

OSWEGO LAKE SEDIMENT QUALITY DATA AND
WASTE CHARACTERIZATION
January 2009

The attached table is a compilation of sediment quality analytical data collected from the vicinity of the LOIS alignment in 2006 through 2008. The majority of the data were collected in February 2008 by the Lake Corporation in support of a separate and unrelated dredging permit application submitted to the Corps by the landowners. In addition, a few archived sediment samples were also analyzed by the City of Lake Oswego to support waste characterization of the material, in consultation with the Oregon Department of Environmental Quality.

The analytical testing results are compared to screening levels to confirm that the material may be classified as non-hazardous waste. The sediment screening levels are 20 times the TCLP criteria (toxicity characteristic leaching procedure) for “characteristic” hazardous waste designation, because the TCLP test includes a 20-to-1 dilution of sediment samples as an inherent part of the procedure. Therefore, any sediment samples that are less than 20 times the TCLP leachate criteria could not possibly leach at levels that would designate as hazardous waste. All of the Oswego Lake sediment test results are well below the TCLP-derived screening levels and the sediments are therefore nonhazardous.

The sediment cores in the attached table were collected mainly from the upper four to seven feet of sediment. These upper level sediments are most susceptible to contamination from stormwater runoff, boat traffic, pesticides, and other suburban sources, and may therefore be considered “worst case” in terms of chemical concentrations. Sediments from greater depth may be assumed to be less contaminated than the results shown here, and will largely be comprised of native alluvial sediments unimpacted by man.

