

Client Sample ID:	COMP A (1A, 2A, 3A)		COMP B (1B, 2B, 3B)		NRDCHBC	NRDCHBC	NRDCHBC
Lab Sample ID:	J95987-1		J95987-2		Ingestion-Dermal Health	Inhalation Based	Direct Contact Soil Remediation
Date Sampled:	7/18/2008		7/18/2008				
Units:	mg/kg		mg/kg		mg/kg	mg/kg	mg/kg
GC/MS Semi-volatiles							
2-Chlorophenol	ND	U	ND	U	3,400	2,200	2,200
4-Chloro-3-methyl phenol	ND	U	ND	U	NA	NA	NA
2,4-Dichlorophenol	ND	U	ND	U	2,100	NA	2,100
2,4-Dimethylphenol	ND	U	ND	U	14,000	NA	14,000
2,4-Dinitrophenol	ND	U	ND	U	1,400	820,000	1,400
4,6-Dinitro-o-cresol	ND	U	ND	U	68	47,000	68
2-Methylphenol	ND	U	ND	U	3,400	NA	3,400
3&4-Methylphenol	ND	U	ND	U	340	NA	340
2-Nitrophenol	ND	U	ND	U	NA	NA	NA
4-Nitrophenol	ND	U	ND	U	NA	NA	NA
Pentachlorophenol	ND	U	ND	U	10	1,700	10
Phenol	ND	U	ND	U	210,000	NA	210,000
2,4,5-Trichlorophenol	ND	U	ND	U	68,000	NA	68,000
2,4,6-Trichlorophenol	ND	U	ND	U	74	960	74
Acenaphthene	ND	U	0.06	J	37,000	300,000	37,000
Acenaphthylene	0.141	J	0.166		NA	300,000	300,000
Anthracene	0.244		0.258		180,000	30,000	30,000
Benzo(a)anthracene	0.46		0.53		2	3,000	2
Benzo(a)pyrene	0.553		0.63		0.2	0.2	0.2
Benzo(b)fluoranthene	0.57		0.555		2	3,000	2
Benzo(g,h,i)perylene	0.375		0.39		NA	30,000	30,000
Benzo(k)fluoranthene	0.413		0.534		23	3,000	23
4-Bromophenyl phenyl ether	ND	U	ND	U	NA	NA	NA
Butyl benzyl phthalate	ND	U	ND	U	14,000	NA	14,000
2-Chloronaphthalene	ND	U	ND	U	NA	NA	NA
4-Chloroaniline	ND	U	ND	U	NA	NA	NA
Carbazole	0.078	J	0.0756	J	96	58,000	96
Chrysene	0.535		0.633		230	30,000	230
bis(2-Chloroethoxy)methane	ND	U	ND	U	NA	NA	NA
bis(2-Chloroethyl)ether	ND	U	ND	U	2	2	2
bis(2-Chloroisopropyl)ether	ND	U	ND	U	27,000	67	67
4-Chlorophenyl phenyl ether	ND	U	ND	U	NA	NA	NA
1,2-Dichlorobenzene	ND	U	ND	U	59,000	NA	59,000
1,3-Dichlorobenzene	ND	U	ND	U	59,000	NA	59,000
1,4-Dichlorobenzene	0.0627	J	0.0566	J	6,800	13	13
2,4-Dinitrotoluene	ND	U	ND	U	3	16	3
2,6-Dinitrotoluene	ND	U	ND	U	3	7	3
3,3'-Dichlorobenzidine	ND	U	ND	U	4	960	4
Dibenzo(a,h)anthracene	0.103	J	0.107	J	0.2	270	0.2
Dibenzofuran	ND	U	ND	U	NA	NA	NA
Di-n-butyl phthalate	ND	U	ND	U	68,000	NA	68,000
Di-n-octyl phthalate	ND	U	ND	U	27,000	NA	27,000
Diethyl phthalate	ND	U	ND	U	550,000	NA	550,000
Dimethyl phthalate	ND	U	ND	U	NA	NA	NA
bis(2-Ethylhexyl)phthalate	5.02		17.5		140	14,000	140
Fluoranthene	0.768		0.97		24,000	300,000	24,000
Fluorene	ND	U	0.0515	J	24,000	300,000	300,000
Hexachlorobenzene	ND	U	ND	U	1	4	1
Hexachlorobutadiene	ND	U	ND	U	25	35	25

