

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
Acenaphthene ⁷	83-32-9	nc	6300	4600	3800	37
Acenaphthylene ^{7,8}	208-96-8	nc	3100	2300	1900	18
Acetone	67-64-1	nc	1.0 x 10 ⁵ ; ⁹	81000	65000	38
Aldrin	309-00-2	ca	0.67	0.49	0.40	0.0099
Ammonium Perchlorate	7790-98-9	nc	96	71	58	0.037
Anthracene ⁷	120-12-7	nc	31000	23000	19000	390
Antimony (metallic)	7440-36-0	nc	55	41	33	4.6
Arsenic, Inorganic ¹¹	7440-38-2	ca	12	8.8	7.2	0.20
Barium	7440-39-3	nc	25000	20000	17000	2100
Benz[a]anthracene ⁷	56-55-3	m	2.7	2.0	1.7	0.28
Benzaldehyde	100-52-7	nc	770 ¹⁰	770 ¹⁰	770 ¹⁰	0.52
Benzene ⁷	71-43-2	ca	16	11	8.1	0.022
Benzo[a]pyrene ⁷	50-32-8	m	0.28	0.20	0.17	0.27
Benzo[b]fluoranthene ⁷	205-99-2	m	2.8	2.0	1.7	2.7
Benzo[g,h,i]perylene ^{7,8}	191-24-2	nc	3100	2300	1900	15000
Benzo[k]fluoranthene ⁷	207-08-9	m	28	20	17	27
Benzoic Acid	65-85-0	nc	1.0 x 10 ⁵ ; ⁹	1.0 x 10 ⁵ ; ⁹	1.0 x 10 ⁵ ; ⁹	200
Benzyl Alcohol	100-51-6	nc	11000	8200	6700	5.7
Beryllium and compounds	7440-41-7	nc	270	200	170	260
Bis(2-chloroethyl)ether	111-44-4	ca	4.0	2.8	2.1	0.00042
Bis(2-ethylhexyl)phthalate	117-81-7	ca	680	500	410	88
Bromobenzene	108-86-1	nc	160 ¹⁰	160 ¹⁰	160 ¹⁰	0.36
Bromodichloromethane	75-27-4	ca	5.3	3.6	2.6	0.0043
Bromoform	75-25-2	ca	340	240	170	0.10
Bromomethane	74-83-9	nc	15	10	7.4	0.024
Butadiene, 1,3-	106-99-0	ca	1.2	0.86	0.64	0.0012

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
Butanol, N-	71-36-3	nc	6500 ¹⁰	6500 ¹⁰	6500 ¹⁰	5.3
Butyl Benzyl Phthalate	85-68-7	ca	5000	3700	3000	16
Butylbenzene, n-	104-51-8	nc	20 ¹⁰	20 ¹⁰	20 ¹⁰	23
Butylbenzene, sec-	135-98-8	nc	28 ¹⁰	28 ¹⁰	28 ¹⁰	42
Butylbenzene, tert-	98-06-6	nc	35 ¹⁰	35 ¹⁰	35 ¹⁰	11
Cadmium (Diet)	7440-43-9	nc	120	92	76	9.1
Carbon Disulfide	75-15-0	nc	500 ¹⁰	500 ¹⁰	500 ¹⁰	2.9
Carbon Tetrachloride	56-23-5	ca	13	9.1	6.6	0.021
Chlordane	12789-03-6	ca	29	22	17	0.18
Chlordecone (Kepone)	143-50-0	ca	0.95	0.70	0.58	0.0083
Chloroaniline, p-	106-47-8	ca	47	35	29	0.015
Chlorobenzene	108-90-7	nc	180 ¹⁰	180 ¹⁰	180 ¹⁰	0.46
Chloroform	67-66-3	ca	5.8	4.0	2.9	0.0071
Chloromethane	74-87-3	nc	250	170	120	0.61
Chloronaphthalene, Beta-	91-58-7	nc	8400	6200	5100	26
Chlorophenol, 2-	95-57-8	nc	680	510	410	0.71
Chromium(III), Insoluble Salts ¹²	16065-83-1	nc	1.0 x 10 ⁵ ; ⁹			
Chromium(VI) ¹²	18540-29-9	m	4.9	3.9	3.2	0.089
Chrysene ⁷	218-01-9	m	280	200	170	82
Copper	7440-50-8	nc	5500	4100	3300	370
Cresol, m-	108-39-4	nc	5500	4100	3400	6.1
Cresol, o-	95-48-7	nc	5500	4100	3400	6.2
Cresol, p-	106-44-5	nc	11000	8200	6700	12
Cumene	98-82-8	nc	54 ¹⁰	54 ¹⁰	54 ¹⁰	5.6
Cyanide (CN-) ¹³	57-12-5	nc	48	34	26	0.20
Cyclohexane	110-82-7	nc	77 ¹⁰	77 ¹⁰	77 ¹⁰	150
DDD	72-54-8	ca	40	29	24	0.49
DDE, p,p'-	72-55-9	ca	34	25	20	0.72

