PORTLAND HARBOR RI/FS

REMEDIAL INVESTIGATION REPORT

APPENDIX D4.1
CONTAMINANT SUMMARY STATISTICS FOR TRANSITION ZONE WATER AND SEEPS—TABLES

DRAFT FINAL

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Table D4.1-1. Summary Statistics for Other Contaminants in Transition Zone Water, Differentiated by Sample Method, Filtration, and Sample Depth.

								Detected Concentrations						Detected and Not Detected Concentrations					
Analyte	**Units**	**Sample Method**	**Filtration**	**Sample Depth (cm bml)**	**# Analyzed**	**# Detected**	**% Detected**	**Minimum[a]**	**Maximum[a]**	**Maximum Location(s)**	**Mean**	**Median[b]**	**95th Percentile[b]**	**Minimum (full DL)[a]**	**Maximum (full DL)[a]**	**Mean (half DL)**	**Median (half DL)[b]**	**95th Percentile (half DL)[b]**
Metals																		
Cadmium	µg/L	Peeper	n/a	0-38	35	15	43	0.035 T	36	R2CP01PR	2.64	0.09	12.4	0.004 U	36	R2CP01PR	1.14	0.0385 U	0.855
Cadmium	µg/L	Trident	filtered	0-30	57	36	63	0.006 J	0.52	R2RP03TR	0.0921	0.0543 J	0.298	0.002 U	0.52	R2RP03TR	0.0666	0.041 J	0.277
Cadmium	µg/L	Trident	unfiltered	0-30	60	41	68	0.005 J	0.793	RP03ETR	0.201	0.13	0.699 J	0.005 J	0.793	RP03ETR	0.148	0.0895 J	0.662 J
Cadmium	µg/L	Trident	filtered	60-150	12	9	75	0.004 J	0.289	RP03CTR	0.0818	0.04	0.231	0.004 J	0.289	RP03CTR	0.0754	0.05	0.209
Cadmium	µg/L	Trident	unfiltered	60-150	24	18	75	0.06	1.12	CP07DTR	0.31	0.193 J	0.692	0.025 U	1.12	CP07DTR	0.244	0.135 J	0.605
Cadmium	µg/L	GeoProbe	filtered	0-90	4	3	75	0.009	0.029	GS-B1	0.017	0.013	0.0274	0.007 U	0.029	GS-B1	0.0136	0.011	0.0266
Cadmium	µg/L	GeoProbe	unfiltered	0-90	22	20	91	0.014 J	3.53	GS-B9	1.23	0.505	3.41	0.008 U	3.53	GS-B9	1.12	0.234	3.4
Lead	µg/L	Peeper	n/a	0-38	39	5	13	2.99	18.3	ARC03B	6.83	3.74	15.8	0.11 U	18.3	ARC03B	1.11	0.225 UT	3.94
Lead	µg/L	Trident	filtered	0-30	60	22	37	0.01 J	2.51 J	R2AR03TR	0.432	0.15	1.6	0.01 U	2.51 J	R2AR03TR	0.173	0.03	0.925
Lead	µg/L	Trident	unfiltered	0-30	64	49	77	0.46	99.8 J	R2AR03TR	12.3	5.47	44.1	0.16 U	99.8 J	R2AR03TR	9.51	4.64	27.3
Lead	µg/L	Trident	filtered	60-150	12	5	42	0.018 J	0.62 T	EM03ATR	0.236	0.14	0.552 J	0.01 U	0.62 T	EM03ATR	0.112	0.0375 U	0.433 J
Lead	µg/L	Trident	unfiltered	60-150	24	20	83	0.51	131	AP03ATR	20.2	11.7 J	60.1	0.35 U	131	AP03ATR	16.9	11.3	51.6
Lead	µg/L	GeoProbe	filtered	0-90	4	4	100	0.052	0.144 J	GS-B2	0.0888	0.0795 J	0.137 J	0.052	0.144 J	GS-B2	0.0888	0.0795 J	0.137 J
Lead	µg/L	GeoProbe	unfiltered	0-90	35	23	66	0.155	382 J	GS-B2	97.5	15.7	315 J	0.155	382 J	GS-B2	67.5	10 U	277 J
Mercury	µg/L	Peeper	n/a	0-38	35	0	0	--	--	--	--	--	--	0.08 U	0.09 U	CP07DPR; CP09DPR; R2CP01PR	0.0406	0.04 U	0.045 U
Mercury	µg/L	Trident	filtered	0-30	57	5	9	0.08 J	0.36	GS08DTR	0.18	0.134 J	0.334	0.08 U	0.36	GS08DTR	0.0523	0.04 U	0.107 J