Table 1. Oswego Lake Sediment Quality and Non-Hazardous Designation

Analyte	Non-Haz Criteria [1]	Interceptor Sewer Trenching Areas													Arithmetic Mean Concentration
		LDCD-C (1-3)	KB-C (1-2)	SCD-C (1-3)	WE-C (1-3)	WE-C (4-6)	WE-C (7-9)	WE-C (10-12)	WE-C (13-15)	BHCO-C (1-3)	BHCO-C (4-6)	Springbrk Creek	Lost Dog Creek	B-48/B-50 Composite	
		Feb-08 0-5 ft.	Feb-08 0-4 ft.	Feb-08 0-4 ft.	Feb-08 0-6.5 ft.	Feb-08 0-7.5 ft.	Feb-08 0-6 ft.	Feb-08 0-6 ft.	Feb-08 0-6 ft.	Feb-08 0-5 ft.	Feb-08 0-4 ft.	Jan-07 0-2.3 ft.	Jan-07 0-2.3 ft.	Nov-07 0-7 ft.	
Conventionals															
Total Solids (%)		66	63	49	57	70	69	63	61	49	69				62
Total Organic Carbon (%)		1.0	2.6	1.8	1.9	0.6	0.6	1.3	1.6	2.0	0.5				1.4
Total Sulfides (mg/Kg)		16	12	258	94	11	7.2	33	8.0	45	5.1				49
N-Ammonia (mg/Kg)		16	40	84	93	13	22	70	63	233	21				65
Grain-Size Analysis															
Gravel (%)		3	20	1	61	5	6	5	5	1	5				11
Sand (%)		25	29	40	17	31	37	28	28	17	25				28
Silt (%)		49	33	48	16	45	36	46	45	63	52				43
Clay (%)		23	18	10	6	19	22	22	22	19	18				18
Metals (mg/Kg)															
Antimony		20 U	20 U	9 U	20 U	7 U	20 U	20 U	8 U	10 U	7 U	0.14	0.09		NC
Arsenic	100	20 U	20 U	9 U	20 U	7 U	20 U	20 U	8 U	10 U	7 U	2.2 U	2.0 U		NC
Cadmium	20	0.7 U	0.7 U	0.4 U	0.9 U	0.3 U	0.7 U	0.8 U	0.3 U	0.4 U	0.3 U	0.16	0.26		0.21
Chromium	100	28	36	25	36	25	28	36	29	34	21	19	15	15	27
Copper		39	33	102	79	75	22	72	60	215	38	27	58	25 J	65
Lead	100	18	10	43	24	13	8	14	14	25	11	34	29	7.6	19
Mercury	4	0.06 U	0.1	0.1	0.09 U	0.06 U	0.07 U	0.07 U	0.08 U	0.09 U	0.06 U	0.17	0.04		0.05
Nickel		22	19	16	22	13	14	15	16	22	12	14	632 [2]	12	16
Silver	100	1.0 U	1.0 U	0.5 U	1.0 U	0.4 U	1.0 U	1.0 U	0.5 U	0.6 U	0.4 U	0.30	0.38		NC
Zinc		103	124	147	133	64	86	89	78	113	64	105	123	42 J	98
PAHs (µg/Kg)															
Napthalene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	6.9	5.4	4.9 U	NC
Acenaphthylene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	5.0 U	5.0 U	4.9 U	NC
Acenaphthene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	6.3	5.0 U	4.9 U	NC
Fluorene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	6.3	5.0 U	4.9 U	NC
Phenanthrene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	110	62 U	22	24	4.9 U	NC
Anthracene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	5.0 U	8.6	4.9 U	NC
2-Methylnaphthalene		6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	5.0 U	5.0 U	4.9 U	NC
Fluoranthene		62 U	62 U	79	62 U	61 U	62 U	62 U	62 U	190	62 U	55	59	4.9 U	NC
Pyrene		62 U	62 U	70	62 U	61 U	62 U	62 U	62 U	150	62 U	110	68	4.9 U	NC
Benzo(a)anthracene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	31	25	4.9 U	NC
Chrysene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	68	62 U	75	44	4.9 U	NC
Benzo(b)fluoranthene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	37	32	4.9 U	NC
Benzo(k)fluoranthene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	66	62 U	21	23	4.9 U	NC
Benzo(a)pyrene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	81	62 U	34	33	4.9 U	NC
Indeno(1,2,3-cd)pyrene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	69	62 U	27	27	4.9 U	NC
Dibenzo(a,h)anthracene		6.2 U	6.2 U	7.4	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	7.4	6.2 U	6.3	5.0 U	4.9 U	NC
Benzo(g,h,i)perylene		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	41	32	4.9 U	NC
Chlorinated Hydrocarbons (µg/Kg)															
1,4-Dichlorobenzene	150,000	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U		NC
1,2-Dichlorobenzene		6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U		NC
1,2,4-Trichlorobenzene		6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U		NC
Hexachlorobenzene	2,600	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U		NC
Phthalates (µg/Kg)															
Dimethyl phthalate		16 U	16 U	15 U	16	15 U	16 U	15 U	16 U	16 U	15 U				NC
Diethyl phthalate		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U				NC
Di-n-butyl phthalate		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U				NC
Butyl benzyl phthalate		16 U	16 U	21 M	16 U	15 U	16 U	15 U	16 U	16 U	15 U				NC
Bis(2-ethylhexyl)phthalate		130	62 U	330	120	61 U	62 U	62 U	62 U	62 U	62 U				NC
Di-n-octyl phthalate		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U				NC

