Tables 6-1-1
through 6-10-1

Table 6-1-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Current/Future
Receptor Population: Utility Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_fUWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	2.5E-004	--	1.2E-002	1.3E-002
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.2E+000	--	6.0E+001	6.1E+001
			1,1,2-Trichloroethane	1.9E-007	--	1.2E-005	1.2E-005	1,1,2-Trichloroethane	blood disorders	2.3E-003	--	1.4E-001	1.4E-001
			1,1,2,2-Tetrachloroethane	3.1E-007	--	2.3E-005	2.3E-005	1,1,2,2-Tetrachloroethane	liver	7.3E-005	--	5.3E-003	5.3E-003
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.5E-004	--	1.8E-002	1.8E-002
			1,2-Dichloroethane	1.5E-006	--	7.4E-005	7.5E-005	1,2-Dichloroethane	fetotoxic	1.5E-003	--	7.6E-002	7.7E-002
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	3.0E-002	--	1.5E+000	1.5E+000
			1,2-Dichloropropane	6.0E-007	--	3.0E-005	3.1E-005	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	4.8E-004	--	2.4E-002	2.5E-002
			1,3-Dichlorobenzene		--			1,3-Dichlorobenzene	circulatory	3.3E-005	--	1.7E-003	1.7E-003
			1,4-Dichlorobenzene	5.0E-008	--	2.5E-006	2.6E-006	1,4-Dichlorobenzene	GI tract	2.0E-004	--	9.8E-003	1.0E-002
			2-Butanone		--			2-Butanone	liver	1.0E-003	--	5.3E-002	5.4E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.8E-002	--	9.1E-001	9.3E-001
			2-Methylphenol		--			2-Methylphenol	liver	2.7E-004	--	1.4E-002	1.4E-002
			2,4-Dichlorophenol		--			2,4-Dichlorophenol	kidney	1.5E-003	--	7.8E-002	7.9E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	6.8E-004	--	3.4E-002	3.5E-002
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	2.1E-002	--	1.1E+000	1.1E+000
			4-Methylphenol		--			4-Methylphenol	respiratory	4.0E-003	--	3.1E-001	3.1E-001
			4,4'-DDT	9.5E-007	--	4.8E-005	4.9E-005	4,4'-DDT	fetotoxic	1.6E-002	--	7.8E-001	8.0E-001
			Acenaphthene		--			Acenaphthene	eyes	2.1E-004	--	1.0E-002	1.1E-002
			Acetone		--			Acetone	fetotoxic	7.3E-003	--	4.7E-001	4.8E-001
			Aluminum		--			Aluminum	circulatory	9.3E-003	--	4.7E-001	4.8E-001
			Anthracene		--			Anthracene	GI tract	4.1E-006	--	2.1E-004	2.1E-004
			Antimony		--			Antimony	skin	2.3E-002	--	1.2E+002	1.2E+002
			Aroclor-1242	4.2E-005	--	2.1E-003	2.2E-003	Aroclor-1242	liver		--		
			Aroclor-1248	5.9E-005	--	3.0E-003	3.0E-003	Aroclor-1248	liver		--		
			Aroclor-1254	8.1E-005	--	4.6E-003	4.6E-003	Aroclor-1254	liver	5.6E+000	--	3.2E+002	3.2E+002
			Aroclor-1260	1.8E-005	--	8.9E-004	9.1E-004	Aroclor-1260	circulatory		--		
			Arsenic	2.1E-006	--	1.1E-004	1.2E-004	Arsenic	circulatory	1.3E-002	--	7.0E-001	7.2E-001
			Barium		--			Barium		2.6E-003	--	1.3E-001	1.3E-001
			Benzene	7.7E-005	--	4.3E-003	4.4E-003	Benzene	blood disorders	2.5E+000	--	1.4E+002	1.4E+002
			Benzoic Acid		--			Benzoic Acid	GI tract	3.7E-006	--	1.8E-004	1.9E-004
			Benzo(a)anthracene	5.0E-008	--	2.5E-006	2.6E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	5.4E-007	--	3.2E-005	3.3E-005	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.1E-007	--	5.8E-006	5.9E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.1E-008	--	5.8E-007	5.9E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	8.7E-004	--	4.4E+000	4.4E+000
			bis(2-Chloroethyl) ether	4.6E-006	--	2.3E-004	2.3E-004	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	1.5E-005	--	7.4E-004	7.5E-004	bis(2-Ethylhexyl)phthalate	liver	1.5E-001	--	7.4E+000	7.5E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	2.7E-003	--	1.4E-001	1.4E-001
			Cadmium		--			Cadmium	kidney	1.6E-002	--	3.2E+001	3.2E+001
			Chlorobenzene		--			Chlorobenzene	liver	5.6E-004	--	9.2E-002	9.2E-002
			Chloroform	5.2E-006	--	2.7E-004	2.8E-004	Chloroform	circulatory	2.4E-001	--	1.2E+001	1.3E+001
			Chromium 3+		--			Chromium 3+	liver	6.7E-005	--	8.4E-001	8.4E-001
			Chrysene	7.6E-010	--	9.4E-008	9.5E-008	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	1.4E-001	--	6.8E+000	6.9E+000
			Cobalt		--			Cobalt	heart	1.4E-004	--	6.9E-003	7.1E-003
			Copper		--			Copper	liver	1.5E-003	--	1.3E-001	1.3E-001
			Cyanide (total)		--			Cyanide (total)	liver	2.1E-004	--	2.1E-002	2.1E-002
			Dibenzofuran		--			Dibenzofuran	dec growth rate	1.2E-003	--	6.0E-002	6.1E-002

Table 6-1-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Current/Future
Receptor Population: Utility Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum R/Wa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate		--			Diethylphthalate	low body wt	3.4E-005	--	1.7E-003	1.7E-003
			Dimethylphthalate		--			Dimethylphthalate	GI tract	6.7E-006	--	3.4E-004	3.5E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	2.8E-003	--	1.5E-001	1.5E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		5.5E-004	--	2.8E-002	2.8E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	7.6E-002	--	4.1E+000	4.2E+000
			Fluoranthene		--			Fluoranthene	kidney	1.1E-004	--	5.4E-003	5.5E-003
			Fluorene		--			Fluorene	skeletal	2.7E-004	--	1.3E-002	1.4E-002
			Hexachlorobenzene	3.8E-007	--	2.4E-005	2.4E-005	Hexachlorobenzene	liver	8.3E-004	--	5.2E-002	5.3E-002
			Hexachlorobutadiene	2.5E-007	--	1.3E-005	1.3E-005	Hexachlorobutadiene	low body wt	4.5E-002	--	2.3E+000	2.3E+000
			Iron		--			Iron		2.5E-002	--	1.3E+000	1.3E+000
			Isophorone	1.1E-007	--	5.7E-006	5.8E-006	Isophorone	kidney	1.7E-003	--	8.4E-002	8.6E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	6.4E-002	--	3.2E+000	3.3E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.7E-006	--	1.6E-004	1.6E-004	Methylene Chloride	liver	1.1E-002	--	9.8E-001	9.9E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	3.1E-003	--	1.7E-001	1.8E-001
			Naphthalene		--			Naphthalene	circulatory	2.6E-002	--	1.3E+000	1.3E+000
			Nickel		--			Nickel	low body wt	4.4E-004	--	4.5E-001	4.5E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	6.2E-004	--	3.5E-002	3.5E-002
			Pentachlorophenol	9.5E-007	--	4.8E-005	4.9E-005	Pentachlorophenol	liver	7.4E-004	--	3.7E-002	3.8E-002
			Phenol		--			Phenol	liver	3.5E-005	--	1.8E-003	1.8E-003
			Pyrene		--			Pyrene	liver	2.2E-004	--	1.1E-002	1.1E-002
			Selenium		--			Selenium	liver	9.7E-005	--	4.9E-003	5.0E-003
			Silver		--			Silver	skin	3.8E-004	--	9.0E-002	9.1E-002
			Styrene		--			Styrene	liver	5.1E-004	--	2.6E-002	2.6E-002
			Tetrachloroethene	1.7E-004	--	8.7E-003	8.9E-003	Tetrachloroethene	liver	9.4E-001	--	4.7E+001	4.8E+001
			Toluene		--			Toluene	liver	1.1E+000	--	5.7E+001	5.8E+001
			Trichloroethene	1.2E-005	--	6.4E-004	6.5E-004	Trichloroethene	liver	5.3E-001	--	2.7E+001	2.8E+001
			Vanadium		--			Vanadium	circulatory	1.9E-003	--	9.5E-002	9.7E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	1.4E-002	--	7.9E-001	8.1E-001
			Zinc		--			Zinc	thyroid	8.6E-004	--	1.4E-001	1.5E-001
			(total)	5.0E-004		2.6E-002	2.7E-002	(total)		1.3E+001		8.5E+002	8.7E+002
	AIR	Area 1, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	6.6E-003	--	6.6E-003
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.3E-001	--	2.3E-001
			1,1,2-Trichloroethane	--	2.4E-006	--	2.4E-006	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.9E-006	--	1.9E-006	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	1.1E-002	--	1.1E-002
			1,2-Dichloroethane	--	3.4E-005	--	3.4E-005	1,2-Dichloroethane	circulatory	--	7.4E-001	--	7.4E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	5.2E-001	--	5.2E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	1.6E-004	--	1.6E-004
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	4.2E-006	--	4.2E-006
			1,4-Dichlorobenzene	--	2.9E-007	--	2.9E-007	1,4-Dichlorobenzene	liver	--	1.6E-004	--	1.6E-004
			2-Butanone	--		--		2-Butanone	CNS	--	1.2E-005	--	1.2E-005
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.1E-001	--	1.1E-001

Table 6-1-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe Current/Future
Receptor Population Utility Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_fUWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDT	--	5.1E-009	--	5.1E-009	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	1.9E-007	--	1.9E-007	Aroclor-1242		--		--	
			Aroclor-1248	--	1.3E-007	--	1.3E-007	Aroclor-1248		--		--	
			Aroclor-1254	--	2.2E-007	--	2.2E-007	Aroclor-1254		--		--	
			Aroclor-1260	--	1.4E-007	--	1.4E-007	Aroclor-1260		--		--	
			Arsenic	--	2.3E-007	--	2.3E-007	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.7E-002	--	1.7E-002
			Benzene	--	1.2E-004	--	1.2E-004	Benzene	blood disorders	--	6.8E+000	--	6.8E+000
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.0E-010	--	2.0E-010	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Beryllium	--	2.6E-008	--	2.6E-008	Beryllium	respiratory	--	1.5E-003	--	1.5E-003
			bis(2-Chloroethyl) ether	--	1.3E-005	--	1.3E-005	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.4E-008	--	1.4E-008	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	2.9E-007	--	2.9E-007	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.2E-006	--	1.2E-006
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.9E-002	--	2.9E-002
			Chloroform	--	3.1E-004	--	3.1E-004	Chloroform	liver	--	1.2E+002	--	1.2E+002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	3.6E-006	--	3.6E-006	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dieldrin	--	1.2E-008	--	1.2E-008	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	3.4E-002	--	3.4E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	1.3E-009	--	1.3E-009	gamma-Chlordane		--	5.3E-005	--	5.3E-005
			Hexachlorobenzene	--	3.6E-011	--	3.6E-011	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.5E-009	--	1.5E-009	Hexachlorobutadiene	kidney	--		--	

Table 6-1-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe Current/Future
Receptor Population Utility Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_fUWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	4.1E-001	--	4.1E-001
			Mercury	--		--		Mercury	CNS	--	3.3E-004	--	3.3E-004
			Methylene Chloride	--	8.7E-006	--	8.7E-006	Methylene Chloride	respiratory	--	1.7E-002	--	1.7E-002
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	2.1E-001	--	2.1E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	2.1E-003	--	2.1E-003
			Tetrachloroethene	--	9.2E-006	--	9.2E-006	Tetrachloroethene	liver	--	9.2E-002	--	9.2E-002
			Toluene	--		--		Toluene	CNS	--	2.1E-001	--	2.1E-001
			Trichloroethene	--	2.1E-005	--	2.1E-005	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		5.2E-004		5.2E-004	(total)			1.3E+002		1.3E+002
							Total Risk Across Subsurface Soil: 2.7E-002						Subsurface Soil: 1.0E+003
							Total Risk Across All Media and All Exposure Routes: Reserved						

Total Kidney HI:	4.2E+001
Total Skin HI:	1.2E+002
Total Thyroid HI:	1.5E-001
Total Liver HI:	6.6E+002
Total Circulatory System HI:	2.3E+001
Total CNS HI:	3.4E-001
Total Fetotoxic HI:	2.4E+000
Total GI Tract HI:	9.4E-001
Total Respiratory HI:	7.7E-001
Total Eyes HI:	1.1E-002
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.4E-001
Total Adrenal HI:	0.0E+000
Total Heart HI:	7.1E-003
Total Skeletal System HI:	1.4E-002
Total Thyroid HI:	1.5E-001
Total Blood Disorders HI:	1.5E+002

Table 6-1-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Current/Future
Receptor Population: Utility Worker
Receptor Age: Adult

File: Area1CT.wk4 \ TT_sum_fWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 10')	1,1-Dichloroethane		--		
			1,1,1-Trichloroethane		--		
			1,1,2-Trichloroethane	6.5E-010	--	8.0E-009	8.6E-009
			1,1,2,2-Tetrachloroethane	1.1E-009	--	1.6E-008	1.7E-008
			1,2-Dichlorobenzene		--		
			1,2-Dichloroethane	5.1E-009	--	5.1E-008	5.6E-008
			1,2-Dichloroethene (total)		--		
			1,2-Dichloropropane	2.1E-009	--	2.1E-008	2.3E-008
			1,2,4-Trichlorobenzene		--		
			1,3-Dichlorobenzene		--		
			1,4-Dichlorobenzene	1.7E-010	--	1.7E-009	1.9E-009
			2-Butanone		--		
			2-Methylnaphthalene		--		
			2-Methylphenol		--		
			2,4-Dichlorophenol		--		
			2,4-Dimethylphenol		--		
			4-Methyl-2-pentanone		--		
			4-Methylphenol		--		
			4,4'-DDT	3.3E-009	--	3.3E-008	3.6E-008
			Acenaphthene		--		
			Acetone		--		
			Aluminum		--		
			Anthracene		--		
			Antimony		--		
			Aroclor-1242	1.5E-007	--	1.5E-006	1.6E-006
			Aroclor-1248	2.0E-007	--	2.0E-006	2.2E-006
			Aroclor-1254	2.8E-007	--	3.1E-006	3.4E-006
			Aroclor-1260	6.2E-008	--	6.2E-007	6.8E-007
			Arsenic	7.4E-009	--	7.8E-008	8.5E-008
			Barium		--		
			Benzene	2.7E-007	--	3.0E-006	3.2E-006
			Benzoic Acid		--		
			Benzo(a)anthracene	1.7E-010	--	1.7E-009	1.9E-009
			Benzo(a)pyrene	1.9E-009	--	2.2E-008	2.4E-008
			Benzo(b)fluoranthene	4.0E-010	--	4.0E-009	4.4E-009
			Benzo(k)fluoranthene	4.0E-011	--	4.0E-010	4.4E-010
			Beryllium		--		
			bis(2-Chloroethyl) ether	1.6E-008	--	1.6E-007	1.7E-007
			bis(2-Ethylhexyl)phthalate	5.1E-008	--	5.1E-007	5.6E-007
			Butylbenzylphthalate		--		
			Cadmium		--		
			Chlorobenzene		--		
			Chloroform	1.8E-008	--	1.9E-007	2.1E-007
			Chromium 3+		--		
			Chrysene	2.7E-012	--	6.5E-011	6.7E-011
			cis-1,2-Dichloroethene		--		
			Cobalt		--		
			Copper		--		
			Cyanide (total)		--		
			Dibenzofuran		--		
			Diethylphthalate		--		
			Dimethylphthalate		--		
			Di-n-butylphthalate		--		
			Di-n-octylphthalate		--		
			Ethyl Benzene		--		
			Fluoranthene		--		

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
1,1-Dichloroethane	circulatory	3.1E-004	--	3.1E-003	3.5E-003
1,1,1-Trichloroethane	liver	1.5E+000	--	1.5E+001	1.7E+001
1,1,2-Trichloroethane	blood disorders	2.9E-003	--	3.6E-002	3.9E-002
1,1,2,2-Tetrachloroethane	liver	9.3E-005	--	1.3E-003	1.4E-003
1,2-Dichlorobenzene	CNS	4.4E-004	--	4.4E-003	4.9E-003
1,2-Dichloroethane	fetotoxic	1.9E-003	--	1.9E-002	2.1E-002
1,2-Dichloroethene (total)	kidney	3.8E-002	--	3.8E-001	4.2E-001
1,2-Dichloropropane	GI tract		--		
1,2,4-Trichlorobenzene	low body wt	6.1E-004	--	6.1E-003	6.8E-003
1,3-Dichlorobenzene	circulatory	4.2E-005	--	4.2E-004	4.6E-004
1,4-Dichlorobenzene	GI tract	2.5E-004	--	2.5E-003	2.7E-003
2-Butanone	liver	1.3E-003	--	1.3E-002	1.5E-002
2-Methylnaphthalene	GI tract	2.3E-002	--	2.3E-001	2.5E-001
2-Methylphenol	liver	3.5E-004	--	3.5E-003	3.8E-003
2,4-Dichlorophenol	kidney	2.0E-003	--	2.0E-002	2.1E-002
2,4-Dimethylphenol	generalized	8.6E-004	--	8.6E-003	9.4E-003
4-Methyl-2-pentanone	liver	2.7E-002	--	2.7E-001	2.9E-001
4-Methylphenol	respiratory	5.0E-003	--	7.8E-002	8.3E-002
4,4'-DDT	fetotoxic	2.0E-002	--	2.0E-001	2.2E-001
Acenaphthene	eyes	2.6E-004	--	2.6E-003	2.9E-003
Acetone	fetotoxic	9.3E-003	--	1.2E-001	1.3E-001
Aluminum	circulatory	1.2E-002	--	1.2E-001	1.3E-001
Anthracene	GI tract	5.2E-006	--	5.2E-005	5.8E-005
Antimony	skin	3.0E-002	--	3.0E+001	3.0E+001
Aroclor-1242	liver		--		
Aroclor-1248	liver		--		
Aroclor-1254	liver	7.1E+000	--	8.0E+001	8.7E+001
Aroclor-1260	circulatory		--		
Arsenic	circulatory	1.7E-002	--	1.8E-001	1.9E-001
Barium		3.3E-003	--	3.3E-002	3.6E-002
Benzene	blood disorders	3.1E+000	--	3.5E+001	3.8E+001
Benzoic Acid	GI tract	4.6E-006	--	4.6E-005	5.1E-005
Benzo(a)anthracene			--		
Benzo(a)pyrene			--		
Benzo(b)fluoranthene			--		
Benzo(k)fluoranthene			--		
Beryllium	kidney	1.1E-003	--	1.1E+000	1.1E+000
bis(2-Chloroethyl) ether	reproductive		--		
bis(2-Ethylhexyl)phthalate	liver	1.9E-001	--	1.9E+000	2.0E+000
Butylbenzylphthalate	mammary	3.4E-003	--	3.4E-002	3.8E-002
Cadmium	kidney	2.0E-002	--	8.1E+000	8.1E+000
Chlorobenzene	liver	7.1E-004	--	2.3E-002	2.4E-002
Chloroform	circulatory	3.0E-001	--	3.1E+000	3.4E+000
Chromium 3+	liver	8.4E-005	--	2.1E-001	2.1E-001
Chrysene	liver		--		
cis-1,2-Dichloroethene	circulatory	1.7E-001	--	1.7E+000	1.9E+000
Cobalt	heart	1.7E-004	--	1.7E-003	1.9E-003
Copper	liver	1.9E-003	--	3.2E-002	3.4E-002
Cyanide (total)	liver	2.7E-004	--	5.3E-003	5.6E-003
Dibenzofuran	dec growth rate	1.5E-003	--	1.5E-002	1.7E-002
Diethylphthalate	low body wt	4.3E-005	--	4.3E-004	4.7E-004
Dimethylphthalate	GI tract	8.5E-006	--	8.5E-005	9.4E-005
Di-n-butylphthalate	liver	3.6E-003	--	3.7E-002	4.0E-002
Di-n-octylphthalate		7.0E-004	--	7.0E-003	7.7E-003
Ethyl Benzene	liver	9.6E-002	--	1.0E+000	1.1E+000
Fluoranthene	kidney	1.4E-004	--	1.4E-003	1.5E-003

Table 6-1-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age:	Adult

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Fluorene		--			Fluorene	skeletal	3.4E-004	--	3.4E-003	3.7E-003
			Hexachlorobenzene	1.3E-009	--	1.6E-008	1.8E-008	Hexachlorobenzene	liver	1.1E-003	--	1.3E-002	1.4E-002
			Hexachlorobutadiene	8.7E-010	--	8.7E-009	9.5E-009	Hexachlorobutadiene	low body wt	5.7E-002	--	5.7E-001	6.3E-001
			Iron		--			Iron		3.2E-002	--	3.2E-001	3.5E-001
			Isophorone	3.9E-010	--	3.9E-009	4.3E-009	Isophorone	kidney	2.1E-003	--	2.1E-002	2.3E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	8.2E-002	--	8.2E-001	9.0E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	6.0E-009	--	1.1E-007	1.1E-007	Methylene Chloride	liver	1.4E-002	--	2.5E-001	2.6E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	3.9E-003	--	4.4E-002	4.8E-002
			Naphthalene		--			Naphthalene	circulatory	3.3E-002	--	3.3E-001	3.6E-001
			Nickel		--			Nickel	low body wt	5.6E-004	--	1.1E-001	1.1E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	7.9E-004	--	8.7E-003	9.5E-003
			Pentachlorophenol	3.3E-009	--	3.3E-008	3.6E-008	Pentachlorophenol	liver	9.4E-004	--	9.4E-003	1.0E-002
			Phenol		--			Phenol	liver	4.5E-005	--	4.5E-004	4.9E-004
			Pyrene		--			Pyrene	liver	2.8E-004	--	2.8E-003	3.1E-003
			Selenium		--			Selenium	liver	1.2E-004	--	1.2E-003	1.4E-003
			Silver		--			Silver	skin	4.8E-004	--	2.3E-002	2.3E-002
			Styrene		--			Styrene	liver	6.4E-004	--	6.4E-003	7.1E-003
			Tetrachloroethene	6.0E-007	--	6.0E-006	6.6E-006	Tetrachloroethene	liver	1.2E+000	--	1.2E+001	1.3E+001
			Toluene		--			Toluene	liver	1.4E+000	--	1.4E+001	1.6E+001
			Trichloroethene	4.3E-008	--	4.4E-007	4.8E-007	Trichloroethene	liver	6.7E-001	--	6.8E+000	7.5E+000
			Vanadium		--			Vanadium	circulatory	2.4E-003	--	2.4E-002	2.6E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	1.8E-002	--	2.0E-001	2.2E-001
			Zinc		--			Zinc	thyroid	1.1E-003	--	3.6E-002	3.7E-002
			(total)	1.7E-006		1.8E-005	2.0E-005	(total)		1.6E+001		2.1E+002	2.3E+002
	AIR	Area 1, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	9.6E-003	--	9.6E-003
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	3.3E-001	--	3.3E-001
			1,1,2-Trichloroethane	--	9.5E-009	--	9.5E-009	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	7.4E-009	--	7.4E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	1.5E-002	--	1.5E-002
			1,2-Dichloroethane	--	1.3E-007	--	1.3E-007	1,2-Dichloroethane	circulatory	--	1.1E+000	--	1.1E+000
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	7.6E-001	--	7.6E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	2.4E-004	--	2.4E-004
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	6.1E-006	--	6.1E-006
			1,4-Dichlorobenzene	--	1.2E-009	--	1.2E-009	1,4-Dichlorobenzene	liver	--	2.4E-004	--	2.4E-004
			2-Butanone	--		--		2-Butanone	CNS	--	1.8E-005	--	1.8E-005
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.6E-001	--	1.6E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDT	--	2.0E-011	--	2.0E-011	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	7.6E-010	--	7.6E-010	Aroclor-1242		--		--	
			Aroclor-1248	--	5.3E-010	--	5.3E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	8.9E-010		8.9E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	5.5E-010		5.5E-010	Aroclor-1260		--		-	

Table 6-1-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age:	Adult

File: Area1CT.wk4 \ TT_sum /UWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Arsenic	–	9.4E-010	–	9.4E-010	Arsenic	respiratory	–		–	
			Barium	–		–		Barium	fetotoxic	–	2.5E-002	–	2.5E-002
			Benzene	–	4.8E-007	–	4.8E-007	Benzene	blood disorders	–	9.9E+000	–	9.9E+000
			Benzoic Acid	–		–		Benzoic Acid		–		–	
			Benzo(a)anthracene	–		–		Benzo(a)anthracene		–		–	
			Benzo(a)pyrene	–	7.9E-013	–	7.9E-013	Benzo(a)pyrene		–		–	
			Benzo(b)fluoranthene	–		–		Benzo(b)fluoranthene		–		–	
			Benzo(k)fluoranthene	–		–		Benzo(k)fluoranthene		–		–	
			Beryllium	–	1.0E-010	–	1.0E-010	Beryllium	respiratory	–	2.2E-003	–	2.2E-003
			bis(2-Chloroethyl) ether	–	5.2E-008	–	5.2E-008	bis(2-Chloroethyl) ether	liver	–		–	
			bis(2-Ethylhexyl)phthalate	–	5.8E-011	–	5.8E-011	bis(2-Ethylhexyl)phthalate		–		–	
			Butylbenzylphthalate	–		–		Butylbenzylphthalate		–		–	
			Cadmium	–	1.2E-009	–	1.2E-009	Cadmium		–		–	
			Carbon Disulfide	–		–		Carbon Disulfide		–	1.7E-006	–	1.7E-006
			Chlorobenzene	–		–		Chlorobenzene	liver	–	4.3E-002	–	4.3E-002
			Chloroform	–	1.2E-006	–	1.2E-006	Chloroform	liver	–	1.8E+002	–	1.8E+002
			Chromium 3+	–		–		Chromium 3+		–		–	
			Chromium 6+	–	1.4E-008	–	1.4E-008	Chromium 6+	respiratory	–		–	
			Chrysene	–		–		Chrysene		–		–	
			cis-1,2-Dichloroethene	–		–		cis-1,2-Dichloroethene		–		–	
			Cobalt	–		–		Cobalt		–		–	
			Copper	–		–		Copper		–		–	
			Cyanide (total)	–		–		Cyanide (total)		–		–	
			Dibenzofuran	–		–		Dibenzofuran		–		–	
			Dieldrin	–	4.9E-011	–	4.9E-011	Dieldrin		–		–	
			Diethylphthalate	–		–		Diethylphthalate		–		–	
			Dimethylphthalate	–		–		Dimethylphthalate		–		–	
			Di-n-butylphthalate	–		–		Di-n-butylphthalate		–		–	
			Di-n-octylphthalate	–		–		Di-n-octylphthalate		–		–	
			Endosulfan I	–		–		Endosulfan I		–		–	
			Endrin	–		–		Endrin		–		–	
			Endrin ketone	–		–		Endrin ketone		–		–	
			Ethyl Benzene	–		–		Ethyl Benzene	respiratory	–	5.0E-002	–	5.0E-002
			Fluoranthene	–		–		Fluoranthene		–		–	
			Fluorene	–		–		Fluorene		–		–	
			gamma-Chlordane	–	5.3E-012	–	5.3E-012	gamma-Chlordane		–	7.8E-005	–	7.8E-005
			Hexachlorobenzene	–	1.4E-013	–	1.4E-013	Hexachlorobenzene	liver	–		–	
			Hexachlorobutadiene	–	5.9E-012	–	5.9E-012	Hexachlorobutadiene	kidney	–		–	
			Indeno(1,2,3-cd)pyrene	–		–		Indeno(1,2,3-cd)pyrene		–		–	
			Isophorone	–		–		Isophorone		–		–	
			Lead	–		–		Lead		–		–	
			Manganese	–		–		Manganese	respiratory	–	6.0E-001	–	6.0E-001
			Mercury	–		–		Mercury	CNS	–	4.8E-004	–	4.8E-004
			Methylene Chloride	–	3.5E-008	–	3.5E-008	Methylene Chloride	respiratory	–	2.5E-002	–	2.5E-002
			m,p-xylene	–		–		m,p-xylene		–		–	
			Naphthalene	–		–		Naphthalene	circulatory	–	3.0E-001	–	3.0E-001
			Nickel	–		–		Nickel	respiratory	–		–	
			ortho-xylene	–		–		ortho-xylene		–		–	
			Pentachlorophenol	–		–		Pentachlorophenol		–		–	
			Phenanthrene	–		–		Phenanthrene		–		–	
			Phenol	–		–		Phenol		–		–	
			Phthalic anhydride	–		–		Phthalic anhydride		–		–	
			Pyrene	–		–		Pyrene		–		–	
			Selenium	–		–		Selenium		–		–	
			Silver	–		–		Silver		–		–	
			Styrene	–		–		Styrene	CNS	–	3.1E-003	–	3.1E-003

Table 6-1-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age:	Adult

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Tetrachloroethene	--	3.7E-008	--	3.7E-008
			Toluene	--		--	
			Trichloroethene	--	8.4E-008	--	8.4E-008
			Vanadium	--		--	
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		2.1E-006		2.1E-006
						Total Hazard Index Across Subsurface Soil	2.2E-005
						Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Tetrachloroethene	liver	--	1.3E-001	--	1.3E-001
Toluene	CNS	--	3.1E-001	--	3.1E-001
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			2.0E+002		2.0E+002
				Total Risk Across Subsurface Soil	4.3E+002

Total Kidney HI:	1.1E+001
Total Skin HI:	3.0E+001
Total Thyroid HI:	3.7E-002
Total Liver HI:	3.3E+002
Total Circulatory System HI:	7.4E+000
Total CNS HI:	4.8E-001
Total Fetotoxic HI:	6.6E-001
Total GI Tract HI:	2.5E-001
Total Respiratory HI:	7.6E-001
Total Eyes HI:	2.9E-003
Total Reproductive HI:	0.0E+000
Total Mammary HI:	3.8E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.9E-003
Total Skeletal System HI:	3.7E-003
Total Thyroid HI:	3.7E-002
Total Blood Disorder HI:	4.8E+001

Table 6-1-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI1RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Sediment Area 1	Aluminum					Aluminum	circulatory system	5.5E-003		2.8E-003	8.3E-003
			Aroclor-1248	3.7E-006		1.9E-005	2.2E-005	Aroclor-1248	liver				
			Aroclor-1254	1.4E-005		1.1E-004	1.2E-004	Aroclor-1254	liver	9.6E-001		7.5E+000	8.5E+000
			Arsenic	9.1E-007		1.4E-006	2.3E-006	Arsenic	circulatory system	5.6E-003		8.8E-003	1.4E-002
			Barium					Barium	NA	1.1E-003		5.6E-004	1.7E-003
			Beryllium					Beryllium	kidney	1.8E-004		9.1E-003	9.3E-003
			bis(2-Ethylhexyl)phthalate	7.3E-008		3.7E-007	4.4E-007	bis(2-Ethylhexyl)phthalate	liver	7.3E-004		3.7E-003	4.4E-003
			Butylbenzylphthalate					*Butylbenzylphthalate*	*mammary*	9.0E-007		4.5E-006	5.4E-006
			Cadmium					Cadmium	kidney	1.5E-003		3.0E-001	3.0E-001
			Chloroform	4.9E-012		2.6E-011	3.1E-011	Chloroform	circulatory system	2.3E-007		1.2E-006	1.4E-006
			Chromium (total)					Chromium (total)		7.9E-003		4.0E-002	4.8E-002
			Copper					Copper	liver	6.8E-004		5.7E-004	1.3E-003
			Di-n-butylphthalate					*Di-n-butylphthalate*	liver	1.9E-006		9.9E-006	1.2E-005
			Iron					Iron		1.8E-002		8.9E-003	2.6E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.2E-002			1.2E-002
			Mercury					Mercury	low body weight				
			Phenol					Phenol	liver	3.6E-007		1.8E-006	2.2E-006
			Toluene					Toluene	liver	1.7E-008		8.5E-008	1.0E-007
			Vanadium					Vanadium	circulatory system	1.0E-003		5.0E-004	1.5E-003
			Zinc					Zinc	thyroid	4.3E-004		7.2E-004	1.1E-003
			(Total)	1.8E-005		1.3E-004	1.5E-004	(Total)		1.0E+000		7.9E+000	8.9E+000
							Total Risk Across Sediments: 1.5E-004						Total Hazard Index Across All Exposure Routes: 8.9E+000

Total Circulatory System HI =	2.4E-002
Total Thyroid HI =	1.1E-003
Total Kidney HI =	3.2E-001
Total Liver HI =	8.5E+000

Table 6-1-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	*Current/Future*
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI1CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Sediment Area 1	Aluminum					Aluminum	circulatory system	2.1E-003		4.2E-004	2.6E-003
			Aroclor-1248	2.9E-007		5.6E-007	8.5E-007	Aroclor-1248	liver				
			Aroclor-1254	1.1E-006		3.3E-006	4.3E-006	Aroclor-1254	liver	3.7E-001		1.1E+000	1.5E+000
			Arsenic	7.0E-008		4.4E-008	1.1E-007	Arsenic	circulatory system	2.2E-003		1.3E-003	3.5E-003
			Barium					Barium	NA	4.3E-004		8.5E-005	5.2E-004
			Beryllium					Beryllium	kidney	7.0E-005		1.4E-003	1.4E-003
			bis(2-Ethylhexyl)phthalate	5.7E-009		1.1E-008	1.7E-008	bis(2-Ethylhexyl)phthalate	liver	2.8E-004		5.6E-004	8.4E-004
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	3.5E-007		6.9E-007	1.0E-006
			Cadmium					Cadmium	kidney	5.7E-004		4.5E-002	4.5E-002
			Chloroform	3.8E-013		7.8E-013	1.2E-012	Chloroform	circulatory system	8.8E-008		1.8E-007	2.7E-007
			Chromium (total)					Chromium (total)		3.1E-003		6.0E-003	9.1E-003
			Copper					Copper	liver	2.7E-004		8.7E-005	3.5E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	7.5E-007		1.5E-006	2.2E-006
			Iron					Iron		6.9E-003		1.3E-003	8.2E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	4.7E-003			4.7E-003
			Mercury					Mercury	low body weight				
			Phenol					Phenol	liver	1.4E-007		2.7E-007	4.1E-007
			Toluene					Toluene	liver	6.6E-009		1.3E-008	1.9E-008
			Vanadium					Vanadium	circulatory system	3.9E-004		7.6E-005	4.6E-004
			Zinc					Zinc	thyroid	1.7E-004		1.1E-004	2.8E-004
			(Total)	1.4E-006		3.9E-006	5.3E-006	(Total)		3.9E-001		1.2E+000	1.6E+000
							Total Risk Across Sediments	5.3E-006					Total Hazard Index Across All Exposure Routes	1.6E+000

Total Circulatory System HI =	6.5E-003
Total Thyroid HI =	2.8E-004
Total Kidney HI =	5.1E-002
Total Liver HI =	1.5E+000

TABLE 6-1-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifer	Groundwater Area 1	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system			9.10E-003	9.10E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS			1.31E-001	1.31E-001
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney			6.10E-002	6.10E-002
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	circulatory system			3.11E-002	3.11E-002
			1,4-Dichlorobenzene			5.51E-008	5.51E-008	1,4-Dichlorobenzene	GI tract			7.82E-002	7.82E-002
			2,2'-oxybis(1-Chloropropane)			3.98E-007	3.98E-007	2,2'-oxybis(1-Chloropropane)	low body wt			1.45E-001	1.45E-001
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized			3.32E-001	3.32E-001
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract			6.11E-001	6.11E-001
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver			1.03E-002	1.03E-002
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver			9.78E-004	9.78E-004
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory			9.53E-001	9.53E-001
			Aluminum					Aluminum	circulatory system			1.02E-003	1.02E-003
			Ammonia					Ammonia	kidney				
			Arochlor-1248			6.23E-005	6.23E-005	Arochlor-1248	liver				
			Arsenic			3.20E-007	3.20E-007	Arsenic	circulatory system			7.28E-001	7.28E-001
			Barium					Barium	NA			4.10E-002	4.10E-002
			Benzene			2.53E-004	2.53E-004	Benzene	blood disorders			2.98E+003	2.98E+003
			Benzoic Acid					Benzoic Acid	GI tract			9.62E-005	9.62E-005
			bis(2-Chloroethyl)Ether			1.53E-006	1.53E-006	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			8.02E-008	8.02E-008	bis(2-Ethylhexyl)Phthalate	liver			2.93E-001	2.93E-001
			Cadmium (water)					Cadmium (water)	kidney			4.50E-001	4.50E-001
			Chlorobenzene					Chlorobenzene	liver			2.44E+000	2.44E+000
			Chloroethane			1.65E-007	1.65E-007	Chloroethane	liver			1.45E-001	1.45E-001
			Chloromethane			1.38E-008	1.38E-008	Chloromethane	kidney				

TABLE 6-1-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Cyanide					Cyanide	liver			3.63E-003	3.63E-003
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA			3.81E+000	3.81E+000
			Diethylphthalate					Diethylphthalate	low body wt			2.94E-004	2.94E-004
			Ethylbenzene					Ethylbenzene	liver			3.21E+000	3.21E+000
			Iron					Iron				6.17E-001	6.17E-001
			Manganese (nonfood)					Manganese (nonfood)	kidney			7.72E-001	7.72E-001
			Methylene Chloride			2.34E-010	2.34E-010	Methylene Chloride	liver			5.30E-004	5.30E-004
			Naphthalene					Naphthalene	circulatory system			8.99E-001	8.99E-001
			Nickel					Nickel	low body wt			1.93E-002	1.93E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			8.63E-003	8.63E-003
			Selenium					Selenium	liver			4.50E-003	4.50E-003
			Thallium					Thallium	NA			1.87E-001	1.87E-001
			Toluene					Toluene	liver			1.95E+000	1.95E+000
			Vanadium					Vanadium	circulatory system			1.05E-002	1.05E-002
			Vinyl Chloride			8.28E-007	8.28E-007	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic			4.55E-001	4.55E-001
			Zinc					Zinc	thyroid			1.23E-002	1.23E-002
			(Total)			3.19E-004	3.19E-004	(Total)				3.00E+003	3.00E+003
	Air	Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		4.98E-005		4.98E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		5.31E-003		5.31E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)					
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	respiratory system				
			1,4-Dichlorobenzene		6.08E-011		6.08E-011	1,4-Dichlorobenzene	liver		1.23E-005		1.23E-005
			2,2'-oxybis(1-Chloropropane)		6.15E-009		6.15E-009	2,2'-oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			2-Methylnaphthalene					2-Methylnaphthalene					
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	NA				
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS				
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	NA				
			Aluminum					Aluminum	respiratory system				

TABLE 6-1-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Ammonia					Ammonia	respiratory tract		4.90E-003		4.90E-003
			Arochlor-1248					Arochlor-1248	NA				
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		3.71E-006		3.71E-006	Benzene	blood disorders		7.69E+001		7.69E+001
			Benzoic Acid					Benzoic Acid					
			bis(2-Chloroethyl)Ether		4.12E-008		4.12E-008	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chlorobenzene					Chlorobenzene	liver				
			Chloroethane					Chloroethane	fetotoxic		9.44E-004		9.44E-004
			Chloromethane					Chloromethane	kidney				
			Cyanide					Cyanide					
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate					
			Diethylphthalate					Diethylphthalate					
			Ethylbenzene					Ethylbenzene	respiratory tract		3.03E-003		3.03E-003
			Iron					Iron					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		1.39E-010		1.39E-010	Methylene Chloride	respiratory tract		1.00E-004		1.00E-004
			Naphthalene					Naphthalene	circulatory system		3.08E-003		3.08E-003
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					

TABLE 6-1-5

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene					Toluene	CNS		2.43E-002		2.43E-002
			Vanadium					Vanadium					
			Vinyl Chloride		3.89E-010		3.89E-010	Vinyl Chloride	CNS				
			Xylene (mixed)					Xylene (mixed)	CNS				
			(Total)		3.76E-006		3.76E-006	(Total)			7.69E+001		7.69E+001
						Total Risk Across Groundwater	3.2E-004					Total Risk Across Groundwater	3.1E+003
						Total Risk Across All Media and All Exposure Routes	3.1E+003						

Total Circulatory System HI =	1.7E+000
Total Blood Disorders HI =	3.1E+003
Total Liver HI =	8.1E+000
Total Kidney HI =	1.3E+000
Total Fetotoxic HI =	4.6E-001
Total Skin HI =	0.0E+000
Total GI Tract HI =	6.9E-001
Total Thyroid HI =	1.2E-002
Total Respiratory Tract HI =	9.6E-001
Total CNS HI =	1.6E-001

TABLE 6-1-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifer	Groundwater Area 1	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system			6.87E-003	6.87E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS			9.91E-002	9.91E-002
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney			4.60E-002	4.60E-002
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	circulatory system			2.35E-002	2.35E-002
			1,4-Dichlorobenzene			8.32E-009	8.32E-009	1,4-Dichlorobenzene	GI tract			5.90E-002	5.90E-002
			2,2'-oxybis(1-Chloropropane)			6.02E-008	6.02E-008	2,2'-oxybis(1-Chloropropane)	low body wt			1.10E-001	1.10E-001
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized			2.51E-001	2.51E-001
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract			4.62E-001	4.62E-001
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver			7.79E-003	7.79E-003
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver			7.38E-004	7.38E-004
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory			7.19E-001	7.19E-001
			Aluminum					Aluminum	circulatory system			7.68E-004	7.68E-004
			Ammonia					Ammonia	kidney				
			Arochlor-1248			9.41E-006	9.41E-006	Arochlor-1248	liver				
			Arsenic			4.84E-008	4.84E-008	Arsenic	circulatory system			5.50E-001	5.50E-001
			Barium					Barium	NA			3.10E-002	3.10E-002
			Benzene			3.83E-005	3.83E-005	Benzene	blood disorders			2.25E+003	2.25E+003
			Benzoic Acid					Benzoic Acid	GI tract			7.27E-005	7.27E-005
			bis(2-Chloroethyl)Ether			2.30E-007	2.30E-007	bis(2-Chloroethyl)Ether	reproductive				0.00E+000
			bis(2-Ethylhexyl)Phthalate			1.21E-008	1.21E-008	bis(2-Ethylhexyl)Phthalate	liver			2.21E-001	2.21E-001
			Cadmium (water)					Cadmium (water)	kidney			3.40E-001	3.40E-001
			Chlorobenzene					Chlorobenzene	liver			1.84E+000	1.84E+000
			Chloroethane			2.49E-008	2.49E-008	Chloroethane	liver			1.10E-001	1.10E-001
			Chloromethane			2.08E-009	2.08E-009	Chloromethane	kidney				

TABLE 6-1-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\UGW1FWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Cyanide					Cyanide	liver			2.74E-003	2.74E-003
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA			2.88E+000	2.88E+000
			Diethylphthalate					Diethylphthalate	low body wt			2.22E-004	2.22E-004
			Ethylbenzene					Ethylbenzene	liver			2.42E+000	2.42E+000
			Iron					Iron				4.66E-001	4.66E-001
			Manganese (nonfood)					Manganese (nonfood)	kidney			5.83E-001	5.83E-001
			Methylene Chloride			3.53E-011	3.53E-011	Methylene Chloride	liver			4.01E-004	4.01E-004
			Naphthalene					Naphthalene	circulatory system			6.79E-001	6.79E-001
			Nickel					Nickel	low body wt			1.45E-002	1.45E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			6.52E-003	6.52E-003
			Selenium					Selenium	liver			3.40E-003	3.40E-003
			Thallium					Thallium	NA			1.41E-001	1.41E-001
			Toluene					Toluene	liver			1.47E+000	1.47E+000
			Vanadium					Vanadium	circulatory system			7.92E-003	7.92E-003
			Vinyl Chloride			1.25E-007	1.25E-007	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic			3.44E-001	3.44E-001
			Zinc					Zinc	thyroid			9.33E-003	9.33E-003
			(Total)			4.82E-005	4.82E-005	(Total)				2.26E+003	2.26E+003
	Air	Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		4.36E-005		4.36E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		4.65E-003		4.65E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)					
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	respiratory system				
			1,4-Dichlorobenzene		1.07E-011		1.07E-011	1,4-Dichlorobenzene	liver		1.08E-005		1.08E-005
			2,2'-oxybis(1-Chloropropane)		1.08E-009		1.08E-009	2,2'-oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			2-Methylnaphthalene					2-Methylnaphthalene					
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	NA				

TABLE 6-1-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS				
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	NA				
			Aluminum					Aluminum	respiratory system				
			Ammonia					Ammonia	respiratory tract		4.30E-003		4.30E-003
			Arochlor-1248					Arochlor-1248	NA				
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		6.50E-007		6.50E-007	Benzene	blood disorders		6.74E+001		6.74E+001
			Benzoic Acid					Benzoic Acid					
			bis(2-Chloroethyl)Ether		7.22E-009		7.22E-009	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chlorobenzene					Chlorobenzene	liver				
			Chloroethane					Chloroethane	fetotoxic		8.27E-004		8.27E-004
			Chloromethane					Chloromethane	kidney				
			Cyanide					Cyanide					
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate					
			Diethylphthalate					Diethylphthalate					
			Ethylbenzene					Ethylbenzene	respiratory tract		2.65E-003		2.65E-003
			Iron					Iron					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		2.44E-011		2.44E-011	Methylene Chloride	respiratory tract		8.79E-005		8.79E-005
			Naphthalene					Naphthalene	circulatory system		2.70E-003		2.70E-003
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					

TABLE 6-1-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current / Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\UGW1FWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Toluene				
			Vanadium				
			Vinyl Chloride		6.82E-011		6.82E-011
			Xylene (mixed)				
			(Total)		6.58E-007		6.58E-007
						Total Risk Across Groundwater	4.9E-005
						Total Risk Across All Media and All Exposure Routes	2.3E+003

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Toluene	CNS		2.13E-002		2.13E-002
Vanadium					
Vinyl Chloride	CNS				
Xylene (mixed)	CNS				
(Total)			6.74E+001		6.74E+001
				Total Risk Across Groundwater	2.3E+003

Total Circulatory System HI =	1.3E+000
Total Blood Disorders HI =	2.3E+003
Total Liver HI =	6.1E+000
Total Kidney HI =	9.7E-001
Total Fetotoxic HI =	3.4E-001
Total Skin HI =	0.0E+000
Total GI Tract HI =	5.2E-001
Total Thyroid HI =	9.3E-003
Total Respiratory Tract HI =	7.3E-001
Total CNS HI =	1.2E-001

Table 6-1-7
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Current
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_c\Wa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 1, Surface Soil (0' to 2')	1,1,2-Trichloroethane	2.3E-010	--	1.9E-008	1.9E-008	1,1,2-Trichloroethane	blood disorders	2.8E-006	--	2.3E-004	2.3E-004
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.1E-006	--	7.6E-005	7.7E-005
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.5E-005	--	9.6E-004	9.8E-004
			3,3'-Dichlorobenzidine	2.9E-008	--	1.9E-006	1.9E-006	3,3'-Dichlorobenzidine	liver		--		
			Aluminum		--			Aluminum	circulatory	1.4E-002	--	9.6E-001	9.7E-001
			Anthracene		--			Anthracene	GI tract	2.5E-007	--	1.7E-005	1.7E-005
			Antimony		--			Antimony	skin	2.0E-003	--	1.3E+001	1.3E+001
			Aroclor-1242	3.1E-007	--	2.0E-005	2.1E-005	Aroclor-1242	liver		--		
			Aroclor-1248	4.1E-007	--	2.7E-005	2.8E-005	Aroclor-1248	liver		--		
			Aroclor-1254	3.4E-006	--	2.5E-004	2.5E-004	Aroclor-1254	liver	2.4E-001	--	1.8E+001	1.8E+001
			Aroclor-1260	5.0E-007	--	3.3E-005	3.3E-005	Aroclor-1260	circulatory		--		
			Arsenic	1.3E-006	--	8.9E-005	9.0E-005	Arsenic	circulatory	7.9E-003	--	5.5E-001	5.6E-001
			Barium		--			Barium		2.3E-003	--	1.5E-001	1.5E-001
			Benzo(a)anthracene	1.3E-008	--	8.7E-007	8.9E-007	Benzo(a)anthracene			--		
			Benzo(a)pyrene	1.8E-007	--	1.4E-005	1.5E-005	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.9E-008	--	1.3E-006	1.3E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.6E-009	--	1.1E-007	1.1E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	2.5E-003	--	1.6E+001	1.6E+001
			bis(2-Ethylhexyl)phthalate	4.2E-008	--	2.8E-006	2.8E-006	bis(2-Ethylhexyl)phthalate	liver	4.2E-004	--	2.8E-002	2.8E-002
			Cadmium		--			Cadmium	kidney	1.4E-003	--	3.8E+000	3.8E+000
			Carbon Disulfide		--			Carbon Disulfide	adrenal	1.7E-008	--	1.1E-006	1.2E-006
			Nickel		--			Nickel	low body wt	3.3E-004	--	4.4E-001	4.4E-001
			Selenium		--			Selenium	liver	7.9E-005	--	5.2E-003	5.3E-003
			Silver		--			Silver	skin	5.0E-005	--	1.6E-002	1.6E-002
			Tetrachloroethene	1.4E-008	--	9.5E-007	9.6E-007	Tetrachloroethene	liver	7.7E-005	--	5.1E-003	5.2E-003
			Toluene		--			Toluene	liver	7.6E-007	--	5.1E-005	5.1E-005
			Trichloroethene	4.8E-010	--	3.3E-008	3.3E-008	Trichloroethene	liver	2.0E-005	--	1.4E-003	1.4E-003
			Vanadium		--			Vanadium	circulatory	1.4E-003	--	9.6E-002	9.7E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	6.5E-006	--	4.8E-004	4.9E-004
			Zinc		--			Zinc	thyroid	2.8E-004	--	6.2E-002	6.2E-002
			(Total)	6.2E-006		4.4E-004	4.5E-004	(Total)		4.0E-001		6.3E+001	6.3E+001
	Air	Area 1, Surface Soil (0' to 2')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.44E-004	--	1.4E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	8.18E-005	--	8.2E-005
			1,1,2-Trichloroethane	--	1.58E-009	--	1.6E-009	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.85E-009	--	1.9E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	4.05E-003	--	4.1E-003
			1,2-Dichloroethane	--	2.62E-007	--	2.6E-007	1,2-Dichloroethane	circulatory	--	5.77E-003	--	5.8E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	7.01E-003	--	7.0E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	3.30E-005	--	3.3E-005
			1,4-Dichlorobenzene	--	5.46E-009	--	5.5E-009	1,4-Dichlorobenzene	liver	--	3.03E-006	--	3.0E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.28E-008	--	1.3E-008
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.24E-001	--	1.2E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.03E-003	--	1.0E-003
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	

Table 6-1-7
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Current
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_clWe1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			4,4'-DDT	--	1.11E-012	--	1.1E-012	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	2.70E-010	--	2.7E-010	Aldrin		--		--	
			alpha-BHC	--	5.47E-012	--	5.5E-012	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	4.28E-011	--	4.3E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	3.12E-010	--	3.1E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	4.06E-010	--	4.1E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	1.86E-009	--	1.9E-009	Aroclor-1260		--		--	
			Arsenic	--	2.17E-009	--	2.2E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.96E-004	--	2.0E-004
			Benzene	--	2.18E-007	--	2.2E-007	Benzene	blood disorders	--	1.24E-002	--	1.2E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.34E-011	--	2.3E-011	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	1.16E-009	--	1.2E-009	Beryllium	respiratory	--	6.77E-005	--	6.8E-005
			beta-BHC	--	2.97E-012	--	3.0E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	2.64E-006	--	2.6E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	2.05E-011	--	2.0E-011	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	2.53E-009	--	2.5E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	5.97E-008	--	6.0E-008
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.29E-004	--	2.3E-004
			Chloroform	--	8.15E-007	--	8.2E-007	Chloroform	liver	--	3.28E-001	--	3.3E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	3.33E-008	--	3.3E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	4.51E-004	--	4.5E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	1.20E-013	--	1.2E-013	Heptachlor		--		--	
			Heptachlor epoxide	--	1.16E-013	--	1.2E-013	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	2.03E-012	--	2.0E-012	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	2.80E-012	--	2.8E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	

Table 6-1-7
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Current
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_cWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.08E-002	--	1.1E-002
			Mercury	--		--		Mercury	CNS	--	6.26E-006	--	6.3E-006
			Methylene Chloride	--	4.09E-008	--	4.1E-008	Methylene Chloride	respiratory	--	8.06E-005	--	8.1E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	2.05E-002	--	2.1E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	1.90E-005	--	1.9E-005
			Tetrachloroethene	--	2.32E-007	--	2.3E-007	Tetrachloroethene	liver	--	2.32E-003	--	2.3E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	1.28E-002	--	1.3E-002
			Trichloroethene	--	2.05E-007	--	2.0E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	1.15E-007	--	1.1E-007	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		4.6E-006		4.6E-006	(total)			5.3E-001		5.3E-001
						Total Risk Across Surface Soil	4.5E-004					Total Hazard Index Across Surface Soil	6.3E+001
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	2.7E+001
Total Skin HI:	1.3E+001
Total Thyroid HI:	6.2E-002
Total Liver HI:	1.9E+001
Total Circulatory System HI:	1.7E+000
Total CNS HI:	1.4E-001
Total Fetox HI:	6.9E-004
Total GI Tract HI:	1.0E-003
Total Respiratory HI:	1.1E-002
Total Eyes HI:	0.0E+000
Total Reproductive HI:	0.0E+000
Total Mammary HI:	0.0E+000
Total Adrenal HI:	1.2E-006
Total Heart HI:	3.4E-003
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	6.2E-002
Total Blood Disorders HI:	1.2E-02

Table 6-1-8
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area1CT.wk4 \ TT_sum_c!Wa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 1, Surface Soil (0' to 2')	1,1,2-Trichloroethane	2.0E-011	--	5.6E-010	5.8E-010	1,1,2-Trichloroethane	blood disorders	1.2E-006	--	3.4E-005	3.6E-005
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	5.0E-007	--	1.1E-005	1.2E-005
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	6.4E-006	--	1.5E-004	1.5E-004
			3,3'-Dichlorobenzidine	2.5E-009	--	5.8E-008	6.0E-008	3,3'-Dichlorobenzidine	liver		--		
			Aluminum		--			Aluminum	circulatory	6.3E-003	--	1.4E-001	1.5E-001
			Anthracene		--			Anthracene	GI tract	1.1E-007	--	2.5E-006	2.7E-006
			Antimony		--			Antimony	skin	8.8E-004	--	2.0E+000	2.0E+000
			Aroclor-1242	2.7E-008	--	6.2E-007	6.4E-007	Aroclor-1242	liver		--		
			Aroclor-1248	3.6E-008	--	8.2E-007	8.6E-007	Aroclor-1248	liver		--		
			Aroclor-1254	2.9E-007	--	7.6E-006	7.9E-006	Aroclor-1254	liver	1.0E-001	--	2.6E+000	2.8E+000
			Aroclor-1260	4.3E-008	--	9.9E-007	1.0E-006	Aroclor-1260	circulatory		--		
			Arsenic	1.1E-007	--	2.7E-006	2.8E-006	Arsenic	circulatory	3.5E-003	--	8.3E-002	8.7E-002
			Barium		--			Barium		1.0E-003	--	2.3E-002	2.4E-002
			Benzo(a)anthracene	1.2E-009	--	2.6E-008	2.8E-008	Benzo(a)anthracene			--		
			Benzo(a)pyrene	1.6E-008	--	4.3E-007	4.5E-007	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.7E-009	--	3.8E-008	4.0E-008	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.4E-010	--	3.2E-009	3.4E-009	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	1.1E-003	--	2.5E+000	2.5E+000
			bis(2-Ethylhexyl)phthalate	3.7E-009	--	8.4E-008	8.8E-008	bis(2-Ethylhexyl)phthalate	liver	1.8E-004	--	4.2E-003	4.4E-003
			Cadmium		--			Cadmium	kidney	6.2E-004	--	5.7E-001	5.7E-001
			Carbon Disulfide		--			Carbon Disulfide	adrenal	7.5E-009	--	1.7E-007	1.8E-007
			Nickel		--			Nickel	low body wt	1.4E-004	--	6.6E-002	6.6E-002
			Selenium		--			Selenium	liver	3.4E-005	--	7.9E-004	8.2E-004
			Silver		--			Silver	skin	2.2E-005	--	2.4E-003	2.4E-003
			Tetrachloroethene	1.3E-009	--	2.9E-008	3.0E-008	Tetrachloroethene	liver	3.4E-005	--	7.7E-004	8.0E-004
			Toluene		--			Toluene	liver	3.3E-007	--	7.6E-006	8.0E-006
			Trichloroethene	4.2E-011	--	9.9E-010	1.0E-009	Trichloroethene	liver	9.0E-006	--	2.1E-004	2.2E-004
			Vanadium		--			Vanadium	circulatory	6.3E-004	--	1.4E-002	1.5E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.9E-006	--	7.3E-005	7.6E-005
			Zinc		--			Zinc	thyroid	1.2E-004	--	9.3E-003	9.4E-003
			(Total)	5.4E-007		1.3E-005	1.4E-005	(Total)		1.8E-001		9.4E+000	9.6E+000
	Air	Area 1, Surface Soil (0' to 2')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.26E-004	--	1.3E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	7.17E-005	--	7.2E-005
			1,1,2-Trichloroethane	--	2.77E-010	--	2.8E-010	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	3.25E-010	--	3.2E-010	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	3.55E-003	--	3.5E-003
			1,2-Dichloroethane	--	4.60E-008	--	4.6E-008	1,2-Dichloroethane	circulatory	--	5.05E-003	--	5.1E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	6.14E-003	--	6.1E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	2.89E-005	--	2.9E-005
			1,4-Dichlorobenzene	--	9.56E-010	--	9.6E-010	1,4-Dichlorobenzene	liver	--	2.66E-006	--	2.7E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.12E-008	--	1.1E-008
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.09E-001	--	1.1E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	9.04E-004	--	9.0E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.95E-013	--	2.0E-013	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.72E-011	--	4.7E-011	Aldrin		--		--	
			alpha-BHC	--	9.58E-013	--	9.6E-013	alpha-BHC		--		--	
			Anthracene	--				Anthracene		--			

Table 6-1-8
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area1CT.wk4 \ IT_sum_clWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	7.51E-012	--	7.5E-012	Aroclor-1242		--		--	
			Aroclor-1248	--	5.47E-011	--	5.5E-011	Aroclor-1248		--		--	
			Aroclor-1254	--	7.11E-011	--	7.1E-011	Aroclor-1254		--		--	
			Aroclor-1260	--	3.26E-010	--	3.3E-010	Aroclor-1260		--		--	
			Arsenic	--	3.79E-010	--	3.8E-010	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.72E-004	--	1.7E-004
			Benzene	--	3.82E-008	--	3.8E-008	Benzene	blood disorders	--	1.08E-002	--	1.1E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	4.10E-012	--	4.1E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	2.03E-010	--	2.0E-010	Beryllium	respiratory	--	5.93E-005	--	5.9E-005
			beta-BHC	--	5.21E-013	--	5.2E-013	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.62E-007	--	4.6E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	3.58E-012	--	3.6E-012	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	4.42E-010	--	4.4E-010	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	5.23E-008	--	5.2E-008
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.01E-004	--	2.0E-004
			Chloroform	--	1.43E-007	--	1.4E-007	Chloroform	liver	--	2.87E-001	--	2.9E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	5.83E-009	--	5.8E-009	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	3.95E-004	--	3.9E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	2.10E-014	--	2.1E-014	Heptachlor		--		--	
			Heptachlor epoxide	--	2.03E-014	--	2.0E-014	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	3.58E-013	--	3.6E-013	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	4.91E-013	--	4.9E-013	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	9.49E-003	--	9.5E-003
			Mercury	--		--		Mercury	CNS	--	5.48E-006	--	5.5E-006
			Methylene Chloride	--	7.16E-009	--	7.2E-009	Methylene Chloride	respiratory	--	7.06E-005	--	7.1E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	1.80E-002	--	1.8E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	