Mercury	µg/L	Trident	unfiltered	0-30	60	11	18	0.08 J	0.495	CP06ATR	0.165	0.115 JT	0.383	0.08 U	0.495	CP06ATR	0.063	0.04 U	0.151 J
Mercury	µg/L	Trident	filtered	60-150	12	0	0	--	--	--	--	--	--	0.08 U	0.08 U	AR01ATR; EM01ATR; EM03ATR; EM04CTR; GN01ETR; GN05ATR; R2AR02TR; RP03CTR; RP03ETR; SL04ATR	0.04	0.04 U	0.04 U
Mercury	µg/L	Trident	unfiltered	60-150	24	9	38	0.09 J	0.293	CP06ATR	0.17	0.19 J	0.274	0.08 U	0.293	CP06ATR	0.0889	0.04 U	0.241
Mercury	µg/L	GeoProbe	filtered	0-90	4	0	0	--	--	--	--	--	--	0.03 U	0.03 U	GS-B1; GS-B2; GS-B4; GS-B5	0.015	0.015 U	0.015 U
Mercury	µg/L	GeoProbe	unfiltered	0-90	22	14	64	0.03 J	2.94	GS-B2	0.778	0.61	2.58	0.03 U	2.94	GS-B2	0.503	0.0825	2.31
Nickel	µg/L	Peeper	n/a	0-38	35	33	94	0.7 J	142	R2CP01PR	10.7	3.95 T	36.9	0.2 UJ	142	R2CP01PR	10.1	3.69	34.6
Nickel	µg/L	Trident	filtered	0-30	57	54	95	0.3 J	25.5	CP06ATR	4.87	2.7 J	16.3	0.3 J	25.5	CP06ATR	4.81	2.7 J	16
Nickel	µg/L	Trident	unfiltered	0-30	60	49	82	0.2 J	55.1 J	RP03ETR	11	7.95 J	27.2 J	0.2 J	55.1 J	RP03ETR	9.35	7.25	24.1 J
Nickel	µg/L	Trident	filtered	60-150	12	10	83	1.7	9.1 J	EM04CTR	3.8	2.95 J	7.36 J	1.4 U	20 U	RP03CTR	4.06	2.95 J	9.51 J
Nickel	µg/L	Trident	unfiltered	60-150	24	20	83	2.9 J	60.5	CP07DTR	19.5	13.8 J	57.7	1.1 UJ	60.5	CP07DTR	16.8	12.7 J	54.8
Nickel	µg/L	GeoProbe	filtered	0-90	4	4	100	1.32	6.36	GS-B5	3.22	2.6	5.92	1.32	6.36	GS-B5	3.22	2.6	5.92
Nickel	µg/L	GeoProbe	unfiltered	0-90	35	29	83	2.38 J	367	GS-B2	68.9	24.1	250	2.38 J	367	GS-B2	57.5	18.9 J	222
Polycyclic Aromatic Hydrocarbons																			
Benzo(a)pyrene	µg/L	Peeper	n/a	0-38	24	3	12	0.0076 J	0.082	GS01BPR	0.0352	0.016 J	0.0754 J	0.0028 U	0.082	GS01BPR	0.00643	0.00155 U	0.0147 J
Benzo(a)pyrene	µg/L	Trident	filtered	0-30	39	4	10	0.0063 J	0.11	GS02ATR	0.0494	0.0407 J	0.105	0.0018 U	0.11	GS02ATR	0.00663	0.0012 U	0.0133 J
Benzo(a)pyrene	µg/L	Trident	unfiltered	0-30	42	22	52	0.0025 J	3	GS02ATR	0.402	0.0815	2.63	0.0021 U	3	GS02ATR	0.215	0.019 U	1.16 J
Benzo(a)pyrene	µg/L	Trident	filtered	60-150	4	0	0	--	--	--	--	--	--	0.0021 U	0.0029 U	R2AR02TR	0.0012	0.00115 U	0.00141 U
Benzo(a)pyrene	µg/L	Trident	unfiltered	60-150	10	5	50	0.039 J	4.4	GS08DTR	1.41	0.17	3.98	0.0047 U	4.4	GS08DTR	0.708	0.0225 J	3.46
Benzo(a)pyrene	µg/L	GeoProbe	unfiltered	0-90	34	33	97	0.0047 J	50	GS-B2	9.25	3.09	38.7 J	0.0043 U	50	GS-B2	8.98	2.95	38.6 J
Naphthalene	µg/L	Peeper	n/a	0-38	43	18	42	0.048	250	GS01BPR	15	0.705 J	41.5	0.015 U	250	GS01BPR	6.79	0.145 U	4.67
Naphthalene	µg/L	Trident	filtered	0-30	39	8	21	0.23	1100	GS02ATR	276	0.89	1100	0.015 U	1100	GS02ATR	56.6	0.04 U	113
Naphthalene	µg/L	Trident	unfiltered	0-30	70	23	33	0.24	3100	GS07BTR	229	0.6 J	1090	0.0063 U	3100	GS07BTR	75.3	0.145 U	20.2
Naphthalene	µg/L	Trident	filtered	60-150	4	0	0	--	--	--	--	--	--	0.035 U	0.18 U	AR01ATR	0.0443	0.0348 U	0.0822 U
