Appendix A

Chemicals Detected in Sediment Samples, EAA-2: Near Boyer Towing Property

A1. Surface Sediment Samples

A2. Subsurface Sediment Samples

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR141	2-Methylnaphthalene	0.12	2.27	5.3	38	64	mg/kg OC	0.1	0.1
EPA Site Inspection	DR157	2-Methylnaphthalene	0.1	5.47		0.67	1.4	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B2	2-Methylnaphthalene	0.06	1.45	4.1	38	64	mg/kg OC	0.1	0.1
EPA Site Inspection	DR157	4-Methylphenol	0.03	5.47		0.67	1.4	mg/kg DW	0.04	0.02
EPA Site Inspection	DR141	Acenaphthene	0.42	2.27	19	16	57	mg/kg OC	1.2	0.3
Boyer Towing	WRC-SS-B2	Acenaphthene	0.17	1.45	12	16	57	mg/kg OC	0.7	0.2
EPA Site Inspection	DR189	Acenaphthene	0.07	1.38	5.1	16	57	mg/kg OC	0.3	0.1
Boyer Towing	WRC-SS-B2	Acenaphthene	0.07	1.51	4.6	16	57	mg/kg OC	0.3	0.1
EPA Site Inspection	DR157	Acenaphthene	0.05	5.47		0.5	0.73	mg/kg DW	0.1	0.1
EPA Site Inspection	DR159	Acenaphthene	0.04	2.76	1.4	16	57	mg/kg OC	0.1	0.03
EPA Site Inspection	DR158	Acenaphthene	0.03	1.26	2.4	16	57	mg/kg OC	0.1	0.04
EPA Site Inspection	DR189	Acenaphthylene	0.07	1.38	5.1	66	66	mg/kg OC	0.1	0.1
Boyer Towing	WRC-SS-B2	Acenaphthylene	0.054	1.51	3.6	66	66	mg/kg OC	0.1	0.1
LDW RI-Benthic	B5a-1	Aldrin/dieldrin, total (calc'd)	0.00048	0.29						
EPA Site Inspection	DR171	Aluminum	20000	2.47						
EPA Site Inspection	DR231	Aluminum	20000	2.17						
EPA Site Inspection	DR159	Aluminum	19000	2.76						
EPA Site Inspection	DR157	Aluminum	18000	5.47						
EPA Site Inspection	DR141	Aluminum	15000	2.27						
EPA Site Inspection	DR189	Aluminum	14000	1.38						
EPA Site Inspection	DR158	Aluminum	13000	1.26						
EPA Site Inspection	DR138	Aluminum	8700	0.47						
EPA Site Inspection	DR140	Aluminum	5600	0.09						
EPA Site Inspection	DR141	Anthracene	0.83	2.27	37	220	1200	mg/kg OC	0.2	0.03
EPA Site Inspection	DR189	Anthracene	0.51	1.38	37	220	1200	mg/kg OC	0.2	0.03
EPA Site Inspection	DR171	Anthracene	0.18	2.47	7.3	220	1200	mg/kg OC	0.03	0.01
Boyer Towing	WRC-SS-B2	Anthracene	0.18	1.45	12	220	1200	mg/kg OC	0.1	0.01
EPA Site Inspection	DR157	Anthracene	0.16	5.47		0.96	4.4	mg/kg DW	0.2	0.04
Boyer Towing	WRC-SS-B2	Anthracene	0.15	1.51	9.9	220	1200	mg/kg OC	0.05	0.01
EPA Site Inspection	DR159	Anthracene	0.1	2.76	3.6	220	1200	mg/kg OC	0.02	0.003
EPA Site Inspection	DR158	Anthracene	0.07	1.26	5.6	220	1200	mg/kg OC	0.03	0.005
EPA Site Inspection	DR231	Anthracene	0.05	2.17	2.3	220	1200	mg/kg OC	0.01	0.002
Boyer Towing	WRC-SS-B1	Anthracene	0.032	0.905	3.5	220	1200	mg/kg OC	0.02	0.003
EPA Site Inspection	DR189	Antimony	5	1.38						

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR157	Aroclor-1242	2.4	5.47						
EPA Site Inspection	DR138	Aroclor-1242	0.092	0.47						
LDW RI-Benthic	B5a-1	Aroclor-1248	0.05	0.29						
EPA Site Inspection	DR157	Aroclor-1254	1.3	5.47						
LDW Surf Sed Round 2	LDW-SS85	Aroclor-1254	0.5	1.9						
EPA Site Inspection	DR159	Aroclor-1254	0.065	2.76						
EPA Site Inspection	DR138	Aroclor-1254	0.063	0.47						
EPA Site Inspection	DR231	Aroclor-1254	0.06	2.17						
EPA Site Inspection	DR171	Aroclor-1254	0.058	2.47						
EPA Site Inspection	DR189	Aroclor-1254	0.051	1.38						
EPA Site Inspection	DR158	Aroclor-1254	0.049	1.26						
EPA Site Inspection	DR141	Aroclor-1254	0.043	2.27						
LDW Surf Sed Round 2	LDW-SS86	Aroclor-1254	0.024	0.192						
Boyer Towing	WRC-SS-B2	Aroclor-1254	0.019	1.51						
Boyer Towing	WRC-SS-B2	Aroclor-1254	0.0091	1.45						
Boyer Towing	WRC-SS-B3	Aroclor-1254	0.0091	0.472						
Boyer Towing	WRC-SS-B1	Aroclor-1254	0.0059	0.905						
EPA Site Inspection	DR157	Aroclor-1260	0.98	5.47						
LDW Surf Sed Round 2	LDW-SS85	Aroclor-1260	0.13	1.9						
LDW RI-Benthic	B5a-1	Aroclor-1260	0.054	0.29						
EPA Site Inspection	DR159	Aroclor-1260	0.053	2.76						
EPA Site Inspection	DR171	Aroclor-1260	0.045	2.47						
EPA Site Inspection	DR189	Aroclor-1260	0.042	1.38						
EPA Site Inspection	DR231	Aroclor-1260	0.042	2.17						
EPA Site Inspection	DR138	Aroclor-1260	0.032	0.47						
EPA Site Inspection	DR158	Aroclor-1260	0.026	1.26						
EPA Site Inspection	DR141	Aroclor-1260	0.025	2.27						
Boyer Towing	WRC-SS-B2	Aroclor-1260	0.012	1.51						
Boyer Towing	WRC-SS-B3	Aroclor-1260	0.0089	0.472						
Boyer Towing	WRC-SS-B2	Aroclor-1260	0.0053	1.45						
Boyer Towing	WRC-SS-B1	Aroclor-1260	0.0045	0.905						
EPA Site Inspection	DR159	Arsenic	12	2.76		57	93	mg/kg DW	0.2	0.1
EPA Site Inspection	DR171	Arsenic	11	2.47		57	93	mg/kg DW	0.2	0.1
EPA Site Inspection	DR189	Arsenic	11	1.38		57	93	mg/kg DW	0.2	0.1

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR141	Arsenic	10	2.27		57	93	mg/kg DW	0.2	0.1
EPA Site Inspection	DR157	Arsenic	10	5.47		57	93	mg/kg DW	0.2	0.1
EPA Site Inspection	DR158	Arsenic	9.9	1.26		57	93	mg/kg DW	0.2	0.1
EPA Site Inspection	DR231	Arsenic	9.8	2.17		57	93	mg/kg DW	0.2	0.1
LDW Surf Sed Round 2	LDW-SS85	Arsenic	6.3	1.9		57	93	mg/kg DW	0.1	0.1
EPA Site Inspection	DR138	Arsenic	5.2	0.47		57	93	mg/kg DW	0.1	0.1
LDW Surf Sed Round 2	LDW-SS86	Arsenic	2.7	0.192		57	93	mg/kg DW	0.05	0.03
EPA Site Inspection	DR140	Arsenic	1.8	0.09		57	93	mg/kg DW	0.03	0.02
EPA Site Inspection	DR157	Barium	81	5.47						
EPA Site Inspection	DR171	Barium	75	2.47						
EPA Site Inspection	DR159	Barium	72	2.76						
EPA Site Inspection	DR231	Barium	72	2.17						
EPA Site Inspection	DR141	Barium	61	2.27						
EPA Site Inspection	DR158	Barium	50	1.26						
EPA Site Inspection	DR189	Barium	44	1.38						
EPA Site Inspection	DR138	Barium	23	0.47						
EPA Site Inspection	DR140	Barium	14	0.09						
EPA Site Inspection	DR141	Benzo(a)anthracene	1.3	2.27	57	110	270	mg/kg OC	0.5	0.2
EPA Site Inspection	DR189	Benzo(a)anthracene	0.86	1.38	62	110	270	mg/kg OC	0.6	0.2
EPA Site Inspection	DR157	Benzo(a)anthracene	0.44	5.47		1.3	1.6	mg/kg DW	0.3	0.3
Boyer Towing	WRC-SS-B2	Benzo(a)anthracene	0.43	1.51	28	110	270	mg/kg OC	0.3	0.1
Boyer Towing	WRC-SS-B2	Benzo(a)anthracene	0.32	1.45	22	110	270	mg/kg OC	0.2	0.1
EPA Site Inspection	DR159	Benzo(a)anthracene	0.31	2.76	11	110	270	mg/kg OC	0.1	0.04
EPA Site Inspection	DR158	Benzo(a)anthracene	0.26	1.26	21	110	270	mg/kg OC	0.2	0.1
EPA Site Inspection	DR171	Benzo(a)anthracene	0.26	2.47	11	110	270	mg/kg OC	0.1	0.04
EPA Site Inspection	DR231	Benzo(a)anthracene	0.16	2.17	7.4	110	270	mg/kg OC	0.1	0.03
LDW Surf Sed Round 2	LDW-SS85	Benzo(a)anthracene	0.11	1.9	5.8	110	270	mg/kg OC	0.1	0.02
Boyer Towing	WRC-SS-B1	Benzo(a)anthracene	0.11	0.905	12	110	270	mg/kg OC	0.1	0.05
Boyer Towing	WRC-SS-B3	Benzo(a)anthracene	0.044	0.472		1.3	1.6	mg/kg DW	0.03	0.03
EPA Site Inspection	DR141	Benzo(a)pyrene	0.94	2.27	41	99	210	mg/kg OC	0.4	0.2
EPA Site Inspection	DR189	Benzo(a)pyrene	0.61	1.38	44	99	210	mg/kg OC	0.4	0.2
Boyer Towing	WRC-SS-B2	Benzo(a)pyrene	0.35	1.51	23	99	210	mg/kg OC	0.2	0.1
EPA Site Inspection	DR157	Benzo(a)pyrene	0.32	5.47		1.6	3	mg/kg DW	0.2	0.1
EPA Site Inspection	DR158	Benzo(a)pyrene	0.26	1.26	21	99	210	mg/kg OC	0.2	0.1

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Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR159	Benzo(a)pyrene	0.25	2.76	9.1	99	210	mg/kg OC	0.1	0.04
EPA Site Inspection	DR171	Benzo(a)pyrene	0.22	2.47	8.9	99	210	mg/kg OC	0.1	0.04
Boyer Towing	WRC-SS-B2	Benzo(a)pyrene	0.2	1.45	14	99	210	mg/kg OC	0.1	0.1
EPA Site Inspection	DR231	Benzo(a)pyrene	0.15	2.17	6.9	99	210	mg/kg OC	0.1	0.03
Boyer Towing	WRC-SS-B1	Benzo(a)pyrene	0.066	0.905	7.3	99	210	mg/kg OC	0.1	0.03
Boyer Towing	WRC-SS-B3	Benzo(a)pyrene	0.047	0.472		1.6	3	mg/kg DW	0.03	0.02
LDW Surf Sed Round 2	LDW-SS85	Benzo(a)pyrene	0.013	1.9	0.7	99	210	mg/kg OC	0.01	0.00
EPA Site Inspection	DR189	Benzo(b)fluoranthene	1.1	1.38	80	230	450	mg/kg OC	0.3	0.2
EPA Site Inspection	DR141	Benzo(b)fluoranthene	0.96	2.27	42	230	450	mg/kg OC	0.2	0.1
Boyer Towing	WRC-SS-B2	Benzo(b)fluoranthene	0.6	1.51	40	230	450	mg/kg OC	0.2	0.1
EPA Site Inspection	DR157	Benzo(b)fluoranthene	0.48	5.47		3.2	3.6	mg/kg DW	0.2	0.1
EPA Site Inspection	DR159	Benzo(b)fluoranthene	0.33	2.76	12	230	450	mg/kg OC	0.1	0.03
EPA Site Inspection	DR171	Benzo(b)fluoranthene	0.31	2.47	13	230	450	mg/kg OC	0.1	0.03
EPA Site Inspection	DR158	Benzo(b)fluoranthene	0.3	1.26	24	230	450	mg/kg OC	0.1	0.1
Boyer Towing	WRC-SS-B2	Benzo(b)fluoranthene	0.29	1.45	20	230	450	mg/kg OC	0.1	0.04
EPA Site Inspection	DR231	Benzo(b)fluoranthene	0.17	2.17	7.8	230	450	mg/kg OC	0.03	0.02
LDW Surf Sed Round 2	LDW-SS85	Benzo(b)fluoranthene	0.15	1.9	7.9	230	450	mg/kg OC	0.03	0.02
Boyer Towing	WRC-SS-B1	Benzo(b)fluoranthene	0.13	0.905	14	230	450	mg/kg OC	0.1	0.03
Boyer Towing	WRC-SS-B3	Benzo(b)fluoranthene	0.069	0.472		3.2	3.6	mg/kg DW	0.02	0.02
EPA Site Inspection	DR138	Benzo(b)fluoranthene	0.02	0.47	4.3	230	450	mg/kg OC	0.02	0.01
EPA Site Inspection	DR141	Benzo(g,h,i)perylene	0.39	2.27	17	31	78	mg/kg OC	0.6	0.2
EPA Site Inspection	DR189	Benzo(g,h,i)perylene	0.32	1.38	23	31	78	mg/kg OC	0.7	0.3
EPA Site Inspection	DR157	Benzo(g,h,i)perylene	0.18	5.47		0.67	0.72	mg/kg DW	0.3	0.3
EPA Site Inspection	DR159	Benzo(g,h,i)perylene	0.16	2.76	5.8	31	78	mg/kg OC	0.2	0.1
EPA Site Inspection	DR158	Benzo(g,h,i)perylene	0.13	1.26	10	31	78	mg/kg OC	0.3	0.1
EPA Site Inspection	DR171	Benzo(g,h,i)perylene	0.13	2.47	5.3	31	78	mg/kg OC	0.2	0.1
EPA Site Inspection	DR231	Benzo(g,h,i)perylene	0.11	2.17	5.1	31	78	mg/kg OC	0.2	0.1
Boyer Towing	WRC-SS-B2	Benzo(g,h,i)perylene	0.086	1.51	5.7	31	78	mg/kg OC	0.2	0.1
Boyer Towing	WRC-SS-B1	Benzo(g,h,i)perylene	0.032	0.905	3.5	31	78	mg/kg OC	0.1	0.05
EPA Site Inspection	DR189	Benzo(k)fluoranthene	0.84	1.38	61	230	450	mg/kg OC	0.3	0.1
EPA Site Inspection	DR141	Benzo(k)fluoranthene	0.78	2.27	34	230	450	mg/kg OC	0.1	0.1
EPA Site Inspection	DR157	Benzo(k)fluoranthene	0.36	5.47		3.2	3.6	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B2	Benzo(k)fluoranthene	0.27	1.51	18	230	450	mg/kg OC	0.1	0.04
EPA Site Inspection	DR158	Benzo(k)fluoranthene	0.24	1.26	19	230	450	mg/kg OC	0.1	0.04