Table 6-1-8
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area1CT.wk4 \ TT_sum_clWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	1.67E-005	--	1.7E-005
			Tetrachloroethene	--	4.06E-008	--	4.1E-008	Tetrachloroethene	liver	--	2.03E-003	--	2.0E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	1.12E-002	--	1.1E-002
			Trichloroethene	--	3.59E-008	--	3.6E-008	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	2.01E-008	--	2.0E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		8.0E-007		8.0E-007	(total)			4.6E-001		4.6E-001
							Total Risk Across Surface Soil	1.5E-005					Total Hazard Index Across Surface Soil	1.0E+001
							Total Risk Across All Media and All Exposure Routes	Reserved					

Total Kidney HI:	4.2E+000
Total Skin HI:	2.0E+000
Total Thyroid HI:	9.4E-003
Total Liver HI:	3.1E+000
Total Circulatory System HI:	2.8E-001
Total CNS HI:	1.2E-001
Total Fetotoxic HI:	2.5E-004
Total GI Tract HI:	1.5E-004
Total Respiratory HI:	1.0E-002
Total Eyes HI:	0.0E+000
Total Reproductive HI:	0.0E+000
Total Mammary HI:	0.0E+000
Total Adrenal HI:	1.8E-007
Total Heart HI:	5.4E-004
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	9.4E-003
Total Blood Disorders HI:	1.1E-002

Table 6-1-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area1RME.wk4 \ TT_sum_fRWe1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 10')	1,1-Dichloroethane		-			1,1-Dichloroethane	circulatory	1.9E-004	-	1.2E-002	1.3E-002
			1,1,1-Trichloroethane		-			1,1,1-Trichloroethane	liver	9.0E-001	-	6.0E+001	6.0E+001
			1,1,2-Trichloroethane	1.4E-007	-	1.2E-005	1.2E-005	1,1,2-Trichloroethane	blood disorders	1.7E-003	-	1.4E-001	1.4E-001
			1,1,2,2-Tetrachloroethane	2.4E-007	-	2.3E-005	2.3E-005	1,1,2,2-Tetrachloroethane	liver	5.6E-005	-	5.3E-003	5.3E-003
			1,2-Dichlorobenzene		-			1,2-Dichlorobenzene	CNS	2.7E-004	-	1.8E-002	1.8E-002
			1,2-Dichloroethane	1.1E-006	-	7.4E-005	7.5E-005	1,2-Dichloroethane	fetotoxic	1.1E-003	-	7.6E-002	7.7E-002
			1,2-Dichloroethene (total)		-			1,2-Dichloroethene (total)	kidney	2.3E-002	-	1.5E+000	1.5E+000
			1,2-Dichloropropane	4.6E-007	-	3.0E-005	3.1E-005	1,2-Dichloropropane	GI tract		-		
			1,2,4-Trichlorobenzene		-			1,2,4-Trichlorobenzene	low body wt	3.7E-004	-	2.4E-002	2.5E-002
			1,3-Dichlorobenzene		-			1,3-Dichlorobenzene	circulatory	2.5E-005	-	1.7E-003	1.7E-003
			1,4-Dichlorobenzene	3.8E-008	-	2.5E-006	2.6E-006	1,4-Dichlorobenzene	GI tract	1.5E-004	-	9.8E-003	1.0E-002
			2-Butanone		-			2-Butanone	liver	7.6E-004	-	5.3E-002	5.4E-002
			2-Methylnaphthalene		-			2-Methylnaphthalene	GI tract	1.4E-002	-	9.1E-001	9.2E-001
			2-Methylphenol		-			2-Methylphenol	liver	2.1E-004	-	1.4E-002	1.4E-002
			2,4-Dichlorophenol		-			2,4-Dichlorophenol	kidney	1.2E-003	-	7.8E-002	7.9E-002
			2,4-Dimethylphenol		-			2,4-Dimethylphenol	generalized	5.1E-004	-	3.4E-002	3.5E-002
			4-Methyl-2-pentanone		-			4-Methyl-2-pentanone	liver	1.6E-002	-	1.1E+000	1.1E+000
			4-Methylphenol		-			4-Methylphenol	respiratory	3.0E-003	-	3.1E-001	3.1E-001
			4,4'-DDT	7.2E-007	-	4.8E-005	4.8E-005	4,4'-DDT	fetotoxic	1.2E-002	-	7.8E-001	8.0E-001
			Acenaphthene		-			Acenaphthene	eyes	1.6E-004	-	1.0E-002	1.1E-002
			Acetone		-			Acetone	fetotoxic	5.6E-003	-	4.7E-001	4.8E-001
			Aluminum		-			Aluminum	circulatory	7.0E-003	-	4.7E-001	4.7E-001
			Anthracene		-			Anthracene	GI tract	3.1E-006	-	2.1E-004	2.1E-004
			Antimony		-			Antimony	skin	1.8E-002	-	1.2E+002	1.2E+002
			Aroclor-1242	3.2E-005	-	2.1E-003	2.2E-003	Aroclor-1242	liver		-		
			Aroclor-1248	4.5E-005	-	3.0E-003	3.0E-003	Aroclor-1248	liver		-		
			Aroclor-1254	6.1E-005	-	4.6E-003	4.6E-003	Aroclor-1254	liver	4.3E+000	-	3.2E+002	3.2E+002
			Aroclor-1260	1.3E-005	-	8.9E-004	9.1E-004	Aroclor-1260	circulatory		-		
			Arsenic	1.6E-006	-	1.1E-004	1.1E-004	Arsenic	circulatory	1.0E-002	-	7.0E-001	7.1E-001
			Barium		-			Barium		2.0E-003	-	1.3E-001	1.3E-001
			Benzene	5.9E-005	-	4.3E-003	4.4E-003	Benzene	blood disorders	1.9E+000	-	1.4E+002	1.4E+002
			Benzoic Acid		-			Benzoic Acid	GI tract	2.8E-006	-	1.8E-004	1.9E-004
			Benzo(a)anthracene	3.8E-008	-	2.5E-006	2.6E-006	Benzo(a)anthracene			-		
			Benzo(a)pyrene	4.1E-007	-	3.2E-005	3.3E-005	Benzo(a)pyrene			-		
			Benzo(b)fluoranthene	8.7E-008	-	5.8E-006	5.9E-006	Benzo(b)fluoranthene			-		
			Benzo(k)fluoranthene	8.7E-009	-	5.8E-007	5.9E-007	Benzo(k)fluoranthene			-		
			Beryllium		-			Beryllium	kidney	6.6E-004	-	4.4E+000	4.4E+000
			bis(2-Chloroethyl) ether	3.5E-006	-	2.3E-004	2.3E-004	bis(2-Chloroethyl) ether	reproductive		-		
			bis(2-Ethylhexyl)phthalate	1.1E-005	-	7.4E-004	7.5E-004	bis(2-Ethylhexyl)phthalate	liver	1.1E-001	-	7.4E+000	7.5E+000
			Butylbenzylphthalate		-			Butylbenzylphthalate	mammary	2.0E-003	-	1.4E-001	1.4E-001
			Cadmium		-			Cadmium	kidney	1.2E-002	-	3.2E+001	3.2E+001
			Chlorobenzene		-			Chlorobenzene	liver	4.3E-004	-	9.2E-002	9.2E-002
			Chloroform	3.9E-006	-	2.7E-004	2.8E-004	Chloroform	circulatory	1.8E-001	-	1.2E+001	1.3E+001
			Chromium 3+		-			Chromium 3+	liver	5.1E-005	-	8.4E-001	8.4E-001
			Chrysene	5.8E-010	-	9.4E-008	9.4E-008	Chrysene	liver		-		
			cis-1,2-Dichloroethene		-			cis-1,2-Dichloroethene	circulatory	1.0E-001	-	6.8E+000	6.9E+000
			Cobalt		-			Cobalt	heart	1.0E-004	-	6.9E-003	7.0E-003
			Copper		-			Copper	liver	1.1E-003	-	1.3E-001	1.3E-001
			Cyanide (total)		-			Cyanide (total)	liver	1.6E-004	-	2.1E-002	2.1E-002
			Dibenzofuran		-			Dibenzofuran	dec growth rate	9.0E-004	-	6.0E-002	6.0E-002
			Diethylphthalate		-			Diethylphthalate	low body wt	2.6E-005	-	1.7E-003	1.7E-003
			Dimethylphthalate		-			Dimethylphthalate	GI tract	5.1E-006	-	3.4E-004	3.4E-004
			Di-n-butylphthalate		-			Di-n-butylphthalate	liver	2.1E-003	-	1.5E-001	1.5E-001
			Di-n-octylphthalate		-			Di-n-octylphthalate		4.2E-004	-	2.8E-002	2.8E-002
			Ethyl Benzene		-			Ethyl Benzene	liver	5.7E-002	-	4.1E+000	4.2E+000

Table 6-1-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area1RME wk4 \ TT_sum_RWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Fluoranthene		--			Fluoranthene	kidney	8.1E-005	--	5.4E-003	5.5E-003
			Fluorene		--			Fluorene	skeletal	2.0E-004	--	1.3E-002	1.4E-002
			Hexachlorobenzene	2.9E-007	--	2.4E-005	2.4E-005	Hexachlorobenzene	liver	6.3E-004	--	5.2E-002	5.3E-002
			Hexachlorobutadiene	1.9E-007	--	1.3E-005	1.3E-005	Hexachlorobutadiene	low body wt	3.4E-002	--	2.3E+000	2.3E+000
			Iron		--			Iron		1.9E-002	--	1.3E+000	1.3E+000
			Isophorone	8.6E-008	--	5.7E-006	5.8E-006	Isophorone	kidney	1.3E-003	--	8.4E-002	8.5E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	4.9E-002	--	3.2E+000	3.3E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.3E-006	--	1.6E-004	1.6E-004	Methylene Chloride	liver	8.1E-003	--	9.8E-001	9.9E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	2.4E-003	--	1.7E-001	1.8E-001
			Naphthalene		--			Naphthalene	circulatory	2.0E-002	--	1.3E+000	1.3E+000
			Nickel		--			Nickel	low body wt	3.4E-004	--	4.5E-001	4.5E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	4.7E-004	--	3.5E-002	3.5E-002
			Pentachlorophenol	7.2E-007	--	4.8E-005	4.9E-005	Pentachlorophenol	liver	5.6E-004	--	3.7E-002	3.8E-002
			Phenol		--			Phenol	liver	2.7E-005	--	1.8E-003	1.8E-003
			Pyrene		--			Pyrene	liver	1.7E-004	--	1.1E-002	1.1E-002
			Selenium		--			Selenium	liver	7.4E-005	--	4.9E-003	5.0E-003
			Silver		--			Silver	skin	2.9E-004	--	9.0E-002	9.1E-002
			Styrene		--			Styrene	liver	3.9E-004	--	2.6E-002	2.6E-002
			Tetrachloroethene	1.3E-004	--	8.7E-003	8.9E-003	Tetrachloroethene	liver	7.1E-001	--	4.7E+001	4.8E+001
			Toluene		--			Toluene	liver	8.6E-001	--	5.7E+001	5.8E+001
			Trichloroethene	9.4E-006	--	6.4E-004	6.5E-004	Trichloroethene	liver	4.0E-001	--	2.7E+001	2.7E+001
			Vanadium		--			Vanadium	circulatory	1.4E-003	--	9.5E-002	9.7E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	1.1E-002	--	7.9E-001	8.0E-001
			Zinc		--			Zinc	thyroid	6.5E-004	--	1.4E-001	1.5E-001
			(total)	3.8E-004		2.6E-002	2.6E-002	(total)		9.8E+000		8.5E+002	8.6E+002
	AIR	Area 1, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	9.3E-004	--	9.3E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.4E-002	--	2.4E-002
			1,1,2-Trichloroethane	--	7.9E-007	--	7.9E-007	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.2E-006	--	1.2E-006	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	1.9E-002	--	1.9E-002
			1,2-Dichloroethane	--	5.2E-006	--	5.2E-006	1,2-Dichloroethane	circulatory	--	1.1E-001	--	1.1E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	2.8E-001	--	2.8E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	1.0E-004	--	1.0E-004
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	4.3E-008	--	4.3E-008
			1,4-Dichlorobenzene	--	4.2E-007	--	4.2E-007	1,4-Dichlorobenzene	liver	--	2.3E-004	--	2.3E-004
			2-Butanone	--		--		2-Butanone	CNS	--	1.7E-007	--	1.7E-007
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.2E-001	--	1.2E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.9E-002	--	1.9E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	5.8E-011	--	5.8E-011	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	

Table 6-1-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area1RME.wk4 \ TT_sum_RWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	2.7E-010	--	2.7E-010	Aldrin		--		--	
			alpha-BHC	--	5.5E-012	--	5.5E-012	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.2E-009	--	2.2E-009	Aroclor-1242		--		--	
			Aroclor-1248	--	1.8E-009	--	1.8E-009	Aroclor-1248		--		--	
			Aroclor-1254	--	2.7E-009	--	2.7E-009	Aroclor-1254		--		--	
			Aroclor-1260	--	3.4E-009	--	3.4E-009	Aroclor-1260		--		--	
			Arsenic	--	2.9E-009	--	2.9E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.6E-004	--	2.6E-004
			Benzene	--	1.3E-005	--	1.3E-005	Benzene	blood disorders	--	7.3E-001	--	7.3E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.6E-011	--	1.6E-011	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	3.0E-010	--	3.0E-010	Beryllium	respiratory	--	1.7E-005	--	1.7E-005
			beta-BHC	--	3.0E-012	--	3.0E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	2.2E-005	--	2.2E-005	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.6E-010	--	1.6E-010	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	5.8E-009	--	5.8E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.2E-008	--	1.2E-008
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.2E-002	--	4.2E-002
			Chloroform	--	3.7E-005	--	3.7E-005	Chloroform	liver	--	1.5E+001	--	1.5E+001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	6.6E-008	--	6.6E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	1.3E-010	--	1.3E-010	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	4.5E-003	--	4.5E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	1.5E-011	--	1.5E-011	gamma-Chlordane		--	5.9E-007	--	5.9E-007
			Heptachlor	--	2.4E-014	--	2.4E-014	Heptachlor		--		--	
			Heptachlor epoxide	--	2.3E-014	--	2.3E-014	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	4.1E-013	--	4.1E-013	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.9E-011	--	1.9E-011	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	

Table 6-1-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File Ares1RME wk4 \ TT_sum fRWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	4.8E-003	--	4.8E-003
			Mercury	--		--		Mercury	CNS	--	4.5E-006	--	4.5E-006
			Methylene Chloride	--	1.2E-005	--	1.2E-005	Methylene Chloride	respiratory	--	2.3E-002	--	2.3E-002
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	1.7E-001	--	1.7E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.1E-004	--	5.1E-004
			Tetrachloroethene	--	1.5E-006	--	1.5E-006	Tetrachloroethene	liver	--	1.5E-002	--	1.5E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	6.6E-002	--	6.6E-002
			Trichloroethene	--	3.7E-006	--	3.7E-006	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	1.1E-007	--	1.1E-007	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		9.6E-005		9.6E-005	(total)			1.7E+001		1.7E+001
						Total Risk Across Subsurface Soil	2.7E-002	Index Across Subsurface Soil				Total Hazard Index Across Subsurface Soil	8.8E+002
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	4.2E+001
Total Skin HI:	1.2E+002
Total Thyroid HI:	1.5E-001
Total Liver HI:	5.5E+002
Total Circulatory System HI:	2.2E+001
Total CNS HI:	2.3E-001
Total Fetotoxic HI:	2.4E+000
Total GI Tract HI:	9.3E-001
Total Respiratory HI:	3.4E-001
Total Eyes HI:	1.1E-002
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.4E-001
Total Adrenal HI:	0.0E+000
Total Heart HI:	7.0E-003
Total Skeletal System HI:	1.4E-002
Total Thyroid HI:	1.5E-001
Total Blood Disorders HI:	1.4E+002

Table 6-1-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Routine Worker
Receptor Age: Adult

File: Area1CT wk4 \ TT_sum fRWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	8.3E-005	--	1.9E-003	2.0E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	3.9E-001	--	9.0E+000	9.4E+000
			1,1,2-Trichloroethane	1.2E-008	--	3.5E-007	3.6E-007	1,1,2-Trichloroethane	blood disorders	7.6E-004	--	2.1E-002	2.2E-002
			1,1,2,2-Tetrachloroethane	2.1E-008	--	6.8E-007	7.0E-007	1,1,2,2-Tetrachloroethane	liver	2.4E-005	--	8.0E-004	8.2E-004
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	1.2E-004	--	2.7E-003	2.8E-003
			1,2-Dichloroethane	9.8E-008	--	2.2E-006	2.3E-006	1,2-Dichloroethane	fetotoxic	5.0E-004	--	1.1E-002	1.2E-002
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.0E-002	--	2.3E-001	2.4E-001
			1,2-Dichloropropane	4.0E-008	--	9.2E-007	9.6E-007	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	1.6E-004	--	3.7E-003	3.8E-003
			1,3-Dichlorobenzene		--			1,3-Dichlorobenzene	circulatory	1.1E-005	--	2.5E-004	2.6E-004
			1,4-Dichlorobenzene	3.3E-009	--	7.6E-008	8.0E-008	1,4-Dichlorobenzene	GI tract	6.5E-005	--	1.5E-003	1.6E-003
			2-Butanone		--			2-Butanone	liver	3.3E-004	--	8.0E-003	8.3E-003
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	6.0E-003	--	1.4E-001	1.4E-001
			2-Methylphenol		--			2-Methylphenol	liver	9.1E-005	--	2.1E-003	2.2E-003
			2,4-Dichlorophenol		--			2,4-Dichlorophenol	kidney	5.1E-004	--	1.2E-002	1.2E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	2.3E-004	--	5.1E-003	5.4E-003
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	7.0E-003	--	1.6E-001	1.7E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	1.3E-003	--	4.7E-002	4.8E-002
			4,4'-DDT	6.3E-008	--	1.4E-006	1.5E-006	4,4'-DDT	fetotoxic	5.2E-003	--	1.2E-001	1.2E-001
			Acenaphthene		--			Acenaphthene	eyes	6.9E-005	--	1.6E-003	1.6E-003
			Acetone		--			Acetone	fetotoxic	2.4E-003	--	7.1E-002	7.3E-002
			Aluminum		--			Aluminum	circulatory	3.1E-003	--	7.0E-002	7.4E-002
			Anthracene		--			Anthracene	GI tract	1.4E-006	--	3.1E-005	3.3E-005
			Antimony		--			Antimony	skin	7.8E-003	--	1.8E+001	1.8E+001
			Aroclor-1242	2.8E-006	--	6.4E-005	6.7E-005	Aroclor-1242	liver		--		
			Aroclor-1248	3.9E-006	--	8.9E-005	9.3E-005	Aroclor-1248	liver		--		
			Aroclor-1254	5.4E-006	--	1.4E-004	1.4E-004	Aroclor-1254	liver	1.9E+000	--	4.8E+001	5.0E+001
			Aroclor-1260	1.2E-006	--	2.7E-005	2.8E-005	Aroclor-1260	circulatory		--		
			Arsenic	1.4E-007	--	3.4E-006	3.6E-006	Arsenic	circulatory	4.4E-003	--	1.1E-001	1.1E-001
			Barium		--			Barium		8.6E-004	--	2.0E-002	2.0E-002
			Benzene	5.1E-006	--	1.3E-004	1.4E-004	Benzene	blood disorders	8.3E-001	--	2.1E+001	2.2E+001
			Benzoic Acid		--			Benzoic Acid	GI tract	1.2E-006	--	2.8E-005	2.9E-005
			Benzo(a)anthracene	3.3E-009	--	7.6E-008	7.9E-008	Benzo(a)anthracene			--		
			Benzo(a)pyrene	3.6E-008	--	9.7E-007	1.0E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	7.6E-009	--	1.7E-007	1.8E-007	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	7.6E-010	--	1.7E-008	1.8E-008	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	2.9E-004	--	6.7E-001	6.7E-001
			bis(2-Chloroethyl) ether	3.0E-007	--	7.0E-006	7.3E-006	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	9.6E-007	--	2.2E-005	2.3E-005	bis(2-Ethylhexyl)phthalate	liver	4.9E-002	--	1.1E+000	1.2E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	9.0E-004	--	2.0E-002	2.1E-002
			Cadmium		--			Cadmium	kidney	5.3E-003	--	4.9E+000	4.9E+000
			Chlorobenzene		--			Chlorobenzene	liver	1.9E-004	--	1.4E-002	1.4E-002
			Chloroform	3.4E-007	--	8.2E-006	8.6E-006	Chloroform	circulatory	7.9E-002	--	1.9E+000	2.0E+000
			Chromium 3+		--			Chromium 3+	liver	2.2E-005	--	1.3E-001	1.3E-001
			Chrysene	5.1E-011	--	2.8E-009	2.9E-009	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	4.5E-002	--	1.0E+000	1.1E+000
			Cobalt		--			Cobalt	heart	4.6E-005	--	1.0E-003	1.1E-003
			Copper		--			Copper	liver	5.0E-004	--	1.9E-002	1.9E-002
			Cyanide (total)		--			Cyanide (total)	liver	7.0E-005	--	3.2E-003	3.3E-003
			Dibenzofuran		--			Dibenzofuran	dec growth rate	3.9E-004	--	9.0E-003	9.4E-003
			Diethylphthalate		--			Diethylphthalate	low body wt	1.1E-005	--	2.6E-004	2.7E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	2.2E-006	--	5.1E-005	5.3E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	9.3E-004	--	2.2E-002	2.3E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		1.8E-004	--	4.2E-003	4.4E-003
			Ethyl Benzene		--			Ethyl Benzene	liver	2.5E-002	--	6.2E-001	6.5E-001

Table 6-1-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Routine Worker
Receptor Age: Adult

File: Area1CT.wk4 \ TT_sum_fRWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Fluoranthene		--			Fluoranthene	kidney	3.6E-005	--	8.1E-004	8.5E-004
			Fluorene		--			Fluorene	skeletal	8.9E-005	--	2.0E-003	2.1E-003
			Hexachlorobenzene	2.5E-008	--	7.2E-007	7.5E-007	Hexachlorobenzene	liver	2.8E-004	--	7.9E-003	8.2E-003
			Hexachlorobutadiene	1.7E-008	--	3.8E-007	4.0E-007	Hexachlorobutadiene	low body wt	1.5E-002	--	3.4E-001	3.6E-001
			Iron		--			Iron		8.4E-003	--	1.9E-001	2.0E-001
			Isophorone	7.5E-009	--	1.7E-007	1.8E-007	Isophorone	kidney	5.6E-004	--	1.3E-002	1.3E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	2.1E-002	--	4.9E-001	5.1E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.1E-007	--	4.8E-006	4.9E-006	Methylene Chloride	liver	3.6E-003	--	1.5E-001	1.5E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	1.0E-003	--	2.6E-002	2.7E-002
			Naphthalene		--			Naphthalene	circulatory	8.7E-003	--	2.0E-001	2.1E-001
			Nickel		--			Nickel	low body wt	1.5E-004	--	6.8E-002	6.8E-002
			ortho-xylene		--			ortho-xylene	fetotoxic	2.1E-004	--	5.2E-003	5.4E-003
			Pentachlorophenol	6.3E-008	--	1.4E-006	1.5E-006	Pentachlorophenol	liver	2.5E-004	--	5.6E-003	5.9E-003
			Phenol		--			Phenol	liver	1.2E-005	--	2.7E-004	2.8E-004
			Pyrene		--			Pyrene	liver	7.4E-005	--	1.7E-003	1.8E-003
			Selenium		--			Selenium	liver	3.2E-005	--	7.4E-004	7.7E-004
			Silver		--			Silver	skin	1.3E-004	--	1.4E-002	1.4E-002
			Styrene		--			Styrene	liver	1.7E-004	--	3.9E-003	4.0E-003
			Tetrachloroethene	1.2E-005	--	2.6E-004	2.8E-004	Tetrachloroethene	liver	3.1E-001	--	7.1E+000	7.4E+000
			Toluene		--			Toluene	liver	3.8E-001	--	8.6E+000	8.9E+000
			Trichloroethene	8.3E-007	--	1.9E-005	2.0E-005	Trichloroethene	liver	1.8E-001	--	4.1E+000	4.3E+000
			Vanadium		--			Vanadium	circulatory	6.3E-004	--	1.4E-002	1.5E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	4.7E-003	--	1.2E-001	1.2E-001
			Zinc		--			Zinc	thyroid	2.9E-004	--	2.2E-002	2.2E-002
			(total)	3.3E-005		7.9E-004	8.2E-004	(total)		4.3E+000		1.3E+002	1.3E+002
	AIR	Area 1, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	8.1E-004	--	8.1E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.1E-002	--	2.1E-002
			1,1,2-Trichloroethane	--	1.4E-007	--	1.4E-007	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	2.1E-007	--	2.1E-007	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	1.7E-002	--	1.7E-002
			1,2-Dichloroethane	--	9.1E-007	--	9.1E-007	1,2-Dichloroethane	circulatory	--	1.0E-001	--	1.0E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	2.4E-001	--	2.4E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	8.8E-005	--	8.8E-005
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	3.8E-008	--	3.8E-008
			1,4-Dichlorobenzene	--	7.4E-008	--	7.4E-008	1,4-Dichlorobenzene	liver	--	2.1E-004	--	2.1E-004
			2-Butanone	--		--		2-Butanone	CNS	--	1.5E-007	--	1.5E-007
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.1E-001	--	1.1E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.6E-002	--	1.6E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.0E-011	--	1.0E-011	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	

Table 6-1-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Routine Worker
Receptor Age: Adult

File: Area1CT.wk4 \ TT_sum_RWs1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	*Inhalation*	*Dermal*	*Total* Exposure		Primary Target Organ	*Ingestion*	*Inhalation*	*Dermal*	*Total* Exposure
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.7E-011	--	4.7E-011	Aldrin		--		--	
			alpha-BHC	--	9.6E-013	--	9.6E-013	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	3.8E-010	--	3.8E-010	Aroclor-1242		--		--	
			Aroclor-1248	--	3.1E-010	--	3.1E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	4.7E-010	--	4.7E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	5.9E-010	--	5.9E-010	Aroclor-1260		--		--	
			Arsenic	--	5.0E-010	--	5.0E-010	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.2E-004	--	2.2E-004
			Benzene	--	2.3E-006	--	2.3E-006	Benzene	blood disorders	--	6.4E-001	--	6.4E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.7E-012	--	2.7E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	5.2E-011	--	5.2E-011	Beryllium	respiratory	--	1.5E-005	--	1.5E-005
			beta-BHC	--	5.2E-013	--	5.2E-013	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	3.8E-006	--	3.8E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	3.2E-011	--	3.2E-011	*bis(2-Ethylhexyl)phthalate*		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.0E-009	--	1.0E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		*Carbon Disulfide*		--	1.0E-008	--	1.0E-008
			Chlorobenzene	--		--		Chlorobenzene	liver	--	3.7E-002	--	3.7E-002
			Chloroform	--	6.5E-006	--	6.5E-006	Chloroform	liver	--	1.3E+001	--	1.3E+001
			Chromium 3+	--		--		*Chromium 3+*		--		--	
			Chromium 6+	--	1.2E-008	--	1.2E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	2.4E-011	--	2.4E-011	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	3.9E-003	--	3.9E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	2.6E-012	--	2.6E-012	gamma-Chlordane		--	5.2E-007	--	5.2E-007
			Heptachlor	--	4.2E-015	--	4.2E-015	Heptachlor		--		--	
			Heptachlor epoxide	--	4.1E-015	--	4.1E-015	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	7.1E-014	--	7.1E-014	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	3.4E-012	--	3.4E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		*Hexane, n-*		--		--	

Table 6-1-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area1CT.wk4 \ TT_sum_RWa1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	4.2E-003	--	4.2E-003
			Mercury	--		--		Mercury	CNS	--	3.9E-006	--	3.9E-006
			Methylene Chloride	--	2.0E-006	--	2.0E-006	Methylene Chloride	respiratory	--	2.0E-002	--	2.0E-002
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	1.5E-001	--	1.5E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	4.4E-004	--	4.4E-004
			Tetrachloroethene	--	2.6E-007	--	2.6E-007	Tetrachloroethene	liver	--	1.3E-002	--	1.3E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	5.8E-002	--	5.8E-002
			Trichloroethene	--	6.5E-007	--	6.5E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	2.0E-008	--	2.0E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.7E-005		1.7E-005	(total)			1.5E+001		1.5E+001
						Total Risk Across Subsurface Soil	8.4E-004	Index Across Subsurface Soil				Total Hazard Index Across Subsurface Soil	1.5E+002
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	6.3E+000
Total Skin HI:	1.8E+001
Total Thyroid HI:	2.2E-002
Total Liver HI:	9.6E+001
Total Circulatory System HI:	3.7E+000
Total CNS HI:	1.9E-001
Total Fetotoxic HI:	3.7E-001
Total GI Tract HI:	1.4E-001
Total Respiratory HI:	7.6E-002
Total Eyes HI:	1.6E-003
Total Reproductive HI:	0.0E+000
Total Mammary HI:	2.1E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.1E-003
Total Skeletal System HI:	2.1E-003
Total Thyroid HI:	2.2E-002
Total Blood Disorders HI:	2.3E+001

Table 6-1-11
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND1RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Area 1											
		Fire Pond	Aluminum					Aluminum	circulatory system	6.0E-004		2.8E-003	3.4E-003
			Aroclor-1248	4.0E-007		1.9E-005	1.9E-005	Aroclor-1248	liver				
			Aroclor-1254	1.5E-006		1.1E-004	1.1E-004	Aroclor-1254	liver	1.0E-001		7.5E+000	7.6E+000
			Arsenic	9.8E-008		1.4E-006	1.5E-006	Arsenic	circulatory system	6.1E-004		8.8E-003	9.4E-003
			Barium					Barium	NA	1.2E-004		5.6E-004	6.8E-004
			Beryllium					Beryllium	kidney	2.0E-005		9.1E-003	9.1E-003
			bis(2-Ethylhexyl)phthalate	8.0E-009		3.7E-007	3.8E-007	bis(2-Ethylhexyl)phthalate	liver	8.0E-005		3.7E-003	3.8E-003
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	9.8E-008		4.5E-006	4.6E-006
			Cadmium					Cadmium	kidney	1.6E-004		3.0E-001	3.0E-001
			Chloroform	5.3E-013		2.6E-011	2.6E-011	Chloroform	circulatory system	2.4E-008		1.2E-006	1.2E-006
			Chromium (total)					Chromium (total)		8.6E-004		4.0E-002	4.1E-002
			Copper					Copper	liver	7.4E-005		5.7E-004	6.5E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	2.1E-007		9.9E-006	1.0E-005
			Iron					Iron		1.9E-003		8.9E-003	1.1E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.3E-003		6.1E-003	7.5E-003
			Mercury					Mercury	low body weight				
			Phenol					Phenol	liver	3.9E-008		1.8E-006	1.8E-006
			Toluene					Toluene	liver	1.8E-009		8.5E-008	8.7E-008
			Vanadium					Vanadium	circulatory system	1.1E-004		5.0E-004	6.1E-004
			Zinc					Zinc	thyroid	4.6E-005		7.2E-004	7.7E-004
			(Total)	2.0E-006		1.3E-004	1.3E-004	(Total)		1.1E-001		7.9E+000	8.0E+000
						Total Risk Across Sediments	1.3E-004					Total Hazard Index Across All Exposure Routes	8.0E+000

Total Circulatory System HI =	1.3E-002
Total Thyroid HI =	7.7E-004
Total Kidney HI =	3.1E-001
Total Liver HI =	7.6E+000

Table 6-1-12
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND1CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Area 1											
		Fire Pond	Aluminum					Aluminum	circulatory system	2.6E-004		4.2E-004	6.8E-004
			Aroclor-1248	3.5E-008		5.6E-007	6.0E-007	Aroclor-1248	liver				
			Aroclor-1254	1.3E-007		3.3E-006	3.4E-006	Aroclor-1254	liver	4.6E-002		1.1E+000	1.2E+000
			Arsenic	8.6E-009		4.4E-008	5.2E-008	Arsenic	circulatory system	2.7E-004		1.3E-003	1.6E-003
			Barium					Barium	NA	5.3E-005		8.5E-005	1.4E-004
			Beryllium					Beryllium	kidney	8.6E-006		1.4E-003	1.4E-003
			bis(2-Ethylhexyl)phthalate	7.0E-010		1.1E-008	1.2E-008	bis(2-Ethylhexyl)phthalate	liver	3.5E-005		5.6E-004	5.9E-004
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	4.3E-008		6.9E-007	7.3E-007
			Cadmium					Cadmium	kidney	7.0E-005		4.5E-002	4.5E-002
			Chloroform	4.7E-014		7.8E-013	8.2E-013	Chloroform	circulatory system	1.1E-008		1.8E-007	1.9E-007
			Chromium (total)					Chromium (total)		3.8E-004		6.0E-003	6.4E-003
			Copper					Copper	liver	3.3E-005		8.7E-005	1.2E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	9.1E-008		1.5E-006	1.6E-006
			Iron					Iron		8.4E-004		1.3E-003	2.2E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	5.8E-004			5.8E-004
			Mercury					Mercury	low body weight				
			Phenol					Phenol	liver	1.7E-008		2.7E-007	2.9E-007
			Toluene					Toluene	liver	8.0E-010		1.3E-008	1.4E-008
			Vanadium					Vanadium	circulatory system	4.7E-005		7.6E-005	1.2E-004
			Zinc					Zinc	thyroid	2.0E-005		1.1E-004	1.3E-004
			(Total)	1.7E-007		3.9E-006	4.1E-006	(Total)		4.8E-002		1.2E+000	1.2E+000
							Total Risk Across Sediments						Total Hazard Index Across All Exposure Routes
							4.1E-006						1.2E+000

Total Circulatory System HI =	2.4E-003
Total Thyroid HI =	1.3E-004
Total Kidney HI =	4.7E-002
Total Liver HI =	1.2E+000

Table 6-1-13
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: cfwrkct1.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Fire Pond Area 1	Acetone					Acetone	fetotoxic	8.6E-005		8.7E-006	9.4E-005
			Aluminum					Aluminum	circulatory system	1.6E-003		1.6E-004	1.8E-003
			Ammonia					Ammonia	kidney				
			Aroclor-1248	5.1E-008		2.3E-005	2.3E-005	Aroclor-1248	liver				
			Cadmium					Cadmium	kidney	2.5E-003		4.9E-003	7.4E-003
			Chromium (total)					Chromium (total)		4.7E-002		4.7E-002	9.5E-002
			Copper					Copper	liver	9.4E-004		1.6E-004	1.1E-003
			Dichloroethane, 1,1-					Dichloroethane, 1,1-	circulatory system	3.4E-005		5.2E-005	8.6E-005
			Dichloroethene, 1,2-					Dichloroethene, 1,2-	fetotoxic	1.9E-004		3.2E-004	5.1E-004
			Iron					Iron		4.9E-003		4.9E-004	5.4E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	7.1E-004		7.1E-005	7.8E-004
			2-Butanone					2-Butanone	liver	9.4E-005		1.6E-005	1.1E-004
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	4.3E-003			4.3E-003
			Zinc					Zinc	thyroid	3.5E-004		7.0E-005	4.2E-004
			(Total)	5.1E-008		2.3E-005	2.3E-005	(Total)		6.3E-002		5.4E-002	1.2E-001
						Total Risk Across Surface Water	2.3E-005					Total Hazard Index Across Surface Water	1.2E-001

Total Circulatory System HI =	1.9E-003
Total Liver HI =	1.2E-003
Total Kidney HI =	8.2E-003
Total Fetotoxic HI =	4.9E-003

Total Receptor Risk Across All Media	TBC
Total Receptor Hazard Index Across All Media	TBC

Table 6-1-14
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: cfworkr1-NEW

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Area 1 Fire Pond	Acetone					Acetone	fetotoxic	4.7E-006		5.5E-007	5.2E-006
			Aluminum					Aluminum	circulatory system	9.0E-005		1.0E-005	1.0E-004
			Ammonia					Ammonia	kidney				
			Aroclor-1248	1.4E-008		7.4E-006	7.4E-006	Aroclor-1248	liver				
			Cadmium					Cadmium	kidney	1.4E-004		3.1E-004	4.5E-004
			Chromium (total)					Chromium (total)		2.6E-003		3.0E-003	5.6E-003
			Copper					Copper	liver	5.2E-005		1.0E-005	6.2E-005
			Dichloroethane, 1,1-					Dichloroethane, 1,1-	circulatory system	1.9E-006		3.3E-006	5.2E-006
			Dichloroethene, 1,2-					Dichloroethene, 1,2-	fetotoxic	1.0E-005		2.0E-005	3.1E-005
			Iron					Iron		2.7E-004		3.1E-005	3.0E-004
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	3.9E-005		4.5E-006	4.3E-005
			2-Butanone					2-Butanone	liver	5.2E-006		1.0E-006	6.2E-006
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.3E-004			2.3E-004
			Zinc					Zinc	thyroid	1.9E-005		4.4E-006	2.4E-005
			(Total)	1.4E-008		7.4E-006	7.4E-006	(Total)		3.5E-003		3.4E-003	6.9E-003
							Total Risk Across Surface Water: 7.4E-006						Total Hazard Index Across Surface Water: 6.9E-003

Total Circulatory System HI =	1.1E-004
Total Liver HI =	6.8E-005
Total Kidney HI =	4.9E-004
Total Fetotoxic HI =	2.7E-004

Total Receptor Risk Across All Media	TBC
Total Receptor Hazard Index Across All Media	TBC

TBC = To be calculated. This value will be a total risk for Future RME Routine Workers in Area 1.

Table 6-1-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_fCWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 4')	1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	5.2E+000	--	6.2E+001	6.7E+001
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	2.2E-004	--	2.6E-003	2.9E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	6.5E-006	--	7.9E-005	8.6E-005
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	7.4E-002	--	8.9E-001	9.6E-001
			2-Methylphenol		--			2-Methylphenol	liver	9.0E-004	--	1.1E-002	1.2E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	2.9E-003	--	3.6E-002	3.9E-002
			3,3'-Dichlorobenzidine	5.0E-009	--	6.0E-008	6.5E-008	3,3'-Dichlorobenzidine	liver		--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	9.2E-002	--	1.1E+000	1.2E+000
			4-Methylphenol		--			4-Methylphenol	respiratory	1.7E-002	--	3.1E-001	3.3E-001
			4,4'-DDD	4.5E-008	--	5.5E-007	5.9E-007	4,4'-DDD	liver		--		
			4,4'-DDE	2.8E-010	--	3.3E-009	3.6E-009	4,4'-DDE	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	9.0E-004	--	1.1E-002	1.2E-002
			Aluminum		--			Aluminum	circulatory	6.4E-002	--	7.7E-001	8.3E-001
			Anthracene		--			Anthracene	GI tract	7.7E-006	--	9.3E-005	1.0E-004
			Antimony		--			Antimony	skin	1.9E-001	--	2.3E+002	2.3E+002
			Aroclor-1242	4.2E-005	--	5.1E-004	5.5E-004	Aroclor-1242	liver		--		
			Aroclor-1248	7.4E-006	--	8.9E-005	9.6E-005	Aroclor-1248	liver		--		
			Aroclor-1254	1.1E-005	--	1.4E-004	1.5E-004	Aroclor-1254	liver	2.5E+001	--	3.3E+002	3.6E+002
			Aroclor-1260	1.8E-007	--	2.2E-006	2.3E-006	Aroclor-1260	circulatory		--		
			Arsenic	2.2E-007	--	2.8E-006	3.0E-006	Arsenic	circulatory	4.6E-002	--	5.8E-001	6.3E-001
			Barium		--			Barium		2.7E-002	--	3.3E-001	3.6E-001
			Benzene	1.1E-005	--	1.5E-004	1.6E-004	Benzene	blood disorders	1.2E+001	--	1.6E+002	1.7E+002
			Benzo(a)anthracene	2.3E-009	--	2.7E-008	3.0E-008	Benzo(a)anthracene			--		
			Benzo(a)pyrene	7.1E-008	--	1.0E-006	1.1E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	7.0E-009	--	8.5E-008	9.2E-008	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	7.0E-010	--	8.4E-009	9.1E-009	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	1.3E-002	--	1.5E+001	1.5E+001
			bis(2-Ethylhexyl)phthalate	1.9E-006	--	2.3E-005	2.5E-005	bis(2-Ethylhexyl)phthalate	liver	6.4E-001	--	7.7E+000	8.4E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	2.4E-002	--	2.8E-001	3.1E-001
			Cadmium		--			Cadmium	kidney	6.3E-002	--	3.0E+001	3.0E+001
			Carbon Disulfide		--			Carbon Disulfide	adrenal	9.8E-008	--	1.2E-006	1.3E-006
			Carbon Tetrachloride		--			Carbon Tetrachloride			--		
			Chlorobenzene		--			Chlorobenzene	liver	4.4E-003	--	1.7E-001	1.8E-001
			Chloroform	3.2E-007	--	4.1E-006	4.4E-006	Chloroform	circulatory	4.9E-001	--	6.2E+000	6.7E+000
			Chromium 3+		--			Chromium 3+	liver	5.9E-004	--	1.8E+000	1.8E+000
			Chrysene	2.8E-011	--	8.4E-010	8.7E-010	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	5.9E-001	--	7.1E+000	7.7E+000
			Cobalt		--			Cobalt	heart	7.6E-004	--	9.2E-003	9.9E-003
			Copper		--			Copper	liver	1.1E-002	--	2.2E-001	2.3E-001
			Cyanide (total)		--			Cyanide (total)	liver	2.1E-003	--	5.2E-002	5.4E-002
			Dibenzofuran		--			Dibenzofuran	dec growth rate	5.2E-003	--	6.2E-002	6.7E-002
			Dieldrin	2.0E-007	--	2.4E-006	2.6E-006	Dieldrin	liver	2.4E-002	--	2.8E-001	3.1E-001
			Diethylphthalate		--			Diethylphthalate	low body wt	2.7E-004	--	3.3E-003	3.5E-003
			Dimethylphthalate		--			Dimethylphthalate	GI tract	4.7E-005	--	5.7E-004	6.2E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.6E-002	--	2.0E-001	2.2E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		5.9E-003	--	7.1E-002	7.7E-002
			Endrin		--			Endrin	liver	2.6E-002	--	3.2E-001	3.4E-001
			Ethyl Benzene		--			Ethyl Benzene	liver	3.3E-001	--	4.3E+000	4.6E+000
			Fluoranthene		--			Fluoranthene	kidney	4.7E-004	--	5.6E-003	6.1E-003
			Fluorene		--			Fluorene	skeletal	1.7E-003	--	2.1E-002	2.2E-002
			gamma-Chlordane	2.2E-008	--	2.7E-007	2.9E-007	gamma-Chlordane	liver	1.2E-002	--	1.4E-001	1.5E-001
			Hexachlorobenzene	5.0E-008	--	7.5E-007	8.0E-007	Hexachlorobenzene	liver	3.6E-003	--	5.5E-002	5.8E-002
			Hexachlorobutadiene	4.6E-008	--	5.5E-007	6.0E-007	Hexachlorobutadiene	low body wt	2.7E-001	--	3.3E+000	3.6E+000

Table 6-1-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_fCWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Indeno(1,2,3-cd)pyrene	7.0E-009	--	8.4E-008	9.1E-008	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		1.2E-001	--	1.5E+000	1.6E+000
			Isophorone	3.3E-008	--	4.0E-007	4.3E-007	Isophorone	kidney	1.6E-002	--	2.0E-001	2.1E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	5.7E-001	--	6.9E+000	7.5E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	3.0E-007	--	6.5E-006	6.8E-006	Methylene Chloride	liver	6.1E-002	--	1.3E+000	1.4E+000
			m,p-xylene		--			m,p-xylene	fetotoxic	1.4E-002	--	1.8E-001	1.9E-001
			Naphthalene		--			Naphthalene	circulatory	4.8E-003	--	5.8E-002	6.3E-002
			Nickel		--			Nickel	low body wt	2.5E-003	--	6.0E-001	6.1E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	1.5E-004	--	2.0E-003	2.2E-003
			Pentachlorophenol	1.6E-007	--	2.0E-006	2.2E-006	Pentachlorophenol	liver	4.3E-003	--	5.2E-002	5.6E-002
			Phenol		--			Phenol	liver	4.8E-005	--	5.8E-004	6.3E-004
			Pyrene		--			Pyrene	liver	4.6E-004	--	5.6E-003	6.1E-003
			Selenium		--			Selenium	liver	6.2E-004	--	7.5E-003	8.1E-003
			Silver		--			Silver	skin	1.3E-003	--	7.2E-002	7.3E-002
			Styrene		--			Styrene	liver	1.4E-001	--	1.8E+000	1.9E+000
			Tetrachloroethene	5.5E-004	--	6.6E-003	7.2E-003	Tetrachloroethene	liver	9.8E+001	--	1.2E+003	1.3E+003
			Toluene		--			Toluene	liver	2.7E-002	--	3.3E-001	3.5E-001
			Trichloroethene	1.0E-008	--	1.3E-007	1.4E-007	Trichloroethene	liver	1.5E-002	--	1.8E-001	1.9E-001
			Vanadium		--			Vanadium	circulatory	8.2E-003	--	9.9E-002	1.1E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	5.6E-003	--	7.6E-002	8.1E-002
			Zinc		--			Zinc	thyroid	7.2E-003	--	2.9E-001	3.0E-001
			(total)	6.2E-004		7.5E-003	8.2E-003	(total)		1.4E+002		2.1E+003	2.2E+003
	AIR	Area 1, Soil (0' to 4')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.0E-002	--	1.0E-002
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	3.6E-001	--	3.6E-001
			1,1,2-Trichloroethane	--	1.1E-007	--	1.1E-007	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	8.7E-008	--	8.7E-008	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	1.6E-002	--	1.6E-002
			1,2-Dichloroethane	--	1.6E-006	--	1.6E-006	1,2-Dichloroethane	circulatory	--	1.2E+000	--	1.2E+000
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	8.2E-001	--	8.2E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	2.5E-004	--	2.5E-004
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	6.6E-006	--	6.6E-006
			1,4-Dichlorobenzene	--	1.4E-008	--	1.4E-008	1,4-Dichlorobenzene	liver	--	2.5E-004	--	2.5E-004
			2-Butanone	--		--		2-Butanone	CNS	--	1.9E-005	--	1.9E-005
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.8E-001	--	1.8E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDT	--	2.4E-010	--	2.4E-010	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	9.0E-009	--	9.0E-009	Aroclor-1242		--		--	
			Aroclor-1248	--	6.2E-009	--	6.2E-009	Aroclor-1248		--		--	
			Aroclor-1254	--	1.0E-008	--	1.0E-008	Aroclor-1254		--		--	

Table 6-1-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

File: Area1RME.wk4 \ TT_sum_fCWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Aroclor-1260	--	6.5E-009	--	6.5E-009	Aroclor-1260		--		--	
			Arsenic	--	1.1E-008	--	1.1E-008	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.6E-002	--	2.6E-002
			Benzene	--	5.6E-006	--	5.6E-006	Benzene	blood disorders	--	1.1E+001	--	1.1E+001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	9.3E-012	--	9.3E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Beryllium	--	1.2E-009	--	1.2E-009	Beryllium	respiratory	--	2.4E-003	--	2.4E-003
			bis(2-Chloroethyl) ether	--	6.2E-007	--	6.2E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	6.8E-010	--	6.8E-010	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.4E-008	--	1.4E-008	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.8E-006	--	1.8E-006
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.6E-002	--	4.6E-002
			Chloroform	--	1.5E-005	--	1.5E-005	Chloroform	liver	--	2.0E+002	--	2.0E+002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	1.7E-007	--	1.7E-007	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dieldrin	--	5.8E-010	--	5.8E-010	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	5.4E-002	--	5.4E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	6.3E-011	--	6.3E-011	gamma-Chlordane		--	8.3E-005	--	8.3E-005
			Hexachlorobenzene	--	1.7E-012	--	1.7E-012	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	7.0E-011	--	7.0E-011	Hexachlorobutadiene	kidney	--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	6.4E-001	--	6.4E-001
			Mercury	--		--		Mercury	CNS	--	5.2E-004	--	5.2E-004
			Methylene Chloride	--	4.1E-007	--	4.1E-007	Methylene Chloride	respiratory	--	2.7E-002	--	2.7E-002
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.3E-001	--	3.3E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	

Table 6-1-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Construction Worker
Receptor Age:	Adult

File: Area1RME.wk4 \ TT_sum_fCWa1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	3.3E-003	--	3.3E-003
			Tetrachloroethene	--	4.3E-007	--	4.3E-007	Tetrachloroethene	liver	--	1.4E-001	--	1.4E-001
			Toluene	--		--		Toluene	CNS	--	3.3E-001	--	3.3E-001
			Trichloroethene	--	9.9E-007	--	9.9E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
					2.47E-005		2.5E-005	(total)			2.1E+002		2.1E+002
							Total Risk Across Subsurface Soil	8.2E-003				Subsurface Soil	2.4E+003
							Total Risk Across All Media and All Exposure Routes	Reserved					

Total Kidney HI:	5.3E+001
Total Skin HI:	2.3E+002
Total Thyroid HI:	3.0E-001
Total Liver HI:	1.9E+003
total Circulatory System HI:	1.8E+001
Total CNS HI:	5.1E-001
Total Fetotoxic HI:	3.0E-001
Total GI Tract HI:	9.6E-001
Total Respiratory HI:	1.1E+000
Total Eyes HI:	1.2E-002
Total Reproductive HI:	0.0E+000
Total Mammary HI:	3.1E-001
Total Adrenal HI:	1.3E-006
Total Heart HI:	9.9E-003
Total Skeletal System HI:	2.2E-002
Total Thyroid HI:	3.0E-001
Total Blood Disorders HI:	1.7E+002

Table 6-1-16
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: fconsta1.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Area 1 Fire Pond	Acetone					Acetone	fetotoxic	2.6E-005		3.0E-006	2.9E-005
			Aluminum					Aluminum	circulatory system	4.9E-004		5.7E-005	5.5E-004
			Ammonia					Ammonia	kidney				
			Aroclor-1248	9.2E-009		4.8E-006	4.8E-006	Aroclor-1248	liver				
			Cadmium					Cadmium	kidney	7.4E-004		1.7E-003	2.4E-003
			Chromium (total)					Chromium (total)		1.4E-002		1.6E-002	3.1E-002
			Copper					Copper	liver	2.8E-004		5.4E-005	3.4E-004
			Dichloroethane, 1,1-					Dichloroethane, 1,1-	circulatory system	1.0E-005		1.8E-005	2.8E-005
			Dichloroethene, 1,2-					Dichloroethene, 1,2-	fetotoxic	5.7E-005		1.1E-004	1.7E-004
			Iron					Iron		1.4E-003		1.7E-004	1.6E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	2.1E-004		2.5E-005	2.4E-004
			2-Butanone					2-Butanone	liver	2.8E-005		5.6E-006	3.4E-005
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	1.3E-003			1.3E-003
			Zinc					Zinc	thyroid	1.0E-004		2.4E-005	1.3E-004
			(Total)	9.2E-009		4.8E-006	4.8E-006	(Total)		1.9E-002		1.9E-002	3.7E-002
							Total Risk Across Surface Water						Total Hazard Index Across Surface Water
							4.8E-006						3.7E-002

Total Circulatory System HI =	5.8E-004
Total Liver HI =	3.7E-004
Total Kidney HI =	2.7E-003
Total Fetotoxic HI =	1.5E-003

Total Receptor Risk Across All Media	TBC
Total Receptor Hazard Index Across All Media	TBC

TABLE 6-1-17
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	*Future*
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FCW.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifier	Area 1 Groundwater	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system			1.28E-002	1.28E-002
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS			1.77E-001	1.77E-001
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney			8.55E-002	8.55E-002
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	circulatory system			4.13E-002	4.13E-002
			1,4-Dichlorobenzene			8.10E-007	8.10E-007	1,4-Dichlorobenzene	GI tract			1.05E-001	1.05E-001
			2,2'-oxybis(1-Chloropropane)			6.26E-006	6.26E-006	2,2'-oxybis(1-Chloropropane)	low body wt			2.09E-001	2.09E-001
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized			4.61E-001	4.61E-001
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract			7.96E-001	7.96E-001
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver			1.44E-002	1.44E-002
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver			1.37E-003	1.37E-003
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory			1.33E+000	1.33E+000
			Aluminum					Aluminum	circulatory system			1.46E-003	1.46E-003
			Ammonia					Ammonia	kidney				
			Arochlor-1248			8.34E-004	8.34E-004	Arochlor-1248	liver				
			Arsenic			5.03E-006	5.03E-006	Arsenic	circulatory system			1.04E+000	1.04E+000
			Barium					Barium	NA			5.88E-002	5.88E-002
			Benzene			3.91E-003	3.91E-003	Benzene	blood disorders			4.20E+003	4.20E+003
			Benzoic Acid					Benzoic Acid	GI tract			1.34E-004	1.34E-004
			bis(2-Chloroethyl)Ether			2.30E-005	2.30E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			1.07E-006	1.07E-006	bis(2-Ethylhexyl)Phthalate	liver			3.58E-001	3.58E-001
			Cadmium (water)					Cadmium (water)	kidney			6.46E-001	6.46E-001
			Chlorobenzene					Chlorobenzene	liver			3.38E+000	3.38E+000
			Chloroethane			2.55E-006	2.55E-006	Chloroethane	liver			2.05E-001	2.05E-001
			Chloromethane			2.14E-007	2.14E-007	Chloromethane	kidney				
			Cyanide					Cyanide	liver			5.21E-003	5.21E-003
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA			5.47E+000	5.47E+000
			Diethylphthalate					Diethylphthalate	low body wt			3.81E-004	3.81E-004
			Ethylbenzene					Ethylbenzene	liver			4.45E+000	4.45E+000
			Iron					Iron				8.85E-001	8.85E-001
			Manganese (nonfood)					Manganese (nonfood)	kidney			1.11E+000	1.11E+000
			Methylene Chloride			3.60E-009	3.60E-009	Methylene Chloride	liver			7.47E-004	7.47E-004
			Naphthalene					Naphthalene	circulatory system			1.23E+000	1.23E+000
			Nickel					Nickel	low body wt			2.76E-002	2.76E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			1.21E-002	1.21E-002
			Selenium					Selenium	liver			6.46E-003	6.46E-003

TABLE 6-1-17
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\sktbls\UGW1FCW.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Thallium					*Thallium*	NA			2.68E-001	2.68E-001
			Toluene					Toluene	liver			2.73E+000	2.73E+000
			Vanadium					Vanadium	circulatory system			1.50E-002	1.50E-002
			Vinyl Chloride			1.28E-005	1.28E-005	*Vinyl Chloride*	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic			6.31E-001	6.31E-001
			Zinc					Zinc	thyroid			1.77E-002	1.77E-002
			(Total)			4.80E-003	4.80E-003	*(Total)*				4.22E+003	4.22E+003
	Air	Excavation Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		7.79E-005		7.79E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		8.30E-003		8.30E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)					
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	respiratory system				
			1,4-Dichlorobenzene		1.04E-009		1.04E-009	1,4-Dichlorobenzene	liver		1.93E-005		1.93E-005
			2,2'-oxybis(1-Chloropropane)		1.05E-007		1.05E-007	2,2'-oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			2-Methylnaphthalene					2-Methylnaphthalene					
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	NA				
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS				
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	NA				
			Aluminum					Aluminum	respiratory system				
			Ammonia					Ammonia	respiratory tract		7.67E-003		7.67E-003
			Arochlor-1248					Arochlor-1248	NA				
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		6.35E-005		6.35E-005	Benzene	blood disorders		1.20E+002		1.20E+002
			Benzoic Acid					Benzoic Acid					
			bis(2-Chloroethyl)Ether		7.06E-007		7.06E-007	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chlorobenzene					Chlorobenzene	liver				
			Chloroethane					Chloroethane	fetotoxic		1.48E-003		1.48E-003
			Chloromethane					Chloromethane	kidney				
			Cyanide					Cyanide					
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate					
			Diethylphthalate					Diethylphthalate					
			Ethylbenzene					Ethylbenzene	respiratory tract		4.73E-003		4.73E-003
			Iron					Iron					

TABLE 6-1-17
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UGW1FCW.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		2.39E-009		2.39E-009	Methylene Chloride	respiratory tract		1.57E-004		1.57E-004
			Naphthalene					Naphthalene	circulatory system		4.82E-003		4.82E-003
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					
			Toluene					Toluene	CNS		3.81E-002		3.81E-002
			Vanadium					Vanadium					
			Vinyl Chloride		6.67E-009		6.67E-009	Vinyl Chloride	CNS				
			Xylene (mixed)					Xylene (mixed)	CNS				
			(Total)		6.44E-005		6.44E-005	(Total)			1.20E+002		1.20E+002
						Total Risk Across Groundwater	4.9E-003					Total Risk Across Groundwater	4.3E+003
						Total Risk Across All Media and All Exposure Routes							

Total Circulatory System HI =	2.3E+000
Total Liver HI =	1.1E+001
Total Kidney HI =	1.8E+000
Total Fetotoxic HI =	6.3E-001
Total Skin HI =	0.0E+000
Total GI Tract HI =	9.0E-001
Total Thyroid HI =	1.6E-002
Total Respiratory Tract HI =	1.3E+000
Total CNS HI =	2.1E-001
Total Blood Disorders HI =	4.3E+003