Naphthalene	µg/L	Trident	unfiltered	60-150	25	11	44	0.31	32	SL04ATR	8.46	3.1	30.5	0.035 U	150 U	AP03ATR	7.08	0.31	31.4
Naphthalene	µg/L	GeoProbe	unfiltered	0-90	63	54	86	0.012 J	13700	GP73	1660	14.3	12200	0.003 U	13700	GP73	1420	5.29	12100
Naphthalene	µg/L	GeoProbe	unfiltered	91	24	22	92	1.58	11200	GP76	1360	233	3520	1 U	11200	GP76	1250	103	3450
Phenanthrene	µg/L	Peeper	n/a	0-38	24	22	92	0.012 J	34	SL04FPR	4.94	0.67	16	0.012 J	34	SL04FPR	4.53	0.365	15.9
Phenanthrene	µg/L	Trident	filtered	0-30	39	21	54	0.084	21	GS02ATR	5.35	3.4	19	0.004 U	21	GS02ATR	2.91	0.13	14.5
Phenanthrene	µg/L	Trident	unfiltered	0-30	42	23	55	0.14	79	GS07BTR	15.3	7.7	49.5	0.0066 U	79	GS07BTR	8.45	0.26	45
Phenanthrene	µg/L	Trident	filtered	60-150	4	3	75	0.14	7.3	EM03ATR	2.61	0.39	6.61	0.11 U	7.3	EM03ATR	1.97	0.265	6.26
Phenanthrene	µg/L	Trident	unfiltered	60-150	10	6	60	1.9	110	GS08DTR	36.2	14.5	98.8	0.084 U	110	GS08DTR	21.7	6.45	89.7
Phenanthrene	µg/L	GeoProbe	unfiltered	0-90	35	35	100	0.0087 J	520	GS-B2	74.2	19	277	0.0087 J	520	GS-B2	74.2	19	277
Total cPAHs	µg/L	Peeper	n/a	0-38	24	16	67	0.0047 JT	0.57 JT	GS01BPR	0.0826	0.046 J	0.255 J	0.0037 UT	0.57 JT	GS01BPR	0.0557	0.0145 J	0.147 J
Total cPAHs	µg/L	Trident	filtered	0-30	39	11	28	0.0033 JT	0.84 JT	GS02ATR	0.166	0.027 JT	0.74 J	0.0024 UT	0.84 JT	GS02ATR	0.0488	0.0033 UT	0.235 J
Total cPAHs	µg/L	Trident	unfiltered	0-30	42	29	69	0.0025 JT	18 T	GS02ATR	1.73	0.19 T	11.7	0.0025 JT	18 T	GS02ATR	1.2	0.0645 J	7.96 J
Total cPAHs	µg/L	Trident	filtered	60-150	4	2	50	0.0072 JT	0.018 JT	EM03ATR	0.0126	0.0126 J	0.0175 J	0.0031 UT	0.018 JT	EM03ATR	0.00716	0.00455 J	0.0164 J
Total cPAHs	µg/L	Trident	unfiltered	60-150	10	5	50	0.11 JT	25 T	GS08DTR	8.16	0.99 JT	22.8	0.015 UT	25 T	GS08DTR	4.09	0.0648 J	20.1
Total cPAHs	µg/L	GeoProbe	unfiltered	0-90	35	35	100	0.0047 JT	300 T	GS-B2	44	14 T	176 J	0.0047 JT	300 T	GS-B2	44	14 T	176 J
Total HPAHs	µg/L	Peeper	n/a	0-38	24	24	100	0.037 JT	7.6 JT	GS01BPR	1.57	0.508 J	5.33 J	0.037 JT	7.6 JT	GS01BPR	1.57	0.508 J	5.33 J
Total HPAHs	µg/L	Trident	filtered	0-30	39	19	49	0.0064 JT	5.77 JT	GS02ATR	1.45	1.1 T	5.49 J	0.0064 JT	5.77 JT	GS02ATR	0.72	0.049 UT	2.46 J
Total HPAHs	µg/L	Trident	unfiltered	0-30	42	33	79	0.0025 JT	67.9 T	GS02ATR	8.13	2.3 T	55.2 J	0.0025 JT	67.9 T	GS02ATR	6.41	0.492	47.5 J
Total HPAHs	µg/L	Trident	filtered	60-150	4	2	50	0.307 JT	2.26 JT	EM03ATR	1.28	1.28 J	2.16 J	0.042 UT	2.26 JT	EM03ATR	0.654	0.167 J	1.97 J
Total HPAHs	µg/L	Trident	unfiltered	60-150	10	7	70	0.144 JT	109 T	GS08DTR	26	3.99 JT	93.5	0.144 JT	109 T	GS08DTR	18.3	2.74	85.8
Total HPAHs	µg/L	GeoProbe	unfiltered	0-90	35	35	100	0.022 JT	880 T	GS-B2	121	41 T	462 J	0.022 JT	880 T	GS-B2	121	41 T	462 J
Total LPAHs	µg/L	Peeper	n/a	0-38	24	24	100	0.044 JT	290 T	GS01BPR	38.5	7.41 J	172 J	0.044 JT	290 T	GS01BPR	38.5	7.41 J	172 J

