

ONTARIO REGULATION 153 STANDARDS: 2004 vs. 2011

SOIL (µg/g)

Table with columns: Contaminant, Table 1: Background (Agricultural or Other Property Use, Residential/ Parkland / Institutional / Industrial / Commercial / Community Property Use), Table 2: Potable Ground Water (Agricultural or Other Property Use, Residential/ Parkland/ Institutional Property Use, Industrial/ Commercial/ Community Property Use), Table 3: Non-Potable Ground Water (Residential/ Parkland / Institutional Property Use, Industrial/ Commercial / Community Property Use), Table 8: Potable GW (Agricultural or Other Property Use, Res / Park / Institutional / Ind / Com / Community Property Use), Table 9: Non-Potable GW (Res / Park / Institutional / Ind / Com / Community Property Use), Sediment All Tables (All Types of Property Use). Rows include BTEX/PHCs, Inorganics, and VOC categories with various contaminants like Benzene, Arsenic, and Chromium VI.

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**ONTARIO REGULATION 153 STANDARDS: 2004 vs. 2011**

**SOIL (µg/g)**

Contaminant	Table 1: Background				Table 2: Potable Ground Water												Table 3: Non-Potable Ground Water								Table 8: Potable GW			Table 9: Non-Potable GW	Sediment All Tables
	Agricultural or Other Property Use		Residential/ Parkland / Institutional / Industrial / Commercial / Community Property Use		Agricultural or Other Property Use				Residential/ Parkland/ Institutional Property Use				Industrial/ Commercial/ Community Property Use				Residential/ Parkland / Institutional Property Use				Industrial/ Commercial / Community Property Use				Agricultural or Other Property Use	Res / Park / Institutional / Ind / Com / Community Property Use	Res / Park / Institutional / Ind / Com / Community Property Use	All Types of Property Use	
	2004	2011	2004	2011	2004		2011		2004		2011		2004		2011		2004		2011		2004		2011		2011	2011	2011	2004 & 2011	
					Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse			
<b>PAH</b>																													
Acenaphthene	0.05	0.05	0.07	0.072	15	29	7.9	15	29	7.9	15	29	21	1000	58	7.9	1300	96	0.05	0.072	0.072	NV							
Acenaphthylene	0.08	0.093	0.08	0.093	100	0.17	0.15	100	0.17	0.15	130	0.17	0.15	100	0.17	0.15	840	0.17	0.15	0.093	0.093	0.093	NV						
Anthracene	0.05	0.05	0.16	0.16	28	0.74	0.67	28	0.74	0.67	28	0.74	0.67	28	0.74	0.67	28	0.74	0.67	0.22	0.22	0.22	0.22						
Benzo[ <i>a</i> ]anthracene	0.1	0.095	0.74	0.36	6.6	0.63	0.5	6.6	0.63	0.5	6.6	0.96	40	0.63	0.5	40	0.96	0.32	0.36	0.36	0.36	0.32							