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		Feb-08 0-5 ft.	Feb-08 0-4 ft.	Feb-08 0-4 ft.	Feb-08 0-6.5 ft.	Feb-08 0-7.5 ft.	Feb-08 0-6 ft.	Feb-08 0-6 ft.	Feb-08 0-6 ft.	Feb-08 0-5 ft.	Feb-08 0-4 ft.	Jan-07 0-2.3 ft.	Jan-07 0-2.3 ft.	Nov-07 0-7 ft.	
Phenols (µg/Kg)															
Phenol		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U				NC
2-Methylphenol		62 U	62 U	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U				NC
2,4-Dimethylphenol		6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U				NC
Pentachlorophenol	2,000,000	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U				NC
Organochlorine Pesticides (µg/kg)															
alpha-BHC												5.0 U	5.0 U		NC
beta-BHC												5.0 U	5.0 U		NC
gamma-BHC (Lindane)	8,000	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U		NC
delta-BHC												5.0 U	5.0 U		NC
Heptachlor	160	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U		NC
Heptachlor Epoxide												5.0 U	5.0 U		NC
Endosulfan I												1.1 JP	1.5 JP		NC
Endosulfan II												5.0 U	0.7 J		NC
alpha-Chlordane	600	2.0 U	1.0 U	2.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 J	5.0 U		NC
gamma-Chlordane	600	2.0 U	1.0 U	4.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.4 J	3.0 JP		NC
4,4'-DDT		3.9 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	5.0 U		NC
4,4'-DDE		3.9 U	2.0 U	2.8 J	2.6	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.6 J	1.7 JP		NC
4,4'-DDD		3.9 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	5.0 U		NC
Aldrin		2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U		NC
Dieldrin		3.9 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.5 J		NC
Endrin	400											0.5 J	5.0 U		NC
Endrin Aldehyde												5.0 U	5.0 U		NC
Endosulfan Sulfate												5.0 U	2.8 J		NC
Endrin Ketone												0.8 JP	5.0 U		NC
Methoxychlor	200,000											5.0 U	5.0 U		NC
Toxaphene	10,000											63 J	110 J		NC
Hexachlorobenzene	2,600	2.0 U	1.0 U	2.0 U											NC
Hexachlorobutadiene	10,000	2.0 U	1.0 U	2.0 U											NC
oxy Chlordane	600	3.9 U	2.0 U	4.0 U											NC
cis-Nonachlor		3.9 U	2.0 U	4.0 U											NC
trans-Nonachlor		3.9 U	2.0 U	3.4 J											NC
Polychlorinated Biphenyls (PCBs) (µg/kg)															
Aroclor 1016		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1221		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1232		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1242		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1248		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1254		19 U	20 U	20 U	22	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1260		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1262		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Aroclor 1268		19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		NC
Petroleum Hydrocarbons (mg/kg)															
Gasoline Range Organics												8 U	9 U		NC
Diesel Range Organics		13	7.4 U	34	13	6.4 U	6.6 U	7.0 U	16	21	6.8 U	36 U	44 H	11	NC
Residual Range Organics		78	22	220	58	13	13 U	25	29	65	14 U	470 O	440 O	62	NC

Notes:

[1] Screening level based on 20 times TCLP leachate criterion for toxic characteristics

[2] Anomalous nickel outlier was likely caused by sampling-induced contamination, from nickel undercoating on chrome-plated steel soil auger; it was excluded from arithmetic mean

[3] Samples kept in refrigerated storage were analyzed on 8-24-07; standard hold times were exceeded

U = Undetected at indicated detection limit; UJ = Estimated detection limit; BOLD = Detected concentration

P = confirmation criterion was exceeded in second column, probably due to matrix interference; Z = Chromatographic fingerprint does not resemble petroleum product

H = Product includes heavier compounds compared to calibration standard; O = Product resembles oil but does not match calibration standard