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Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR159	Benzo(k)fluoranthene	0.24	2.76	8.7	230	450	mg/kg OC	0.04	0.02
EPA Site Inspection	DR171	Benzo(k)fluoranthene	0.2	2.47	8.1	230	450	mg/kg OC	0.04	0.02
EPA Site Inspection	DR231	Benzo(k)fluoranthene	0.17	2.17	7.8	230	450	mg/kg OC	0.03	0.02
Boyer Towing	WRC-SS-B2	Benzo(k)fluoranthene	0.15	1.45	10	230	450	mg/kg OC	0.04	0.02
LDW Surf Sed Round 2	LDW-SS85	Benzo(k)fluoranthene	0.094	1.9	4.9	230	450	mg/kg OC	0.02	0.01
Boyer Towing	WRC-SS-B1	Benzo(k)fluoranthene	0.051	0.905	5.6	230	450	mg/kg OC	0.02	0.01
EPA Site Inspection	DR189	Benzofluoranthenes (total-calc'd)	1.9	1.38	138	230	450	mg/kg OC	0.6	0.3
EPA Site Inspection	DR141	Benzofluoranthenes (total-calc'd)	1.74	2.27	77	230	450	mg/kg OC	0.3	0.2
Boyer Towing	WRC-SS-B2	Benzofluoranthenes (total-calc'd)	0.9	1.51	60	230	450	mg/kg OC	0.3	0.1
EPA Site Inspection	DR157	Benzofluoranthenes (total-calc'd)	0.84	5.47		3.2	3.6	mg/kg DW	0.3	0.2
EPA Site Inspection	DR159	Benzofluoranthenes (total-calc'd)	0.57	2.76	21	230	450	mg/kg OC	0.1	0.0
EPA Site Inspection	DR158	Benzofluoranthenes (total-calc'd)	0.54	1.26	43	230	450	mg/kg OC	0.2	0.1
EPA Site Inspection	DR171	Benzofluoranthenes (total-calc'd)	0.51	2.47	21	230	450	mg/kg OC	0.1	0.0
Boyer Towing	WRC-SS-B2	Benzofluoranthenes (total-calc'd)	0.44	1.45	30	230	450	mg/kg OC	0.1	0.1
EPA Site Inspection	DR231	Benzofluoranthenes (total-calc'd)	0.34	2.17	16	230	450	mg/kg OC	0.1	0.03
LDW Surf Sed Round 2	LDW-SS85	Benzofluoranthenes (total-calc'd)	0.24	1.9	13	230	450	mg/kg OC	0.1	0.03
Boyer Towing	WRC-SS-B1	Benzofluoranthenes (total-calc'd)	0.18	0.905	20	230	450	mg/kg OC	0.1	0.04
Boyer Towing	WRC-SS-B3	Benzofluoranthenes (total-calc'd)	0.069	0.472		3.2	3.6	mg/kg DW	0.02	0.02
EPA Site Inspection	DR138	Benzofluoranthenes (total-calc'd)	0.02	0.47		3.2	3.6	mg/kg DW	0.01	0.01
EPA Site Inspection	DR171	Beryllium	0.45	2.47						
EPA Site Inspection	DR231	Beryllium	0.41	2.17						
EPA Site Inspection	DR159	Beryllium	0.39	2.76						
EPA Site Inspection	DR141	Beryllium	0.32	2.27						
EPA Site Inspection	DR157	Beryllium	0.32	5.47						
EPA Site Inspection	DR158	Beryllium	0.27	1.26						
EPA Site Inspection	DR189	Beryllium	0.27	1.38						
EPA Site Inspection	DR138	Beryllium	0.14	0.47						
EPA Site Inspection	DR140	Beryllium	0.11	0.09						
EPA Site Inspection	DR157	Bis(2-ethylhexyl)phthalate	2.3	5.47		1.3	1.9	mg/kg DW	1.8	1.2
EPA Site Inspection	DR189	Bis(2-ethylhexyl)phthalate	0.44	1.38	32	47	78	mg/kg OC	0.7	0.4
EPA Site Inspection	DR171	Bis(2-ethylhexyl)phthalate	0.39	2.47	16	47	78	mg/kg OC	0.3	0.2
LDW Surf Sed Round 2	LDW-SS85	Bis(2-ethylhexyl)phthalate	0.15	1.9	7.9	47	78	mg/kg OC	0.2	0.1
Boyer Towing	WRC-SS-B2	Bis(2-ethylhexyl)phthalate	0.097	1.51	6.4	47	78	mg/kg OC	0.1	0.1
EPA Site Inspection	DR138	Bis(2-ethylhexyl)phthalate	0.03	0.47		1.3	1.9	mg/kg DW	0.02	0.02

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Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR157	Butyl benzyl phthalate	0.09	5.47		0.063	0.9	mg/kg DW	1.4	0.1
EPA Site Inspection	DR141	Butyl benzyl phthalate	0.04	2.27	1.8	4.9	64	mg/kg OC	0.4	0.03
EPA Site Inspection	DR159	Butyl benzyl phthalate	0.04	2.76	1.4	4.9	64	mg/kg OC	0.3	0.02
EPA Site Inspection	DR171	Butyl benzyl phthalate	0.03	2.47	1.2	4.9	64	mg/kg OC	0.2	0.02
EPA Site Inspection	DR189	Butyl benzyl phthalate	0.03	1.38	2.2	4.9	64	mg/kg OC	0.4	0.03
EPA Site Inspection	DR231	Butyl benzyl phthalate	0.03	2.17	1.4	4.9	64	mg/kg OC	0.3	0.02
EPA Site Inspection	DR157	Cadmium	1.2	5.47		5.1	6.7	mg/kg DW	0.2	0.2
EPA Site Inspection	DR171	Cadmium	0.4	2.47		5.1	6.7	mg/kg DW	0.1	0.1
EPA Site Inspection	DR159	Cadmium	0.3	2.76		5.1	6.7	mg/kg DW	0.1	0.04
EPA Site Inspection	DR141	Cadmium	0.29	2.27		5.1	6.7	mg/kg DW	0.1	0.04
EPA Site Inspection	DR158	Cadmium	0.28	1.26		5.1	6.7	mg/kg DW	0.1	0.04
EPA Site Inspection	DR231	Cadmium	0.26	2.17		5.1	6.7	mg/kg DW	0.1	0.04
EPA Site Inspection	DR189	Cadmium	0.2	1.38		5.1	6.7	mg/kg DW	0.04	0.03
EPA Site Inspection	DR141	Carbazole	0.28	2.27	12					
EPA Site Inspection	DR189	Carbazole	0.16	1.38	12					
EPA Site Inspection	DR157	Carbazole	0.07	5.47	1.3					
EPA Site Inspection	DR171	Carbazole	0.07	2.47	2.8					
EPA Site Inspection	DR159	Carbazole	0.05	2.76	1.8					
EPA Site Inspection	DR158	Carbazole	0.03	1.26	2.4					
EPA Site Inspection	DR231	Carbazole	0.02	2.17	0.9					
LDW Surf Sed Round 2	LDW-SS85	Chlordane, alpha-	0.036	1.9						
LDW RI-Benthic	B5a-1	Chlordane, alpha-	0.00024	0.29						
LDW Surf Sed Round 2	LDW-SS85	Chlordane, gamma-	0.059	1.9						
LDW RI-Benthic	B5a-1	Chlordane, gamma-	0.00097	0.29						
LDW Surf Sed Round 2	LDW-SS85	Chlordane, total (calc'd)	0.095	1.9						
LDW RI-Benthic	B5a-1	Chlordane, total (calc'd)	0.00121	0.29						
EPA Site Inspection	DR157	Chromium	55	5.47		260	270	mg/kg DW	0.2	0.2
EPA Site Inspection	DR231	Chromium	28	2.17		260	270	mg/kg DW	0.1	0.1
EPA Site Inspection	DR159	Chromium	26	2.76		260	270	mg/kg DW	0.1	0.1
EPA Site Inspection	DR171	Chromium	26	2.47		260	270	mg/kg DW	0.1	0.1
EPA Site Inspection	DR189	Chromium	23	1.38		260	270	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B2	Chromium	21	1.51		260	270	mg/kg DW	0.1	0.1
EPA Site Inspection	DR141	Chromium	18	2.27		260	270	mg/kg DW	0.1	0.1
EPA Site Inspection	DR158	Chromium	18	1.26		260	270	mg/kg DW	0.1	0.1

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
Boyer Towing	WRC-SS-B1	Chromium	17.4	0.905		260	270	mg/kg DW	0.1	0.1
LDW Surf Sed Round 2	LDW-SS85	Chromium	17.3	1.9		260	270	mg/kg DW	0.1	0.1
EPA Site Inspection	DR138	Chromium	16	0.47		260	270	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B2	Chromium	16	1.45		260	270	mg/kg DW	0.1	0.1
LDW Surf Sed Round 2	LDW-SS86	Chromium	13.9	0.192		260	270	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B3	Chromium	13.3	0.472		260	270	mg/kg DW	0.1	0.05
EPA Site Inspection	DR140	Chromium	10	0.09		260	270	mg/kg DW	0.04	0.04
EPA Site Inspection	DR189	Chrysene	1.6	1.38	116	110	460	mg/kg OC	1.1	0.3
EPA Site Inspection	DR141	Chrysene	1.3	2.27	57	110	460	mg/kg OC	0.5	0.1
EPA Site Inspection	DR157	Chrysene	0.68	5.47		1.4	2.8	mg/kg DW	0.5	0.2
Boyer Towing	WRC-SS-B2	Chrysene	0.63	1.51	42	110	460	mg/kg OC	0.4	0.1
Boyer Towing	WRC-SS-B2	Chrysene	0.4	1.45	28	110	460	mg/kg OC	0.3	0.1
EPA Site Inspection	DR159	Chrysene	0.39	2.76	14	110	460	mg/kg OC	0.1	0.03
EPA Site Inspection	DR171	Chrysene	0.33	2.47	13	110	460	mg/kg OC	0.1	0.03
EPA Site Inspection	DR158	Chrysene	0.29	1.26	23	110	460	mg/kg OC	0.2	0.1
EPA Site Inspection	DR231	Chrysene	0.23	2.17	11	110	460	mg/kg OC	0.1	0.02
LDW Surf Sed Round 2	LDW-SS85	Chrysene	0.2	1.9	11	110	460	mg/kg OC	0.1	0.02
Boyer Towing	WRC-SS-B1	Chrysene	0.18	0.905	20	110	460	mg/kg OC	0.2	0.04
Boyer Towing	WRC-SS-B3	Chrysene	0.068	0.472		1.4	2.8	mg/kg DW	0.05	0.02
EPA Site Inspection	DR138	Chrysene	0.03	0.47		1.4	2.8	mg/kg DW	0.02	0.01
EPA Site Inspection	DR171	Cobalt	10	2.47						
EPA Site Inspection	DR157	Cobalt	9	5.47						
EPA Site Inspection	DR231	Cobalt	9	2.17						
EPA Site Inspection	DR141	Cobalt	8	2.27						
EPA Site Inspection	DR159	Cobalt	8	2.76						
EPA Site Inspection	DR189	Cobalt	7	1.38						
EPA Site Inspection	DR158	Cobalt	6	1.26						
LDW Surf Sed Round 2	LDW-SS85	Cobalt	5.2	1.9						
LDW Surf Sed Round 2	LDW-SS86	Cobalt	4.6	0.192						
EPA Site Inspection	DR138	Cobalt	4	0.47						
EPA Site Inspection	DR140	Cobalt	4	0.09						
EPA Site Inspection	DR157	Copper	83	5.47		390	390	mg/kg DW	0.2	0.2
Boyer Towing	WRC-SS-B1	Copper	79.5	0.905		390	390	mg/kg DW	0.2	0.2
Boyer Towing	WRC-SS-B2	Copper	67.8	1.51		390	390	mg/kg DW	0.2	0.2

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR159	Copper	51	2.76		390	390	mg/kg DW	0.1	0.1
EPA Site Inspection	DR171	Copper	51	2.47		390	390	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B2	Copper	46.2	1.45		390	390	mg/kg DW	0.1	0.1
EPA Site Inspection	DR189	Copper	46	1.38		390	390	mg/kg DW	0.1	0.1
EPA Site Inspection	DR231	Copper	45	2.17		390	390	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B3	Copper	42.3	0.472		390	390	mg/kg DW	0.1	0.1
EPA Site Inspection	DR141	Copper	39	2.27		390	390	mg/kg DW	0.1	0.1
LDW Surf Sed Round 2	LDW-SS85	Copper	38.1	1.9		390	390	mg/kg DW	0.1	0.1
EPA Site Inspection	DR158	Copper	38	1.26		390	390	mg/kg DW	0.1	0.1
EPA Site Inspection	DR138	Copper	20	0.47		390	390	mg/kg DW	0.1	0.1
LDW Surf Sed Round 2	LDW-SS86	Copper	13.3	0.192		390	390	mg/kg DW	0.03	0.03
EPA Site Inspection	DR140	Copper	10	0.09		390	390	mg/kg DW	0.03	0.03
LDW RI-Benthic	B5a-1	DDD, 2,4'-	0.0093	0.29						
LDW RI-Benthic	B5a-1	DDD, 4,4'-	0.023	0.29						
LDW RI-Benthic	B5a-1	DDE, 4,4'-	0.0084	0.29						
LDW RI-Benthic	B5a-1	DDT, 2,4'-	0.0079	0.29						
LDW RI-Benthic	B5a-1	DDT, 4,4'-	0.019	0.29						
LDW RI-Benthic	B5a-1	DDTs (total-calc'd)	0.068	0.29						
EPA Site Inspection	DR141	Dibenzo(a,h)anthracene	0.14	2.27	6.2	12	33	mg/kg OC	0.5	0.2
EPA Site Inspection	DR189	Dibenzo(a,h)anthracene	0.1	1.38	7.2	12	33	mg/kg OC	0.6	0.2
EPA Site Inspection	DR158	Dibenzo(a,h)anthracene	0.04	1.26	3.2	12	33	mg/kg OC	0.3	0.1
EPA Site Inspection	DR159	Dibenzo(a,h)anthracene	0.04	2.76	1.4	12	33	mg/kg OC	0.1	0.04
EPA Site Inspection	DR171	Dibenzo(a,h)anthracene	0.04	2.47	1.6	12	33	mg/kg OC	0.1	0.05
EPA Site Inspection	DR231	Dibenzo(a,h)anthracene	0.03	2.17	1.4	12	33	mg/kg OC	0.1	0.04
EPA Site Inspection	DR141	Dibenzofuran	0.32	2.27	14.1	15	58	mg/kg OC	0.9	0.2
Boyer Towing	WRC-SS-B2	Dibenzofuran	0.091	1.45	6.3	15	58	mg/kg OC	0.4	0.1
EPA Site Inspection	DR189	Dibenzofuran	0.06	1.38	4.3	15	58	mg/kg OC	0.3	0.1
EPA Site Inspection	DR159	Dibenzofuran	0.04	2.76	1.4	15	58	mg/kg OC	0.1	0.02
EPA Site Inspection	DR171	Dibenzofuran	0.04	2.47	1.6	15	58	mg/kg OC	0.1	0.03
EPA Site Inspection	DR157	Dibenzofuran	0.03	5.47		0.54	0.7	mg/kg DW	0.1	0.04
EPA Site Inspection	DR158	Dibenzofuran	0.02	1.26	1.6	15	58	mg/kg OC	0.1	0.03
LDW RI-Benthic	B5a-1	Dieldrin	0.00048	0.29				ug/kg dw		
LDW Surf Sed Round 2	LDW-SS86	Diethyl phthalate	0.0072	0.192		0.2	1.2	mg/kg DW	0.0	0.01
EPA Site Inspection	DR157	Dimethyl phthalate	0.03	5.47		0.71	0.16	mg/kg DW	0.0	0.2