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Date Sampled:	7/18/2008		7/18/2008				
Units:	mg/kg		mg/kg		mg/kg	mg/kg	mg/kg
Hexachlorocyclopentadiene	ND	U	ND	U	4,100	110	110
Hexachloroethane	ND	U	ND	U	140	82,000	140
Indeno(1,2,3-cd)pyrene	0.33		0.354		2	3,000	2
Isophorone	ND	U	ND	U	2,000	NA	2,000
2-Methylnaphthalene	ND	U	ND	U	2,400	300,000	2,400
2-Nitroaniline	ND	U	ND	U	NA	23,000	23,000
3-Nitroaniline	ND	U	ND	U	NA	NA	NA
4-Nitroaniline	ND	U	ND	U	NA	NA	NA
Naphthalene	ND	U	ND	J	25,000	17	17
Nitrobenzene	ND	U	ND	U	340	390	340
N-Nitroso-di-n-propylamine	ND	U	ND	U	0.3	0.05	0.3
N-Nitrosodiphenylamine	ND	U	ND	U	390	130,000	390
Phenanthrene	0.277		0.321		NA	300,000	300,000
Pyrene	0.719		0.855		18,000	18,000	18,000
1,2,4-Trichlorobenzene	ND	U	ND	U	820	NA	820
Pesticides							
Aldrin	ND	U	ND	U	0.2	0.002	0.2
alpha-BHC	ND	U	ND	U	0.5	2.0	0.5
beta-BHC	ND	U	ND	U	2	620	2
delta-BHC	ND	U	ND	U	NA	NA	NA
gamma-BHC (Lindane)	ND	U	ND	U	2	10	2
alpha-Chlordane	ND	U	ND	U	1	3,300	1
gamma-Chlordane	ND	U	ND	U	1	3,300	1
Dieldrin	ND	U	ND	U	0.2	3	0.2
4,4'-DDD	ND	U	ND	U	13	4,800	13
4,4'-DDE	ND	U	ND	U	9	3,400	9
4,4'-DDT	ND	U	ND	U	8	3,400	8
Endrin	ND	U	ND	U	340	120,000	340
Endosulfan sulfate	ND	U	ND	U	6,800	NA	6,800
Endrin aldehyde	ND	U	ND	U	NA	NA	NA
Endosulfan-I	ND	U	ND	U	6,800	NA	6,800
Endosulfan-II	ND	U	ND	U	6,800	NA	6,800
Heptachlor	ND	U	ND	U	0.7	18	0.7
Heptachlor epoxide	ND	U	ND	U	0.3	13.0	0.3
Methoxychlor	ND	U	ND	U	5,700	NA	5,700
Endrin ketone	ND	U	ND	U	NA	NA	NA
Toxaphene	ND	U	ND	U	3	200	3
Aroclor 1016	ND	U	ND	U			
Aroclor 1221	ND	U	ND	U			
Aroclor 1232	ND	U	ND	U			
Aroclor 1242	ND	U	0.488		1	57	1
Aroclor 1248	ND	U	ND	U			
Aroclor 1254	ND	U	0.11				
Aroclor 1260	ND	U	ND	U			
Total PCBs			0.598				