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
DDT	50-29-3	ca	33	24	20	5.1
Dibenz[a,h]anthracene ⁷	53-70-3	m	0.28	0.20	0.17	0.87
Dibenzofuran	132-64-9	nc	130	95	77	0.97
Dibromochloromethane	124-48-1	ca	140	110	88	0.0027
Dibromoethane, 1,2- (Ethylene Dibromide)	106-93-4	ca	0.62	0.42	0.31	0.00024
Dibromomethane (Methylene Bromide)	74-95-3	nc	45	31	22	0.025
Dibutyl Phthalate	84-74-2	nc	11000	8200	6700	16
Dichlorobenzene, 1,2-	95-50-1	nc	78 ¹⁰	78 ¹⁰	78 ¹⁰	2.4
Dichlorobenzene, 1,3- ⁸	541-73-1	nc	62 ¹⁰	62 ¹⁰	62 ¹⁰	2.3
Dichlorobenzene, 1,4-	106-46-7	ca	31	21	15	0.037
Dichlorobenzidine, 3,3'-	91-94-1	ca	21	16	13	0.056
Dichlorodifluoromethane	75-71-8	nc	220	150	110	3.9
Dichloroethane, 1,1-	75-34-3	ca	67	46	33	0.092
Dichloroethane, 1,2-	107-06-2	ca	7.9	5.5	3.9	0.0055
Dichloroethylene, 1,1-	75-35-4	nc	480	330	240	1.2
Dichloroethylene, 1,2-cis-	156-59-2	nc	270	200	170	0.12
Dichloroethylene, 1,2-trans-	156-60-5	nc	960 ¹⁰	960 ¹⁰	960 ¹⁰	1.3
Dichlorophenol, 2,4-	120-83-2	nc	330	250	200	0.21
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	nc	1200	910	740	0.53
Dichloropropane, 1,2-	78-87-5	ca	16	11	8.0	0.016
Dichloropropene, 1,3-	542-75-6	ca	29	21	15	0.018
Dieldrin	60-57-1	ca	0.59	0.44	0.36	0.0047
Diethyl Phthalate	84-66-2	nc	88000	66000	54000	60
Dimethylphenol, 2,4-	105-67-9	nc	2200	1600	1300	3.2
Dimethylphthalate ⁸	131-11-3	nc	88000	66000	54000	48
Dinitrobenzene, 1,2-	528-29-0	nc	11	8.2	6.7	0.014
Dinitrobenzene, 1,3-	99-65-0	nc	11	8.2	6.7	0.014
Dinitrobenzene, 1,4-	100-25-4	nc	11	8.2	6.7	0.014