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR189	Dimethyl phthalate	0.03	1.38	2.2	53	53	mg/kg OC	0.0	0.0
EPA Site Inspection	DR157	Di-n-butyl phthalate	0.3	5.47		1.4	5.1	mg/kg DW	0.2	0.1
EPA Site Inspection	DR231	Di-n-butyl phthalate	0.05	2.17	2.3	220	1700	mg/kg OC	0.01	0.001
EPA Site Inspection	DR159	Di-n-butyl phthalate	0.04	2.76	1.4	220	1700	mg/kg OC	0.007	0.001
LDW RI-Benthic	B5a-1	Endosuflan, beta-	0.00054	0.29						
LDW RI-Benthic	B5a-1	Endosulfan, alpha-	0.00021	0.29	0.1					
EPA Site Inspection	DR189	Fluoranthene	6.9	1.38	500.0	160	1200	mg/kg OC	3.1	0.4
EPA Site Inspection	DR141	Fluoranthene	3.6	2.27	158.6	160	1200	mg/kg OC	1.0	0.1
EPA Site Inspection	DR171	Fluoranthene	1.1	2.47	44.5	160	1200	mg/kg OC	0.3	0.0
EPA Site Inspection	DR159	Fluoranthene	0.96	2.76	34.8	160	1200	mg/kg OC	0.2	0.0
Boyer Towing	WRC-SS-B2	Fluoranthene	0.92	1.51	60.9	160	1200	mg/kg OC	0.4	0.1
Boyer Towing	WRC-SS-B2	Fluoranthene	0.8	1.45	55.2	160	1200	mg/kg OC	0.3	0.05
EPA Site Inspection	DR157	Fluoranthene	0.68	5.47		1.7	2.5	mg/kg DW	0.4	0.3
EPA Site Inspection	DR158	Fluoranthene	0.64	1.26	50.8	160	1200	mg/kg OC	0.3	0.0
EPA Site Inspection	DR231	Fluoranthene	0.5	2.17	23.0	160	1200	mg/kg OC	0.1	0.02
Boyer Towing	WRC-SS-B1	Fluoranthene	0.34	0.905	37.6	160	1200	mg/kg OC	0.2	0.03
LDW Surf Sed Round 2	LDW-SS85	Fluoranthene	0.29	1.9	15.3	160	1200	mg/kg OC	0.1	0.01
Boyer Towing	WRC-SS-B3	Fluoranthene	0.11	0.472		1.7	2.5	mg/kg DW	0.1	0.04
EPA Site Inspection	DR138	Fluoranthene	0.03	0.47		1.7	2.5	mg/kg DW	0.02	0.01
EPA Site Inspection	DR141	Fluorene	0.57	2.27	25.1	23	79	mg/kg OC	1.1	0.3
EPA Site Inspection	DR189	Fluorene	0.17	1.38	12.3	23	79	mg/kg OC	0.5	0.2
Boyer Towing	WRC-SS-B2	Fluorene	0.14	1.45	9.7	23	79	mg/kg OC	0.4	0.1
Boyer Towing	WRC-SS-B2	Fluorene	0.081	1.51	5.4	23	79	mg/kg OC	0.2	0.1
EPA Site Inspection	DR171	Fluorene	0.07	2.47	2.8	23	79	mg/kg OC	0.1	0.04
EPA Site Inspection	DR157	Fluorene	0.05	5.47		0.54	1	mg/kg DW	0.1	0.1
EPA Site Inspection	DR159	Fluorene	0.05	2.76	1.8	23	79	mg/kg OC	0.1	0.02
EPA Site Inspection	DR158	Fluorene	0.03	1.26	2.4	23	79	mg/kg OC	0.1	0.03
EPA Site Inspection	DR231	Fluorene	0.02	2.17	0.9	23	79	mg/kg OC	0.04	0.01
EPA Site Inspection	DR189	Hexachlorobenzene	0.03	1.38	2.2	0.38	2.3	mg/kg OC	5.7	0.9
EPA Site Inspection	DR141	Indeno(1,2,3-cd)pyrene	0.58	2.27	25.6	34	88	mg/kg OC	0.8	0.3
EPA Site Inspection	DR189	Indeno(1,2,3-cd)pyrene	0.41	1.38	29.7	34	88	mg/kg OC	0.9	0.3
EPA Site Inspection	DR157	Indeno(1,2,3-cd)pyrene	0.18	5.47		0.6	0.69	mg/kg DW	0.3	0.3
EPA Site Inspection	DR158	Indeno(1,2,3-cd)pyrene	0.18	1.26	14.3	34	88	mg/kg OC	0.4	0.2
EPA Site Inspection	DR159	Indeno(1,2,3-cd)pyrene	0.18	2.76	6.5	34	88	mg/kg OC	0.2	0.1

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR171	Indeno(1,2,3-cd)pyrene	0.17	2.47	6.9	34	88	mg/kg OC	0.2	0.1
Boyer Towing	WRC-SS-B2	Indeno(1,2,3-cd)pyrene	0.12	1.51	7.9	34	88	mg/kg OC	0.2	0.1
EPA Site Inspection	DR231	Indeno(1,2,3-cd)pyrene	0.11	2.17	5.1	34	88	mg/kg OC	0.1	0.1
Boyer Towing	WRC-SS-B2	Indeno(1,2,3-cd)pyrene	0.067	1.45	4.6	34	88	mg/kg OC	0.1	0.1
Boyer Towing	WRC-SS-B1	Indeno(1,2,3-cd)pyrene	0.04	0.905	4.4	34	88	mg/kg OC	0.1	0.1
LDW Surf Sed Round 2	LDW-SS85	Indeno(1,2,3-cd)pyrene	0.0096	1.9	0.5	34	88	mg/kg OC	0.01	0.01
EPA Site Inspection	DR159	Iron	28000	2.76						
EPA Site Inspection	DR157	Iron	27000	5.47						
EPA Site Inspection	DR171	Iron	27000	2.47						
EPA Site Inspection	DR189	Iron	27000	1.38						
EPA Site Inspection	DR231	Iron	27000	2.17						
EPA Site Inspection	DR141	Iron	22000	2.27						
EPA Site Inspection	DR158	Iron	20000	1.26						
EPA Site Inspection	DR138	Iron	16000	0.47						
EPA Site Inspection	DR140	Iron	14000	0.09						
EPA Site Inspection	DR157	Lead	250	5.47		450	530	mg/kg DW	0.6	0.5
LDW Surf Sed Round 2	LDW-SS85	Lead	37	1.9		450	530	mg/kg DW	0.1	0.1
EPA Site Inspection	DR189	Lead	34	1.38		450	530	mg/kg DW	0.1	0.1
EPA Site Inspection	DR159	Lead	33	2.76		450	530	mg/kg DW	0.1	0.1
Boyer Towing	WRC-SS-B2	Lead	27	1.51		450	530	mg/kg DW	0.1	0.1
EPA Site Inspection	DR141	Lead	26	2.27		450	530	mg/kg DW	0.1	0.05
EPA Site Inspection	DR231	Lead	26	2.17		450	530	mg/kg DW	0.1	0.05
Boyer Towing	WRC-SS-B1	Lead	25	0.905		450	530	mg/kg DW	0.1	0.05
EPA Site Inspection	DR138	Lead	23	0.47		450	530	mg/kg DW	0.1	0.04
EPA Site Inspection	DR158	Lead	21	1.26		450	530	mg/kg DW	0.05	0.04
EPA Site Inspection	DR171	Lead	20	2.47		450	530	mg/kg DW	0.04	0.04
Boyer Towing	WRC-SS-B3	Lead	19	0.472		450	530	mg/kg DW	0.04	0.04
Boyer Towing	WRC-SS-B2	Lead	17	1.45		450	530	mg/kg DW	0.04	0.03
LDW Surf Sed Round 2	LDW-SS86	Lead	9	0.192		450	530	mg/kg DW	0.02	0.02
EPA Site Inspection	DR140	Lead	5.6	0.09		450	530	mg/kg DW	0.01	0.01
EPA Site Inspection	DR159	Manganese	300	2.76						
EPA Site Inspection	DR171	Manganese	300	2.47						
EPA Site Inspection	DR138	Manganese	280	0.47						
EPA Site Inspection	DR231	Manganese	270	2.17						

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR141	Manganese	220	2.27						
EPA Site Inspection	DR158	Manganese	220	1.26						
EPA Site Inspection	DR189	Manganese	210	1.38						
EPA Site Inspection	DR157	Manganese	200	5.47						
EPA Site Inspection	DR140	Manganese	160	0.09						
EPA Site Inspection	DR157	Mercury	1.6	5.47		0.41	0.59	mg/kg DW	3.9	2.7
EPA Site Inspection	DR159	Mercury	0.16	2.76		0.41	0.59	mg/kg DW	0.4	0.3
EPA Site Inspection	DR171	Mercury	0.15	2.47		0.41	0.59	mg/kg DW	0.4	0.3
EPA Site Inspection	DR231	Mercury	0.14	2.17		0.41	0.59	mg/kg DW	0.3	0.2
EPA Site Inspection	DR189	Mercury	0.11	1.38		0.41	0.59	mg/kg DW	0.3	0.2
EPA Site Inspection	DR158	Mercury	0.1	1.26		0.41	0.59	mg/kg DW	0.2	0.2
EPA Site Inspection	DR141	Mercury	0.09	2.27		0.41	0.59	mg/kg DW	0.2	0.2
EPA Site Inspection	DR138	Mercury	0.05	0.47		0.41	0.59	mg/kg DW	0.1	0.1
LDW RI-Benthic	B5a-1	Methoxychlor	0.005	0.29						
LDW Surf Sed Round 2	LDW-SS85	Molybdenum	1.3	1.9						
LDW Surf Sed Round 2	LDW-SS86	Molybdenum	0.7	0.192						
EPA Site Inspection	DR141	Naphthalene	0.1	2.27	4.4	99	170	mg/kg OC	0.04	0.03
Boyer Towing	WRC-SS-B2	Naphthalene	0.088	1.45	6.1	99	170	mg/kg OC	0.1	0.04
EPA Site Inspection	DR157	Naphthalene	0.05	5.47		2.1	2.4	mg/kg DW	0.02	0.02
EPA Site Inspection	DR171	Nickel	21	2.47		140	370	mg/kg DW	0.2	0.1
EPA Site Inspection	DR231	Nickel	20	2.17		140	370	mg/kg DW	0.1	0.1
EPA Site Inspection	DR157	Nickel	19	5.47		140	370	mg/kg DW	0.1	0.1
EPA Site Inspection	DR159	Nickel	19	2.76		140	370	mg/kg DW	0.1	0.1
EPA Site Inspection	DR189	Nickel	17	1.38		140	370	mg/kg DW	0.1	0.05
EPA Site Inspection	DR158	Nickel	16	1.26		140	370	mg/kg DW	0.1	0.04
EPA Site Inspection	DR141	Nickel	14	2.27		140	370	mg/kg DW	0.1	0.04
LDW Surf Sed Round 2	LDW-SS85	Nickel	13	1.9		140	370	mg/kg DW	0.1	0.04
EPA Site Inspection	DR138	Nickel	9.7	0.47		140	370	mg/kg DW	0.1	0.03
LDW Surf Sed Round 2	LDW-SS86	Nickel	8	0.192		140	370	mg/kg DW	0.1	0.02
EPA Site Inspection	DR140	Nickel	7.4	0.09		140	370	mg/kg DW	0.1	0.02
EPA Site Inspection	DR157	PCBs (total calc'd)	4.7	5.47		0.13	1	mg/kg DW	36.2	4.7
LDW Surf Sed Round 2	LDW-SS85	PCBs (total calc'd)	0.63	1.9	33.2	12	65	mg/kg OC	2.8	0.5
EPA Site Inspection	DR138	PCBs (total calc'd)	0.19	0.47		0.13	1	mg/kg DW	1.4	0.2
NOAA Site Characterization	WST339	PCBs (total calc'd)	0.15	2.43	6.2	12	65	mg/kg OC	0.5	0.1