Benzo[ <i>a</i> ]pyrene	0.1	0.05	0.49	0.3	12	0.78	12	0.3	1.9	0.3	12	0.78	12	0.3	1.9	0.3	0.078	0.3	0.3	0.3	0.3	0.37							
Benzo[ <i>b</i> ]fluoranthene	0.3	0.3	0.47	0.47	12	0.78	12	0.78	18	0.96	12	0.78	19	0.96	12	0.78	19	0.96	0.3	0.47	0.47	NV							
Benzo[ <i>g,h,i</i> ]perylene	0.2	0.2	0.68	0.68	40	7.8	6.6	40	7.8	6.6	40	9.6	40	7.8	6.6	40	9.6	0.2	0.68	0.68	0.17								
Benzo[ <i>k</i> ]fluoranthene	0.05	0.05	0.48	0.48	12	0.78	12	0.78	18	0.96	12	0.78	19	0.96	12	0.78	19	0.96	0.24	0.48	0.48	0.24							
Chrysene	0.18	0.18	0.69	2.8	12	7.8	7	12	7.8	7	17	9.6	12	7.8	7	19	9.6	0.34	2.8	2.8	0.34								
Dibenzo[ <i>a,h</i> ]anthracene	0.15	0.1	0.16	0.1	1.2	0.1	1.2	0.1	1.9	0.1	1.2	0.1	1.9	0.1	1.2	0.1	1.9	0.1	0.1	0.1	0.1	0.06							
Fluoranthene	0.24	0.24	1.1	0.56	40	0.69	40	0.69	40	0.69	40	9.6	40	0.69	40	9.6	0.69	0.69	0.69	0.69	0.69	0.75							
Fluorene	0.05	0.05	0.12	0.12	340	69	62	340	69	62	340	69	62	350	69	62	350	69	62	0.19	0.19	0.19	0.19						
Indeno[1,2,3- <i>cd</i> ]pyrene	0.11	0.11	0.38	0.23	12	0.48	0.38	12	0.48	0.38	19	0.95	0.76	12	0.48	0.38	19	0.95	0.76	0.2	0.23	0.23	0.2						
Methylnaphthalene, 1-	0.05	NV	0.26																										
Methylnaphthalene, 2-	0.05	NV	0.29																										
Methylnaphthalene, 2-(1-) <sup>***</sup>		0.05		0.59	1.2	3.4	0.99	1.2	3.4	0.99	1.2	42	30	1000	280	3.4	0.99	1600	280	85	76	0.05	0.59	0.59	NV				
Naphthalene	0.05	0.05	0.09	0.09	4.6	0.75	0.6	4.6	0.75	0.6	4.6	28	9.6	40	0.75	0.6	40	28	9.6	0.05	0.09	0.09	NV						
Phenanthrene	0.19	0.19	0.69	0.69	40	7.8	6.2	40	7.8	6.2	40	16	12	40	7.8	6.2	40	16	12	0.56	0.69	0.69	0.56						
Pyrene	0.19	0.19	1	1	250	78	250	78	250	96	250	96	250	78	250	96	250	96	0.49	1	1	0.49							
<b>Phenols</b>																													
Chlorophenol, 2-	0.1	0.1	0.1	0.1	0.1	2	1.6	0.1	2	1.6	0.1	3.9	3.1	10	2	1.6	10	3.9	3.1	0.1	0.1	0.1	NV						
Dichlorophenol, 2,4-	0.1	0.1	0.1	0.1	0.3	0.27	0.19	0.3	0.27	0.19	0.3	0.27	0.19	10	2.1	1.7	10	4.2	3.4	0.1	0.1	0.1	NV						
Dimethylphenol, 2,4-	0.2	0.2	0.2	0.2	0.94	53	38	0.94	53	38	140	420	390	140	420	390	140	440	390	0.2	0.2	0.2	NV						
Dinitrophenol, 2,4-	0.2	2	0.2	2	0.2	2.9	2	0.2	2.9	2	0.2	2.9	2	4.1	38		4.1	66	59	2	2	2	NV						
Pentachlorophenol	0.1	0.1	0.1	0.1	5	0.1	5	0.1	5	3.3	2.9	5	3.3	5	0.1	5	3.3	2.9	0.1	0.1	0.1	NV							
Phenol	0.1	0.5	0.1	0.5	40	9.4	40	9.4	40	9.4	40	9.4	40	9.4	40	9.4	40	9.4	0.5	0.5	0.5	NV							
Trichlorophenol, 2,4,5-	0.1	0.1	0.1	0.1	3.2	5.5	4.4	3.2	5.5	4.4	3.2	10	9.1	10	5.5	4.4	10	10	10	0.1	0.1	0.1	NV						
Trichlorophenol, 2,4,6-	0.1	0.1	0.1	0.1	0.66	2.9	2.1	0.66	2.9	2.1	0.66	2.9	2.1	10	4.2	3.8	10	4.2	3.8	0.1	0.1	0.1	NV						
