

**Soil Cleanup Target Levels
for Petroleum Products' Contaminants of Concern
[from Table II of Chapter 62-777, F.A.C. (effective April 17, 2005)]**

Contaminants of Concern	Direct Exposure Residential (mg/kg)	Direct Exposure Commercial/ Industrial (mg/kg)	Leachability Based on Groundwater Criteria (mg/kg)	Leachability Based on Freshwater / Marine Surface Water Criteria (mg/kg)	Leachability Based on Groundwater of Low Yield/Poor Quality Criteria (mg/kg)
PAHs:					
Acenaphthene	2,400	20,000	2.1	0.3 / 0.3	21
Acenaphthylene	1,800	20,000	27	NA / NA	270
Anthracene	21,000	300,000	2,500	0.4 / 0.4	25,000
Benzo(a)anthracene	#	#	0.8	NA / NA	8
Benzo(a)pyrene	0.1	0.7	8	NA / NA	80
Benzo(b)fluoranthene	#	#	2.4	NA / NA	24
Benzo(g,h,i)perylene	2,500	52,000	32,000	NA / NA	320,000
Benzo(k)fluoranthene	#	#	24	NA / NA	240
Chrysene	#	#	77	NA / NA	770
Dibenz(a,h)anthracene	#	#	0.7	NA / NA	7
Fluoranthene	3,200	59,000	1,200	1.3 / 1.3	12,000
Fluorene	2,600	33,000	160	17 / 17	1,600
Indeno(1,2,3-cd)pyrene	#	#	6.6	NA / NA	66
Methylnaphthalene, 1-	200	1800	3.1	10 / 10	31
Methylnaphthalene, 2-	210	2100	8.5	9.1 / 9.1	85
Naphthalene	55	300	1.2	2.2 / 2.2	12
Phenanthrene	2,200	36,000	250	NA / NA	2,500
Pyrene	2,400	45,000	880	1.3 / 1.3	8,800
VOAs:					
Benzene	1.2	1.7	0.007	0.5 / 0.5	0.07
Ethylbenzene	1,500	9,200	0.6	12 / 12	6
Toluene	7,500	60,000	0.5	5.6 / 5.6	5
Xylenes, total	130	700	0.2	3.9 / 3.9	2
OTHER ORGANICS:					
Dichloroethane, 1,2-	0.5	0.7	0.01	0.2 / 0.2	0.1
MTBE	4,400	24,000	0.09	150 / 150	0.9
TRPHs	460	2,700	340	340 / 340	3,400
METALS:					
Arsenic	2.1	12	*	* / *	*
Cadmium	82	1,700	7.5	NA / 14	75
Chromium (total)	210	470	38	4.2 / 19	380
Lead	400	1400	*	NA / *	*

NA = Not Available.

* Leachability value may be determined using TCLP.

Each concentration must be converted to Benzo(a)pyrene equivalent (see pp. 61-62 of the February 2005 Technical Report). In the "BaP Conversion Table" select the "Residential" tab for 62-780.680(1) closure or the "Commercial- Industrial" tab for 62-780.680(2) closure, and enter the appropriate analytical result for each carcinogenic PAH using the instructions provided; the spreadsheet calculates the equivalent concentrations, adds them up, compares the total to the applicable Benzo(a)pyrene Direct Exposure CTL and indicates whether it is exceeded or not.

**Groundwater and Surface Water Cleanup Target Levels
for Petroleum Products' Contaminants of Concern**
[from Table I of Chapter 62-777, F.A.C. (effective April 17, 2005)]