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
Dinitrophenol, 2,4-	51-28-5	nc	220	160	130	0.34
Dinitrotoluene, 2,4-	121-14-2	ca	30	23	18	0.024
Dinitrotoluene, 2,6-	606-20-2	ca	6.3	4.7	3.8	0.0050
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	nc	270	200	160	0.25
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	nc	270	200	160	0.25
Dioxane, 1,4-	123-91-1	ca	100	73	58	0.012
Diphenylamine	122-39-4	nc	2800	2000	1700	4.3
Endosulfan	115-29-7	nc	820	610	500	9.3
Endrin	72-20-8	nc	33	25	20	0.61
Ethyl Chloride	75-00-3	nc	1400 ¹⁰	1400 ¹⁰	1400 ¹⁰	72
Ethylbenzene ⁷	100-41-4	ca	72	49	35	0.13
Ethylene Glycol	107-21-1	nc	1.0 x 10 ⁵ ; ⁹	1.0 x 10 ⁵ ; ⁹	1.0 x 10 ⁵ ; ⁹	110
Fluoranthene ⁷	206-44-0	nc	4200	3100	2500	590
Fluorene ⁷	86-73-7	nc	4200	3100	2500	36
Formaldehyde	50-00-0	ca	430	290	210	0.011
Heptachlor	76-44-8	ca	2.2	1.6	1.3	0.0076
Heptachlor Epoxide	1024-57-3	ca	1.2	0.86	0.69	0.0019
Hexachlorobenzene	118-74-1	ca	2.8	2.0	1.5	0.0082
Hexachlorobutadiene	87-68-3	nc	3.3 ¹⁰	3.3 ¹⁰	3.3 ¹⁰	0.020
Hexachlorocyclohexane, Alpha-	319-84-6	ca	1.5	1.1	0.91	0.0029
Hexachlorocyclohexane, Beta-	319-85-7	ca	5.3	3.9	3.2	0.010
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	ca	9.9	7.4	6.0	0.016
Hexachlorocyclopentadiene	77-47-4	nc	2.0	1.4	1.0	0.0093
Hexachloroethane	67-72-1	ca	24	17	12	0.018
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	ca	110	79	64	0.027
Hexane, N-	110-54-3	nc	130 ¹⁰	130 ¹⁰	130 ¹⁰	130 ¹⁰
Hexanone, 2-	591-78-6	nc	380	270	210	0.11
Hydrazine	302-01-2	ca	0.79	0.55	0.40	2.9 x 10 ⁻⁵

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
Indeno[1,2,3-cd]pyrene ⁷	193-39-5	m	2.8	2.0	1.7	8.8
Isophorone	78-59-1	ca	10000	7400	6100	2.7
Isopropanol	67-63-0	nc	14000	9500	6800	1.1
Lead and Compounds ¹⁴	7439-92-1	nc	400	400	400	n/a
Mercuric Chloride ⁸	7487-94-7	nc	41	30	25	3.9
Mercury (elemental)	7439-97-6	nc	3.1 ¹⁰	3.1 ¹⁰	3.1 ¹⁰	0.36
Methanol	67-56-1	nc	1.0 x 10 ⁵ ; ⁹	1.0 x 10 ⁵ ; ⁹	1.0 x 10 ⁵ ; ⁹	54
Methoxychlor	72-43-5	nc	550	410	340	13
Methyl Ethyl Ketone (2-Butanone)	78-93-3	nc	23000 ¹⁰	23000 ¹⁰	23000 ¹⁰	15
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	nc	2200 ¹⁰	2200 ¹⁰	2200 ¹⁰	18
Methyl Mercury	22967-92-6	nc	14	10	8.3	180
Methyl tert-Butyl Ether (MTBE)	1634-04-4	ca	970	670	480	0.40
Methylene Chloride	75-09-2	nc	630	460	360	0.33
Methylnaphthalene, 1-	90-12-0	ca	68 ¹⁰	68 ¹⁰	68 ¹⁰	0.41
Methylnaphthalene, 2-	91-57-6	nc	420	310	250	1.3
Naphthalene ⁷	91-20-3	ca	42	29	20	0.038
Nickel Soluble Salts	7440-02-0	nc	2600	2000	1700	340
Nitrobenzene	98-95-3	ca	63	43	31	0.0079
Nitroglycerin	55-63-0	nc	11	8.2	6.7	0.0082
Nitroguanidine	556-88-7	nc	11000	8200	6700	5.8
Nitrosodimethylamine, N-	62-75-9	m	0.036	0.026	0.020	3.3 x 10 ⁻⁶
Nitroso-di-N-propylamine, N-	621-64-7	ca	1.4	1.00	0.82	0.00068
Nitrosodiphenylamine, N-	86-30-6	ca	1900	1400	1200	4.6
Nitrotoluene, m-	99-08-1	nc	11	8.2	6.7	0.013
Nitrotoluene, o-	88-72-2	ca	55	41	34	0.024
Nitrotoluene, p-	99-99-0	nc	440	330	270	0.32
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	nc	6700	5000	4100	9.7
Octyl Phthalate, di-N-	117-84-0	nc	1100	820	670	370