Table D4.1-1. Summary Statistics for Other Contaminants in Transition Zone Water, Differentiated by Sample Method, Filtration, and Sample Depth.

								Detected Concentrations						Detected and Not Detected Concentrations					
Analyte	**Units**	**Sample Method**	**Filtration**	**Sample Depth (cm bml)**	**# Analyzed**	**# Detected**	**% Detected**	**Minimum[a]**	**Maximum[a]**	**Maximum Location(s)**	**Mean**	**Median[b]**	**95th Percentile[b]**	**Minimum (full DL)[a]**	**Maximum (full DL)[a]**	**Mean (half DL)**	**Median (half DL)[b]**	**95th Percentile (half DL)[b]**
Total LPAHs	µg/L	Trident	filtered	0-30	39	37	95	0.0031 JT	1190 T	GS02ATR	76.5	1.97 JT	312	0.0031 JT	1190 T	GS02ATR	72.6	1.62 JT	202
Total LPAHs	µg/L	Trident	unfiltered	0-30	42	38	90	0.065 T	3430 T	GS07BTR	175	3.8	1160	0.016 UT	3430 T	GS07BTR	159	2.55 J	1090
Total LPAHs	µg/L	Trident	filtered	60-150	4	4	100	0.182 JT	13.5 JT	EM03ATR	3.69	0.539 J	11.6 J	0.182 JT	13.5 JT	EM03ATR	3.69	0.539 J	11.6 J
Total LPAHs	µg/L	Trident	unfiltered	60-150	10	10	100	0.61 T	321 T	GS08DTR	72.4	12.6 J	260	0.61 T	321 T	GS08DTR	72.4	12.6 J	260
Total LPAHs	µg/L	GeoProbe	unfiltered	0-90	35	35	100	0.014 JT	14600 JA	GP73	2170	96 JA	12600 J	0.014 JT	14600 JA	GP73	2170	96 JA	12600 J
Petroleum																			
Total Petroleum Hydrocarbons (Diesel)	µg/L	Peeper	n/a	0-38	21	5	24	190 J	1300 J	SL04FPR	794	840 J	1240 J	88 U	1300 J	SL04FPR	270	130 U	1000 J
Total Petroleum Hydrocarbons (Diesel)	µg/L	Trident	filtered	0-30	36	27	75	26 J	3600 J	GS02ATR	757	370	2880 J	26 J	3600 J	GS02ATR	587	320 J	2250 J
Total Petroleum Hydrocarbons (Diesel)	µg/L	Trident	unfiltered	0-30	38	30	79	210 J	6100 J	GS07BTR	1070	540 J	3470 J	22 U	6100 J	GS07BTR	859	443 J	3350 J
Total Petroleum Hydrocarbons (Diesel)	µg/L	Trident	filtered	60-150	5	5	100	440 J	1100 J	EM04CTR	674	600 J	1020 J	440 J	1100 J	EM04CTR	674	600 J	1020 J
Total Petroleum Hydrocarbons (Diesel)	µg/L	Trident	unfiltered	60-150	10	10	100	240 J	3600 J	EM01ATR	1310	710 J	3240 J	240 J	3600 J	EM01ATR	1310	710 J	3240 J
Total Petroleum Hydrocarbons (Residual)	µg/L	Peeper	n/a	0-38	21	3	14	61 J	340 J	AR04BPR	161	82 J	314 J	46 U	340 J	AR04BPR	58.2	39 U	125 U
Total Petroleum Hydrocarbons (Residual)	µg/L	Trident	filtered	0-30	36	15	42	83 J	710 J	R2KM01TR	280	240 J	563 J	34 U	710 J	R2KM01TR	152	93 J	470 J
Total Petroleum Hydrocarbons (Residual)	µg/L	Trident	unfiltered	0-30	38	20	53	110 J	1200 J	GS07BTR	427	295 J	830 J	38 U	1200 J	GS07BTR	269	170 J	802 J
Total Petroleum Hydrocarbons (Residual)	µg/L	Trident	filtered	60-150	5	1	20	380 J	380 J	AR01ATR	380	380 J	380 J	210 U	380 J	AR01ATR	166	115 U	328 J
Total Petroleum Hydrocarbons (Residual)	µg/L	Trident	unfiltered	60-150	10	4	40	170 J	700 J	GS08DTR	513	590 J	697 J	170 J	700 J	GS08DTR	284	153 J	691 J
Total Petroleum Hydrocarbons	µg/L	Peeper	n/a	0-38	21	13	62	19 JT	2350 JT	SL04FPR	732	340 JT	2060 J	19 JT	2350 JT	SL04FPR	481	95 UT	1860 JT
Total Petroleum Hydrocarbons	µg/L	Trident	filtered	0-30	36	28	78	26 JT	4100 JT	GS02ATR	880	505 J	3260 J	26 JT	4100 JT	GS02ATR	700	387 J	2690 J
Total Petroleum Hydrocarbons	µg/L	Trident	unfiltered	0-30	38	34	89	13 JT	11300 JT	GS07BTR	1570	694 J	5740 J	13 JT	11300 JT	GS07BTR	1410	637 J	5660 J
Total Petroleum Hydrocarbons	µg/L	Trident	filtered	60-150	5	5	100	540 JT	1100 JT	EM04CTR	750	690 JT	1040 J	540 JT	1100 JT	EM04CTR	750	690 JT	1040 J
Total Petroleum Hydrocarbons	µg/L	Trident	unfiltered	60-150	10	10	100	410 JT	5200 JT	GS08DTR	1930	1370 J	4730 J	410 JT	5200 JT	GS08DTR	1930	1370 J	4730 J

Notes:

[a] Whenever several result values match maximum or minimum value, qualifier and descriptor preference has been given in the following order: U over J over A over N over T over no qualification.

