	**SW-1**		**Diesel-Range Hydrocarbons**	**28700**	**2000**		**14**
Golder Associates 1998b	**Oct-98**	**SW-1**		**Diesel-Range Hydrocarbons**	**28700**	**2000**		**14**
Blymyer & Sons Engineers, Inc. 1988a	**Apr-88**	**T-4**		**Diesel-Range Hydrocarbons**	**27812**	**2000**		**14**
Shannon & Wilson 1997	10/1/1997	P-2	5-8	Diesel-Range Hydrocarbons	19000	2000		9.5
Golder Associates 1998a	Apr-98	RW1-7.0	7.0	Diesel-Range Hydrocarbons	13000	2000		6.5
Blymyer & Sons Engineers, Inc. 1988a	Apr-88	T-11		Diesel-Range Hydrocarbons	12643	2000		6.3
Golder Associates 1998a	Apr-98	RW2-4.0	4.0	Diesel-Range Hydrocarbons	12000	2000		6.0
Golder Associates 1998a	Apr-98	RW1-7.0	7.0	Diesel-Range Hydrocarbons	8800	2000		4.4
Fluor Daniel GTI 1998	Jul-98	SP-1		Diesel-Range Hydrocarbons	7970	2000		4.0
Golder Associates 1998b	Oct-98	SP-1		Diesel-Range Hydrocarbons	7970	2000		4.0
Golder Associates 1998b	Oct-98	CF-SP-5		Diesel-Range Hydrocarbons	7700 D	2000		3.9
Blymyer Engineers, Inc. 1988	Jun-88	MW-5	5	Diesel-Range Hydrocarbons	4797	2000		2.4

Table 11
Chemicals Detected Above Screening Levels in Soil
Former Consolidated Freightways

Source	Sample Date	Sample Location	Sample Depth (ft)	Chemical	Soil Conc'n (mg/kg DW)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL)[b] (mg/kg)	Exceedance Factor
Fluor Daniel GTI 1998	Jul-98	PL-2		Diesel-Range Hydrocarbons	4780	2000		2.4
Golder Associates 1998b	Oct-98	PL-2		Diesel-Range Hydrocarbons	4780	2000		2.4
Blymyer & Sons Engineers, Inc. 1988a	Apr-88	T-10		Diesel-Range Hydrocarbons	4446	2000		2.2
Fluor Daniel GTI 1998	Jul-98	SP-2		Diesel-Range Hydrocarbons	3890	2000		1.9
Golder Associates 1998b	Oct-98	SP-2		Diesel-Range Hydrocarbons	3890	2000		1.9
Shannon & Wilson 1997	Oct-97	P-4	5-8	Diesel-Range Hydrocarbons	3500	2000		1.8
Blymyer Engineers, Inc. 1988	Jun-88	S-1V		Diesel-Range Hydrocarbons	3389	2000		1.7
Blymyer Engineers, Inc. 1988	Jun-88	S-2F		Diesel-Range Hydrocarbons	3187	2000		1.6
Blymyer Engineers, Inc. 1988	Jun-88	S-1F		Diesel-Range Hydrocarbons	2939	2000		1.5
Fluor Daniel GTI 1998	Jul-98	SW-4		Diesel-Range Hydrocarbons	2700	2000		1.4
Golder Associates 1998b	Oct-98	SW-4		Diesel-Range Hydrocarbons	2700	2000		1.4
Fluor Daniel GTI 1998	Jul-98	SP-3		Diesel-Range Hydrocarbons	2000	2000		1.0
Golder Associates 1998b	Oct-98	SP-3		Diesel-Range Hydrocarbons	2000	2000		1.0
Blymyer & Sons Engineers, Inc. 1988a	Apr-88	T-7		Gasoline-Range Hydrocarbons	731	100		7.3
Blymyer & Sons Engineers, Inc. 1988a	Apr-88	T-9		Gasoline-Range Hydrocarbons	319	100		3.2
Golder Associates 1998b	Oct-98	CF-SP-1		Heavy Oil-Range Hydrocarbons	6000	2000		3.0
Blymyer & Sons Engineers, Inc. 1988a	Apr-88	T-11		Total Petroleum Hydrocarbons	11970	2000		6.0
Blymyer Engineers, Inc. 1988	Jun-88	S-1V		Total Petroleum Hydrocarbons	4274	2000		2.1
Blymyer Engineers, Inc. 1988	Jun-88	S-2F		Total Petroleum Hydrocarbons	4072	2000		2.0
Blymyer Engineers, Inc. 1988	Jun-88	S-1F		Total Petroleum Hydrocarbons	3383	2000		1.7
Blymyer & Sons Engineers, Inc. 1988a	Apr-88	T-10		Total Petroleum Hydrocarbons	2045	2000		1.0