<b>OC Pesticide &amp; PCBs</b>																													
Aldrin	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.11	0.088	0.05	0.05	0.05	0.05	0.11	0.088	0.05	0.05	0.05	0.002						
Chlordane	0.05	0.05	0.05	0.05	0.29	0.05	0.29	0.05	0.29	0.05	0.29	0.05	0.29	0.29	0.05	0.29	0.05	0.29	0.05	0.05	0.05	0.05	0.007						
DDD	NV	0.05	NV	0.05	2.2	3.3	2.2	3.3	3.5	4.6	2.2	3.3	3.5	2.2	3.3	3.5	4.6	0.05	0.05	0.05	0.05	0.008							
DDE	NV	0.05	NV	0.05	1.6	0.33	0.26	1.6	0.33	0.26	2.4	0.65	0.52	1.6	0.33	0.26	2.4	0.65	0.52	0.05	0.05	0.05	0.005						
DDT	0.12	0.078	1.4	1.4	1.6	0.78	1.6	0.78	2	1.4	2	1.4	1.6	1.4	2	1.4	1.6	0.78	1.4	1.4	0.078	1.4	0.007						
Dieldrin	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.11	0.088	0.05	0.05	0.05	0.05	0.11	0.088	0.05	0.05	0.05	0.05	0.002						
Endosulfan	NV	0.04	NV	0.04	0.18	0.04	0.18	0.04	0.18	0.04	0.38	0.3	0.29	0.04	0.29	0.04	0.38	0.3	0.04	0.04	0.04	NV							
Endrin	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.003						
Heptachlor	0.05	0.05	0.05	0.05	0.12	0.084	0.15	0.15	0.12	0.084	0.15	0.15	0.15	0.15	0.084	0.15	0.15	0.15	0.084	0.15	0.15	0.05	NV						
Heptachlor Epoxide	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.05	0.09	0.05	0.06	0.05	0.06	0.06	0.05	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.005						
Hexachlorobenzene	NV	0.01	NV	0.01	0.46	0.52	0.46	0.52	0.76	0.66	0.46	0.52	0.76	0.46	0.52	0.76	0.66	0.46	0.52	0.02	0.02	0.02	0.02						
Hexachlorobutadiene	NV	0.01	NV	0.01	2.2	0.38	0.014	0.012	2.2	0.38	0.014	0.012	2.2	0.38	0.095	0.031	2.4	0.38	0.095	0.031	0.01	0.01	0.01	NV					
Hexachlorocyclohexane, gamma-	NV	0.01	NV	0.01	0.41	0.063	0.056	0.41	0.063	0.056	0.49	0.063	0.056	0.49	0.063	0.056	0.49	0.063	0.056	0.01	0.01	0.01	NV						
Methoxychlor	0.05	0.05	0.05	0.05	4	0.13	4	0.13	4	1.6	4	1.6	4	1.6	4	1.6	4	1.6	4	0.05	0.05	0.05	NV						
Polychlorinated Biphenyls	0.3	0.3	0.3	0.3	0.5	0.35	5	0.35	25	1.1	5	0.35	25	1.1	5	0.35	25	1.1	0.3	0.3	0.3	0.07							
<b>SVOC</b>																													
Biphenyl, 1,1'-	NV	0.05	NV	0.05	0.89	1.1	0.31	0.89	1.1	0.31	0.89	210	52	4.3	1.1	0.31	4.3	210	52	0.05	0.05	0.05	NV						
bis(2-chloroethyl)ether	NV	0.5	NV	0.5	0.66	0.5	0.66	0.5	0.66	0.5	0.66	0.5	0.66	0.66	0.5	0.66	0.66	0.5	0.66	0.5	0.5	0.5	NV						
bis(2-chloroisopropyl)ether	NV	0.5	NV	0.5	0.66	1.8	0.67	0.66	1.8	0.67	0.66	13	11	1.9	1.8	0.67	2.6	1.8	11	0.5	0.5	0.5	NV						
bis(2-ethylhexyl)phthalate	NV	5	NV	5	100	5	100	5	100	5	100	35	28	130	5	28	330	35	28	5	5	5	NV						
Chloroaniline, p-	NV	0.5	NV	0.5	1.3	0.53	0.5	1.3	0.53	0.5	1.3	0.53	0.5	1.3	0.53	0.5	1.3	0.53	0.5	0.5	0.5	0.5	NV						