[b] Median is the exact result value ranking as the 0.50 percentile in an ascending list of all results, and 95th percentile is the exact result value of the 0.95 ranking result. When the ascending list of all results doesn't produce an exact match to the corresponding percentile rank, average of two adjacent results ranking closest to 0.50 percentile is the median, and an interpolated value is the 95th percentile. Such median or 95th percentile value is not qualified. It is qualified with "U" if both results ranking immediately above and below the corresponding percentile are "U" qualified, and with "J" if at least one of the results is "J" qualified.

-- data not available.
bml - below mudline
cPAH - carcinogenic polycyclic aromatic hydrocarbon
DL - detection limit
HPAH - high molecular weight polycyclic aromatic hydrocarbon
LPAH - low molecular weight polycyclic aromatic hydrocarbon
n/a - not applicable

Reason codes for qualifiers:
J - The associated numerical value is an estimated quantity.
N - Presumptive evidence of presence of material; identification of the compound is not definitive.
U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

Reason codes for descriptors:
A - Total value based on limited number of analytes
T - The associated numerical value was mathematically derived (e.g., from summing multiple analyte results such as Aroclors, or calculating the average of multiple results for a single analyte). Also indicates all results that are selected for reporting in preference to other available results (e.g., for parameters reported by multiple methods) for the Round 2 data.

Table D4.1-2 Summary Statistics for Other Contaminants in Seeps.