Table presents detected chemicals with exceedance factors greater than 1 only.

mg/kg - milligram per kilogram
DW - dry weight
MTCA - Model Toxics Control Act
CSL - SMS Cleanup Screening Level
PCB - polychlorinated biphenyl
VOC - volatile organic compound
SMS - Sediment Management Standard (Washington Administrative Code 173-204)
D - diluted sample

[a] - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
[b] - Soil-to-sediment screening level for vadose zone soils, based on sediment CSLs (from SAIC 2006).

Exceedance factors are the ratio of the detected concentration to the MTCA cleanup level or soil-to-sediment screening level, whichever is lower.
For illustrative purposes, chemicals with concentrations that exceed screening levels or MTCA cleanup levels by more than an order of magnitude (i.e., exceedance factor greater than 10) are shown in **Bold**.

Table 12
Chemicals Detected Above Screening Levels in Groundwater
Former Consolidated Freightways

Source	Sample Location	Sample Date	Chemical	GW Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level (Based on CSL)[b] (ug/L)	Exceedance Factor
Metals							
Blymyer Engineers, Inc. 1988	**W-1**	**Aug-88**	**Chromium**	**800**	**50**	**320**	**16**
Blymyer Engineers, Inc. 1988	**W-1**	**Aug-88**	**Lead**	**1900**	**15**	**13**	**146**
PAHs							
Golder Associates 1998a	**RW-2**	**Jun-98**	**2-Methylnaphthalene**	**39000**	**32**	**31**	**1258**
Golder Associates 1998a	**RW-1**	**Jun-98**	**2-Methylnaphthalene**	**26000**	**32**	**31**	**839**
Golder Associates 1998a	MW-2	Jun-98	2-Methylnaphthalene	180	32	31	5.8
Golder Associates 1998a	**RW-2**	**Jun-98**	**Acenaphthene**	**1300**	960	**9.3**	**140**
Golder Associates 1998a	**RW-1**	**Jun-98**	**Acenaphthene**	**1100**	960	**9.3**	**118**
Golder Associates 1998a	**MW-2**	**Jun-98**	**Acenaphthene**	**840**	960	**9.3**	**90**
Golder Associates 1998a	RW-1	Jun-98	Anthracene	150	4800	59	2.5
Golder Associates 1998a	**RW-1**	**Jun-98**	**Fluorene**	**2900**	**640**	**7.0**	**414**
Golder Associates 1998a	**RW-2**	**Jun-98**	**Fluorene**	**2100**	640	**7.0**	**300**
Golder Associates 1998a	**MW-2**	**Jun-98**	**Fluorene**	**800**	640	**7.0**	**114**
Golder Associates 1998a	**RW-2**	**Jun-98**	**Naphthalene**	**43000**	**160**	**92**	**467**
Golder Associates 1998a	**RW-1**	**Jun-98**	**Naphthalene**	**11000**	**160**	**92**	**120**
Golder Associates 1998a	**RW-1**	**Jun-98**	**Phenanthrene**	**2500**		**23**	**109**
Golder Associates 1998a	**RW-2**	**Jun-98**	**Phenanthrene**	**2300**		**23**	**100**
Golder Associates 1998a	**MW-2**	**Jun-98**	**Phenanthrene**	**720**		**23**	**31**
Golder Associates 1998a	**RW-2**	**Jun-98**	**Pyrene**	**270**	480	**20**	**14**
VOCs							
Golder Associates 1998a	**RW-2**	**Jun-98**	**Benzene**	**210**	**0.8**		**263**
Golder Associates 2000b	**RW-2**	**Aug-99**	**Benzene**	**83**	**0.8**		**104**
Blymyer & Sons Engineers, Inc. 1988a	**W-2**	**Apr-88**	**Benzene**	**13**	**0.8**		**16**
Blymyer & Sons Engineers, Inc. 1988a	W-2	Apr-88	Xylenes (m,p)	1790	1000		1.8
Petroleum Hydrocarbons							
Blymyer Engineers, Inc. 1988	**W-1**	**Aug-88**	**Diesel-Range Hydrocarbons**	**2862000**	**500**		**5724**
Blymyer & Sons Engineers, Inc. 1988a	**W-1**	**Apr-88**	**Diesel-Range Hydrocarbons**	**2538000**	**500**		**5076**
Shannon & Wilson 1997	**P-2**	**Oct-97**	**Diesel-Range Hydrocarbons**	**2200000**	**500**		**4400**
Fluor Daniel GTI 1998	**TP-1**	**Jul-98**	**Diesel-Range Hydrocarbons**	**138000**	**500**		**276**
Golder Associates 2000b	**GP-14**	**Aug-99**	**Diesel-Range Hydrocarbons**	**34000**	**500**		**68**
Golder Associates 2000b	**GP-10**	**Aug-99**	**Diesel-Range Hydrocarbons**	**29000**	**500**		**58**
Golder Associates 1998a	**RW-2**	**Jun-98**	**Diesel-Range Hydrocarbons**	**5400**	**500**		**11**
Golder Associates 2000b	GP-11	Aug-99	Diesel-Range Hydrocarbons	2500	500		5.0
Golder Associates 1998a	MW-2	Jun-98	Diesel-Range Hydrocarbons	2200	500		4.4
Golder Associates 2000b	MW-2	Aug-99	Diesel-Range Hydrocarbons	1900	500		3.8
Shannon & Wilson 1997	P-4	Oct-97	Diesel-Range Hydrocarbons	1700	500		3.4
Golder Associates 2000b	MW-3	Aug-99	Diesel-Range Hydrocarbons	1500	500		3.0
Golder Associates 2000b	RW-2	Aug-99	Diesel-Range Hydrocarbons	1500	500		3.0
Golder Associates 1998a	RW-1	Jun-98	Diesel-Range Hydrocarbons	1400	500		2.8
Golder Associates 2000b	GP-6	Aug-99	Diesel-Range Hydrocarbons	1400	500		2.8
Golder Associates 2000b	GP-1	Aug-99	Diesel-Range Hydrocarbons	1200	500		2.4
Golder Associates 2000b	GP-9	Aug-99	Diesel-Range Hydrocarbons	1200	500		2.4
Golder Associates 1998a	MW-3	Jun-98	Diesel-Range Hydrocarbons	1000	500		2.0