Table 1. Oswego Lake Sediment Quality and Non-Hazardous Designation

Analyte	Non-Haz Criteria [1]	Other Lake Sediments Outside Trenching Areas											
		CCCD-1	WB-C	WB-C	LB-C	FCD-1	PHCD-C	OC-C	BHC-C	Bryant Park North	Bryant Park Middle	West Bay	Blue Heron Canal
		--- Feb-08 0-2 ft.	(1-3) Feb-08 0-4 ft.	(4-6) Feb-08 0-4 ft.	(1-2) Feb-08 0-4 ft.	--- Feb-08 0-5.5 ft.	(1-2) Feb-08 0-5 ft.	(1-2) Feb-08 0-3.5 ft.	(1-2) Feb-08 0-5 ft.	North Nov-06 0-1.3 ft.	Middle Nov-06 0-1.3 ft.	Bay Jan-07 0-2.3 ft.	Canal Jan-07 0-2.3 ft.
Conventionals													
Total Solids (%)		70	59	65	46	40	65	44	40				
Total Organic Carbon (%)		1.6	2.1	0.5	2.4	2.5	1.0	1.1	2.6				
Total Sulfides (mg/Kg)		1.4 U	4.2	6.3	54	145	29	257	112				
N-Ammonia (mg/Kg)		29	14	13	115	97	27	211	155				
Grain-Size Analysis													
Gravel (%)		30	0	0	3	31	61	5	56				
Sand (%)		21	14	19	19	34	20	35	19				
Silt (%)		27	48	54	36	29	14	43	181				
Clay (%)		22	38	27	42	6	4	17	7				
Metals (mg/Kg)													
Antimony		20 U	8 U	20 U	10 U	10 U	20 U	20 U	10 U	0.35	0.27	0.99	0.37
Arsenic	100	20 U	8 U	20 U	10 U	10 U	20 U	20 U	10 U	7.9	5.0	1.9 U	3.2
Cadmium	20	0.7 U	0.3 U	0.7 U	0.4 U	0.4 U	0.7 U	1 U	0.5 U	0.52	0.41	0.35	0.21
Chromium	100	30	27	26	29	21	36	30	63	37	29	19	29
Copper		25	45	32	106	91	24	41	53	49	39	84	63
Lead	100	8	11	15	20	82	10	10	51	20	17	46	18
Mercury	4	0.07 U	0.08 U	0.06 U	0.1 U	0.09 U	0.05 U	0.1 U	0.1 U	0.07	0.06	0.04	0.05
Nickel		18	16	18	14	17	14	18	31	22.2	18.5	15.5	20.7
Silver	100	1.0 U	0.5 U	1.0 U	0.6 U	0.6 U	1.0 U	1.0 U	0.7 U	0.43	0.46	0.34	0.21
Zinc		139	61	80	67	151	110	156	149	253	163	131	117
PAHs (µg/Kg)													
Napthalene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	5.3 U	5.0 U	290	8.3
Acenaphthylene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	5.3 U	5.0 U	7.3 U	5.1 U
Acenaphthene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	5.3 U	5.0 U	7.3 U	5.1 U
Fluorene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	5.3 U	5.0 U	7.3 U	5.1 U
Phenanthrene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	7.1	7.3	56	25
Anthracene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	5.3 U	5.0 U	9.5	5.1 U
2-Methylnaphthalene		6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	5.3 U	5.0 U	7.3 U	5.9
Fluoranthene		62 U	62 U	62 U	62 U	62 U	61 U	65	62 U	21	17.0	110	84
Pyrene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	21	18.0	170	91
Benzo(a)anthracene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	7.5	6.6	46	20
Chrysene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	14	11.0	75	41
Benzo(b)fluoranthene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	11	8.9	57	32
Benzo(k)fluoranthene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	8.8	6.9	38	19
Benzo(a)pyrene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	9.1	8.4	50	24
Indeno(1,2,3-cd)pyrene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	6.9	6.8	44	23
Dibenzo(a,h)anthracene		6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	5.3 U	5.0 U	7.4	5.1 U
Benzo(g,h,i)perylene		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U	9.7	8.3	57	35
Chlorinated Hydrocarbons (µg/Kg)													
1,4-Dichlorobenzene	150,000	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U				
1,2-Dichlorobenzene		6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U				
1,2,4-Trichlorobenzene		6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U				
Hexachlorobenzene	2,600	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U				
Phthalates (µg/Kg)													
Dimethyl phthalate		15 U	16 U	15 U	16 U	15 U	15 U	16 U	16 U				
Diethyl phthalate		62 U	62 U	62 U	62 U	62 U	61 U	62 U	140				
Di-n-butyl phthalate		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U				
Butyl benzyl phthalate		15 U	16 U	15 U	16 U	52	15 U	16 U	19				
Bis(2-ethylhexyl)phthalate		62 U	92	62 U	97	780	61 U	230	380				
Di-n-octyl phthalate		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U				