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR159	PCBs (total calc'd)	0.118	2.76	4.3	12	65	mg/kg OC	0.4	0.1
LDW RI-Benthic	B5a-1	PCBs (total calc'd)	0.104	0.29		0.13	1	mg/kg DW	0.8	0.1
EPA Site Inspection	DR171	PCBs (total calc'd)	0.103	2.47	4.2	12	65	mg/kg OC	0.3	0.1
EPA Site Inspection	DR231	PCBs (total calc'd)	0.102	2.17	4.7	12	65	mg/kg OC	0.4	0.1
EPA Site Inspection	DR189	PCBs (total calc'd)	0.093	1.38	6.7	12	65	mg/kg OC	0.6	0.1
EPA Site Inspection	DR158	PCBs (total calc'd)	0.075	1.26	6.0	12	65	mg/kg OC	0.5	0.1
EPA Site Inspection	DR141	PCBs (total calc'd)	0.068	2.27	3.0	12	65	mg/kg OC	0.2	0.05
NOAA Site Characterization	WIT277	PCBs (total calc'd)	0.052	0.63	8.3	12	65	mg/kg OC	0.7	0.1
NOAA Site Characterization	CH0024	PCBs (total calc'd)	0.039	1.95	2.0	12	65	mg/kg OC	0.2	0.03
NOAA Site Characterization	CH0027	PCBs (total calc'd)	0.038	2.21	1.7	12	65	mg/kg OC	0.1	0.03
Boyer Towing	WRC-SS-B2	PCBs (total calc'd)	0.031	1.51	2.1	12	65	mg/kg OC	0.2	0.03
LDW Surf Sed Round 2	LDW-SS86	PCBs (total calc'd)	0.024	0.192		0.13	1	mg/kg DW	0.2	0.02
Boyer Towing	WRC-SS-B3	PCBs (total calc'd)	0.018	0.472		0.13	1	mg/kg DW	0.1	0.02
Boyer Towing	WRC-SS-B2	PCBs (total calc'd)	0.014	1.45	1.0	12	65	mg/kg OC	0.1	0.02
NOAA Site Characterization	WIT281	PCBs (total calc'd)	0.011	0.32		0.13	1	mg/kg DW	0.1	0.01
Boyer Towing	WRC-SS-B1	PCBs (total calc'd)	0.010	0.905	1.1	12	65	mg/kg OC	0.1	0.02
EPA Site Inspection	DR157	Pentachlorophenol	0.3	5.47		0.36	0.69	mg/kg DW	0.8	0.4
EPA Site Inspection	DR141	Phenanthrene	2.9	2.27	127.8	100	480	mg/kg OC	1.3	0.3
EPA Site Inspection	DR189	Phenanthrene	2.5	1.38	181.2	100	480	mg/kg OC	1.8	0.4
Boyer Towing	WRC-SS-B2	Phenanthrene	0.52	1.45	35.9	100	480	mg/kg OC	0.4	0.1
EPA Site Inspection	DR171	Phenanthrene	0.47	2.47	19.0	100	480	mg/kg OC	0.2	0.04
EPA Site Inspection	DR159	Phenanthrene	0.39	2.76	14.1	100	480	mg/kg OC	0.1	0.03
EPA Site Inspection	DR157	Phenanthrene	0.32	5.47		1.5	5.4	mg/kg DW	0.2	0.1
Boyer Towing	WRC-SS-B2	Phenanthrene	0.29	1.51	19.2	100	480	mg/kg OC	0.2	0.04
EPA Site Inspection	DR158	Phenanthrene	0.26	1.26	20.6	100	480	mg/kg OC	0.2	0.04
EPA Site Inspection	DR231	Phenanthrene	0.13	2.17	6.0	100	480	mg/kg OC	0.1	0.01
Boyer Towing	WRC-SS-B1	Phenanthrene	0.13	0.905	14.4	100	480	mg/kg OC	0.1	0.03
LDW Surf Sed Round 2	LDW-SS85	Phenanthrene	0.091	1.9	4.8	100	480	mg/kg OC	0.05	0.01
Boyer Towing	WRC-SS-B3	Phenanthrene	0.064	0.472		1.5	5.4	mg/kg DW	0.04	0.01
EPA Site Inspection	DR231	Phenol	0.17	2.17		0.42	1.2	mg/kg DW	0.4	0.1
EPA Site Inspection	DR189	Phenol	0.12	1.38		0.42	1.2	mg/kg DW	0.3	0.1
EPA Site Inspection	DR157	Phenol	0.05	5.47		0.42	1.2	mg/kg DW	0.1	0.04
EPA Site Inspection	DR159	Phenol	0.03	2.76		0.42	1.2	mg/kg DW	0.1	0.03
EPA Site Inspection	DR189	Pyrene	3.5	1.38	253.6	1000	1400	mg/kg OC	0.3	0.2

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR141	Pyrene	2.2	2.27	96.9	1000	1400	mg/kg OC	0.1	0.1
EPA Site Inspection	DR157	Pyrene	1.4	5.47		2.6	3.3	mg/kg DW	0.5	0.4
EPA Site Inspection	DR159	Pyrene	0.75	2.76	27.2	1000	1400	mg/kg OC	0.03	0.02
EPA Site Inspection	DR171	Pyrene	0.64	2.47	25.9	1000	1400	mg/kg OC	0.03	0.02
Boyer Towing	WRC-SS-B2	Pyrene	0.62	1.51	41.1	1000	1400	mg/kg OC	0.04	0.03
Boyer Towing	WRC-SS-B2	Pyrene	0.57	1.45	39.3	1000	1400	mg/kg OC	0.04	0.03
EPA Site Inspection	DR158	Pyrene	0.47	1.26	37.3	1000	1400	mg/kg OC	0.04	0.03
EPA Site Inspection	DR231	Pyrene	0.37	2.17	17.1	1000	1400	mg/kg OC	0.02	0.01
Boyer Towing	WRC-SS-B1	Pyrene	0.26	0.905	28.7	1000	1400	mg/kg OC	0.03	0.02
LDW Surf Sed Round 2	LDW-SS85	Pyrene	0.2	1.9	10.5	1000	1400	mg/kg OC	0.01	0.01
Boyer Towing	WRC-SS-B3	Pyrene	0.091	0.472		2.6	3.3	mg/kg DW	0.04	0.03
EPA Site Inspection	DR138	Pyrene	0.03	0.47		2.6	3.3	mg/kg DW	0.01	0.01
EPA Site Inspection	DR157	Selenium	14	5.47						
EPA Site Inspection	DR140	Selenium	10	0.09						
EPA Site Inspection	DR138	Selenium	8	0.47						
EPA Site Inspection	DR231	Selenium	7	2.17						
EPA Site Inspection	DR159	Selenium	6	2.76						
EPA Site Inspection	DR171	Selenium	6	2.47						
EPA Site Inspection	DR141	Selenium	4	2.27						
EPA Site Inspection	DR158	Selenium	4	1.26						
EPA Site Inspection	DR157	Silver	1.1	5.47		6.1	6.1	mg/kg DW	0.2	0.2
EPA Site Inspection	DR159	Silver	0.26	2.76		6.1	6.1	mg/kg DW	0.04	0.04
EPA Site Inspection	DR171	Silver	0.26	2.47		6.1	6.1	mg/kg DW	0.04	0.04
EPA Site Inspection	DR141	Silver	0.23	2.27		6.1	6.1	mg/kg DW	0.04	0.04
EPA Site Inspection	DR231	Silver	0.22	2.17		6.1	6.1	mg/kg DW	0.04	0.04
EPA Site Inspection	DR158	Silver	0.21	1.26		6.1	6.1	mg/kg DW	0.03	0.03
EPA Site Inspection	DR140	Silver	0.14	0.09		6.1	6.1	mg/kg DW	0.02	0.02
EPA Site Inspection	DR189	Silver	0.14	1.38		6.1	6.1	mg/kg DW	0.02	0.02
EPA Site Inspection	DR138	Silver	0.11	0.47		6.1	6.1	mg/kg DW	0.02	0.02
EPA Site Inspection	DR157	Thallium	0.1	5.47						
EPA Site Inspection	DR231	Thallium	0.1	2.17						
EPA Site Inspection	DR141	Thallium	0.09	2.27						
EPA Site Inspection	DR159	Thallium	0.09	2.76						
EPA Site Inspection	DR158	Thallium	0.08	1.26						

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR171	Thallium	0.08	2.47						
EPA Site Inspection	DR189	Thallium	0.06	1.38						
EPA Site Inspection	DR138	Thallium	0.03	0.47						
EPA Site Inspection	DR157	Tin	9	5.47						
EPA Site Inspection	DR159	Tin	4	2.76						
EPA Site Inspection	DR158	Tin	3.6	1.26						
EPA Site Inspection	DR141	Tin	3	2.27						
EPA Site Inspection	DR171	Tin	3	2.47						
EPA Site Inspection	DR231	Tin	3	2.17						
EPA Site Inspection	DR189	Total HPAH (calc'd)	16.2	1.38	1173.9	960	5300	mg/kg OC	1.2	0.2
EPA Site Inspection	DR141	Total HPAH (calc'd)	12.2	2.27	537.4	960	5300	mg/kg OC	0.6	0.1
EPA Site Inspection	DR157	Total HPAH (calc'd)	4.7	5.47		12	17	mg/kg DW	0.4	0.3
Boyer Towing	WRC-SS-B2	Total HPAH (calc'd)	4	1.51	264.9	960	5300	mg/kg OC	0.3	0.05
EPA Site Inspection	DR159	Total HPAH (calc'd)	3.61	2.76	130.8	960	5300	mg/kg OC	0.1	0.02
EPA Site Inspection	DR171	Total HPAH (calc'd)	3.4	2.47	137.7	960	5300	mg/kg OC	0.1	0.03
EPA Site Inspection	DR158	Total HPAH (calc'd)	2.81	1.26	223.0	960	5300	mg/kg OC	0.2	0.04
Boyer Towing	WRC-SS-B2	Total HPAH (calc'd)	2.8	1.45	193.1	960	5300	mg/kg OC	0.2	0.04
EPA Site Inspection	DR231	Total HPAH (calc'd)	2	2.17	92.2	960	5300	mg/kg OC	0.1	0.02
Boyer Towing	WRC-SS-B1	Total HPAH (calc'd)	1.21	0.905	133.7	960	5300	mg/kg OC	0.1	0.03
LDW Surf Sed Round 2	LDW-SS85	Total HPAH (calc'd)	1.07	1.9	56.3	960	5300	mg/kg OC	0.1	0.01
Boyer Towing	WRC-SS-B3	Total HPAH (calc'd)	0.43	0.472		12	17	mg/kg DW	0.04	0.03
EPA Site Inspection	DR138	Total HPAH (calc'd)	0.11	0.47		12	17	mg/kg DW	0.01	0.01
EPA Site Inspection	DR141	Total LPAH (calc'd)	4.8	2.27	211.5	370	780	mg/kg OC	0.6	0.3
EPA Site Inspection	DR189	Total LPAH (calc'd)	3.3	1.38	239.1	370	780	mg/kg OC	0.6	0.3
Boyer Towing	WRC-SS-B2	Total LPAH (calc'd)	1.1	1.45	75.9	370	780	mg/kg OC	0.2	0.1
EPA Site Inspection	DR171	Total LPAH (calc'd)	0.72	2.47	29.1	370	780	mg/kg OC	0.1	0.04
Boyer Towing	WRC-SS-B2	Total LPAH (calc'd)	0.65	1.51	43.0	370	780	mg/kg OC	0.1	0.1
EPA Site Inspection	DR157	Total LPAH (calc'd)	0.63	5.47		5.2	13	mg/kg DW	0.1	0.05
EPA Site Inspection	DR159	Total LPAH (calc'd)	0.58	2.76	21.0	370	780	mg/kg OC	0.1	0.03
EPA Site Inspection	DR158	Total LPAH (calc'd)	0.39	1.26	31.0	370	780	mg/kg OC	0.1	0.04
EPA Site Inspection	DR231	Total LPAH (calc'd)	0.2	2.17	9.2	370	780	mg/kg OC	0.02	0.01
Boyer Towing	WRC-SS-B1	Total LPAH (calc'd)	0.16	0.905	17.7	370	780	mg/kg OC	0.05	0.02
LDW Surf Sed Round 2	LDW-SS85	Total LPAH (calc'd)	0.091	1.9	4.8	370	780	mg/kg OC	0.01	0.01
Boyer Towing	WRC-SS-B3	Total LPAH (calc'd)	0.064	0.472		5.2	13	mg/kg DW	0.01	0.00

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]
EPA Site Inspection	DR171	Tributyltin as ion	0.037	2.47						
EPA Site Inspection	DR157	Vanadium	67	5.47						
EPA Site Inspection	DR171	Vanadium	59	2.47						
EPA Site Inspection	DR231	Vanadium	55	2.17						
EPA Site Inspection	DR189	Vanadium	54	1.38						
EPA Site Inspection	DR159	Vanadium	51	2.76						
EPA Site Inspection	DR138	Vanadium	50	0.47						
EPA Site Inspection	DR141	Vanadium	49	2.27						
LDW Surf Sed Round 2	LDW-SS85	Vanadium	48.6	1.9						
LDW Surf Sed Round 2	LDW-SS86	Vanadium	47	0.192						
EPA Site Inspection	DR158	Vanadium	42	1.26						
EPA Site Inspection	DR140	Vanadium	40	0.09						
Boyer Towing	WRC-SS-B3	Zinc	479	0.472		410	960	mg/kg DW	1.2	0.5
EPA Site Inspection	DR157	Zinc	250	5.47		410	960	mg/kg DW	0.6	0.3
Boyer Towing	WRC-SS-B2	Zinc	118	1.51		410	960	mg/kg DW	0.3	0.1
EPA Site Inspection	DR159	Zinc	100	2.76		410	960	mg/kg DW	0.2	0.1
EPA Site Inspection	DR189	Zinc	100	1.38		410	960	mg/kg DW	0.2	0.1
EPA Site Inspection	DR171	Zinc	96	2.47		410	960	mg/kg DW	0.2	0.1
EPA Site Inspection	DR231	Zinc	93	2.17		410	960	mg/kg DW	0.2	0.1
EPA Site Inspection	DR141	Zinc	81	2.27		410	960	mg/kg DW	0.2	0.1
EPA Site Inspection	DR158	Zinc	80	1.26		410	960	mg/kg DW	0.2	0.1
LDW Surf Sed Round 2	LDW-SS85	Zinc	79.2	1.9		410	960	mg/kg DW	0.2	0.1
Boyer Towing	WRC-SS-B1	Zinc	64.9	0.905		410	960	mg/kg DW	0.2	0.1
Boyer Towing	WRC-SS-B2	Zinc	59	1.45		410	960	mg/kg DW	0.1	0.1
EPA Site Inspection	DR138	Zinc	57	0.47		410	960	mg/kg DW	0.1	0.1
LDW Surf Sed Round 2	LDW-SS86	Zinc	35.3	0.192		410	960	mg/kg DW	0.1	0.04
EPA Site Inspection	DR140	Zinc	28	0.09		410	960	mg/kg DW	0.1	0.03

Table presents detections only.

a - Exceedance factors are the ratio of the detected concentration to the CSL or SQS; an exceedance factor greater than 1 indicates that the measured concentration is higher than the corresponding CSL or SQS.

DW - dry weight

Table A-1
Chemicals Detected in LDW Surface Sediment Samples
Near Boyer Towing Property

Sampling Event	Sample Location	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]

OC - organic carbon normalized
TOC - total organic carbon

Note: For samples with TOC <0.5% or >5%, organic carbon normalization was considered inappropriate. Instead, the dry weight concentrations of these samples were compared to the lowest apparent effects threshold (LAET) and 2nd lowest apparent effects threshold (2LAET) values instead of the SQS and CSL values, respectively. See Section 2 for additional information.