TABLE 6-1-18
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGOVRRMEAAA WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Area 1 Tap Water	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	3.56E-003		1.71E-004	3.73E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS	7.76E-003		2.56E-003	1.03E-002
			1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	2.13E-002		1.15E-003	2.25E-002
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	circulatory system	1.37E-003		6.44E-004	2.01E-003
			1,4-Dichlorobenzene	1.18E-006		4.02E-007		1,4-Dichlorobenzene	GI tract	4.57E-003		1.53E-003	6.10E-003
			2,2-Oxybis(1-Chloropropane)	1.03E-004		3.03E-006		2,2-Oxybis(1-Chloropropane)	low body wt	1.03E-001		2.96E-003	1.06E-001
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	7.54E-002		6.11E-003	8.15E-002
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	1.85E-002		1.42E-002	3.27E-002
			2-Methylphenol					2-Methylphenol	liver	3.56E-003		1.92E-004	3.75E-003
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	1.03E-003		1.83E-005	1.05E-003
			4-Methylphenol					4-Methylphenol	respiratory	2.14E-001		1.78E-002	2.31E-001
			Aluminum					Aluminum	circulatory system	3.84E-003		2.07E-005	3.86E-003
			Ammonia					Ammonia	kidney				
			Aroclor-1248			9.97E-005		Aroclor-1248	liver			0.00E+000	
			Arsenic	4.19E-004		2.43E-006		Arsenic	circulatory system	2.60E+000		1.48E-002	2.62E+000
			Barium					Barium	NA	1.55E-001		8.35E-004	1.55E-001
			Benzene	1.42E-002		1.83E-003		Benzene	blood disorders	4.57E+002		5.76E+001	5.14E+002
			Benzoic Acid					Benzoic Acid	GI tract	4.45E-005		1.76E-006	4.63E-005
			bis(2-Chloroethyl)Ether	8.62E-004		9.98E-006		bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	3.43E-007		6.24E-008		bis(2-Ethylhexyl)Phthalate	liver	3.43E-003		6.11E-004	4.04E-003
			Cadmium (water)					Cadmium (water)	kidney	8.49E-002		9.18E-003	9.41E-002
			Chlorobenzene					Chlorobenzene	liver	0.00E+000		4.70E-002	4.70E-002
			Chloroethane			1.19E-006		Chloroethane	liver	6.51E-002		2.81E-003	6.79E-002
			Chloromethane					Chloromethane	kidney				
			Cyanide (total)					Cyanide (total)	liver			7.40E-005	7.40E-005
			Di-n-octylphthalate					*Di-n-octylphthalate*	NA	1.44E-002		7.77E-002	9.21E-002
			Diethylphthalate					Diethylphthalate	low body wt	1.54E-004		4.00E-006	1.58E-004
			Ethyl Benzene					*Ethyl Benzene*	liver	1.51E-001		6.55E-002	2.16E-001
			Iron					Iron		2.33E+000		1.26E-002	2.34E+000
			Manganese (nonfood)					*Manganese (nonfood)*	kidney	2.95E+000		1.59E-002	2.96E+000
			Methylene Chloride					Methylene Chloride	liver	2.28E-004		1.01E-005	2.38E-004
			Naphthalene					Naphthalene	circulatory system	4.86E-002		1.81E-002	6.68E-002
			Nickel					Nickel	low body wt	3.63E-002		3.92E-004	3.67E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.33E-001			2.33E-001
			Phenol					Phenol	liver	5.48E-003		1.63E-004	5.64E-003
			Selenium					Selenium	liver	1.70E-002		9.18E-005	1.71E-002
			Thallium					Thallium	NA	7.05E-001		3.81E-003	7.08E-001
			Toluene					Toluene	liver	1.58E-001		3.83E-002	1.96E-001

TABLE 6-1-18
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGOVRRMEAAA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Area 1 Tap Water	Vanadium					Vanadium	circulatory system	3.91E-002		2.11E-004	3.94E-002
			Vinyl Chloride					Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic	2.06E-002		9.32E-003	2.99E-002
			Zinc					Zinc	thyroid	2.33E-002		2.52E-004	2.35E-002
			(Total)	1.55E-002		1.94E-003	1.74E-002	(Total)		4.67E+002		5.79E+001	5.24E+002
	Air	Indoor Use Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		1.51E-003		1.51E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		4.62E-002		4.62E-002
			1,2-Dichloroethene (total)					1,2-Dichloroethene (total)					
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	respiratory system		1.22E-002		1.22E-002
			1,4-Dichlorobenzene		8.43E-008			1,4-Dichlorobenzene	liver		3.56E-004		3.56E-004
			2,2-Oxybis(1-Chloropropane)		2.87E-006			2,2-Oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			2-Methylnaphthalene					2-Methylnaphthalene					
			2-Methylphenol					2-Methylphenol	NA				
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS		2.45E-003		2.45E-003
			4-Methylphenol					4-Methylphenol	NA				
			Aluminum					Aluminum	respiratory system		2.28E+000		2.28E+000
			Ammonia					Ammonia	respiratory tract		3.13E+000		3.13E+000
			Aroclor-1248		1.99E-006			Aroclor-1248	NA				
			Arsenic		3.30E-005			Arsenic	respiratory tract				
			Barium					Barium	fetotoxic		4.60E+001		4.60E+001
			Benzene		1.11E-003			Benzene	blood disorders		4.79E+002		4.79E+002
			Benzoic Acid					Benzoic Acid					
			bis(2-Chloroethyl)Ether		6.74E-005			bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate		2.68E-008			bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)		7.48E-006			Cadmium (water)	respiratory tract				
			Chlorobenzene					Chlorobenzene	liver		1.56E-001		1.56E-001
			Chloroethane					Chloroethane	fetotoxic		5.34E-003		5.34E-003
			Chloromethane					Chloromethane	kidney				
			Cyanide (total)					Cyanide (total)					
			Di-n-octylphthalate					Di-n-octylphthalate					
			Diethylphthalate					Diethylphthalate					
			Ethyl Benzene					Ethyl Benzene	respiratory tract		3.09E-002		3.09E-002
			Iron					Iron					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract		2.45E+003		2.45E+003
			Methylene Chloride					Methylene Chloride	respiratory tract		9.48E-006		9.48E-006
			Naphthalene					Naphthalene	circulatory system		6.43E-001		6.43E-001
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					

TABLE 6-1-18
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGOVRRMEAAA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Air	Indoor Use Vapors	Phenol					Phenol					
			Selenium					Selenium					
			Thallium					*Thallium*					
			Toluene					Toluene	CNS		1.64E-001		1.64E-001
			Vanadium					Vanadium					
			Vinyl Chloride					Vinyl Chloride	CNS				
			Xylene (mixed)					Xylene (mixed)	CNS				
					1.22E-003		1.22E-003				2.98E+003		2.98E+003
							Total Risk Across Groundwater	1.9E-002					Total Risk Across Groundwater	3.5E+003
							Total Risk Across All Media and All Exposure Routes						

Total Circulatory System HI =	3.4E+000
Total Liver HI =	7.4E-002
Total Kidney HI =	3.1E+000
Total Fetotoxic HI =	2.3E-001
Total Skin HI =	0.0E+000
Total GI Tract HI =	3.9E-002
Total Thyroid HI =	2.35E-002
Total Respiratory Tract HI =	0.0E+000
Total CNS HI =	1.3E-002
Total Blood Disorders HI =	9.9E+002

TABLE 6-1-19

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGOVRCTAAA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	*Inhalation*	*Dermal*	*Total Exposure*		*Primary Target Organ*	*Ingestion*	*Inhalation*	*Dermal*	*Total Exposure*
Groundwater	Lower Aquifer	Area 1 Tap Water	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	2.24E-003		6.71E-006	2.24E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS	4.87E-003		1.00E-004	4.97E-003
			1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	1.34E-002		4.51E-005	1.34E-002
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	circulatory system	8.60E-004		2.52E-005	8.85E-004
			1,4-Dichlorobenzene	1.46E-007		3.12E-009		1,4-Dichlorobenzene	GI tract	2.87E-003		5.99E-005	2.93E-003
			2,2-Oxybis(1-Chloropropane)	1.28E-005		2.35E-008		2,2-Oxybis(1-Chloropropane)	low body wt	6.45E-002		1.16E-004	6.46E-002
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	4.73E-002		2.39E-004	4.75E-002
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	1.16E-002		5.57E-004	1.22E-002
			2-Methylphenol					2-Methylphenol	liver	2.24E-003		7.54E-006	2.24E-003
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	6.45E-004		7.18E-007	6.46E-004
			4-Methylphenol					4-Methylphenol	respiratory	1.34E-001		6.96E-004	1.35E-001
			Aluminum					Aluminum	circulatory system	2.41E-003		8.12E-007	2.41E-003
			Ammonia					Ammonia	kidney				
			Aroclor-1248			7.75E-007		Aroclor-1248	liver			0.00E+000	
			Arsenic	5.22E-005		1.89E-008		Arsenic	circulatory system	1.63E+000		5.80E-004	1.63E+000
			Barium					Barium	NA	9.71E-002		3.27E-005	9.71E-002
			Benzene	1.77E-003		1.42E-005		Benzene	blood disorders	2.87E+002		2.26E+000	2.89E+002
			Benzoic Acid					Benzoic Acid	GI tract	2.80E-005		6.88E-008	2.80E-005
			bis(2-Chloroethyl)Ether	1.07E-004		7.76E-008		bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	4.27E-008		4.85E-010		bis(2-Ethylhexyl)Phthalate	liver	2.15E-003		2.39E-005	2.17E-003
			Cadmium (water)					Cadmium (water)	kidney	5.33E-002		3.60E-004	5.37E-002
			Chlorobenzene					Chlorobenzene	liver	0.00E+000		1.84E-003	1.84E-003
			Chloroethane			9.26E-009		Chloroethane	liver	4.09E-002		1.10E-004	4.10E-002
			Chloromethane					Chloromethane	kidney				
			Cyanide (total)					Cyanide (total)	liver			2.90E-006	2.90E-006
			Di-n-octylphthalate					Di-n-octylphthalate	NA	9.03E-003		3.05E-003	1.21E-002
			Diethylphthalate					Diethylphthalate	low body wt	9.68E-005		1.57E-007	9.69E-005
			Ethyl Benzene					Ethyl Benzene	liver	9.46E-002		2.57E-003	9.72E-002
			Iron					Iron		1.46E+000		4.93E-004	1.46E+000
			Manganese (nonfood)					Manganese (nonfood)	kidney	1.85E+000		6.24E-004	1.85E+000
			Methylene Chloride					Methylene Chloride	liver	1.43E-004		3.95E-007	1.44E-004
			Naphthalene					Naphthalene	circulatory system	3.05E-002		7.10E-004	3.12E-002
			Nickel					Nickel	low body wt	2.28E-002		1.54E-005	2.28E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	1.46E-001			1.46E-001
			Phenol					Phenol	liver	3.44E-003		6.38E-006	3.45E-003
			Selenium					Selenium	liver	1.07E-002		3.60E-006	1.07E-002
			Thallium					Thallium	NA	4.42E-001		1.49E-004	4.42E-001
			Toluene					Toluene	liver	9.89E-002		1.50E-003	1.00E-001

TABLE 6-1-19
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGOVRCTAAA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Vanadium					Vanadium	circulatory system	2.46E-002		8.29E-006	2.46E-002
			Vinyl Chloride					Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic	1.29E-002		3.65E-004	1.33E-002
			Zinc					Zinc	thyroid	1.46E-002		9.86E-006	1.46E-002
			(Total)	1.93E-003		1.51E-005	1.94E-003	(Total)		2.93E+002		2.27E+000	2.95E+002
	Air	Indoor Use											
		Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		9.95E-004		9.95E-004
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		3.04E-002		3.04E-002
			1,2-Dichloroethene (total)					1,2-Dichloroethene (total)					
			1,3-Dichlorobenzene					1,3-Dichlorobenzene	respiratory system		8.04E-003		8.04E-003
			1,4-Dichlorobenzene					1,4-Dichlorobenzene	liver		2.34E-004		2.34E-004
			2,2-Oxybis(1-Chloropropane)					2,2-Oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			2-Methylnaphthalene					2-Methylnaphthalene					
			2-Methylphenol					2-Methylphenol	NA				
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS		1.61E-003		1.61E-003
			4-Methylphenol					4-Methylphenol	NA		0.00E+000		
			Aluminum					Aluminum	respiratory system		1.50E+000		1.50E+000
			Ammonia					Ammonia	respiratory tract		2.06E+000		2.06E+000
			Aroclor-1248					Aroclor-1248	NA				
			Arsenic		3.30E-005			Arsenic	respiratory tract				
			Barium					Barium	fetotoxic		3.02E+001		3.02E+001
			Benzene		1.11E-003			Benzene	blood disorders		3.15E+002		3.15E+002
			Benzoic Acid					Benzoic Acid					
			bis(2-Chloroethyl)Ether		6.74E-005			bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate		2.68E-008			bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)		7.48E-006			Cadmium (water)	respiratory tract				
			Chlorobenzene					Chlorobenzene	liver		1.03E-001		1.03E-001
			Chloroethane					Chloroethane	fetotoxic		3.51E-003		3.51E-003
			Chloromethane					Chloromethane	kidney				
			Cyanide (total)					Cyanide (total)					
			Di-n-octylphthalate					Di-n-octylphthalate					
			Diethylphthalate					Diethylphthalate					
			Ethyl Benzene					Ethyl Benzene	respiratory tract		2.03E-002		2.03E-002
			Iron					Iron					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract		1.61E+003		1.61E+003
			Methylene Chloride					Methylene Chloride	respiratory tract		6.23E-006		6.23E-006
			Naphthalene					Naphthalene	circulatory system		4.23E-001		4.23E-001
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					

TABLE 6-1-19
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGOVRCTAAA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Phenol				
			Selenium				
			Thallium				
			Toluene				
			Vanadium				
			Vinyl Chloride				
			Xylene (mixed)				
					1.22E-003		1.22E-003
			Total Risk Across Groundwater				3.2E-003
			Total Risk Across All Media and All Exposure Routes				

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Phenol					
Selenium					
Thallium					
Toluene	CNS		1.08E-001		1.08E-001
Vanadium					
Vinyl Chloride	CNS				
Xylene (mixed)	CNS				
			1.96E+003		1.96E+003
Total Risk Across Groundwater					2.3E+003

Total Circulatory System HI =	2.5E-002
Total Liver HI =	1.9E-002
Total Kidney HI =	1.9E+000
Total Fetotoxic HI =	1.5E-001
Total Skin HI =	0.0E+000
Total GI Tract HI =	1.5E-002
Total Thyroid HI =	2.35E-002
Total Respiratory Tract HI =	0.0E+000
Total CNS HI =	6.6E-003
Total Blood Disorders HI =	6.0E+002

Table 6-1-20
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area1RME.wk4 \ TT_sum_Ta1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	5.6E-005	--	4.9E-003	5.0E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	2.7E-001	--	2.3E+001	2.4E+001
			1,1,2-Trichloroethane	9.8E-009	--	1.1E-006	1.1E-006	1,1,2-Trichloroethane	blood disorders	5.1E-004	--	5.6E-002	5.6E-002
			1,1,2,2-Tetrachloroethane	1.6E-008	--	2.1E-006	2.1E-006	1,1,2,2-Tetrachloroethane	liver	1.6E-005	--	2.1E-003	2.1E-003
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	7.9E-005	--	6.9E-003	7.0E-003
			1,2-Dichloroethane	7.7E-008	--	6.8E-006	6.8E-006	1,2-Dichloroethane	fetotoxic	3.4E-004	--	3.0E-002	3.0E-002
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	6.8E-003	--	6.0E-001	6.0E-001
			1,2-Dichloropropane	3.2E-008	--	2.8E-006	2.8E-006	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	1.1E-004	--	9.6E-003	9.7E-003
			1,3-Dichlorobenzene		--			1,3-Dichlorobenzene	circulatory	7.4E-006	--	6.5E-004	6.6E-004
			1,4-Dichlorobenzene	2.6E-009	--	2.3E-007	2.3E-007	1,4-Dichlorobenzene	GI tract	4.4E-005	--	3.9E-003	3.9E-003
			2-Butanone		--			2-Butanone	liver	2.2E-004	--	2.1E-002	2.1E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	4.1E-003	--	3.6E-001	3.6E-001
			2-Methylphenol		--			2-Methylphenol	liver	6.2E-005	--	5.4E-003	5.5E-003
			2,4-Dichlorophenol		--			2,4-Dichlorophenol	kidney	3.5E-004	--	3.1E-002	3.1E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.5E-004	--	1.3E-002	1.4E-002
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	4.8E-003	--	4.2E-001	4.2E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	8.9E-004	--	1.2E-001	1.2E-001
			4,4'-DDT	5.0E-008	--	4.4E-006	4.4E-006	4,4'-DDT	fetotoxic	3.5E-003	--	3.1E-001	3.1E-001
			Acenaphthene		--			Acenaphthene	eyes	4.6E-005	--	4.1E-003	4.1E-003
			Acetone		--			Acetone	fetotoxic	1.6E-003	--	1.8E-001	1.9E-001
			Aluminum		--			Aluminum	circulatory	2.1E-003	--	1.8E-001	1.9E-001
			Anthracene		--			Anthracene	GI tract	9.3E-007	--	8.2E-005	8.3E-005
			Antimony		--			Antimony	skin	5.3E-003	--	4.7E+001	4.7E+001
			Aroclor-1242	2.2E-006	--	2.0E-004	2.0E-004	Aroclor-1242	liver		--		
			Aroclor-1248	3.1E-006	--	2.7E-004	2.7E-004	Aroclor-1248	liver		--		
			Aroclor-1254	4.2E-006	--	4.2E-004	4.2E-004	Aroclor-1254	liver	1.3E+000	--	1.3E+002	1.3E+002
			Aroclor-1260	9.3E-007	--	8.2E-005	8.3E-005	Aroclor-1260	circulatory		--		
			Arsenic	1.1E-007	--	1.0E-005	1.0E-005	Arsenic	circulatory	3.0E-003	--	2.8E-001	2.8E-001
			Barium		--			Barium		5.8E-004	--	5.1E-002	5.2E-002
			Benzene	4.1E-006	--	4.0E-004	4.0E-004	Benzene	blood disorders	5.6E-001	--	5.5E+001	5.5E+001
			Benzoic Acid		--			Benzoic Acid	GI tract	8.2E-007	--	7.3E-005	7.3E-005
			Benzo(a)anthracene	2.6E-009	--	2.3E-007	2.3E-007	Benzo(a)anthracene			--		
			Benzo(a)pyrene	2.8E-008	--	2.9E-006	3.0E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	6.0E-009	--	5.3E-007	5.4E-007	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	6.0E-010	--	5.3E-008	5.4E-008	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	2.0E-004	--	1.7E+000	1.7E+000
			bis(2-Chloroethyl) ether	2.4E-007	--	2.1E-005	2.1E-005	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	7.7E-007	--	6.8E-005	6.8E-005	bis(2-Ethylhexyl)phthalate	liver	3.3E-002	--	2.9E+000	2.9E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	6.1E-004	--	5.3E-002	5.4E-002
			Cadmium		--			Cadmium	kidney	3.6E-003	--	1.3E+001	1.3E+001
			Chlorobenzene		--			Chlorobenzene	liver	1.3E-004	--	3.6E-002	3.6E-002
			Chloroform	2.7E-007	--	2.5E-005	2.5E-005	Chloroform	circulatory	5.3E-002	--	4.9E+000	5.0E+000
			Chromium 3+		--			Chromium 3+	liver	1.5E-005	--	3.3E-001	3.3E-001
			Chrysene	4.0E-011	--	8.6E-009	8.7E-009	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	3.0E-002	--	2.7E+000	2.7E+000
			Cobalt		--			Cobalt	heart	3.1E-005	--	2.7E-003	2.8E-003
			Copper		--			Copper	liver	3.4E-004	--	4.9E-002	5.0E-002
			Cyanide (total)		--			Cyanide (total)	liver	4.7E-005	--	8.3E-003	8.4E-003
			Dibenzofuran		--			Dibenzofuran	dec growth rate	2.7E-004	--	2.3E-002	2.4E-002
			Diethylphthalate		--			Diethylphthalate	low body wt	7.6E-006	--	6.7E-004	6.8E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.5E-006	--	1.3E-004	1.3E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	6.3E-004	--	5.7E-002	5.8E-002

Table 6-1-20
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area1RME.wk4 \ TT_sum_Ta1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Di-n-octylphthalate		--			Di-n-octylphthalate		1.2E-004	--	1.1E-002	1.1E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	1.7E-002	--	1.6E+000	1.6E+000
			Fluoranthene		--			Fluoranthene	kidney	2.4E-005	--	2.1E-003	2.1E-003
			Fluorene		--			Fluorene	skeletal	6.0E-005	--	5.3E-003	5.4E-003
			Hexachlorobenzene	2.0E-008	--	2.2E-006	2.2E-006	Hexachlorobenzene	liver	1.9E-004	--	2.1E-002	2.1E-002
			Hexachlorobutadiene	1.3E-008	--	1.2E-006	1.2E-006	Hexachlorobutadiene	low body wt	1.0E-002	--	8.9E-001	9.0E-001
			Iron		--			Iron		5.7E-003	--	5.0E-001	5.1E-001
			Isophorone	5.9E-009	--	5.2E-007	5.3E-007	Isophorone	kidney	3.8E-004	--	3.3E-002	3.3E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.4E-002	--	1.3E+000	1.3E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	9.0E-008	--	1.4E-005	1.5E-005	Methylene Chloride	liver	2.4E-003	--	3.9E-001	3.9E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	7.0E-004	--	6.8E-002	6.9E-002
			Naphthalene		--			Naphthalene	circulatory	5.9E-003	--	5.2E-001	5.2E-001
			Nickel		--			Nickel	low body wt	1.0E-004	--	1.8E-001	1.8E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	1.4E-004	--	1.4E-002	1.4E-002
			Pentachlorophenol	5.0E-008	--	4.4E-006	4.4E-006	Pentachlorophenol	liver	1.7E-004	--	1.5E-002	1.5E-002
			Phenol		--			Phenol	liver	7.9E-006	--	7.0E-004	7.0E-004
			Pyrene		--			Pyrene	liver	5.0E-005	--	4.4E-003	4.4E-003
			Selenium		--			Selenium	liver	2.2E-005	--	1.9E-003	1.9E-003
			Silver		--			Silver	skin	8.5E-005	--	3.6E-002	3.6E-002
			Styrene		--			Styrene	liver	1.1E-004	--	1.0E-002	1.0E-002
			Tetrachloroethene	9.1E-006	--	8.0E-004	8.1E-004	Tetrachloroethene	liver	2.1E-001	--	1.9E+001	1.9E+001
			Toluene		--			Toluene	liver	2.5E-001	--	2.2E+001	2.3E+001
			Trichloroethene	6.5E-007	--	5.8E-005	5.9E-005	Trichloroethene	liver	1.2E-001	--	1.1E+001	1.1E+001
			Vanadium		--			Vanadium	circulatory	4.3E-004	--	3.7E-002	3.8E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	3.2E-003	--	3.1E-001	3.1E-001
			Zinc		--			Zinc	thyroid	1.9E-004	--	5.7E-002	5.7E-002
			(total)	2.6E-005		2.4E-003	2.4E-003	(total)		2.9E+000		3.4E+002	3.4E+002
	AIR	Area 1, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	4.0E-005	--	4.0E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.0E-003	--	1.0E-003
			1,1,2-Trichloroethane	--	7.9E-009	--	7.9E-009	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.2E-008	--	1.2E-008	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	8.3E-004	--	8.3E-004
			1,2-Dichloroethane	--	5.2E-008	--	5.2E-008	1,2-Dichloroethane	circulatory	--	4.9E-003	--	4.9E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.2E-002	--	1.2E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	4.3E-006	--	4.3E-006
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	1.9E-009	--	1.9E-009
			1,4-Dichlorobenzene	--	4.2E-009	--	4.2E-009	1,4-Dichlorobenzene	liver	--	1.0E-005	--	1.0E-005
			2-Butanone	--		--		2-Butanone	CNS	--	7.4E-009	--	7.4E-009
			2-Hexanone	--		--		2-Hexanone	CNS	--	5.4E-003	--	5.4E-003
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	8.0E-004	--	8.0E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	

Table 6-1-20
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Trespasser
Receptor Age: Adolescent

File: Area1RME wk4 \ TT_sum_Ta1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	5.9E-013	--	5.9E-013	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	2.7E-012	--	2.7E-012	Aldrin		--		--	
			alpha-BHC	--	5.5E-014	--	5.5E-014	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.2E-011	--	2.2E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	1.8E-011	--	1.8E-011	Aroclor-1248		--		--	
			Aroclor-1254	--	2.7E-011	--	2.7E-011	Aroclor-1254		--		--	
			Aroclor-1260	--	3.4E-011	--	3.4E-011	Aroclor-1260		--		--	
			Arsenic	--	2.9E-011	--	2.9E-011	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.1E-005	--	1.1E-005
			Benzene	--	1.3E-007	--	1.3E-007	Benzene	blood disorders	--	3.2E-002	--	3.2E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.6E-013	--	1.6E-013	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	3.0E-012	--	3.0E-012	Beryllium	respiratory	--	7.6E-007	--	7.6E-007
			beta-BHC	--	3.0E-014	--	3.0E-014	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	2.2E-007	--	2.2E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.8E-012	--	1.8E-012	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	5.8E-011	--	5.8E-011	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	5.2E-010	--	5.2E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	1.8E-003	--	1.8E-003
			Chloroform	--	3.8E-007	--	3.8E-007	Chloroform	liver	--	6.5E-001	--	6.5E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	6.6E-010	--	6.6E-010	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	1.4E-012	--	1.4E-012	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.9E-004	--	1.9E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	

Table 6-1-20
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Trespasser
Receptor Age: Adolescent

File: Area1RME.wk4 \ TT_sum_Ta1RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			gamma-Chlordane	--	1.5E-013	--	1.5E-013
			Heptachlor	--	2.4E-016	--	2.4E-016
			Heptachlor epoxide	--	2.3E-016	--	2.3E-016
			Hexachlorobenzene	--	4.1E-015	--	4.1E-015
			Hexachlorobutadiene	--	1.9E-013	--	1.9E-013
			Hexane, n-	--		--	
			Indeno(1,2,3-cd)pyrene	--		--	
			Isophorone	--		--	
			Lead	--		--	
			Manganese	--		--	
			Mercury	--		--	
			Methylene Chloride	--	1.2E-007	--	1.2E-007
			m,p-xylene	--		--	
			Naphthalene	--		--	
			Nickel	--		--	
			N-Nitrosodiphenylamine	--		--	
			ortho-xylene	--		--	
			Pentachlorophenol	--		--	
			Phenanthrene	--		--	
			Phenol	--		--	
			Phthalic anhydride	--		--	
			Pyrene	--		--	
			Selenium	--		--	
			Silver	--		--	
			Styrene	--		--	
			Tetrachloroethene	--	1.5E-008	--	1.5E-008
			Thallium	--		--	
			Toluene	--		--	
			Trichloroethene	--	3.7E-008	--	3.7E-008
			Vanadium	--		--	
			Vinyl Chloride	--	1.2E-009	--	1.2E-009
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		9.7E-007		9.7E-007

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
gamma-Chlordane		--	2.5E-008	--	2.5E-008
Heptachlor		--		--	
Heptachlor epoxide		--		--	
Hexachlorobenzene	liver	--		--	
Hexachlorobutadiene	kidney	--		--	
Hexane, n-		--		--	
Indeno(1,2,3-cd)pyrene		--		--	
Isophorone		--		--	
Lead		--		--	
Manganese	respiratory	--	2.1E-004	--	2.1E-004
Mercury	CNS	--	1.9E-007	--	1.9E-007
Methylene Chloride	respiratory	--	9.9E-004	--	9.9E-004
m,p-xylene		--		--	
Naphthalene	circulatory	--	7.2E-003	--	7.2E-003
Nickel	respiratory	--		--	
N-Nitrosodiphenylamine		--		--	
ortho-xylene		--		--	
Pentachlorophenol		--		--	
Phenanthrene		--		--	
Phenol		--		--	
Phthalic anhydride		--		--	
Pyrene		--		--	
Selenium		--		--	
Silver		--		--	
Styrene	CNS	--	2.2E-005	--	2.2E-005
Tetrachloroethene	liver	--	6.5E-004	--	6.5E-004
Thallium		--		--	
Toluene	CNS	--	2.9E-003	--	2.9E-003
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Vinyl Chloride	CNS	--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			7.2E-001		7.2E-001

Total Risk Across Subsurface Soil	2.4E-003
Total Risk Across All Media and All Exposure Routes	Reserved

Total Hazard Index Across Subsurface Soil	3.4E+002

Total Kidney HI:	1.6E+001
Total Skin HI:	4.7E+001
Total Thyroid HI:	5.7E-002
Total Liver HI:	2.1E+002
Total Circulatory System HI:	8.7E+000
Total CNS HI:	1.6E-002
Total Fetotoxic HI:	9.3E-001
Total GI Tract HI:	3.7E-001
Total Respiratory HI:	1.2E-001
Total Eyes HI:	4.1E-003
Total Reproductive HI:	0.0E+000
Total Mammary HI:	5.4E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	2.8E-003
Total Skeletal System HI:	5.4E-003
Total Thyroid HI:	5.7E-002
Total Blood Disorders HI:	5.5E+001

Table 6-1-21
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area1CT.wk4 \ TT_sum_Ta1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 1, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.4E-005	--	4.2E-004	4.3E-004
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	6.9E-002	--	2.0E+000	2.1E+000
			1,1,2-Trichloroethane	2.2E-010	--	7.7E-009	7.9E-009	1,1,2-Trichloroethane	blood disorders	1.3E-004	--	4.7E-003	4.9E-003
			1,1,2,2-Tetrachloroethane	3.7E-010	--	1.5E-008	1.5E-008	1,1,2,2-Tetrachloroethane	liver	4.3E-006	--	1.8E-004	1.8E-004
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	2.0E-005	--	5.9E-004	6.1E-004
			1,2-Dichloroethane	1.7E-009	--	4.9E-008	5.1E-008	1,2-Dichloroethane	fetotoxic	8.8E-005	--	2.5E-003	2.6E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.8E-003	--	5.0E-002	5.2E-002
			1,2-Dichloropropane	7.0E-010	--	2.0E-008	2.1E-008	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	2.8E-005	--	8.1E-004	8.4E-004
			1,3-Dichlorobenzene		--			1,3-Dichlorobenzene	circulatory	1.9E-006	--	5.6E-005	5.7E-005
			1,4-Dichlorobenzene	5.9E-011	--	1.7E-009	1.7E-009	1,4-Dichlorobenzene	GI tract	1.1E-005	--	3.3E-004	3.4E-004
			2-Butanone		--			2-Butanone	liver	5.8E-005	--	1.8E-003	1.8E-003
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.1E-003	--	3.0E-002	3.1E-002
			2-Methylphenol		--			2-Methylphenol	liver	1.6E-005	--	4.6E-004	4.8E-004
			2,4-Dichlorophenol		--			2,4-Dichlorophenol	kidney	9.0E-005	--	2.6E-003	2.7E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	3.9E-005	--	1.1E-003	1.2E-003
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	1.2E-003	--	3.6E-002	3.7E-002
			4-Methylphenol		--			4-Methylphenol	respiratory	2.3E-004	--	1.0E-002	1.1E-002
			4,4'-DDT	1.1E-009	--	3.2E-008	3.3E-008	4,4'-DDT	fetotoxic	9.1E-004	--	2.6E-002	2.7E-002
			Acenaphthene		--			Acenaphthene	eyes	1.2E-005	--	3.5E-004	3.6E-004
			Acetone		--			Acetone	fetotoxic	4.3E-004	--	1.6E-002	1.6E-002
			Aluminum		--			Aluminum	circulatory	5.4E-004	--	1.6E-002	1.6E-002
			Anthracene		--			Anthracene	GI tract	2.4E-007	--	6.9E-006	7.2E-006
			Antimony		--			Antimony	skin	1.4E-003	--	3.9E+000	3.9E+000
			Aroclor-1242	4.9E-008	--	1.4E-006	1.5E-006	Aroclor-1242	liver		--		
			Aroclor-1248	6.8E-008	--	2.0E-006	2.0E-006	Aroclor-1248	liver		--		
			Aroclor-1254	9.4E-008	--	3.0E-006	3.1E-006	Aroclor-1254	liver	3.3E-001	--	1.1E+001	1.1E+001
			Aroclor-1260	2.1E-008	--	6.0E-007	6.2E-007	Aroclor-1260	circulatory		--		
			Arsenic	2.5E-009	--	7.5E-008	7.8E-008	Arsenic	circulatory	7.7E-004	--	2.3E-002	2.4E-002
			Barium		--			Barium		1.5E-004	--	4.3E-003	4.5E-003
			Benzene	9.0E-008	--	2.9E-006	3.0E-006	Benzene	blood disorders	1.4E-001	--	4.6E+000	4.8E+000
			Benzoic Acid		--			Benzoic Acid	GI tract	2.1E-007	--	6.2E-006	6.4E-006
			Benzo(a)anthracene	5.8E-011	--	1.7E-009	1.7E-009	Benzo(a)anthracene			--		
			Benzo(a)pyrene	6.3E-010	--	2.1E-008	2.2E-008	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.3E-010	--	3.9E-009	4.0E-009	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.3E-011	--	3.9E-010	4.0E-010	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	5.1E-005	--	1.5E-001	1.5E-001
			bis(2-Chloroethyl) ether	5.3E-009	--	1.5E-007	1.6E-007	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	1.7E-008	--	4.9E-007	5.1E-007	bis(2-Ethylhexyl)phthalate	liver	8.5E-003	--	2.5E-001	2.5E-001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.6E-004	--	4.5E-003	4.7E-003
			Cadmium		--			Cadmium	kidney	9.3E-004	--	1.1E+000	1.1E+000
			Chlorobenzene		--			Chlorobenzene	liver	3.3E-005	--	3.1E-003	3.1E-003
			Chloroform	6.0E-009	--	1.8E-007	1.9E-007	Chloroform	circulatory	1.4E-002	--	4.2E-001	4.3E-001
			Chromium 3+		--			Chromium 3+	liver	3.9E-006	--	2.8E-002	2.8E-002
			Chrysene	8.9E-013	--	6.3E-011	6.4E-011	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	7.9E-003	--	2.3E-001	2.4E-001
			Cobalt		--			Cobalt	heart	8.0E-006	--	2.3E-004	2.4E-004
			Copper		--			Copper	liver	8.7E-005	--	4.2E-003	4.3E-003
			Cyanide (total)		--			Cyanide (total)	liver	1.2E-005	--	7.1E-004	7.2E-004
			Dibenzofuran		--			Dibenzofuran	dec growth rate	6.9E-005	--	2.0E-003	2.1E-003
			Diethylphthalate		--			Diethylphthalate	low body wt	2.0E-006	--	5.7E-005	5.9E-005
			Dimethylphthalate		--			Dimethylphthalate	GI tract	3.9E-007	--	1.1E-005	1.2E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.6E-004	--	4.9E-003	5.0E-003

Table 6-1-21
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area1CT.wk4 \ TT_sum_Ta1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Di-n-octylphthalate		--			Di-n-octylphthalate		3.2E-005	--	9.3E-004	9.6E-004
			Ethyl Benzene		--			Ethyl Benzene	liver	4.4E-003	--	1.4E-001	1.4E-001
			Fluoranthene		--			Fluoranthene	kidney	6.2E-006	--	1.8E-004	1.9E-004
			Fluorene		--			Fluorene	skeletal	1.6E-005	--	4.5E-004	4.7E-004
			Hexachlorobenzene	4.4E-010	--	1.6E-008	1.6E-008	Hexachlorobenzene	liver	4.8E-005	--	1.7E-003	1.8E-003
			Hexachlorobutadiene	2.9E-010	--	8.4E-009	8.7E-009	Hexachlorobutadiene	low body wt	2.6E-003	--	7.5E-002	7.8E-002
			Iron		--			Iron		1.5E-003	--	4.2E-002	4.4E-002
			Isophorone	1.3E-010	--	3.8E-009	3.9E-009	Isophorone	kidney	9.7E-005	--	2.8E-003	2.9E-003
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.8E-003	--	1.1E-001	1.1E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	2.0E-009	--	1.1E-007	1.1E-007	Methylene Chloride	liver	6.2E-004	--	3.3E-002	3.3E-002
			m,p-xylene		--			m,p-xylene	fetotoxic	1.8E-004	--	5.8E-003	6.0E-003
			Naphthalene		--			Naphthalene	circulatory	1.5E-003	--	4.4E-002	4.5E-002
			Nickel		--			Nickel	low body wt	2.6E-005	--	1.5E-002	1.5E-002
			ortho-xylene		--			ortho-xylene	fetotoxic	3.6E-005	--	1.2E-003	1.2E-003
			Pentachlorophenol	1.1E-009	--	3.2E-008	3.3E-008	Pentachlorophenol	liver	4.3E-005	--	1.2E-003	1.3E-003
			Phenol		--			Phenol	liver	2.1E-006	--	5.9E-005	6.1E-005
			Pyrene		--			Pyrene	liver	1.3E-005	--	3.7E-004	3.9E-004
			Selenium		--			Selenium	liver	5.7E-006	--	1.6E-004	1.7E-004
			Silver		--			Silver	skin	2.2E-005	--	3.0E-003	3.0E-003
			Styrene		--			Styrene	liver	3.0E-005	--	8.5E-004	8.8E-004
			Tetrachloroethene	2.0E-007	--	5.8E-006	6.0E-006	Tetrachloroethene	liver	5.5E-002	--	1.6E+000	1.6E+000
			Toluene		--			Toluene	liver	6.6E-002	--	1.9E+000	2.0E+000
			Trichloroethene	1.4E-008	--	4.3E-007	4.4E-007	Trichloroethene	liver	3.1E-002	--	9.0E-001	9.3E-001
			Vanadium		--			Vanadium	circulatory	1.1E-004	--	3.2E-003	3.3E-003
			Xylenes (total)		--			Xylenes (total)	fetotoxic	8.2E-004	--	2.6E-002	2.7E-002
			Zinc		--			Zinc	thyroid	5.0E-005	--	4.8E-003	4.9E-003
			(total)	5.8E-007		1.7E-005	1.8E-005	(total)		7.5E-001		2.8E+001	2.9E+001
	AIR	Area 1, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.0E-005	--	1.0E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.7E-004	--	2.7E-004
			1,1,2-Trichloroethane	--	1.8E-010	--	1.8E-010	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	2.7E-010	--	2.7E-010	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	2.2E-004	--	2.2E-004
			1,2-Dichloroethane	--	1.2E-009	--	1.2E-009	1,2-Dichloroethane	circulatory	--	1.3E-003	--	1.3E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	3.1E-003	--	3.1E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	1.1E-006	--	1.1E-006
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	4.8E-010	--	4.8E-010
			1,4-Dichlorobenzene	--	9.4E-011	--	9.4E-011	1,4-Dichlorobenzene	liver	--	2.6E-006	--	2.6E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.9E-009	--	1.9E-009
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.4E-003	--	1.4E-003
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	2.1E-004	--	2.1E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	

Table 6-1-21
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area1CT.wk4 \ TT_sum_Ta1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.3E-014	--	1.3E-014	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	6.0E-014	--	6.0E-014	Aldrin		--		--	
			alpha-BHC	--	1.2E-015	--	1.2E-015	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	4.9E-013	--	4.9E-013	Aroclor-1242		--		--	
			Aroclor-1248	--	3.9E-013	--	3.9E-013	Aroclor-1248		--		--	
			Aroclor-1254	--	6.0E-013	--	6.0E-013	Aroclor-1254		--		--	
			Aroclor-1260	--	7.5E-013	--	7.5E-013	Aroclor-1260		--		--	
			Arsenic	--	6.4E-013	--	6.4E-013	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.9E-006	--	2.9E-006
			Benzene	--	2.9E-009	--	2.9E-009	Benzene	blood disorders	--	8.2E-003	--	8.2E-003
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	3.5E-015	--	3.5E-015	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	6.7E-014	--	6.7E-014	Beryllium	respiratory	--	2.0E-007	--	2.0E-007
			beta-BHC	--	6.7E-016	--	6.7E-016	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.8E-009	--	4.8E-009	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	4.1E-014	--	4.1E-014	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.3E-012	--	1.3E-012	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.3E-010	--	1.3E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.7E-004	--	4.7E-004
			Chloroform	--	8.4E-009	--	8.4E-009	Chloroform	liver	--	1.7E-001	--	1.7E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	1.5E-011	--	1.5E-011	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	3.0E-014	--	3.0E-014	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	5.0E-005	--	5.0E-005
			Fluoranthene	--		--		Fluoranthene		--		--	

Table 6-1-21
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Trespasser
Receptor Age:	Adolescent

File: Area1CT.wk4 \ TT_sum_Ta1CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Fluorene	--		--	
			gamma-Chlordane	--	3.3E-015	--	3.3E-015
			Heptachlor	--	5.4E-018	--	5.4E-018
			Heptachlor epoxide	--	5.2E-018	--	5.2E-018
			Hexachlorobenzene	--	9.1E-017	--	9.1E-017
			Hexachlorobutadiene	--	4.3E-015	--	4.3E-015
			Hexane, n-	--		--	
			Indeno(1,2,3-cd)pyrene	--		--	
			Isophorone	--		--	
			Lead	--		--	
			Manganese	--		--	
			Mercury	--		--	
			Methylene Chloride	--	2.6E-009	--	2.6E-009
			m,p-xylene	--		--	
			Naphthalene	--		--	
			Nickel	--		--	
			N-Nitrosodiphenylamine	--		--	
			ortho-xylene	--		--	
			Pentachlorophenol	--		--	
			Phenanthrene	--		--	
			Phenol	--		--	
			Phthalic anhydride	--		--	
			Pyrene	--		--	
			Selenium	--		--	
			Silver	--		--	
			Styrene	--		--	
			Tetrachloroethene	--	3.4E-010	--	3.4E-010
			Thallium	--		--	
			Toluene	--		--	
			Trichloroethene	--	8.3E-010	--	8.3E-010
			Vanadium	--		--	
			Vinyl Chloride	--	2.6E-011	--	2.6E-011
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		2.2E-008		2.2E-008

Total Risk Across Subsurface Soil	1.8E-005
Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Fluorene		--		--	
gamma-Chlordane		--	6.6E-009	--	6.6E-009
Heptachlor		--		--	
Heptachlor epoxide		--		--	
Hexachlorobenzene	liver	--		--	
Hexachlorobutadiene	kidney	--		--	
Hexane, n-		--		--	
Indeno(1,2,3-cd)pyrene		--		--	
Isophorone		--		--	
Lead		--		--	
Manganese	respiratory	--	5.4E-005	--	5.4E-005
Mercury	CNS	--	5.0E-008	--	5.0E-008
Methylene Chloride	respiratory	--	2.6E-004	--	2.6E-004
m,p-xylene		--		--	
Naphthalene	circulatory	--	1.9E-003	--	1.9E-003
Nickel	respiratory	--		--	
N-Nitrosodiphenylamine		--		--	
ortho-xylene		--		--	
Pentachlorophenol		--		--	
Phenanthrene		--		--	
Phenol		--		--	
Phthalic anhydride		--		--	
Pyrene		--		--	
Selenium		--		--	
Silver		--		--	
Styrene	CNS	--	5.7E-006	--	5.7E-006
Tetrachloroethene	liver	--	1.7E-004	--	1.7E-004
Thallium		--		--	
Toluene	CNS	--	7.4E-004	--	7.4E-004
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Vinyl Chloride	CNS	--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			1.9E-001		1.9E-001

Total Hazard Index Across Subsurface Soil	2.9E+001

Total Kidney HI:	1.4E+000
Total Skin HI:	4.0E+000
Total Thyroid HI:	4.9E-003
Total Liver HI:	1.8E+001
Total Circulatory System HI:	7.6E-001
Total CNS HI:	3.0E-003
Total Fetotoxic HI:	8.0E-002
Total GI Tract HI:	3.2E-002
Total Respiratory HI:	1.1E-002
Total Eyes HI:	3.6E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	4.7E-003
Total Adrenal HI:	0.0E+000
Total Heart HI:	2.4E-004
Total Skeletal System HI:	4.7E-004
Total Thyroid HI:	4.9E-003
Total Blood Disorders HI:	4.8E+000

Table 6-1-22
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRS1RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Fire Pond Area 1	Aluminum					Aluminum	circulatory system	2.5E-003		1.1E-003	3.6E-003
			Aroclor-1248	3.9E-007		1.7E-006	2.1E-006	Aroclor-1248	liver				
			Aroclor-1254	1.4E-006		9.9E-006	1.1E-005	Aroclor-1254	liver	4.3E-001		3.0E+000	3.4E+000
			Arsenic	9.5E-008		1.3E-007	2.3E-007	Arsenic	circulatory system	2.5E-003		3.5E-003	6.0E-003
			Barium					Barium	NA	5.0E-004		2.2E-004	7.2E-004
			Beryllium					Beryllium	kidney	8.1E-005		3.6E-003	3.7E-003
			bis(2-Ethylhexyl)phthalate	7.7E-009		3.4E-008	4.2E-008	bis(2-Ethylhexyl)phthalate	liver	3.3E-004		1.5E-003	1.8E-003
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	4.1E-007		1.8E-006	2.2E-006
			Cadmium					Cadmium	kidney	6.6E-004		1.2E-001	1.2E-001
			Chloroform	5.2E-013		2.4E-012	2.9E-012	Chloroform	circulatory system	1.0E-007		4.7E-007	5.7E-007
			Chromium (total)					Chromium (total)		3.6E-003		1.6E-002	1.9E-002
			Copper					Copper	liver	3.1E-004		2.3E-004	5.3E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	8.6E-007		3.9E-006	4.8E-006
			Iron					Iron		7.9E-003		3.5E-003	1.1E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	5.5E-003			5.5E-003
			Mercury					Mercury	low body weight				
			Phenol					Phenol	liver	1.6E-007		7.1E-007	8.7E-007
			Toluene					Toluene	liver	7.6E-009		3.3E-008	4.1E-008
			Vanadium					Vanadium	circulatory system	4.5E-004		2.0E-004	6.5E-004
			Zinc					Zinc	thyroid	1.9E-004		2.8E-004	4.8E-004
			(Total)	1.9E-006		1.2E-005	1.4E-005	(Total)		4.6E-001		3.1E+000	3.6E+000
							Total Risk Across Sediments	1.4E-005					Total Hazard Index Across All Exposure Routes	3.6E+000

Total Circulatory System HI =	1.0E-002
Total Thyroid HI =	4.8E-004
Total Kidney HI =	1.3E-001
Total Liver HI =	3.4E+000

Table 6-1-23
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRS1CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Fire Pond Area 1	Aluminum					Aluminum	circulatory system	6.4E-004		9.2E-005	7.3E-004
			Aroclor-1248	8.6E-009		1.2E-008	2.1E-008	Aroclor-1248	liver				
			Aroclor-1254	3.2E-008		7.2E-008	1.0E-007	Aroclor-1254	liver	1.1E-001		2.5E-001	3.6E-001
			Arsenic	2.1E-009		9.6E-010	3.1E-009	Arsenic	circulatory system	6.6E-004		2.9E-004	9.5E-004
			Barium					Barium	NA	1.3E-004		1.9E-005	1.5E-004
			Beryllium					Beryllium	kidney	2.1E-005		3.0E-004	3.2E-004
			bis(2-Ethylhexyl)phthalate	1.7E-010		2.5E-010	4.2E-010	bis(2-Ethylhexyl)phthalate	liver	8.5E-005		1.2E-004	2.1E-004
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	1.0E-007		1.5E-007	2.6E-007
			Cadmium					Cadmium	kidney	1.7E-004		9.8E-003	1.0E-002
			Chloroform	1.1E-014		1.7E-014	2.9E-014	Chloroform	circulatory system	2.6E-008		3.9E-008	6.6E-008
			Chromium (total)					Chromium (total)		9.2E-004		1.3E-003	2.2E-003
			Copper					Copper	liver	8.0E-005		1.9E-005	9.9E-005
			Di-n-butylphthalate					Di-n-butylphthalate	liver	2.2E-007		3.3E-007	5.5E-007
			Iron					Iron		2.1E-003		3.0E-004	2.3E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.4E-003			1.4E-003
			Mercury					Mercury	low body weight				
			Phenol					Phenol	liver	4.2E-008		6.0E-008	1.0E-007
			Toluene					Toluene	liver	2.0E-009		2.8E-009	4.8E-009
			Vanadium					Vanadium	circulatory system	1.2E-004		1.7E-005	1.3E-004
			Zinc					Zinc	thyroid	5.0E-005		2.4E-005	7.4E-005
			(Total)	4.3E-008		8.6E-008	1.3E-007	(Total)		1.2E-001		2.6E-001	3.8E-001
						Total Risk Across Sediments	1.3E-007					Total Hazard Index Across All Exposure Routes	3.8E-001

Total Circulatory System HI =	1.8E-003
Total Thyroid HI =	7.4E-005
Total Kidney HI =	1.2E-002
Total Liver HI =	3.6E-001

Table 6-1-24
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: FTRESA1A.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Fire Pond Area 1	Acetone					Acetone	fetotoxic	6.6E-006		5.0E-007	7.1E-006
			Aluminum					Aluminum	circulatory system	1.3E-004		1.1E-005	1.4E-004
			Ammonia					Ammonia	kidney				
			Aroclor-1248	1.8E-008		5.2E-006	5.2E-006	Aroclor-1248	liver				
			Cadmium					Cadmium	kidney	1.9E-004		3.3E-004	5.2E-004
			Chromium (total)					Chromium (total)		3.6E-003		3.2E-003	6.8E-003
			Copper					Copper	liver	7.2E-005		1.1E-005	8.3E-005
			Dichloroethane, 1,1-					Dichloroethane, 1,1-	circulatory system	2.6E-006		2.8E-006	5.4E-006
			Dichloroethene, 1,2-					Dichloroethene, 1,2-	fetotoxic	1.5E-005		1.7E-005	3.2E-005
			Iron					Iron		3.7E-004		3.3E-005	4.1E-004
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	5.4E-005		4.8E-006	5.9E-005
			2-Butanone					2-Butanone	liver	7.2E-006		9.1E-007	8.1E-006
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	3.3E-004			3.3E-004
			Zinc					Zinc	thyroid	2.7E-005		4.7E-006	3.1E-005
			(Total)	1.8E-008		5.2E-006	5.2E-006	(Total)		4.8E-003		3.6E-003	8.5E-003
							Total Risk Across Surface Water: 5.2E-006						Total Hazard Index Across Surface Water: 8.5E-003

Total Circulatory System HI =	1.4E-004
Total Liver HI =	9.1E-005
Total Kidney HI =	5.8E-004
Total Fetotoxic HI =	3.7E-004

Total Receptor Risk Across All Media	TBC
Total Receptor Hazard Index Across All Media	TBC

Table 6-1-25
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRESA1CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Fire Pond Area 1	Acetone					Acetone	fetotoxic	1.6E-006		1.2E-007	1.8E-006
			Aluminum					Aluminum	circulatory system	3.1E-005		2.3E-006	3.4E-005
			Ammonia					Ammonia	kidney				
			Aroclor-1248	3.9E-010		1.3E-007	1.3E-007	Aroclor-1248	liver				
			Cadmium					Cadmium	kidney	4.7E-005		6.8E-005	1.2E-004
			Chromium (total)					Chromium (total)		9.1E-004		6.5E-004	1.6E-003
			Copper					Copper	liver	1.8E-005		2.2E-006	2.0E-005
			Dichloroethane, 1,1-					Dichloroethane, 1,1-	circulatory system	6.6E-007		7.2E-007	1.4E-006
			Dichloroethene, 1,2-					Dichloroethene, 1,2-	fetotoxic	3.6E-006		4.4E-006	8.1E-006
			Iron					Iron		9.3E-005		6.7E-006	1.0E-004
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.4E-005		9.8E-007	1.5E-005
			2-Butanone					2-Butanone	liver	1.8E-006		2.2E-007	2.0E-006
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	8.2E-005			8.2E-005
			Zinc					Zinc	thyroid	6.7E-006		9.6E-007	7.6E-006
			(Total)	3.9E-010		1.3E-007	1.3E-007	(Total)		1.2E-003		7.4E-004	1.9E-003
						Total Risk Across Surface Water	1.3E-007					Total Hazard Index Across Surface Water	1.9E-003

Total Circulatory System HI =	3.5E-005
Total Liver HI =	2.2E-005
Total Kidney HI =	1.3E-004
Total Fetotoxic HI =	9.2E-005

Total Receptor Risk Across All Media	TBC	Total Receptor Hazard Index Across All Media	TBC

= To be calculated. This value will be a total risk for Future CT Trespassers in Area 1.