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Date Sampled:	7/18/2008		7/18/2008				
Units:	mg/kg		mg/kg		mg/kg	mg/kg	mg/kg
Metals Analysis							
Aluminum	16700		17100		NA	NA	NA
Antimony	ND	U	ND	U	450	23,000	450
Arsenic	12.7		14.7		2	76	19
Barium	143		157		230,000	59,000	59,000
Beryllium	ND	U	1.3		230	140	140
Cadmium	3.4		5.1		1,100	78	78
Calcium	5050		5220		NA	NA	NA
Chromium	214		267		NA	NA	NA
Cobalt	ND	U	ND	U	23,000	590	590
Copper	155		205		45,000	280,000	45,000
Iron	33900		34300		NA	NA	NA
Lead	134		164		800	12,000	800
Magnesium	7470		7490		NA	NA	NA
Manganese	506		531		160,000	5,900	5,900
Mercury	4.9		8.2		340	65	65
Nickel	42.9		54.5		23,000	23,000	23,000
Potassium	3340		3250		NA	NA	NA
Selenium	ND	U	ND	U	5,700	NA	5,700
Silver	3.5		4.6		5,700	NA	5,700
Sodium	5110		4010		NA	NA	NA
Thallium	ND	U	ND	U	78	23,000	79
Vanadium	38.6		40.4		1,100	47,000	1,100
Zinc	344		429		340,000	110,000	110,000
General Chemistry							
Total Organic Carbon	42900		44300				
Cyanide	0.63	U	ND	U			
3 Inch Sieve	100		100				
1.5 Inch Sieve	100		100				
0.75 Inch Sieve	100		100				
0.375 Inch Sieve	100		100				
Solids, Percent	33.6		40.6				
No.4 Sieve (4.75 mm)	100		100				
No.8 Sieve (2.36 mm)	100		99.9				
No.10 Sieve (2.00 mm)	100		99.8				
No.16 Sieve (1.18 mm)	99.8		99.6				
No.30 Sieve (0.60 mm)	99.6		99.2				
No.50 Sieve (0.30 mm)	99.2		98.8				
No.100 Sieve (0.15 mm)	97.8		98.3				
No.200 Sieve (0.075 mm)	96.2		91.3				
0.030 mm (Hydrometer)	79		74				
0.005 mm (Hydrometer)	27		27				
0.0015 mm (Hydrometer)	11	U	ND	U			
% Gravel	0.0		0.0				
% Sand	3.8		8.8				
% Silt, Clay, Colloids	96.2		91.3				

Dioxins	Composite A	Composite B	TEF	A TEQ	B TEQ
2,3,7,8-TCDD	92.8	35.1	1.000	92.8	35.1
1,2,3,7,8-PeCDD	ND	ND	1.000	ND	ND
1,2,3,4,7,8-HxCDD	6.8	ND	0.100	0.7	ND
1,2,3,6,7,8-HxCDD	34.5	15.1	0.100	3.5	1.51
1,2,3,7,8,9-HxCDD	21.2	8.7	0.100	2.1	0.871
1,2,3,4,6,7,8-HpCDD	738	278.0	0.010	7.4	2.78
OCDD	7540	2810.0	0.0003	2.3	0.843
				108.69	41.10
Furans					
2,3,7,8-TCDF	17.7	8.6	0.100	1.77	0.857
1,2,3,7,8-PeCDF	18.1	8.3	0.030	0.543	0.2481
2,3,4,7,8-PeCDF	47.0	21.0	0.300	14.1	6.3
1,2,3,4,7,8-HxCDF	269	124.0	0.100	26.9	12.4
1,2,3,6,7,8-HxCDF	54.4	26.2	0.100	5.44	2.62
2,3,4,6,7,8-HxCDF	31.3	14.4	0.100	3.13	1.44
1,2,3,7,8,9-HxCDF	ND	ND	0.100	ND	ND
1,2,3,4,6,7,8-HpCDF	1090	551.0	0.010	10.9	5.51
1,2,3,4,7,8,9-HpCDF	36.8	17.0	0.010	0.368	0.17
OCDF	2080	813.0	0.0003	0.624	0.2439
				63.78	29.79
Total TCDDs	274				
Total PeCDDs	68.8				
Total HxCDDs	231				
Total HpCDDs	1780				
Total TCDFs	561				
Total PeCDFs	553				
Total HxCDFs	775				
Total HpCDFs	1470				
WHO-2005 TEQ (ND=0)				172	70.9
WHO-2005 TEQ (ND=1/2)				175	73.9

A TEQ is measured by multiplying the concentration of each active dioxin or furan by a toxic equivalence factor (TEF), usually less than one. The TEQ is the sum of all multiplications; each concentration is multiplied by its TEF. $TEQ = (TEF_i \times dioxins_i) + (TEF_j \times furans_j) + \dots$