Table 12
Chemicals Detected Above Screening Levels in Groundwater
Former Consolidated Freightways

Source	Sample Location	Sample Date	Chemical	GW Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level (Based on CSL)[b] (ug/L)	Exceedance Factor
Golder Associates 2000b	GP-5	Aug-99	Diesel-Range Hydrocarbons	980	500		2.0
Golder Associates 2000b	GP-4	Aug-99	Diesel-Range Hydrocarbons	800	500		1.6
Golder Associates 2000b	GP-7	Aug-99	Diesel-Range Hydrocarbons	720	500		1.4
Golder Associates 2000b	GP-13	Aug-99	Diesel-Range Hydrocarbons	580	500		1.2
Blymyer & Sons Engineers, Inc. 1988a	**W-2**	**Apr-88**	**Gasoline-Range Hydrocarbons**	**158000**	**800**		**198**
Blymyer Engineers, Inc. 1988	**W-1**	**Aug-88**	**Heavy Oil-Range Hydrocarbons**	**3812000**	**500**		**7624**
Golder Associates 2000b	GP-14	Aug-99	Heavy Oil-Range Hydrocarbons	2500	500		5.0
Golder Associates 2000b	GP-10	Aug-99	Heavy Oil-Range Hydrocarbons	2100	500		4.2
Golder Associates 2000b	MW-3	Aug-99	Heavy Oil-Range Hydrocarbons	1800	500		3.6
Golder Associates 2000b	GP-6	Aug-99	Heavy Oil-Range Hydrocarbons	1800	500		3.6
Golder Associates 1998a	MW-3	Jun-98	Heavy Oil-Range Hydrocarbons	1100	500		2.2
Golder Associates 2000b	GP-11	Aug-99	Heavy Oil-Range Hydrocarbons	860	500		1.7
Golder Associates 2000b	GP-1	Aug-99	Heavy Oil-Range Hydrocarbons	690	500		1.4
Golder Associates 1998a	RW-2	Jun-98	Heavy Oil-Range Hydrocarbons	680	500		1.4
Golder Associates 1998a	MW-2	Jun-98	Heavy Oil-Range Hydrocarbons	660	500		1.3
Golder Associates 2000b	GP-3	Aug-99	Heavy Oil-Range Hydrocarbons	590	500		1.2
Golder Associates 2000b	MW-2	Aug-99	Heavy Oil-Range Hydrocarbons	580	500		1.2

Table presents detected chemicals with exceedance factors greater than 1 only.

ug/L - Microgram per Liter
MTCA - Model Toxics Control Act
CSL - SMS Cleanup Screening Level
PAH - Polycyclic aromatic hydrocarbon
VOC - Volatile organic compound
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

[a] - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
[b] - Groundwater-to-sediment screening level, based on sediment CSLs (from SAIC 2006).