Dichlorobenzidine, 3,3'-	NV	1	NV	1	1.3	1	1.3	1	1.3	1	1.3	1	1.3	1.3	1	1.3	1.3	1	1.3	1	1	1	NV						
Diethyl Phthalate	NV	0.5	NV	0.5	0.71	0.5	0.71	0.5	0.71	0.5	0.71	0.5	0.71	0.71	0.5	0.71	0.71	0.5	0.71	0.5	0.5	0.5	NV						
Dimethylphthalate	NV	0.5	NV	0.5	0.7	0.5	0.7	0.5	0.7	0.5	0.7	0.5	0.7	0.7	0.5	0.7	0.7	0.5	0.7	0.5	0.5	0.5	NV						
Dinitrotoluene, 2,4- & 2,6-	NV	0.5	NV	0.5	0.66	0.5	0.66	0.5	0.66	0.5	0.66	0.5	0.66	1.1	0.92	1.8	1.2	0.5	0.5	0.5	0.5	NV							
Hexachloroethane	NV	0.01	NV	0.01	6.3	3.8	0.07	0.089	6.3	3.8	0.07	0.089	8.5	3.8	0.43	0.21	6.3	3.8	0.43	0.21	0.01	0.01	0.01	NV					
Trichlorobenzene, 1,2,4-	NV	0.05	NV	0.05	30	1.4	0.36	30	1.4	0.36	30	16	3.2	30	1.4	0.36	30	16	3.2	0.05	0.05	0.05	NV						
<b>Additional Parameters</b>																													
Dioxin/Furan (TEQ)	0.000007	0.000007	0.000007	0.000007	0.00001	0.000013	0.001	0.000013	0.001	0.000013	0.001	0.00099	0.0084	0.001	0.000013	0.001	0.00099	0.000007	0.000007	0.000007	NV								
Methyl Mercury****	NV	NV	NV	NV	6.8	0.0094	0.0084	6.8	0.0094	0.0084	10	0.0094	0.0084	6.8	0.0094	0.0084	10	0.0094	0.0084	NV	NV	NV	NV						

\* F1 fraction does not include BTEX; however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result.  
 \*\* The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), as ecological criteria are not considered.  
 \*\*\*The methylnaphthalene standards are applicable to both 1-methylnaphthalene and 2-methy

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Water (µg/L)

Contaminant	Table 1: Background		Table 2: Potable Ground Water				Table 3: Non-Potable Ground Water				Table 8: Potable GW	Table 9: Non-Potable GW
	All Types of Property Use		All Types of Property Use				All Types of Property Use				All Types of Property Use	All Types of Property Use
	2004	2011	2004		2011		2004		2011		2011	2011
			Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Med / Fine	Coarse	Values compared to 2004 Table 1	Values compared to 2004 Table 1
<b>BTEX/PHCs</b>												
Benzene	5	0.5	5		5		12000	1900	430	44	5	44
Ethylbenzene	2.4	0.5	2.4		2.4		50000	28000	2300	2300	2.4	1800
Toluene	0.8	0.8	24		24		37000	5900	18000	18000	22	14000
Xylene Mixture	72	72	300		300		35000	5600	4200	4200	300	3300
Petroleum Hydrocarbons F1*	NV	420	1000		750		NV		750	750	420	420
Petroleum Hydrocarbons F2	NV	150			150		NV		150	150	150	150
Petroleum Hydrocarbons F3	NV	500			500		NV		500	500	500	500
Petroleum Hydrocarbons F4	NV	500			500		NV		500	500	500	500
<b>Inorganics</b>												
Antimony	6	1.5	6		6		16000		20000		6	16000
Arsenic	25	13	25		25		480	25	1900		25	1500