Table 6-2-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age	Adult

File: Area2RME.wk4 \TT_sum_fUWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.5E-004	--	7.4E-003	7.5E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	3.7E-003	--	1.8E-001	1.9E-001
			1,1,2,2-Tetrachloroethane	2.9E-009	--	2.1E-007	2.1E-007	1,1,2,2-Tetrachloroethane	liver	6.8E-007	--	4.9E-005	4.9E-005
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	2.6E-003	--	1.3E-001	1.4E-001
			1,2-Dichloroethane	6.6E-007	--	3.3E-005	3.4E-005	1,2-Dichloroethane	fetotoxic	6.8E-004	--	3.4E-002	3.5E-002
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	4.3E-003	--	2.1E-001	2.2E-001
			1,2-Dichloropropane	7.4E-008	--	3.7E-006	3.8E-006	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	1.1E-003	--	5.7E-002	5.8E-002
			1,4-Dichlorobenzene	8.8E-009	--	4.4E-007	4.5E-007	1,4-Dichlorobenzene	GI tract	3.4E-005	--	1.7E-003	1.8E-003
			2-Butanone		--			2-Butanone	liver	8.5E-003	--	4.5E-001	4.6E-001
			2-Hexanone		--			2-Hexanone	CNS	2.6E-003	--	1.3E-001	1.3E-001
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	2.9E-002	--	1.5E+000	1.5E+000
			2-Methylphenol		--			2-Methylphenol	liver	2.7E-003	--	1.4E-001	1.4E-001
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	5.0E-003	--	2.5E-001	2.5E-001
			2,6-Dinitrotoluene		--			2,6-Dinitrotoluene			--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	5.1E-003	--	2.6E-001	2.6E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	4.1E-002	--	3.1E+000	3.2E+000
			4,4'-DDD	3.2E-007	--	1.6E-005	1.6E-005	4,4'-DDD	liver		--		
			4,4'-DDE	1.2E-007	--	6.1E-006	6.2E-006	4,4'-DDE	liver		--		
			4,4'-DDT	2.3E-007	--	1.2E-005	1.2E-005	4,4'-DDT	fetotoxic	3.8E-003	--	1.9E-001	2.0E-001
			Acenaphthene		--			Acenaphthene	eyes	2.8E-004	--	1.4E-002	1.4E-002
			Acetone		--			Acetone	fetotoxic	1.4E-002	--	8.7E-001	8.8E-001
			Aldrin	5.3E-005	--	2.7E-003	2.7E-003	Aldrin	liver	2.9E-001	--	1.5E+001	1.5E+001
			alpha-BHC	8.4E-007	--	4.2E-005	4.3E-005	alpha-BHC	liver		--		
			Aluminum		--			Aluminum	circulatory	9.3E-003	--	4.7E-001	4.8E-001
			Anthracene		--			Anthracene	GI tract	4.9E-006	--	2.5E-004	2.5E-004
			Antimony		--			Antimony	skin	4.6E-001	--	2.3E+003	2.3E+003
			Aroclor-1248		--			Aroclor-1248	liver		--		
			Aroclor-1254	2.9E-005	--	1.6E-003	1.7E-003	Aroclor-1254	liver	2.0E+000	--	1.1E+002	1.2E+002
			Aroclor-1260	2.7E-003	--	1.4E-001	1.4E-001	Aroclor-1260	circulatory		--		
			Arsenic	4.7E-006	--	2.5E-004	2.5E-004	Arsenic	circulatory	2.9E-002	--	1.5E+000	1.6E+000
			Barium		--			Barium		4.3E-002	--	2.2E+000	2.2E+000
			Benzene	1.1E-006	--	6.3E-005	6.4E-005	Benzene	blood disorders	3.6E-002	--	2.0E+000	2.1E+000
			Benzoic Acid		--			Benzoic Acid	GI tract	6.8E-005	--	3.4E-003	3.5E-003
			Benzo(a)anthracene	7.9E-007	--	4.0E-005	4.1E-005	Benzo(a)anthracene			--		
			Benzo(a)pyrene	4.4E-006	--	2.6E-004	2.7E-004	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.6E-006	--	7.8E-005	8.0E-005	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.6E-007	--	7.8E-006	8.0E-006	Benzo(k)fluoranthene			--		
			Benzyl Alcohol		--			Benzyl Alcohol	CNS	1.3E-004	--	6.4E-003	6.6E-003
			Beryllium		--			Beryllium	kidney	1.9E-004	--	9.6E-001	9.8E-001
			beta-BHC	5.8E-007	--	2.9E-005	3.0E-005	beta-BHC	liver		--		
			bis(2-Chloroethyl) ether	4.9E-005	--	2.5E-003	2.5E-003	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	1.3E-005	--	6.5E-004	6.7E-004	bis(2-Ethylhexyl)phthalate	liver	1.3E-001	--	6.5E+000	6.7E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	2.4E-003	--	1.2E-001	1.2E-001
			Cadmium		--			Cadmium	kidney	1.2E-001	--	2.4E+002	2.4E+002
			Chloroform	3.4E-007	--	1.8E-005	1.8E-005	Chloroform	circulatory	1.6E-002	--	8.3E-001	8.5E-001
			Chromium 3+		--			Chromium 3+	liver	1.1E-003	--	1.4E+001	1.4E+001
			Chrysene	1.1E-008	--	1.4E-006	1.4E-006	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	2.6E-005	--	1.3E-003	1.3E-003
			Cobalt		--			Cobalt	heart	6.2E-004	--	3.1E-002	3.2E-002
			Copper		--			Copper	liver	3.7E-002	--	3.1E+000	3.2E+000
			Dibenzofuran		--			Dibenzofuran	dec growth rate	7.0E-004	--	3.5E-002	3.6E-002
			Diethylphthalate		--			Diethylphthalate	low body wt	9.0E-005	--	4.5E-003	4.6E-003
			Dimethylphthalate		--			Dimethylphthalate	GI tract	2.9E-005	--	1.5E-003	1.5E-003
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	4.4E-003	--	2.3E-001	2.3E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		7.3E-004	--	3.7E-002	3.8E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	7.7E-003	--	4.2E-001	4.3E-001
			Fluoranthene		--			Fluoranthene	kidney	1.2E-004	--	5.8E-003	5.9E-003
			Fluorene		--			Fluorene	skeletal	5.1E-004	--	2.6E-002	2.6E-002
			Hexachlorobutadiene	2.9E-008	--	1.5E-006	1.5E-006	Hexachlorobutadiene	low body wt	5.2E-003	--	2.6E-001	2.7E-001

Table 6-2-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age	Adult

File: Area2RME.wk4 \ TT_sum_IUWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Indeno(1,2,3-cd)pyrene	4.1E-007	--	2.1E-005	2.1E-005	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		7.2E-002	--	3.6E+000	3.7E+000
			Isophorone	6.9E-007	--	3.5E-005	3.5E-005	Isophorone	kidney	1.0E-002	--	5.1E-001	5.2E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	2.3E-002	--	1.1E+000	1.2E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	2.1E-007	--	1.9E-005	1.9E-005	Methylene Chloride	liver	1.3E-003	--	1.2E-001	1.2E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	2.8E-006	--	1.5E-004	1.6E-004
			Naphthalene		--			Naphthalene	circulatory	2.8E-002	--	1.4E+000	1.4E+000
			Nickel		--			Nickel	low body wt	3.1E-003	--	3.1E+000	3.1E+000
			ortho-xylene		--			ortho-xylene	fetotoxic	1.4E-006	--	7.9E-005	8.0E-005
			Pentachlorophenol	3.0E-006	--	1.5E-004	1.6E-004	Pentachlorophenol	liver	2.4E-003	--	1.2E-001	1.2E-001
			Phenol		--			Phenol	liver	3.2E-004	--	1.6E-002	1.6E-002
			Pyrene		--			Pyrene	liver	3.0E-004	--	1.5E-002	1.5E-002
			Selenium		--			Selenium	liver	1.9E-003	--	9.4E-002	9.6E-002
			Silver		--			Silver	skin	7.9E-003	--	1.9E+000	1.9E+000
			Styrene		--			Styrene	liver	2.9E-004	--	1.5E-002	1.5E-002
			Tetrachloroethene	1.8E-005	--	9.3E-004	9.5E-004	Tetrachloroethene	liver	9.9E-002	--	5.0E+000	5.1E+000
			Thallium		--			Thallium		2.3E-002	--	1.2E+000	1.2E+000
			Toluene		--			Toluene	liver	7.3E-003	--	3.7E-001	3.8E-001
			Trichloroethene	1.5E-006	--	8.0E-005	8.1E-005	Trichloroethene	liver	6.8E-002	--	3.4E+000	3.4E+000
			Vanadium		--			Vanadium	circulatory	2.0E-003	--	9.9E-002	1.0E-001
			Vinyl Chloride	8.4E-008	--	4.2E-006	4.3E-006	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.0E-003	--	1.1E-001	1.2E-001
			Zinc		--			Zinc	thyroid	3.1E-002	--	5.2E+000	5.3E+000
			(total)	3.2E-003		1.6E-001	1.6E-001	(total)		3.7E+000		2.8E+003	2.8E+003
	AIR	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	5.1E-003	--	5.1E-003
			1,1-Dichloroethene	--		--		1,1-Dichloroethene		--		--	
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	3.0E-003	--	3.0E-003
			1,1,2-Trichloroethane	--	6.9E-008	--	6.9E-008	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	2.4E-008	--	2.4E-008	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	5.4E-002	--	5.4E-002
			1,2-Dichloroethane	--	7.9E-006	--	7.9E-006	1,2-Dichloroethane	circulatory	--	1.7E-001	--	1.7E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	9.2E-002	--	9.2E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	4.9E-004	--	4.9E-004
			1,4-Dichlorobenzene	--	7.2E-008	--	7.2E-008	1,4-Dichlorobenzene	liver	--	4.0E-005	--	4.0E-005
			2-Butanone	--		--		2-Butanone	CNS	--	8.4E-004	--	8.4E-004
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.6E+000	--	1.6E+000
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	3.2E-002	--	3.2E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.3E-008	--	1.3E-008	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	2.9E-006	--	2.9E-006	Aldrin		--		--	
			alpha-BHC	--	4.8E-008	--	4.8E-008	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	3.2E-007	--	3.2E-007	Aroclor-1242		--		--	
			Aroclor-1248	--	1.3E-005	--	1.3E-005	Aroclor-1248		--		--	
			Aroclor-1254	--	1.7E-006	--	1.7E-006	Aroclor-1254		--		--	
			Aroclor-1260	--	1.3E-004	--	1.3E-004	Aroclor-1260		--		--	
			Arsenic	--	2.5E-006	--	2.5E-006	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.1E+000	--	1.1E+000

Table 6-2-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area2RME.wk4 \ TT_sum_fUWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Benzene	--	8.1E-006	--	8.1E-006	Benzene	blood disorders	--	4.6E-001	--	4.6E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.1E-007	--	1.1E-007	*Benzo(a)pyrene*		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	6.5E-008	--	6.5E-008	Beryllium	respiratory	--	3.8E-003	--	3.8E-003
			beta-BHC	--	3.2E-008	--	3.2E-008	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	3.7E-005	--	3.7E-005	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	6.2E-007	--	6.2E-007	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.6E-005	--	1.6E-005	Cadmium		--		--	
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.6E-004	--	2.6E-004
			Chloroform	--	2.9E-005	--	2.9E-005	Chloroform	liver	--	1.2E+001	--	1.2E+001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	2.0E-004	--	2.0E-004	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		*Di-n-butylphthalate*		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.3E-002	--	1.3E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Hexachlorobenzene	--	2.8E-008	--	2.8E-008	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	9.2E-008	--	9.2E-008	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.7E+000	--	1.7E+000
			Mercury	--		--		Mercury	CNS	--	6.0E-003	--	6.0E-003
			Methylene Chloride	--	5.4E-007	--	5.4E-007	Methylene Chloride	respiratory	--	1.1E-003	--	1.1E-003
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	2.9E-001	--	2.9E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		*N-Nitrosodiphenylamine*		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	3.4E-004	--	3.4E-004
			Tetrachloroethene	--	4.9E-006	--	4.9E-006	Tetrachloroethene	liver	--	4.9E-002	--	4.9E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	2.0E-001	--	2.0E-001
			Trichloroethene	--	4.9E-006	--	4.9E-006	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	2.0E-006	--	2.0E-006	Vinyl Chloride	CNS	--		--	

Table 6-2-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Ares2RME.wk4 \ TT_sum_fUWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		4.6E-004		4.6E-004	(total)			1.7E+001		1.7E+001
						Total Risk Across Subsurface Soil	1.6E-001					Total Hazard Index Across Subsurface Soil	2.8E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	2.4E+002
Total Skin HI:	2.3E+003
Total Thyroid HI:	5.3E+000
Total Liver HI:	1.8E+002
Total Circulatory System HI:	4.9E+000
Total CNS HI:	2.3E+000
Total Fetotoxic HI:	2.3E+000
Total GI Tract HI:	1.5E+000
Total Respiratory HI:	4.9E+000
Total Eyes HI:	1.4E-002
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.2E-001
Total Adrenal HI:	0.0E+000
Total Heart HI:	3.2E-002
Total Skeletal System HI:	2.8E-002
Total Thyroid HI:	5.3E+000
Total Blood Disorders HI:	2.6E+000

Table 6-2-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area2CT.wk4 \ TT_sum_f:\Wa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	5.7E-005	--	1.1E-003	1.2E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.4E-003	--	2.8E-002	2.9E-002
			1,1,2,2-Tetrachloroethane	2.3E-010	--	6.3E-009	6.5E-009	1,1,2,2-Tetrachloroethane	liver	2.6E-007	--	7.3E-006	7.6E-006
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	1.0E-003	--	2.0E-002	2.1E-002
			1,2-Dichloroethane	5.1E-008	--	1.0E-006	1.1E-006	1,2-Dichloroethane	fetotoxic	2.6E-004	--	5.1E-003	5.4E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.7E-003	--	3.2E-002	3.4E-002
			1,2-Dichloropropane	5.7E-009	--	1.1E-007	1.2E-007	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	4.4E-004	--	8.6E-003	9.0E-003
			1,4-Dichlorobenzene	6.8E-010	--	1.3E-008	1.4E-008	1,4-Dichlorobenzene	GI tract	1.3E-005	--	2.6E-004	2.7E-004
			2-Butanone		--			2-Butanone	liver	3.3E-003	--	6.8E-002	7.1E-002
			2-Hexanone		--			2-Hexanone	CNS	1.0E-003	--	2.0E-002	2.0E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.1E-002	--	2.2E-001	2.3E-001
			2-Methylphenol		--			2-Methylphenol	liver	1.1E-003	--	2.1E-002	2.2E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.9E-003	--	3.8E-002	4.0E-002
			2,6-Dinitrotoluene		--			2,6-Dinitrotoluene			--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	2.0E-003	--	3.9E-002	4.1E-002
			4-Methylphenol		--			4-Methylphenol	respiratory	1.6E-002	--	4.7E-001	4.9E-001
			4,4'-DDD	2.5E-008	--	4.8E-007	5.1E-007	4,4'-DDD	liver		--		
			4,4'-DDE	9.4E-009	--	1.8E-007	1.9E-007	4,4'-DDE	liver		--		
			4,4'-DDT	1.8E-008	--	3.5E-007	3.7E-007	4,4'-DDT	fetotoxic	1.5E-003	--	2.9E-002	3.1E-002
			Acenaphthene		--			Acenaphthene	eyes	1.1E-004	--	2.1E-003	2.3E-003
			Acetone		--			Acetone	fetotoxic	5.3E-003	--	1.3E-001	1.4E-001
			Aldrin	4.1E-006	--	8.0E-005	8.4E-005	Aldrin	liver	1.1E-001	--	2.2E+000	2.3E+000
			alpha-BHC	6.5E-008	--	1.3E-006	1.3E-006	alpha-BHC	liver		--		
			Aluminum		--			Aluminum	circulatory	3.6E-003	--	7.1E-002	7.4E-002
			Anthracene		--			Anthracene	GI tract	1.9E-006	--	3.7E-005	3.9E-005
			Antimony		--			Antimony	skin	1.8E-001	--	3.5E+002	3.5E+002
			Aroclor-1248		--			Aroclor-1248	liver		--		
			Aroclor-1254	2.3E-006	--	5.0E-005	5.2E-005	Aroclor-1254	liver	7.9E-001	--	1.7E+001	1.8E+001
			Aroclor-1260	2.1E-004	--	4.2E-003	4.4E-003	Aroclor-1260	circulatory		--		
			Arsenic	3.7E-007	--	7.5E-006	7.9E-006	Arsenic	circulatory	1.1E-002	--	2.3E-001	2.5E-001
			Barium		--			Barium		1.7E-002	--	3.3E-001	3.5E-001
			Benzene	8.7E-008	--	1.9E-006	2.0E-006	Benzene	blood disorders	1.4E-002	--	3.0E-001	3.2E-001
			Benzoic Acid		--			Benzoic Acid	GI tract	2.6E-005	--	5.1E-004	5.4E-004
			Benzo(a)anthracene	6.2E-008	--	1.2E-006	1.3E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	3.4E-007	--	7.9E-006	8.2E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.2E-007	--	2.4E-006	2.5E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.2E-008	--	2.4E-007	2.5E-007	Benzo(k)fluoranthene			--		
			Benzyl Alcohol		--			Benzyl Alcohol	CNS	5.0E-005	--	9.7E-004	1.0E-003
			Beryllium		--			Beryllium	kidney	7.5E-005	--	1.5E-001	1.5E-001
			beta-BHC	4.5E-008	--	8.8E-007	9.3E-007	beta-BHC	liver		--		
			bis(2-Chloroethyl) ether	3.8E-006	--	7.4E-005	7.8E-005	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	1.0E-006	--	2.0E-005	2.1E-005	bis(2-Ethylhexyl)phthalate	liver	5.0E-002	--	9.9E-001	1.0E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	9.2E-004	--	1.8E-002	1.9E-002
			Cadmium		--			Cadmium	kidney	4.6E-002	--	3.6E+001	3.6E+001
			Chloroform	2.7E-008	--	5.5E-007	5.7E-007	Chloroform	circulatory	6.1E-003	--	1.3E-001	1.3E-001
			Chromium 3+		--			Chromium 3+	liver	4.3E-004	--	2.1E+000	2.1E+000
			Chrysene	8.7E-010	--	4.1E-008	4.2E-008	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	1.0E-005	--	2.0E-004	2.1E-004
			Cobalt		--			Cobalt	heart	2.4E-004	--	4.7E-003	4.9E-003
			Copper		--			Copper	liver	1.4E-002	--	4.7E-001	4.9E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	2.7E-004	--	5.4E-003	5.6E-003
			Diethylphthalate		--			Diethylphthalate	low body wt	3.5E-005	--	6.9E-004	7.2E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.1E-005	--	2.2E-004	2.3E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.7E-003	--	3.4E-002	3.6E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		2.8E-004	--	5.6E-003	5.9E-003

Table 6-2-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area2CT wk4.1 TT_sum_f/Wa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Ethyl Benzene		--			Ethyl Benzene	liver	3.0E-003	--	6.3E-002	6.6E-002
			Fluoranthene		--			Fluoranthene	kidney	4.5E-005	--	8.8E-004	9.2E-004
			Fluorene		--			Fluorene	skeletal	2.0E-004	--	3.9E-003	4.1E-003
			Hexachlorobutadiene	2.3E-009	--	4.4E-008	4.7E-008	Hexachlorobutadiene	low body wt	2.0E-003	--	4.0E-002	4.2E-002
			Indeno(1,2,3-cd)pyrene	3.2E-008	--	6.3E-007	6.6E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		2.8E-002	--	5.5E-001	5.8E-001
			Isophorone	5.4E-008	--	1.0E-006	1.1E-006	Isophorone	kidney	3.9E-003	--	7.7E-002	8.1E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	8.8E-003	--	1.7E-001	1.8E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.6E-008	--	5.7E-007	5.8E-007	Methylene Chloride	liver	5.0E-004	--	1.8E-002	1.8E-002
			m,p-xylene		--			m,p-xylene	fetotoxic	1.1E-006	--	2.3E-005	2.4E-005
			Naphthalene		--			Naphthalene	circulatory	1.1E-002	--	2.1E-001	2.2E-001
			Nickel		--			Nickel	low body wt	1.2E-003	--	4.7E-001	4.7E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	5.5E-007	--	1.2E-005	1.2E-005
			Pentachlorophenol	2.4E-007	--	4.6E-006	4.9E-006	Pentachlorophenol	liver	9.2E-004	--	1.8E-002	1.9E-002
			Phenol		--			Phenol	liver	1.2E-004	--	2.4E-003	2.6E-003
			Pyrene		--			Pyrene	liver	1.2E-004	--	2.3E-003	2.4E-003
			Selenium		--			Selenium	liver	7.3E-004	--	1.4E-002	1.5E-002
			Silver		--			Silver	skin	3.1E-003	--	2.8E-001	2.9E-001
			Styrene		--			Styrene	liver	1.1E-004	--	2.2E-003	2.3E-003
			Tetrachloroethene	1.4E-006	--	2.8E-005	2.9E-005	Tetrachloroethene	liver	3.9E-002	--	7.5E-001	7.9E-001
			Thallium		--			Thallium		9.0E-003	--	1.8E-001	1.9E-001
			Toluene		--			Toluene	liver	2.8E-003	--	5.6E-002	5.9E-002
			Trichloroethene	1.2E-007	--	2.4E-006	2.5E-006	Trichloroethene	liver	2.6E-002	--	5.1E-001	5.4E-001
			Vanadium		--			Vanadium	circulatory	7.6E-004	--	1.5E-002	1.6E-002
			Vinyl Chloride	6.5E-009	--	1.3E-007	1.3E-007	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	7.9E-004	--	1.7E-002	1.8E-002
			Zinc		--			Zinc	thyroid	1.2E-002	--	7.9E-001	8.0E-001
			(total)	2.5E-004		4.9E-003	5.1E-003	(total)		1.5E+000		4.2E+002	4.2E+002
	AIR	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	4.5E-003	--	4.5E-003
			1,1-Dichloroethene	--		--		1,1-Dichloroethene		--		--	
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.6E-003	--	2.6E-003
			1,1,2-Trichloroethane	--	1.2E-008	--	1.2E-008	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	4.3E-009	--	4.3E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	4.8E-002	--	4.8E-002
			1,2-Dichloroethane	--	1.4E-006	--	1.4E-006	1,2-Dichloroethane	circulatory	--	1.5E-001	--	1.5E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	8.0E-002	--	8.0E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	4.3E-004	--	4.3E-004
			1,4-Dichlorobenzene	--	1.3E-008	--	1.3E-008	1,4-Dichlorobenzene	liver	--	3.5E-005	--	3.5E-005
			2-Butanone	--		--		2-Butanone	CNS	--	7.4E-004	--	7.4E-004
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.4E+000	--	1.4E+000
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	2.8E-002	--	2.8E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	2.2E-009	--	2.2E-009	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	5.1E-007	--	5.1E-007	Aldrin		--		--	
			alpha-BHC	--	8.5E-009	--	8.5E-009	alpha-BHC		--		--	

Table 6-2-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area2CT.wk4 \ TT_sum R/Ws2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	5.7E-008	--	5.7E-008	Aroclor-1242		--		--	
			Aroclor-1248	--	2.2E-006	--	2.2E-006	Aroclor-1248		--		--	
			Aroclor-1254	--	2.9E-007	--	2.9E-007	Aroclor-1254		--		--	
			Aroclor-1260	--	2.3E-005	--	2.3E-005	Aroclor-1260		--		--	
			Arsenic	--	4.4E-007	--	4.4E-007	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	9.6E-001	--	9.6E-001
			Benzene	--	1.4E-006	--	1.4E-006	Benzene	blood disorders	--	4.0E-001	--	4.0E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.9E-008	--	1.9E-008	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	1.1E-008	--	1.1E-008	Beryllium	respiratory	--	3.4E-003	--	3.4E-003
			beta-BHC	--	5.6E-009	--	5.6E-009	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	6.5E-006	--	6.5E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.1E-007	--	1.1E-007	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	2.7E-006	--	2.7E-006	Cadmium		--		--	
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.3E-004	--	2.3E-004
			Chloroform	--	5.1E-006	--	5.1E-006	Chloroform	liver	--	1.0E+001	--	1.0E+001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	3.5E-005	--	3.5E-005	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.1E-002	--	1.1E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Hexachlorobenzene	--	4.9E-009	--	4.9E-009	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.6E-008	--	1.6E-008	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.5E+000	--	1.5E+000
			Mercury	--		--		Mercury	CNS	--	5.2E-003	--	5.2E-003
			Methylene Chloride	--	9.4E-008	--	9.4E-008	Methylene Chloride	respiratory	--	9.3E-004	--	9.3E-004
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	2.5E-001	--	2.5E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	

Table 6-2-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Arpg2CT.wk4 \ TT_sum_fUWs2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	3.0E-004	--	3.0E-004
			Tetrachloroethene	--	8.7E-007	--	8.7E-007	Tetrachloroethene	liver	--	4.3E-002	--	4.3E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	1.7E-001	--	1.7E-001
			Trichloroethene	--	8.6E-007	--	8.6E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	3.4E-007	--	3.4E-007	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		8.1E-005		8.1E-005	(total)			1.5E+001		1.5E+001
						Total Risk Across Subsurface Soil	5.2E-003					Subsurface Soil	4.3E+002
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	3.7E+001
Total Skin HI:	3.5E+002
Total Thyroid HI:	8.0E-001
Total Liver HI:	3.6E+001
Total Circulatory System HI:	1.1E+000
Total CNS HI:	1.7E+000
Total Fetotoxic HI:	1.1E+000
Total GI Tract HI:	2.4E-001
Total Respiratory HI:	2.0E+000
Total Eyes HI:	2.3E-003
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.9E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	4.9E-003
Total Skeletal System HI:	4.1E-003
Total Thyroid HI:	8.0E-001
Total Blood Disorders HI:	7.2E-001

Table 6-2-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI2RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Sediment Area 2	2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	3.4E-005		1.7E-004	2.1E-004
			2-Methylnaphthalene					2-Methylnaphthalene	GI Tract	9.0E-006		4.5E-005	5.4E-005
			Aluminum					Aluminum	circulatory system	5.5E-003		2.8E-003	8.2E-003
			Anthracene					Anthracene	GI Tract	3.1E-007		1.6E-006	1.9E-006
			Arsenic	6.1E-006		9.7E-006	1.6E-005	Arsenic	circulatory system	3.8E-002		5.9E-002	9.7E-002
			Barium					Barium	NA	1.5E-003		7.4E-004	2.2E-003
			Benzene	1.6E-007		9.1E-007	1.1E-006	Benzene	blood disorders	5.3E-003		2.9E-002	3.5E-002
			Benzo(a)anthracene	2.1E-007		1.1E-006	1.3E-006	Benzo(a)anthracene	NA				
			Benzo(a)pyrene	2.0E-006		1.6E-005	1.8E-005	Benzo(a)pyrene	NA				
			Benzo(b)fluoranthene	1.8E-007		8.9E-007	1.1E-006	Benzo(b)fluoranthene	NA				
			Benzo(k)fluoranthene	2.0E-008		1.0E-007	1.2E-007	Benzo(k)fluoranthene	NA				
			Beryllium					Beryllium	kidney	2.6E-004		1.3E-002	1.4E-002
			bis(2-Chloroethyl) ether	2.5E-007		1.2E-006	1.5E-006	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	2.5E-008		1.2E-007	1.5E-007	bis(2-Ethylhexyl)phthalate	liver	2.5E-004		1.2E-003	1.5E-003
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	9.6E-007		4.8E-006	5.8E-006
			Cadmium					Cadmium	kidney	5.2E-003		5.2E-001	5.3E-001
			Chloroform	7.4E-012		3.9E-009	3.9E-009	Chloroform	circulatory system	3.4E-007		1.8E-006	2.1E-006
			Chromium (total)					Chromium (total)		1.1E-002		5.4E-002	6.5E-002
			Chrysene	2.0E-009		2.5E-008	2.7E-008	Chrysene	liver				
			Copper					Copper	liver	1.1E-003		8.8E-004	1.9E-003
			Dibenzo(a,h)anthracene	4.7E-007		2.6E-006	3.1E-006	Dibenzo(a,h)anthracene					
			Ethyl Benzene					Ethyl Benzene	liver	1.5E-006		8.0E-006	9.5E-006
			Fluoranthene					Fluoranthene	kidney	2.8E-005		1.4E-004	1.7E-004
			Indeno(1,2,3-cd)pyrene	1.1E-007		5.6E-007	6.7E-007	Indeno(1,2,3-cd)pyrene	NA				
			Iron					Iron		5.2E-002		2.6E-002	7.9E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	2.1E-002		1.0E-002	3.1E-002
			Mercury					Mercury	low body weight				
			Naphthalene					Naphthalene	circulatory system	6.2E-006		3.1E-005	3.7E-005
			Nickel					Nickel	low body weight	8.1E-004		8.2E-003	9.0E-003
			Pyrene					Pyrene	liver	4.1E-005		2.1E-004	2.5E-004
			Toluene					Toluene	liver	3.2E-007		1.6E-006	1.9E-006
			Vanadium					Vanadium	circulatory system	2.3E-003		1.2E-003	3.5E-003
			Xylenes (total)					Xylenes (total)	fetotoxic	1.1E-007		6.3E-007	7.4E-007
			Zinc					Zinc	thyroid	4.4E-004		7.3E-004	1.2E-003
			(Total)	9.6E-006		3.3E-005	4.2E-005	(Total)		1.4E-001		7.3E-001	8.8E-001
						Total Risk Across Sediments	4.2E-005					Total Hazard Index Across All Exposure Routes	8.8E-001

Total Circulatory System HI =	1.1E-001
Total Low Body Weight HI =	9.0E-003
Total Mammary HI =	5.8E-006
Total Fetotoxic HI =	7.4E-007
Total GI Tract HI =	5.6E-005
Total Thyroid HI =	1.2E-003
Total Kidney HI =	5.7E-001
Total Liver HI =	3.7E-003
Total Blood Disorders HI =	3.5E-002

Table 6-2-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File UTI2CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Ditch Area 2	2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	6.0E-007		6.0E-007	1.2E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI Tract	1.6E-007		1.6E-007	3.1E-007
			Aluminum					Aluminum	circulatory system	9.5E-005		9.5E-006	1.0E-004
			Anthracene					Anthracene	GI Tract	5.4E-009		5.4E-009	1.1E-008
			Arsenic	2.1E-008		6.7E-009	2.8E-008	Arsenic	circulatory system	6.6E-004		2.0E-004	8.6E-004
			Barium					Barium	NA	2.5E-005		2.5E-006	2.8E-005
			Benzene	5.7E-010		6.3E-010	1.2E-009	Benzene	blood disorders	9.1E-005		1.0E-004	1.9E-004
			Benzo(a)anthracene	7.2E-010		7.2E-010	1.4E-009	Benzo(a)anthracene	NA				
			Benzo(a)pyrene	7.0E-009		1.1E-008	1.8E-008	Benzo(a)pyrene	NA				
			Benzo(b)fluoranthene	6.1E-010		6.1E-010	1.2E-009	Benzo(b)fluoranthene	NA				
			Benzo(k)fluoranthene	7.0E-011		7.0E-011	1.4E-010	Benzo(k)fluoranthene	NA				
			Beryllium					Beryllium	kidney	4.6E-006		4.6E-005	5.1E-005
			bis(2-Chloroethyl) ether	8.6E-010		8.6E-010	1.7E-009	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	8.6E-011		8.6E-011	1.7E-010	bis(2-Ethylhexyl)phthalate	liver	4.3E-006		4.3E-006	8.6E-006
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	1.7E-008		1.7E-008	3.3E-008
			Cadmium					Cadmium	kidney	9.0E-005		1.8E-003	1.9E-003
			Chloroform	2.6E-014		2.7E-012	2.7E-012	Chloroform	circulatory system	5.9E-009		6.1E-009	1.2E-008
			Chromium (total)					Chromium (total)		1.9E-004		1.9E-004	3.7E-004
			Chrysene	7.0E-012		1.7E-011	2.4E-011	Chrysene	liver				
			Copper					Copper	liver	1.8E-005		3.0E-006	2.1E-005
			Dibenzo(a,h)anthracene	1.6E-009		1.8E-009	3.4E-009	Dibenzo(a,h)anthracene					
			Ethyl Benzene					Ethyl Benzene	liver	2.5E-008		2.8E-008	5.3E-008
			Fluoranthene					Fluoranthene	kidney	4.9E-007		4.9E-007	9.8E-007
			Indeno(1,2,3-cd)pyrene	3.9E-010		3.9E-010	7.8E-010	Indeno(1,2,3-cd)pyrene	NA				
			Iron					Iron		9.1E-004		9.1E-005	1.0E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	3.6E-004		3.6E-005	3.9E-004
			Mercury					Mercury	low body weight				
			Naphthalene					Naphthalene	circulatory system	1.1E-007		1.1E-007	2.2E-007
			Nickel					Nickel	low body weight	1.4E-005		2.8E-005	4.2E-005
			Pyrene					Pyrene	liver	7.2E-007		7.2E-007	1.4E-006
			Toluene					Toluene	liver	5.5E-009		5.5E-009	1.1E-008
			Vanadium					Vanadium	circulatory system	4.0E-005		4.0E-006	4.4E-005
			Xylenes (total)					Xylenes (total)	fetotoxic	2.0E-009		2.2E-009	4.1E-009
			Zinc					Zinc	thyroid	7.6E-006		2.5E-006	1.0E-005
			(Total)	3.3E-008		2.3E-008	5.6E-008	(Total)		2.5E-003		2.5E-003	5.0E-003
						Total Risk Across Sediments	5.6E-008					Total Hazard Index Across All Exposure Routes	5.0E-003

Total Circulatory System HI =	1.0E-003
Total Low Body Weight HI =	4.2E-005
Total Mammary HI =	3.3E-008
Total Fetotoxic HI =	4.1E-009
Total GI Tract HI =	3.2E-007
Total Thyroid HI =	1.0E-005
Total Kidney HI =	2.3E-003
Total Liver HI =	3.1E-005
Total Blood Disorders HI =	1.9E-004

Table 6-2-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Routine Worker
Receptor Age	Adult

File: Area2RME wk4 \ TT_sum_RWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.1E-004	--	7.4E-003	7.5E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	2.8E-003	--	1.8E-001	1.9E-001
			1,1,2,2-Tetrachloroethane	2.2E-009	--	2.1E-007	2.1E-007	1,1,2,2-Tetrachloroethane	liver	5.1E-007	--	4.9E-005	4.9E-005
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	2.0E-003	--	1.3E-001	1.3E-001
			1,2-Dichloroethane	5.0E-007	--	3.3E-005	3.4E-005	1,2-Dichloroethane	fetotoxic	5.1E-004	--	3.4E-002	3.5E-002
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	3.2E-003	--	2.1E-001	2.2E-001
			1,2-Dichloropropane	5.6E-008	--	3.7E-006	3.8E-006	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	8.6E-004	--	5.7E-002	5.8E-002
			1,4-Dichlorobenzene	6.7E-009	--	4.4E-007	4.5E-007	1,4-Dichlorobenzene	GI tract	2.6E-005	--	1.7E-003	1.7E-003
			2-Butanone		--			2-Butanone	liver	6.4E-003	--	4.5E-001	4.5E-001
			2-Hexanone		--			2-Hexanone	CNS	1.9E-003	--	1.3E-001	1.3E-001
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	2.2E-002	--	1.5E+000	1.5E+000
			2-Methylphenol		--			2-Methylphenol	liver	2.1E-003	--	1.4E-001	1.4E-001
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	3.8E-003	--	2.5E-001	2.5E-001
			2,6-Dinitrotoluene		--			2,6-Dinitrotoluene			--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	3.9E-003	--	2.6E-001	2.6E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	3.1E-002	--	3.1E+000	3.2E+000
			4,4'-DDD	2.4E-007	--	1.6E-005	1.6E-005	4,4'-DDD	liver		--		
			4,4'-DDE	9.1E-008	--	6.1E-006	6.2E-006	4,4'-DDE	liver		--		
			4,4'-DDT	1.8E-007	--	1.2E-005	1.2E-005	4,4'-DDT	fetotoxic	2.9E-003	--	1.9E-001	2.0E-001
			Acenaphthene		--			Acenaphthene	eyes	2.1E-004	--	1.4E-002	1.4E-002
			Acetone		--			Acetone	fetotoxic	1.0E-002	--	6.7E-001	6.8E-001
			Aldrin	4.0E-005	--	2.7E-003	2.7E-003	Aldrin	liver	2.2E-001	--	1.5E+001	1.5E+001
			alpha-BHC	6.4E-007	--	4.2E-005	4.3E-005	alpha-BHC	liver		--		
			Aluminum		--			Aluminum	circulatory	7.0E-003	--	4.7E-001	4.7E-001
			Anthracene		--			Anthracene	GI tract	3.7E-006	--	2.5E-004	2.5E-004
			Antimony		--			Antimony	skin	3.5E-001	--	2.3E+003	2.3E+003
			Aroclor-1248		--			Aroclor-1248	liver		--		
			Aroclor-1254	2.2E-005	--	1.6E-003	1.7E-003	Aroclor-1254	liver	1.5E+000	--	1.1E+002	1.2E+002
			Aroclor-1260	2.1E-003	--	1.4E-001	1.4E-001	Aroclor-1260	circulatory		--		
			Arsenic	3.6E-006	--	2.5E-004	2.5E-004	Arsenic	circulatory	2.2E-002	--	1.5E+000	1.6E+000
			Barium		--			Barium		3.3E-002	--	2.2E+000	2.2E+000
			Benzene	8.5E-007	--	6.3E-005	6.4E-005	Benzene	blood disorders	2.7E-002	--	2.0E+000	2.0E+000
			Benzoic Acid		--			Benzoic Acid	GI tract	5.1E-005	--	3.4E-003	3.5E-003
			Benzo(a)anthracene	6.0E-007	--	4.0E-005	4.1E-005	Benzo(a)anthracene			--		
			Benzo(a)pyrene	3.3E-006	--	2.6E-004	2.6E-004	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.2E-006	--	7.8E-005	8.0E-005	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.2E-007	--	7.8E-006	8.0E-006	Benzo(k)fluoranthene			--		
			Benzyl Alcohol		--			Benzyl Alcohol	CNS	9.7E-005	--	6.4E-003	6.5E-003
			Beryllium		--			Beryllium	kidney	1.5E-004	--	9.6E-001	9.6E-001
			beta-BHC	4.4E-007	--	2.9E-005	3.0E-005	beta-BHC	liver		--		
			bis(2-Chloroethyl) ether	3.7E-005	--	2.5E-003	2.5E-003	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	9.8E-006	--	6.5E-004	6.6E-004	bis(2-Ethylhexyl)phthalate	liver	9.8E-002	--	6.5E+000	6.6E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.8E-003	--	1.2E-001	1.2E-001
			Cadmium		--			Cadmium	kidney	9.1E-002	--	2.4E+002	2.4E+002
			Chloroform	2.6E-007	--	1.8E-005	1.8E-005	Chloroform	circulatory	1.2E-002	--	8.3E-001	8.4E-001
			Chromium 3+		--			Chromium 3+	liver	8.4E-004	--	1.4E+001	1.4E+001
			Chrysene	8.5E-009	--	1.4E-006	1.4E-006	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	2.0E-005	--	1.3E-003	1.3E-003
			Cobalt		--			Cobalt	heart	4.7E-004	--	3.1E-002	3.2E-002
			Copper		--			Copper	liver	2.8E-002	--	3.1E+000	3.1E+000
			Dibenzofuran		--			Dibenzofuran	dec growth rate	5.4E-004	--	3.5E-002	3.6E-002
			Diethylphthalate		--			Diethylphthalate	low body wt	6.8E-005	--	4.5E-003	4.6E-003
			Dimethylphthalate		--			Dimethylphthalate	GI tract	2.2E-005	--	1.5E-003	1.5E-003
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	3.3E-003	--	2.3E-001	2.3E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		5.6E-004	--	3.7E-002	3.7E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	5.8E-003	--	4.2E-001	4.3E-001
			Fluoranthene		--			Fluoranthene	kidney	8.8E-005	--	5.8E-003	5.9E-003
			Fluorene		--			Fluorene	skeletal	3.9E-004	--	2.6E-002	2.6E-002
			Hexachlorobutadiene	2.2E-008	--	1.5E-006	1.5E-006	Hexachlorobutadiene	low body wt	4.0E-003	--	2.6E-001	2.7E-001
			Indeno(1,2,3-cd)pyrene	3.1E-007	--	2.1E-005	2.1E-005	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		5.5E-002	--	3.6E+000	3.7E+000

Table 6-2-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Routine Worker
Receptor Age	Adult

File: Area2RME.wk4 \ TT_sum (RWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Isophorone	5.2E-007	--	3.5E-005	3.5E-005	Isophorone	kidney	7.7E-003	--	5.1E-001	5.2E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.7E-002	--	1.1E+000	1.2E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.6E-007	--	1.9E-005	1.9E-005	Methylene Chloride	liver	9.7E-004	--	1.2E-001	1.2E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	2.1E-006	--	1.5E-004	1.6E-004
			Naphthalene		--			Naphthalene	circulatory	2.1E-002	--	1.4E+000	1.4E+000
			Nickel		--			Nickel	low body wt	2.4E-003	--	3.1E+000	3.1E+000
			ortho-xylene		--			ortho-xylene	fetotoxic	1.1E-006	--	7.9E-005	8.0E-005
			Pentachlorophenol	2.3E-006	--	1.5E-004	1.6E-004	Pentachlorophenol	liver	1.8E-003	--	1.2E-001	1.2E-001
			Phenol		--			Phenol	liver	2.4E-004	--	1.6E-002	1.6E-002
			Pyrene		--			Pyrene	liver	2.3E-004	--	1.5E-002	1.5E-002
			Selenium		--			Selenium	liver	1.4E-003	--	9.4E-002	9.6E-002
			Silver		--			Silver	skin	6.0E-003	--	1.9E+000	1.9E+000
			Styrene		--			Styrene	liver	2.2E-004	--	1.5E-002	1.5E-002
			Tetrachloroethene	1.4E-005	--	9.3E-004	9.4E-004	Tetrachloroethene	liver	7.5E-002	--	5.0E+000	5.1E+000
			Thallium		--			Thallium		1.8E-002	--	1.2E+000	1.2E+000
			Toluene		--			Toluene	liver	5.6E-003	--	3.7E-001	3.7E-001
			Trichloroethene	1.2E-006	--	8.0E-005	8.1E-005	Trichloroethene	liver	5.0E-002	--	3.4E+000	3.4E+000
			Vanadium		--			Vanadium	circulatory	1.5E-003	--	9.9E-002	1.0E-001
			Vinyl Chloride	6.4E-008	--	4.2E-006	4.3E-006	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	1.5E-003	--	1.1E-001	1.2E-001
			Zinc		--			Zinc	thyroid	2.4E-002	--	5.2E+000	5.3E+000
			(total)	2.4E-003		1.6E-001	1.6E-001	(total)		2.8E+000		2.8E+003	2.8E+003
	AIR	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.5E-003	--	2.5E-003
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	5.6E-003	--	5.6E-003
			1,1,2-Trichloroethane	--	5.4E-008	--	5.4E-008	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.1E-007	--	1.1E-007	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	6.9E-002	--	6.9E-002
			1,2-Dichloroethane	--	4.7E-006	--	4.7E-006	1,2-Dichloroethane	circulatory	--	1.0E-001	--	1.0E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.4E-001	--	1.4E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	5.5E-004	--	5.5E-004
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	3.0E-009	--	3.0E-009
			1,4-Dichlorobenzene	--	1.2E-007	--	1.2E-007	1,4-Dichlorobenzene	liver	--	6.7E-005	--	6.7E-005
			2-Butanone	--		--		2-Butanone	CNS	--	3.7E-007	--	3.7E-007
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.1E+000	--	2.1E+000
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	3.0E-002	--	3.0E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	2.2E-011	--	2.2E-011	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.5E-009	--	4.5E-009	Aldrin		--		--	
			alpha-BHC	--	9.1E-011	--	9.1E-011	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.5E-010	--	2.5E-010	Aroclor-1242		--		--	
			Aroclor-1248	--	4.5E-009	--	4.5E-009	Aroclor-1248		--		--	
			Aroclor-1254	--	3.4E-009	--	3.4E-009	Aroclor-1254		--		--	
			Aroclor-1260	--	3.0E-008	--	3.0E-008	Aroclor-1260		--		--	

Table 6-2-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area2RME.wk4 \ TT_sum_IRWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Arsenic	--	3.7E-009	--	3.7E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	9.6E-004	--	9.6E-004
			Benzene	--	5.7E-006	--	5.7E-006	Benzene	blood disorders	--	3.2E-001	--	3.2E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.1E-010	--	2.1E-010	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	1.5E-010	--	1.5E-010	Beryllium	respiratory	--	8.5E-006	--	8.5E-006
			beta-BHC	--	5.0E-011	--	5.0E-011	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.5E-005	--	4.5E-005	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	2.6E-010	--	2.6E-010	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	3.4E-008	--	3.4E-008	Cadmium		--		--	
			Carbon Disulfide	--		--		*Carbon Disulfide*		--	8.2E-010	--	8.2E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.3E-002	--	2.3E-002
			Chloroform	--	1.6E-005	--	1.6E-005	Chloroform	liver	--	6.5E+000	--	6.5E+000
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	4.0E-007	--	4.0E-007	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	9.2E-012	--	9.2E-012	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		*Endrin ketone*		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	7.9E-003	--	7.9E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	1.0E-012	--	1.0E-012	gamma-Chlordane		--	4.0E-008	--	4.0E-008
			Heptachlor	--	1.6E-013	--	1.6E-013	Heptachlor		--		--	
			Heptachlor epoxide	--	1.5E-013	--	1.5E-013	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	2.8E-014	--	2.8E-014	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	4.8E-011	--	4.8E-011	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	2.7E-003	--	2.7E-003
			Mercury	--		--		Mercury	CNS	--	1.2E-005	--	1.2E-005
			Methylene Chloride	--	1.5E-006	--	1.5E-006	Methylene Chloride	respiratory	--	2.9E-003	--	2.9E-003
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.6E-001	--	3.6E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		*N-Nitrosodiphenylamine*		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	

Table 6-2-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area2RME.wk4 \ TT_sum_RWs2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.2E-004	--	5.2E-004
			Tetrachloroethene	--	3.5E-006	--	3.5E-006	Tetrachloroethene	liver	--	3.5E-002	--	3.5E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	2.1E-001	--	2.1E-001
			Trichloroethene	--	6.0E-006	--	6.0E-006	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	1.9E-006	--	1.9E-006	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		8.5E-005		8.5E-005	(total)			9.8E+000		9.8E+000
						Total Risk Across Subsurface Soil	1.6E-001	rd Index Across Subsurface Soil		s Subsurface Soil			2.8E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	2.4E+002
Total Skin HI:	2.3E+003
Total Thyroid HI:	5.3E+000
Total Liver HI:	1.7E+002
Total Circulatory System HI:	4.9E+000
Total CNS HI:	2.7E+000
Total Fetotoxic HI:	1.2E+000
Total GI Tract HI:	1.5E+000
Total Respiratory HI:	3.2E+000
Total Eyes HI:	1.4E-002
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.2E-001
Total Adrenal HI:	0.0E+000
Total Heart HI:	3.2E-002
Total Skeletal System HI:	2.6E-002
Total Thyroid HI:	5.3E+000
Total Blood Disorders HI:	2.3E+000

Table 6-2-6
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area2CT.wk4 \ TT_sum_RWa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	4.9E-005	--	1.1E-003	1.2E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.2E-003	--	2.8E-002	2.9E-002
			1,1,2,2-Tetrachloroethane	1.9E-010	--	6.3E-009	6.5E-009	1,1,2,2-Tetrachloroethane	liver	2.3E-007	--	7.3E-006	7.6E-006
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	8.8E-004	--	2.0E-002	2.1E-002
			1,2-Dichloroethane	4.4E-008	--	1.0E-006	1.0E-006	1,2-Dichloroethane	fetotoxic	2.3E-004	--	5.1E-003	5.4E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.4E-003	--	3.2E-002	3.4E-002
			1,2-Dichloropropane	4.9E-009	--	1.1E-007	1.2E-007	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	3.8E-004	--	8.6E-003	8.9E-003
			1,4-Dichlorobenzene	5.9E-010	--	1.3E-008	1.4E-008	1,4-Dichlorobenzene	GI tract	1.1E-005	--	2.6E-004	2.7E-004
			2-Butanone		--			2-Butanone	liver	2.8E-003	--	6.8E-002	7.0E-002
			2-Hexanone		--			2-Hexanone	CNS	8.5E-004	--	2.0E-002	2.0E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	9.8E-003	--	2.2E-001	2.3E-001
			2-Methylphenol		--			2-Methylphenol	liver	9.0E-004	--	2.1E-002	2.1E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.7E-003	--	3.8E-002	3.9E-002
			2,6-Dinitrotoluene		--			2,6-Dinitrotoluene			--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	1.7E-003	--	3.9E-002	4.0E-002
			4-Methylphenol		--			4-Methylphenol	respiratory	1.4E-002	--	4.7E-001	4.9E-001
			4,4'-DDD	2.1E-008	--	4.8E-007	5.1E-007	4,4'-DDD	liver		--		
			4,4'-DDE	8.0E-009	--	1.8E-007	1.9E-007	4,4'-DDE	liver		--		
			4,4'-DDT	1.5E-008	--	3.5E-007	3.7E-007	4,4'-DDT	fetotoxic	1.3E-003	--	2.9E-002	3.0E-002
			Acenaphthene		--			Acenaphthene	eyes	9.4E-005	--	2.1E-003	2.2E-003
			Acetone		--			Acetone	fetotoxic	4.5E-003	--	1.3E-001	1.4E-001
			Aldrin	3.5E-006	--	8.0E-005	8.4E-005	Aldrin	liver	9.6E-002	--	2.2E+000	2.3E+000
			alpha-BHC	5.6E-008	--	1.3E-006	1.3E-006	alpha-BHC	liver		--		
			Aluminum		--			Aluminum	circulatory	3.1E-003	--	7.1E-002	7.4E-002
			Anthracene		--			Anthracene	GI tract	1.6E-006	--	3.7E-005	3.9E-005
			Antimony		--			Antimony	skin	1.5E-001	--	3.5E+002	3.5E+002
			Aroclor-1248		--			Aroclor-1248	liver		--		
			Aroclor-1254	1.9E-006	--	5.0E-005	5.1E-005	Aroclor-1254	liver	6.8E-001	--	1.7E+001	1.8E+001
			Aroclor-1260	1.8E-004	--	4.2E-003	4.3E-003	Aroclor-1260	circulatory		--		
			Arsenic	3.1E-007	--	7.5E-006	7.8E-006	Arsenic	circulatory	9.7E-003	--	2.3E-001	2.4E-001
			Barium		--			Barium		1.4E-002	--	3.3E-001	3.4E-001
			Benzene	7.5E-008	--	1.9E-006	2.0E-006	Benzene	blood disorders	1.2E-002	--	3.0E-001	3.2E-001
			Benzoic Acid		--			Benzoic Acid	GI tract	2.3E-005	--	5.1E-004	5.4E-004
			Benzo(a)anthracene	5.3E-008	--	1.2E-006	1.3E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	2.9E-007	--	7.9E-006	8.2E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.0E-007	--	2.4E-006	2.5E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.0E-008	--	2.4E-007	2.5E-007	Benzo(k)fluoranthene			--		
			Benzyl Alcohol		--			Benzyl Alcohol	CNS	4.3E-005	--	9.7E-004	1.0E-003
			Beryllium		--			Beryllium	kidney	6.4E-005	--	1.5E-001	1.5E-001
			beta-BHC	3.9E-008	--	8.8E-007	9.2E-007	beta-BHC	liver		--		
			bis(2-Chloroethyl) ether	3.2E-006	--	7.4E-005	7.7E-005	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	8.6E-007	--	2.0E-005	2.1E-005	bis(2-Ethylhexyl)phthalate	liver	4.3E-002	--	9.9E-001	1.0E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	7.9E-004	--	1.8E-002	1.9E-002
			Cadmium		--			Cadmium	kidney	4.0E-002	--	3.6E+001	3.6E+001
			Chloroform	2.3E-008	--	5.5E-007	5.7E-007	Chloroform	circulatory	5.3E-003	--	1.3E-001	1.3E-001
			Chromium 3+		--			Chromium 3+	liver	3.7E-004	--	2.1E+000	2.1E+000
			Chrysene	7.4E-010	--	4.1E-008	4.2E-008	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	8.6E-006	--	2.0E-004	2.1E-004
			Cobalt		--			Cobalt	heart	2.1E-004	--	4.7E-003	4.9E-003
			Copper		--			Copper	liver	1.2E-002	--	4.7E-001	4.8E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	2.3E-004	--	5.4E-003	5.6E-003
			Diethylphthalate		--			Diethylphthalate	low body wt	3.0E-005	--	6.9E-004	7.2E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	9.8E-006	--	2.2E-004	2.3E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.5E-003	--	3.4E-002	3.6E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		2.4E-004	--	5.6E-003	5.8E-003
			Ethyl Benzene		--			Ethyl Benzene	liver	2.6E-003	--	6.3E-002	6.6E-002
			Fluoranthene		--			Fluoranthene	kidney	3.8E-005	--	8.8E-004	9.2E-004

Table 6-2-6
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Routine Worker
Receptor Age: Adult

File: Area2CT.wk4 \ TT_sum_RWa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Fluorene		--			Fluorene	skeletal	1.7E-004	--	3.9E-003	4.0E-003
			Hexachlorobutadiene	1.9E-009	--	4.4E-008	4.6E-008	Hexachlorobutadiene	low body wt	1.7E-003	--	4.0E-002	4.2E-002
			Indeno(1,2,3-cd)pyrene	2.7E-008	--	6.3E-007	6.5E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		2.4E-002	--	5.5E-001	5.7E-001
			Isophorone	4.6E-008	--	1.0E-006	1.1E-006	Isophorone	kidney	3.4E-003	--	7.7E-002	8.1E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	7.5E-003	--	1.7E-001	1.8E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.4E-008	--	5.7E-007	5.8E-007	Methylene Chloride	liver	4.3E-004	--	1.8E-002	1.8E-002
			m,p-xylene		--			m,p-xylene	fetotoxic	9.2E-007	--	2.3E-005	2.4E-005
			Naphthalene		--			Naphthalene	circulatory	9.2E-003	--	2.1E-001	2.2E-001
			Nickel		--			Nickel	low body wt	1.0E-003	--	4.7E-001	4.7E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	4.7E-007	--	1.2E-005	1.2E-005
			Pentachlorophenol	2.0E-007	--	4.6E-006	4.8E-006	Pentachlorophenol	liver	7.9E-004	--	1.8E-002	1.9E-002
			Phenol		--			Phenol	liver	1.1E-004	--	2.4E-003	2.5E-003
			Pyrene		--			Pyrene	liver	1.0E-004	--	2.3E-003	2.4E-003
			Selenium		--			Selenium	liver	6.2E-004	--	1.4E-002	1.5E-002
			Silver		--			Silver	skin	2.6E-003	--	2.8E-001	2.9E-001
			Styrene		--			Styrene	liver	9.8E-005	--	2.2E-003	2.3E-003
			Tetrachloroethene	1.2E-006	--	2.8E-005	2.9E-005	Tetrachloroethene	liver	3.3E-002	--	7.5E-001	7.9E-001
			Thallium		--			Thallium		7.7E-003	--	1.8E-001	1.8E-001
			Toluene		--			Toluene	liver	2.4E-003	--	5.6E-002	5.8E-002
			Trichloroethene	1.0E-007	--	2.4E-006	2.5E-006	Trichloroethene	liver	2.2E-002	--	5.1E-001	5.3E-001
			Vanadium		--			Vanadium	circulatory	6.5E-004	--	1.5E-002	1.6E-002
			Vinyl Chloride	5.6E-009	--	1.3E-007	1.3E-007	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	6.8E-004	--	1.7E-002	1.8E-002
			Zinc		--			Zinc	thyroid	1.0E-002	--	7.9E-001	8.0E-001
			(total)	2.1E-004		4.9E-003	5.1E-003	(total)		1.2E+000		4.2E+002	4.2E+002
	AIR	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.2E-003	--	2.2E-003
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	4.9E-003	--	4.9E-003
			1,1,2-Trichloroethane	--	9.4E-009	--	9.4E-009	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	2.0E-008	--	2.0E-008	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	6.0E-002	--	6.0E-002
			1,2-Dichloroethane	--	8.3E-007	--	8.3E-007	1,2-Dichloroethane	circulatory	--	9.1E-002	--	9.1E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.2E-001	--	1.2E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	4.9E-004	--	4.9E-004
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	2.6E-009	--	2.6E-009
			1,4-Dichlorobenzene	--	2.1E-008	--	2.1E-008	1,4-Dichlorobenzene	liver	--	5.8E-005	--	5.8E-005
			2-Butanone	--		--		2-Butanone	CNS	--	3.2E-007	--	3.2E-007
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.8E+000	--	1.8E+000
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	2.6E-002	--	2.6E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	3.9E-012	--	3.9E-012	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	

Table 6-2-6
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Routine Worker
Receptor Age: Adult

File: Area2CT.wk4 \ TT_sum_RWa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Aldrin	--	7.9E-010	--	7.9E-010	Aldrin		--		--	
			alpha-BHC	--	1.6E-011	--	1.6E-011	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	4.4E-011	--	4.4E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	7.9E-010	--	7.9E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	5.9E-010	--	5.9E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	5.3E-009	--	5.3E-009	Aroclor-1260		--		--	
			Arsenic	--	6.4E-010	--	6.4E-010	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	8.4E-004	--	8.4E-004
			Benzene	--	1.0E-006	--	1.0E-006	Benzene	blood disorders	--	2.8E-001	--	2.8E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	3.7E-011	--	3.7E-011	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	2.5E-011	--	2.5E-011	Beryllium	respiratory	--	7.5E-006	--	7.5E-006
			beta-BHC	--	8.7E-012	--	8.7E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	7.9E-006	--	7.9E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	4.5E-011	--	4.5E-011	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	6.0E-009	--	6.0E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	7.1E-010	--	7.1E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.0E-002	--	2.0E-002
			Chloroform	--	2.8E-006	--	2.8E-006	Chloroform	liver	--	5.7E+000	--	5.7E+000
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	7.0E-008	--	7.0E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	1.6E-012	--	1.6E-012	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	7.0E-003	--	7.0E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	1.8E-013	--	1.8E-013	gamma-Chlordane		--	3.5E-008	--	3.5E-008
			Heptachlor	--	2.8E-014	--	2.8E-014	Heptachlor		--		--	
			Heptachlor epoxide	--	2.7E-014	--	2.7E-014	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	4.9E-015	--	4.9E-015	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	8.4E-012	--	8.4E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	2.3E-003	--	2.3E-003
						--		Mercury	CNS	--	1.1E-005	--	1.1E-005

Table 6-2-6
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Routine Worker
Receptor Age: Adult

File: Area2CT.wk4 \ TT_sum fRWa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Methylene Chloride	--	2.6E-007	--	2.6E-007	Methylene Chloride	respiratory	--	2.5E-003	--	2.5E-003
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.1E-001	--	3.1E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	4.6E-004	--	4.6E-004
			Tetrachloroethene	--	6.2E-007	--	6.2E-007	Tetrachloroethene	liver	--	3.1E-002	--	3.1E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	1.8E-001	--	1.8E-001
			Trichloroethene	--	1.1E-006	--	1.1E-006	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	3.4E-007	--	3.4E-007	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.5E-005		1.5E-005	(total)			8.6E+000		8.6E+000
							Total Risk Across Subsurface Soil	5.1E-003	Index Across Subsurface Soil				4.3E+002
							Total Risk Across All Media and All Exposure Routes	Reserved			Subsurface Soil		

Total Kidney HI:	3.7E+001
Total Skin HI:	3.5E+002
Total Thyroid HI:	8.0E-001
Total Liver HI:	3.1E+001
Total Circulatory System HI:	1.1E+000
Total CNS HI:	2.1E+000
Total Fetotoxic HI:	1.9E-001
Total GI Tract HI:	2.3E-001
Total Respiratory HI:	5.0E-001
Total Eyes HI:	2.2E-003
Total Reproductive HI	0.0E+000
Total Mammary HI:	1.9E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	4.9E-003
Total Skeletal System HI:	4.0E-003
Total Thyroid HI:	8.0E-001
Total Blood Disorders HI:	6.0E-001

Table 6-2-7
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND2RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Ditch Area 2	2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	3.7E-006		1.7E-004	1.8E-004
			2-Methylnaphthalene					2-Methylnaphthalene	GI Tract	9.8E-007		4.5E-005	4.6E-005
			Aluminum					Aluminum	circulatory system	5.9E-004		2.8E-003	3.3E-003
			Anthracene					Anthracene	GI Tract	3.4E-008		1.6E-006	1.6E-006
			Arsenic	6.6E-007		9.7E-006	1.0E-005	Arsenic	circulatory system	4.1E-003		5.9E-002	6.3E-002
			Barium					Barium	NA	1.6E-004		7.4E-004	9.0E-004
			Benzene	1.8E-008		9.1E-007	9.3E-007	Benzene	blood disorders	5.7E-004		2.9E-002	3.0E-002
			Benzo(a)anthracene	2.3E-008		1.1E-006	1.1E-006	Benzo(a)anthracene	NA				
			Benzo(a)pyrene	2.2E-007		1.6E-005	1.6E-005	Benzo(a)pyrene	NA				
			Benzo(b)fluoranthene	1.9E-008		8.9E-007	9.1E-007	Benzo(b)fluoranthene	NA				
			Benzo(k)fluoranthene	2.2E-009		1.0E-007	1.0E-007	Benzo(k)fluoranthene	NA				
			Beryllium					Beryllium	kidney	2.9E-005		1.3E-002	1.3E-002
			bis(2-Chloroethyl) ether	2.7E-008		1.2E-006	1.3E-006	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	2.7E-009		1.2E-007	1.3E-007	bis(2-Ethylhexyl)phthalate	liver	2.7E-005		1.2E-003	1.3E-003
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	1.0E-007		4.8E-006	4.9E-006
			Cadmium					Cadmium	kidney	5.6E-004		5.2E-001	5.2E-001
			Chloroform	8.0E-013		3.9E-009	3.9E-009	Chloroform	circulatory system	3.7E-008		1.8E-006	1.8E-006
			Chromium (total)					Chromium (total)		1.2E-003		5.4E-002	5.5E-002
			Chrysene	2.2E-010		2.5E-008	2.5E-008	Chrysene	liver				
			Copper					Copper	liver	1.1E-004		8.8E-004	1.0E-003
			Dibenzo(a,h)anthracene	5.1E-008		2.6E-006	2.7E-006	Dibenzo(a,h)anthracene					
			Ethyl Benzene					Ethyl Benzene	liver	1.6E-007		8.0E-006	8.2E-006
			Fluoranthene					Fluoranthene	kidney	3.1E-006		1.4E-004	1.4E-004
			Indeno(1,2,3-cd)pyrene	1.2E-008		5.6E-007	5.7E-007	Indeno(1,2,3-cd)pyrene	NA				
			Iron					Iron		5.7E-003		2.6E-002	3.2E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	2.2E-003		1.0E-002	1.3E-002
			Mercury					Mercury	low body weight				
			Naphthalene					Naphthalene	circulatory system	6.7E-007		3.1E-005	3.2E-005
			Nickel					Nickel	low body weight	8.8E-005		8.2E-003	8.3E-003
			Pyrene					Pyrene	liver	4.5E-006		2.1E-004	2.1E-004
			Toluene					Toluene	liver	3.4E-008		1.6E-006	1.6E-006
			Vanadium					Vanadium	circulatory system	2.5E-004		1.2E-003	1.4E-003
			Xylenes (total)					Xylenes (total)	fetotoxic	1.2E-008		6.3E-007	6.4E-007
			Zinc					Zinc	thyroid	4.7E-005		7.3E-004	7.8E-004
			(Total)	1.0E-006		3.3E-005	3.4E-005	(Total)		1.6E-002		7.3E-001	7.5E-001
						Total Risk Across Sediments	3.4E-005					Total Hazard Index Across All Exposure Routes	7.5E-001

Total Circulatory System HI =	6.8E-002
Total Low Body Weight HI =	8.3E-003
Total Mammary HI =	4.9E-006
Total Fetotoxic HI =	6.4E-007
Total GI Tract HI =	4.8E-005
Total Thyroid HI =	7.8E-004
Total Kidney HI =	5.5E-001
Total Liver HI =	2.5E-003
Total Blood Disorders HI =	3.0E-002

Table 6-2-8
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND2CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Ditch Area 2	2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	1.6E-006		2.6E-005	2.8E-005
			2-Methylnaphthalene					2-Methylnaphthalene	GI Tract	4.3E-007		6.9E-006	7.3E-006
			Aluminum					Aluminum	circulatory system	2.6E-004		4.2E-004	6.8E-004
			Anthracene					Anthracene	GI Tract	1.5E-008		2.4E-007	2.5E-007
			Arsenic	5.8E-008		2.9E-007	3.5E-007	Arsenic	circulatory system	1.8E-003		9.0E-003	1.1E-002
			Barium					Barium	NA	7.0E-005		1.1E-004	1.8E-004
			Benzene	1.6E-009		2.8E-008	2.9E-008	Benzene	blood disorders	2.5E-004		4.4E-003	4.7E-003
			Benzo(a)anthracene	2.0E-009		3.2E-008	3.4E-008	Benzo(a)anthracene	NA				
			Benzo(a)pyrene	1.9E-008		4.7E-007	4.9E-007	Benzo(a)pyrene	NA				
			Benzo(b)fluoranthene	1.7E-009		2.7E-008	2.8E-008	Benzo(b)fluoranthene	NA				
			Benzo(k)fluoranthene	1.9E-010		3.1E-009	3.3E-009	Benzo(k)fluoranthene	NA				
			Beryllium					Beryllium	kidney	1.3E-005		2.0E-003	2.0E-003
			bis(2-Chloroethyl) ether	2.4E-009		3.8E-008	4.0E-008	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	2.4E-010		3.8E-009	4.0E-009	bis(2-Ethylhexyl)phthalate	liver	1.2E-005		1.9E-004	2.0E-004
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	4.6E-008		7.3E-007	7.7E-007
			Cadmium					Cadmium	kidney	2.5E-004		7.9E-002	7.9E-002
			Chloroform	7.0E-014		1.2E-010	1.2E-010	Chloroform	circulatory system	1.6E-008		2.7E-007	2.8E-007
			Chromium (total)					Chromium (total)		5.1E-004		8.1E-003	8.7E-003
			Chrysene	1.9E-011		7.5E-010	7.7E-010	Chrysene	liver				
			Copper					Copper	liver	5.0E-005		1.3E-004	1.8E-004
			Dibenzo(a,h)anthracene	4.5E-009		7.9E-008	8.4E-008	Dibenzo(a,h)anthracene					
			Ethyl Benzene					Ethyl Benzene	liver	7.0E-008		1.2E-006	1.3E-006
			Fluoranthene					Fluoranthene	kidney	1.3E-006		2.1E-005	2.3E-005
			Indeno(1,2,3-cd)pyrene	1.1E-009		1.7E-008	1.8E-008	Indeno(1,2,3-cd)pyrene	NA				
			Iron					Iron		2.5E-003		4.0E-003	6.5E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	9.8E-004		1.6E-003	2.5E-003
			Mercury					Mercury	low body weight				
			Naphthalene					Naphthalene	circulatory system	2.9E-007		4.7E-006	5.0E-006
			Nickel					Nickel	low body weight	3.9E-005		1.2E-003	1.3E-003
			Pyrene					Pyrene	liver	2.0E-006		3.1E-005	3.3E-005
			Toluene					Toluene	liver	1.5E-008		2.4E-007	2.6E-007
			Vanadium					Vanadium	circulatory system	1.1E-004		1.8E-004	2.9E-004
			Xylenes (total)					Xylenes (total)	fetotoxic	5.4E-009		9.5E-008	1.0E-007
			Zinc					Zinc	thyroid	2.1E-005		1.1E-004	1.3E-004
			(Total)	9.1E-008		9.9E-007	1.1E-006	(Total)		6.9E-003		1.1E-001	1.2E-001
						Total Risk Across Sediments	1.1E-006					Total Hazard Index Across All Exposure Routes	1.2E-001