Contaminants of Concern	Groundwater Criteria ¹ (µg/L)	Freshwater Surface Water Criteria ¹ (µg/L)	Marine Surface Water Criteria ¹ (µg/L)	Groundwater of Low Yield/Poor Quality Criteria (µg/L)
PAHs:				
Acenaphthene	20	3	3	200
Acenaphthylene	210	***	***	2,100
Anthracene	2,100	0.3	0.3	21,000
Benzo(a)anthracene	0.05	***	***	0.5
Benzo(a)pyrene	0.2 **	***	***	2
Benzo(b)fluoranthene	0.05	***	***	0.5
Benzo(g,h,i)perylene	210	***	***	2,100
Benzo(k)fluoranthene	0.5	***	***	5
Chrysene	4.8	***	***	48
Dibenz(a,h)anthracene	0.005	***	***	0.05
Fluoranthene	280	0.3	0.3	2,800
Fluorene	280	30	30	2,800
Indeno(1,2,3-cd)pyrene	0.05	***	***	0.5
Methylnaphthalene, 1-	28	95	95	280
Methylnaphthalene, 2-	28	30	30	280
Naphthalene	14	26	26	140
Phenanthrene	210	***	***	2,100
Pyrene	210	0.3	0.3	2,100
VOAs:				
Benzene	1 **	71.28 *	71.28 *	10
Ethylbenzene	30 **	610	610	300
Toluene	40 **	480	480	400
Xylenes, total	20 **	370	370	200
OTHER ORGANICS:				
Dibromoethane, 1,2- (EDB)	0.02 **	13	13	0.2
Dichloroethane, 1,2-	3 **	37	37	30
MTBE	20	34,000	34,000	200
TRPHs	5,000	5,000	5,000	50,000
METALS:				
Arsenic	10 **	50 *	50 *	100
Cadmium	5 **	#	9.3 *	50
Chromium (total)	100 **	11 *	50 *	1,000
Lead	15 **	#	8.5 *	150
OTHER INORGANICS:				
Chloride	250,000 **	NA	##	2,500,000
Sulfate	250,000 **	NA	NA	2,500,000
Total Dissolved Solids (TDS)	500,000 **	NA	NA	5,000,000

¹ See the October 12, 2004 "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits" to determine how to evaluate data when the CTL is lower than the MDL or PQL.
 * As provided in Chapter 62-302, F.A.C. # Hardness-dependent per Chapter 62-302, F.A.C.
 ** As provided in Chapters 62-520 and 62-550, F.A.C. ## Not greater than 10% above background.
 *** Annual average (see Chapter 62-302, F.A.C.). NA = Not Available.

Natural Attenuation Default Concentrations
 [from Table V of Chapter 62-777, F.A.C. (effective April 17, 2005)]

Contaminants of Concern	Source (Maximum Concentrations) (µg/L)	Perimeter (Groundwater Criteria ¹) (µg/L)
PAHs:		
Acenaphthene	200	20
Acenaphthylene	2,100	210
Anthracene	21,000	2,100
Benzo(a)anthracene	5	0.05
Benzo(a)pyrene	20	0.2 **
Benzo(b)fluoranthene	5	0.05
Benzo(g,h,i)perylene	2,100	210
Benzo(k)fluoranthene	50	0.5
Chrysene	480	4.8
Dibenz(a,h)anthracene	0.5	0.005
Fluoranthene	2,800	280
Fluorene	2,800	280
Indeno(1,2,3-cd)pyrene	5	0.05
Methylnaphthalene, 1-	280	28
Methylnaphthalene, 2-	280	28
Naphthalene	140	14
Phenanthrene	2,100	210
Pyrene	2,100	210
VOAs:		
Benzene	100	1 **
Ethylbenzene	300	30 **
Toluene	400	40 **
Xylenes, total	200	20 **
OTHER ORGANICS:		
Dibromoethane, 1,2- (EDB)	2	0.02 **
Dichloroethane, 1,2-	300	3 **
MTBE	200	20
TRPHs	50,000	5,000
METALS:		
Arsenic	100	10 **
Cadmium	50	5 **
Chromium	1,000	100 **
Lead	150	15 **
OTHER INORGANICS:		
Chloride	2,500,000	250,000 **
Sulfate	2,500,000	250,000 **
Total Dissolved Solids (TDS)	5,000,000	500,000 **

¹ See the October 12, 2004 “Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits” to determine how to evaluate data when the CTL is lower than the MDL or PQL.

** As provided in Chapters 62-520 and 62-550, F.A.C.