Table A-2
Chemicals Detected in Subsurface Sediment Samples
LDW Near Boyer Towing Property

Sampling Event	Sample Location	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-SC40	0 - 1.3	1,2,3,4,6,7,8-HpCDD	1.9E-04	0.747	2.5E-02			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,4,6,7,8-HpCDD	1.3E-05	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,4,6,7,8-HpCDF	3.5E-05	0.747	4.7E-03			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,4,6,7,8-HpCDF	2.2E-06	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,4,7,8,9-HpCDF	2.3E-06	0.747	3.0E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,4,7,8,9-HpCDF	1.3E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,4,7,8-HxCDD	1.4E-06	0.747	1.9E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,4,7,8-HxCDD	1.7E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,4,7,8-HxCDF	5.2E-06	0.747	7.0E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,4,7,8-HxCDF	2.1E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,6,7,8-HxCDD	6.6E-06	0.747	8.8E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,6,7,8-HxCDD	4.3E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,6,7,8-HxCDF	1.5E-06	0.747	2.0E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,6,7,8-HxCDF	1.4E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,7,8,9-HxCDD	5.3E-06	0.747	7.1E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,7,8,9-HxCDD	4.7E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,7,8-PeCDD	1.0E-06	0.747	1.4E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	1,2,3,7,8-PeCDD	8.5E-08 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	1,2,3,7,8-PeCDF	4.1E-07 J	0.747	5.5E-05			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	2,3,4,6,7,8-HxCDF	1.0E-06	0.747	1.4E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	2,3,4,6,7,8-HxCDF	1.5E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	2,3,4,7,8-PeCDF	1.1E-06	0.747	1.5E-04			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	2,3,4,7,8-PeCDF	1.1E-07 J	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	2,3,7,8-TCDD	4.0E-07	0.747	5.3E-05			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	2,3,7,8-TCDD	3.0E-07	0.211	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	2,3,7,8-TCDF	4.5E-07	0.747	6.0E-05			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Anthracene	0.032	0.747	4.3	220	1200	mg/kg OC	0.02	0.004
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Aroclor-1248	0.061	0.747	8.2			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Aroclor-1254	0.10 J	0.747	13			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Arsenic	7.0	0.747		57	93	mg/kg DW	0.1	0.08
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Benzo(a)anthracene	0.054	0.747	7.2	110	270	mg/kg OC	0.07	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Benzo(a)pyrene	0.030	0.747	4.0	99	210	mg/kg OC	0.04	0.02
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Benzo(b)fluoranthene	0.041	0.747	5.5	230	450	mg/kg OC	0.02	0.01
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Benzo(g,h,i)perylene	0.018 J	0.747	2.4	31	78	mg/kg OC	0.08	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Benzo(k)fluoranthene	0.044	0.747	5.9	230	450	mg/kg OC	0.03	0.01
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Benzofluoranthenes (total-calc'd)	0.085	0.747	11	230	450	mg/kg OC	0.05	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Bis(2-ethylhexyl)phthalate	0.048	0.747	6.4	47	78	mg/kg OC	0.1	0.08
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Butyl benzyl phthalate	0.010	0.747	1.3	4.9	64	mg/kg OC	0.3	0.02
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Chromium	17	0.328		260	270	mg/kg DW	0.07	0.06
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Chromium	14	0.747		260	270	mg/kg DW	0.06	0.05

Table A-2
Chemicals Detected in Subsurface Sediment Samples
LDW Near Boyer Towing Property

Sampling Event	Sample Location	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-SC40	2 - 4	Chromium	12	0.211		260	270	mg/kg DW	0.05	0.04
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Chrysene	0.085	0.747	11	110	460	mg/kg OC	0.1	0.02
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Cobalt	4.6	0.328				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Cobalt	4.3	0.747				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Cobalt	3.7	0.211				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Copper	21	0.747		390	390	mg/kg DW	0.05	0.05
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Copper	14	0.328		390	390	mg/kg DW	0.04	0.04
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Copper	8.3	0.211		390	390	mg/kg DW	0.02	0.02
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Dioxin/furan TEQ - Mammal WHO 1998 - Half DL	6.55E-06 J	2.0	0.000328			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Dioxin/furan TEQ - Mammal WHO 1998 - Half DL	4.87E-07 J	2.0	2.44E-05			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Dioxin/furan TEQ - Mammal WHO 1998 - Half DL	3.6E-07 J	2.0	0.000018			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Dioxin/furan TEQ - Mammal WHO 2005 - Half DL	6.71E-06 J	2.0	0.000336			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Dioxin/furan TEQ - Mammal WHO 2005 - Half DL	4.85E-07 J	2.0	2.43E-05			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Dioxin/furan TEQ - Mammal WHO 2005 - Half DL	3.55E-07 J	2.0	1.78E-05			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Fluoranthene	0.32	0.747	43	160	1200	mg/kg OC	0.3	0.04
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Indeno(1,2,3-cd)pyrene	0.020	0.747	2.7	34	88	mg/kg OC	0.08	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Lead	44	0.328		450	530	mg/kg DW	0.1	0.08
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Lead	18	0.747		450	530	mg/kg DW	0.04	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Mercury	0.05	0.747		0.41	0.59	mg/kg DW	0.1	0.08
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Molybdenum	1.0	0.747				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Molybdenum	0.90	0.328				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Nickel	15	0.328				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Nickel	10	0.747				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Nickel	8.0	0.211				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	OCDD	0.0018	0.747	0.24			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	OCDD	0.0001	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	OCDD	2.92E-06	0.211	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	OCDF	1.0E-04	0.747	0.013			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	OCDF	3.51E-06	0.328	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	OCDF	8.75E-08 J	0.211	NA			mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	PCBs (total calc'd)	0.16 J	0.747	21	12	65	mg/kg OC	1.8	0.3
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Phenanthrene	0.13	0.747	17	100	480	mg/kg OC	0.2	0.04
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Pyrene	0.24	0.747	32	1000	1400	mg/kg OC	0.03	0.02
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Total HPAH (calc'd)	0.85 J	0.747	114	960	5300	mg/kg OC	0.1	0.02
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Total LPAH (calc'd)	0.16	0.747	21	370	780	mg/kg OC	0.06	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Total PAH (calc'd)	1.0 J	0.747	135			mg/kg OC		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Vanadium	46	0.747				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	1.3 - 2	Vanadium	46	0.328				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Vanadium	43	0.211				mg/kg DW		
LDW RI Phase 2 Subsurface	LDW-SC40	0 - 1.3	Zinc	47	0.747		410	960	mg/kg DW	0.1	0.05

Table A-2
Chemicals Detected in Subsurface Sediment Samples
LDW Near Boyer Towing Property

Sampling Event	Sample Location	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-SC40	1.3 - 2	Zinc	27	0.328		410	960	mg/kg DW	0.07	0.03
LDW RI Phase 2 Subsurface	LDW-SC40	2 - 4	Zinc	25	0.211		410	960	mg/kg DW	0.06	0.03

DW - Dry weight
TOC - Total organic carbon
OC - Organic carbon normalized
SQS - Sediment Quality Standard
CSL - Cleanup Screening Level
PAH - Polynuclear aromatic hydrocarbons
PCB - polychlorinated biphenyl
Notes:
(1) 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.
(2) Chemicals with exceedance factors greater than 1 are highlighted in gray.
(3) Organic carbon normalization is not considered to be appropriate for TOC concentrations less than or equal to 0.5%.

Appendix B

Contaminated Soil Investigations and Cleanups on Boyer Towing Property

B1. Dredge Material Characterization (1998)

Source: Hart Crowser 1998b

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Earth and Environmental Technologies

Dredge Material Characterization
Hurlen Construction Company and Boyer Alaska Barge Lines Berthing Areas
Duwamish Waterway
Seattle, Washington

Prepared for
Hurlen Construction Company
and Boyer Alaska Barge Lines

December 17, 1998
J-4902

Table 6 - Analytical Results for Sediment Samples
Boyer Alaska Barge Lines Site

Sample-ID Sample Date	PSDDA SL 1998	PSDDA ML 1998	C5 8/27/98	C6 8/27/98
Conventionals				
Ammonia as Nitrogen in mg/kg			13.1	12.9
Total Sulfide in mg/kg			715	1500
Total Organic Carbon in %			1.04	1.52
Total Volatiles Solids in %			3.34	4.92
Total Solids in %			69.4	65.2
Metals in mg/kg				
Antimony			2.83	3.83
Arsenic	57	700	17	20
Cadmium	5.1	14	0.24	0.48
Chromium			15.2	27
Copper	390	1300	34.4	65.7
Lead	450	1200	33.6	48
Mercury	0.41	2.3	0.08 J	0.18 J
Nickel	140	370	22.9	18.6
Silver	6.1	8.4	0.22	0.42
Zinc	410	3800	84	198
Pore Water TBT in µg/L				
Tri-n-butyltin	0.15		0.05 U	
Pesticide/PCBs in µg/kg				
4,4'-DDD			2 U	3 U
4,4'-DDE			2 U	5 U
4,4'-DDT			2 U	2 U
Total DDT	6.9	69	2 U	5 U
Aldrin	10		2 U	2 U
Chlordane			35 U	35 U
Dieldrin	10		2 U	2 U
Gamma-BHC(Lindane)	10		2 U	2 U
Heptachlor	10		2 U	2 U
Aroclor 1016			10 U	10 U
Aroclor 1221			10 U	10 U
Aroclor 1232			10 U	10 U
Aroclor 1242			10 U	86
Aroclor 1248			10 U	10 U
Aroclor 1254			34	93
Aroclor 1260			20	59
Total PCBs	130	3100	54	238

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Table 6 - Analytical Results for Sediment Samples
Boyer Alaska Barge Lines Site

Sample-ID Sample Date	PSDDA SL 1998	PSDDA ML 1998	C5 8/27/98	C6 8/27/98
LPAHs in µg/kg				
2-Methylnaphthalene	670	1900	10 U	10 U
Acenaphthene	500	2000	33	38
Acenaphthylene	560	1300	10 U	10 U
Anthracene	960	13000	110	140
Fluorene	540	3600	37	52
Naphthalene	2100	2400	10 U	10 U
Phenanthrene	1500	21000	280	410
Total LPAHs	5200	29000	460	640
HPAHs in µg/kg				
Benzo(a)anthracene	1300	5100	410	490
Benzo(a)pyrene	1600	3600	310	430
Benzo(b)fluoranthene			300	10 U
Benzo(k)fluoranthene			230	310
Total Benzofluoranthenes	3200	9900	530	310
Benzo(g,h,i)perylene	670	3200	120	190
Chrysene	1400	21000	400	570
Dibenz(a,h)anthracene	230	1900	32	49
Fluoranthene	1700	30000	1100	1400
Indeno(1,2,3-cd)pyrene	600	4400	240	380
Pyrene	2600	16000	1100	1600
Total HPAHs	12000	69000	4242	5419
Phenols in µg/kg				
2,4-Dimethylphenol			10 U	10 U
2-Methylphenol			10 U	10 U
3- and 4-Methylphenol			10 U	10 U
Pentachlorophenol			50 U	50 U
Phenol			10 U	10 U
Phthalates in µg/kg				
Bis(2-ethylhexyl)phthalate	8300		200	370
Butyl benzyl phthalate	970		10 U	10 U
Di-n-butylphthalate			14	10 U
Di-n-octyl phthalate	6200		10 U	10 U
Diethylphthalate	1200		50 U	50 U
Dimethylphthalate	1400		10 U	10 U
Semivolatiles in µg/kg				
1,2,4-Trichlorobenzene			10 U	10 U
Benzoic Acid			100 U	100 U
Benzyl Alcohol	57	870	50 U	50 U
Dibenzofuran	540	1700	21	24
Hexachlorobenzene	22	230	10 U	10 U

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Table 6 - Analytical Results for Sediment Samples
Boyer Alaska Barge Lines Site

Sample-ID Sample Date	PSDDA SL 1998	PSDDA ML 1998	.C5 8/27/98	C6 8/27/98
Hexachlorobutadiene	29	290	10 U	10 U
Hexachloroethane	1400	14000	10 U	10 U
N-Nitrosodiphenylamine	28	130	10 U	10 U
TPH in mg/kg				
Diesel			25 U	25 U
Gasoline			20 U	20 U
Heavy Fuel Oil			100 U	100 U
Jet Fuel as JP-4			20 U	20 U
Jet Fuel as Jet A			25 U	25 U
Kerosene			25 U	25 U
Lube Oil			100 U	100 U
Mineral Spirits			25 U	25 U
Non-PHC as Diesel			100 U	100 U
PHC as Diesel			100 U	108

Exceeds PSDDA SL.

Exceeds PSDDA ML.

Italicized values represent detection limits greater than PSDDA SL.

U = Not detected.
J = Estimated value.

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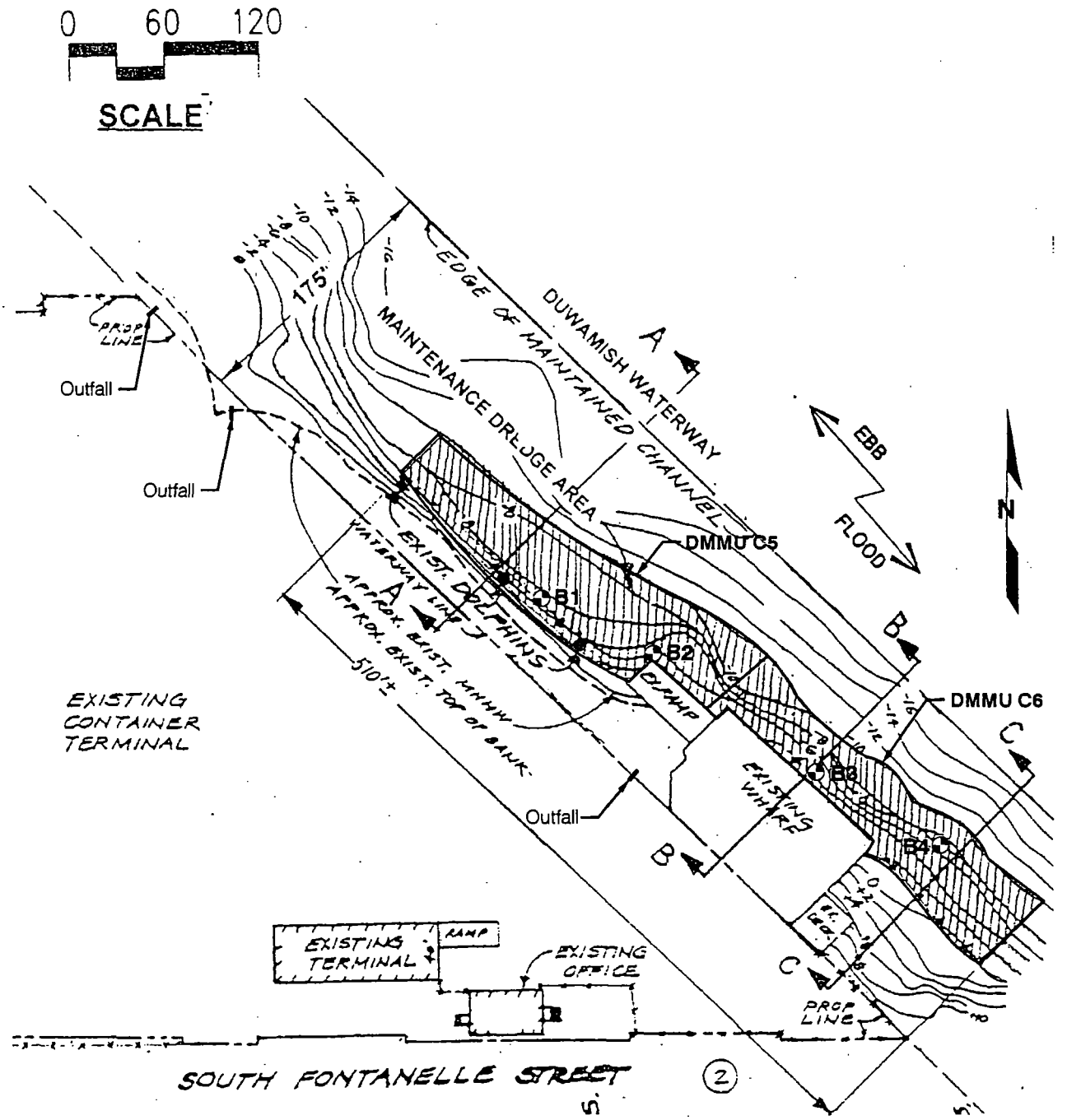
Confirmed Sample Location Plan
Boyer Dredge Area



B2 Discrete Sediment Sampling Location and Number

Approximate Limit of Dredge Area.