							Detected Concentrations					Detected and Not Detected Concentrations				
Analyte	**Units**	**Seep ID**	**Fraction**	**# Analyzed**	**# Detected**	**% Detected**	**Minimum[a]**	**Maximum[a]**	**Mean**	**Median[b]**	**95th Percentile[b]**	**Minimum (full DL)[a]**	**Maximum (full DL)[a]**	**Mean (half DL)**	**Median (half DL)[b]**	**95th Percentile (half DL)[b]**
Metals																
Cadmium	µg/L	WLCGND05SEEP01	total	2	0	0	--	--	--	--	--	1 U	1 U	0.5	0.5 U	0.5 U
Cadmium	µg/L	WLCGND05SEEP02	total	2	2	100	1.72	1.81	1.77	1.77	1.81	1.72	1.81	1.77	1.77	1.81
Cadmium	µg/L	WLCGND05SEEP03	total	2	0	0	--	--	--	--	--	1 U	1 U	0.5	0.5 U	0.5 U
Cadmium	µg/L	WLCRPI04OF22B	total	2	1	50	0.122	0.122	0.122	0.122	0.122	0.122	0.138 U	0.0955	0.0955	0.119
Cadmium	µg/L	WLCRPI04OF22C	total	4	0	0	--	--	--	--	--	0.0071 U	0.138 U	0.0364	0.0365 U	0.0641 U
Cadmium	µg/L	WLCRPI04OF22B	dissolved	1	0	0	--	--	--	--	--	0.138 U	0.138 U	0.069	0.069 U	0.069 U
Cadmium	µg/L	WLCRPI04OF22C	dissolved	2	0	0	--	--	--	--	--	0.073 U	0.073 U	0.0365	0.0365 U	0.0365 U
Lead	µg/L	WLCGND05SEEP01	total	2	2	100	21.2	42.1	31.7	31.7	41.1	21.2	42.1	31.7	31.7	41.1
Lead	µg/L	WLCGND05SEEP02	total	2	2	100	331	371	351	351	369	331	371	351	351	369
Lead	µg/L	WLCGND05SEEP03	total	2	2	100	35	802	419	419	764	35	802	419	419	764
Lead	µg/L	WLCRPI04OF22B	total	5	4	80	0.64	14	5.67	4.03	12.7	0.64	14	5.04	2.97	12.2
Lead	µg/L	WLCRPI04OF22C	total	4	2	50	0.63	1.69	1.16	1.16	1.64	0.082 U	1.69	0.618	0.371	1.53
Lead	µg/L	WLCRPI04OF22B	dissolved	1	0	0	--	--	--	--	--	0.224 U	0.224 U	0.112	0.112 U	0.112 U
Lead	µg/L	WLCRPI04OF22C	dissolved	2	2	100	0.18	0.45	0.315	0.315	0.437	0.18	0.45	0.315	0.315	0.437
Mercury	µg/L	WLCGND05SEEP01	total	2	0	0	--	--	--	--	--	0.2 U	0.2 U	0.1	0.1 U	0.1 U
Mercury	µg/L	WLCGND05SEEP02	total	2	2	100	0.5	0.676	0.588	0.588	0.667	0.5	0.676	0.588	0.588	0.667
Mercury	µg/L	WLCGND05SEEP03	total	2	0	0	--	--	--	--	--	0.2 U	0.2 U	0.1	0.1 U	0.1 U
Mercury	µg/L	WLCRPI04OF22B	total	2	1	50	0.00632	0.00632	0.00632	0.00632	0.00632	0.00632	0.131 U	0.0359	0.0359	0.0625
Mercury	µg/L	WLCRPI04OF22C	total	4	1	25	0.005	0.005	0.005	0.005	0.005	0.005	0.131 U	0.0268	0.0183	0.0604 U
Mercury	µg/L	WLCRPI04OF22B	dissolved	1	0	0	--	--	--	--	--	0.00107 U	0.00107 U	0.000535	0.000535 U	0.000535 U
Mercury	µg/L	WLCRPI04OF22C	dissolved	2	1	50	0.0075	0.0075	0.0075	0.0075	0.0075	0.00375 U	0.0075	0.00469	0.00469	0.00722
Nickel	µg/L	WLCGND05SEEP01	total	2	2	100	5.18	12.8	8.99	8.99	12.4	5.18	12.8	8.99	8.99	12.4
Nickel	µg/L	WLCGND05SEEP02	total	2	2	100	28.3	43.7	36	36	42.9	28.3	43.7	36	36	42.9
Nickel	µg/L	WLCGND05SEEP03	total	2	2	100	2.05	14.4	8.23	8.23	13.8	2.05	14.4	8.23	8.23	13.8
Nickel	µg/L	WLCRPI04OF22B	total	2	2	100	2.2 J	2.62	2.41	2.41 J	2.6 J	2.2 J	2.62	2.41	2.41 J	2.6 J
Nickel	µg/L	WLCRPI04OF22C	total	4	4	100	1.06 J	2.23	1.66	1.67	2.15	1.06 J	2.23	1.66	1.67	2.15
Nickel	µg/L	WLCRPI04OF22B	dissolved	1	1	100	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44