Barium	NV	610	1000		1000		23000		29000		1000	23000
Beryllium	4	0.5	4		4		53		67		4	53
Boron (total)	200	1700	5000		5000		50000		45000		5000	36000
Cadmium	0.5	0.5	5		2.7		11		2.7		2.7	2.1
Chloride	NV	790000	250000		790000		NV		2300000		790000	1800000
Chromium Total	8.9	11	50		50		2000		810		50	640
Chromium VI	10	25	50		25		110		140		25	110
Cobalt	0.9	3.8	100		3.8		100		66		3.8	52
Copper	2.5	5	23		87		23		87		69	69
Cyanide (CN-)	5	5	52		66		52		66		52	52
Electrical Conductivity (mS/cm)	NA	NA	NA		NA		NA		NA		NA	NA
Lead	1	1.9	10		10		32		25		10	20
Mercury	0.02	0.1	0.12		1	0.29	0.12		2.8	0.29	0.29	0.29
Molybdenum	40	23	7300		70		7300		9200		70	7300
Nickel	25	14	100		100		1600		490		100	390
Nitrate+	NV	NV	10000		NV		NV		NV		NV	NV
Nitrite+	NV	NV	1000		NV		2000		NV		NV	NV
Selenium	5	5	10		10		50		63		10	50
Silver	0.25	0.3	1.2		1.5		1.2		1.5		1.2	1.2
Sodium	NV	490000	200000		490000		NV		2300000		490000	1800000
Sodium Adsorption Ratio	NA	NA	NA		NA		NA		NA		NA	NA
Thallium	0.5	0.5	2		2		400		510		2	400
Uranium (**NEW**)		8.9	20		6.2				420		20	330
Vanadium	6	3.9	200		6.2		200		250		6.2	200
Zinc	20	160	1100		1100		1100		890		1100	890
<b>VOC</b>												
Acetone	NV	2700	3000		2700		3300		130000		2700	100000
Benzene	5	0.5	5		5		12000	1900	430	44	5	44
Bromodichloromethane	5	2	5		16		52000		85000		16	67000
Bromoform	5	5	5		25		5200	840	770	380	25	380
Bromomethane	0.9	0.89	10	3.7	0.89	0.89	16	3.7	56	5.6	0.89	5.6
Carbon Tetrachloride	0.5	0.2	5		5	0.79	100	17	8.4	0.79	0.79	0.79
Chlorobenzene	15	0.5	30		30		500		630		30	500
Chloroform	0.5	2	5		22	2.4	2700	430	22	2.4	2.4	2.4
Dibromochloromethane	0.5	2	5		25		50000		82000		25	65000
Dichlorobenzene, 1,2-	2.5	0.5	3		3		7600		9600	4600	3	4600
Dichlorobenzene, 1,3-	2.5	0.5	630		59		7600		9600		59	7600
Dichlorobenzene, 1,4-	1	0.5	1		1		7600		67	8	1	8
Dichlorodifluoromethane (**NEW**)		590			590				4400		590	3500
Dichloroethane, 1,1-	70	0.5	70		5		50000	9000	3100	320	5	320
Dichloroethane, 1,2-	5	0.5	5		5	1.6	110	17	12	1.6	5	1.6
Dichloroethylene, 1,1-	0.66	0.5	4.1	0.66	14	1.6	4.1	0.66	17	1.6	1.6	1.6
Dichloroethylene, 1,2-cis-	70	1.6	70		17	1.6	70		17	1.6	1.6	1.6
Dichloroethylene, 1,2-trans-	100	1.6	100		17	1.6	100		17	1.6	1.6	1.6
Dichloropropane, 1,2-	0.7	0.5	5		5		58	9.3	140	16	5	16
Dichloropropane, 1,3-	1.4	0.5	1.4		0.5		24	3.8	45	5.2	0.5	5.2
Dioxane, 1,4- (**NEW**)		50			50				7300000	1900000	50	1900000
Ethylbenzene	2.4	0.5	2.4		2.4		50000	28000	2300	2300	2.4	1800
Ethylene dibromide	1	0.2	1		0.2		21	3.3	0.83	0.25	0.2	0.25
Hexane (n) (**NEW**)		5			520	51			520	51	51	51