Exceedance factors are the ratio of the detected concentration to the MTCA cleanup level or groundwater-to-sediment screening level, whichever is lower.
For illustrative purposes, chemicals with concentrations that exceed screening levels or MTCA cleanup levels by more than an order of magnitude (i.e., exceedance factors greater than 10) are shown in **Bold**.

Table 13
Summary of Data Gaps
Slip 2 to Slip 3 Source Control Area

Facility	Data Gap
Public Outfalls	
Michigan Street CSO and 1st Avenue S Bridge Outfall	***Stormwater Discharge***
	Data on contaminant concentrations in storm drain solids within the 1st Avenue S Bridge storm drain system are needed to evaluate whether contaminants are being transported to LDW sediments via Outfall 2503.
	Combined Sewer Discharge
	Data on contaminant concentrations in CSO discharges are needed to evaluate whether the Michigan Street CSO is a significant source of contaminants to LDW sediments.
	Additional information regarding operations at Georgetown Yard, including information regarding the facility's NPDES permit, is needed to determine if the facility may be a source of contaminants to LDW sediments.
	Additional information is needed to determine if undocumented and unregulated industrial operations are occurring within the Michigan Street CSO basin that may be an ongoing source of sediment recontamination.
Adjacent Properties	
Glacier Northwest	***Stormwater Discharge and Surface Runoff/Spills***
	A follow-up business inspection is needed to verify compliance with Ecology's recommendations, applicable regulations, and best management practices (BMPs), to prevent the release of contaminants to the LDW.
	Additional information is needed regarding the process water treatment and recycling system at Glacier Northwest, including the capacity of the system and the frequency and volume of discharges to the LDW.
	If discharges to the LDW from the process water treatment and recycling system occur, then catch basin solids samples and/or effluent discharge samples from the system are needed to determine if COCs in the discharge may be a source of sediment recontamination.
	Further investigation is needed to determine whether the trench drain installed at Glacier Northwest in 1985 discharges to the LDW.
	Further investigation is needed to determine what is connected to outfall 2018 that was identified during SPU's 2003 survey.
	Additional information on outfall 2019 is needed to determine if the outfall belongs to Glacier Northwest, an upland facility, or a public entity.
	Additional information is needed regarding a storm drain line shown on SPU maps that follows the Glacier Northwest shoreline and appears to discharge to Slip 2 approximately half-way between the head and mouth of the slip.
Seattle Biodiesel	***Stormwater Discharge and Surface Runoff/Spills***
	A follow-up business inspection of Seattle Biodiesel is needed to verify compliance with Ecology's recommendations, applicable regulations and BMPs to prevent the release of contaminants to the LDW.
	Bank Erosion/Leaching

Table 13
Summary of Data Gaps
Slip 2 to Slip 3 Source Control Area

Facility	Data Gap
	Additional information regarding chemical concentrations in bank soils is needed. A recent spill of process mixture flowed across the bank soils at this property, and residual contamination may be present.
Duwamish Marine Center	***Stormwater Discharge and Surface Runoff/Spills***
	A business inspection of the Duwamish Marine Center is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW
	A follow-up business inspection of the Samson Tug and Barge facility is needed to verify compliance with corrective actions requested by SPU in July 2008.
	Information on the status of outfalls 2021 and 2022 is needed. If these outfalls and storm drain lines are currently in use, the area drained by the outfalls needs to be determined and an assessment made of the potential for COCs to reach the LDW via this pathway.
	Information is needed on the status of NPDES permits for Samson Tug and Barge and Duwamish Metal Fabricators.
	Information is needed on the types of activities associated with the boathouses/moorage located on the southern portion of the property.
	Groundwater Discharge
	Additional soil and groundwater data are needed to evaluate the potential for sediment recontamination via the groundwater discharge pathway. In April 2008, Ecology approved, with conditions, a sampling plan for the Duwamish Marine Center. The data collected during this investigation may be used to evaluate potential pathways for sediment COCs to reach the LDW.
	Bank Erosion/Leaching
	Additional data on concentrations of chemical contaminants in bank soils is needed to assess the potential for sediment recontamination via this pathway.
WSDOT Parcel	***Stormwater Discharge***
	No information was available regarding the effectiveness of the biofiltration swale in treating stormwater discharged from Outfall 2503.
	Surface Runoff/Spills
	Continued discussions with the adjacent property owner are needed to prevent parking and vehicle maintenance on the property.
Upland Properties	
Former Frank's Used Cars	***Stormwater Discharge***
	The most recent information on site conditions is over 15 years old. Additional information on current site conditions is needed to determine whether stormwater from this property is a potential source of sediment recontamination.
	Soil and Groundwater