Nickel	µg/L	WLCRPI04OF22C	dissolved	2	2	100	1.4	1.56	1.48	1.48	1.55	1.4	1.56	1.48	1.48	1.55
Pesticides																
gamma-Hexachlorocyclohexane (Lindane)	µg/L	WLCRPI04OF22B	total	3	0	0	--	--	--	--	--	0.00732 U	0.05 U	0.0179	0.025 U	0.025 U
gamma-Hexachlorocyclohexane (Lindane)	µg/L	WLCRPI04OF22C	total	4	1	25	0.0143 N	0.0143 N	0.0143	0.0143 N	0.0143 N	0.00472 U	0.05 U	0.012	0.0103	0.0234
PAHs																
Benzo(a)pyrene	µg/L	WLCGND05SEEP01	total	1	0	0	--	--	--	--	--	0.1 U	0.1 U	0.05	0.05 U	0.05 U
Benzo(a)pyrene	µg/L	WLCGND05SEEP02	total	2	1	50	0.1	0.1	0.1	0.1	0.1	0.1	0.2 U	0.1	0.1	0.1
Benzo(a)pyrene	µg/L	WLCRPI04OF22B	total	2	0	0	--	--	--	--	--	0.0465 U	0.05 U	0.0241	0.0241 U	0.0249 U
Benzo(a)pyrene	µg/L	WLCRPI04OF22C	total	4	0	0	--	--	--	--	--	0.0451 U	0.05 U	0.0244	0.025 U	0.025 U
Naphthalene	µg/L	WLCGND05SEEP01	total	1	0	0	--	--	--	--	--	0.1 U	0.1 U	0.05	0.05 U	0.05 U
Naphthalene	µg/L	WLCGND05SEEP02	total	2	0	0	--	--	--	--	--	0.1 U	0.2 U	0.075	0.075 U	0.0975 U
Naphthalene	µg/L	WLCGND05SEEP03	total	2	0	0	--	--	--	--	--	2 U	2 U	1	1 U	1 U
Naphthalene	µg/L	WLCRPI04OF22B	total	2	1	50	0.132	0.132	0.132	0.132	0.132	0.0989 U	0.132	0.0907	0.0907	0.128
Naphthalene	µg/L	WLCRPI04OF22C	total	4	4	100	0.39	7.18	2.9	2.02	6.61	0.39	7.18	2.9	2.02	6.61
Phenanthrene	µg/L	WLCGND05SEEP01	total	1	0	0	--	--	--	--	--	0.1 U	0.1 U	0.05	0.05 U	0.05 U
Phenanthrene	µg/L	WLCGND05SEEP02	total	2	2	100	0.238	0.256	0.247	0.247	0.255	0.238	0.256	0.247	0.247	0.255
Phenanthrene	µg/L	WLCRPI04OF22B	total	2	2	100	0.139 N	0.175	0.157	0.157	0.173	0.139 N	0.175	0.157	0.157	0.173
Phenanthrene	µg/L	WLCRPI04OF22C	total	4	3	75	0.243	1.05	0.657	0.679	1.01	0.05 U	1.05	0.499	0.461	0.994
Total cPAHs	µg/L	WLCGND05SEEP01	total	1	0	0	--	--	--	--	--	0.2 UT	0.2 UT	0.1	0.1 UT	0.1 UT
Total cPAHs	µg/L	WLCGND05SEEP02	total	2	2	100	0.79 T	0.92 T	0.855	0.855	0.914	0.79 T	0.92 T	0.855	0.855	0.914
Total cPAHs	µg/L	WLCRPI04OF22B	total	2	0	0	--	--	--	--	--	0.0465 UT	0.1 UT	0.0366	0.0366 U	0.0487 U
Total cPAHs	µg/L	WLCRPI04OF22C	total	4	0	0	--	--	--	--	--	0.0451 UT	0.1 UT	0.0431	0.05 U	0.05 U
Total HPAHs	µg/L	WLCGND05SEEP01	total	1	0	0	--	--	--	--	--	0.2 UT	0.2 UT	0.1	0.1 UT	0.1 UT
Total HPAHs	µg/L	WLCGND05SEEP02	total	2	2	100	2.65 T	3.5 T	3.08	3.08	3.46	2.65 T	3.5 T	3.08	3.08	3.46
Total HPAHs	µg/L	WLCRPI04OF22B	total	2	1	50	0.229 T	0.229 T	0.229	0.229 T	0.229 T	0.15 UT	0.229 T	0.152	0.152	0.221
Total HPAHs	µg/L	WLCRPI04OF22C	total	4	4	100	0.127 T	4.14 T	2.07	2.01 J	3.92 J	0.127 T	4.14 T	2.07	2.01 J	3.92 J
Total LPAHs	µg/L	WLCGND05SEEP01	total	1	0	0	--	--	--	--	--	0.1 UA	0.1 UA	0.05	0.05 UA	0.05 UA
Total LPAHs	µg/L	WLCGND05SEEP02	total	2	2	100	0.539 JA	1.03 JA	0.785	0.785 J	1.01 J	0.539 JA	1.03 JA	0.785	0.785 J	1.01 J
Total LPAHs	µg/L	WLCRPI04OF22B	total	2	2	100	0.4 T	0.859 NJT	0.63	0.63 J	0.836 J	0.4 T	0.859 NJT	0.63	0.63 J	0.836 J
Total LPAHs	µg/L	WLCRPI04OF22C	total	4	4	100	0.618 T	40.3 JT	21.2	21.9 J	38.6 J	0.618 T	40.3 JT	21.2	21.9 J	38.6 J