Total Circulatory System HI =	1.2E-002
Total Low Body Weight HI =	1.3E-003
Total Mammary HI =	7.7E-007
Total Fetotoxic HI =	1.0E-007
Total GI Tract HI =	7.5E-006
Total Thyroid HI =	1.3E-004
Total Kidney HI =	8.4E-002
Total Liver HI =	4.2E-004
Total Blood Disorders HI =	4.7E-003

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

Table 6-2-9
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

File: FWORK2.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Ditch Area 2	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	2.0E-005		3.4E-005	5.4E-005
			1,2-Dichloroethene(total)					1,2-Dichloroethene(total)	kidney	6.5E-004		1.3E-003	1.9E-003
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	1.2E-003		4.0E-003	5.1E-003
			2-Butanone (MEK)					2-Butanone (MEK)	liver	4.6E-004		9.1E-005	5.5E-004
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver	2.0E-004		4.1E-004	6.1E-004
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	1.2E-003		9.6E-004	2.2E-003
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory	3.5E-003		1.1E-002	1.5E-002
			Acetone					Acetone	fetotoxic	7.4E-003		8.7E-004	8.3E-003
			Aluminum					Aluminum	circulatory system	9.2E-004		1.1E-004	1.0E-003
			Ammonia					Ammonia	kidney				
			Arsenic	1.2E-005		1.4E-006	1.3E-005	Arsenic	circulatory system	2.9E-001		3.6E-002	3.3E-001
			Barium					Barium	NA	9.2E-003		1.1E-003	1.0E-002
			Benzene	2.3E-006		9.6E-006	1.2E-005	Benzene	blood disorders	3.0E-001		1.2E+000	1.5E+000
			Beryllium					Beryllium	kidney	2.7E-004		3.2E-003	3.5E-003
			bis(2-Chloroethyl)Ether	1.5E-005		8.0E-006	2.3E-005	bis(2-Chloroethyl)Ether	reproductive				
			Chloroethane	1.5E-008		2.0E-008	3.6E-008	Chloroethane	liver	1.5E-004		2.0E-004	3.4E-004
			Chromium					Chromium		1.8E-002		2.1E-002	3.9E-002
			Ethylbenzene					Ethylbenzene	liver	1.2E-004		1.9E-003	2.0E-003
			Iron					Iron		9.3E-002		1.1E-002	1.0E-001
			Isophorone	8.3E-010		8.7E-010	1.7E-009	Isophorone	kidney	4.9E-005		5.1E-005	1.0E-004
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	9.7E-002		1.1E-002	1.1E-001
			Nickel					Nickel	low body wt	7.8E-003		1.8E-003	9.6E-003
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.3E-003			2.3E-003
			Phenol					Phenol	liver	7.5E-005		7.9E-005	1.5E-004
			Toluene					Toluene	liver	6.8E-005		5.9E-004	6.6E-004
			Xylene (total)					Xylene (total)	fetotoxic	3.4E-005		5.3E-004	5.7E-004
			Zinc					Zinc	thyroid	3.5E-004		8.0E-005	4.3E-004
			(Total)	2.9E-005		1.9E-005	4.8E-005	(Total)		8.4E-001		1.3E+000	2.2E+000
						Total Risk Across Surface Water	4.8E-005					Total Hazard Index Across All Exposure Routes	2.2E+000

Total Circulatory System HI =	3.3E-001
Total Kidney HI =	1.1E-001
Total Fetus HI =	1.1E-002
Total Liver HI =	6.5E-003
Total Blood Disorders HI =	1.5E+000

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

Table 6-2-10
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

File FWORK2CT WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Ditch Area 2	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	1.7E-005		2.6E-005	4.3E-005
			1,2-Dichloroethene(total)					1,2-Dichloroethene(total)	kidney	5.7E-004		9.6E-004	1.5E-003
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	1.0E-003		3.0E-003	4.0E-003
			2-Butanone (MEK)					2-Butanone (MEK)	liver	4.0E-004		6.9E-005	4.7E-004
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver	1.7E-004		3.1E-004	4.8E-004
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	1.1E-003		7.2E-004	1.8E-003
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory	3.1E-003		8.6E-003	1.2E-002
			Acetone					Acetone	fetotoxic	6.5E-003		6.6E-004	7.2E-003
			Aluminum					Aluminum	circulatory system	8.1E-004		8.1E-005	8.9E-004
			Ammonia					Ammonia	kidney				
			Arsenic	2.1E-006		2.2E-007	2.3E-006	Arsenic	circulatory system	2.6E-001		2.7E-002	2.8E-001
			Barium					Barium	NA	8.1E-003		8.1E-004	8.9E-003
			Benzene	4.1E-007		1.4E-006	1.9E-006	Benzene	blood disorders	2.6E-001		9.3E-001	1.2E+000
			Beryllium					Beryllium	kidney	2.4E-004		2.4E-003	2.6E-003
			bis(2-Chloroethyl)Ether	2.6E-006		1.2E-006	3.8E-006	bis(2-Chloroethyl)Ether	reproductive				
			Chloroethane	2.7E-009			2.7E-009	Chloroethane	liver	1.3E-004		1.5E-004	2.8E-004
			Chromium					Chromium		1.6E-002		1.6E-002	3.2E-002
			Ethylbenzene					Ethylbenzene	liver	1.0E-004		1.4E-003	1.5E-003
			Iron					Iron		8.2E-002		8.2E-003	9.0E-002
			Isophorone	1.5E-010		1.3E-010	2.8E-010	Isophorone	kidney	4.3E-005		3.9E-005	8.2E-005
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	8.5E-002		8.5E-003	9.3E-002
			Nickel					Nickel	low body wt	6.9E-003		1.4E-003	8.2E-003
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.1E-003			2.1E-003
			Phenol					Phenol	liver	6.6E-005		6.0E-005	1.3E-004
			Toluene					Toluene	liver	6.0E-005		4.5E-004	5.1E-004
			Xylene (total)					Xylene (total)	fetotoxic	3.0E-005		4.0E-004	4.3E-004
			Zinc					Zinc	thyroid	3.0E-004		6.1E-005	3.6E-004
			(Total)	5.1E-006		2.9E-006	8.0E-006	(Total)		7.3E-001		1.0E+000	1.7E+000
							Total Risk Across Surface Water: 8.0E-006						Total Hazard Index Across All Exposure Routes: 1.7E+000

Total Circulatory System HI =	2.9E-001
Total Kidney System HI =	9.8E-002
Total Fetus HI =	9.7E-003
Total Liver HI =	5.2E-003
Total Blood Disorders HI =	1.2E+000

Table 6-2-11
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area2RME.wk4 \ TT_sum_fCWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 4')	1,1-Dichloroethene		--			1,1-Dichloroethene			--		
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	8.1E+000	--	9.8E+001	1.1E+002
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	1.1E-002	--	1.4E-001	1.5E-001
			2-Butanone		--			2-Butanone	liver	5.2E-001	--	6.7E+000	7.2E+000
			2-Hexanone		--			2-Hexanone	CNS	1.1E-002	--	1.3E-001	1.5E-001
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.4E-002	--	1.7E-001	1.9E-001
			2-Methylphenol		--			2-Methylphenol	liver	1.2E-002	--	1.4E-001	1.5E-001
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	2.2E-002	--	2.6E-001	2.8E-001
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	4.0E-001	--	4.8E+000	5.2E+000
			4-Methylphenol		--			4-Methylphenol	respiratory	1.8E-001	--	3.3E+000	3.5E+000
			Acetone		--			Acetone	fetotoxic	1.2E+001	--	1.9E+002	2.0E+002
			Aluminum		--			Aluminum	circulatory	4.0E-002	--	4.9E-001	5.3E-001
			Antimony		--			Antimony	skin	2.0E+000	--	2.4E+003	2.4E+003
			Aroclor-1248	3.5E-005	--	4.2E-004	4.5E-004	Aroclor-1248	liver		--		
			Aroclor-1254	4.9E-007	--	6.7E-006	7.2E-006	Aroclor-1254	liver	1.2E+000	--	1.6E+001	1.7E+001
			Aroclor-1260	6.5E-006	--	7.9E-005	8.5E-005	Aroclor-1260	circulatory		--		
			Arsenic	6.1E-007	--	7.8E-006	8.4E-006	Arsenic	circulatory	1.3E-001	--	1.6E+000	1.7E+000
			Barium		--			Barium		1.9E-001	--	2.3E+000	2.5E+000
			Benzene	1.4E-004	--	1.8E-003	2.0E-003	Benzene	blood disorders	1.5E+002	--	2.0E+003	2.1E+003
			bis(2-Ethylhexyl)phthalate	1.8E-007	--	2.1E-006	2.3E-006	bis(2-Ethylhexyl)phthalate	liver	5.9E-002	--	7.1E-001	7.7E-001
			Cadmium		--			Cadmium	kidney	5.2E-001	--	2.5E+002	2.5E+002
			Chloroform	9.9E-006	--	1.3E-004	1.4E-004	Chloroform	circulatory	1.5E+001	--	1.9E+002	2.1E+002
			Chromium 3+		--			Chromium 3+	liver	4.8E-003	--	1.5E+001	1.5E+001
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	6.9E-005	--	8.3E-004	9.0E-004
			Cobalt		--			Cobalt	heart	2.7E-003	--	3.3E-002	3.5E-002
			Copper		--			Copper	liver	1.6E-001	--	3.3E+000	3.4E+000
			Dimethylphthalate		--			Dimethylphthalate	GI tract	5.4E-005	--	6.5E-004	7.1E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	4.1E-003	--	5.1E-002	5.5E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	3.8E-001	--	5.0E+000	5.4E+000
			Iron		--			Iron		3.1E-001	--	3.8E+000	4.1E+000
			Isophorone	1.0E-008	--	1.3E-007	1.4E-007	Isophorone	kidney	5.2E-003	--	6.2E-002	6.7E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	9.9E-002	--	1.2E+000	1.3E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	7.9E-012	--	1.7E-010	1.8E-010	Methylene Chloride	liver	1.6E-006	--	3.6E-005	3.8E-005
			m,p-xylene		--			m,p-xylene	fetotoxic	7.9E-008	--	1.1E-006	1.1E-006
			Naphthalene		--			Naphthalene	circulatory	3.4E-002	--	4.2E-001	4.5E-001
			Nickel		--			Nickel	low body wt	1.3E-002	--	3.2E+000	3.2E+000
			ortho-xylene		--			ortho-xylene	fetotoxic	2.9E-008	--	4.0E-007	4.2E-007
			Phenol		--			Phenol	liver	1.4E-003	--	1.7E-002	1.8E-002
			Selenium		--			Selenium	liver	8.2E-003	--	9.9E-002	1.1E-001
			Silver		--			Silver	skin	3.4E-002	--	2.0E+000	2.0E+000
			Tetrachloroethene	1.3E-004	--	1.6E-003	1.7E-003	Tetrachloroethene	liver	2.3E+001	--	2.8E+002	3.0E+002
			Toluene		--			Toluene	liver	6.4E+000	--	7.7E+001	8.4E+001
			Trichloroethene	2.0E-007	--	2.5E-006	2.7E-006	Trichloroethene	liver	2.9E-001	--	3.5E+000	3.8E+000
			Vanadium		--			Vanadium	circulatory	8.6E-003	--	1.0E-001	1.1E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	6.9E-001	--	9.3E+000	1.0E+001
			Zinc		--			Zinc	thyroid	1.4E-001	--	5.5E+000	5.6E+000
			(total)	3.2E-004		4.0E-003	4.3E-003	(total)		2.2E+002		5.6E+003	5.8E+003
	AIR	Area 2, Soil (2' to 4')	1,1-Dichloroethene	--		--		1,1-Dichloroethene		--		--	
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	5.6E-003	--	5.6E-003
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	6.9E-002	--	6.9E-002
			2-Butanone	--		--		2-Butanone	CNS	--	3.7E-007	--	3.7E-007
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.1E+000	--	2.1E+000
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	3.0E-002	--	3.0E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			Acetone	--		--		Acetone		--		--	

Table 6-2-11
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area2RME.wk4 \ TT_sum_fCWa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Antimony	--		--		Antimony		--		--	
			Aroclor-1248	--	4.5E-009	--	4.5E-009	Aroclor-1248		--		--	
			Aroclor-1254	--	3.4E-009	--	3.4E-009	Aroclor-1254		--		--	
			Aroclor-1260	--	3.0E-008	--	3.0E-008	Aroclor-1260		--		--	
			Arsenic	--	3.7E-009	--	3.7E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	9.6E-004	--	9.6E-004
			Benzene	--	5.7E-006	--	5.7E-006	Benzene	blood disorders	--	3.2E-001	--	3.2E-001
			bis(2-Ethylhexyl)phthalate	--	2.6E-010	--	2.6E-010	*bis(2-Ethylhexyl)phthalate*		--		--	
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	4.0E-007	--	4.0E-007	Chromium 6+	respiratory	--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	7.9E-003	--	7.9E-003
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	2.7E-003	--	2.7E-003
			Mercury	--		--		Mercury	CNS	--	1.2E-005	--	1.2E-005
			Methylene Chloride	--	1.5E-006	--	1.5E-006	Methylene Chloride	respiratory	--	2.9E-003	--	2.9E-003
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.6E-001	--	3.6E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Phenol	--		--		Phenol		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Tetrachloroethene	--	3.5E-006	--	3.5E-006	Tetrachloroethene	liver	--	3.5E-002	--	3.5E-002
			Toluene	--		--		Toluene	CNS	--	2.1E-001	--	2.1E-001
			Trichloroethene	--	6.0E-006	--	6.0E-006	*Trichloroethene*	*respiratory*	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
					8.54E-005		8.5E-005	(total)			9.8E+000		9.8E+000
						Total Risk Across Subsurface Soil	4.4E-003					s Subsurface Soil	5.8E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	2.5E+002
Total Skin HI:	2.4E+003
Total Thyroid HI:	5.6E+000
Total Liver HI:	5.6E+002
Total Circulatory System HI:	2.1E+002
Total CNS HI:	2.6E+000
Total Fetotoxic HI:	2.1E+002
Total GI Tract HI:	1.9E-001
Total Respiratory HI:	3.5E+000
Total Eyes HI:	0.0E+000
Total Reproductive HI:	0.0E+000
Total Mammary HI:	0.0E+000
Total Adrenal HI:	0.0E+000
Total Heart HI:	3.5E-002
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	5.6E+000
Total Blood Disorders HI:	2.1E+003

Table 6-2-12
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area2RME.wk4 \TT_sum_fCW10a2R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--		
			1,1,1-Trichloroethane		--		
			1,1,2,2-Tetrachloroethane	3.8E-010	--	6.5E-009	6.9E-009
			1,2-Dichlorobenzene		--		
			1,2-Dichloroethane	8.6E-008	--	1.0E-006	1.1E-006
			1,2-Dichloroethene (total)		--		
			1,2-Dichloropropane	9.7E-009	--	1.2E-007	1.3E-007
			1,2,4-Trichlorobenzene		--		
			1,4-Dichlorobenzene	1.1E-009	--	1.4E-008	1.5E-008
			2-Butanone		--		
			2-Hexanone		--		
			2-Methylnaphthalene		--		
			2-Methylphenol		--		
			2,4-Dimethylphenol		--		
			2,6-Dinitrotoluene		--		
			4-Methyl-2-pentanone		--		
			4-Methylphenol		--		
			4,4'-DDD	4.2E-008	--	5.0E-007	5.5E-007
			4,4'-DDE	1.6E-008	--	1.9E-007	2.1E-007
			4,4'-DDT	3.0E-008	--	3.7E-007	4.0E-007
			Acenaphthene		--		
			Acetone		--		
			Aldrin	6.9E-006	--	8.3E-005	9.0E-005
			alpha-BHC	1.1E-007	--	1.3E-006	1.4E-006
			Aluminum		--		
			Anthracene		--		
			Antimony		--		
			Aroclor-1248		--		
			Aroclor-1254	3.8E-006	--	5.1E-005	5.5E-005
			Aroclor-1260	3.6E-004	--	4.3E-003	4.7E-003
			Arsenic	6.1E-007	--	7.8E-006	8.4E-006
			Barium		--		
			Benzene	1.5E-007	--	2.0E-006	2.1E-006
			Benzoic Acid		--		
			Benzo(a)anthracene	1.0E-007	--	1.3E-006	1.4E-006
			Benzo(a)pyrene	5.8E-007	--	8.2E-006	8.8E-006
			Benzo(b)fluoranthene	2.0E-007	--	2.5E-006	2.7E-006
			Benzo(k)fluoranthene	2.0E-008	--	2.5E-007	2.7E-007
			Benzyl Alcohol		--		
			Beryllium		--		
			beta-BHC	7.6E-008	--	9.2E-007	9.9E-007
			bis(2-Chloroethyl) ether	6.4E-006	--	7.7E-005	8.3E-005
			bis(2-Ethylhexyl)phthalate	1.7E-006	--	2.0E-005	2.2E-005
			Butylbenzylphthalate		--		
			Cadmium		--		
			Chloroform	4.5E-008	--	5.7E-007	6.1E-007
			Chromium 3+		--		
			Chrysene	1.5E-009	--	4.3E-008	4.4E-008
			cis-1,2-Dichloroethene		--		
			Cobalt		--		
			Copper		--		
			Dibenzofuran		--		
			Diethylphthalate		--		
			Dimethylphthalate		--		
			Di-n-butylphthalate		--		
			Di-n-octylphthalate		--		
			Ethyl Benzene		--		
			Fluoranthene		--		

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
1,1-Dichloroethane	circulatory	6.4E-004	--	7.7E-003	8.4E-003
1,1,1-Trichloroethane	liver	1.6E-002	--	1.9E-001	2.1E-001
1,1,2,2-Tetrachloroethane	liver	2.9E-006	--	5.1E-005	5.4E-005
1,2-Dichlorobenzene	CNS	1.1E-002	--	1.4E-001	1.5E-001
1,2-Dichloroethane	fetotoxic	2.9E-003	--	3.6E-002	3.9E-002
1,2-Dichloroethene (total)	kidney	1.9E-002	--	2.2E-001	2.4E-001
1,2-Dichloropropane	GI tract		--		
1,2,4-Trichlorobenzene	low body wt	4.9E-003	--	5.9E-002	6.4E-002
1,4-Dichlorobenzene	GI tract	1.5E-004	--	1.8E-003	1.9E-003
2-Butanone	liver	3.7E-002	--	4.7E-001	5.1E-001
2-Hexanone	CNS	1.1E-002	--	1.3E-001	1.5E-001
2-Methylnaphthalene	GI tract	1.3E-001	--	1.5E+000	1.7E+000
2-Methylphenol	liver	1.2E-002	--	1.4E-001	1.5E-001
2,4-Dimethylphenol	generalized	2.2E-002	--	2.6E-001	2.8E-001
2,6-Dinitrotoluene			--		
4-Methyl-2-pentanone	liver	2.2E-002	--	2.7E-001	2.9E-001
4-Methylphenol	respiratory	1.8E-001	--	3.3E+000	3.5E+000
4,4'-DDD	liver		--		
4,4'-DDE	liver		--		
4,4'-DDT	fetotoxic	1.7E-002	--	2.0E-001	2.2E-001
Acenaphthene	eyes	1.2E-003	--	1.5E-002	1.6E-002
Acetone	fetotoxic	5.9E-002	--	9.1E-001	9.7E-001
Aldrin	liver	1.3E+000	--	1.5E+001	1.6E+001
alpha-BHC	liver		--		
Aluminum	circulatory	4.0E-002	--	4.9E-001	5.3E-001
Anthracene	GI tract	2.1E-005	--	2.6E-004	2.8E-004
Antimony	skin	2.0E+000	--	2.4E+003	2.4E+003
Aroclor-1248	liver		--		
Aroclor-1254	liver	8.8E+000	--	1.2E+002	1.3E+002
Aroclor-1260	circulatory		--		
Arsenic	circulatory	1.3E-001	--	1.6E+000	1.7E+000
Barium		1.9E-001	--	2.3E+000	2.5E+000
Benzene	blood disorders	1.6E-001	--	2.1E+000	2.3E+000
Benzoic Acid	GI tract	2.9E-004	--	3.6E-003	3.9E-003
Benzo(a)anthracene			--		
Benzo(a)pyrene			--		
Benzo(b)fluoranthene			--		
Benzo(k)fluoranthene			--		
Benzyl Alcohol	CNS	5.8E-004	--	6.7E-003	7.3E-003
Beryllium	kidney	8.3E-004	--	1.0E+000	1.0E+000
beta-BHC	liver		--		
bis(2-Chloroethyl) ether	reproductive		--		
bis(2-Ethylhexyl)phthalate	liver	5.6E-001	--	6.8E+000	7.4E+000
Butylbenzylphthalate	mammary	1.0E-002	--	1.2E-001	1.3E-001
Cadmium	kidney	5.2E-001	--	2.5E+002	2.5E+002
Chloroform	circulatory	6.9E-002	--	8.7E-001	9.4E-001
Chromium 3+	liver	4.8E-003	--	1.5E+001	1.5E+001
Chrysene	liver		--		
cis-1,2-Dichloroethene	circulatory	1.1E-004	--	1.4E-003	1.5E-003
Cobalt	heart	2.7E-003	--	3.3E-002	3.5E-002
Copper	liver	1.6E-001	--	3.3E+000	3.4E+000
Dibenzofuran	dec growth rate	3.1E-003	--	3.7E-002	4.0E-002
Diethylphthalate	low body wt	3.9E-004	--	4.7E-003	5.1E-003
Dimethylphthalate	GI tract	1.3E-004	--	1.5E-003	1.7E-003
Di-n-butylphthalate	liver	1.9E-002	--	2.4E-001	2.6E-001
Di-n-octylphthalate		3.2E-003	--	3.9E-002	4.2E-002
Ethyl Benzene	liver	3.3E-002	--	4.4E-001	4.7E-001
Fluoranthene	kidney	5.0E-004	--	6.1E-003	6.6E-003

Table 6-2-12
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Construction Worker
Receptor Age	Adult

File: Area2RME.wk4 \ TT_sum_fCW10a2R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Fluorene		--			Fluorene	skeletal	2.2E-003	--	2.7E-002	2.9E-002
			Hexachlorobutadiene	3.8E-009	--	4.6E-008	5.0E-008	Hexachlorobutadiene	low body wt	2.3E-002	--	2.8E-001	3.0E-001
			Indeno(1,2,3-cd)pyrene	5.4E-008	--	6.5E-007	7.0E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		3.1E-001	--	3.8E+000	4.1E+000
			Isophorone	9.0E-008	--	1.1E-006	1.2E-006	Isophorone	kidney	4.4E-002	--	5.3E-001	5.8E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	9.9E-002	--	1.2E+000	1.3E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	2.7E-008	--	5.9E-007	6.2E-007	Methylene Chloride	liver	5.6E-003	--	1.2E-001	1.3E-001
			m,p-xylene		--			m,p-xylene	fetotoxic	1.2E-005	--	1.6E-004	1.7E-004
			Naphthalene		--			Naphthalene	circulatory	1.2E-001	--	1.5E+000	1.6E+000
			Nickel		--			Nickel	low body wt	1.4E-002	--	3.3E+000	3.3E+000
			ortho-xylene		--			ortho-xylene	fetotoxic	6.1E-006	--	8.2E-005	8.9E-005
			Pentachlorophenol	4.0E-007	--	4.8E-006	5.2E-006	Pentachlorophenol	liver	1.0E-002	--	1.2E-001	1.3E-001
			Phenol		--			Phenol	liver	1.4E-003	--	1.7E-002	1.8E-002
			Pyrene		--			Pyrene	liver	1.3E-003	--	1.6E-002	1.7E-002
			Selenium		--			Selenium	liver	8.2E-003	--	9.9E-002	1.1E-001
			Silver		--			Silver	skin	3.4E-002	--	2.0E+000	2.0E+000
			Styrene		--			Styrene	liver	1.3E-003	--	1.5E-002	1.7E-002
			Tetrachloroethene	2.4E-006	--	2.9E-005	3.1E-005	Tetrachloroethene	liver	4.3E-001	--	5.2E+000	5.7E+000
			Thallium		--			Thallium		1.0E-001	--	1.2E+000	1.3E+000
			Toluene		--			Toluene	liver	3.2E-002	--	3.9E-001	4.2E-001
			Trichloroethene	2.0E-007	--	2.5E-006	2.7E-006	Trichloroethene	liver	2.9E-001	--	3.5E+000	3.8E+000
			Vanadium		--			Vanadium	circulatory	8.6E-003	--	1.0E-001	1.1E-001
			Vinyl Chloride	1.1E-008	--	1.3E-007	1.4E-007	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	8.8E-003	--	1.2E-001	1.3E-001
			Zinc		--			Zinc	thyroid	1.4E-001	--	5.5E+000	5.6E+000
			(Total)	4.2E-004		5.0E-003	5.5E-003	(Total)		1.6E+001		2.9E+003	2.9E+003
	Air	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	8.00E-003	--	8.0E-003
			1,1-Dichloroethene	--		--		1,1-Dichloroethene		--		--	
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	4.72E-003	--	4.7E-003
			1,1,2-Trichloroethane	--	3.24E-009	--	3.2E-009	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.15E-009	--	1.2E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	8.51E-002	--	8.5E-002
			1,2-Dichloroethane	--	3.73E-007	--	3.7E-007	1,2-Dichloroethane	circulatory	--	2.73E-001	--	2.7E-001
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.44E-001	--	1.4E-001
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	7.62E-004	--	7.6E-004
			1,4-Dichlorobenzene	--	3.38E-009	--	3.4E-009	1,4-Dichlorobenzene	liver	--	6.27E-005	--	6.3E-005
			2-Butanone	--		--		2-Butanone	CNS	--	1.32E-003	--	1.3E-003
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.56E+000	--	2.6E+000
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	5.03E-002	--	5.0E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	6.00E-010	--	6.0E-010	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.37E-007	--	1.4E-007	Aldrin		--		--	
			alpha-BHC	--	2.28E-009	--	2.3E-009	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	1.53E-008	--	1.5E-008	Aroclor-1242		--		--	
			Aroclor-1248	--	6.00E-007	--	6.0E-007	Aroclor-1248		--		--	

Table 6-2-12
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Construction Worker
Receptor Age	Adult

File: Area2RME wk4 \ TT_sum_fCW10a2R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Aroclor-1254	--	7.89E-008	--	7.9E-008	Aroclor-1254		--		--	
			Aroclor-1260	--	6.11E-006	--	6.1E-006	Aroclor-1260		--		--	
			Arsenic	--	1.19E-007	--	1.2E-007	Arsenic	respiratory	--		--	
			Barium	--		--		*Barium*	*fetotoxic*	--	1.71E+000	--	1.7E+000
			Benzene	--	3.83E-007	--	3.8E-007	Benzene	blood disorders	--	7.24E-001	--	7.2E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	5.10E-009	--	5.1E-009	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		*Benzo(b)fluoranthene*		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	3.08E-009	--	3.1E-009	Beryllium	respiratory	--	6.01E-003	--	6.0E-003
			beta-BHC	--	1.51E-009	--	1.5E-009	*beta-BHC*		--		--	
			bis(2-Chloroethyl) ether	--	1.73E-006	--	1.7E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	2.93E-008	--	2.9E-008	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	7.32E-007	--	7.3E-007	Cadmium		--		--	
			Chlorobenzene	--		--		*Chlorobenzene*	*liver*	--	4.09E-004	--	4.1E-004
			Chloroform	--	1.36E-006	--	1.4E-006	Chloroform	liver	--	1.83E+001	--	1.8E+001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	9.50E-006	--	9.5E-006	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		*cis-1,2-Dichloroethene*		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Diethylphthalate	--		--		*Diethylphthalate*		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	2.03E-002	--	2.0E-002
			Fluoranthene	--		--		*Fluoranthene*		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Hexachlorobenzene	--	1.30E-009	--	1.3E-009	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	4.34E-009	--	4.3E-009	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		*Indeno(1,2,3-cd)pyrene*		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	2.64E+000	--	2.6E+000
			Mercury	--		--		Mercury	CNS	--	9.34E-003	--	9.3E-003
			Methylene Chloride	--	2.52E-008	--	2.5E-008	*Methylene Chloride*	*respiratory*	--	1.66E-003	--	1.7E-003
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	4.55E-001	--	4.5E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		*ortho-xylene*		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		*Selenium*		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.39E-004	--	5.4E-004
			Tetrachloroethene	--	2.33E-007	--	2.3E-007	Tetrachloroethene	liver	--	7.76E-002	--	7.8E-002
			Thallium	--		--		Thallium		--		--	

Table 6-2-12
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area2RME.wk4 \ TT_sum_fCW10a2R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene	--		--		Toluene	CNS	--	3.08E-001	--	3.1E-001
			Trichloroethene	--	2.30E-007	--	2.3E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	9.21E-008	--	9.2E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		2.2E-005		2.2E-005	(total)			2.7E+001		2.7E+001
						Total Risk Across Subsurface Soil	5.5E-003					Total Hazard Index Across Subsurface Soil	2.9E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	2.6E+002
Total Skin HI:	2.4E+003
Total Thyroid HI:	5.6E+000
Total Liver HI:	2.0E+002
Total Circulatory System HI:	5.6E+000
Total CNS HI:	3.4E+000
Total Fetotoxic HI:	3.1E+000
Total GI Tract HI:	1.7E+000
Total Respiratory HI:	6.1E+000
Total Eyes HI:	1.8E-002
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.3E-001
Total Adrenal HI:	0.0E+000
Total Heart HI:	3.5E-002
Total Skeletal System HI:	2.9E-002
Total Thyroid HI:	5.6E+000
Total Blood Disorders HI:	3.0E+000

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

Table 6-2-13
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

File: Area2RME.wk4 \ TT_sum_cTa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 4')	1,1-Dichloroethene		--			1,1-Dichloroethene			--		
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	8.4E-001	--	3.7E+001	3.8E+001
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	1.2E-003	--	5.2E-002	5.3E-002
			2-Butanone		--			2-Butanone	liver	5.4E-002	--	2.5E+000	2.6E+000
			2-Hexanone		--			2-Hexanone	CNS	1.2E-003	--	5.1E-002	5.2E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.5E-003	--	6.5E-002	6.6E-002
			2-Methylphenol		--			2-Methylphenol	liver	1.2E-003	--	5.4E-002	5.5E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	2.2E-003	--	9.8E-002	1.0E-001
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	4.1E-002	--	1.8E+000	1.9E+000
			4-Methylphenol		--			4-Methylphenol	respiratory	1.8E-002	--	1.2E+000	1.3E+000
			Acetone		--			*Acetone*	*fetotoxic*	1.3E+000	--	7.1E+001	7.2E+001
			Aluminum		--			Aluminum	circulatory	4.2E-003	--	1.8E-001	1.9E-001
			Antimony		--			Antimony	skin	2.1E-001	--	9.2E+002	9.2E+002
			Aroclor-1248	2.8E-005	--	1.2E-003	1.3E-003	Aroclor-1248	liver		--		
			Aroclor-1254	4.0E-007	--	2.0E-005	2.0E-005	Aroclor-1254	liver	1.2E-001	--	5.9E+000	6.0E+000
			Aroclor-1260	5.2E-006	--	2.3E-004	2.4E-004	Aroclor-1260	circulatory		--		
			Arsenic	4.9E-007	--	2.3E-005	2.3E-005	Arsenic	circulatory	1.3E-002	--	6.1E-001	6.2E-001
			Barium		--			*Barium*		1.9E-002	--	8.6E-001	8.8E-001
			Benzene	1.1E-004	--	5.3E-003	5.4E-003	Benzene	blood disorders	1.5E+001	--	7.4E+002	7.5E+002
			bis(2-Ethylhexyl)phthalate	1.4E-007	--	6.2E-006	6.4E-006	*bis(2-Ethylhexyl)phthalate*	*liver*	6.1E-003	--	2.7E-001	2.7E-001
			Cadmium		--			Cadmium	kidney	5.4E-002	--	9.5E+001	9.5E+001
			Chloroform	8.0E-006	--	3.7E-004	3.8E-004	Chloroform	circulatory	1.6E+000	--	7.2E+001	7.4E+001
			Chromium 3+		--			Chromium 3+	liver	5.0E-004	--	5.5E+000	5.5E+000
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	7.1E-006	--	3.1E-004	3.2E-004
			Cobalt		--			Cobalt	heart	2.8E-004	--	1.2E-002	1.3E-002
			Copper		--			Copper	liver	1.7E-002	--	1.2E+000	1.2E+000
			Dimethylphthalate		--			Dimethylphthalate	GI tract	5.6E-006	--	2.5E-004	2.5E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	4.3E-004	--	1.9E-002	2.0E-002
			Ethyl Benzene		--			*Ethyl Benzene*	liver	4.0E-002	--	1.9E+000	1.9E+000
			Iron		--			Iron		3.2E-002	--	1.4E+000	1.5E+000
			Isophorone	8.4E-009	--	3.7E-007	3.8E-007	*Isophorone*	kidney	5.3E-004	--	2.3E-002	2.4E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.0E-002	--	4.5E-001	4.6E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	6.3E-012	--	5.1E-010	5.1E-010	Methylene Chloride	liver	1.7E-007	--	1.4E-005	1.4E-005
			m,p-xylene		--			m,p-xylene	fetotoxic	8.1E-009	--	4.0E-007	4.0E-007
			Naphthalene		--			Naphthalene	circulatory	3.6E-003	--	1.6E-001	1.6E-001
			Nickel		--			Nickel	low body wt	1.4E-003	--	1.2E+000	1.2E+000
			ortho-xylene		--			ortho-xylene	fetotoxic	3.0E-009	--	1.5E-007	1.5E-007
			Phenol		--			*Phenol*	liver	1.4E-004	--	6.3E-003	6.5E-003
			Selenium		--			Selenium	liver	8.4E-004	--	3.7E-002	3.8E-002
			Silver		--			Silver	skin	3.5E-003	--	7.4E-001	7.5E-001
			Tetrachloroethene	1.0E-004	--	4.5E-003	4.6E-003	Tetrachloroethene	liver	2.4E+000	--	1.0E+002	1.1E+002
			Toluene		--			Toluene	liver	6.6E-001	--	2.9E+001	3.0E+001
			Trichloroethene	1.6E-007	--	7.3E-006	7.5E-006	Trichloroethene	liver	3.0E-002	--	1.3E+000	1.4E+000
			Vanadium		--			Vanadium	circulatory	8.8E-004	--	3.9E-002	4.0E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	7.1E-002	--	3.5E+000	3.6E+000
			Zinc		--			Zinc	thyroid	1.4E-002	--	2.1E+000	2.1E+000
			(Total)	2.5E-004		1.2E-002	1.2E-002	(Total)		2.3E+001		2.1E+003	2.1E+003
	AIR	Area 2, Soil (2' to 4')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.04E-004	--	1.0E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	5.89E-005	--	5.9E-005
			1,1,2-Trichloroethane	--	1.09E-012	--	1.1E-012	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	*3.12E-010*	--	*3.1E-010*	*1,1,2,2-Tetrachloroethane*	*liver*	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	2.92E-003	--	2.9E-003
			1,2-Dichloroethane	--	4.41E-008	--	4.4E-008	1,2-Dichloroethane	circulatory	--	4.15E-003	--	4.2E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	5.05E-003	--	5.0E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	2.37E-005	--	2.4E-005
			1,4-Dichlorobenzene	--	9.17E-010	--	9.2E-010	1,4-Dichlorobenzene	liver	--	2.18E-006	--	2.2E-006
			2-Butanone	--		--		2-Butanone	CNS	--	9.19E-009	--	9.2E-009
			2-Hexanone	--		--		2-Hexanone	CNS	--	8.95E-002	--	8.9E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
						--		2,4-Dimethylphenol		--		--	

Table 6-2-13
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Current
Receptor Population	Trespasser
Receptor Age	Adolescent

File: Area2RME.wk4 \ TT_sum_cTa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	7.43E-004	--	7.4E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.67E-013	--	1.9E-013	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.53E-011	--	4.5E-011	Aldrin		--		--	
			alpha-BHC	--	9.18E-013	--	9.2E-013	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	5.16E-013	--	5.2E-013	Aroclor-1242		--		--	
			Aroclor-1248	--	4.41E-011	--	4.4E-011	Aroclor-1248		--		--	
			Aroclor-1254	--	3.23E-011	--	3.2E-011	Aroclor-1254		--		--	
			Aroclor-1260	--	3.05E-010	--	3.1E-010	Aroclor-1260		--		--	
			Arsenic	--	4.30E-011	--	4.3E-011	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	4.15E-005	--	4.1E-005
			Benzene	--	3.61E-008	--	3.6E-008	Benzene	blood disorders	--	8.78E-003	--	8.8E-003
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.06E-012	--	2.1E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	2.21E-012	--	2.2E-012	Beryllium	respiratory	--	5.53E-007	--	5.5E-007
			beta-BHC	--	4.99E-013	--	5.0E-013	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.43E-007	--	4.4E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	2.25E-012	--	2.2E-012	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	3.16E-010	--	3.2E-010	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.76E-010	--	1.8E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	6.55E-005	--	6.6E-005
			Chloroform	--	1.37E-007	--	1.4E-007	Chloroform	liver	--	2.36E-001	--	2.4E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	3.99E-009	--	4.0E-009	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	3.08E-004	--	3.1E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	8.02E-015	--	8.0E-015	Heptachlor		--		--	
			Heptachlor epoxide	--	7.74E-015	--	7.7E-015	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	1.40E-015	--	1.4E-015	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	4.71E-013	--	4.7E-013	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.45E-004	--	1.5E-004
			Mercury	--		--		Mercury	CNS	--	5.27E-007	--	5.3E-007

Table 6-2-13
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area2RME.wk4 \ TT_sum_cTa2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Methylene Chloride	--	6.86E-009	--	6.9E-009	Methylene Chloride	respiratory	--	5.80E-005	--	5.8E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		*Naphthalene*	*circulatory*	--	1.45E-002	--	1.4E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		*Phenanthrene*		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	1.20E-005	--	1.2E-005
			Tetrachloroethene	--	3.43E-008	--	3.4E-008	Tetrachloroethene	liver	--	1.47E-003	--	1.5E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	8.65E-003	--	8.7E-003
			Trichloroethene	--	3.07E-008	--	3.1E-008	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	1.93E-008	--	1.9E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		*Zinc*		--		--	
			(total)		7.6E-007		7.6E-007	(total)			3.7E-001		3.7E-001
						Total Risk Across Surface Soil	1.2E-002					Total Hazard Index Across Surface Soil	2.1E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	9.5E+001
Total Skin HI:	9.2E+002
Total Thyroid HI:	2.1E+000
Total Liver HI:	2.0E+002
Total Circulatory System HI:	7.5E+001
Total CNS HI:	2.0E-001
Total Fetotoxic HI:	7.6E+001
Total GI Tract HI:	6.6E-002
Total Respiratory HI:	1.3E+000
Total Eyes HI:	0.0E+000
Total Reproductive HI:	0.0E+000
Total Mammary HI:	0.0E+000
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.3E-002
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	2.1E+000
Total Blood Disorders HI:	7.5E+002

Table 6-2-14
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area2CT.wk4 \ TT_sum_cTa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 2, Soil (2' to 4')	1,1-Dichloroethene		--			1,1-Dichloroethene			--		
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	2.2E-001	--	3.1E+000	3.3E+000
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.1E-004	--	4.4E-003	4.7E-003
			2-Butanone		--			2-Butanone	liver	1.4E-002	--	2.1E-001	2.3E-001
			2-Hexanone		--			2-Hexanone	CNS	3.0E-004	--	4.3E-003	4.6E-003
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	3.8E-004	--	5.5E-003	5.9E-003
			2-Methylphenol		--			2-Methylphenol	liver	3.2E-004	--	4.5E-003	4.9E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	5.8E-004	--	8.3E-003	8.9E-003
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	1.1E-002	--	1.5E-001	1.6E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	4.7E-003	--	1.0E-001	1.1E-001
			Acetone		--			Acetone	fetotoxic	3.3E-001	--	6.0E+000	6.4E+000
			Aluminum		--			Aluminum	circulatory	1.1E-003	--	1.6E-002	1.7E-002
			Antimony		--			Antimony	skin	5.4E-002	--	7.8E+001	7.8E+001
			Aroclor-1248	6.2E-007	--	8.9E-006	9.5E-006	Aroclor-1248	liver		--		
			Aroclor-1254	8.8E-009	--	1.4E-007	1.5E-007	Aroclor-1254	liver	3.1E-002	--	5.0E-001	5.3E-001
			Aroclor-1260	1.2E-007	--	1.7E-006	1.8E-006	Aroclor-1260	circulatory		--		
			Arsenic	1.1E-008	--	1.7E-007	1.8E-007	Arsenic	circulatory	3.4E-003	--	5.2E-002	5.5E-002
			Barium		--			Barium		5.1E-003	--	7.3E-002	7.8E-002
			Benzene	2.4E-006	--	3.9E-005	4.1E-005	Benzene	blood disorders	3.9E+000	--	6.2E+001	6.6E+001
			bis(2-Ethylhexyl)phthalate	3.2E-009	--	4.5E-008	4.9E-008	bis(2-Ethylhexyl)phthalate	liver	1.6E-003	--	2.3E-002	2.4E-002
			Cadmium		--			Cadmium	kidney	1.4E-002	--	8.0E+000	8.0E+000
			Chloroform	1.8E-007	--	2.7E-006	2.9E-006	Chloroform	circulatory	4.1E-001	--	6.1E+000	6.6E+000
			Chromium 3+		--			Chromium 3+	liver	1.3E-004	--	4.7E-001	4.7E-001
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	1.8E-006	--	2.7E-005	2.8E-005
			Cobalt		--			Cobalt	heart	7.2E-005	--	1.0E-003	1.1E-003
			Copper		--			Copper	liver	4.3E-003	--	1.0E-001	1.1E-001
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.4E-006	--	2.1E-005	2.2E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.1E-004	--	1.6E-003	1.8E-003
			Ethyl Benzene		--			Ethyl Benzene	liver	1.0E-002	--	1.6E-001	1.7E-001
			Iron		--			Iron		8.4E-003	--	1.2E-001	1.3E-001
			Isophorone	1.9E-010	--	2.7E-009	2.9E-009	Isophorone	kidney	1.4E-004	--	2.0E-003	2.1E-003
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	2.6E-003	--	3.8E-002	4.1E-002
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.4E-013	--	3.7E-012	3.8E-012	Methylene Chloride	liver	4.4E-008	--	1.1E-006	1.2E-006
			m,p-xylene		--			m,p-xylene	fetotoxic	2.1E-009	--	3.4E-008	3.6E-008
			Naphthalene		--			Naphthalene	circulatory	9.2E-004	--	1.3E-002	1.4E-002
			Nickel		--			Nickel	low body wt	3.5E-004	--	1.0E-001	1.0E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	7.9E-010	--	1.3E-008	1.3E-008
			Phenol		--			Phenol	liver	3.7E-005	--	5.4E-004	5.7E-004
			Selenium		--			Selenium	liver	2.2E-004	--	3.2E-003	3.4E-003
			Silver		--			Silver	skin	9.2E-004	--	6.3E-002	6.4E-002
			Tetrachloroethene	2.3E-006	--	3.3E-005	3.5E-005	Tetrachloroethene	liver	6.2E-001	--	8.9E+000	9.5E+000
			Toluene		--			Toluene	liver	1.7E-001	--	2.5E+000	2.6E+000
			Trichloroethene	3.6E-009	--	5.3E-008	5.7E-008	Trichloroethene	liver	7.7E-003	--	1.1E-001	1.2E-001
			Vanadium		--			Vanadium	circulatory	2.3E-004	--	3.3E-003	3.5E-003
			Xylenes (total)		--			Xylenes (total)	fetotoxic	1.8E-002	--	3.0E-001	3.1E-001
			Zinc		--			Zinc	thyroid	3.6E-003	--	1.7E-001	1.8E-001
			(Total)	5.7E-006		8.6E-005	9.1E-005	(Total)		5.8E+000		1.8E+002	1.8E+002

Scenario Timeframe: Current
Receptor Population: Trespasser
Receptor Age: Adolescent

Table 6-2-14
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

File: Area2CT wk4 \ TT_sum_cTa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	AIR	Area 2, Soil (2' to 4')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.69E-005	--	2.7E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.53E-005	--	1.5E-005
			1,1,2-Trichloroethane	--	2.42E-014	--	2.4E-014	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	6.92E-012	--	6.9E-012	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	7.56E-004	--	7.6E-004
			1,2-Dichloroethane	--	9.79E-010	--	9.8E-010	1,2-Dichloroethane	circulatory	--	1.08E-003	--	1.1E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.31E-003	--	1.3E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	6.16E-006	--	6.2E-006
			1,4-Dichlorobenzene	--	2.04E-011	--	2.0E-011	1,4-Dichlorobenzene	liver	--	5.66E-007	--	5.7E-007
			2-Butanone	--		--		2-Butanone	CNS	--	2.38E-009	--	2.4E-009
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.32E-002	--	2.3E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.93E-004	--	1.9E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	4.16E-015	--	4.2E-015	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.01E-012	--	1.0E-012	Aldrin		--		--	
			alpha-BHC	--	2.04E-014	--	2.0E-014	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	1.15E-014	--	1.1E-014	Aroclor-1242		--		--	
			Aroclor-1248	--	9.81E-013	--	9.8E-013	Aroclor-1248		--		--	
			Aroclor-1254	--	7.18E-013	--	7.2E-013	Aroclor-1254		--		--	
			Aroclor-1260	--	6.78E-012	--	6.8E-012	Aroclor-1260		--		--	
			Arsenic	--	9.56E-013	--	9.6E-013	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.08E-005	--	1.1E-005
			Benzene	--	8.02E-010	--	8.0E-010	Benzene	blood disorders	--	2.28E-003	--	2.3E-003
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	4.58E-014	--	4.6E-014	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	4.91E-014	--	4.9E-014	Beryllium	respiratory	--	1.43E-007	--	1.4E-007
			beta-BHC	--	1.11E-014	--	1.1E-014	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	9.84E-009	--	9.8E-009	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	4.99E-014	--	5.0E-014	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

Table 6-2-14
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

File: Area2CT.wk4 \ TT_sum_cTa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Cadmium	--	7.01E-012	--	7.0E-012	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	4.57E-011	--	4.6E-011
			Chlorobenzene	--		--		Chlorobenzene	liver	--	1.70E-005	--	1.7E-005
			Chloroform	--	3.04E-009	--	3.0E-009	Chloroform	liver	--	6.11E-002	--	6.1E-002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	8.86E-011	--	8.9E-011	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	7.93E-005	--	7.9E-005
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	1.78E-016	--	1.8E-016	Heptachlor		--		--	
			Heptachlor epoxide	--	1.72E-016	--	1.7E-016	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	3.11E-017	--	3.1E-017	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.05E-014	--	1.0E-014	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	3.76E-005	--	3.8E-005
			Mercury	--		--		Mercury	CNS	--	1.37E-007	--	1.4E-007
			Methylene Chloride	--	1.52E-010	--	1.5E-010	Methylene Chloride	respiratory	--	1.50E-005	--	1.5E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.76E-003	--	3.8E-003
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	3.10E-006	--	3.1E-006
			Tetrachloroethene	--	7.63E-010	--	7.6E-010	Tetrachloroethene	liver	--	3.81E-004	--	3.8E-004
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	2.24E-003	--	2.2E-003
			Trichloroethene	--	6.82E-010	--	6.8E-010	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	4.29E-010	--	4.3E-010	Vinyl Chloride	CNS	--		--	

Table 6-2-14
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area2CT wk4 \ TT_sum_cTa2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.7E-008		1.7E-008	(total)			9.7E-002		9.7E-002
							Total Risk Across Surface Soil	9.1E-005				Total Hazard Index Across Surface Soil	1.8E+002
							Total Risk Across All Media and All Exposure Routes	Reserved					

Total Kidney HI:	8.1E+000
Total Skin HI:	7.8E+001
Total Thyroid HI:	1.8E-001
Total Liver HI:	1.7E+001
Total Circulatory System HI:	6.6E+000
Total CNS HI:	3.5E-002
Total Fetotoxic HI:	6.7E+000
Total GI Tract HI:	5.9E-003
Total Respiratory HI:	1.1E-001
Total Eyes HI:	0.0E+000
Total Reproductive HI:	0.0E+000
Total Mammary HI:	0.0E+000
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.1E-003
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	1.8E-001
Total Blood Disorders HI:	6.6E+001

Table 6-2-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area2RME.wk4 \ TT_sum_Te2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	6.6E-005	--	2.9E-003	3.0E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.6E-003	--	7.3E-002	7.4E-002
			1,1,2,2-Tetrachloroethane	3.0E-010	--	1.9E-008	1.9E-008	1,1,2,2-Tetrachloroethane	liver	3.0E-007	--	1.9E-005	1.9E-005
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	1.2E-003	--	5.2E-002	5.3E-002
			1,2-Dichloroethane	6.9E-008	--	3.0E-006	3.1E-006	1,2-Dichloroethane	fetotoxic	3.0E-004	--	1.3E-002	1.4E-002
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.9E-003	--	8.4E-002	8.6E-002
			1,2-Dichloropropane	7.8E-009	--	3.4E-007	3.5E-007	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	5.1E-004	--	2.2E-002	2.3E-002
			1,4-Dichlorobenzene	9.2E-010	--	4.1E-008	4.2E-008	1,4-Dichlorobenzene	GI tract	1.5E-005	--	6.8E-004	6.9E-004
			2-Butanone		--			2-Butanone	liver	3.8E-003	--	1.8E-001	1.8E-001
			2-Hexanone		--			2-Hexanone	CNS	1.2E-003	--	5.1E-002	5.2E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.3E-002	--	5.8E-001	5.9E-001
			2-Methylphenol		--			2-Methylphenol	liver	1.2E-003	--	5.4E-002	5.5E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	2.2E-003	--	9.8E-002	1.0E-001
			2,6-Dinitrotoluene		--			2,6-Dinitrotoluene			--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	2.3E-003	--	1.0E-001	1.0E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	1.8E-002	--	1.2E+000	1.3E+000
			4,4'-DDD	3.3E-008	--	1.5E-006	1.5E-006	4,4'-DDD	liver		--		
			4,4'-DDE	1.3E-008	--	5.6E-007	5.7E-007	4,4'-DDE	liver		--		
			4,4'-DDT	2.4E-008	--	1.1E-006	1.1E-006	4,4'-DDT	fetotoxic	1.7E-003	--	7.6E-002	7.8E-002
			Acenaphthene		--			Acenaphthene	eyes	1.3E-004	--	5.6E-003	5.7E-003
			Acetone		--			Acetone	fetotoxic	6.1E-003	--	3.4E-001	3.5E-001
			Aldrin	5.5E-006	--	2.4E-004	2.5E-004	Aldrin	liver	1.3E-001	--	5.7E+000	5.9E+000
			alpha-BHC	8.8E-008	--	3.9E-006	4.0E-006	alpha-BHC	liver		--		
			Aluminum		--			Aluminum	circulatory	4.2E-003	--	1.8E-001	1.9E-001
			Anthracene		--			Anthracene	GI tract	2.2E-006	--	9.7E-005	9.9E-005
			Antimony		--			Antimony	skin	2.1E-001	--	9.2E+002	9.2E+002
			Aroclor-1248		--			Aroclor-1248	liver		--		
			Aroclor-1254	3.0E-006	--	1.5E-004	1.5E-004	Aroclor-1254	liver	9.1E-001	--	4.5E+001	4.6E+001
			Aroclor-1260	2.9E-004	--	1.3E-002	1.3E-002	Aroclor-1260	circulatory		--		
			Arsenic	4.9E-007	--	2.3E-005	2.3E-005	Arsenic	circulatory	1.3E-002	--	6.1E-001	6.2E-001
			Barium		--			Barium		1.9E-002	--	8.8E-001	8.8E-001
			Benzene	1.2E-007	--	5.8E-006	5.9E-006	Benzene	blood disorders	1.6E-002	--	7.9E-001	8.1E-001
			Benzoic Acid		--			Benzoic Acid	GI tract	3.0E-005	--	1.3E-003	1.4E-003
			Benzo(a)anthracene	8.3E-008	--	3.7E-006	3.7E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	4.6E-007	--	2.4E-005	2.4E-005	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.6E-007	--	7.2E-006	7.4E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.6E-008	--	7.2E-007	7.4E-007	Benzo(k)fluoranthene			--		
			Benzyl Alcohol		--			Benzyl Alcohol	CNS	5.7E-005	--	2.5E-003	2.6E-003
			Beryllium		--			Beryllium	kidney	8.6E-005	--	3.8E-001	3.8E-001
			beta-BHC	6.1E-008	--	2.7E-006	2.7E-006	beta-BHC	liver		--		
			bis(2-Chloroethyl) ether	5.1E-006	--	2.3E-004	2.3E-004	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	1.4E-006	--	6.0E-005	6.1E-005	bis(2-Ethylhexyl)phthalate	liver	5.8E-002	--	2.6E+000	2.6E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.1E-003	--	4.7E-002	4.8E-002
			Cadmium		--			Cadmium	kidney	5.4E-002	--	9.5E+001	9.5E+001
			Chloroform	3.6E-008	--	1.7E-006	1.7E-006	Chloroform	circulatory	7.1E-003	--	3.3E-001	3.3E-001
			Chromium 3+		--			Chromium 3+	liver	5.0E-004	--	5.5E+000	5.5E+000
			Chrysene	1.2E-009	--	1.3E-007	1.3E-007	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	1.2E-005	--	5.1E-004	5.2E-004
			Cobalt		--			Cobalt	heart	2.8E-004	--	1.2E-002	1.3E-002
			Copper		--			Copper	liver	1.7E-002	--	1.2E+000	1.2E+000
			Dibenzofuran		--			Dibenzofuran	dec growth rate	3.2E-004	--	1.4E-002	1.4E-002
			Diethylphthalate		--			Diethylphthalate	low body wt	4.1E-005	--	1.8E-003	1.8E-003
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.3E-005	--	5.8E-004	5.9E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	2.0E-003	--	9.0E-002	9.2E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		3.3E-004	--	1.5E-002	1.5E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	3.4E-003	--	1.6E-001	1.7E-001
			Fluoranthene		--			Fluoranthene	kidney	5.2E-005	--	2.3E-003	2.3E-003
			Fluorene		--			Fluorene	skeletal	2.3E-004	--	1.0E-002	1.0E-002
			Hexachlorobutadiene	3.1E-009	--	1.3E-007	1.4E-007	Hexachlorobutadiene	low body wt	2.4E-003	--	1.0E-001	1.1E-001
			Indeno(1,2,3-cd)pyrene	4.3E-008	--	1.9E-006	1.9E-006	Indeno(1,2,3-cd)pyrene			--		

Table 6-2-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area2RME.wk4 \ TT_sum_Ts2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Iron		--			Iron		3.2E-002	--	1.4E+000	1.5E+000
			Isophorone	7.2E-008	--	3.2E-006	3.3E-006	Isophorone	kidney	4.6E-003	--	2.0E-001	2.1E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.0E-002	--	4.5E-001	4.6E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	2.2E-008	--	1.7E-006	1.7E-006	Methylene Chloride	liver	5.7E-004	--	4.6E-002	4.7E-002
			m,p-xylene		--			m,p-xylene	fetotoxic	1.2E-006	--	6.1E-005	6.2E-005
			Naphthalene		--			Naphthalene	circulatory	1.2E-002	--	5.5E-001	5.6E-001
			Nickel		--			Nickel	low body wt	1.4E-003	--	1.2E+000	1.2E+000
			ortho-xylene		--			ortho-xylene	fetotoxic	6.3E-007	--	3.1E-005	3.2E-005
			Pentachlorophenol	3.2E-007	--	1.4E-005	1.4E-005	Pentachlorophenol	liver	1.1E-003	--	4.7E-002	4.8E-002
			Phenol		--			Phenol	liver	1.4E-004	--	6.3E-003	6.5E-003
			Pyrene		--			Pyrene	liver	1.4E-004	--	6.0E-003	6.1E-003
			Selenium		--			Selenium	liver	8.4E-004	--	3.7E-002	3.8E-002
			Silver		--			Silver	skin	3.5E-003	--	7.4E-001	7.5E-001
			Styrene		--			Styrene	liver	1.3E-004	--	5.8E-003	5.9E-003
			Tetrachloroethene	1.9E-006	--	8.5E-005	8.7E-005	Tetrachloroethene	liver	4.5E-002	--	2.0E+000	2.0E+000
			Thallium		--			Thallium		1.0E-002	--	4.6E-001	4.7E-001
			Toluene		--			Toluene	liver	3.3E-003	--	1.5E-001	1.5E-001
			Trichloroethene	1.6E-007	--	7.3E-006	7.5E-006	Trichloroethene	liver	3.0E-002	--	1.3E+000	1.4E+000
			Vanadium		--			Vanadium	circulatory	8.8E-004	--	3.9E-002	4.0E-002
			Vinyl Chloride	8.8E-009	--	3.9E-007	4.0E-007	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	9.1E-004	--	4.5E-002	4.6E-002
			Zinc		--			Zinc	thyroid	1.4E-002	--	2.1E+000	2.1E+000
			(total)	3.3E-004		1.5E-002	1.5E-002	(total)		1.7E+000		1.1E+003	1.1E+003
	AIR	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.1E-004	--	1.1E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.4E-004	--	2.4E-004
			1,1,2-Trichloroethane	--	5.4E-010	--	5.4E-010	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.2E-009	--	1.2E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	3.0E-003	--	3.0E-003
			1,2-Dichloroethane	--	4.8E-008	--	4.8E-008	1,2-Dichloroethane	circulatory	--	4.5E-003	--	4.5E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	5.9E-003	--	5.9E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	2.4E-005	--	2.4E-005
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	1.3E-010	--	1.3E-010
			1,4-Dichlorobenzene	--	1.2E-009	--	1.2E-009	1,4-Dichlorobenzene	liver	--	2.9E-006	--	2.9E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.6E-008	--	1.6E-008
			2-Hexanone	--		--		2-Hexanone	CNS	--	8.9E-002	--	8.9E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.3E-003	--	1.3E-003
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	2.3E-013	--	2.3E-013	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.5E-011	--	4.5E-011	Aldrin		--		--	
			alpha-BHC	--	9.2E-013	--	9.2E-013	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.5E-012	--	2.5E-012	Aroclor-1242		--		--	
			Aroclor-1248	--	4.5E-011	--	4.5E-011	Aroclor-1248		--		--	

Table 6-2-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area2RME.wk4 \TT_sum_Ts2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Aroclor-1254	--	3.4E-011	--	3.4E-011	Aroclor-1254		--		--	
			Aroclor-1260	--	3.1E-010	--	3.1E-010	Aroclor-1260		--		--	
			Arsenic	--	3.7E-011	--	3.7E-011	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	4.2E-005	--	4.2E-005
			Benzene	--	5.7E-008	--	5.7E-008	Benzene	blood disorders	--	1.4E-002	--	1.4E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.1E-012	--	2.1E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	1.5E-012	--	1.5E-012	Beryllium	respiratory	--	3.7E-007	--	3.7E-007
			beta-BHC	--	5.0E-013	--	5.0E-013	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.6E-007	--	4.6E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	2.6E-012	--	2.6E-012	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	3.4E-010	--	3.4E-010	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	3.5E-011	--	3.5E-011
			Chlorobenzene	--		--		Chlorobenzene	liver	--	1.0E-003	--	1.0E-003
			Chloroform	--	1.6E-007	--	1.6E-007	Chloroform	liver	--	2.8E-001	--	2.8E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	4.0E-009	--	4.0E-009	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	9.3E-014	--	9.3E-014	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	3.4E-004	--	3.4E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	1.0E-014	--	1.0E-014	gamma-Chlordane		--	1.7E-009	--	1.7E-009
			Heptachlor	--	1.6E-015	--	1.6E-015	Heptachlor		--		--	
			Heptachlor epoxide	--	1.5E-015	--	1.5E-015	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	2.8E-016	--	2.8E-016	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	4.8E-013	--	4.8E-013	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.2E-004	--	1.2E-004
			Mercury	--		--		Mercury	CNS	--	5.2E-007	--	5.2E-007
			Methylene Chloride	--	1.5E-008	--	1.5E-008	Methylene Chloride	respiratory	--	1.3E-004	--	1.3E-004
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	1.5E-002	--	1.5E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	