Note: 1. Base map based on "Site Plan" Sheet 1 of 2, Boyer Alaska Barge Lines JARPA Application dated 3/04/1998.
2. Outfall locations are approximate.

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J-4902 12/98

Figure 3

B2. Sediment Characterization for Boyer Towing Dock Replacement (2004)

Source: WR Consulting 2004

FINAL SEDIMENT CHARACTERIZATION REPORT

Boyer Towing, Inc. Dock Replacement Seattle, Washington

Prepared for
Boyer Towing, Inc.
by WR Consulting, Inc.

June 25, 2004
Proj. No. 03016

Table 2 - Conventionals and Total Metals Analytical Results for Sediment Samples

	Criteria Marine Ecology SMS SQS(a)								
Lab ID		GP83A	GP83B	GP83D	GP83E	GP83G	GP83H	GP83K	GP83L
Sample ID (WRC-SS-)		B1A-B 0-10	B1A-B 1-2	B2A-B 0-10	B2A-B 1-2	B3A-B 0-10	B3A-B 1-2	B4A-B 0-10	B4A-B 1-2
Conventionals in percent									
Total Organic Carbon		0.905	0.235	1.51	0.129	0.472	0.258	1.45	0.116
Total Solids		71.2	78.9	77.6	89.5	84.2	84.4	80.4	84.7
Total Metals in mg/kg DW									
Arsenic	57	7 U	6 U	20 U	6 U	6 U	5 U	10 U	6 U
Cadmium	5.1	0.3 U	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.6 U	0.2 U
Chromium	260	16.8	11.7	21	11.6	13.3	10	16	11.8
Copper	390	96.8	13.6	67.8	9.7	42.3	10.6	46.2	9.7
Lead	450	21	2 U	27	2 U	19	7.1	17	2 U
Mercury	0.41	0.06 U	0.06 U	0.05 U	0.05 U	0.05 U	0.04 U	0.06 U	0.05
Silver	6.1	0.4 U	0.4 U	1 U	0.3 U	0.3 U	0.3 U	0.9 U	0.4
Zinc	410	65.2	27.8	118	25.6	**479**	23.8	59	25.9

Notes:
(a) Ecology, 1995
Bold indicates concentrations above the SMS SQS screening criteria, but below the SMS CSL cleanup level

Table 3 - Semivolatile Organics (DW) Analytical Results for Sediment Samples

Lab ID	GP83A	GP83B	GP83D	GP83E	GP83G	GP83H	GP83K	GP83L
Sample ID	B1A-B 0-10	B1A-B 1-2	B2A-B 0-10	B2A-B 1-2	B3A-B 0-10	B3A-B 1-2	B4A-B 0-10	B4A-B 1-2
PCBs in ug/kg DW								
Aroclor 1016	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.8 U
Aroclor 1242	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.8 U
Aroclor 1248	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.8 U
Aroclor 1254	5.9	3.9 U	19	3.9 U	9.1	3.9 U	9.1	3.8 U
Aroclor 1260	4.5	3.9 U	12	3.9 U	8.9	3.9 U	5.3	3.8 U
Aroclor 1221	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.8 U
Aroclor 1232	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.8 U
Total PCBs (a)	10	3.9 U	31	3.9 U	18	3.9 U	14	3.8 U
LPAHs in ug/kg DW								
Acenaphthene	58 U	19 U	70 J	19 U	60 U	20 U	170	19 U
Acenaphthylene	58 U	19 U	54 J	19 U	60 U	20 U	57 U	19 U
Anthracene	32 J	19 U	150	19 U	60 U	20 U	180	19 U
Fluorene	58 U	19 U	81	19 U	60 U	20 U	140	19 U
Naphthalene	58 U	19 U	58 U	19 U	60 U	20 U	88	19 U
Phenanthrene	130	19 U	290	19 U	64	20 U	520	19 U
2-Methylnaphthalene	58 U	19 U	58 U	19 U	60 U	20 U	60	19 U
Total LPAH(a)	162	19 U	703	19 U	64	20 U	1158	19 U
HPAHs in ug/kg DW								
Benzo (a) anthracene	110	19 U	430	19 U	44 J	20 U	320	19 U
Benzo (a) pyrene	66	19 U	350	19 U	47 J	20 U	200	19 U
Benzo (b) fluoranthene	130	19 U	600	19 U	69	20 U	290	19 U
Benzo (ghi) perylene	32 J	19 U	86	19 U	60 U	20 U	57 U	19 U
Benzo (k) fluoranthene	51 J	19 U	270	19 U	60 U	20 U	150	19 U
Chrysene	180	19 U	630	19 U	68	20 U	400	19 U
Dibenzo (a,h) anthracene	58 U	19 U	58 U	19 U	60 U	20 U	57 U	19 U
Fluoranthene	340	19 U	920	16 J	110	20 U	800	19 U
Indeno (1,2,3-cd) pyrene	40 J	19 U	120	19 U	60 U	20 U	67	19 U
Pyrene	260	19 U	620	19 U	91	20 U	570	19 U
Total HPAHs(a)	1209	19 U	4026	16 J	429	20 U	2797	19 U
Total PAH(a)	1371	19 U	4729	35 J	493	20 U	3955	19 U
Other Semivolatiles in ug/kg DW								
bis(2-Ethylhexyl)phthalate	58 U	19 U	97	19 U	60 U	20 U	57 U	19 U
Dibenzofuran	58 U	19 U	58 U	19 U	60 U	20 U	91	19 U
Tributyl Tin in ug/kg DW								
Tributyl Tin as Tin ion	5.2 U	5.1 U	5.3 U	5.3 U	5.1 U	5.4 U	5.4 U	5.2 U

Notes:

(a) Total LPAHs, HPAHs, and PCBs are summed in accordance with SMS of all listed detected (not including 2-Methylnapthalene) or the maximum detection limits (for non-detects); total PAHs is the sum of LPAHs and HPAHs

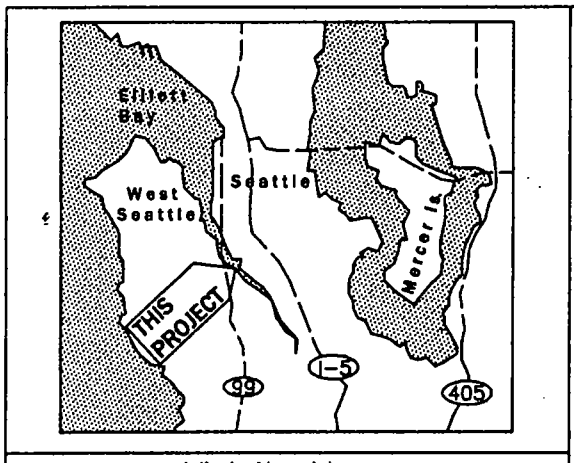
U = chemical not detected above the indicated detection limit

J = estimated chemical concentration detected below the typical detection limit

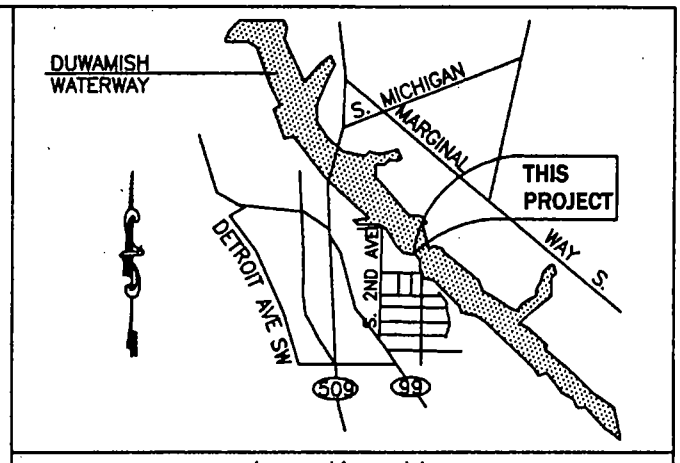
Table 4 - Semivolatile Organics (OC) Analytical Results for Sediment Samples

Lab ID Sample ID	SQS (a) mg/kg OC	GP83A B1A-B 0-10	GP83B B1A-B 1-2	GP83D B2A-B 0-10	GP83E B2A-B 1-2	GP83G B3A-B 0-10	GP83H B3A-B 1-2	GP83K B4A-B 0-10	GP83L B4A-B 1-2
PCBs in mg/kg OC									
Aroclor 1016		0.43 U	1.7 U	0.26 U	3.0 U	0.83 U	1.5 U	0.27 U	3.3 U
Aroclor 1242		0.43 U	1.7 U	0.26 U	3.0 U	0.83 U	1.5 U	0.27 U	3.3 U
Aroclor 1248		0.43 U	1.7 U	0.26 U	3.0 U	0.83 U	1.5 U	0.27 U	3.3 U
Aroclor 1254		0.65	1.7 U	1.3	3.0 U	1.9	1.5 U	0.63	3.3 U
Aroclor 1260		0.50	1.7 U	0.79	3.0 U	1.9	1.5 U	0.37	3.3 U
Aroclor 1221		0.43 U	1.7 U	0.26 U	3.0 U	0.83 U	1.5 U	0.27 U	3.3 U
Aroclor 1232		0.43 U	1.7 U	0.26 U	3.0 U	0.83 U	1.5 U	0.27 U	3.3 U
Total PCBs	12	1.1	1.7 U	2.1	3.0 U	3.8	1.5 U	0.99	3.3 U
LPAHs in mg/kg OC									
Acenaphthene	16	6.4 U	8.1 U	4.6 J	15 U	13 U	7.8 U	12	16 U
Acenaphthylene	66	6.4 U	8.1 U	3.6 J	15 U	13 U	7.8 U	3.9 U	16 U
Anthracene	220	3.5 J	8.1 U	9.9	15 U	13 U	7.8 U	12	16 U
Fluorene	23	6.4 U	8.1 U	5.4	15 U	13 U	7.8 U	9.7	16 U
Naphthalene	99	6.4 U	8.1 U	3.8 U	15 U	13 U	7.8 U	6.1	16 U
Phenanthrene	100	14	8.1 U	19	15 U	14	7.8 U	36	16 U
2-Methylnaphthalene *	38	6.4 U	8.1 U	3.8 U	15 U	13 U	7.8 U	4.1	16 U
Total LPAH(c)	370	18	8.1 U	43	15 U	14	7.8 U	80	16 U
HPAHs in mg/kg OC									
Benzo (a) anthracene	110	12	8.1 U	28	15 U	9.3 J	7.8 U	22	16 U
Benzo (a) pyrene	99	7.3	8.1 U	23	15 U	10 J	7.8 U	14	16 U
Benzo (b) fluoranthene	230	14	8.1 U	40	15 U	15	7.8 U	20	16 U
Benzo (ghi) perylene	31	3.5 J	8.1 U	5.7	15 U	13 U	7.8 U	3.9 U	16 U
Benzo (k) fluoranthene	230	5.6 J	8.1 U	18	15 U	13 U	7.8 U	10	16 U
Chrysene	110	20	8.1 U	42	15 U	14	7.8 U	28	16 U
Dibenzo (a,h) anthracene	12	6.4 U	8.1 U	3.8 U	15 U	13 U	7.8 U	3.9 U	16 U
Fluoranthene	160	38	8.1 U	61	12 J	23	7.8 U	55	16 U
Indeno (1,2,3-cd) pyrene	34	4.4 J	8.1 U	8	15 U	13 U	7.8 U	5	16 U
Pyrene	1000	29	8.1 U	41	15 U	19	7.8 U	39	16 U
Total HPAHs(c)	960	134	8.1 U	267	12 J	91	7.8 U	193	16 U
Total PAH(c)	-	151	8.1 U	309	12 J	104	7.8 U	273	16 U
Other Semivolatiles in mg/kg OC									
bis(2-Ethylhexyl)phthalate	47	6.4 U	8.1 U	6.4	15 U	13 U	7.8 U	3.9 U	16 U
Dibenzofuran	15	6.4 U	8.1 U	3.8 U	15 U	13 U	7.8 U	6.3	16 U