Table 13
Summary of Data Gaps
Slip 2 to Slip 3 Source Control Area

Facility	Data Gap
	No information was available on the current status of cleanup activities at this site, or whether residual soil contamination poses a risk of sediment recontamination.
Former Consolidated Freightways	***Stormwater Discharge***
	Stormwater along the western edge of this property drains to outfall 2019. No information was available regarding activities along the western portion of the former Consolidated Freightways property or the potential that contaminants could be transported to the storm drain system.
	Groundwater Discharge
	The most recent groundwater samples at this site were collected in 1999. Additional groundwater data are needed to evaluate the potential for sediment recontamination via this pathway.
	In 1999, Ecology directed Consolidated Freightways to determine if contaminated groundwater extended off the property. Additional information is needed to determine if the groundwater plume has been laterally characterized as requested by Ecology.
Seattle Truck Repair/Evergreen Tractor	***Stormwater Discharge***
	Information on current activities is needed to assess the potential for sediment recontamination associated with this property, including the locations of catch basins and storm drains, status and location of hazardous materials or potentially harmful chemicals/wastes stored or used at the facilities, and the adequacy of containment systems (if any).
Bank and Office Interiors	***Stormwater Discharge***
	Information on current activities at BOI is needed to assess the potential for sediment recontamination associated with this property, including the locations of catch basins and storm drains, status and location of hazardous materials or potentially harmful chemicals/wastes stored or used at the facilities, and the adequacy of containment systems (if any).
	Information about industrial activities of other businesses operating at this property (such as Ener-G Foods) is needed to assess the potential for sediment recontamination
Fittings, Inc.	***Stormwater Discharge***
	A follow-up inspection is needed to verify compliance with the corrective actions identified by SPU in July 2008.
Former Taco Time	***Stormwater Discharge***
	Information on current activities at this property is needed to assess the potential for sediment recontamination associated with this property, including the locations of catch basins and storm drains, status and location of hazardous materials or potentially harmful chemicals/wastes stored or used at the facilities, and the adequacy of containment systems (if any).
Properties in the Michigan Street CSO Basin	
All Properties	***Combined Sewer Discharges***

Table 13
Summary of Data Gaps
Slip 2 to Slip 3 Source Control Area

Facility	Data Gap
	Information on current activities at this property is needed to assess the potential for sediment recontamination associated with this property, including the locations of catch basins and storm drains, status and location of hazardous materials or potentially harmful chemicals/wastes stored or used at the facilities, and the adequacy of containment systems (if any).
	Information on materials, construction, and condition of storm drain and sanitary sewer lines in this area would be useful to assess the potential for groundwater to infiltrate into the combined sewer system.
Emerald Tool, Inc.	Information regarding concentrations of sediment COCs present in soil and catch basins at this facility is needed to evaluate the potential for sediment recontamination.
Kelly Moore Paint Company	An inventory of onsite USTs (past and present) is needed to evaluate how the facility handles hazardous materials and/or wastes and insure compliance with all necessary regulations.
	An evaluation of the current nature and extent of soil and groundwater contamination associated with this facility is needed to determine the potential for contaminated groundwater to infiltrate the combined sewer system.
	Information on the current status of cleanup efforts is needed to evaluate whether appropriate actions have been made or if additional remedial activities are required.
Pioneer Porcelain Enamel Company **Scougal Rubber Corporation** **Former Sonn Property** **Former Unocal Service Station 0907** **Winters Investment LP/Riveretz's Auto Care**	Information regarding the nature and extent of soil contamination at the site is needed to determine if contaminants in soil may be leaching to groundwater, and if contaminated groundwater may then be infiltrating into the combined sewer system.