Table D4.1-2 Summary Statistics for Other Contaminants in Seeps.

							Detected Concentrations					Detected and Not Detected Concentrations				
Analyte	**Units**	**Seep ID**	**Fraction**	**# Analyzed**	**# Detected**	**% Detected**	**Minimum[a]**	**Maximum[a]**	**Mean**	**Median[b]**	**95th Percentile[b]**	**Minimum (full DL)[a]**	**Maximum (full DL)[a]**	**Mean (half DL)**	**Median (half DL)[b]**	**95th Percentile (half DL)[b]**
Phthalates																
Butylbenzyl phthalate	µg/L	WLCGND05SEEP01	total	2	0	0	--	--	--	--	--	0.5 U	0.5 U	0.25	0.25 U	0.25 U
Butylbenzyl phthalate	µg/L	WLCGND05SEEP02	total	2	0	0	--	--	--	--	--	0.5 U	0.5 U	0.25	0.25 U	0.25 U
Butylbenzyl phthalate	µg/L	WLCGND05SEEP03	total	2	0	0	--	--	--	--	--	0.5 U	0.5 U	0.25	0.25 U	0.25 U
Butylbenzyl phthalate	µg/L	WLCRPI04OF22B	total	2	0	0	--	--	--	--	--	1.85 U	3 U	1.21	1.21 U	1.47 U
Butylbenzyl phthalate	µg/L	WLCRPI04OF22C	total	3	0	0	--	--	--	--	--	1.79 U	3 U	1.3	1.5 U	1.5 U
Semivolatile Organics																
Hexachlorobenzene	µg/L	WLCRPI04OF22B	total	3	0	0	--	--	--	--	--	0.05 U	3 U	0.541	0.099 U	1.36 U
Hexachlorobenzene	µg/L	WLCRPI04OF22C	total	3	0	0	--	--	--	--	--	0.00472 U	0.192 U	0.0349	0.00625 U	0.087 U
Phenols																
Pentachlorophenol	µg/L	WLCRPI04OF22B	total	4	1	25	0.157	0.157	0.157	0.157	0.157	0.157	10 U	2.16	1.75 U	4.63 U
Pentachlorophenol	µg/L	WLCRPI04OF22C	total	4	0	0	--	--	--	--	--	0.0279 U	5 U	1.88	2.5 U	2.5 U
Petroleum																
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCEMH04CMP104	total	1	0	0	--	--	--	--	--	50 U	50 U	25	25 U	25 U
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCEMH04CMP204	total	1	0	0	--	--	--	--	--	50 U	50 U	25	25 U	25 U
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCGND05SEEP01	total	2	0	0	--	--	--	--	--	472 U	630 U	276	276 U	311 U
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCGND05SEEP02	total	2	0	0	--	--	--	--	--	245 U	630 U	219	219 U	305 U
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCGND05SEEP03	total	2	2	100	289	2550	1420	1420	2440	289	2550	1420	1420	2440
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCRPI04OF22B	total	1	0	0	--	--	--	--	--	630 U	630 U	315	315 U	315 U
Total Petroleum Hydrocarbons (Diesel)	mg/kg	WLCRPI04OF22C	total	2	0	0	--	--	--	--	--	630 U	630 U	315	315 U	315 U
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCEMH04CMP104	total	1	0	0	--	--	--	--	--	50 U	50 U	25	25 U	25 U
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCEMH04CMP204	total	1	0	0	--	--	--	--	--	50 U	50 U	25	25 U	25 U
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCGND05SEEP01	total	2	0	0	--	--	--	--	--	472 U	630 U	276	276 U	311 U
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCGND05SEEP02	total	2	0	0	--	--	--	--	--	245 U	630 U	219	219 U	305 U
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCGND05SEEP03	total	2	2	100	289	2550	1420	1420	2440	289	2550	1420	1420	2440
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCRPI04OF22B	total	1	0	0	--	--	--	--	--	630 U	630 U	315	315 U	315 U
Total Petroleum Hydrocarbons (Diesel)	µg/L	WLCRPI04OF22C	total	2	0	0	--	--	--	--	--	630 U	630 U	315	315 U	315 U
Total Petroleum Hydrocarbons	mg/kg	WLCEMH04CMP104	total	1	0	0	--	--	--	--	--	100 UT	100 UT	50	50 UT	50 UT
Total Petroleum Hydrocarbons	mg/kg	WLCEMH04CMP204	total	1	0	0	--	--	--	--	--	100 UT	100 UT	50	50 UT	50 UT
Total Petroleum Hydrocarbons	mg/kg	WLCGND05SEEP01	total	2	1	50	943 T	943 T	943	943 T	943 T	630 UT	943 T	629	629	912
Total Petroleum Hydrocarbons	mg/kg	WLCGND05SEEP02	total	2	1	50	775 T	775 T	775	775 T	775 T	630 UT	775 T	545	545	752
Total Petroleum Hydrocarbons	mg/kg	WLCGND05SEEP03	total	2	2	100	289 A	7140 A	3710	3710	6800	289 A	7140 A	3710	3710	6800
Total Petroleum Hydrocarbons	mg/kg	WLCRPI04OF22B	total	1	0	0	--	--	--	--	--	630 UT	630 UT	315	315 UT	315 UT
Total Petroleum Hydrocarbons	mg/kg	WLCRPI04OF22C	total	2	0	0	--	--	--	--	--	630 UT	630 UT	315	315 U	315 U
Total Petroleum Hydrocarbons	µg/L	WLCEMH04CMP104	total	1	0	0	--	--	--	--	--	100 UT	100 UT	50	50 UT	50 UT
Total Petroleum Hydrocarbons	µg/L	WLCEMH04CMP204	total	1	0	0	--	--	--	--	--	100 UT	100 UT	50	50 UT	50 UT
Total Petroleum Hydrocarbons	µg/L	WLCGND05SEEP01	total	2	1	50	943 T	943 T	943	943 T	943 T	630 UT	943 T	629	629	912
Total Petroleum Hydrocarbons	µg/L	WLCGND05SEEP02	total	2	1	50	775 T	775 T	775	775 T	775 T	630 UT	775 T	545	545	752
Total Petroleum Hydrocarbons	µg/L	WLCGND05SEEP03	total	2	2	100	289 A	7140 A	3710	3710	6800	289 A	7140 A	3710	3710	6800
Total Petroleum Hydrocarbons	µg/L	WLCRPI04OF22B	total	1	0	0	--	--	--	--	--	630 UT	630 UT	315	315 UT	315 UT
Total Petroleum Hydrocarbons	µg/L	WLCRPI04OF22C	total	2	0	0	--	--	--	--	--	630 UT	630 UT	315	315 U	315 U

Notes:

[a] Whenever several result values match maximum or minimum value, qualifier and descriptor preference has been given in the following order: U over J over A over N over T over no qualification.

[b] Median is the exact result value ranking as the 0.50 percentile in an ascending list of all results, and 95th percentile is the exact result value of the 0.95 ranking result. When the ascending list of all results doesn't produce an exact match to the corresponding percentile rank, average of two adjacent results ranking closest to 0.50 percentile is the median, and an interpolated value is the 95th percentile. Such median or 95th percentile value is not qualified. It is qualified with "U" if both results ranking immediately above and below the corresponding percentile are "U" qualified, and with "J" if at least one of the results is "J" qualified.

-- data not available.
cPAH - carcinogenic polycyclic aromatic hydrocarbon
DL - detection limit
HPAH - high molecular weight polycyclic aromatic hydrocarbon
LPAH - low molecular weight polycyclic aromatic hydrocarbon

Reason codes for qualifiers:

J - The associated numerical value is an estimated quantity.
N - Presumptive evidence of presence of material; identification of the compound is not definitive.
U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

Reason codes for descriptors:

A - Total value based on limited number of analytes.
T - The associated numerical value was mathematically derived (e.g., from summing multiple analyte results such as Aroclors, or calculating the average of multiple results for a single analyte). Also indicates all results that are selected for reporting in preference to other available results (e.g., for parameters reported by multiple methods) for the Round 2 data.