Table 6-2-15
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area2RME.wb4 \ TT_sum Ts2RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	2.3E-005	--	2.3E-005
			Tetrachloroethene	--	3.5E-008	--	3.5E-008	Tetrachloroethene	liver	--	1.5E-003	--	1.5E-003
			Thallium	--		--		*Thallium*		--		--	
			Toluene	--		--		Toluene	CNS	--	8.9E-003	--	8.9E-003
			Trichloroethene	--	6.1E-008	--	6.1E-008	*Trichloroethene*	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	1.9E-008	--	1.9E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		5.6E-007		5.6E-007	(total)			4.2E-001		4.2E-001
						Total Risk Across Surface Soil	1.5E-002					Total Hazard Index Across Subsurface Soil	1.1E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	9.6E+001
Total Skin HI:	9.2E+002
Total Thyroid HI:	2.1E+000
Total Liver HI:	6.6E+001
Total Circulatory System HI:	1.8E+000
Total CNS HI:	2.6E-001
Total Fetotoxic HI:	4.8E-001
Total GI Tract HI:	6.0E-001
Total Respiratory HI:	1.3E+000
Total Eyes HI:	5.7E-003
Total Reproductive HI:	0.0E+000
Total Mammary HI:	4.8E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.3E-002
Total Skeletal System HI:	1.0E-002
Total Thyroid HI:	2.1E+000
Total Blood Disorders HI:	8.2E-001

Table 6-2-16
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Trespasser
Receptor Age: Adolescent

File: Area2CT.wk4 \TT sum Ts2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 2, Soil (2' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.7E-005	--	2.5E-004	2.6E-004
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	4.3E-004	--	6.2E-003	6.6E-003
			1,1,2,2-Tetrachloroethane	6.8E-012	--	1.4E-010	1.5E-010	1,1,2,2-Tetrachloroethane	liver	7.9E-008	--	1.6E-006	1.7E-006
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.1E-004	--	4.4E-003	4.7E-003
			1,2-Dichloroethane	1.5E-009	--	2.2E-008	2.4E-008	1,2-Dichloroethane	fetotoxic	7.9E-005	--	1.1E-003	1.2E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	5.0E-004	--	7.2E-003	7.7E-003
			1,2-Dichloropropane	1.7E-010	--	2.5E-009	2.7E-009	1,2-Dichloropropane	GI tract		--		
			1,2,4-Trichlorobenzene		--			1,2,4-Trichlorobenzene	low body wt	1.3E-004	--	1.9E-003	2.0E-003
			1,4-Dichlorobenzene	2.1E-011	--	3.0E-010	3.2E-010	1,4-Dichlorobenzene	GI tract	4.0E-006	--	5.7E-005	6.1E-005
			2-Butanone		--			2-Butanone	liver	9.9E-004	--	1.5E-002	1.6E-002
			2-Hexanone		--			2-Hexanone	CNS	3.0E-004	--	4.3E-003	4.6E-003
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	3.4E-003	--	4.9E-002	5.3E-002
			2-Methylphenol		--			2-Methylphenol	liver	3.2E-004	--	4.5E-003	4.9E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	5.8E-004	--	8.3E-003	8.9E-003
			2,6-Dinitrotoluene		--			2,6-Dinitrotoluene			--		
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	5.9E-004	--	8.5E-003	9.1E-003
			4-Methylphenol		--			4-Methylphenol	respiratory	4.7E-003	--	1.0E-001	1.1E-001
			4,4'-DDD	7.4E-010	--	1.1E-008	1.1E-008	4,4'-DDD	liver		--		
			4,4'-DDE	2.8E-010	--	4.0E-009	4.3E-009	4,4'-DDE	liver		--		
			4,4'-DDT	5.4E-010	--	7.8E-009	8.4E-009	4,4'-DDT	fetotoxic	4.5E-004	--	6.4E-003	6.9E-003
			Acenaphthene		--			Acenaphthene	eyes	3.3E-005	--	4.7E-004	5.1E-004
			Acetone		--			Acetone	fetotoxic	1.6E-003	--	2.9E-002	3.1E-002
			Aldrin	1.2E-007	--	1.8E-006	1.9E-006	Aldrin	liver	3.4E-002	--	4.9E-001	5.2E-001
			alpha-BHC	2.0E-009	--	2.8E-008	3.0E-008	alpha-BHC	liver		--		
			Aluminum		--			Aluminum	circulatory	1.1E-003	--	1.6E-002	1.7E-002
			Anthracene		--			Anthracene	GI tract	5.7E-007	--	8.2E-006	8.8E-006
			Antimony		--			Antimony	skin	5.4E-002	--	7.8E+001	7.8E+001
			Aroclor-1248		--			Aroclor-1248	liver		--		
			Aroclor-1254	6.8E-008	--	1.1E-006	1.2E-006	Aroclor-1254	liver	2.4E-001	--	3.8E+000	4.1E+000
			Aroclor-1260	6.4E-006	--	9.2E-005	9.8E-005	Aroclor-1260	circulatory		--		
			Arsenic	1.1E-008	--	1.7E-007	1.8E-007	Arsenic	circulatory	3.4E-003	--	5.2E-002	5.5E-002
			Barium		--			Barium		5.1E-003	--	7.3E-002	7.8E-002
			Benzene	2.6E-009	--	4.2E-008	4.4E-008	Benzene	blood disorders	4.2E-003	--	6.7E-002	7.2E-002
			Benzoic Acid		--			Benzoic Acid	GI tract	7.9E-006	--	1.1E-004	1.2E-004
			Benzo(a)anthracene	1.9E-009	--	2.7E-008	2.9E-008	Benzo(a)anthracene			--		
			Benzo(a)pyrene	1.0E-008	--	1.7E-007	1.8E-007	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	3.6E-009	--	5.2E-008	5.6E-008	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	3.6E-010	--	5.2E-009	5.6E-009	Benzo(k)fluoranthene			--		
			Benzyl Alcohol		--			Benzyl Alcohol	CNS	1.5E-005	--	2.1E-004	2.3E-004
			Beryllium		--			Beryllium	kidney	2.2E-005	--	3.2E-002	3.2E-002
			beta-BHC	1.4E-009	--	1.9E-008	2.1E-008	beta-BHC	liver		--		
			bis(2-Chloroethyl) ether	1.1E-007	--	1.6E-006	1.8E-006	bis(2-Chloroethyl) ether	reproductive		--		
			bis(2-Ethylhexyl)phthalate	3.0E-008	--	4.4E-007	4.7E-007	bis(2-Ethylhexyl)phthalate	liver	1.5E-002	--	2.2E-001	2.3E-001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	2.8E-004	--	4.0E-003	4.3E-003
			Cadmium		--			Cadmium	kidney	1.4E-002	--	8.0E+000	8.0E+000
			Chloroform	8.0E-010	--	1.2E-008	1.3E-008	Chloroform	circulatory	1.8E-003	--	2.8E-002	3.0E-002
			Chromium 3+		--			Chromium 3+	liver	1.3E-004	--	4.7E-001	4.7E-001
			Chrysene	2.6E-011	--	9.2E-010	9.4E-010	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	3.0E-006	--	4.4E-005	4.7E-005
			Cobalt		--			Cobalt	heart	7.2E-005	--	1.0E-003	1.1E-003
			Copper		--			Copper	liver	4.3E-003	--	1.0E-001	1.1E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	8.2E-005	--	1.2E-003	1.3E-003

Table 6-2-16
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Trespasser
Receptor Age: Adolescent

File Area2CT.wk4\TT sum Ta2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate		--			Diethylphthalate	low body wt	1.1E-005	--	1.5E-004	1.6E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	3.4E-006	--	4.9E-005	5.3E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	5.1E-004	--	7.6E-003	8.1E-003
			Di-n-octylphthalate		--			Di-n-octylphthalate		8.5E-005	--	1.2E-003	1.3E-003
			Ethyl Benzene		--			Ethyl Benzene	liver	8.9E-004	--	1.4E-002	1.5E-002
			Fluoranthene		--			Fluoranthene	kidney	1.3E-005	--	1.9E-004	2.1E-004
			Fluorene		--			Fluorene	skeletal	5.9E-005	--	8.5E-004	9.1E-004
			Hexachlorobutadiene	6.8E-011	--	9.8E-010	1.0E-009	Hexachlorobutadiene	low body wt	6.1E-004	--	8.8E-003	9.4E-003
			Indeno(1,2,3-cd)pyrene	9.6E-010	--	1.4E-008	1.5E-008	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		8.4E-003	--	1.2E-001	1.3E-001
			Isophorone	1.6E-009	--	2.3E-008	2.5E-008	Isophorone	kidney	1.2E-003	--	1.7E-002	1.8E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	2.6E-003	--	3.8E-002	4.1E-002
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	4.8E-010	--	1.3E-008	1.3E-008	Methylene Chloride	liver	1.5E-004	--	3.9E-003	4.1E-003
			m,p-xylene		--			m,p-xylene	fetotoxic	3.2E-007	--	5.2E-006	5.5E-006
			Naphthalene		--			Naphthalene	circulatory	3.2E-003	--	4.6E-002	5.0E-002
			Nickel		--			Nickel	low body wt	3.6E-004	--	1.0E-001	1.0E-001
			ortho-xylene		--			ortho-xylene	fetotoxic	1.6E-007	--	2.6E-006	2.8E-006
			Pentachlorophenol	7.1E-009	--	1.0E-007	1.1E-007	Pentachlorophenol	liver	2.8E-004	--	4.0E-003	4.3E-003
			Phenol		--			Phenol	liver	3.7E-005	--	5.4E-004	5.7E-004
			Pyrene		--			Pyrene	liver	3.5E-005	--	5.0E-004	5.4E-004
			Selenium		--			Selenium	liver	2.2E-004	--	3.2E-003	3.4E-003
			Silver		--			Silver	skin	9.2E-004	--	6.3E-002	6.4E-002
			Styrene		--			Styrene	liver	3.4E-005	--	4.9E-004	5.3E-004
			Tetrachloroethene	4.3E-008	--	6.2E-007	6.6E-007	Tetrachloroethene	liver	1.2E-002	--	1.7E-001	1.8E-001
			Thallium		--			Thallium		2.7E-003	--	3.9E-002	4.2E-002
			Toluene		--			Toluene	liver	8.5E-004	--	1.2E-002	1.3E-002
			Trichloroethene	3.6E-009	--	5.3E-008	5.7E-008	Trichloroethene	liver	7.7E-003	--	1.1E-001	1.2E-001
			Vanadium		--			Vanadium	circulatory	2.3E-004	--	3.3E-003	3.5E-003
			Vinyl Chloride	2.0E-010	--	2.8E-009	3.0E-009	Vinyl Chloride	liver		--		
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.4E-004	--	3.8E-003	4.0E-003
			Zinc		--			Zinc	thyroid	3.6E-003	--	1.7E-001	1.8E-001
			(total)	7.4E-006		1.1E-004	1.1E-004	(total)		4.4E-001		9.2E+001	9.3E+001
	AIR	Area 2, Soil (2' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.8E-005	--	2.8E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	6.3E-005	--	6.3E-005
			1,1,2-Trichloroethane	--	1.2E-011	--	1.2E-011	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	2.6E-011	--	2.6E-011	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	7.7E-004	--	7.7E-004
			1,2-Dichloroethane	--	1.1E-009	--	1.1E-009	1,2-Dichloroethane	circulatory	--	1.2E-003	--	1.2E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.5E-003	--	1.5E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	6.2E-006	--	6.2E-006
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	3.3E-011	--	3.3E-011
			1,4-Dichlorobenzene	--	2.7E-011	--	2.7E-011	1,4-Dichlorobenzene	liver	--	7.5E-007	--	7.5E-007
			2-Butanone	--		--		2-Butanone	CNS	--	4.1E-009	--	4.1E-009
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.3E-002	--	2.3E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	

Table 6-2-16
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Trespasser
Receptor Age: Adolescent

File: Area2CT wk4 \ TT_sum_Ts2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	3.4E-004	--	3.4E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	5.0E-015	--	5.0E-015	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.0E-012	--	1.0E-012	Aldrin		--		--	
			alpha-BHC	--	2.0E-014	--	2.0E-014	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	5.6E-014	--	5.6E-014	Aroclor-1242		--		--	
			Aroclor-1248	--	1.0E-012	--	1.0E-012	Aroclor-1248		--		--	
			Aroclor-1254	--	7.5E-013	--	7.5E-013	Aroclor-1254		--		--	
			Aroclor-1260	--	6.8E-012	--	6.8E-012	Aroclor-1260		--		--	
			Arsenic	--	8.2E-013	--	8.2E-013	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.1E-005	--	1.1E-005
			Benzene	--	1.3E-009	--	1.3E-009	Benzene	blood disorders	--	3.6E-003	--	3.6E-003
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	4.7E-014	--	4.7E-014	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	3.3E-014	--	3.3E-014	Beryllium	respiratory	--	9.5E-008	--	9.5E-008
			beta-BHC	--	1.1E-014	--	1.1E-014	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	1.0E-008	--	1.0E-008	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	5.8E-014	--	5.8E-014	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	7.6E-012	--	7.6E-012	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	9.1E-012	--	9.1E-012
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.6E-004	--	2.6E-004
			Chloroform	--	3.6E-009	--	3.6E-009	Chloroform	liver	--	7.2E-002	--	7.2E-002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	8.9E-011	--	8.9E-011	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	2.1E-015	--	2.1E-015	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	

Table 6-2-16
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe Future
Receptor Population Trespasser
Receptor Age: Adolescent

File: Area2CT.wk4 \ TT_sum_Ta2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Di-n-octylphthalate	--		--		*Di-n-octylphthalate*		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		*Endrin ketone*		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	8.9E-005	--	8.9E-005
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		*Fluorene*		--		--	
			gamma-Chlordane	--	2.3E-016	--	2.3E-016	gamma-Chlordane		--	4.5E-010	--	4.5E-010
			Heptachlor	--	3.6E-017	--	3.6E-017	Heptachlor		--		--	
			Heptachlor epoxide	--	3.4E-017	--	3.4E-017	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	6.2E-018	--	6.2E-018	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.1E-014	--	1.1E-014	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	3.0E-005	--	3.0E-005
			Mercury	--		--		*Mercury*	CNS	--	1.4E-007	--	1.4E-007
			Methylene Chloride	--	3.3E-010	--	3.3E-010	Methylene Chloride	respiratory	--	3.3E-005	--	3.3E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		*Naphthalene*	circulatory	--	4.0E-003	--	4.0E-003
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.9E-006	--	5.9E-006
			Tetrachloroethene	--	7.9E-010	--	7.9E-010	Tetrachloroethene	liver	--	3.9E-004	--	3.9E-004
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		*Toluene*	CNS	--	2.3E-003	--	2.3E-003
			Trichloroethene	--	1.3E-009	--	1.3E-009	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	4.3E-010	--	4.3E-010	*Vinyl Chloride*	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.9E-008		1.9E-008	(total)			1.1E-001		1.1E-001
						Total Risk Across Surface Soil	1.1E-004					Total Hazard Index Across Subsurface Soil	9.3E+001
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	8.1E+000
Total Skin HI:	7.8E+001
Total Thyroid HI:	1.8E-001
Total Liver HI:	5.9E+000
Total Circulatory System HI:	1.6E-001
Total CNS HI:	4.0E-002
Total Fetotoxic HI:	4.3E-002
Total GI Tract HI:	5.3E-002
Total Respiratory HI:	1.1E-001

Table 6-2-16
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area2CT.wk4 \ TT_sum_Ta2CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure

Total Eyes HI:	5.1E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	4.3E-003
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.1E-003
Total Skeletal System HI:	9.1E-004
Total Thyroid HI:	1.8E-001
Total Blood Disorders HI:	7.6E-002

Table 6-2-17
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRS2RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Ditch Area 2	2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	7.7E-006		6.8E-005	7.6E-005
			2-Methylnaphthalene					2-Methylnaphthalene	GI Tract	2.0E-006		1.8E-005	2.0E-005
			Aluminum					Aluminum	circulatory system	1.2E-003		1.1E-003	2.3E-003
			Anthracene					Anthracene	GI Tract	7.0E-008		6.2E-007	6.9E-007
			Arsenic	3.2E-007		8.9E-007	1.2E-006	Arsenic	circulatory system	8.5E-003		2.3E-002	3.2E-002
			Barium					Barium	NA	3.3E-004		2.9E-004	6.2E-004
			Benzene	8.6E-009		8.4E-008	9.2E-008	Benzene	blood disorders	1.2E-003		1.2E-002	1.3E-002
			Benzo(a)anthracene	1.1E-008		9.6E-008	1.1E-007	Benzo(a)anthracene	NA				
			Benzo(a)pyrene	1.1E-007		1.4E-006	1.5E-006	Benzo(a)pyrene	NA				
			Benzo(b)fluoranthene	9.3E-009		8.1E-008	9.1E-008	Benzo(b)fluoranthene	NA				
			Benzo(k)fluoranthene	1.1E-009		9.4E-009	1.0E-008	Benzo(k)fluoranthene	NA				
			Beryllium					Beryllium	kidney	6.0E-005		5.2E-003	5.3E-003
			bis(2-Chloroethyl) ether	1.3E-008		1.1E-007	1.3E-007	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	1.3E-009		1.1E-008	1.3E-008	bis(2-Ethylhexyl)phthalate	liver	5.6E-005		4.9E-004	5.5E-004
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	2.2E-007		1.9E-006	2.1E-006
			Cadmium					Cadmium	kidney	1.2E-003		2.1E-001	2.1E-001
			Chloroform	3.9E-013		3.5E-010	3.5E-010	Chloroform	circulatory system	7.6E-008		7.0E-007	7.7E-007
			Chromium (total)					Chromium (total)		2.4E-003		2.1E-002	2.4E-002
			Chrysene	1.1E-010		2.3E-009	2.4E-009	Chrysene	liver				
			Copper					Copper	liver	2.4E-004		3.5E-004	5.8E-004
			Dibenzo(a,h)anthracene	2.5E-008		2.4E-007	2.7E-007	Dibenzo(a,h)anthracene					
			Ethyl Benzene					Ethyl Benzene	liver	3.3E-007		3.2E-006	3.5E-006
			Fluoranthene					Fluoranthene	kidney	6.3E-006		5.6E-005	6.2E-005
			Indeno(1,2,3-cd)pyrene	5.9E-009		5.2E-008	5.7E-008	Indeno(1,2,3-cd)pyrene	NA				
			Iron					Iron		1.2E-002		1.0E-002	2.2E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	4.6E-003		4.1E-003	8.7E-003
			Mercury					Mercury	low body weight				
			Naphthalene					Naphthalene	circulatory system	1.4E-006		1.2E-005	1.4E-005
			Nickel					Nickel	low body weight	1.8E-004		3.2E-003	3.4E-003
			Pyrene					Pyrene	liver	9.3E-006		8.2E-005	9.1E-005
			Toluene					Toluene	liver	7.1E-008		6.2E-007	7.0E-007
			Vanadium					Vanadium	circulatory system	5.2E-004		4.6E-004	9.8E-004
			Xylenes (total)					Xylenes (total)	fetotoxic	2.5E-008		2.5E-007	2.7E-007
			Zinc					Zinc	thyroid	9.8E-005		2.9E-004	3.9E-004
			(Total)	5.0E-007		3.0E-006	3.5E-006	(Total)		3.2E-002		2.9E-001	3.2E-001
						Total Risk Across Sediments	3.5E-006					Total Hazard Index Across All Exposure Routes	3.2E-001

Total Circulatory System HI =	3.5E-002
Total Low Body Weight HI =	3.4E-003
Total Mammary HI =	2.1E-006
Total Fetotoxic HI =	2.7E-007
Total GI Tract HI =	2.1E-005
Total Thyroid HI =	3.9E-004
Total Kidney HI =	2.2E-001
Total Liver HI =	1.2E-003
Total Blood Disorders HI =	1.3E-002

Table 6-2-18
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File TRS2CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Ditch Area 2	2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	2.0E-006		5.8E-006	7.8E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI Tract	5.2E-007		1.5E-006	2.0E-006
			Aluminum					Aluminum	circulatory system	3.2E-004		9.2E-005	4.1E-004
			Anthracene					Anthracene	GI Tract	1.8E-008		5.2E-008	7.0E-008
			Arsenic	7.1E-009		6.5E-009	1.4E-008	Arsenic	circulatory system	2.2E-003		2.0E-003	4.2E-003
			Barium					Barium	NA	8.5E-005		2.5E-005	1.1E-004
			Benzene	1.9E-010		6.1E-010	8.0E-010	Benzene	blood disorders	3.1E-004		9.8E-004	1.3E-003
			Benzo(a)anthracene	2.4E-010		7.0E-010	9.4E-010	Benzo(a)anthracene	NA				
			Benzo(a)pyrene	2.4E-009		1.0E-008	1.3E-008	Benzo(a)pyrene	NA				
			Benzo(b)fluoranthene	2.1E-010		5.9E-010	8.0E-010	Benzo(b)fluoranthene	NA				
			Benzo(k)fluoranthene	2.4E-011		6.8E-011	9.2E-011	Benzo(k)fluoranthene	NA				
			Beryllium					Beryllium	kidney	1.5E-005		4.4E-004	4.6E-004
			bis(2-Chloroethyl) ether	2.9E-010		8.3E-010	1.1E-009	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	2.9E-011		8.3E-011	1.1E-010	bis(2-Ethylhexyl)phthalate	liver	1.4E-005		4.2E-005	5.6E-005
			Butylbenzylphthalate					Butylbenzylphthalate	mammary	5.6E-008		1.6E-007	2.2E-007
			Cadmium					Cadmium	kidney	3.0E-004		1.7E-002	1.8E-002
			Chloroform	8.6E-015		2.6E-012	2.6E-012	Chloroform	circulatory system	2.0E-008		5.9E-008	7.9E-008
			Chromium (total)					Chromium (total)		6.2E-004		1.8E-003	2.4E-003
			Chrysene	2.4E-012		1.7E-011	1.9E-011	Chrysene	liver				
			Copper					Copper	liver	6.1E-005		2.9E-005	9.0E-005
			Dibenzo(a,h)anthracene	5.5E-010		1.8E-009	2.3E-009	Dibenzo(a,h)anthracene					
			Ethyl Benzene					Ethyl Benzene	liver	8.5E-008		2.7E-007	3.5E-007
			Fluoranthene					Fluoranthene	kidney	1.6E-006		4.7E-006	6.4E-006
			Indeno(1,2,3-cd)pyrene	1.3E-010		3.8E-010	5.1E-010	Indeno(1,2,3-cd)pyrene	NA				
			Iron					Iron		3.0E-003		8.8E-004	3.9E-003
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.2E-003		3.5E-004	1.5E-003
			Mercury					Mercury	low body weight				
			Naphthalene					Naphthalene	circulatory system	3.6E-007		1.0E-006	1.4E-006
			Nickel					Nickel	low body weight	4.7E-005		2.7E-004	3.2E-004
			Pyrene					Pyrene	liver	2.4E-006		6.9E-006	9.3E-006
			Toluene					Toluene	liver	1.8E-008		5.3E-008	7.1E-008
			Vanadium					Vanadium	circulatory system	1.3E-004		3.9E-005	1.7E-004
			Xylenes (total)					Xylenes (total)	fetotoxic	6.6E-009		2.1E-008	2.8E-008
			Zinc					Zinc	thyroid	2.5E-005		2.4E-005	5.0E-005
			(Total)	1.1E-008		2.2E-008	3.3E-008	(Total)		8.4E-003		2.4E-002	3.3E-002
						Total Risk Across Sediments	3.3E-008					Total Hazard Index Across All Exposure Routes	3.3E-002

Total Circulatory System HI =	4.8E-003
Total Low Body Weight HI =	3.2E-004
Total Mammary HI =	2.2E-007
Total Fetotoxic HI =	2.8E-008
Total GI Tract HI =	2.1E-006
Total Thyroid HI =	5.0E-005
Total Kidney HI =	2.0E-002
Total Liver HI =	1.6E-004
Total Blood Disorders HI =	1.3E-003

Table 6-2-19
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: FTRES2 WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Ditch Area 2	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	1.3E-006		1.4E-006	2.7E-006
			1,2-Dichloroethene(total)					1,2-Dichloroethene(total)	kidney	4.4E-005		5.2E-005	9.5E-005
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	7.9E-005		1.6E-004	2.3E-004
			2-Butanone (MEK)					2-Butanone (MEK)	liver	3.1E-005		3.9E-006	3.5E-005
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver	1.3E-005		1.6E-005	2.9E-005
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	8.1E-005		3.9E-005	1.2E-004
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory	2.4E-004		4.5E-004	6.8E-004
			Acetone					Acetone	fetotoxic	5.0E-004		3.8E-005	5.4E-004
			Aluminum					Aluminum	circulatory system	6.2E-005		5.4E-006	6.7E-005
			Ammonia					Ammonia	kidney				
			Arsenic	7.4E-007		6.9E-008	8.1E-007	Arsenic	circulatory system	2.0E-002		1.8E-003	2.2E-002
			Barium					Barium	NA	6.2E-004		5.5E-005	6.7E-004
			Benzene	1.5E-007		3.8E-007	5.2E-007	Benzene	blood disorders	2.0E-002		5.2E-002	7.2E-002
			Beryllium					Beryllium	kidney	1.8E-005		1.6E-004	1.8E-004
			bis(2-Chloroethyl)Ether	9.3E-007		2.8E-007	1.2E-006	bis(2-Chloroethyl)Ether	reproductive				
			Chloroethane	9.5E-010		8.2E-010	1.8E-009	Chloroethane	liver	9.9E-006		8.5E-006	1.8E-005
			Chromium					Chromium		1.2E-003		1.1E-003	2.3E-003
			Ethylbenzene					Ethylbenzene	liver	7.9E-006		7.6E-005	8.4E-005
			Iron					Iron		6.3E-003		5.5E-004	6.8E-003
			Isophorone	5.2E-011		3.1E-011	8.3E-011	Isophorone	kidney	3.3E-006		2.0E-006	5.2E-006
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	6.5E-003		5.7E-004	7.1E-003
			Nickel					Nickel	low body wt	5.3E-004		9.3E-005	6.2E-004
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	1.6E-004			1.6E-004
			Phenol					Phenol	liver	5.0E-006		3.2E-006	8.3E-006
			Toluene					Toluene	liver	4.6E-006		2.4E-005	2.8E-005
			Xylene (total)					Xylene (total)	fetotoxic	2.3E-006		2.1E-005	2.4E-005
			Zinc					Zinc	thyroid	2.3E-005		4.1E-006	2.7E-005
			(Total)	1.8E-006		7.3E-007	2.6E-006	(Total)		5.7E-002		5.8E-002	1.1E-001
							Total Risk Across Surface Water: 2.6E-006						Total Hazard Index Across All Exposure Routes: 1.1E-001

Total Circulatory System HI =	2.2E-002
Total Fetus HI =	7.2E-004
Total Liver HI =	3.2E-004
Total Kidney HI =	7.4E-003
Total Blood Disorders HI =	7.2E-002

Table 6-2-20
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: FTRES2CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Ditch Area 2	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	3.3E-007		3.6E-007	6.9E-007
			1,2-Dichloroethene(total)					1,2-Dichloroethene(total)	kidney	1.1E-005		1.3E-005	2.4E-005
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	2.0E-005		4.1E-005	6.1E-005
			2-Butanone (MEK)					2-Butanone (MEK)	liver	7.7E-006		9.4E-007	8.6E-006
			2-Methylphenol (O-Cresol)					2-Methylphenol (O-Cresol)	liver	3.3E-006		4.3E-006	7.5E-006
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	2.0E-005		1.0E-005	3.0E-005
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory	5.9E-005		1.2E-004	1.8E-004
			Acetone					Acetone	fetotoxic	1.2E-004		9.1E-006	1.3E-004
			Aluminum					Aluminum	circulatory system	1.5E-005		1.1E-006	1.7E-005
			Ammonia					Ammonia	kidney				
			Arsenic	1.6E-008		1.2E-009	1.7E-008	Arsenic	circulatory system	4.9E-003		3.7E-004	5.3E-003
			Barium					Barium	NA	1.5E-004		1.1E-005	1.7E-004
			Benzene	3.1E-009		8.0E-009	1.1E-008	Benzene	blood disorders	5.0E-003		1.3E-002	1.8E-002
			Beryllium					Beryllium	kidney	4.6E-006		3.3E-005	3.8E-005
			bis(2-Chloroethyl)Ether	2.0E-008		6.7E-009	2.7E-008	bis(2-Chloroethyl)Ether	reproductive				
			Chloroethane	2.0E-011		1.7E-011	3.7E-011	Chloroethane	liver	2.5E-006		2.0E-006	4.5E-006
			Chromium					Chromium		3.1E-004		2.2E-004	5.3E-004
			Ethylbenzene					Ethylbenzene	liver	2.0E-006		2.0E-005	2.2E-005
			Iron					Iron		1.6E-003		1.1E-004	1.7E-003
			Isophorone	1.1E-012		7.3E-013	1.8E-012	Isophorone	kidney	8.2E-007		5.4E-007	1.4E-006
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.6E-003		1.2E-004	1.7E-003
			Nickel					Nickel	low body wt	1.3E-004		1.9E-005	1.5E-004
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	3.9E-005			3.9E-005
			Phenol					Phenol	liver	1.3E-006		8.3E-007	2.1E-006
			Toluene					Toluene	liver	1.1E-006		6.2E-006	7.3E-006
			Xylene (total)					Xylene (total)	fetotoxic	5.7E-007		5.5E-006	6.1E-006
			Zinc					Zinc	thyroid	5.8E-006		8.3E-007	6.6E-006
			(Total)	3.9E-008		1.6E-008	5.5E-008	(Total)		1.4E-002		1.4E-002	2.8E-002
							Total Risk Across Surface Water: 5.5E-008						Total Hazard Index Across All Exposure Routes: 2.8E-002

Total Circulatory System HI =	5.3E-003
Total Fetus HI =	1.8E-004
Total Liver HI =	8.2E-005
Total Kidney HI =	1.8E-003
Total Blood Disorders HI =	1.8E-002

Table 6-3-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age	Adult

File: Area3RME.wk4 \ TT_sum_FUWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.9E-005	--	9.6E-004	9.8E-004
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	4.3E-001	--	2.2E+001	2.2E+001
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	7.4E-006	--	3.7E-004	3.8E-004
			1,2-Dichloroethane	3.0E-008	--	1.5E-006	1.5E-006	1,2-Dichloroethane	fetotoxic	3.0E-005	--	1.5E-003	1.6E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	3.3E-003	--	1.6E-001	1.7E-001
			1,2-Dichloropropane	1.5E-008	--	7.6E-007	7.7E-007	1,2-Dichloropropane	GI tract		--		
			1,4-Dichlorobenzene	9.0E-010	--	4.5E-008	4.6E-008	1,4-Dichlorobenzene	GI tract	3.5E-006	--	1.8E-004	1.8E-004
			2-Butanone		--			2-Butanone	liver	1.9E-001	--	9.9E+000	1.0E+001
			2-Hexanone		--			2-Hexanone	CNS	1.1E-005	--	5.5E-004	5.6E-004
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.2E-002	--	6.0E-001	6.1E-001
			2-Methylphenol		--			2-Methylphenol	liver	4.7E-004	--	2.4E-002	2.4E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	3.5E-003	--	1.8E-001	1.8E-001
			2,4-Dinitrotoluene		--			2,4-Dinitrotoluene	CNS	4.7E-004	--	3.4E-002	3.5E-002
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	1.9E-006	--	1.2E-004	1.2E-004
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	8.6E-001	--	4.3E+001	4.4E+001
			4-Methylphenol		--			4-Methylphenol	respiratory	5.0E-003	--	3.8E-001	3.9E-001
			4-Nitrophenol		--			4-Nitrophenol	CNS	9.3E-006	--	4.7E-004	4.8E-004
			4,4'-DDD	1.4E-008	--	7.3E-007	7.4E-007	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	1.3E-005	--	6.7E-004	6.8E-004
			Acetone		--			Acetone	fetotoxic	3.8E-001	--	2.5E+001	2.5E+001
			Aluminum		--			Aluminum	circulatory	2.0E-002	--	1.0E+000	1.0E+000
			Anthracene		--			Anthracene	GI tract	4.5E-006	--	2.3E-004	2.3E-004
			Antimony		--			Antimony	skin	4.3E-001	--	2.2E+003	2.2E+003
			Aroclor-1242	2.3E-004	--	1.1E-002	1.2E-002	Aroclor-1242	liver		--		
			Aroclor-1248	1.0E-004	--	5.1E-003	5.3E-003	Aroclor-1248	liver		--		
			Aroclor-1254	3.5E-005	--	2.0E-003	2.0E-003	Aroclor-1254	liver	2.5E+000	--	1.4E+002	1.4E+002
			Aroclor-1260	2.9E-005	--	1.5E-003	1.5E-003	Aroclor-1260	circulatory		--		
			Arsenic	1.8E-005	--	9.8E-004	1.0E-003	Arsenic	circulatory	1.1E-001	--	6.1E+000	6.2E+000
			Barium		--			Barium		1.0E-001	--	5.2E+000	5.3E+000
			Benzene	1.8E-005	--	9.8E-004	1.0E-003	Benzene	blood disorders	5.8E-001	--	3.2E+001	3.2E+001
			Benzoic Acid		--			Benzoic Acid	GI tract	6.5E-005	--	3.3E-003	3.3E-003
			Benzo(a)anthracene	7.1E-007	--	3.6E-005	3.6E-005	Benzo(a)anthracene			--		
			Benzo(a)pyrene	4.1E-008	--	2.4E-004	2.5E-004	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.1E-006	--	5.8E-005	5.9E-005	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.1E-007	--	5.8E-006	5.9E-006	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	8.5E-004	--	4.3E+000	4.3E+000
			bis(2-Ethylhexyl)phthalate	5.0E-005	--	2.5E-003	2.6E-003	bis(2-Ethylhexyl)phthalate	liver	5.0E-001	--	2.5E+001	2.6E+001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	3.7E-004	--	1.9E-002	1.9E-002
			Cadmium		--			Cadmium	kidney	1.9E+000	--	3.9E+003	3.9E+003
			Chlorobenzene		--			Chlorobenzene	liver	5.6E-002	--	9.2E+000	9.2E+000
			Chloroform	2.5E-011	--	1.3E-009	1.3E-009	Chloroform	circulatory	1.1E-006	--	5.9E-005	6.1E-005
			Chromium 3+		--			Chromium 3+	liver	2.8E-003	--	3.5E+001	3.5E+001
			Chrysene	4.7E-009	--	5.8E-007	5.8E-007	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	2.5E-006	--	1.2E-004	1.3E-004
			Cobalt		--			Cobalt	heart	2.8E-003	--	1.4E-001	1.4E-001
			Copper		--			Copper	liver	1.6E-001	--	1.4E+001	1.4E+001
			Cyanide (total)		--			Cyanide (total)	liver	3.7E-003	--	3.8E-001	3.8E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	1.8E-004	--	9.1E-003	9.3E-003
			Dibenzo(a,h)anthracene	7.9E-007	--	4.4E-005	4.5E-005	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	7.0E-006	--	3.5E-004	3.6E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.8E-006	--	9.1E-005	9.3E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	2.7E-003	--	1.4E-001	1.4E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		2.1E-003	--	1.1E-001	1.1E-001
			Ethyl Benzene		--			Ethyl Benzene	liver	2.8E-001	--	1.4E+001	1.4E+001
			Fluoranthene		--			Fluoranthene	kidney	1.7E-004	--	8.7E-003	8.8E-003
			Fluorene		--			Fluorene	skeletal	2.8E-005	--	1.4E-003	1.4E-003
			Indeno(1,2,3-cd)pyrene	2.4E-007	--	1.2E-005	1.2E-005	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		2.6E-001	--	1.3E+001	1.4E+001
			Isophorone	1.4E-006	--	6.9E-005	7.1E-005	Isophorone	kidney	2.0E-002	--	1.0E+000	1.0E+000
			Lead		--			Lead	CNS		--		

Table 6-3-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_IUWs3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Manganese		--			Manganese	kidney	8.7E-002	--	4.4E+000	4.5E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	8.2E-009	--	7.5E-007	7.5E-007	Methylene Chloride	liver	5.1E-005	--	4.6E-003	4.7E-003
			m,p-xylene		--			m,p-xylene	fetotoxic	6.8E-005	--	3.8E-003	3.9E-003
			Naphthalene		--			Naphthalene	circulatory	3.8E-002	--	1.9E+000	2.0E+000
			Nickel		--			Nickel	low body wt	1.1E-002	--	1.1E+001	1.1E+001
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	3.8E-005	--	2.1E-003	2.2E-003
			Pentachlorophenol	7.7E-007	--	3.9E-005	4.0E-005	Pentachlorophenol	liver	6.0E-004	--	3.0E-002	3.1E-002
			Phenol		--			Phenol	liver	1.6E-003	--	8.1E-002	8.3E-002
			Pyrene		--			Pyrene	liver	1.6E-004	--	7.9E-003	8.1E-003
			Selenium		--			Selenium	liver	3.5E-002	--	1.6E+000	1.6E+000
			Silver		--			Silver	skin	7.0E-002	--	1.7E+001	1.7E+001
			Styrene		--			Styrene	liver	1.7E-003	--	8.8E-002	9.0E-002
			Tetrachloroethene	9.6E-004	--	4.8E-002	4.9E-002	Tetrachloroethene	liver	5.2E+000	--	2.6E+002	2.7E+002
			Thallium		--			Thallium		2.4E-002	--	1.2E+000	1.2E+000
			Toluene		--			Toluene	liver	7.3E-001	--	3.7E+001	3.8E+001
			Trichloroethene	8.4E-005	--	4.3E-003	4.4E-003	Trichloroethene	liver	3.6E+000	--	1.8E+002	1.9E+002
			Vanadium		--			Vanadium	circulatory	7.7E-003	--	3.9E-001	3.9E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	5.6E-002	--	3.2E+000	3.2E+000
			Zinc		--			Zinc	thyroid	5.9E-002	--	1.0E+001	1.0E+001
			(total)	1.5E-003		7.8E-002	7.9E-002	(total)		1.9E+001		6.9E+003	7.0E+003
	AIR	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	7.0E-004	--	7.0E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.5E-001	--	1.5E-001
			1,1,2-Trichloroethane	--	6.6E-010	--	6.6E-010	1,1,2-Trichloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	2.7E-004	--	2.7E-004
			1,2-Dichloroethane	--	9.6E-007	--	9.6E-007	1,2-Dichloroethane	circulatory	--	2.1E-002	--	2.1E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.8E-002	--	1.8E-002
			1,4-Dichlorobenzene	--	7.4E-009	--	7.4E-009	1,4-Dichlorobenzene	liver	--	4.1E-006	--	4.1E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.9E-002	--	1.9E-002
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.0E-002	--	2.0E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	7.4E-001	--	7.4E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	1.1E-005	--	1.1E-005	Aroclor-1242		--		--	
			Aroclor-1248	--	4.9E-006	--	4.9E-006	Aroclor-1248		--		--	
			Aroclor-1254	--	1.7E-006	--	1.7E-006	Aroclor-1254		--		--	
			Aroclor-1260	--	1.4E-006	--	1.4E-006	Aroclor-1260		--		--	
			Arsenic	--	2.2E-006	--	2.2E-006	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.6E+000	--	2.6E+000
			Benzene	--	7.7E-005	--	7.7E-005	Benzene	blood disorders	--	4.4E+000	--	4.4E+000
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.0E-007	--	1.0E-007	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Beryllium	--	1.5E-007	--	1.5E-007	Beryllium	respiratory	--	8.7E-003	--	8.7E-003
			bis(2-Ethylhexyl)phthalate	--	2.4E-006	--	2.4E-006	bis(2-Ethylhexyl)phthalate		--		--	

Table 6-3-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_RAWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	2.1E-004	--	2.1E-004	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	7.8E-010	--	7.8E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.3E-001	--	4.3E-001
			Chloroethane	--		--		Chloroethane	fetotoxic	--	2.2E-010	--	2.2E-010
			Chloroform	--	5.0E-009	--	5.0E-009	Chloroform	liver	--	2.0E-003	--	2.0E-003
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	4.5E-004	--	4.5E-004	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Ethyl Benzene	--		--		*Ethyl Benzene*	*respiratory*	--	4.7E-002	--	4.7E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	1.8E-009	--	1.8E-009	Heptachlor		--		--	
			Heptachlor epoxide	--	1.8E-009	--	1.8E-009	Heptachlor epoxide		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	3.4E+000	--	3.4E+000
			Mercury	--		--		Mercury	CNS	--	2.3E-002	--	2.3E-002
			Methylene Chloride	--	9.3E-008	--	9.3E-008	Methylene Chloride	respiratory	--	1.8E-004	--	1.8E-004
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.6E-001	--	3.6E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	8.4E-003	--	8.4E-003
			Tetrachloroethene	--	1.2E-005	--	1.2E-005	Tetrachloroethene	liver	--	1.2E-001	--	1.2E-001
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	3.0E-001	--	3.0E-001
			Trichloroethene	--	1.4E-004	--	1.4E-004	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	6.7E-011	--	6.7E-011	Vinyl Chloride	CNS	--		--	

Table 6-3-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_IUWs3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		9.1E-004		9.1E-004
						Total Risk Across Soil	8.0E-002
						Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			1.3E+001		1.3E+001
				Index Across Soil	7.0E+003

Total Kidney HI:	3.9E+003
Total Skin HI:	2.2E+003
Total Thyroid HI:	1.0E+001
Total Liver HI:	8.1E+002
Total Circulatory System HI:	1.0E+001
Total CNS HI:	1.1E+000
Total Fetotoxic HI:	3.1E+001
Total GI Tract HI:	6.1E-001
Total Respiratory HI:	3.9E+000
Total Eyes HI:	6.8E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.9E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.4E-001
Total Skeletal System HI:	1.4E-003
Total Thyroid HI:	1.0E+001
Total Blood Disorders HI:	3.6E+001

Table 6-3-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area3CT.wk4 \ TT_sum_RMWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		–			1,1-Dichloroethane	circulatory	7.5E-006	–	1.5E-004	1.5E-004
			1,1,1-Trichloroethane		–			1,1,1-Trichloroethane	liver	1.7E-001	–	3.3E+000	3.4E+000
			1,2-Dichlorobenzene		–			1,2-Dichlorobenzene	CNS	2.9E-006	–	5.6E-005	5.9E-005
			1,2-Dichloroethane	2.3E-009	–	4.5E-008	4.7E-008	1,2-Dichloroethane	fetotoxic	1.2E-005	–	2.3E-004	2.4E-004
			1,2-Dichloroethene (total)		–			1,2-Dichloroethene (total)	kidney	1.3E-003	–	2.5E-002	2.6E-002
			1,2-Dichloropropane	1.2E-009	–	2.3E-008	2.4E-008	1,2-Dichloropropane	GI tract		–		
			1,4-Dichlorobenzene	7.0E-011	–	1.4E-009	1.4E-009	1,4-Dichlorobenzene	GI tract	1.4E-006	–	2.7E-005	2.8E-005
			2-Butanone		–			2-Butanone	liver	7.2E-002	–	1.5E+000	1.6E+000
			2-Hexanone		–			2-Hexanone	CNS	4.3E-006	–	8.4E-005	8.8E-005
			2-Methylnaphthalene		–			2-Methylnaphthalene	GI tract	4.6E-003	–	9.0E-002	9.5E-002
			2-Methylphenol		–			2-Methylphenol	liver	1.8E-004	–	3.6E-003	3.8E-003
			2,4-Dimethylphenol		–			2,4-Dimethylphenol	generalized	1.4E-003	–	2.7E-002	2.8E-002
			2,4-Dinitrotoluene		–			2,4-Dinitrotoluene	CNS	1.8E-004	–	5.1E-003	5.3E-003
			2,4,5-Trichlorophenol		–			2,4,5-Trichlorophenol	kidney	7.5E-007	–	1.8E-005	1.9E-005
			4-Methyl-2-pentanone		–			4-Methyl-2-pentanone	liver	3.3E-001	–	6.5E+000	6.9E+000
			4-Methylphenol		–			4-Methylphenol	respiratory	1.9E-003	–	5.8E-002	6.0E-002
			4-Nitrophenol		–			4-Nitrophenol	CNS	3.6E-006	–	7.1E-005	7.4E-005
			4,4'-DDD	1.1E-009	–	2.2E-008	2.3E-008	4,4'-DDD	liver		–		
			Acenaphthene		–			Acenaphthene	eyes	5.2E-006	–	1.0E-004	1.1E-004
			Acetone		–			Acetone	fetotoxic	1.5E-001	–	3.7E+000	3.9E+000
			Aluminum		–			Aluminum	circulatory	7.9E-003	–	1.5E-001	1.6E-001
			Anthracene		–			Anthracene	GI tract	1.8E-006	–	3.4E-005	3.6E-005
			Antimony		–			Antimony	skin	1.7E-001	–	3.3E+002	3.3E+002
			Aroclor-1242	1.8E-005	–	3.4E-004	3.6E-004	Aroclor-1242	liver		–		
			Aroclor-1248	8.0E-006	–	1.6E-004	1.6E-004	Aroclor-1248	liver		–		
			Aroclor-1254	2.8E-006	–	6.1E-005	6.3E-005	Aroclor-1254	liver	9.6E-001	–	2.1E+001	2.2E+001
			Aroclor-1260	2.3E-006	–	4.4E-005	4.6E-005	Aroclor-1260	circulatory		–		
			Arsenic	1.4E-006	–	3.0E-005	3.1E-005	Arsenic	circulatory	4.5E-002	–	9.2E-001	9.7E-001
			Barium		–			Barium		4.0E-002	–	7.8E-001	8.2E-001
			Benzene	1.4E-006	–	3.0E-005	3.1E-005	Benzene	blood disorders	2.2E-001	–	4.8E+000	5.0E+000
			Benzoic Acid		–			Benzoic Acid	GI tract	2.5E-005	–	4.9E-004	5.2E-004
			Benzo(a)anthracene	5.5E-008	–	1.1E-006	1.1E-006	Benzo(a)anthracene			–		
			Benzo(a)pyrene	3.2E-007	–	7.4E-006	7.7E-006	Benzo(a)pyrene			–		
			Benzo(b)fluoranthene	8.9E-008	–	1.7E-006	1.8E-006	Benzo(b)fluoranthene			–		
			Benzo(k)fluoranthene	8.9E-009	–	1.7E-007	1.8E-007	Benzo(k)fluoranthene			–		
			Beryllium		–			Beryllium	kidney	3.3E-004	–	6.4E-001	6.4E-001
			bis(2-Ethylhexyl)phthalate	3.9E-006	–	7.6E-005	8.0E-005	bis(2-Ethylhexyl)phthalate	liver	2.0E-001	–	3.8E+000	4.0E+000
			Butylbenzylphthalate		–			Butylbenzylphthalate	mammary	1.4E-004	–	2.8E-003	3.0E-003
			Cadmium		–			Cadmium	kidney	7.5E-001	–	5.8E+002	5.8E+002
			Chlorobenzene		–			Chlorobenzene	liver	2.2E-002	–	1.4E+000	1.4E+000
			Chloroform	1.9E-012	–	3.9E-011	4.1E-011	Chloroform	circulatory	4.4E-007	–	9.0E-006	9.4E-006
			Chromium 3+		–			Chromium 3+	liver	1.1E-003	–	5.4E+000	5.4E+000
			Chrysene	3.7E-010	–	1.7E-008	1.8E-008	Chrysene	liver		–		
			cis-1,2-Dichloroethene		–			cis-1,2-Dichloroethene	circulatory	9.6E-007	–	1.9E-005	2.0E-005
			Cobalt		–			Cobalt	heart	1.1E-003	–	2.1E-002	2.2E-002
			Copper		–			Copper	liver	6.3E-002	–	2.1E+000	2.1E+000
			Cyanide (total)		–			Cyanide (total)	liver	1.5E-003	–	5.7E-002	5.8E-002
			Dibenzofuran		–			Dibenzofuran	dec growth rate	7.0E-005	–	1.4E-003	1.4E-003
			Dibenzo(a,h)anthracene	6.2E-008	–	1.3E-006	1.4E-006	Dibenzo(a,h)anthracene			–		
			Diethylphthalate		–			Diethylphthalate	low body wt	2.7E-006	–	5.4E-005	5.6E-005
			Dimethylphthalate		–			Dimethylphthalate	GI tract	7.0E-007	–	1.4E-005	1.4E-005
			Di-n-butylphthalate		–			Di-n-butylphthalate	liver	1.1E-003	–	2.1E-002	2.2E-002
			Di-n-octylphthalate		–			Di-n-octylphthalate		8.3E-004	–	1.6E-002	1.7E-002
			Ethyl Benzene		–			Ethyl Benzene	liver	1.0E-001	–	2.1E+000	2.2E+000
			Fluoranthene		–			Fluoranthene	kidney	6.7E-005	–	1.3E-003	1.4E-003
			Fluorene		–			Fluorene	skeletal	1.1E-005	–	2.1E-004	2.2E-004
			Indeno(1,2,3-cd)pyrene	1.9E-008	–	3.7E-007	3.9E-007	Indeno(1,2,3-cd)pyrene			–		
			Iron		–			Iron		1.0E-001	–	2.0E+000	2.1E+000
			Isophorone	1.1E-007	–	2.1E-006	2.2E-006	Isophorone	kidney	7.9E-003	–	1.5E-001	1.6E-001
			Lead		–			Lead	CNS		–		

Table 6-3-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Utility Worker
Receptor Age	Adult

File: Area3CT.wk4 \TT_sum_IVWs3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Manganese		--			Manganese	kidney	3.4E-002	--	6.6E-001	6.9E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	6.3E-010	--	2.3E-008	2.3E-008	Methylene Chloride	liver	2.0E-005	--	7.0E-004	7.2E-004
			m,p-xylene		--			m,p-xylene	fetotoxic	2.6E-005	--	5.7E-004	6.0E-004
			Naphthalene		--			Naphthalene	circulatory	1.5E-002	--	2.9E-001	3.1E-001
			Nickel		--			Nickel	low body wt	4.3E-003	--	1.7E+000	1.7E+000
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	1.5E-005	--	3.2E-004	3.3E-004
			Pentachlorophenol	6.0E-008	--	1.2E-006	1.2E-006	Pentachlorophenol	liver	2.3E-004	--	4.6E-003	4.8E-003
			Phenol		--			Phenol	liver	6.3E-004	--	1.2E-002	1.3E-002
			Pyrene		--			Pyrene	liver	6.1E-005	--	1.2E-003	1.3E-003
			Selenium		--			Selenium	liver	1.4E-002	--	2.7E-001	2.8E-001
			Silver		--			Silver	skin	2.7E-002	--	2.5E+000	2.6E+000
			Styrene		--			Styrene	liver	6.8E-004	--	1.3E-002	1.4E-002
			Tetrachloroethene	7.5E-005	--	1.5E-003	1.5E-003	Tetrachloroethene	liver	2.0E+000	--	3.9E+001	4.1E+001
			Thallium		--			Thallium		9.4E-003	--	1.8E-001	1.9E-001
			Toluene		--			Toluene	liver	2.8E-001	--	5.6E+000	5.9E+000
			Trichloroethene	6.5E-006	--	1.3E-004	1.4E-004	Trichloroethene	liver	1.4E+000	--	2.8E+001	2.9E+001
			Vanadium		--			Vanadium	circulatory	3.0E-003	--	5.8E-002	6.1E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.2E-002	--	4.8E-001	5.0E-001
			Zinc		--			Zinc	thyroid	2.3E-002	--	1.5E+000	1.5E+000
			(total)	1.2E-004		2.3E-003	2.5E-003	(total)		7.3E+000		1.0E+003	1.1E+003
	AIR	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	6.1E-004	--	6.1E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.3E-001	--	1.3E-001
			1,1,2-Trichloroethane	--	1.2E-010	--	1.2E-010	1,1,2-Trichloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	2.4E-004	--	2.4E-004
			1,2-Dichloroethane	--	1.7E-007	--	1.7E-007	1,2-Dichloroethane	circulatory	--	1.8E-002	--	1.8E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.6E-002	--	1.6E-002
			1,4-Dichlorobenzene	--	1.3E-009	--	1.3E-009	1,4-Dichlorobenzene	liver	--	3.6E-006	--	3.6E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.7E-002	--	1.7E-002
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.8E-002	--	1.8E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	6.5E-001	--	6.5E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	1.9E-006	--	1.9E-006	Aroclor-1242		--		--	
			Aroclor-1248	--	8.5E-007	--	8.5E-007	Aroclor-1248		--		--	
			Aroclor-1254	--	3.0E-007	--	3.0E-007	Aroclor-1254		--		--	
			Aroclor-1260	--	2.4E-007	--	2.4E-007	Aroclor-1260		--		--	
			Arsenic	--	3.8E-007	--	3.8E-007	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.3E+000	--	2.3E+000
			Benzene	--	1.3E-005	--	1.3E-005	Benzene	blood disorders	--	3.8E+000	--	3.8E+000
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.8E-008	--	1.8E-008	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Beryllium	--	2.6E-008	--	2.6E-008	Beryllium	respiratory	--	7.6E-003	--	7.6E-003
			bis(2-Ethylhexyl)phthalate	--	4.2E-007	--	4.2E-007	bis(2-Ethylhexyl)phthalate		--		--	

Table 6-3-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Current/Future
Receptor Population: Utility Worker
Receptor Age: Adult

File: Area3CT.wk4 \ TT_sum_RMWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Butylbenzylphthalate	–		–		Butylbenzylphthalate		–		–	
			Cadmium	–	3.7E-005	–	3.7E-005	Cadmium		–	6.9E-010	–	6.9E-010
			Carbon Disulfide	–		–		Carbon Disulfide		–	3.8E-001	–	3.8E-001
			Chlorobenzene	–		–		Chlorobenzene	liver	–	1.9E-010	–	1.9E-010
			Chloroethane	–		–		Chloroethane	fetotoxic	–	1.8E-003	–	1.8E-003
			Chloroform	–	8.8E-010	–	8.8E-010	Chloroform	liver	–		–	
			Chromium 3+	–		–		Chromium 3+		–		–	
			Chromium 6+	–	7.8E-005	–	7.8E-005	Chromium 6+	respiratory	–		–	
			Chrysene	–		–		Chrysene		–		–	
			cis-1,2-Dichloroethene	–		–		cis-1,2-Dichloroethene		–		–	
			Cobalt	–		–		Cobalt		–		–	
			Copper	–		–		Copper		–		–	
			Cyanide (total)	–		–		Cyanide (total)		–		–	
			Dibenzofuran	–		–		Dibenzofuran		–		–	
			Dibenzo(a,h)anthracene	–		–		Dibenzo(a,h)anthracene		–		–	
			Diethylphthalate	–		–		Diethylphthalate		–		–	
			Dimethylphthalate	–		–		Dimethylphthalate		–		–	
			Di-n-butylphthalate	–		–		Di-n-butylphthalate		–		–	
			Di-n-octylphthalate	–		–		Di-n-octylphthalate		–		–	
			Ethyl Benzene	–		–		Ethyl Benzene	respiratory	–	4.1E-002	–	4.1E-002
			Fluoranthene	–		–		Fluoranthene		–		–	
			Fluorene	–		–		Fluorene		–		–	
			Heptachlor	–	3.2E-010	–	3.2E-010	Heptachlor		–		–	
			Heptachlor epoxide	–	3.1E-010	–	3.1E-010	Heptachlor epoxide		–		–	
			Indeno(1,2,3-cd)pyrene	–		–		Indeno(1,2,3-cd)pyrene		–		–	
			Isophorone	–		–		Isophorone		–		–	
			Lead	–		–		Lead		–		–	
			Manganese	–		–		Manganese	respiratory	–	3.0E+000	–	3.0E+000
			Mercury	–		–		Mercury	CNS	–	2.0E-002	–	2.0E-002
			Methylene Chloride	–	1.6E-008	–	1.6E-008	Methylene Chloride	respiratory	–	1.6E-004	–	1.6E-004
			m,p-xylene	–		–		m,p-xylene		–		–	
			Naphthalene	–		–		Naphthalene	circulatory	–	3.1E-001	–	3.1E-001
			Nickel	–		–		Nickel	respiratory	–		–	
			N-Nitrosodiphenylamine	–		–		N-Nitrosodiphenylamine		–		–	
			ortho-xylene	–		–		ortho-xylene		–		–	
			Pentachlorophenol	–		–		Pentachlorophenol		–		–	
			Phenanthrene	–		–		Phenanthrene		–		–	
			Phenol	–		–		Phenol		–		–	
			Pyrene	–		–		Pyrene		–		–	
			Selenium	–		–		Selenium		–		–	
			Silver	–		–		Silver		–		–	
			Styrene	–		–		Styrene	CNS	–	7.4E-003	–	7.4E-003
			Tetrachloroethene	–	2.2E-006	–	2.2E-006	Tetrachloroethene	liver	–	1.1E-001	–	1.1E-001
			Thallium	–		–		Thallium		–		–	
			Toluene	–		–		Toluene	CNS	–	2.6E-001	–	2.6E-001
			Trichloroethene	–	2.4E-005	–	2.4E-005	Trichloroethene	respiratory	–		–	
			Vanadium	–		–		Vanadium		–		–	
			Vinyl Chloride	–	1.2E-011	–	1.2E-011	Vinyl Chloride	CNS	–		–	

Table 6-3-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: Area3CT.wk4 \ TT_sum_IUWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.6E-004		1.6E-004	(total)			1.1E+001		1.1E+001
						Total Risk Across Subsurface Soil	2.6E-003			s Subsurface Soil			1.1E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	5.9E+002
Total Skin HI:	3.3E+002
Total Thyroid HI:	1.5E+000
Total Liver HI:	1.3E+002
Total Circulatory System HI:	1.8E+000
Total CNS HI:	9.8E-001
Total Fetotoxic HI:	6.7E+000
Total GI Tract HI:	9.5E-002
Total Respiratory HI:	3.1E+000
Total Eyes HI:	1.1E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	3.0E-003
Total Adrenal HI:	0.0E+000
Total Heart HI:	2.2E-002
Total Skeletal System HI:	2.2E-004
Total Thyroid HI:	1.5E+000
Total Blood Disorders HI:	8.8E+000

Table 6-3-3
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Routine Worker
Receptor Age	Adult