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		--- Feb-08 0-2 ft.	(1-3) Feb-08 0-4 ft.	(4-6) Feb-08 0-4 ft.	(1-2) Feb-08 0-4 ft.	--- Feb-08 0-5.5 ft.	(1-2) Feb-08 0-5 ft.	(1-2) Feb-08 0-3.5 ft.	(1-2) Feb-08 0-5 ft.	Bryant Park North Nov-06 0-1.3 ft.	Bryant Park Middle Nov-06 0-1.3 ft.	West Bay Jan-07 0-2.3 ft.	Blue Heron Canal Jan-07 0-2.3 ft.
Phenols (µg/Kg)													
Phenol		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U				
2-Methylphenol		62 U	62 U	62 U	62 U	62 U	61 U	62 U	62 U				
2,4-Dimethylphenol		6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U				
Pentachlorophenol	2,000,000	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U				
Organochlorine Pesticides (µg/kg)													
alpha-BHC										5.3 U	5.0 U	7.3 U	5.1 U
beta-BHC										5.3 U	5.0 U	7.3 U	5.1 U
gamma-BHC (Lindane)	8,000	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	5.3 U	5.3 U	7.3 U	5.1 U
delta-BHC										5.3 U	5.0 U	7.3 U	5.1 U
Heptachlor	160	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	5.3 U	5.0 U	7.3 U	5.1 U
Heptachlor Epoxide										5.3 U	5.0 U	7.3 U	2.9 JP
Endosulfan I										5.3 U	5.0 U	1.5 JP	5.1 U
Endosulfan II										5.3 U	5.0 U	7.3 U	1.1 J
alpha-Chlordane	600	1.0 U	1.0 U	1.0 U	1.0 U	3.5	1.0 U	1.0 U	2.0 P	5.3 U	5.7	7.3 U	3.3 JP
gamma-Chlordane	600	1.0 U	1.0 U	1.0 U	1.0 U	4.5	1.0 U	1.0 U	1.0 U	5.3 U	13 P	2.2 J	3.6 J
4,4'-DDT		2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	5.3 U	5.0 U	7.3 U	5.1 U
4,4'-DDE		2.0 U	2.0 U	1.3 J	2.0 U	4.6	2.0 U	2.0 U	2.0 U	3.9 J	3.6 J	1.5 J	1.1 J
4,4'-DDD		2.0 U	2.0 U	2.2 J	2.0 U	4.8	2.0 U	2.0 U	2.0 U	5.3 U	4.1 J	7.3 U	5.1 U
Aldrin		1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	5.3 U	5.0 U	7.3 U	5.1 U
Dieldrin		2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	1.3 JP	5.0 U	0.9 JP	5.1 U
Endrin	400									5.3 U	5.0 U	7.3 U	5.1 U
Endrin Aldehyde										5.3 U	5.0 U	5.9 JP	1.1 JP
Endosulfan Sulfate										5.3 U	3.7 J	4.3 JP	1.1 JP
Endrin Ketone										5.3 U	5.0 U	0.9 JP	5.1 U
Methoxychlor	200,000									5.3 U	5.0 U	7.3 U	2.8 J
Toxaphene	10,000									270 U	250 U	250 J	150 J
Hexachlorobenzene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U						
Hexachlorobutadiene	10,000	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U						
oxy Chlordane	600	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U						
cis-Nonachlor		2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U						
trans-Nonachlor		2.0 U	2.0 U	2.0 U	2.0 U	3.7 J	2.0 U						
Polychlorinated Biphenyls (PCBs) (µg/kg)													
Aroclor 1016		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1221		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1232		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1242		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1248		19 U	19 U	19 U	19 U	25 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1254		19 U	19 U	19 U	19 U	33 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1260		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1262		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Aroclor 1268		19 U	19 U	19 U	19 U	20 U	20 U	20 U	20 U	19 U[3]	20 U[3]		
Petroleum Hydrocarbons (mg/kg)													
Gasoline Range Organics										21 U	13 U	15 U	10 U
Diesel Range Organics										250 Z	110 Z	220 H	93 H
Residual Range Organics										950 Z	460 Z	2,000 O	890 O

Notes:

[1] Screening level based on 20 times TCLP leachate criterion for toxic characteristics

[2] Anomalous nickel outlier was likely caused by sampling-induced contamination, from nickel undercoating on chrome-plated steel soil auger; it was excluded from arithmetic mean

[3] Samples kept in refrigerated storage were analyzed on 8-24-07; standard hold times were exceeded

U = Undetected at indicated detection limit; UJ = Estimated detection limit; BOLD = Detected concentration

P = confirmation criterion was exceeded in second column, probably due to matrix interference; Z = Chromatographic fingerprint does not resemble petroleum product

H = Product includes heavier compounds compared to calibration standard; O = Product resembles oil but does not match calibration standard