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
Pentachlorophenol	87-86-5	ca	18	13	11	0.0043
Pentaerythritol tetranitrate (PETN)	78-11-5	nc	220	160	130	0.43
Perfluorooctane Sulfonate (PFOS) ²⁰	1763-23-1	nc	2.2	1.6	1.3	0.0030
Perfluorooctanoic Acid (PFOA) ²⁰	335-67-1	nc	2.2	1.6	1.3	0.0017
Phenanthrene ^{7,8}	85-01-8	nc	3100	2300	1900	39
Phenol	108-95-2	nc	33000	25000	20000	29
Phosphorus, White	7723-14-0	nc	2.7	2.0	1.7	0.020
Polychlorinated Biphenyls (total) ¹⁵	1336-36-3	ca	1.0	1.0	1.0	n/a
Propyl benzene	103-65-1	nc	52 ¹⁰	52 ¹⁰	52 ¹⁰	9.1
Pyrene ⁷	129-00-0	nc	3100	2300	1900	87
Selenium	7782-49-2	nc	680	510	410	6.9
Silver	7440-22-4	nc	680	510	410	11
Styrene	100-42-5	nc	180 ¹⁰	180 ¹⁰	180 ¹⁰	10
TCDD, 2,3,7,8- ¹⁶	1746-01-6	ca	8.2 x 10 ⁻⁵	6.0 x 10 ⁻⁵	4.9 x 10 ⁻⁵	3.9 x 10 ⁻⁶
Tetrachloroethane, 1,1,1,2-	630-20-6	ca	30	21	15	0.022
Tetrachloroethane, 1,1,2,2-	79-34-5	ca	8.8	6.1	4.4	0.0030
Tetrachloroethylene	127-18-4	nc	68 ¹⁰	68 ¹⁰	68 ¹⁰	0.19
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	nc	270	200	170	2.5
Thallium (Soluble Salts)	7440-28-0	nc	1.4	1.00	0.83	0.19
Toluene ⁷	108-88-3	nc	200 ¹⁰	200 ¹⁰	200 ¹⁰	6.7
Toxaphene	8001-35-2	ca	8.6	6.4	5.2	0.72
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	nc	740 ¹⁰	740 ¹⁰	740 ¹⁰	1700
Trichlorobenzene, 1,2,3-	87-61-6	nc	110	81	66	0.15
Trichlorobenzene, 1,2,4-	120-82-1	nc	65	45	32	0.082
Trichloroethane, 1,1,1-	71-55-6	nc	360 ¹⁰	360 ¹⁰	360 ¹⁰	32
Trichloroethane, 1,1,2-	79-00-5	nc	2.3	1.6	1.1	0.0014
Trichloroethylene	79-01-6	nc	7.1	4.9	3.5	0.011
Trichlorofluoromethane	75-69-4	nc	980 ¹⁰	980 ¹⁰	980 ¹⁰	41

