



		Chemical and Enhanced Biological Technologies			
Class	Contaminants	Chemical Oxidants (peroxides, persulphates, permanganates, percarbonates)	Chemical Reductants (ZVI, ferrous iron)	Aerobic Bioremediation (O ₂ , oxygen release compounds)	Anaerobic Bioremediation (lactates, edible oils, lecithin, KB-1 culture)
Petroleum Hydrocarbons (PHC)					
	Benzene, Toluene, Ethylbenzene, Xylenes	YES	no	YES	YES
	F1 Petroleum Hydrocarbons	YES	no	YES	YES
	F2 Petroleum Hydrocarbons	YES	no	YES	no
	F3 Petroleum Hydrocarbons	YES	no	YES	no
	F4 Petroleum Hydrocarbons	YES	no	no	no
Polycyclic Aromatic Hydrocarbons (PAH)					
	Light End eg. Naphthalene	YES	no	YES	YES
	Heavy End eg. Benzo(a)pyrene	YES	no	no	no
Oxygenates					
	Methyl Tert-Butyl Ether (MTBE)	YES	no	YES	no
Volatile Organic Compounds (VOC)					
	Acetone	YES	no	YES	no
	Benzene	YES	no	YES	YES
	Carbon Tetrachloride	YES	YES	no	YES
	Chlorobenzene	YES	no	YES	no
	Chlorinated Ethenes Parents (PCE, TCE)	YES	YES	no	YES
	Chlorinated Ethenes Daughters (DCE, VC)	YES	YES	YES	YES
	Chlorinated Ethanes Parents (TCA)	YES	YES	no	YES
	Chlorinated Ethanes Daughters (DCA)	YES	YES	YES	YES
	Dioxane, 1,4-	YES	no	no	no
	Ethylbenzene	YES	no	YES	YES
	Styrene	YES	no	YES	YES
	Toluene	YES	no	YES	YES
	Xylene	YES	no	YES	YES
Phenols					
	Phenol	YES	no	YES	no
	Pentachlorophenol	YES	YES	YES	YES
OC Pesticides & PCBs					
	DDT	YES	YES	no	YES
	Polychlorinated Biphenyls (PCBs)	YES	no	no	no
SVOC					
	Bis (2-ethylhexyl) phthalate	YES	no	YES	no
Energetics					
	Perchlorates	no	no	no	YES
	RDX	YES	YES	YES	YES
	TNT	YES	YES	YES	YES
Metals					
	Arsenic, Chromium VI, Lead	no	YES (Complexation)	no	YES (Complexation)

IF YOUR CONTAMINANT IS NOT LISTED, ITS REACTIVITY AND DEGRADABILITY MAY BE DEMONSTRATED BY RECENT SCIENTIFIC DATA AND/OR VERTEX'S FINDINGS IN LABORATORY STUDIES AND FIELD TRIALS. WE WILL REVIEW THE APPLICABILITY OF TECHNOLOGIES FOR YOUR SPECIFIC CONTAMINANTS AND/OR CONDUCT LABORATORY TREATABILITY TESTS AS REQUESTED. CALL A SPECIALIST TO LEARN MORE: (519) 653-8444

The Technology Selection Matrix is provided for guidance only.

It is recommended that suitable treatability studies be performed to verify applicability to your specific contaminants and site conditions.

Although the above information reflects our current knowledge & understanding, Vertex Environmental makes no warranty or representation, expressed or implied. Nothing herein should be construed as guaranteeing actual results in field use, or permission to infringe on any patent.



Physical and Mechanical

Class	Contaminants	Extraction Technologies					Screening Tools		
		Soil Vapour Extraction	Dual Phase Extraction (Pump & Treat)	Multi Phase Extraction	Thermal Desorption / Volatilization	Skimmers (Passive & Enhanced)	Catalytic Oxidation	Laser Induced Fluorescence (LIF)	Membrane Interface Probe (MIP)
Petroleum Hydrocarbons (PHC)									
	Benzene, Toluene, Ethylbenzene, Xylenes	YES	YES	YES	YES	YES	YES	no	YES (Dissolved Phase)
	F1 Petroleum Hydrocarbons	YES	YES	YES	YES	YES	YES	YES (Free Phase)	
	F2 Petroleum Hydrocarbons	YES	YES	YES	YES	YES	YES		
	F3 Petroleum Hydrocarbons	no	YES	YES	YES	YES	YES		
	F4 Petroleum Hydrocarbons	no	no	no	YES	no	YES		
Polycyclic Aromatic Hydrocarbons (PAH)									
	Light End eg. Naphthalene	YES	YES	YES	YES	YES	YES	YES (Free Phase)	YES (Dissolved Phase)
	Heavy End eg. Benzo(a)pyrene	no	no	no	YES	no	YES	YES (Free Phase)	no
Oxygenates									
	Methyl Tert-Butyl Ether (MTBE)	YES	YES	YES	YES	YES	YES	no	YES (Dissolved Phase)
Volatile Organic Compounds (VOC)									
	Acetone	YES	YES	YES	YES	no	YES	no	YES (Dissolved Phase)
	Benzene	YES	YES	YES	YES	YES	YES	no	
	Carbon Tetrachloride	YES	YES	YES	YES	no	YES	no	
	Chlorobenzene	YES	YES	YES	YES	no	YES	no	
	Chlorinated Ethenes Parents (PCE, TCE)	YES	YES	YES	YES	no	YES	no	
	Chlorinated Ethenes Daughters (DCE, VC)	YES	YES	YES	YES	no	YES	no	
	Chlorinated Ethanes Parents (TCA)	YES	YES	YES	YES	no	YES	no	
	Chlorinated Ethanes Daughters (DCA)	YES	YES	YES	YES	no	YES	no	
	Dioxane, 1,4-	no	YES	YES	YES	no	YES	no	
	Ethylbenzene	YES	YES	YES	YES	YES	YES	no	
	Styrene	YES	YES	YES	YES	no	YES	no	
	Toluene	YES	YES	YES	YES	YES	YES	no	
	Xylene	YES	YES	YES	YES	YES	YES	no	
	Phenols	FOR THESE CLASSES APPLICABILITY OF TECHNOLOGIES DEPENDS ON SPECIFIC CONTAMINANT MOLECULES AND MIXTURES ENCOUNTERED. WE WILL REVIEW FOR YOUR SPECIFIC CONTAMINANTS AND/OR CONDUCT LABORATORY TREATABILITY TESTS AS REQUESTED.							
	Polychlorinated Biphenyls (PCBs)								
	SVOC								
	Energetics								

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For more information contact: 519.653.8444 www.vertexenvironmental.ca