File: Area3RME.wk4) TT_sum_RWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.7E-005	--	9.6E-004	9.8E-004
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	3.7E-001	--	2.2E+001	2.2E+001
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	6.4E-006	--	3.7E-004	3.8E-004
			1,2-Dichloroethane	2.6E-008	--	1.5E-006	1.5E-006	*1,2-Dichloroethane*	*fetotoxic*	2.6E-005	--	1.5E-003	1.6E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	2.8E-003	--	1.6E-001	1.7E-001
			1,2-Dichloropropane	1.3E-008	--	7.6E-007	7.7E-007	1,2-Dichloropropane	GI tract		--		
			1,4-Dichlorobenzene	7.8E-010	--	4.5E-008	4.6E-008	1,4-Dichlorobenzene	GI tract	3.0E-006	--	1.8E-004	1.8E-004
			2-Butanone		--			2-Butanone	liver	1.6E-001	--	9.9E+000	1.0E+001
			2-Hexanone		--			2-Hexanone	CNS	9.5E-006	--	5.5E-004	5.6E-004
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.0E-002	--	6.0E-001	6.1E-001
			2-Methylphenol		--			2-Methylphenol	liver	4.1E-004	--	2.4E-002	2.4E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	3.0E-003	--	1.8E-001	1.8E-001
			2,4-Dinitrotoluene		--			2,4-Dinitrotoluene	CNS	4.1E-004	--	3.4E-002	3.4E-002
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	1.7E-006	--	1.2E-004	1.2E-004
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	7.5E-001	--	4.3E+001	4.4E+001
			4-Methylphenol		--			4-Methylphenol	respiratory	4.3E-003	--	3.8E-001	3.9E-001
			4-Nitrophenol		--			4-Nitrophenol	CNS	8.1E-006	--	4.7E-004	4.8E-004
			4,4'-DDD	1.3E-008	--	7.3E-007	7.4E-007	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	1.2E-005	--	6.7E-004	6.8E-004
			Acetone		--			Acetone	fetotoxic	3.3E-001	--	2.5E+001	2.5E+001
			Aluminum		--			Aluminum	circulatory	1.8E-002	--	1.0E+000	1.0E+000
			Anthracene		--			Anthracene	GI tract	3.9E-006	--	2.3E-004	2.3E-004
			Antimony		--			Antimony	skin	3.7E-001	--	2.2E+003	2.2E+003
			Aroclor-1242	2.0E-004	--	1.1E-002	1.2E-002	Aroclor-1242	liver		--		
			Aroclor-1248	8.9E-005	--	5.1E-003	5.2E-003	Aroclor-1248	liver		--		
			Aroclor-1254	3.1E-005	--	2.0E-003	2.0E-003	Aroclor-1254	liver	2.2E+000	--	1.4E+002	1.4E+002
			Aroclor-1260	2.5E-005	--	1.5E-003	1.5E-003	Aroclor-1260	circulatory		--		
			Arsenic	1.6E-005	--	9.8E-004	1.0E-003	Arsenic	circulatory	1.0E-001	--	6.1E+000	6.2E+000
			Barium		--			Barium		8.9E-002	--	5.2E+000	5.3E+000
			Benzene	1.5E-005	--	9.8E-004	9.9E-004	Benzene	blood disorders	4.9E-001	--	3.2E+001	3.2E+001
			Benzoic Acid		--			*Benzoic Acid*	GI tract	5.6E-005	--	3.3E-003	3.3E-003
			Benzo(a)anthracene	6.1E-007	--	3.6E-005	3.6E-005	Benzo(a)anthracene			--		
			Benzo(a)pyrene	3.6E-006	--	2.4E-004	2.5E-004	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	9.9E-007	--	5.8E-005	5.9E-005	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	9.9E-008	--	5.8E-006	5.9E-006	*Benzo(k)fluoranthene*			--		
			Beryllium		--			Beryllium	kidney	7.3E-004	--	4.3E+000	4.3E+000
			bis(2-Ethylhexyl)phthalate	4.4E-005	--	2.5E-003	2.6E-003	bis(2-Ethylhexyl)phthalate	liver	4.4E-001	--	2.5E+001	2.6E+001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	3.2E-004	--	1.9E-002	1.9E-002
			Cadmium		--			Cadmium	*kidney*	1.7E+000	--	3.9E+003	3.9E+003
			Chlorobenzene		--			Chlorobenzene	liver	4.9E-002	--	9.2E+000	9.2E+000
			Chloroform	2.1E-011	--	1.3E-009	1.3E-009	Chloroform	circulatory	9.8E-007	--	5.9E-005	6.0E-005
			Chromium 3+		--			Chromium 3+	liver	2.4E-003	--	3.5E+001	3.5E+001
			Chrysene	4.1E-009	--	5.8E-007	5.8E-007	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	2.2E-006	--	1.2E-004	1.3E-004
			Cobalt		--			Cobalt	heart	2.4E-003	--	1.4E-001	1.4E-001
			Copper		--			Copper	liver	1.4E-001	--	1.4E+001	1.4E+001
			Cyanide (total)		--			Cyanide (total)	liver	3.2E-003	--	3.8E-001	3.8E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	1.8E-004	--	9.1E-003	9.2E-003
			Dibenzo(a,h)anthracene	6.9E-007	--	4.4E-005	4.5E-005	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	6.1E-006	--	3.5E-004	3.6E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.6E-006	--	9.1E-005	9.2E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	2.3E-003	--	1.4E-001	1.4E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		1.9E-003	--	1.1E-001	1.1E-001
			Ethyl Benzene		--			Ethyl Benzene	liver	2.3E-001	--	1.4E+001	1.4E+001
			Fluoranthene		--			Fluoranthene	kidney	1.5E-004	--	8.7E-003	8.8E-003
			Fluorene		--			Fluorene	skeletal	2.4E-005	--	1.4E-003	1.4E-003
			Indeno(1,2,3-cd)pyrene	2.1E-007	--	1.2E-005	1.2E-005	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			*Iron*		2.3E-001	--	1.3E+001	1.3E+001
			Isophorone	1.2E-006	--	6.9E-005	7.1E-005	Isophorone	kidney	1.8E-002	--	1.0E+000	1.0E+000
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	7.5E-002	--	4.4E+000	4.4E+000
			Mercury		--			Mercury	low body wt		--		

Table 6-3-3
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_RWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Methylene Chloride	7.1E-009	--	7.5E-007	7.5E-007	Methylene Chloride	liver	4.4E-005	--	4.6E-003	4.7E-003
			m,p-xylene		--			m,p-xylene	fetotoxic	5.9E-005	--	3.8E-003	3.8E-003
			Naphthalene		--			Naphthalene	circulatory	3.3E-002	--	1.9E+000	2.0E+000
			Nickel		--			Nickel	low body wt	9.6E-003	--	1.1E+001	1.1E+001
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	3.3E-005	--	2.1E-003	2.1E-003
			Pentachlorophenol	6.7E-007	--	3.9E-005	4.0E-005	Pentachlorophenol	liver	5.2E-004	--	3.0E-002	3.1E-002
			Phenol		--			Phenol	liver	1.4E-003	--	8.1E-002	8.3E-002
			Pyrene		--			Pyrene	liver	1.4E-004	--	7.9E-003	8.1E-003
			Selenium		--			Selenium	liver	3.1E-002	--	1.8E+000	1.8E+000
			Silver		--			Silver	skin	6.1E-002	--	1.7E+001	1.7E+001
			Styrene		--			Styrene	liver	1.5E-003	--	8.8E-002	8.9E-002
			Tetrachloroethene	8.4E-004	--	4.8E-002	4.9E-002	Tetrachloroethene	liver	4.5E+000	--	2.6E+002	2.7E+002
			Thallium		--			Thallium		2.1E-002	--	1.2E+000	1.2E+000
			Toluene		--			Toluene	liver	6.4E-001	--	3.7E+001	3.8E+001
			Trichloroethene	7.3E-005	--	4.3E-003	4.4E-003	Trichloroethene	liver	3.1E+000	--	1.8E+002	1.9E+002
			Vanadium		--			Vanadium	circulatory	6.7E-003	--	3.9E-001	3.9E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	4.9E-002	--	3.2E+000	3.2E+000
			Zinc		--			Zinc	thyroid	5.2E-002	--	1.0E+001	1.0E+001
			(total)	1.3E-003		7.8E-002	7.9E-002	(total)		1.6E+001		6.9E+003	7.0E+003
	AIR	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	6.2E-004	--	6.2E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	5.8E-002	--	5.8E-002
			1,1,2-Trichloroethane	--	1.8E-008	--	1.8E-008	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	3.3E-008	--	3.3E-008	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	9.8E-003	--	9.8E-003
			1,2-Dichloroethane	--	1.1E-006	--	1.1E-006	1,2-Dichloroethane	circulatory	--	2.5E-002	--	2.5E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	4.1E-002	--	4.1E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	7.5E-005	--	7.5E-005
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	1.0E-009	--	1.0E-009
			1,4-Dichlorobenzene	--	2.9E-008	--	2.9E-008	1,4-Dichlorobenzene	liver	--	1.6E-005	--	1.6E-005
			2-Butanone	--		--		2-Butanone	CNS	--	3.2E-006	--	3.2E-006
			2-Hexanone	--		--		2-Hexanone	CNS	--	3.0E-001	--	3.0E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	2.6E-001	--	2.6E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	3.8E-012	--	3.8E-012	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	6.0E-010	--	6.0E-010	Aldrin		--		--	
			alpha-BHC	--	1.2E-011	--	1.2E-011	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.3E-009	--	2.3E-009	Aroclor-1242		--		--	
			Aroclor-1248	--	1.8E-009	--	1.8E-009	Aroclor-1248		--		--	
			Aroclor-1254	--	1.3E-009	--	1.3E-009	Aroclor-1254		--		--	
			Aroclor-1260	--	4.5E-009	--	4.5E-009	Aroclor-1260		--		--	
			Arsenic	--	6.5E-009	--	6.5E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.2E-003	--	2.2E-003
			Benzene	--	2.9E-005	--	2.9E-005	Benzene	blood disorders	--	1.6E+000	--	1.6E+000
			Benzoic Acid	--		--		Benzoic Acid		--		--	

Table 6-3-3
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Routine Worker
Receptor Age: Adult

File: Area3RME.wk4 \ TT_sum_RWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.8E-010	--	1.8E-010	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	2.5E-010	--	2.5E-010	Beryllium	respiratory	--	1.4E-005	--	1.4E-005
			beta-BHC	--	6.6E-012	--	6.6E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	6.3E-006	--	6.3E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	8.4E-010	--	8.4E-010	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.0E-007	--	1.0E-007	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	2.8E-010	--	2.8E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.5E-001	--	4.5E-001
			Chloroform	--	2.7E-006	--	2.7E-006	Chloroform	liver	--	1.1E+000	--	1.1E+000
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	4.1E-007	--	4.1E-007	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	3.1E-012	--	3.1E-012	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	2.0E-002	--	2.0E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	3.4E-013	--	3.4E-013	gamma-Chlordane		--	1.4E-008	--	1.4E-008
			Heptachlor	--	3.5E-012	--	3.5E-012	Heptachlor		--		--	
			Heptachlor epoxide	--	3.3E-012	--	3.3E-012	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	9.5E-015	--	9.5E-015	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	6.6E-012	--	6.6E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	7.6E-003	--	7.6E-003
			Mercury	--		--		Mercury	CNS	--	1.6E-005	--	1.6E-005
			Methylene Chloride	--	4.6E-007	--	4.6E-007	Methylene Chloride	respiratory	--	9.1E-004	--	9.1E-004
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	4.0E-001	--	4.0E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.3E-003	--	5.3E-003
			Tetrachloroethene	--	7.0E-006	--	7.0E-006	Tetrachloroethene	liver	--	7.0E-002	--	7.0E-002
			Thallium	--		--		Thallium		--		--	

Table 6-3-3
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_RWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Toluene	--		--	
			Trichloroethene	--	6.6E-005	--	6.6E-005
			Vanadium	--		--	
			Vinyl Chloride	--	2.6E-007	--	2.6E-007
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		1.1E-004		1.1E-004
						Total Risk Across Subsurface Soil	7.9E-002
						Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Toluene	CNS	--	2.5E-001	--	2.5E-001
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Vinyl Chloride	CNS	--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			4.6E+000		4.6E+000
rd Index Across Subsurface Soil				s Subsurface Soil	7.0E+003

Total Kidney HI:	3.9E+003
Total Skin HI:	2.2E+003
Total Thyroid HI:	1.0E+001
Total Liver HI:	8.1E+002
Total Circulatory System HI:	1.0E+001
Total CNS HI:	8.5E-001
Total Fetotoxic HI:	2.8E+001
Total GI Tract HI:	6.1E-001
Total Respiratory HI:	4.2E-001
Total Eyes HI:	6.8E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.9E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.4E-001
Total Skeletal System HI:	1.4E-003
Total Thyroid HI:	1.0E+001
Total Blood Disorders HI:	3.4E+001

Table 6-3-4
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area3CT.wk4 \ IT sum RWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	7.3E-006	--	1.5E-004	1.5E-004
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.6E-001	--	3.3E+000	3.4E+000
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	2.8E-006	--	5.6E-005	5.9E-005
			1,2-Dichloroethane	2.3E-009	--	4.5E-008	4.7E-008	1,2-Dichloroethane	fetotoxic	1.2E-005	--	2.3E-004	2.4E-004
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.2E-003	--	2.5E-002	2.6E-002
			1,2-Dichloropropane	1.1E-009	--	2.3E-008	2.4E-008	1,2-Dichloropropane	GI tract		--		
			1,4-Dichlorobenzene	6.8E-011	--	1.4E-009	1.4E-009	1,4-Dichlorobenzene	GI tract	1.3E-006	--	2.7E-005	2.8E-005
			2-Butanone		--			2-Butanone	liver	7.1E-002	--	1.5E+000	1.6E+000
			2-Hexanone		--			2-Hexanone	CNS	4.2E-006	--	8.4E-005	8.8E-005
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	4.5E-003	--	9.0E-002	9.5E-002
			2-Methylphenol		--			2-Methylphenol	liver	1.8E-004	--	3.6E-003	3.8E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.3E-003	--	2.7E-002	2.8E-002
			2,4-Dinitrotoluene		--			2,4-Dinitrotoluene	CNS	1.8E-004	--	5.1E-003	5.3E-003
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	7.3E-007	--	1.8E-005	1.9E-005
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	3.3E-001	--	6.5E+000	6.9E+000
			4-Methylphenol		--			4-Methylphenol	respiratory	1.9E-003	--	5.8E-002	6.0E-002
			4-Nitrophenol		--			4-Nitrophenol	CNS	3.5E-006	--	7.1E-005	7.4E-005
			4,4'-DDD	1.1E-009	--	2.2E-008	2.3E-008	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	5.1E-006	--	1.0E-004	1.1E-004
			Acetone		--			Acetone	fetotoxic	1.5E-001	--	3.7E+000	3.9E+000
			Aluminum		--			Aluminum	circulatory	7.7E-003	--	1.5E-001	1.6E-001
			Anthracene		--			Anthracene	GI tract	1.7E-006	--	3.4E-005	3.6E-005
			Antimony		--			Antimony	skin	1.6E-001	--	3.3E+002	3.3E+002
			Aroclor-1242	1.7E-005	--	3.4E-004	3.6E-004	Aroclor-1242	liver		--		
			Aroclor-1248	7.8E-006	--	1.6E-004	1.6E-004	Aroclor-1248	liver		--		
			Aroclor-1254	2.7E-006	--	6.1E-005	6.3E-005	Aroclor-1254	liver	9.4E-001	--	2.1E+001	2.2E+001
			Aroclor-1260	2.2E-006	--	4.4E-005	4.6E-005	Aroclor-1260	circulatory		--		
			Arsenic	1.4E-006	--	3.0E-005	3.1E-005	Arsenic	circulatory	4.4E-002	--	9.2E-001	9.6E-001
			Barium		--			Barium		3.9E-002	--	7.8E-001	8.2E-001
			Benzene	1.3E-006	--	3.0E-005	3.1E-005	Benzene	blood disorders	2.1E-001	--	4.8E+000	5.0E+000
			Benzoic Acid		--			Benzoic Acid	GI tract	2.5E-005	--	4.9E-004	5.2E-004
			Benzo(a)anthracene	5.4E-008	--	1.1E-006	1.1E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	3.1E-007	--	7.4E-006	7.7E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	8.7E-008	--	1.7E-006	1.8E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	8.7E-009	--	1.7E-007	1.8E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	3.2E-004	--	6.4E-001	6.4E-001
			bis(2-Ethylhexyl)phthalate	3.8E-006	--	7.6E-005	8.0E-005	bis(2-Ethylhexyl)phthalate	liver	1.9E-001	--	3.8E+000	4.0E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.4E-004	--	2.8E-003	3.0E-003
			Cadmium		--			Cadmium	kidney	7.3E-001	--	5.8E+002	5.8E+002
			Chlorobenzene		--			Chlorobenzene	liver	2.1E-002	--	1.4E+000	1.4E+000
			Chloroform	1.9E-012	--	3.9E-011	4.1E-011	Chloroform	circulatory	4.3E-007	--	9.0E-006	9.4E-006
			Chromium 3+		--			Chromium 3+	liver	1.1E-003	--	5.4E+000	5.4E+000
			Chrysene	3.6E-010	--	1.7E-008	1.8E-008	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	9.4E-007	--	1.9E-005	2.0E-005
			Cobalt		--			Cobalt	heart	1.1E-003	--	2.1E-002	2.2E-002
			Copper		--			Copper	liver	6.2E-002	--	2.1E+000	2.1E+000
			Cyanide (total)		--			Cyanide (total)	liver	1.4E-003	--	5.7E-002	5.8E-002
			Dibenzofuran		--			Dibenzofuran	dec growth rate	6.9E-005	--	1.4E-003	1.4E-003
			Dibenzo(a,h)anthracene	6.0E-008	--	1.3E-006	1.4E-006	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	2.7E-006	--	5.4E-005	5.6E-005
			Dimethylphthalate		--			Dimethylphthalate	GI tract	6.9E-007	--	1.4E-005	1.4E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.0E-003	--	2.1E-002	2.2E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		8.1E-004	--	1.6E-002	1.7E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	9.9E-002	--	2.1E+000	2.2E+000
			Fluoranthene		--			Fluoranthene	kidney	6.5E-005	--	1.3E-003	1.4E-003
			Fluorene		--			Fluorene	skeletal	1.1E-005	--	2.1E-004	2.2E-004
			Indeno(1,2,3-cd)pyrene	1.8E-008	--	3.7E-007	3.8E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		1.0E-001	--	2.0E+000	2.1E+000
			Isophorone	1.0E-007	--	2.1E-006	2.2E-006	Isophorone	kidney	7.7E-003	--	1.5E-001	1.6E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.3E-002	--	6.6E-001	6.9E-001
			Mercury		--			Mercury	low body wt		--		

Table 6-3-4
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area3CT.wk4 \TT_sum_RWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	[illegible]	6.2E-010	--	2.3E-008	2.3E-008	[illegible]	circulatory	7.9E-006	--	7.6E-004	7.9E-004
			m,p-xylene		--			m,p-xylene	fetotoxic	2.6E-005	--	5.7E-004	6.0E-004
			Naphthalene		--			Naphthalene	circulatory	1.5E-002	--	2.9E-001	3.1E-001
			Nickel		--			Nickel	low body wt	4.2E-003	--	1.7E+000	1.7E+000
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	1.4E-005	--	3.2E-004	3.3E-004
			Pentachlorophenol	5.9E-008	--	1.2E-006	1.2E-006	Pentachlorophenol	liver	2.3E-004	--	4.6E-003	4.8E-003
			Phenol		--			Phenol	liver	6.1E-004	--	1.2E-002	1.3E-002
			Pyrene		--			Pyrene	liver	6.0E-005	--	1.2E-003	1.3E-003
			Selenium		--			Selenium	liver	1.3E-002	--	2.7E-001	2.8E-001
			Silver		--			Silver	skin	2.7E-002	--	2.5E+000	2.6E+000
			Styrene		--			Styrene	liver	6.8E-004	--	1.3E-002	1.4E-002
			Tetrachloroethene	7.3E-005	--	1.5E-003	1.5E-003	Tetrachloroethene	liver	2.0E+000	--	3.9E+001	4.1E+001
			Thallium		--			Thallium		9.2E-003	--	1.8E-001	1.9E-001
			Toluene		--			Toluene	liver	2.8E-001	--	5.6E+000	5.9E+000
			Trichloroethene	6.4E-006	--	1.3E-004	1.4E-004	Trichloroethene	liver	1.4E+000	--	2.8E+001	2.9E+001
			Vanadium		--			Vanadium	circulatory	2.9E-003	--	5.8E-002	6.1E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.1E-002	--	4.8E-001	5.0E-001
			Zinc		--			Zinc	thyroid	2.3E-002	--	1.5E+000	1.5E+000
			(total)	1.2E-004		2.3E-003	2.5E-003	(total)		7.1E+000		1.0E+003	1.1E+003
	AIR	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	5.4E-004	--	5.4E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	5.1E-002	--	5.1E-002
			1,1,2-Trichloroethane	--	3.2E-009	--	3.2E-009	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	5.7E-009	--	5.7E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	8.5E-003	--	8.5E-003
			1,2-Dichloroethane	--	2.0E-007	--	2.0E-007	1,2-Dichloroethane	circulatory	--	2.2E-002	--	2.2E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	3.6E-002	--	3.6E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	6.6E-005	--	6.6E-005
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	8.8E-010	--	8.8E-010
			1,4-Dichlorobenzene	--	5.1E-009	--	5.1E-009	1,4-Dichlorobenzene	liver	--	1.4E-005	--	1.4E-005
			2-Butanone	--		--		2-Butanone	CNS	--	2.8E-006	--	2.8E-006
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.6E-001	--	2.6E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	2.3E-001	--	2.3E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	6.7E-013	--	6.7E-013	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.0E-010	--	1.0E-010	Aldrin		--		--	
			alpha-BHC	--	2.1E-012	--	2.1E-012	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	4.0E-010	--	4.0E-010	Aroclor-1242		--		--	
			Aroclor-1248	--	3.2E-010	--	3.2E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	2.3E-010	--	2.3E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	7.9E-010	--	7.9E-010	Aroclor-1260		--		--	
			Arsenic	--	1.1E-009	--	1.1E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.0E-003	--	2.0E-003
			Benzene	--	5.0E-006	--	5.0E-006	Benzene	blood disorders	--	1.4E+000	--	1.4E+000
			Benzoic Acid	--		--		Benzoic Acid		--		--	

Table 6-3-4
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Routine Worker
Receptor Age	Adult

File: Area3CT.wk4 \ TT_sum_RWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	[illegible]	--	--	--		[illegible]	circulatory	7.3E-006	--	1.5E-004	1.5E-004
			Benzo(a)pyrene	--	3.1E-011	--	3.1E-011	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	4.3E-011	--	4.3E-011	Beryllium	respiratory	--	1.3E-005	--	1.3E-005
			beta-BHC	--	1.2E-012	--	1.2E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	1.1E-006	--	1.1E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.5E-010	--	1.5E-010	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.8E-008	--	1.8E-008	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	2.4E-010	--	2.4E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.0E-001	--	4.0E-001
			Chloroform	--	4.7E-007	--	4.7E-007	Chloroform	liver	--	9.4E-001	--	9.4E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	7.1E-008	--	7.1E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	5.5E-013	--	5.5E-013	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.8E-002	--	1.8E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	6.0E-014	--	6.0E-014	gamma-Chlordane		--	1.2E-008	--	1.2E-008
			Heptachlor	--	6.1E-013	--	6.1E-013	Heptachlor		--		--	
			Heptachlor epoxide	--	5.9E-013	--	5.9E-013	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	1.7E-015	--	1.7E-015	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.2E-012	--	1.2E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	6.6E-003	--	6.6E-003
			Mercury	--		--		Mercury	CNS	--	1.4E-005	--	1.4E-005
			Methylene Chloride	--	8.1E-008	--	8.1E-008	Methylene Chloride	respiratory	--	8.0E-004	--	8.0E-004
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.5E-001	--	3.5E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	4.7E-003	--	4.7E-003
			Tetrachloroethene	--	1.2E-006	--	1.2E-006	Tetrachloroethene	liver	--	6.2E-002	--	6.2E-002
			Thallium	--		--		Thallium		--		--	

Table 6-3-4
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: Area3CT.wk4 \ TT_sum_RWa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	Tdi-Dichloroethane	--	--	--		Tdi-Dichloroethane	circulatory	7.3E-006	2.2E-001	1.5E-004	2.2E-004
			Trichloroethene	--	1.2E-005	--	1.2E-005	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	4.5E-008	--	4.5E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		2.0E-005		2.0E-005	(total)			4.0E+000		4.0E+000
						Total Risk Across Subsurface Soil	2.5E-003	rd Index Across Subsurface Soil				s Subsurface Soil	1.1E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	5.9E+002
Total Skin HI:	3.3E+002
Total Thyroid HI:	1.5E+000
Total Liver HI:	1.3E+002
Total Circulatory System HI:	1.9E+000
Total CNS HI:	7.2E-001
Total Fatotoxic HI:	4.4E+000
Total GI Tract HI:	9.5E-002
Total Respiratory HI:	8.5E-002
Total Eyes HI:	1.1E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	3.0E-003
Total Adrenal HI:	0.0E+000
Total Heart HI:	2.2E-002
Total Skeletal System HI:	2.2E-004
Total Thyroid HI:	1.5E+000
Total Blood Disorders HI:	6.4E+000

Table 6-3-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population	Construction Worker
Receptor Age	Adult

File: Area3RME.wk4 \ TT_sum_fCWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 4')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	7.4E-006	--	8.9E-005	9.6E-005
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	2.2E-006	--	2.7E-005	2.9E-005
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.2E-005	--	3.9E-004	4.2E-004
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	4.1E-003	--	5.0E-002	5.4E-002
			1,2-Dichloropropane	6.8E-011	--	8.2E-010	8.9E-010	1,2-Dichloropropane	GI tract		--		
			2-Butanone		--			2-Butanone	liver	2.0E-003	--	2.5E-002	2.7E-002
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.4E-002	--	1.7E-001	1.8E-001
			2-Methylphenol		--			2-Methylphenol	liver	4.6E-004	--	5.6E-003	6.0E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.2E-003	--	1.5E-002	1.6E-002
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	8.3E-006	--	1.2E-004	1.3E-004
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	3.1E-002	--	3.7E-001	4.0E-001
			4-Methylphenol		--			4-Methylphenol	respiratory	4.5E-003	--	6.4E-002	6.8E-002
			4,4'-DDD	1.9E-009	--	2.3E-008	2.5E-008	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	2.9E-005	--	3.6E-004	3.9E-004
			Acetone		--			Acetone	fetotoxic	4.8E-005	--	7.3E-004	7.8E-004
			Aluminum		--			Aluminum	circulatory	6.5E-002	--	7.8E-001	8.5E-001
			Anthracene		--			Anthracene	GI tract	1.1E-005	--	1.3E-004	1.4E-004
			Antimony		--			Antimony	skin	1.0E+000	--	1.3E+003	1.3E+003
			Aroclor-1242	2.9E-005	--	3.6E-004	3.9E-004	Aroclor-1242	liver		--		
			Aroclor-1248	1.3E-005	--	1.6E-004	1.7E-004	Aroclor-1248	liver		--		
			Aroclor-1254	2.3E-006	--	3.1E-005	3.4E-005	Aroclor-1254	liver	5.4E+000	--	7.3E+001	7.9E+001
			Aroclor-1260	3.8E-006	--	4.6E-005	5.0E-005	Aroclor-1260	circulatory		--		
			Arsenic	2.4E-006	--	3.1E-005	3.3E-005	Arsenic	circulatory	5.0E-001	--	6.4E+000	6.9E+000
			Barium		--			Barium		4.0E-001	--	4.9E+000	5.3E+000
			Benzene	4.9E-009	--	6.6E-008	7.0E-008	Benzene	blood disorders	5.2E-003	--	7.0E-002	7.6E-002
			Benzo(a)anthracene	9.2E-008	--	1.1E-006	1.2E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	5.4E-007	--	7.6E-006	8.2E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.5E-007	--	1.8E-006	2.0E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.5E-008	--	1.8E-007	2.0E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	3.7E-003	--	4.4E+000	4.5E+000
			bis(2-Ethylhexyl)phthalate	4.0E-007	--	4.8E-006	5.2E-006	bis(2-Ethylhexyl)phthalate	liver	1.3E-001	--	1.6E+000	1.7E+000
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.3E-003	--	1.5E-002	1.6E-002
			Cadmium		--			Cadmium	kidney	8.5E-001	--	4.1E+002	4.1E+002
			Chlorobenzene		--			Chlorobenzene	liver	1.5E-003	--	5.9E-002	6.1E-002
			Chloroform	3.2E-012	--	4.1E-011	4.4E-011	Chloroform	circulatory	4.9E-006	--	6.2E-005	6.7E-005
			Chromium 3+		--			Chromium 3+	liver	1.0E-002	--	3.0E+001	3.0E+001
			Chrysene	5.0E-010	--	1.5E-008	1.5E-008	Chrysene	liver		--		
			Cobalt		--			Cobalt	heart	1.2E-002	--	1.5E-001	1.6E-001
			Copper		--			Copper	liver	5.5E-001	--	1.1E+001	1.2E+001
			Cyanide (total)		--			Cyanide (total)	liver	1.6E-002	--	3.9E-001	4.1E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	5.3E-004	--	6.4E-003	6.9E-003
			Dibenzo(a,h)anthracene	1.0E-007	--	1.4E-006	1.5E-006	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	3.1E-005	--	3.7E-004	4.0E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	6.9E-007	--	8.3E-006	9.0E-006
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	4.6E-003	--	5.7E-002	6.2E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		9.3E-003	--	1.1E-001	1.2E-001
			Ethyl Benzene		--			Ethyl Benzene	liver	2.1E-001	--	2.8E+000	3.0E+000
			Fluoranthene		--			Fluoranthene	kidney	4.2E-004	--	5.0E-003	5.5E-003
			Fluorene		--			Fluorene	skeletal	7.6E-005	--	9.2E-004	1.0E-003
			Heptachlor	2.1E-008	--	2.5E-007	2.7E-007	Heptachlor	liver	8.6E-004	--	1.0E-002	1.1E-002
			Heptachlor epoxide	2.0E-008	--	2.4E-007	2.6E-007	Heptachlor epoxide	liver	1.6E-002	--	1.9E-001	2.1E-001
			Indeno(1,2,3-cd)pyrene	3.1E-008	--	3.8E-007	4.1E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		1.1E+000	--	1.4E+001	1.5E+001
			Isophorone	9.5E-009	--	1.1E-007	1.2E-007	Isophorone	kidney	4.7E-003	--	5.6E-002	6.1E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.8E-001	--	4.6E+000	4.9E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	7.9E-011	--	1.7E-009	1.8E-009	Methylene Chloride	liver	1.6E-005	--	3.6E-004	3.8E-004
			Naphthalene		--			Naphthalene	circulatory	2.4E-002	--	2.9E-001	3.1E-001
			Nickel		--			Nickel	low body wt	4.8E-002	--	1.2E+001	1.2E+001

Table 6-3-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_fCWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	5.6E-008	--	7.6E-007	8.1E-007
			Pentachlorophenol	9.5E-009	--	1.1E-007	1.2E-007	Pentachlorophenol	liver	2.5E-004	--	3.0E-003	3.2E-003
			Phenol		--			Phenol	liver	2.3E-004	--	2.8E-003	3.0E-003
			Pyrene		--			Pyrene	liver	3.8E-004	--	4.5E-003	4.9E-003
			Selenium		--			Selenium	liver	1.7E-002	--	2.0E-001	2.2E-001
			Silver		--			Silver	skin	2.4E-002	--	1.4E+000	1.4E+000
			Styrene		--			Styrene	liver	5.6E-004	--	6.8E-003	7.4E-003
			Tetrachloroethene	2.2E-006	--	2.6E-005	2.8E-005	Tetrachloroethene	liver	3.9E-001	--	4.7E+000	5.1E+000
			Toluene		--			Toluene	liver	4.7E-001	--	5.6E+000	6.1E+000
			Trichloroethene	9.8E-008	--	1.2E-006	1.3E-006	Trichloroethene	liver	1.4E-001	--	1.7E+000	1.9E+000
			Vanadium		--			Vanadium	circulatory	3.3E-002	--	4.0E-001	4.4E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	5.6E-002	--	7.6E-001	8.2E-001
			Zinc		--			Zinc	thyroid	2.6E-001	--	1.0E+001	1.1E+001
			(total)	5.5E-005		6.7E-004	7.3E-004	(total)		1.2E+001		1.9E+003	1.9E+003
	AIR	Area 3, Soil (0' to 4')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	9.61E-005	--	9.6E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	3.11E-006	--	3.1E-006
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	8.55E-004	--	8.6E-004
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.01E-003	--	1.0E-003
			2-Butanone	--		--		2-Butanone	CNS	--	3.62E-003	--	3.6E-003
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.63E-001	--	1.6E-001
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	5.55E-007	--	5.5E-007	Aroclor-1242		--		--	
			Aroclor-1248	--	2.41E-007	--	2.4E-007	Aroclor-1248		--		--	
			Aroclor-1254	--	4.37E-008	--	4.4E-008	Aroclor-1254		--		--	
			Aroclor-1260	--	6.95E-008	--	7.0E-008	Aroclor-1260		--		--	
			Arsenic	--	4.64E-007	--	4.6E-007	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	3.80E+000	--	3.8E+000
			Benzene	--	7.93E-008	--	7.9E-008	Benzene	blood disorders	--	1.50E-001	--	1.5E-001
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	4.76E-009	--	4.8E-009	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Beryllium	--	1.27E-008	--	1.3E-008	Beryllium	respiratory	--	2.47E-002	--	2.5E-002
			bis(2-Ethylhexyl)phthalate	--	7.81E-009	--	7.8E-009	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.19E-006	--	1.2E-006	Cadmium		--		--	
			Chlorobenzene	--		--		Chlorobenzene	liver	--	4.09E-002	--	4.1E-002
			Chloroform	--	7.19E-010	--	7.2E-010	Chloroform	liver	--	9.63E-003	--	9.6E-003
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	1.79E-005	--	1.8E-005	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	

Table 6-3-5
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Construction Worker
Receptor Age	Adult

File: Area3RME.wk4 \ TT_sum_fCWa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	6.79E-002	--	6.8E-002
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	4.34E-010	--	4.3E-010	Heptachlor		--		--	
			Heptachlor epoxide	--	4.19E-010	--	4.2E-010	Heptachlor epoxide		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.03E+001	--	1.0E+001
			Mercury	--		--		Mercury	CNS	--	1.11E-002	--	1.1E-002
			Methylene Chloride	--	*3.07E-010*	--	*3.1E-010*	*Methylene Chloride*	*respiratory*	--	*2.02E-005*	--	*2.0E-005*
			Naphthalene	--		--		Naphthalene	circulatory	--	3.60E-001	--	3.6E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	1.22E-003	--	1.2E-003
			Tetrachloroethene	--	4.98E-007	--	5.0E-007	Tetrachloroethene	liver	--	1.66E-001	--	1.7E-001
			Toluene	--		--		Toluene	CNS	--	3.90E-001	--	3.9E-001
			Trichloroethene	--	3.63E-007	--	3.6E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Xylenes (total)	--		--		*Xylenes (total)*	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
					2.15E-005		2.1E-005	(total)			1.55E+001		1.6E+001
						Total Risk Across Subsurface Soil	7.5E-004					Total Hazard Index Across Subsurface Soil	1.9E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	4.2E+002
Total Skin HI:	1.3E+003
Total Thyroid HI:	1.1E+001
Total Liver HI:	1.4E+002
Total Circulatory System HI:	8.8E+000
Total CNS HI:	5.7E-001
Total Fetotoxic HI:	4.6E+000
Total GI Tract HI:	1.8E-001
Total Respiratory HI:	1.1E+001
Total Eyes HI:	3.9E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.6E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.6E-001
Total Skeletal System HI:	1.0E-003
Total Thyroid HI:	1.1E+001
Total Blood Disorders HI:	2.3E-001

Table 6-3-6
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area3RME.wb4 \ TT_sum_ICW10a3R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	8.3E-005	--	1.0E-003	1.1E-003
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.9E+000	--	2.3E+001	2.4E+001
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.2E-005	--	3.9E-004	4.2E-004
			1,2-Dichloroethane	3.9E-009	--	4.7E-008	5.1E-008	1,2-Dichloroethane	fetotoxic	1.3E-004	--	1.6E-003	1.7E-003
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.4E-002	--	1.7E-001	1.9E-001
			1,2-Dichloropropane	2.0E-009	--	2.4E-008	2.6E-008	1,2-Dichloropropane	GI tract		--		
			1,4-Dichlorobenzene	1.2E-010	--	1.4E-009	1.5E-009	1,4-Dichlorobenzene	GI tract	1.5E-005	--	1.8E-004	2.0E-004
			2-Butanone		--			2-Butanone	liver	8.1E-001	--	1.0E+001	1.1E+001
			2-Hexanone		--			2-Hexanone	CNS	4.8E-005	--	5.8E-004	6.3E-004
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	5.2E-002	--	6.2E-001	6.7E-001
			2-Methylphenol		--			2-Methylphenol	liver	2.1E-003	--	2.5E-002	2.7E-002
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.5E-002	--	1.8E-001	2.0E-001
			2,4-Dinitrotoluene		--			2,4-Dinitrotoluene	CNS	2.1E-003	--	3.6E-002	3.8E-002
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	8.3E-006	--	1.2E-004	1.3E-004
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	3.7E+000	--	4.5E+001	4.9E+001
			4-Methylphenol		--			4-Methylphenol	respiratory	2.2E-002	--	4.0E-001	4.2E-001
			4-Nitrophenol		--			4-Nitrophenol	CNS	4.1E-005	--	4.9E-004	5.3E-004
			4,4'-DDD	1.9E-009	--	2.3E-008	2.5E-008	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	5.8E-005	--	7.0E-004	7.6E-004
			Acetone		--			Acetone	fetotoxic	1.7E+000	--	2.6E+001	2.7E+001
			Aluminum		--			Aluminum	circulatory	8.8E-002	--	1.1E+000	1.2E+000
			Anthracene		--			Anthracene	GI tract	2.0E-005	--	2.4E-004	2.6E-004
			Antimony		--			Antimony	skin	1.9E+000	--	2.3E+003	2.3E+003
			Aroclor-1242	2.9E-005	--	3.6E-004	3.9E-004	Aroclor-1242	liver		--		
			Aroclor-1248	1.3E-005	--	1.6E-004	1.7E-004	Aroclor-1248	liver		--		
			Aroclor-1254	4.6E-006	--	6.3E-005	6.7E-005	Aroclor-1254	liver	1.1E+001	--	1.5E+002	1.6E+002
			Aroclor-1260	3.8E-006	--	4.6E-005	5.0E-005	Aroclor-1260	circulatory		--		
			Arsenic	2.4E-006	--	3.1E-005	3.3E-005	Arsenic	circulatory	5.0E-001	--	6.4E+000	6.9E+000
			Barium		--			Barium		4.5E-001	--	5.4E+000	5.9E+000
			Benzene	2.3E-006	--	3.1E-005	3.3E-005	Benzene	blood disorders	2.5E+000	--	3.3E+001	3.5E+001
			Benzoic Acid		--			Benzoic Acid	GI tract	2.8E-004	--	3.4E-003	3.7E-003
			Benzo(a)anthracene	9.2E-008	--	1.1E-006	1.2E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	5.4E-007	--	7.6E-006	8.2E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.5E-007	--	1.8E-006	2.0E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.5E-008	--	1.8E-007	2.0E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	3.7E-003	--	4.4E+000	4.5E+000
			bis(2-Ethylhexyl)phthalate	6.6E-006	--	7.9E-005	8.6E-005	bis(2-Ethylhexyl)phthalate	liver	2.2E+000	--	2.6E+001	2.9E+001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.6E-003	--	2.0E-002	2.1E-002
			Cadmium		--			Cadmium	kidney	8.3E+000	--	4.0E+003	4.0E+003
			Chlorobenzene		--			Chlorobenzene	liver	2.5E-001	--	9.6E+000	9.8E+000
			Chloroform	3.2E-012	--	4.1E-011	4.4E-011	Chloroform	circulatory	4.9E-006	--	6.2E-005	6.7E-005
			Chromium 3+		--			Chromium 3+	liver	1.2E-002	--	3.7E+001	3.7E+001
			Chrysene	6.1E-010	--	1.8E-008	1.9E-008	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	1.1E-005	--	1.3E-004	1.4E-004
			Cobalt		--			Cobalt	heart	1.2E-002	--	1.5E-001	1.6E-001
			Copper		--			Copper	liver	7.1E-001	--	1.4E+001	1.5E+001
			Cyanide (total)		--			Cyanide (total)	liver	1.6E-002	--	3.9E-001	4.1E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	7.9E-004	--	9.5E-003	1.0E-002
			Dibenzo(a,h)anthracene	1.0E-007	--	1.4E-006	1.5E-006	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	3.1E-005	--	3.7E-004	4.0E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	7.9E-006	--	9.5E-005	1.0E-004
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.2E-002	--	1.5E-001	1.6E-001
			Di-n-octylphthalate		--			Di-n-octylphthalate		9.3E-003	--	1.1E-001	1.2E-001
			Ethyl Benzene		--			Ethyl Benzene	liver	1.1E+000	--	1.5E+001	1.6E+001
			Fluoranthene		--			Fluoranthene	kidney	7.5E-004	--	9.0E-003	9.8E-003
			Fluorene		--			Fluorene	skeletal	1.2E-004	--	1.5E-003	1.6E-003
			Indeno(1,2,3-cd)pyrene	3.1E-008	--	3.8E-007	4.1E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		1.1E+000	--	1.4E+001	1.5E+001
			Isophorone	1.8E-007	--	2.2E-006	2.4E-006	Isophorone	kidney	8.8E-002	--	1.1E+000	1.2E+000
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.8E-001	--	4.6E+000	4.9E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.1E-009	--	2.3E-008	2.4E-008	Methylene Chloride	liver	2.2E-004	--	4.9E-003	5.1E-003
			m,p-xylene		--			m,p-xylene	fetotoxic	2.9E-004	--	4.0E-003	4.2E-003

Table 6-3-6
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area3RME.wk4 \ TT_sum_ICW10a3R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Naphthalene		--			Naphthalene	circulatory	1.7E-001	--	2.0E+000	2.2E+000
			Nickel		--			Nickel	low body wt	4.8E-002	--	1.2E+001	1.2E+001
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	1.6E-004	--	2.2E-003	2.4E-003
			Pentachlorophenol	1.0E-007	--	1.2E-006	1.3E-006	Pentachlorophenol	liver	2.6E-003	--	3.2E-002	3.4E-002
			Phenol		--			Phenol	liver	7.0E-003	--	8.5E-002	9.2E-002
			Pyrene		--			Pyrene	liver	6.9E-004	--	8.3E-003	9.0E-003
			Selenium		--			Selenium	liver	1.5E-001	--	1.9E+000	2.0E+000
			Silver		--			Silver	skin	3.1E-001	--	1.8E+001	1.8E+001
			Styrene		--			Styrene	liver	7.6E-003	--	9.2E-002	1.0E-001
			Tetrachloroethene	1.3E-004	--	1.5E-003	1.6E-003	Tetrachloroethene	liver	2.3E+001	--	2.7E+002	3.0E+002
			Thallium		--			Thallium		1.1E-001	--	1.3E+000	1.4E+000
			Toluene		--			Toluene	liver	3.2E+000	--	3.9E+001	4.2E+001
			Trichloroethene	1.1E-005	--	1.4E-004	1.5E-004	Trichloroethene	liver	1.6E+001	--	1.9E+002	2.1E+002
			Vanadium		--			Vanadium	circulatory	3.3E-002	--	4.0E-001	4.4E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.5E-001	--	3.3E+000	3.6E+000
			Zinc		--			Zinc	thyroid	2.8E-001	--	1.0E+001	1.1E+001
			(Total)	2.0E-004		2.4E-003	2.6E-003	(Total)		8.1E+001		7.3E+003	7.3E+003
	Air	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.09E-003	--	1.1E-003
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	2.40E-001	--	2.4E-001
			1,1,2-Trichloroethane	--	3.09E-011	--	3.1E-011	1,1,2-Trichloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	4.24E-004	--	4.2E-004
			1,2-Dichloroethane	--	4.50E-008	--	4.5E-008	1,2-Dichloroethane	circulatory	--	3.30E-002	--	3.3E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	2.82E-002	--	2.8E-002
			1,4-Dichlorobenzene	--	3.46E-010	--	3.5E-010	1,4-Dichlorobenzene	liver	--	6.41E-006	--	6.4E-006
			2-Butanone	--		--		2-Butanone	CNS	--	3.03E-002	--	3.0E-002
			2-Hexanone	--		--		2-Hexanone	CNS	--	3.15E-002	--	3.2E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.16E+000	--	1.2E+000
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acetone	--		--		Acetone		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	5.02E-007	--	5.0E-007	Aroclor-1242		--		--	
			Aroclor-1248	--	2.29E-007	--	2.3E-007	Aroclor-1248		--		--	
			Aroclor-1254	--	8.13E-008	--	8.1E-008	Aroclor-1254		--		--	
			Aroclor-1260	--	6.57E-008	--	6.6E-008	Aroclor-1260		--		--	
			Arsenic	--	1.02E-007	--	1.0E-007	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	4.10E+000	--	4.1E+000
			Benzene	--	3.62E-008	--	3.6E-008	Benzene	blood disorders	--	6.85E+000	--	6.9E+000
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	4.78E-009	--	4.8E-009	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Beryllium	--	7.02E-009	--	7.0E-009	Beryllium	respiratory	--	1.37E-002	--	1.4E-002
			bis(2-Ethylhexyl)phthalate	--	1.13E-007	--	1.1E-007	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	9.89E-008	--	9.9E-008	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.23E-009	--	1.2E-009
			Chlorobenzene	--		--		Chlorobenzene	liver	--	6.76E-001	--	6.8E-001
			Chloroethane	--		--		Chloroethane	fetotoxic	--	3.39E-010	--	3.4E-010
			Chloroform	--	2.36E-010	--	2.4E-010	Chloroform	liver	--	3.16E-003	--	3.2E-003
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	2.10E-005	--	2.1E-005	Chromium 6+	respiratory	--		--	

Table 6-3-6
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: Area3RME_wrk4 \ TT_sum_fCW10a3R

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Chrysene	--		--	
			cis-1,2-Dichloroethene	--		--	
			Cobalt	--		--	
			Copper	--		--	
			Cyanide (total)	--		--	
			Dibenzofuran	--		--	
			Dibenzo(a,h)anthracene	--		--	
			Diethylphthalate	--		--	
			Dimethylphthalate	--		--	
			Di-n-butylphthalate	--		--	
			Di-n-octylphthalate	--		--	
			Ethyl Benzene	--		--	
			Fluoranthene	--		--	
			Fluorene	--		--	
			Heptachlor	--	8.68E-011	--	8.7E-011
			Heptachlor epoxide	--	8.38E-011	--	8.4E-011
			Indeno(1,2,3-cd)pyrene	--		--	
			Isophorone	--		--	
			Lead	--		--	
			Manganese	--		--	
			Mercury	--		--	
			Methylene Chloride	--	4.38E-009	--	4.4E-009
			m,p-xylene	--		--	
			Naphthalene	--		--	
			Nickel	--		--	
			N-Nitrosodiphenylamine	--		--	
			ortho-xylene	--		--	
			Pentachlorophenol	--		--	
			Phenanthrene	--		--	
			Phenol	--		--	
			Pyrene	--		--	
			Selenium	--		--	
			Silver	--		--	
			Styrene	--		--	
			Tetrachloroethene	--	5.78E-007	--	5.8E-007
			Thallium	--		--	
			Toluene	--		--	
			Trichloroethene	--	6.55E-006	--	6.6E-006
			Vanadium	--		--	
			Vinyl Chloride	--	3.16E-012	--	3.2E-012
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		4.3E-005		4.3E-005
						Total Risk Across Subsurface Soil	2.7E-003
						Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Chrysene		--		--	
cis-1,2-Dichloroethene		--		--	
Cobalt		--		--	
Copper		--		--	
Cyanide (total)		--		--	
Dibenzofuran		--		--	
Dibenzo(a,h)anthracene		--		--	
Diethylphthalate		--		--	
Dimethylphthalate		--		--	
Di-n-butylphthalate		--		--	
Di-n-octylphthalate		--		--	
Ethyl Benzene	respiratory	--	7.33E-002	--	7.3E-002
Fluoranthene		--		--	
Fluorene		--		--	
Heptachlor		--		--	
Heptachlor epoxide		--		--	
Indeno(1,2,3-cd)pyrene		--		--	
Isophorone		--		--	
Lead		--		--	
Manganese	respiratory	--	5.36E+000	--	5.4E+000
Mercury	CNS	--	3.67E-002	--	3.7E-002
Methylene Chloride	respiratory	--	2.88E-004	--	2.9E-004
m,p-xylene		--		--	
Naphthalene	circulatory	--	5.60E-001	--	5.6E-001
Nickel	respiratory	--		--	
N-Nitrosodiphenylamine		--		--	
ortho-xylene		--		--	
Pentachlorophenol		--		--	
Phenanthrene		--		--	
Phenol		--		--	
Pyrene		--		--	
Selenium		--		--	
Silver		--		--	
Styrene	CNS	--	1.32E-002	--	1.3E-002
Tetrachloroethene	liver	--	1.93E-001	--	1.9E-001
Thallium		--		--	
Toluene	CNS	--	4.71E-001	--	4.7E-001
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Vinyl Chloride	CNS	--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			2.0E+001		2.0E+001
				Total Hazard Index Across Subsurface Soil	7.4E+003

Total Kidney HI:	4.1E+003
Total Skin HI:	2.3E+003
Total Thyroid HI:	1.1E+001
Total Liver HI:	9.0E+002
Total Circulatory System HI:	1.1E+001
Total CNS HI:	1.8E+000
Total Fetotoxic HI:	3.5E+001
Total GI Tract HI:	6.8E-001
Total Respiratory HI:	5.9E+000
Total Eyes HI:	7.6E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	2.1E-002
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.6E-001
Total Skeletal System HI:	1.6E-003
Total Thyroid HI:	1.1E+001
Total Blood Disorders HI:	4.2E+001

Scenario Timeframe	Current
Receptor Population	Trespasser
Receptor Age	Adolescent

Table 6-3-7
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

File: Area3RME.wk4 \ TT_sum_cTa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 3, Surface Soil (0' to 2')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	4.4E-007	--	1.9E-005	2.0E-005
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	2.3E-007	--	1.0E-005	1.0E-005
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.3E-006	--	1.5E-004	1.5E-004
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	4.3E-004	--	1.9E-002	1.9E-002
			1,2-Dichloropropane	5.5E-011	--	2.4E-009	2.5E-009	1,2-Dichloropropane	GI tract		--		
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	4.3E-004	--	1.9E-002	1.9E-002
			2-Methylphenol		--			2-Methylphenol	liver	4.8E-005	--	2.1E-003	2.1E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.2E-004	--	5.5E-003	5.6E-003
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	8.6E-007	--	4.7E-005	4.8E-005
			4-Methylphenol		--			4-Methylphenol	respiratory	4.7E-004	--	3.2E-002	3.2E-002
			4,4'-DDD	1.5E-009	--	6.7E-008	6.8E-008	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	3.0E-006	--	1.3E-004	1.4E-004
			Acetone		--			Acetone	fetotoxic	6.6E-007	--	3.7E-005	3.8E-005
			Aluminum		--			Aluminum	circulatory	4.8E-003	--	2.1E-001	2.2E-001
			Anthracene		--			Anthracene	GI tract	1.1E-006	--	4.9E-005	5.0E-005
			Antimony		--			Antimony	skin	8.6E-002	--	3.8E+002	3.8E+002
			Aroclor-1242	3.6E-006	--	1.6E-004	1.6E-004	Aroclor-1242	liver		--		
			Aroclor-1248	2.3E-006	--	1.0E-004	1.0E-004	Aroclor-1248	liver		--		
			Aroclor-1254	1.9E-006	--	9.2E-005	9.4E-005	Aroclor-1254	liver	5.6E-001	--	2.8E+001	2.8E+001
			Arsenic	1.9E-006	--	9.0E-005	9.2E-005	Arsenic	circulatory	5.2E-002	--	2.4E+000	2.4E+000
			Barium		--			Barium		1.8E-002	--	7.8E-001	8.0E-001
			Benzene	3.9E-009	--	1.9E-007	2.0E-007	Benzene	blood disorders	5.4E-004	--	2.6E-002	2.7E-002
			Benzo(a)anthracene	7.4E-008	--	3.3E-006	3.3E-006	Benzo(a)anthracene			--		
			Benzo(b)fluoranthene	1.3E-008	--	5.8E-007	6.0E-007	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.3E-009	--	5.8E-008	6.0E-008	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	3.8E-004	--	1.7E+000	1.7E+000
			bis(2-Ethylhexyl)phthalate	2.5E-007	--	1.1E-005	1.1E-005	bis(2-Ethylhexyl)phthalate	liver	1.1E-002	--	4.8E-001	4.9E-001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	4.3E-005	--	1.9E-003	1.9E-003
			Cadmium		--			Cadmium	kidney	8.1E-002	--	1.4E+002	1.4E+002
			Chlorobenzene		--			Chlorobenzene	liver	1.6E-004	--	2.2E-002	2.2E-002
			Chloroform	2.6E-012	--	1.2E-010	1.2E-010	Chloroform	circulatory	5.1E-007	--	2.3E-005	2.4E-005
			Chromium 3+		--			Chromium 3+	liver	4.4E-004	--	4.8E+000	4.8E+000
			Chrysene	4.0E-010	--	4.3E-008	4.3E-008	Chrysene	liver		--		
			Cobalt		--			Cobalt	heart	4.8E-004	--	2.1E-002	2.2E-002
			Copper		--			Copper	liver	1.5E-002	--	1.1E+000	1.1E+000
			Cyanide (total)		--			Cyanide (total)	liver	1.2E-003	--	1.1E-001	1.1E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	5.5E-005	--	2.4E-003	2.5E-003
			Diethylphthalate		--			Diethylphthalate	low body wt	9.5E-008	--	4.2E-006	4.3E-006
			Dimethylphthalate		--			Dimethylphthalate	GI tract	7.1E-008	--	3.1E-006	3.2E-006
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	7.6E-005	--	3.5E-003	3.5E-003
			Di-n-octylphthalate		--			Di-n-octylphthalate		3.3E-005	--	1.5E-003	1.5E-003
			Ethyl Benzene		--			Ethyl Benzene	liver	7.1E-004	--	3.4E-002	3.5E-002
			Fluoranthene		--			Fluoranthene	kidney	4.3E-005	--	1.9E-003	1.9E-003
			Fluorene		--			Fluorene	skeletal	7.7E-006	--	3.4E-004	3.5E-004
			Heptachlor	1.7E-008	--	7.4E-007	7.5E-007	Heptachlor	liver	8.9E-005	--	3.9E-003	4.0E-003
			Heptachlor epoxide	1.6E-008	--	7.1E-007	7.3E-007	Heptachlor epoxide	liver	1.6E-003	--	7.2E-002	7.4E-002
			Iron		--			Iron		2.1E-002	--	9.4E-001	9.7E-001
			Isophorone	1.6E-009	--	7.1E-008	7.2E-008	Isophorone	kidney	1.0E-004	--	4.5E-003	4.6E-003
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.9E-002	--	1.7E+000	1.8E+000
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	8.3E-011	--	5.1E-009	5.1E-009	Methylene Chloride	liver	1.7E-006	--	1.4E-004	1.4E-004
			Naphthalene		--			Naphthalene	circulatory	7.1E-004	--	3.1E-002	3.2E-002
			Nickel		--			Nickel	low body wt	1.3E-003	--	1.2E+000	1.2E+000
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			Pentachlorophenol	7.6E-009	--	3.3E-007	3.4E-007	Pentachlorophenol	liver	2.5E-005	--	1.1E-003	1.1E-003
			Phenol		--			Phenol	liver	5.4E-006	--	2.4E-004	2.4E-004
			Pyrene		--			Pyrene	liver	3.9E-005	--	1.7E-003	1.7E-003
			Selenium		--			Selenium	liver	1.7E-003	--	7.7E-002	7.9E-002
			Styrene		--			Styrene	liver	5.8E-005	--	2.6E-003	2.6E-003
			Tetrachloroethene	5.5E-007	--	2.4E-005	2.5E-005	Tetrachloroethene	liver	1.3E-002	--	5.6E-001	5.7E-001
			Toluene		--			Toluene	liver	1.6E-003	--	7.1E-002	7.3E-002
			Trichloroethene	4.6E-008	--	2.1E-006	2.1E-006	Trichloroethene	liver	8.5E-003	--	3.8E-001	3.9E-001
			Vanadium		--			Vanadium	circulatory	1.9E-003	--	8.4E-002	8.5E-002

Table 6-3-7
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Current
Receptor Population	Trespasser
Receptor Age	Adolescent

File: Area3RME.wk4 \ TT_sum_cTa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Xylenes (total)		--			Xylenes (total)	fetotoxic	1.4E-004	--	7.1E-003	7.3E-003
			Zinc		--			Zinc	thyroid	2.6E-002	--	3.8E+000	3.8E+000
			(Total)	1.1E-005		4.8E-004	4.9E-004	(Total)		9.5E-001		5.7E+002	5.7E+002
	AIR	Area 3, Surface Soil (0' to 2')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.92E-005	--	2.9E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.58E-005	--	1.6E-005
			1,1,2-Trichloroethane	--	7.44E-013	--	7.4E-013	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	8.31E-011	--	8.3E-011	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	8.41E-004	--	8.4E-004
			1,2-Dichloroethane	--	1.18E-008	--	1.2E-008	1,2-Dichloroethane	circulatory	--	1.11E-003	--	1.1E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.42E-003	--	1.4E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	6.33E-006	--	6.3E-006
			1,4-Dichlorobenzene	--	2.45E-010	--	2.4E-010	1,4-Dichlorobenzene	liver	--	5.83E-007	--	5.8E-007
			2-Butanone	--		--		2-Butanone	CNS	--	2.45E-009	--	2.5E-009
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.39E-002	--	2.4E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.98E-004	--	2.0E-004
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	4.99E-014	--	5.0E-014	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.21E-011	--	1.2E-011	Aldrin		--		--	
			alpha-BHC	--	2.45E-013	--	2.4E-013	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.15E-011	--	2.1E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	2.40E-011	--	2.4E-011	Aroclor-1248		--		--	
			Aroclor-1254	--	2.48E-011	--	2.5E-011	Aroclor-1254		--		--	
			Aroclor-1260	--	8.14E-011	--	8.1E-011	Aroclor-1260		--		--	
			Arsenic	--	4.18E-010	--	4.2E-010	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.96E-004	--	2.0E-004
			Benzene	--	2.44E-008	--	2.4E-008	Benzene	blood disorders	--	5.95E-003	--	5.9E-003
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	5.53E-013	--	5.5E-013	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	1.20E-011	--	1.2E-011	Beryllium	respiratory	--	3.00E-006	--	3.0E-006
			beta-BHC	--	1.33E-013	--	1.3E-013	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	1.18E-007	--	1.2E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	5.89E-012	--	5.9E-012	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	9.64E-010	--	9.6E-010	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.20E-010	--	1.2E-010
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.86E-003	--	2.9E-003
			Chloroform	--	3.66E-008	--	3.7E-008	Chloroform	liver	--	6.31E-002	--	6.3E-002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	7.75E-009	--	7.8E-009	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

Table 6-3-7
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

File: Area3RME.wk4 \ TT_sum_cTa3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	6.15E-004	--	6.1E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	3.50E-013	--	3.5E-013	Heptachlor		--		--	
			Heptachlor epoxide	--	3.38E-013	--	3.4E-013	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	9.56E-016	--	9.6E-016	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.25E-013	--	1.3E-013	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.19E-003	--	1.2E-003
			Mercury	--		--		Mercury	CNS	--	1.31E-006	--	1.3E-006
			Methylene Chloride	--	2.01E-009	--	2.0E-009	Methylene Chloride	respiratory	--	1.70E-005	--	1.7E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	1.17E-002	--	1.2E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.31E-005	--	5.3E-005
			Tetrachloroethene	--	1.31E-007	--	1.3E-007	Tetrachloroethene	liver	--	5.63E-003	--	5.6E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	1.80E-002	--	1.8E-002
			Trichloroethene	--	1.10E-007	--	1.1E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	5.15E-009	--	5.2E-009	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		4.5E-007		4.5E-007	(total)			1.4E-001		1.4E-001
							Total Risk Across Surface Soil	4.9E-004					Total Hazard Index Across Surface Soil	5.7E+002
							Total Risk Across All Media and All Exposure Routes	Reserved					