TABLE B1. METHOD TWO – SOIL CLEANUP LEVELS TABLE (See notes for additional requirements)						
Hazardous Substance	CAS Number ¹	health effect that drives risk: carcinogen (ca); noncarcinogen (nc); mutagen (m)	Arctic Zone ²	Under 40 Inch Zone ³	Over 40 Inch Zone ⁴	Migration to Groundwater ⁶ (mg/kg)
			Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	Human Health ⁵ (mg/kg)	
Trichlorophenol, 2,4,5-	95-95-4	nc	11000	8200	6700	28
Trichlorophenol, 2,4,6-	88-06-2	nc	110	82	67	0.092
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	nc	1100	820	670	0.66
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	nc	880	660	540	0.55
Trichloropropane, 1,2,3-	96-18-4	m	0.089	0.066	0.054	3.1 x 10 ⁻⁵
Trimethylbenzene, 1,2,4-	95-63-6	nc	43 ¹⁰	43 ¹⁰	33	0.16
Trimethylbenzene, 1,3,5-	108-67-8	nc	37 ¹⁰	37 ¹⁰	37 ¹⁰	1.3
Tri-n-butyltin	688-73-3	nc	41	30	25	0.68
Trinitrobenzene, 1,3,5-	99-35-4	nc	3900	2900	2400	15
Trinitrotoluene, 2,4,6-	118-96-7	nc	64	47	39	0.39
Vanadium and Compounds	7440-62-2	nc	680	510	420	1100
Vinyl Acetate	108-05-4	nc	2100	1400	1000	1.1
Vinyl Chloride	75-01-4	ca	0.69	0.65	0.61	0.00080
Xylenes ⁷	1330-20-7	nc	57 ¹⁰	57 ¹⁰	57 ¹⁰	1.5
Zinc and Compounds	7440-66-6	nc	41000	30000	25000	4900

See notes to table for further requirements. "n/a" means not applicable.

NOTES TO TABLE B1 FOLLOW TABLE B2 IN (d) OF THIS SECTION

(d) If a responsible person uses method two for petroleum hydrocarbons under 18 AAC 75.340, the soil cleanup levels must be based on Table B2 in this subsection.

TABLE B2. METHOD TWO - PETROLEUM HYDROCARBON SOIL CLEANUP LEVELS

Petroleum Hydrocarbon Range	Arctic Zone ² mg/kg			Under 40 Inch Zone ³			Over 40 Inch Zone ⁴			Maximum Allowable Concentrations ¹⁷ mg/kg
	Ingestion (mg/kg) ¹⁸	Inhalation (mg/kg) ¹⁹	Migration to Groundwater (mg/kg) ⁶	Ingestion (mg/kg) ¹⁸	Inhalation (mg/kg) ¹⁹	Migration to groundwater (mg/kg) ⁶	Ingestion (mg/kg) ¹⁸	Inhalation (mg/kg) ¹⁹	Migration to Groundwater (mg/kg) ⁶	
For Laboratory Analysis using AK Methods 101, 102, and 103										
C ₆ -C ₁₀ GRO using AK 101	1400	1400	n/a	1400	1400	300	1400	1400	260	1400
C ₁₀ -C ₂₅ DRO using AK 102	12500	12500	n/a	10250	12500	250	8250	12500	230	12500
C ₂₅ -C ₃₆ RRO using AK 103	13700	22000	n/a	10000	22000	11000	8300	22000	9700	22000
For Laboratory Analysis using AK Aliphatic and Aromatic Fraction Methods 101AA, 102AA, and 103AA										
C ₆ -C ₁₀ Aliphatics	1000	1000	n/a	1000	1000	270	1000	1000	240	1000
C ₆ -C ₁₀ Aromatics	1000	1000	n/a	1000	1000	150	1000	1000	130	1000
C ₁₀ -C ₂₅ Aliphatics	10000	10000	n/a	10000	10000	7200	8300	10000	6400	10000
C ₁₀ -C ₂₅ Aromatics	5000	5000	n/a	4100	5000	100	3300	5000	90	5000
C ₂₅ -C ₃₆ Aliphatics	20000	20000	n/a	20000	20000	20000	20000	20000	20000	20000
C ₂₅ -C ₃₆ Aromatics	4100	10000	n/a	3000	10000	3300	2500	10000	2900	10000
See notes to table for further requirements. "n/a" means not applicable.										