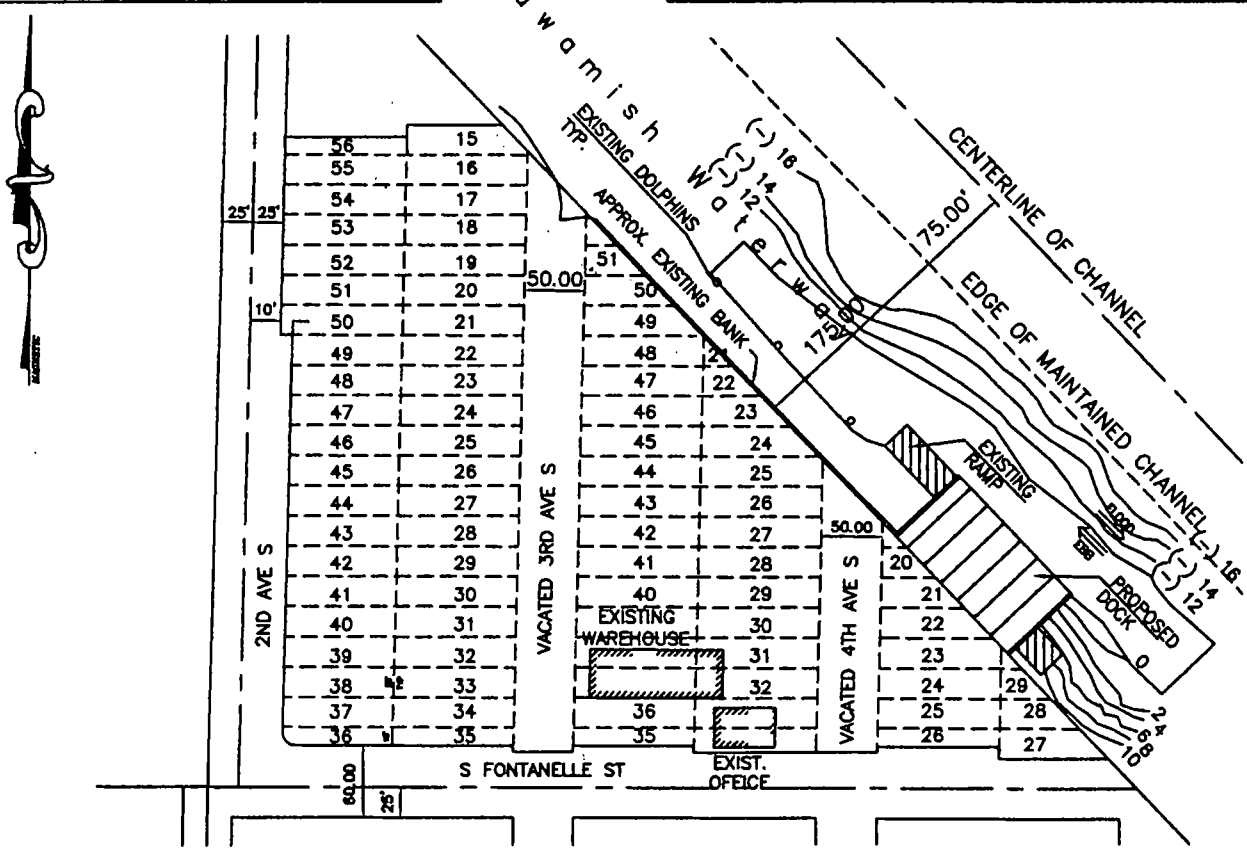
Notes:
(a) Ecology, 1995
(b) Total LPAHs, HPAHs, and PSBs are summed in accordance with SMS of all listed detected (not including 2-Methylnapthalene) or the maximum detection limits (for non-detects); total PAHs is the sum of LPAHs and HPAHs
U = chemical not detected above the indicated detection limit
J = estimated chemical concentration detected below the typical detection limit



Vicinity Map



Location Map



NOTE: THE BEARINGS AND DISTANCES SHOWN ON THIS DRAWING HAVE BEEN SCALED FROM AN EXISTING DRAWING. THE ACCURACY OF DIMENSIONS AND BEARINGS IS APPROXIMATE ONLY.

160 120 80 40 0 80 160 320

SCALE: 1"= 160'

Location	Tidal Information (ft)	
Latitude N47°32'14"	MHHW=	11.1
	MHW=	10.2
Longitude W122°19'42"	MLW=	2.7
	Extreme LW=	(–) 5.0

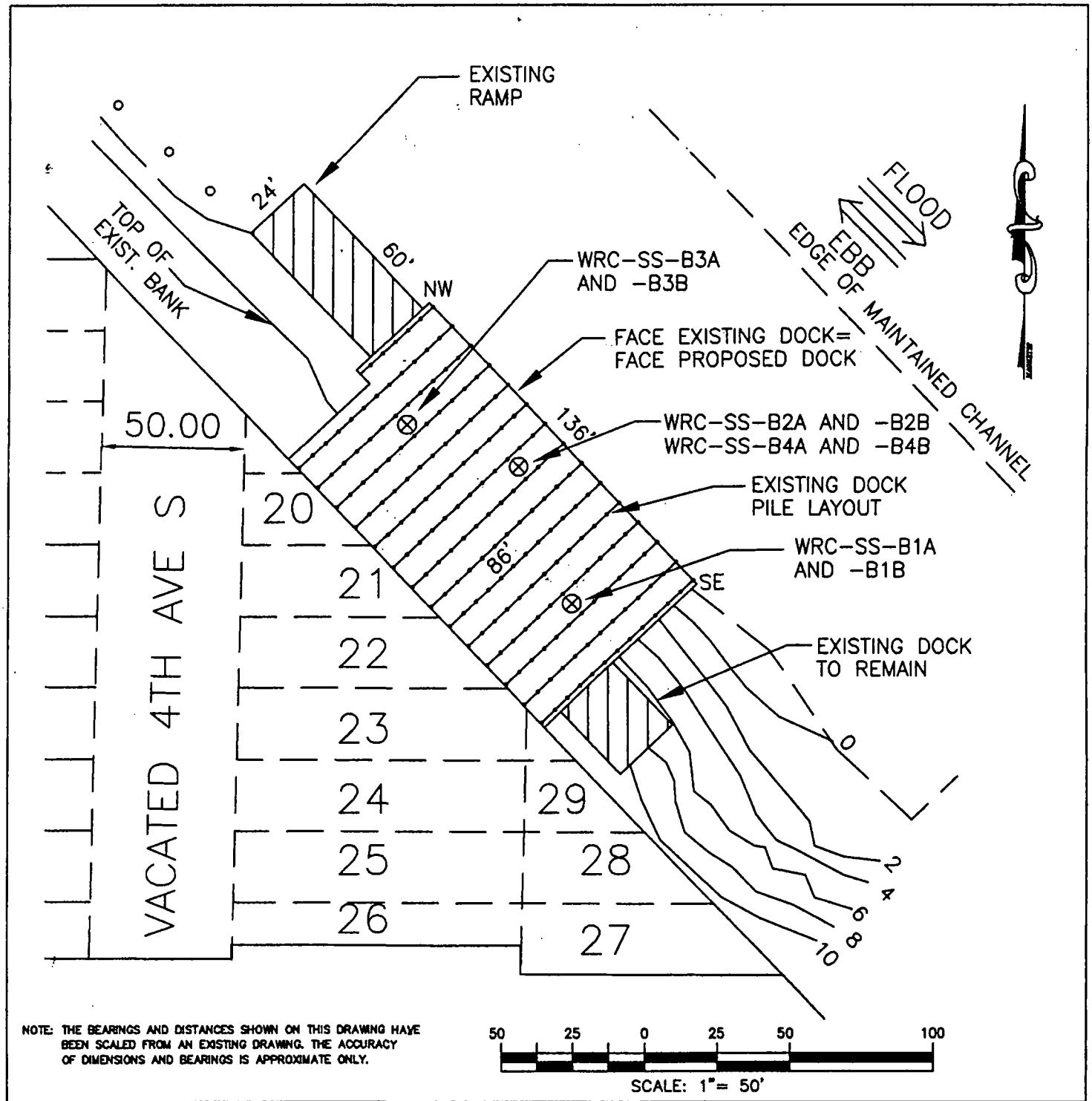
Tidal Datum: 0.0' MLLW (N.O.S.)

WR CONSULTING, INC.
Seattle, WA
Project No. 03016

Modified from original prepared by Tryck, Nyman and Hayes, Inc.

Figure 1
Location Map
June 2004
Boyer Alaska Barge Lines
7318 S. Fourth Ave. Seattle, Wa 98108

PLOT SCALE: PLOT



NOTE: THE BEARINGS AND DISTANCES SHOWN ON THIS DRAWING HAVE BEEN SCALED FROM AN EXISTING DRAWING. THE ACCURACY OF DIMENSIONS AND BEARINGS IS APPROXIMATE ONLY.

Location	Tidal Information (ft)		Legend
Latitude N47°32'14"	MHHW=	11.1	⊗ Core Location
	MHW=	10.2	
Longitude W122°19'42"	MLW=	2.7	Tidal Datum: 0.0' MLLW (N.O.S.)
	Extreme LW=	(–) 5.0	

WR CONSULTING, INC.
Seattle, WA
Project No. 03016

Modified from original prepared by Tryck, Nyman and Hayes, Inc.

Figure 2
Sediment Sample Location Plan
June 2004
Boyer Alaska Barge Lines
7318 S. Fourth Ave. Seattle, Wa 98108

PLOT SCALE: PLOT

B3. SPU Sampling (2003)

Source: SAIC 2007, SPU 2003a

Lower Duwamish Waterway
Early Action Area 2

Summary of Existing Information and Identification of Data Gaps

Prepared for

Toxics Cleanup Program
Northwest Regional Office
Washington State Department of Ecology
Bellevue, Washington

Prepared by

Science Applications International Corporation
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

February 2007

Table B-5
Sediment Sampling Results -- Boyer Towing (Parcels 14 and 15)
Early Action Area 2

Source	Date Sampled	Sample Location	Chemical	Conc'n (mg/kg DW)		SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]	MTCA Cleanup Level[e] (mg/kg)	MTCA Exceedance Factor
SPU 2003d	2/11/2003	Wells1	Aroclor 1254	0.13	Y	NA	NA				NA	
SPU 2003d	2/11/2003	Wells2	Aroclor 1254	0.1	Y	NA	NA				NA	
SPU 2003d	2/11/2003	Wells2	Aroclor 1260	0.12		NA	NA				NA	
SPU 2003d	2/11/2003	Wells1	Aroclor 1260	0.069	Y	NA	NA				NA	
SPU 2003d	2/11/2003	Boyer 1	Aroclor 1260	0.066		NA	NA				NA	
SPU 2003d	2/11/2003	Wells1	Arsenic	30		57	93	mg/kg DW			0.67	44.8
SPU 2003d	2/11/2003	Wells2	Arsenic	20	U	57	93	mg/kg DW			0.67	29.9
SPU 2003d	2/11/2003	Boyer 1	Arsenic	20		57	93	mg/kg DW			0.67	29.9
SPU 2003d	2/11/2003	Wells1	Bis(2-ethylhexyl)phthalate	150		47	78	mg/kg OC	113	68.2	71	2.1
SPU 2003d	2/11/2003	Boyer 1	Bis(2-ethylhexyl)phthalate	53		47	78	mg/kg OC	40.0	24.1	71	
SPU 2003d	2/11/2003	Wells2	Bis(2-ethylhexyl)phthalate	37		47	78	mg/kg OC	27.9	16.8	71	
SPU 2003d	2/11/2003	Boyer 1	Butylbenzylphthalate	10		4.9	64	mg/kg OC	72.4	5.5	16,000	
SPU 2003d	2/11/2003	Wells1	Butylbenzylphthalate	5.3		4.9	64	mg/kg OC	38.4	2.9	16,000	
SPU 2003d	2/11/2003	Wells2	Butylbenzylphthalate	4.1		4.9	64	mg/kg OC	29.7	2.3	16,000	
SPU 2003d	2/11/2003	Wells1	Cadmium	9		5.1	6.7	mg/kg DW	1.8	1.3	2	4.5
SPU 2003d	2/11/2003	Boyer 1	Cadmium	6.3		5.1	6.7	mg/kg DW	1.2		2	3.2
SPU 2003d	2/11/2003	Wells2	Cadmium	5.2		5.1	6.7	mg/kg DW	1.0		2	2.6
SPU 2003d	2/11/2003	Wells1	Copper	527		390	390	mg/kg DW	1.4	1.4	3,000	
SPU 2003d	2/11/2003	Boyer 1	Copper	368		390	390	mg/kg DW			3,000	
SPU 2003d	2/11/2003	Wells2	Copper	312		390	390	mg/kg DW			3,000	
SPU 2003d	2/11/2003	Boyer 1	Diethylphthalate	4.6		61	110	mg/kg OC	2.7	1.5		
SPU 2003d	2/11/2003	Boyer 1	Dimethylphthalate	2.8		53	53	mg/kg OC	1.9	1.9		
SPU 2003d	2/11/2003	Boyer 1	Di-n-butylphthalate	6.3		220	1,700	mg/kg OC			8,000	
SPU 2003d	2/11/2003	Wells2	Di-n-butylphthalate	2		220	1,700	mg/kg OC			8,000	
SPU 2003d	2/11/2003	Wells1	Di-n-butylphthalate	1.6		220	1,700	mg/kg OC			8,000	
SPU 2003d	2/11/2003	Boyer 1	Di-n-octylphthalate	6.1	M	58	4,500	mg/kg OC	3.7		1600	
SPU 2003d	2/11/2003	Wells1	Di-n-octylphthalate	4.2	M	58	4,500	mg/kg OC	2.6		1600	
SPU 2003d	2/11/2003	Wells1	Di-n-octylphthalate	4.1	M	58	4,500	mg/kg OC	2.5		1600	
SPU 2003d	2/11/2003	Wells2	Lead	421		450	530	mg/kg DW			250	1.7
SPU 2003d	2/11/2003	Boyer 1	Lead	308		450	530	mg/kg DW			250	1.2
SPU 2003d	2/11/2003	Wells1	Lead	157		450	530	mg/kg DW			250	
SPU 2003d	2/11/2003	Boyer 1	Mercury	0.13		0.41	0.59	mg/kg DW			24	

Table B-5
Sediment Sampling Results -- Boyer Towing (Parcels 14 and 15)
Early Action Area 2

Source	Date Sampled	Sample Location	Chemical	Conc'n (mg/kg DW)		SQS	CSL	Units	SQS Exceedance Factor[a]	CSL Exceedance Factor[a]	MTCA Cleanup Level[e] (mg/kg)	MTCA Exceedance Factor
SPU 2003d	2/11/2003	Wells1	Mercury	0.12		0.41	0.59	mg/kg DW			24	
SPU 2003d	2/11/2003	Wells2	Mercury	0.1		0.41	0.59	mg/kg DW			24	
SPU 2003d	2/11/2003	Wells2	PCBs (total - calc'd)	0.22		12	65	mg/kg OC			1	
SPU 2003d	2/11/2003	Wells1	PCBs (total - calc'd)	0.2		12	65	mg/kg OC			1	
SPU 2003d	2/11/2003	Boyer 1	PCBs (total - calc'd)	0.066		12	65	mg/kg OC			1	
SPU 2003d	2/11/2003	Wells1	Zinc	2570		410	960	mg/kg DW	6.3	2.7	24,000	
SPU 2003d	2/11/2003	Boyer 1	Zinc	1120		410	960	mg/kg DW	2.7	1.2	24,000	
SPU 2003d	2/11/2003	Wells2	Zinc	729		410	960	mg/kg DW	1.8		24,000	

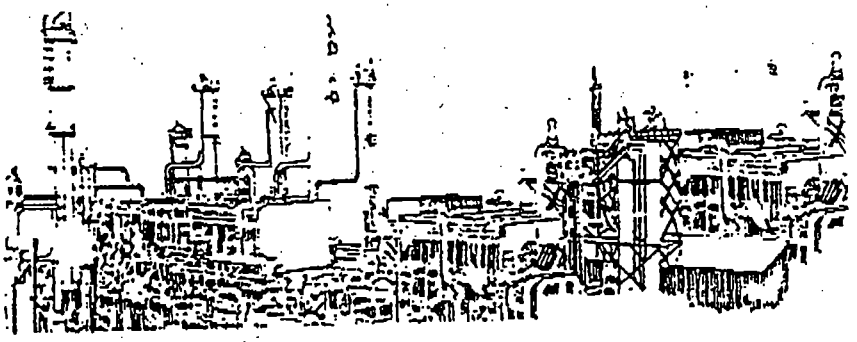
Samples Wells1 and Wells2 were collected from two 55-gallon drums of sediment removed from three catch basins at Parcel 14 (Wells Truck/Trailer Repair)
Sample Boyer1 was collected from the foreboy of the southern-most oil/water separator at Parcel 15 (Boyer Alaska Barge Lines)

Note: No TOC data were available for these samples; to estimate whether concentrations of organics exceed CSL or SQS values, an average TOC for the EAA-2 slip of 2.82% was calculated based on available data from other studies.