Methyl Ethyl Ketone	350	400	350		1800		50000		1500000	470000	1800	470000
Methyl Isobutyl Ketone	NV	640	350		640		50000		580000	140000	640	140000
Methyl tert-Butyl Ether (MTBE)	200	15	700		15		50000		1400	190	15	190
Methylene Chloride	50	5	50		50		50000		5500	610	50	610
Styrene	4	0.5	100		5.4		5900	940	9100	1300	5.4	1300
Tetrachloroethane, 1,1,1,2-	5	1.1	5		1.1		38	6	28	3.4	1.1	3.4
Tetrachloroethane, 1,1,2,2-	1	0.5	1		1		140	22	15	3.2	1	3.2
Tetrachloroethylene	5	0.5	5		17	1.6	5		17	1.6	1.6	1.6
Toluene	0.8	0.8	24		24		37000	5900	18000	18000	22	14000
Trichloroethane, 1,1,1-	10	0.5	200		200		200		6700	640	200	640
Trichloroethane, 1,1,2-	5	0.5	5		5	4.7	50000	16000	30	4.7	4.7	4.7
Trichloroethylene	20	0.5	50		5	1.6	50		17	1.6	1.6	1.6
Trichlorofluoromethane (**NEW**)		150			150				2500		150	2000
Vinyl Chloride	0.5	0.5	1.3	0.5	1.7	0.5	1.3	0.5	1.7	0.5	0.5	0.5
Xylene Mixture	72	72	300		300		35000	5600	4200	4200	300	3300
<b>PAH</b>												
Acenaphthene	1	4.1	20		4.1		1700		1700	600	4.1	600
Acenaphthylene	1	1	310		1		2000		1.8		1	1.4
Anthracene	0.05	0.1	12		2.4		12		2.4		1	1
Benzo[a]anthracene	0.1	0.2	0.2		1		5		4.7		1	1.8
Benzo[a]pyrene	0.005	0.01	0.01		0.01		1.9		0.81		0.01	0.81
Benzo[b]fluoranthene	0.05	0.1	0.2		0.1		7		0.75		0.1	0.75
Benzo[g,h,i]perylene	0.1	0.2	0.2		0.2		0.2		0.2		0.2	0.2
Benzo[k]fluoranthene	0.05	0.1	0.2		0.1		0.4		0.4		0.1	0.4
Chrysene	0.05	0.1	0.5		0.1		3		1		0.1	0.7
Dibenz[a,h]anthracene	0.1	0.2	0.2		0.2		0.25		0.52		0.2	0.4
Fluoranthene	1	0.4	130		0.41		130		130		0.41	73
Fluorene	1	120	280		120		290		400		120	290
Indeno[1,2,3-cd]pyrene	0.1	0.2	0.2		0.2		0.27		0.2		0.2	0.2
Methylnaphthalene, 1-	2.5											
Methylnaphthalene, 2-	2.5											
Methylnaphthalene, 2-(1-)**	NV	2	10		3.2		13000		1800		3.2	1500
Naphthalene	7	7	21		11		6200	5900	6400	1400	11	1400
Phenanthrene	1	0.1	63		1		63		580		1	380
Pyrene	0.05	0.2	40		4.1		40		68		4.1	5.7
<b>Phenols</b>												
Chlorophenol, 2-	0.3	8.9	0.3		8.9		44000		3300		8.9	2600
Dichlorophenol, 2,4-	0.3	20	0.3		20		3700		4600		20	3700
Dimethylphenol, 2,4-	10	10	140		59		21000		39000		59	31000
Dinitrophenol, 2,4-	42	10	42		10		1500		11000		10	9000
Pentachlorophenol	0.5	0.5	30		30		130		62		30	50
Phenol	5	5	4200		890		26000		12000		890	9600
Trichlorophenol, 2,4,5-	18	0.2	200		8.9		630		1600		8.9	1300
Trichlorophenol, 2,4,6-	2	0.2	2		2		9700		230		2	180
<b>OC Pesticide &amp; PCBs</b>												
Aldrin	0.005	0.01	0.01		0.35		1.3	0.2	8.5	8.5	0.35	3
Chlordane	0.02	0.06	0.04		7		0.04		28		0.06	0.06
DDD	0.025	1.8	6		10		6		45		1.8	1.8
DDE	0.01	10	20		20		20		20		10	17
DDT												