Notes to Tables B1 and B2:

If applicable, alternative cleanup levels must be protective of migration to surface water. Concentrations of hazardous substances in soil must be calculated and presented on a per dry weight basis. For volatile organic hazardous substances for which toxicity data are not currently available or calculated levels exceed the calculated saturation concentration, the cleanup level that applies at a site is the calculated saturation concentration determined using the equations set out in the *Procedures for Calculating Cleanup Levels*, adopted by reference in 18 AAC 75.340. The cleanup level from Table B1 or B2 that applies at a site is the most stringent of the applicable exposure pathway-specific cleanup levels based on human health, ingestion, inhalation, or migration to groundwater. Where the superscript figure “9” follows the exponent “10⁵”, separated by a semicolon, the figure “9” refers to Note 9.

1. “CAS Number” means the Chemical Abstract Service (CAS) registry number uniquely assigned to chemicals by the American Chemical Society and recorded in the CAS Registry System.

2. “Arctic zone” is defined at 18 AAC 75.990.

3. “Under 40 inch zone” means a site that receives mean annual precipitation of less than 40 inches each year.

4. “Over 40 inch zone” means a site that receives mean annual precipitation of 40 or more inches each year.

5. The “Human Health” exposure pathway is the cumulative exposure pathway through dermal contact, ingestion, and inhalation of volatile and particulate compounds from hazardous substances in the soil but excludes the vapor intrusion pathway of indoor air inhalation.

6. The “Migration to Groundwater” exposure pathway is the potential for hazardous substances to leach to groundwater where they may result in a completed human health exposure pathway through dermal contact, ingestion, or inhalation of contaminants at or above levels listed in Table C at 18 AAC 75.345(b)(1); soil cleanup levels protective of migration to surface water must be determined on a site-specific basis.

7. If using method two or method three, the applicable petroleum hydrocarbon cleanup levels must be met in addition to the applicable chemical-specific cleanup levels for benzene, ethylbenzene, toluene, and total xylenes; the chemical-specific cleanup levels for the polynuclear aromatic hydrocarbons acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]pyrene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, phenanthrene, and pyrene must also be met unless the department determines that those cleanup levels need not be met to protect human health, safety, and welfare, and the environment.

8. Where one or more toxicological values were unavailable, toxicity values from surrogate compounds or other sources were used as follows:

(A) pyrene is a toxicity surrogate for acenaphthylene, benzo(g,h,i) perylene, and phenanthrene;

(B) 1,2-dichlorobenzene is a toxicity surrogate for 1,3-dichlorobenzene;

(C) diethylphthalate is a toxicity surrogate for dimethylphthalate;

(D) elemental mercury is a toxicity surrogate for mercuric chloride.

9. The ceiling limit of 100,000 mg/kg is equivalent to a chemical representing 10 percent by weight of the soil sample. At this contaminant concentration and higher, the assumptions for soil contact may be violated (for example, soil adherence and wind-borne dispersion

assumptions) due to the presence of the foreign substance itself.

10. These levels are based on soil saturation level (C_{sat}) using the equations set out in *Procedures for Calculating Cleanup Levels*, adopted by reference in 18 AAC 75.340. Refer to the *Procedures for Calculating Cumulative Risk*, adopted by reference in 18 AAC 75.325, for inhalation risk screening levels.

11. Due to the prevalence of naturally occurring arsenic throughout the state, arsenic at a site will be considered background arsenic unless anthropogenic contribution from a source, activity, or mobilization by means of another introduced contaminant is known or suspected.

12. Due to the prevalence of naturally occurring chromium III throughout the state, sample results reported for total chromium detected at a site will be considered background chromium III unless anthropogenic contribution of chromium III or VI from a source, activity, or mobilization by means of another introduced contaminant is known or suspected. The calculated chromium III migration to groundwater cleanup level exceeds 1,000,000 parts per million.