Exceedance factors are the ratio of the detected concentration to the CSL or SQS; exceedance factors are shown only if they are greater than or equal to 1.

B4. Soil Sampling, Parcels F and G (1994)

Source: Marsh 1994



MARSH INDUSTRIAL RESEARCH
Site Assessing, Remediation, & Environmental Chemistr

Dan Marsh
Research Chemist

1209 Farallone
Fircrest, WA 98466
Phone (206) 565-5097

Member: Instrument Society of America

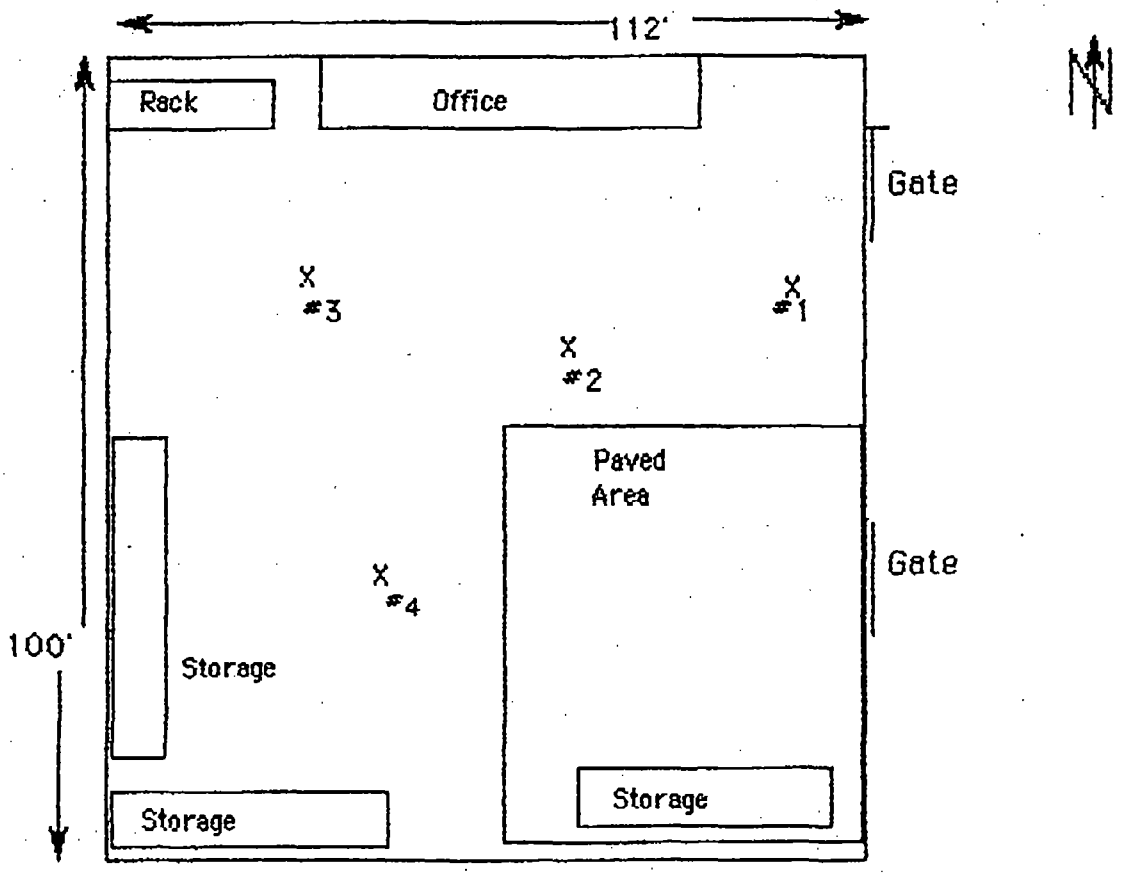
FAX (206) 565-9078

Ray Salter
B&J Truck Wrecking
7225 2nd South
Seattle WA. 98108

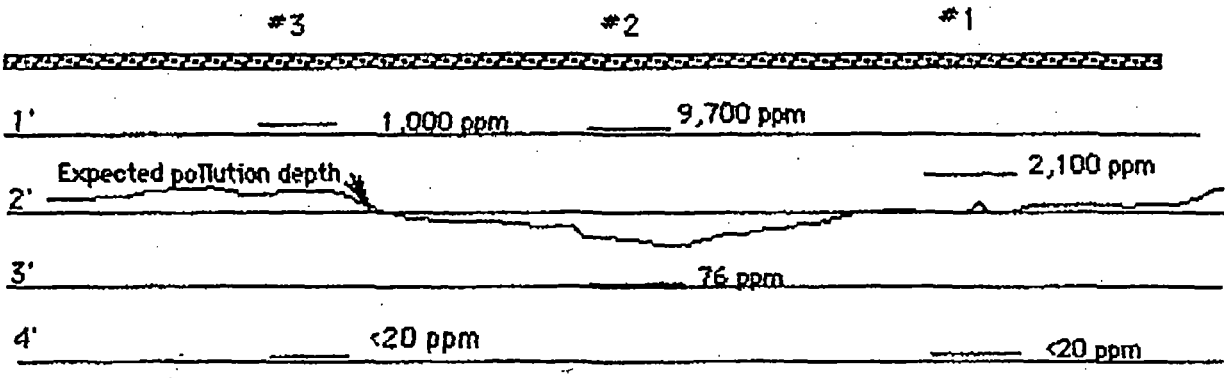
30 September 1994

Subject: Pollution Survey at 7225 2nd South.

On 27 September 1994 we drilled and sampled Four holes on this site to determine if any pollution existed below the graveled surface. The location of the holes was chosen as an approximation of where the pollution was likely to be. The graveled surface was clean indicating excellent recent care has been given to the site for the last few years.



This section west - east across the site shows the pollution depths that we expect. In actual polluted soil removal operations we can be guided by the color of the soil as we excavate - the polluted soil is generally much darker than the underlying sand. Sometimes the excavation will be less than two feet in depth and perhaps sometimes in excess of three feet.



Section from South

Any soil with more than 200 ppm of heavy hydrocarbon contamination such as is found above two feet in depth here is considered to be above the action level and must be removed and replaced.

Prior to this site being occupied By B&J Truck Wrecking Two feet of polluted soil was removed and hauled away but our tests show that this was not enough - We feel that in order to clean this site an average of two feet more would need to be excavated from the entire area . That would yield about 829 yards of soil to be removed. Hole #4 shows some particularly heavily contaminated soilwith 25,000 ppm of hydrocarbons.

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

September 29, 1994

Industrial Research
1209 Farallone
Tacoma WA 98466

Attn: Dan Marsh

Project: B & J Auto Wrecking
Sample Matrix: Soil
Date Sampled: 9-27-94
Date Received: 9-27-94
Spectra Project: S409-175
RUSH

Spectra #	ID	Total Petroleum Hydrocarbons, mg/Kg
10478	BJ 2-1	9,700
10479	BJ 4-10	25,000
10480	BJ 2A-3	76
10481	BJ 4A-3	<20
10482	BJ 3-8	1,000
10483	BJ 1A-1.5	2,100
10484	BJ 1-4	<20
10485	BJ 3A-4	<20

Total Petroleum Hydrocarbons testing performed by WTPH-418.1 Modified

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

B5. Sediment Sampling in Support of Dredging (1993)

Source: Spearman 1993g

JAY W SPEARMAN
CONSULTING ENGINEER

- MARINE
- STRUCTURAL
- ENVIRONMENTAL PERMITS

(206) 820-1739
820-1740
FAX 820-8475
12040 - 98TH AVE. NE. SUITE 200
KIRKLAND, WASHINGTON 98034

FACSIMILE TRANSMISSION SHEET

TO: Boyar	DATE: 6/2/93
ATTN: Bob Endter	TIME:
FAX #: 763-9961	JOB #: 91-33
FROM: Jay	PAGE 1 OF: 3

MESSAGE:

Bob

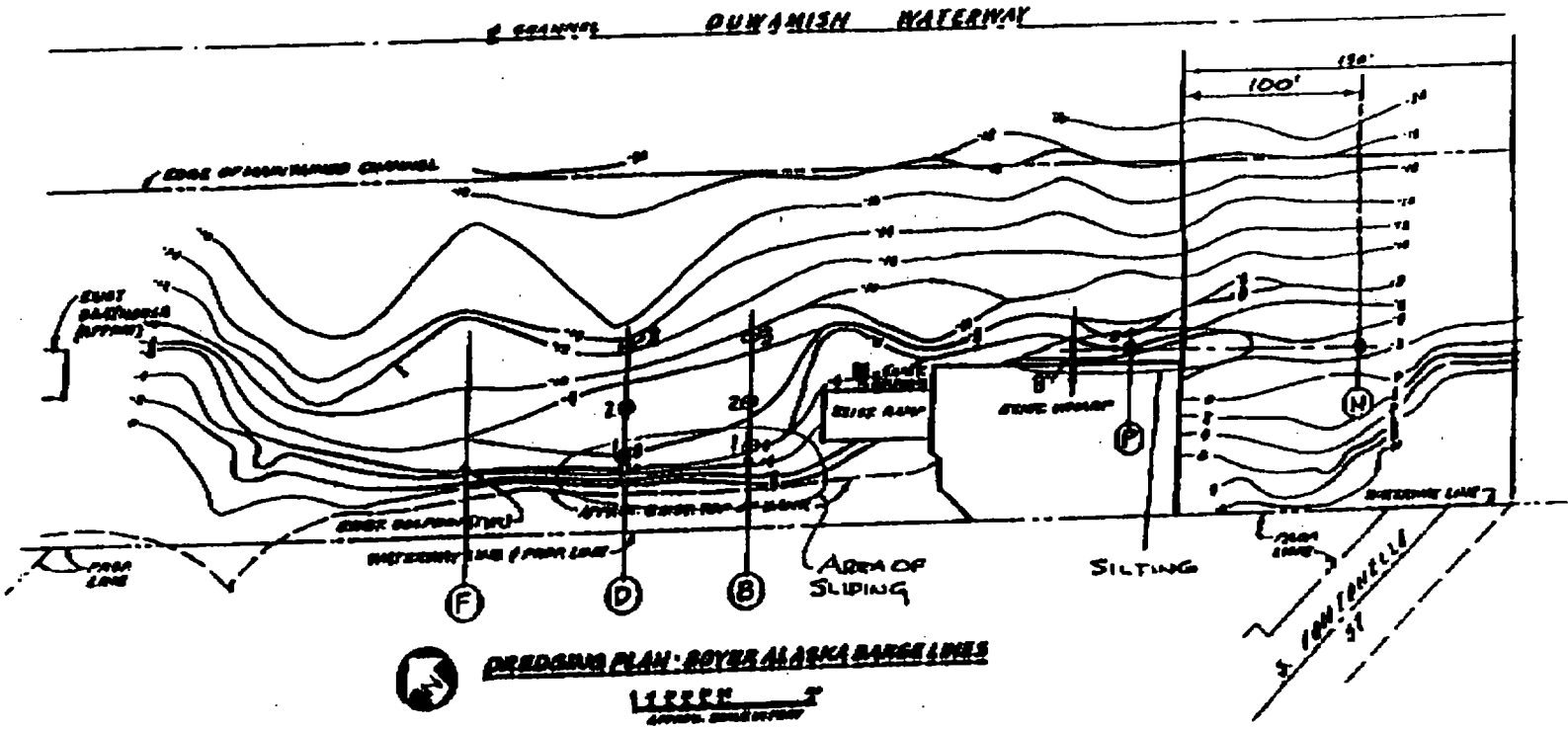
I will send a hard copy of the lab report but here are summaries

(1) Sample site map
(2) Summary of PCB & TPH analysis of latest samples

(3) Results of TCLP metals tests will be furnished tomorrow.

— Jay.

PLEASE RESPOND ___ FOR YOUR INFORMATION ___



DREDGING PLAN: BOYER ALASKA BARGE LINES

SAMPLE LOCATIONS

SAMPLE LOCATION	DISTANCE	FROM
B-1	6' EAST	℄ DOLPHIN
B-2	30' EAST	"
B-3	65' EAST	"
D-1	1' EAST	"
D-2	30' EAST	"
D-3	60' EAST	"
P	8' EAST	FACE OF WHARF
N	8' EAST	

Boyer Alaska Barge Lines		Collection Date: 5/23/93					
SUMMARY TABLE							
		SAMPLE LOCATION					
CHEMICAL	UNITS	B-1	B-2	B-3	D-1	D2	D-3
PCB:							
Aroclor 1016	µ/kg	U	U	U	U	U	U
Aroclor 1221	µ/kg	U	U	U	U	U	U
Aroclor 1232	µ/kg	U	U	U	U	U	U
Aroclor 1242	µ/kg	U	U	U	U	U	U
Aroclor 1248	µ/kg	U	U	U	U	U	U
Aroclor 1254	µ/kg	73	69	55	63	69	66
Aroclor 1260	µ/kg	63	54	72	51	130	59
TPH:							
TPH	mg/kg	290	260	440	240	210	190
% Solids	%	62.5	63.1	67.8	69.0	60.3	60.3
METALS:							
Silver	mg/kg						
Barium	mg/kg						
Cadmium	mg/kg						
Lead	mg/kg						
Chromium	mg/kg						
Selenium	mg/kg						
Arsenic	mg/kg						
Mercury	mg/kg						
Copper	mg/kg						
Nickel	mg/kg						
Zinc	mg/kg						

*U = undetected. See laboratory report for detection limit.

5 123 4567 JAY SPEARMAN ENGINEERING 001 P03