13. Cyanide expressed as free, or physiologically available cyanide.

14. Lead cleanup levels are based on land use; for residential land use, the soil cleanup level is 400 mg/kg. For commercial or industrial land use, as applied in 18 AAC 75.340(e)(3), the soil cleanup level is 800 mg/kg; through an approved site-specific risk assessment, conducted according to the *Risk Assessment Procedures Manual*, adopted by reference in 18 AAC 75.340, approved exposure models may be used to evaluate exposure to a child resident or an adult worker; a responsible person may also propose an alternative cleanup level, through a site-specific risk assessment conducted according to the *Risk Assessment Procedures Manual*, and based on a chemical speciation of the lead present at the site. For soils contaminated with lead more than 15 feet below ground surface, lead cleanup levels will be determined on a site-specific basis.

15. For unrestricted land use, polychlorinated biphenyls (PCBs) in soil shall be cleaned up to the listed value, unless the department determines that a different cleanup level is necessary as provided in 18 AAC 75.340(i); with the prior approval of the department, PCBs in soil may be cleaned up to

(A) between 1 and 10 mg/kg if the responsible person

(i) caps each area containing PCBs in soil at levels between 1 and 10 mg/kg; for purposes of this Note 15, “caps” means covering an area of PCB contaminated soil with an appropriate material to prevent exposure of humans and the environment to PCBs; to be approved, a cap must be designed and constructed of a material acceptable to the department and of sufficient strength and durability to withstand the use of the surface that is exposed to the environment; within 72 hours after discovery of a breach to the integrity of a cap, the responsible person or the landowner shall initiate repairs to that breach; and

(ii) provides the department within 60 days after completing the cleanup, documentation that the responsible person has recorded a deed notation in the appropriate land records, or on another instrument that is normally examined during a title search, documenting that PCBs remain in the soil, that the contaminated soil has been capped, and that subsequent interest holders may have legal obligations with respect to the cap and the contaminated soil; or

(B) an alternative PCB soil cleanup level developed through an approved site-specific risk assessment, conducted according to the *Risk Assessment Procedures Manual*, adopted by reference at 18 AAC 75.340.

16. This cleanup level is for 2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin (TCDD) only; all cleanup levels for polychlorinated dibenzo-*p*-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) congeners must be determined on a site-specific basis.

17. This level is the concentration of C₆ - C₁₀, C₁₀ - C₂₅, or C₂₅ - C₃₆ petroleum hydrocarbon range in surface and subsurface soil that if exceeded, indicates an increased potential for hazardous substance migration or for risk to human health, safety, or welfare, or to the environment; the level of a petroleum hydrocarbon may not remain at a concentration above the maximum allowable concentration unless a responsible person demonstrates that the petroleum hydrocarbon will not migrate and will not pose a significant risk to human health, safety, or welfare, or to the environment; free product must be recovered as required by 18 AAC 75.325(f).

18. "Ingestion" means a potential pathway of exposure to hazardous substances through direct consumption of the soil.

19. "Inhalation" means a potential pathway to volatile organic hazardous substances in the soil through volatilization.

20. Toxicity values for PFOS and PFOA were sourced from EPA's *Health Effects Support Document for Perfluorooctane Sulfonate (PFOS)* (EPA 922-R-16-002), dated May 2016, and *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)* (EPA 822-R-16-003), dated May 2016.

(Eff. 1/22/99, Register 149; am 8/27/2000, Register 155; am 10/9/2008, Register 188; am 11/6/2016, Register 220)

Authority:	AS 46.03.020	AS 46.03.740	AS 46.04.070
	AS 46.03.050	AS 46.03.745	AS 46.09.020
	AS 46.03.710	AS 46.04.020	

Editor's note: The applicable EPA rule governing disposal and cleanup of PCB contaminated facilities under 40 C.F.R. Part 761.61 (PCB remediation waste) may apply to PCB cleanup at a contaminated site. The PCB cleanup levels listed in Table B1 are based on cleanup levels referred to in 40 C.F.R. 761.61 for high occupancy areas with no cap.

18 AAC 75.345. Groundwater and surface water cleanup levels. (a) Except as otherwise provided in this section, cleanup of a discharge or release of a hazardous substance to groundwater or surface water must meet the requirements of this section.

(b) Contaminated groundwater must meet

(1) the cleanup levels in Table C if the current use or the reasonably expected potential future use of the groundwater, determined under 18 AAC 75.350, is a drinking water source;