Total Kidney HI:	1.5E+002
Total Skin HI:	3.8E+002
Total Thyroid HI:	3.8E+000
Total Liver HI:	3.8E+001
Total Circulatory System HI:	2.8E+000
Total CNS HI:	4.2E-002
Total Fetotoxic HI:	7.5E-003
Total GI Tract HI:	1.9E-002
Total Respiratory HI:	3.4E-002
Total Eyes HI:	1.4E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.9E-003
Total Adrenal HI:	0.0E+000
Total Heart HI:	2.2E-002
Total Skeletal System HI:	3.5E-004
Total Thyroid HI:	3.8E+000
Total Blood Disorders HI:	3.3E-002

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

Table 6-3-8
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

File: Area3CT.wk4 \ TT_sum_cTa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 3, Surface Soil (0' to 2')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	1.1E-007	--	1.6E-006	1.7E-006
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	5.9E-008	--	8.5E-007	9.1E-007
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	8.6E-007	--	1.2E-005	1.3E-005
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.1E-004	--	1.6E-003	1.7E-003
			1,2-Dichloropropane	1.2E-012	--	1.7E-011	1.9E-011	1,2-Dichloropropane	GI tract		--		
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.1E-004	--	1.6E-003	1.7E-003
			2-Methylphenol		--			2-Methylphenol	liver	1.2E-005	--	1.8E-004	1.9E-004
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	3.2E-005	--	4.6E-004	5.0E-004
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	2.2E-007	--	4.0E-006	4.2E-006
			4-Methylphenol		--			4-Methylphenol	respiratory	1.2E-004	--	2.7E-003	2.8E-003
			4,4'-DDD	3.4E-011	--	4.9E-010	5.2E-010	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	7.9E-007	--	1.1E-005	1.2E-005
			Acetone		--			Acetone	fetotoxic	1.7E-007	--	3.1E-006	3.3E-006
			Aluminum		--			Aluminum	circulatory	1.3E-003	--	1.8E-002	1.9E-002
			Anthracene		--			Anthracene	GI tract	2.9E-007	--	4.2E-006	4.5E-006
			Antimony		--			Antimony	skin	2.2E-002	--	3.2E+001	3.2E+001
			Aroclor-1242	7.9E-008	--	1.1E-006	1.2E-006	Aroclor-1242	liver		--		
			Aroclor-1248	5.1E-008	--	7.3E-007	7.8E-007	Aroclor-1248	liver		--		
			Aroclor-1254	4.1E-008	--	6.7E-007	7.1E-007	Aroclor-1254	liver	1.4E-001	--	2.3E+000	2.5E+000
			Arsenic	4.3E-008	--	6.5E-007	7.0E-007	Arsenic	circulatory	1.3E-002	--	2.0E-001	2.2E-001
			Barium		--			Barium		4.6E-003	--	6.7E-002	7.1E-002
			Benzene	8.7E-011	--	1.4E-009	1.5E-009	Benzene	blood disorders	1.4E-004	--	2.2E-003	2.4E-003
			Benzo(a)anthracene	1.6E-009	--	2.4E-008	2.5E-008	Benzo(a)anthracene			--		
			Benzo(b)fluoranthene	2.9E-010	--	4.2E-009	4.5E-009	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	2.9E-011	--	4.2E-010	4.5E-010	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	9.9E-005	--	1.4E-001	1.4E-001
			bis(2-Ethylhexyl)phthalate	5.7E-009	--	8.1E-008	8.7E-008	bis(2-Ethylhexyl)phthalate	liver	2.8E-003	--	4.1E-002	4.4E-002
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.1E-005	--	1.6E-004	1.7E-004
			Cadmium		--			Cadmium	kidney	2.1E-002	--	1.2E+001	1.2E+001
			Chlorobenzene		--			Chlorobenzene	liver	4.1E-005	--	1.9E-003	1.9E-003
			Chloroform	5.7E-014	--	8.6E-013	9.2E-013	Chloroform	circulatory	1.3E-007	--	2.0E-006	2.1E-006
			Chromium 3+		--			Chromium 3+	liver	1.1E-004	--	4.1E-001	4.1E-001
			Chrysene	8.9E-012	--	3.1E-010	3.2E-010	Chrysene	liver		--		
			Cobalt		--			Cobalt	heart	1.2E-004	--	1.8E-003	1.9E-003
			Copper		--			Copper	liver	3.9E-003	--	9.4E-002	9.8E-002
			Cyanide (total)		--			Cyanide (total)	liver	3.2E-004	--	9.1E-003	9.4E-003
			Dibenzofuran		--			Dibenzofuran	dec growth rate	1.4E-005	--	2.0E-004	2.2E-004
			Diethylphthalate		--			Diethylphthalate	low body wt	2.5E-008	--	3.8E-007	3.8E-007
			Dimethylphthalate		--			Dimethylphthalate	GI tract	1.8E-008	--	2.7E-007	2.8E-007
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	2.0E-005	--	2.9E-004	3.1E-004
			Di-n-octylphthalate		--			Di-n-octylphthalate		8.5E-006	--	1.2E-004	1.3E-004
			Ethyl Benzene		--			Ethyl Benzene	liver	1.8E-004	--	2.9E-003	3.1E-003
			Fluoranthene		--			Fluoranthene	kidney	1.1E-005	--	1.6E-004	1.7E-004
			Fluorene		--			Fluorene	skeletal	2.0E-006	--	2.9E-005	3.1E-005
			Heptachlor	3.7E-010	--	5.4E-009	5.7E-009	Heptachlor	liver	2.3E-005	--	3.3E-004	3.6E-004
			Heptachlor epoxide	3.6E-010	--	5.2E-009	5.5E-009	Heptachlor epoxide	liver	4.2E-004	--	6.1E-003	6.5E-003
			Iron		--			Iron		5.6E-003	--	8.0E-002	8.6E-002
			Isophorone	3.8E-011	--	5.1E-010	5.5E-010	Isophorone	kidney	2.6E-005	--	3.8E-004	4.1E-004
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.0E-002	--	1.5E-001	1.6E-001
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.4E-012	--	3.7E-011	3.8E-011	Methylene Chloride	liver	4.4E-007	--	1.1E-005	1.2E-005
			Naphthalene		--			Naphthalene	circulatory	1.8E-004	--	2.7E-003	2.8E-003
			Nickel		--			Nickel	low body wt	3.5E-004	--	1.0E-001	1.0E-001
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			Pentachlorophenol	1.7E-010	--	2.4E-009	2.6E-009	Pentachlorophenol	liver	6.6E-006	--	9.5E-005	1.0E-004
			Phenol		--			Phenol	liver	1.4E-006	--	2.0E-005	2.2E-005
			Pyrene		--			Pyrene	liver	1.0E-005	--	1.5E-004	1.6E-004
			Selenium		--			Selenium	liver	4.5E-004	--	6.5E-003	7.0E-003
			Styrene		--			Styrene	liver	1.5E-005	--	2.2E-004	2.3E-004
			Tetrachloroethene	1.2E-008	--	1.8E-007	1.9E-007	Tetrachloroethene	liver	3.3E-003	--	4.7E-002	5.1E-002
			Toluene		--			Toluene	liver	4.2E-004	--	6.1E-003	6.5E-003
			Trichloroethene	1.0E-009	--	1.5E-008	1.6E-008	Trichloroethene	liver	2.2E-003	--	3.2E-002	3.4E-002
			Vanadium		--			Vanadium	circulatory	4.9E-004	--	7.1E-003	7.6E-003

Scenario Timeframe	Current
Receptor Population	Trespasser
Receptor Age	Adolescent

Table 6-3-8
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

File: Area3CT.wk4 \ TT_sum_cTa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Xylenes (total)		--			Xylenes (total)	fetotoxic	3.7E-005	--	6.0E-004	6.4E-004
			Zinc		--			Zinc	thyroid	6.7E-003	--	3.2E-001	3.3E-001
			(Total)	2.4E-007		3.5E-008	3.7E-006	(Total)		2.5E-001		4.8E+001	4.8E+001
	AIR	Area 3, Surface Soil (0' to 2')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	7.56E-006	--	7.6E-006
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	4.09E-006	--	4.1E-006
			1,1,2-Trichloroethane	--	1.65E-014	--	1.7E-014	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.85E-012	--	1.8E-012	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	2.18E-004	--	2.2E-004
			1,2-Dichloroethane	--	2.61E-010	--	2.6E-010	1,2-Dichloroethane	circulatory	--	2.87E-004	--	2.9E-004
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	3.67E-004	--	3.7E-004
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	1.64E-006	--	1.6E-006
			1,4-Dichlorobenzene	--	5.44E-012	--	5.4E-012	1,4-Dichlorobenzene	liver	--	1.51E-007	--	1.5E-007
			2-Butanone	--		--		2-Butanone	CNS	--	6.35E-010	--	6.4E-010
			2-Hexanone	--		--		2-Hexanone	CNS	--	6.18E-003	--	6.2E-003
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	5.14E-005	--	5.1E-005
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.11E-015	--	1.1E-015	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	2.68E-013	--	2.7E-013	Aldrin		--		--	
			alpha-BHC	--	5.44E-015	--	5.4E-015	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	4.77E-013	--	4.8E-013	Aroclor-1242		--		--	
			Aroclor-1248	--	5.34E-013	--	5.3E-013	Aroclor-1248		--		--	
			Aroclor-1254	--	5.52E-013	--	5.5E-013	Aroclor-1254		--		--	
			Aroclor-1260	--	1.81E-012	--	1.8E-012	Aroclor-1260		--		--	
			Arsenic	--	9.28E-012	--	9.3E-012	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	5.09E-005	--	5.1E-005
			Benzene	--	5.43E-010	--	5.4E-010	Benzene	blood disorders	--	1.54E-003	--	1.5E-003
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.23E-014	--	1.2E-014	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	2.66E-013	--	2.7E-013	Beryllium	respiratory	--	7.78E-007	--	7.8E-007
			beta-BHC	--	2.96E-015	--	3.0E-015	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	2.63E-009	--	2.6E-009	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.31E-013	--	1.3E-013	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	2.14E-011	--	2.1E-011	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	3.12E-011	--	3.1E-011
			Chlorobenzene	--		--		Chlorobenzene	liver	--	7.41E-004	--	7.4E-004
			Chloroform	--	8.14E-010	--	8.1E-010	Chloroform	liver	--	1.64E-002	--	1.6E-002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	1.72E-010	--	1.7E-010	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	

Scenario Timeframe:	Current
Receptor Population:	Trespasser
Receptor Age:	Adolescent

Table 6-3-8
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

File: Area3CT.wk4 \ TT_sum_cTa3CT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.59E-004	--	1.6E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	7.77E-015	--	7.8E-015	Heptachlor		--		--	
			Heptachlor epoxide	--	7.50E-015	--	7.5E-015	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	2.13E-017	--	2.1E-017	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	2.79E-015	--	2.8E-015	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	3.08E-004	--	3.1E-004
			Mercury	--		--		Mercury	CNS	--	3.40E-007	--	3.4E-007
			Methylene Chloride	--	4.47E-011	--	4.5E-011	Methylene Chloride	respiratory	--	4.41E-006	--	4.4E-006
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.04E-003	--	3.0E-003
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	1.38E-005	--	1.4E-005
			Tetrachloroethene	--	2.92E-009	--	2.9E-009	Tetrachloroethene	liver	--	1.48E-003	--	1.5E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	4.68E-003	--	4.7E-003
			Trichloroethene	--	2.45E-009	--	2.5E-009	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	1.14E-010	--	1.1E-010	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.0E-008		1.0E-008	(total)			3.5E-002		3.5E-002
						Total Risk Across Surface Soil	3.6E-008					Total Hazard Index Across Surface Soil	4.8E+001
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	1.2E+001
Total Skin HI:	3.2E+001
Total Thyroid HI:	3.3E-001
Total Liver HI:	3.2E+000
Total Circulatory System HI:	2.5E-001
Total CNS HI:	1.1E-002
Total Fetotoxic HI:	6.9E-004
Total GI Tract HI:	1.7E-003
Total Respiratory HI:	3.3E-003
Total Eyes HI:	1.2E-005
Total Reproductive HI:	0.0E+000
Total Mammary HI:	1.7E-004
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.9E-003
Total Skeletal System HI:	3.1E-005
Total Thyroid HI:	3.3E-001
Total Blood Disorders HI:	3.9E-003

Table 6-3-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area3RME.wk4 \ TT_sum_Ta3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	8.6E-006	--	3.8E-004	3.9E-004
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	1.9E-001	--	8.5E+000	8.7E+000
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	3.3E-006	--	1.5E-004	1.5E-004
			1,2-Dichloroethane	3.1E-009	--	1.4E-007	1.4E-007	1,2-Dichloroethane	fetotoxic	1.4E-005	--	6.0E-004	6.2E-004
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	1.5E-003	--	6.4E-002	6.6E-002
			1,2-Dichloropropane	1.6E-009	--	7.0E-008	7.1E-008	1,2-Dichloropropane	GI tract		--		
			1,4-Dichlorobenzene	9.4E-011	--	4.2E-009	4.2E-009	1,4-Dichlorobenzene	GI tract	1.6E-006	--	6.9E-005	7.1E-005
			2-Butanone		--			2-Butanone	liver	8.4E-002	--	3.9E+000	4.0E+000
			2-Hexanone		--			2-Hexanone	CNS	4.9E-005	--	2.2E-004	2.2E-004
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	5.3E-003	--	2.3E-001	2.4E-001
			2-Methylphenol		--			2-Methylphenol	liver	2.1E-004	--	9.4E-003	9.6E-003
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	1.6E-003	--	6.9E-002	7.1E-002
			2,4-Dinitrotoluene		--			2,4-Dinitrotoluene	CNS	2.1E-004	--	1.3E-002	1.4E-002
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	8.6E-007	--	4.7E-005	4.8E-005
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	3.9E-001	--	1.7E+001	1.7E+001
			4-Methylphenol		--			4-Methylphenol	respiratory	2.2E-003	--	1.5E-001	1.5E-001
			4-Nitrophenol		--			4-Nitrophenol	CNS	4.2E-006	--	1.8E-004	1.9E-004
			4,4'-DDD	1.5E-009	--	6.7E-008	6.8E-008	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	6.0E-006	--	2.6E-004	2.7E-004
			Acetone		--			Acetone	fetotoxic	1.7E-001	--	9.7E+000	9.8E+000
			Aluminum		--			Aluminum	circulatory	9.1E-003	--	4.0E-001	4.1E-001
			Anthracene		--			Anthracene	GI tract	2.0E-006	--	8.9E-005	9.1E-005
			Antimony		--			Antimony	skin	1.9E-001	--	8.5E+002	8.5E+002
			Aroclor-1242	2.4E-005	--	1.0E-003	1.1E-003	Aroclor-1242	liver		--		
			Aroclor-1248	1.1E-005	--	4.7E-004	4.8E-004	Aroclor-1248	liver		--		
			Aroclor-1254	3.7E-006	--	1.6E-004	1.9E-004	Aroclor-1254	liver	1.1E+000	--	5.5E+001	5.6E+001
			Aroclor-1260	3.0E-006	--	1.3E-004	1.4E-004	Aroclor-1260	circulatory		--		
			Arsenic	1.9E-006	--	9.0E-005	9.2E-005	Arsenic	circulatory	5.2E-002	--	2.4E+000	2.4E+000
			Barium		--			Barium		4.6E-002	--	2.0E+000	2.1E+000
			Benzene	1.8E-006	--	9.0E-005	9.2E-005	Benzene	blood disorders	2.5E-001	--	1.2E+001	1.3E+001
			Benzoic Acid		--			Benzoic Acid	GI tract	2.9E-005	--	1.3E-003	1.3E-003
			Benzo(a)anthracene	7.4E-008	--	3.3E-006	3.3E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	4.3E-007	--	2.2E-005	2.3E-005	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	1.2E-007	--	5.3E-006	5.4E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	1.2E-008	--	5.3E-007	5.4E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	3.8E-004	--	1.7E+000	1.7E+000
			bis(2-Ethylhexyl)phthalate	5.3E-006	--	2.3E-004	2.4E-004	bis(2-Ethylhexyl)phthalate	liver	2.3E-001	--	9.9E+000	1.0E+001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.7E-004	--	7.4E-003	7.5E-003
			Cadmium		--			Cadmium	kidney	8.6E-001	--	1.5E+003	1.5E+003
			Chlorobenzene		--			Chlorobenzene	liver	2.5E-002	--	3.6E+000	3.6E+000
			Chloroform	2.6E-012	--	1.2E-010	1.2E-010	Chloroform	circulatory	5.1E-007	--	2.3E-005	2.4E-005
			Chromium 3+		--			Chromium 3+	liver	1.3E-003	--	1.4E+001	1.4E+001
			Chrysene	4.9E-010	--	5.3E-008	5.3E-008	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	1.1E-006	--	4.9E-005	5.0E-005
			Cobalt		--			Cobalt	heart	1.3E-003	--	5.5E-002	5.6E-002
			Copper		--			Copper	liver	7.3E-002	--	5.4E+000	5.5E+000
			Cyanide (total)		--			Cyanide (total)	liver	1.7E-003	--	1.5E-001	1.5E-001
			Dibenzofuran		--			Dibenzofuran	dec growth rate	8.1E-005	--	3.6E-003	3.7E-003
			Dibenzo(a,h)anthracene	8.3E-008	--	4.1E-006	4.2E-006	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	3.2E-006	--	1.4E-004	1.4E-004
			Dimethylphthalate		--			Dimethylphthalate	GI tract	8.1E-007	--	3.6E-005	3.7E-005
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.2E-003	--	5.5E-002	5.6E-002
			Di-n-octylphthalate		--			Di-n-octylphthalate		9.6E-004	--	4.2E-002	4.3E-002
			Ethyl Benzene		--			Ethyl Benzene	liver	1.2E-001	--	5.6E+000	5.7E+000
			Fluoranthene		--			Fluoranthene	kidney	7.7E-005	--	3.4E-003	3.5E-003
			Fluorene		--			Fluorene	skeletal	1.2E-005	--	5.5E-004	5.6E-004
			Indeno(1,2,3-cd)pyrene	2.5E-008	--	1.1E-006	1.1E-006	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		1.2E-001	--	5.2E+000	5.3E+000
			Isophorone	1.4E-007	--	6.4E-006	6.5E-006	Isophorone	kidney	9.1E-003	--	4.0E-001	4.1E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.9E-002	--	1.7E+000	1.8E+000

Table 6-3-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area3RME.wk4 \TT_sum_Ta3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	8.6E-010	--	6.8E-008	6.9E-008	Methylene Chloride	liver	2.3E-005	--	1.8E-003	1.8E-003
			m,p-xylene		--			m,p-xylene	fetotoxic	3.0E-005	--	1.5E-003	1.5E-003
			Naphthalene		--			Naphthalene	circulatory	1.7E-002	--	7.6E-001	7.8E-001
			Nickel		--			Nickel	low body wt	5.0E-003	--	4.4E+000	4.4E+000
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	1.7E-005	--	8.3E-004	8.5E-004
			Pentachlorophenol	8.1E-008	--	3.6E-006	3.7E-006	Pentachlorophenol	liver	2.7E-004	--	1.2E-002	1.2E-002
			Phenol		--			Phenol	liver	7.3E-004	--	3.2E-002	3.3E-002
			Pyrene		--			Pyrene	liver	7.1E-005	--	3.1E-003	3.2E-003
			Selenium		--			Selenium	liver	1.6E-002	--	7.0E-001	7.2E-001
			Silver		--			Silver	skin	3.2E-002	--	6.6E+000	6.7E+000
			Styrene		--			Styrene	liver	7.9E-004	--	3.5E-002	3.5E-002
			Tetrachloroethene	1.0E-004	--	4.4E-003	4.5E-003	Tetrachloroethene	liver	2.3E+000	--	1.0E+002	1.0E+002
			Thallium		--			Thallium		1.1E-002	--	4.8E-001	4.9E-001
			Toluene		--			Toluene	liver	3.3E-001	--	1.5E+001	1.5E+001
			Trichloroethene	8.8E-006	--	4.0E-004	4.1E-004	Trichloroethene	liver	1.6E+000	--	7.2E+001	7.4E+001
			Vanadium		--			Vanadium	circulatory	3.5E-003	--	1.5E-001	1.6E-001
			Xylenes (total)		--			Xylenes (total)	fetotoxic	2.5E-002	--	1.2E+000	1.3E+000
			Zinc		--			Zinc	thyroid	2.7E-002	--	3.9E+000	3.9E+000
			(total)	1.6E-004		7.1E-003	7.3E-003	(total)		8.4E+000		2.7E+003	2.7E+003
	AIR	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	5.3E-005	--	5.3E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	5.0E-003	--	5.0E-003
			1,1,2-Trichloroethane	--	3.7E-010	--	3.7E-010	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	6.6E-010	--	6.6E-010	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	8.4E-004	--	8.4E-004
			1,2-Dichloroethane	--	2.3E-008	--	2.3E-008	1,2-Dichloroethane	circulatory	--	2.1E-003	--	2.1E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	3.6E-003	--	3.6E-003
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	6.5E-006	--	6.5E-006
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	8.7E-011	--	8.7E-011
			1,4-Dichlorobenzene	--	5.9E-010	--	5.9E-010	1,4-Dichlorobenzene	liver	--	1.4E-006	--	1.4E-006
			2-Butanone	--		--		2-Butanone	CNS	--	2.8E-007	--	2.8E-007
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.6E-002	--	2.6E-002
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	2.2E-002	--	2.2E-002
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	7.7E-014	--	7.7E-014	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.2E-011	--	1.2E-011	Aldrin		--		--	
			alpha-BHC	--	2.4E-013	--	2.4E-013	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	4.7E-011	--	4.7E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	3.7E-011	--	3.7E-011	Aroclor-1248		--		--	
			Aroclor-1254	--	2.6E-011	--	2.6E-011	Aroclor-1254		--		--	
			Aroclor-1260	--	9.1E-011	--	9.1E-011	Aroclor-1260		--		--	
			Arsenic	--	1.3E-010	--	1.3E-010	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	1.9E-004	--	1.9E-004

Table 6-3-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe	Future
Receptor Population	Trespasser
Receptor Age	Adolescent

File: Area3RME.wk4 \ TT_sum_Ta3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Benzene	--	5.8E-007	--	5.8E-007	Benzene	blood disorders	--	1.4E-001	--	1.4E-001
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	3.6E-012	--	3.6E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	5.0E-012	--	5.0E-012	Beryllium	respiratory	--	1.3E-006	--	1.3E-006
			beta-BHC	--	1.3E-013	--	1.3E-013	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	1.3E-007	--	1.3E-007	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.7E-011	--	1.7E-011	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	2.1E-009	--	2.1E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	2.4E-011	--	2.4E-011
			Chlorobenzene	--		--		Chlorobenzene	liver	--	3.9E-002	--	3.9E-002
			Chloroform	--	5.4E-008	--	5.4E-008	*Chloroform*	liver	--	9.3E-002	--	9.3E-002
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	8.2E-009	--	8.2E-009	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Dibenzo(a,h)anthracene	--		--		Dibenzo(a,h)anthracene		--		--	
			Dieldrin	--	6.3E-014	--	6.3E-014	Dieldrin		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endosulfan I	--		--		Endosulfan I		--		--	
			Endrin	--		--		Endrin		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.8E-003	--	1.8E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			gamma-Chlordane	--	6.9E-015	--	6.9E-015	gamma-Chlordane		--	1.2E-009	--	1.2E-009
			Heptachlor	--	7.0E-014	--	7.0E-014	Heptachlor		--		--	
			Heptachlor epoxide	--	6.8E-014	--	6.8E-014	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	1.9E-016	--	1.9E-016	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.3E-013	--	1.3E-013	*Hexachlorobutadiene*	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	6.5E-004	--	6.5E-004
			Mercury	--		--		Mercury	CNS	--	1.4E-006	--	1.4E-006
			Methylene Chloride	--	9.3E-009	--	9.3E-009	Methylene Chloride	respiratory	--	7.8E-005	--	7.8E-005
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.4E-002	--	3.4E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Phthalic anhydride	--		--		Phthalic anhydride		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	

Table 6-3-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area3RME.wk4 \ TT_sum_Ta3RME

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Styrene	--		--		Styrene	CNS	--	4.6E-004	--	4.6E-004
			Tetrachloroethene	--	1.4E-007	--	1.4E-007	Tetrachloroethene	liver	--	6.1E-003	--	6.1E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	2.2E-002	--	2.2E-002
			Trichloroethene	--	1.3E-006	--	1.3E-006	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	5.2E-009	--	5.2E-009	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		2.3E-006		2.3E-006	(total)			4.0E-001		4.0E-001
						Total Risk Across Subsurface Soil	7.3E-003					Total Hazard Index Across Subsurface Soil	2.7E+003
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	1.5E+003
Total Skin HI:	8.5E+002
Total Thyroid HI:	3.9E+000
Total Liver HI:	3.2E+002
Total Circulatory System HI:	3.8E+000
Total CNS HI:	8.4E-002
Total Fetotoxic HI:	1.1E+001
Total GI Tract HI:	2.4E-001
Total Respiratory HI:	1.6E-001
Total Eyes HI:	2.7E-004
Total Reproductive HI:	0.0E+000
Total Mammary HI:	7.5E-003
Total Adrenal HI:	0.0E+000
Total Heart HI:	5.6E-002
Total Skeletal System HI:	5.6E-004
Total Thyroid HI:	3.9E+000
Total Blood Disorders HI:	1.3E+001

Table 6-3-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area3CT.wk4 \ TT_sum_Ta3CT.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Soil	Soil	Area 3, Soil (0' to 10')	1,1-Dichloroethane		--			1,1-Dichloroethane	circulatory	2.2E-006	--	3.2E-005	3.4E-005
			1,1,1-Trichloroethane		--			1,1,1-Trichloroethane	liver	5.0E-002	--	7.2E-001	7.7E-001
			1,2-Dichlorobenzene		--			1,2-Dichlorobenzene	CNS	8.6E-007	--	1.2E-005	1.3E-005
			1,2-Dichloroethane	6.9E-011	--	1.0E-009	1.1E-009	1,2-Dichloroethane	fetotoxic	3.6E-006	--	5.1E-005	5.5E-005
			1,2-Dichloroethene (total)		--			1,2-Dichloroethene (total)	kidney	3.8E-004	--	5.5E-003	5.9E-003
			1,2-Dichloropropane	3.5E-011	--	5.1E-010	5.4E-010	1,2-Dichloropropane	GI tract		--		
			1,4-Dichlorobenzene	2.1E-012	--	3.0E-011	3.2E-011	1,4-Dichlorobenzene	GI tract	4.1E-007	--	5.9E-006	6.3E-006
			2-Butanone		--			2-Butanone	liver	2.2E-002	--	3.3E-001	3.5E-001
			2-Hexanone		--			2-Hexanone	CNS	1.3E-006	--	1.8E-005	2.0E-005
			2-Methylnaphthalene		--			2-Methylnaphthalene	GI tract	1.4E-003	--	2.0E-002	2.1E-002
			2-Methylphenol		--			2-Methylphenol	liver	5.5E-005	--	8.0E-004	8.5E-004
			2,4-Dimethylphenol		--			2,4-Dimethylphenol	generalized	4.1E-004	--	5.9E-003	6.3E-003
			2,4-Dinitrotoluene		--			2,4-Dinitrotoluene	CNS	5.5E-005	--	1.1E-003	1.2E-003
			2,4,5-Trichlorophenol		--			2,4,5-Trichlorophenol	kidney	2.2E-007	--	4.0E-006	4.2E-006
			4-Methyl-2-pentanone		--			4-Methyl-2-pentanone	liver	1.0E-001	--	1.4E+000	1.5E+000
			4-Methylphenol		--			4-Methylphenol	respiratory	5.8E-004	--	1.3E-002	1.3E-002
			4-Nitrophenol		--			4-Nitrophenol	CNS	1.1E-006	--	1.6E-005	1.7E-005
			4,4'-DDD	3.4E-011	--	4.9E-010	5.2E-010	4,4'-DDD	liver		--		
			Acenaphthene		--			Acenaphthene	eyes	1.6E-006	--	2.2E-005	2.4E-005
			Acetone		--			Acetone	fetotoxic	4.5E-002	--	8.2E-001	8.6E-001
			Aluminum		--			Aluminum	circulatory	2.4E-003	--	3.4E-002	3.6E-002
			Anthracene		--			Anthracene	GI tract	5.3E-007	--	7.6E-006	8.1E-006
			Antimony		--			Antimony	skin	5.0E-002	--	7.2E+001	7.2E+001
			Aroclor-1242	5.3E-007	--	7.6E-006	8.1E-006	Aroclor-1242	liver		--		
			Aroclor-1248	2.4E-007	--	3.4E-006	3.7E-006	Aroclor-1248	liver		--		
			Aroclor-1254	8.3E-008	--	1.3E-006	1.4E-006	Aroclor-1254	liver	2.9E-001	--	4.7E+000	5.0E+000
			Aroclor-1260	6.8E-008	--	9.7E-007	1.0E-006	Aroclor-1260	circulatory		--		
			Arsenic	4.3E-008	--	6.5E-007	7.0E-007	Arsenic	circulatory	1.3E-002	--	2.0E-001	2.2E-001
			Barium		--			Barium		1.2E-002	--	1.7E-001	1.9E-001
			Benzene	4.1E-008	--	6.5E-007	6.9E-007	Benzene	blood disorders	6.6E-002	--	1.1E+000	1.1E+000
			Benzoic Acid		--			Benzoic Acid	GI tract	7.6E-006	--	1.1E-004	1.2E-004
			Benzo(a)anthracene	1.6E-009	--	2.4E-008	2.5E-008	Benzo(a)anthracene			--		
			Benzo(a)pyrene	9.6E-009	--	1.6E-007	1.7E-007	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	2.7E-009	--	3.9E-008	4.1E-008	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	2.7E-010	--	3.9E-009	4.1E-009	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	9.9E-005	--	1.4E-001	1.4E-001
			bis(2-Ethylhexyl)phthalate	1.2E-007	--	1.7E-006	1.8E-006	bis(2-Ethylhexyl)phthalate	liver	5.9E-002	--	8.4E-001	9.0E-001
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	4.3E-005	--	6.2E-004	6.7E-004
			Cadmium		--			Cadmium	kidney	2.2E-001	--	1.3E+002	1.3E+002
			Chlorobenzene		--			Chlorobenzene	liver	6.6E-003	--	3.1E-001	3.1E-001
			Chloroform	5.7E-014	--	8.6E-013	9.2E-013	Chloroform	circulatory	1.3E-007	--	2.0E-006	2.1E-006
			Chromium 3+		--			Chromium 3+	liver	3.3E-004	--	1.2E+000	1.2E+000
			Chrysene	1.1E-011	--	3.9E-010	4.0E-010	Chrysene	liver		--		
			cis-1,2-Dichloroethene		--			cis-1,2-Dichloroethene	circulatory	2.9E-007	--	4.2E-006	4.5E-006
			Cobalt		--			Cobalt	heart	3.2E-004	--	4.7E-003	5.0E-003
			Copper		--			Copper	liver	1.9E-002	--	4.6E-001	4.8E-001
			Cyanide (total)		--			Cyanide (total)	liver	4.4E-004	--	1.3E-002	1.3E-002
			Dibenzofuran		--			Dibenzofuran	dec growth rate	2.1E-005	--	3.0E-004	3.2E-004
			Dibenzo(a,h)anthracene	1.9E-009	--	3.0E-008	3.1E-008	Dibenzo(a,h)anthracene			--		
			Diethylphthalate		--			Diethylphthalate	low body wt	8.2E-007	--	1.2E-005	1.3E-005
			Dimethylphthalate		--			Dimethylphthalate	GI tract	2.1E-007	--	3.0E-006	3.2E-006
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	3.2E-004	--	4.7E-003	5.0E-003
			Di-n-octylphthalate		--			Di-n-octylphthalate		2.5E-004	--	3.6E-003	3.8E-003
			Ethyl Benzene		--			Ethyl Benzene	liver	3.0E-002	--	4.7E-001	5.0E-001
			Fluoranthene		--			Fluoranthene	kidney	2.0E-005	--	2.9E-004	3.1E-004
			Fluorene		--			Fluorene	skeletal	3.2E-006	--	4.6E-005	5.0E-005
			Indeno(1,2,3-cd)pyrene	5.6E-010	--	8.1E-009	8.7E-009	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		3.1E-002	--	4.4E-001	4.7E-001
			Isophorone	3.2E-009	--	4.6E-008	4.9E-008	Isophorone	kidney	2.4E-003	--	3.4E-002	3.6E-002
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.0E-002	--	1.5E-001	1.6E-001

Table 6-3-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area3CT.wk4 \ TT_sum_Ta3CT.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Mercury		--			Mercury	low body wt		--		
			Methylene Chloride	1.9E-011	--	5.0E-010	5.2E-010	Methylene Chloride	liver	5.9E-006	--	1.5E-004	1.6E-004
			m,p-xylene		--			m,p-xylene	fetotoxic	7.9E-006	--	1.3E-004	1.3E-004
			Naphthalene		--			Naphthalene	circulatory	4.5E-003	--	6.4E-002	6.9E-002
			Nickel		--			Nickel	low body wt	1.3E-003	--	3.7E-001	3.7E-001
			N-Nitrosodiphenylamine		--			N-Nitrosodiphenylamine			--		
			ortho-xylene		--			ortho-xylene	fetotoxic	4.4E-006	--	7.0E-005	7.5E-005
			Pentachlorophenol	1.8E-009	--	2.8E-008	2.8E-008	Pentachlorophenol	liver	7.0E-005	--	1.0E-003	1.1E-003
			Phenol		--			Phenol	liver	1.9E-004	--	2.7E-003	2.9E-003
			Pyrene		--			Pyrene	liver	1.8E-005	--	2.7E-004	2.8E-004
			Selenium		--			Selenium	liver	4.1E-003	--	5.9E-002	6.4E-002
			Silver		--			Silver	skin	8.2E-003	--	5.6E-001	5.7E-001
			Styrene		--			Styrene	liver	2.0E-004	--	2.9E-003	3.1E-003
			Tetrachloroethene	2.2E-006	--	3.2E-005	3.5E-005	Tetrachloroethene	liver	6.0E-001	--	8.7E+000	9.3E+000
			Thallium		--			Thallium		2.8E-003	--	4.1E-002	4.3E-002
			Toluene		--			Toluene	liver	8.5E-002	--	1.2E+000	1.3E+000
			Trichloroethene	2.0E-007	--	2.9E-006	3.1E-006	Trichloroethene	liver	4.2E-001	--	6.1E+000	6.5E+000
			Vanadium		--			Vanadium	circulatory	9.0E-004	--	1.3E-002	1.4E-002
			Xylenes (total)		--			Xylenes (total)	fetotoxic	6.6E-003	--	1.1E-001	1.1E-001
			Zinc		--			Zinc	thyroid	6.9E-003	--	3.3E-001	3.4E-001
			(total)	3.6E-006		5.2E-005	5.5E-005	(total)		2.2E+000		2.3E+002	2.3E+002
	AIR	Area 3, Soil (0' to 10')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	1.4E-005	--	1.4E-005
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.3E-003	--	1.3E-003
			1,1,2-Trichloroethane	--	8.2E-012	--	8.2E-012	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	1.5E-011	--	1.5E-011	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	2.2E-004	--	2.2E-004
			1,2-Dichloroethane	--	5.1E-010	--	5.1E-010	1,2-Dichloroethane	circulatory	--	5.6E-004	--	5.6E-004
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	9.2E-004	--	9.2E-004
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	1.7E-006	--	1.7E-006
			1,3-Dichlorobenzene	--		--		1,3-Dichlorobenzene	respiratory	--	2.3E-011	--	2.3E-011
			1,4-Dichlorobenzene	--	1.3E-011	--	1.3E-011	1,4-Dichlorobenzene	liver	--	3.6E-007	--	3.6E-007
			2-Butanone	--		--		2-Butanone	CNS	--	7.2E-008	--	7.2E-008
			2-Hexanone	--		--		2-Hexanone	CNS	--	6.6E-003	--	6.6E-003
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dichlorophenol	--		--		2,4-Dichlorophenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4-Dinitrotoluene	--		--		2,4-Dinitrotoluene		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	5.8E-003	--	5.8E-003
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4-Nitrophenol	--		--		4-Nitrophenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.7E-015	--	1.7E-015	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	2.7E-013	--	2.7E-013	Aldrin		--		--	
			alpha-BHC	--	5.4E-015	--	5.4E-015	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	1.0E-012	--	1.0E-012	Aroclor-1242		--		--	
			Aroclor-1248	--	8.3E-013	--	8.3E-013	Aroclor-1248		--		--	
			Aroclor-1254	--	5.9E-013	--	5.9E-013	Aroclor-1254		--		--	
			Aroclor-1260	--	2.0E-012	--	2.0E-012	Aroclor-1260		--		--	
			Arsenic	--	2.9E-012	--	2.9E-012	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	5.0E-005	--	5.0E-005

Table 6-3-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe: Future
Receptor Population: Trespasser
Receptor Age: Adolescent

File: Area3CT.wk4 \ TT_sum_Ta3C1.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Benzene	–	1.3E-008	–	1.3E-008	Benzene	blood disorders	–	3.7E-002	–	3.7E-002
			Benzoic Acid	–		–		Benzoic Acid		–		–	
			Benzo(a)anthracene	–		–		Benzo(a)anthracene		–		–	
			Benzo(a)pyrene	–	8.0E-014	–	8.0E-014	Benzo(a)pyrene		–		–	
			Benzo(b)fluoranthene	–		–		Benzo(b)fluoranthene		–		–	
			Benzo(g,h,i)perylene	–		–		Benzo(g,h,i)perylene		–		–	
			Benzo(k)fluoranthene	–		–		Benzo(k)fluoranthene		–		–	
			Benzyl Alcohol	–		–		Benzyl Alcohol		–		–	
			Beryllium	–	1.1E-013	–	1.1E-013	Beryllium	respiratory	–	3.2E-007	–	3.2E-007
			beta-BHC	–	3.0E-015	–	3.0E-015	beta-BHC		–		–	
			bis(2-Chloroethyl) ether	–	2.8E-009	–	2.8E-009	bis(2-Chloroethyl) ether	liver	–		–	
			bis(2-Ethylhexyl)phthalate	–	3.8E-013	–	3.8E-013	bis(2-Ethylhexyl)phthalate		–		–	
			Butylbenzylphthalate	–		–		*Butylbenzylphthalate*		–		–	
			Cadmium	–	4.7E-011	–	4.7E-011	Cadmium		–		–	
			Carbon Disulfide	–		–		Carbon Disulfide		–	6.2E-012	–	6.2E-012
			Chlorobenzene	–		–		Chlorobenzene	liver	–	1.0E-002	–	1.0E-002
			Chloroform	–	1.2E-009	–	1.2E-009	Chloroform	liver	–	2.4E-002	–	2.4E-002
			Chromium 3+	–		–		Chromium 3+		–		–	
			Chromium 6+	–	1.8E-010	–	1.8E-010	Chromium 6+	respiratory	–		–	
			Chrysene	–		–		Chrysene		–		–	
			cis-1,2-Dichloroethene	–		–		cis-1,2-Dichloroethene		–		–	
			Cobalt	–		–		Cobalt		–		–	
			Copper	–		–		Copper		–		–	
			Cyanide (total)	–		–		Cyanide (total)		–		–	
			Dibenzofuran	–		–		Dibenzofuran		–		–	
			Dibenzo(a,h)anthracene	–		–		*Dibenzo(a,h)anthracene*		–		–	
			Dieldrin	–	1.4E-015	–	1.4E-015	Dieldrin		–		–	
			Diethylphthalate	–		–		Diethylphthalate		–		–	
			Dimethylphthalate	–		–		Dimethylphthalate		–		–	
			Di-n-butylphthalate	–		–		Di-n-butylphthalate		–		–	
			Di-n-octylphthalate	–		–		Di-n-octylphthalate		–		–	
			Endosulfan I	–		–		Endosulfan I		–		–	
			Endrin	–		–		Endrin		–		–	
			Endrin ketone	–		–		*Endrin ketone*		–		–	
			Ethyl Benzene	–		–		Ethyl Benzene	respiratory	–	4.5E-004	–	4.5E-004
			Fluoranthene	–		–		Fluoranthene		–		–	
			Fluorene	–		–		Fluorene		–		–	
			gamma-Chlordane	–	1.5E-016	–	1.5E-016	gamma-Chlordane		–	3.1E-010	–	3.1E-010
			Heptachlor	–	1.6E-015	–	1.6E-015	Heptachlor		–		–	
			Heptachlor epoxide	–	1.5E-015	–	1.5E-015	Heptachlor epoxide		–		–	
			Hexachlorobenzene	–	4.3E-018	–	4.3E-018	Hexachlorobenzene	liver	–		–	
			Hexachlorobutadiene	–	3.0E-015	–	3.0E-015	Hexachlorobutadiene	kidney	–		–	
			Hexane, n-	–		–		Hexane, n-		–		–	
			Indeno(1,2,3-cd)pyrene	–		–		Indeno(1,2,3-cd)pyrene		–		–	
			Isophorone	–		–		Isophorone		–		–	
			Lead	–		–		Lead		–		–	
			Manganese	–		–		*Manganese*	*respiratory*	–	1.7E-004	–	1.7E-004
			Mercury	–		–		Mercury	CNS	–	3.6E-007	–	3.6E-007
			Methylene Chloride	–	2.1E-010	–	2.1E-010	Methylene Chloride	respiratory	–	2.0E-005	–	2.0E-005
			m,p-xylene	–		–		m,p-xylene		–		–	
			Naphthalene	–		–		Naphthalene	circulatory	–	8.9E-003	–	8.9E-003
			Nickel	–		–		Nickel	*respiratory*	–		–	
			N-Nitrosodiphenylamine	–		–		N-Nitrosodiphenylamine		–		–	
			ortho-xylene	–		–		ortho-xylene		–		–	
			Pentachlorophenol	–		–		Pentachlorophenol		–		–	
			Phenanthrene	–		–		Phenanthrene		–		–	
			Phenol	–		–		Phenol		–		–	
			Phthalic anhydride	–		–		Phthalic anhydride		–		–	
			Pyrene	–		–		Pyrene		–		–	
			Selenium	–		–		Selenium		–		–	
			Silver	–		–		Silver		–		–	

Table 6-3-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: Area3CT.wk4 \ TT_sum_Ta3CT.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Styrene	--		--	
			Tetrachloroethene	--	3.2E-009	--	3.2E-009
			Thallium	--		--	
			Toluene	--		--	
			Trichloroethene	--	3.0E-008	--	3.0E-008
			Vanadium	--		--	
			Vinyl Chloride	--	1.1E-010	--	1.1E-010
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		5.1E-008		5.1E-008
						Total Risk Across Subsurface Soil	5.6E-005
						Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Styrene	CNS	--	1.2E-004	--	1.2E-004
Tetrachloroethene	liver	--	1.6E-003	--	1.6E-003
Thallium		--		--	
Toluene	CNS	--	5.6E-003	--	5.6E-003
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Vinyl Chloride	CNS	--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			1.0E-001		1.0E-001
				Total Hazard Index Across Subsurface Soil	2.3E+002

Total Kidney HI:	1.3E+002
Total Skin HI:	7.3E+001
Total Thyroid HI:	3.4E-001
Total Liver HI:	2.8E+001
Total Circulatory System HI:	3.5E-001
Total CNS HI:	1.9E-002
Total Fetotoxic HI:	9.8E-001
Total GI Tract HI:	2.1E-002
Total Respiratory HI:	1.4E-002
Total Eyes HI:	2.4E-005
Total Reproductive HI:	0.0E+000
Total Mammary HI:	6.7E-004
Total Adrenal HI:	0.0E+000
Total Heart HI:	5.0E-003
Total Skeletal System HI:	5.0E-005
Total Thyroid HI:	3.4E-001
Total Blood Disorders HI:	1.1E+000

Table 6-4-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe	Current/Future
Receptor Population	Trespasser
Receptor Age	Adolescent

File: TRS4aRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Wetlands Area 4A	2,2'-oxybis(1-Chloropropane)	2.5E-009		1.1E-008	1.4E-008	2,2'-oxybis(1-Chloropropane)	low body weight	1.1E-005		4.7E-005	5.8E-005
			2-Butanone					2-Butanone	liver	3.5E-008		1.6E-007	2.0E-007
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	9.6E-006		4.2E-005	5.2E-005
			4-Methylphenol					4-Methylphenol	respiratory system	1.1E-005		7.4E-005	8.6E-005
			Acetone					Acetone	fetotoxic	1.0E-006		5.6E-006	6.6E-006
			Aluminum					Aluminum	circulatory system	5.1E-003		2.3E-003	7.4E-003
			Anthracene					Anthracene	GI tract	4.6E-007		2.0E-006	2.5E-006
			Antimony					Antimony	skin	3.6E-003		1.6E-001	1.6E-001
			Aroclor-1248	3.4E-007			3.4E-007	Aroclor-1248	liver				
			Aroclor-1254	8.2E-007		5.5E-006	6.4E-006	Aroclor-1254	liver	2.5E-001		1.7E+000	1.9E+000
			Aroclor-1260	2.8E-007		1.3E-006	1.5E-006	Aroclor-1260	circulatory system				
			Arsenic	7.7E-007		1.2E-006	1.9E-006	Arsenic	circulatory system	2.1E-002		3.0E-002	5.1E-002
			Barium					Barium		5.8E-004		2.6E-004	8.3E-004
			Benzene	1.3E-010		6.5E-010	7.9E-010	Benzene	blood disorders	1.9E-005		9.1E-005	1.1E-004
			Benzo(a)anthracene	1.7E-008		7.6E-008	9.3E-008	Benzo(a)anthracene					
			Benzo(a)pyrene	1.8E-007		1.2E-006	1.4E-006	Benzo(a)pyrene					
			Benzo(b)fluoranthene	2.3E-008		1.0E-007	1.2E-007	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	2.1E-009		9.3E-009	1.1E-008	Benzo(k)fluoranthene					
			Benzoic Acid					Benzoic Acid	GI tract	1.5E-007		6.7E-007	8.2E-007
			Beryllium					Beryllium	kidney	2.5E-004		1.1E-002	1.1E-002
			bis(2-Chloroethyl) ether	2.0E-008		8.8E-008	1.1E-007	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	6.3E-010		2.8E-009	3.4E-009	bis(2-Ethylhexyl)phthalate	liver	2.7E-005		1.2E-004	1.5E-004
			Cadmium					Cadmium	kidney	5.6E-003		9.8E-002	1.0E-001
			Chloroethane	4.2E-012		1.8E-011	2.3E-011	Chloroethane	liver	4.3E-008		1.9E-007	2.3E-007
			Chloroform	5.2E-013		2.4E-012	2.9E-012	Chloroform	circulatory system	1.0E-007		4.7E-007	5.7E-007
			Chromium (total)					Chromium (total)		7.8E-003		3.5E-002	4.2E-002
			Chrysene	1.9E-010		2.0E-009	2.2E-009	Chrysene	liver				
			Copper					Copper	liver	9.4E-004		6.9E-004	1.6E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	2.8E-006		1.3E-005	1.6E-005
			Dibenzo(a,h)anthracene	1.1E-007		5.5E-007	6.6E-007	Dibenzo(a,h)anthracene					
			Fluoranthene					Fluoranthene	kidney	7.6E-006		3.3E-005	4.1E-005
			Indeno(1,2,3-cd)pyrene	1.5E-008		6.6E-008	8.1E-008	Indeno(1,2,3-cd)pyrene					
			Iron					Iron		3.5E-002		1.5E-002	5.0E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.0E-002		4.5E-003	1.5E-002
			Mercury					Mercury	low body weight				
			Methylene Chloride	1.2E-011		9.6E-011	1.1E-010	Methylene Chloride	liver	3.1E-007		2.5E-006	2.8E-006
			Naphthalene					Naphthalene	circulatory system	1.1E-005		4.7E-005	5.8E-005
			Nickel					Nickel	low body weight	6.8E-004		6.0E-003	6.7E-003
			Pyrene					Pyrene	liver	1.0E-005		4.5E-005	5.5E-005
			Selenium					Selenium	liver	1.1E-004		4.9E-005	1.6E-004
			Thallium					Thallium		1.0E-002		4.5E-003	1.5E-002
			Toluene					Toluene	liver	1.2E-007		5.2E-007	6.4E-007
			Vanadium					Vanadium	circulatory system	3.5E-003		1.5E-003	5.0E-003
			Zinc					Zinc	thyroid	4.5E-004		6.6E-004	1.1E-003
			(Total)	2.6E-008		1.0E-005	1.3E-005	(Total)		3.5E-001		2.0E+000	2.4E+000
						Total Risk Across Sediment	1.3E-005					Total Hazard Index Across Sediment	2.4E+000

Total Respiratory System HI =	8.6E-005
Total Circulatory System HI =	6.3E-002
Total Low Body Weight HI =	6.7E-003
Total Fetotoxic HI =	6.6E-006
Total GI Tract HI =	5.5E-005
Total Thyroid HI =	1.1E-003
Total Kidney HI =	1.3E-001
Total Liver HI =	1.9E+000
Total Skin HI =	1.8E-001
Total Blood Disorders HI =	1.1E-004

Table 6-4-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRS4aCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Wetland Area 4A	2,2'-oxybis(1-Chloropropane)	5.6E-011		8.1E-011	1.4E-010	2,2'-oxybis(1-Chloropropane)	low body weight	2.8E-006		4.0E-006	6.8E-006
			2-Butanone					2-Butanone	liver	9.1E-009		1.4E-008	2.3E-008
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	2.5E-006		3.6E-006	6.1E-006
			4-Methylphenol					4-Methylphenol	respiratory system	2.9E-006		6.3E-006	9.2E-006
			Acetone					Acetone	fetotoxic	2.6E-007		4.7E-007	7.3E-007
			Aluminum					Aluminum	circulatory system	1.3E-003		1.9E-004	1.5E-003
			Anthracene					Anthracene	GI tract	1.2E-007		1.7E-007	2.9E-007
			Antimony					Antimony	skin	9.2E-004		1.3E-002	1.4E-002
			Aroclor-1248	7.5E-009			7.5E-009	Aroclor-1248	liver				
			Aroclor-1254	1.8E-008		4.0E-008	5.8E-008	Aroclor-1254	liver	6.3E-002		1.4E-001	2.1E-001
			Aroclor-1260	6.3E-009		9.1E-009	1.5E-008	Aroclor-1260	circulatory system				
			Arsenic	1.7E-008		8.4E-009	2.6E-008	Arsenic	circulatory system	5.3E-003		2.5E-003	7.9E-003
			Barium					Barium		1.5E-004		2.2E-005	1.7E-004
			Benzene	3.0E-012		4.8E-012	7.8E-012	Benzene	blood disorders	4.8E-006		7.7E-006	1.3E-005
			Benzo(a)anthracene	3.8E-010		5.5E-010	9.4E-010	Benzo(a)anthracene					
			Benzo(a)pyrene	3.9E-009		8.6E-009	1.2E-008	Benzo(a)pyrene					
			Benzo(b)fluoranthene	5.1E-010		7.3E-010	1.2E-009	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	4.7E-011		6.8E-011	1.2E-010	Benzo(k)fluoranthene					
			Benzoic Acid					Benzoic Acid	GI tract	3.9E-008		5.7E-008	9.6E-008
			Beryllium					Beryllium	kidney	6.6E-005		9.4E-004	1.0E-003
			bis(2-Chloroethyl) ether	4.4E-010		6.4E-010	1.1E-009	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	1.4E-011		2.0E-011	3.4E-011	bis(2-Ethylhexyl)phthalate	liver	7.0E-006		1.0E-005	1.7E-005
			Cadmium					Cadmium	kidney	1.4E-003		8.3E-003	9.8E-003
			Chloroethane	9.3E-014		1.3E-013	2.3E-013	Chloroethane	liver	1.1E-008		1.6E-008	2.7E-008
			Chloroform	1.1E-014		1.7E-014	2.9E-014	Chloroform	circulatory system	2.6E-008		3.9E-008	6.6E-008
			Chromium (total)					Chromium (total)		2.0E-003		2.9E-003	4.9E-003
			Chrysene	4.1E-012		1.5E-011	1.9E-011	Chrysene	liver				
			Copper					Copper	liver	2.4E-004		5.8E-005	3.0E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	7.4E-007		1.1E-006	1.8E-006
			Dibenzo(a,h)anthracene	2.5E-009		4.0E-009	6.5E-009	Dibenzo(a,h)anthracene					
			Fluoranthene					Fluoranthene	kidney	2.0E-006		2.8E-006	4.8E-006
			Indeno(1,2,3-cd)pyrene	3.3E-010		4.8E-010	8.1E-010	Indeno(1,2,3-cd)pyrene					
			Iron					Iron		9.2E-003		1.3E-003	1.1E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	2.6E-003		3.8E-004	3.0E-003
			Mercury					Mercury	low body weight				
			Methylene Chloride	2.6E-013		7.0E-013	9.6E-013	Methylene Chloride	liver	8.1E-008		2.1E-007	2.9E-007
			Naphthalene					Naphthalene	circulatory system	2.8E-006		4.0E-006	6.7E-006
			Nickel					Nickel	low body weight	1.8E-004		5.1E-004	6.8E-004
			Pyrene					Pyrene	liver	2.6E-006		3.8E-006	6.4E-006
			Selenium					Selenium	liver	2.9E-005		4.2E-006	3.3E-005
			Thallium					Thallium		2.6E-003		3.8E-004	3.0E-003
			Toluene					Toluene	liver	3.1E-008		4.4E-008	7.5E-008
			Vanadium					Vanadium	circulatory system	9.0E-004		1.3E-004	1.0E-003
			Zinc					Zinc	thyroid	1.2E-004		5.6E-005	1.7E-004
			(Total)	5.7E-008		7.3E-008	1.3E-007	(Total)		9.1E-002		1.7E-001	2.6E-001
						Total Risk Across Sediment	1.3E-007					Total Hazard Index Across Sediment	2.6E-001

Total Respiratory System HI =	9.2E-003
Total Circulatory System HI =	1.0E-002
Total Low Body Weight HI =	6.8E-004
Total Fetotoxic HI =	7.3E-007
Total GI Tract HI =	6.5E-006
Total Thyroid HI =	1.7E-004
Total Kidney HI =	1.4E-002
Total Liver HI =	2.1E-001
Total Skin HI =	1.4E-002
Total Blood Disorders HI =	1.3E-005

TABLE 6-4-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRES4A.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Wetlands Area 4A	2,2'-oxybis(1-Chloropropane)	2.2E-008			2.2E-008	2,2'-oxybis(1-Chloropropane)	low body weight	9.3E-005			9.3E-005
			2-Butanone					2-Butanone	liver	2.6E-007		7.6E-008	3.4E-007
			4-Methylphenol					4-Methylphenol	respiratory system	4.5E-005		4.3E-005	8.8E-005
			Acetone					Acetone	fetotoxic	2.9E-005		1.1E-006	3.0E-005
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	2.7E-001		1.2E-002	2.8E-001
			Arsenic	6.5E-008		2.7E-009	6.7E-008	Arsenic	circulatory system	1.7E-003		6.0E-005	1.8E-003
			Barium					Barium	NA	3.8E-004		1.7E-005	4.0E-004
			Benzene	6.9E-007		7.2E-007	1.4E-006	Benzene	blood disorders	9.5E-002		1.2E-001	2.2E-001
			bis(2-Chloroethyl) ether	1.2E-007		1.9E-008	1.4E-007	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	1.6E-009		2.1E-008	2.3E-008	bis(2-Ethylhexyl)phthalate	liver	6.8E-005		9.1E-004	9.7E-004
			Cadmium					Cadmium	kidney	1.4E-002		1.2E-002	2.7E-002
			Chloroethane	9.3E-009		4.0E-009	1.3E-008	Chloroethane	liver	9.6E-005		4.1E-005	1.4E-004
			Cyanide (total)					Cyanide (total)	liver	4.5E-005		4.0E-006	4.9E-005
			Iron					Iron		4.9E-002		2.2E-003	5.1E-002
			Isophorone	3.6E-011		1.1E-011	4.7E-011	Isophorone	kidney	2.3E-006		7.0E-007	3.0E-006
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.1E-002		4.7E-004	1.1E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	1.1E-004			1.1E-004
			Zinc					Zinc	thyroid	3.3E-004		2.9E-005	3.6E-004
			(Total)	9.1E-007		7.7E-007	1.7E-006	(Total)		4.4E-001		1.5E-001	5.9E-001
	Air		2,2'-oxybis(1-Chloropropane)		1.6E-008		1.6E-008	2,2'-oxybis(1-Chloropropane)	liver				
			2-Butanone					2-Butanone	CNS		4.1E-006		4.1E-006
			4-Methylphenol					4-Methylphenol	NA				
			Acetone					Acetone					
			Ammonia					Ammonia	respiratory system				
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		8.3E-007		8.3E-007	Benzene	blood disorders		8.6E-001		8.6E-001
			bis(2-Chloroethyl) ether		7.9E-008		7.9E-008	bis(2-Chloroethyl) ether	liver				
			bis(2-Ethylhexyl)phthalate					bis(2-Ethylhexyl)phthalate	NA				
			Cadmium					Cadmium	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		1.6E-004		1.6E-004
			Cyanide (total)					Cyanide (total)					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese					Manganese	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Zinc					Zinc					
			(Total)		9.2E-007		9.2E-007	(Total)			8.6E-001		8.6E-001
						Total Risk Across Surface Water	2.6E-006					Total Hazard Index Across Surface Water	1.5E+000

Total Circulatory System HI =	1.7E-003
Total Respiratory System HI =	4.5E-005
Total Fetotoxic HI =	1.6E-004
Total Thyroid HI =	3.3E-004
Total Kidney HI =	2.5E-002
Total Liver HI =	2.1E-004
Total Skin HI =	2.7E-001
Total CNS HI =	4.1E-006
Total Blood Disorders HI =	1.1E+000

TABLE 6-4-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRES4Act WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Water	Surface Water	Wetlands Area 4A	2,2'-oxybis(1-Chloropropane)	5.4E-010			5.4E-010	2,2'-oxybis(1-Chloropropane)	low body weight	2.7E-005			2.7E-005
			2-Butanone					2-Butanone	liver	1.6E-006		7.5E-007	2.4E-006
			4-Methylphenol					4-Methylphenol	respiratory system	6.6E-005		1.0E-004	1.7E-004
			Acetone					Acetone	fetotoxic	1.0E-005		5.1E-007	1.1E-005
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	7.9E-002		5.7E-003	8.5E-002
			Arsenic	1.6E-009		1.1E-010	1.7E-009	Arsenic	circulatory system	5.0E-004		3.8E-005	5.4E-004
			Barium					Barium	NA	1.1E-004		8.0E-006	1.2E-004
			Benzene	2.3E-008		3.9E-008	6.3E-008	Benzene	blood disorders	3.7E-002		7.8E-002	1.2E-001
			bis(2-Chloroethyl) ether	3.2E-009		7.9E-010	3.9E-009	bis(2-Chloroethyl) ether	reproductive system				
			bis(2-Ethylhexyl)phthalate	3.8E-011		7.4E-009	7.5E-009	bis(2-Ethylhexyl)phthalate	liver	1.9E-005		3.7E-003	3.7E-003
			Cadmium					Cadmium	kidney	4.1E-003		6.0E-003	1.0E-002
			Chloroethane	2.7E-010		1.9E-010	4.7E-010	Chloroethane	liver	3.3E-005		2.3E-005	5.6E-005
			Cyanide (total)					Cyanide (total)	liver	1.2E-005		1.7E-006	1.3E-005
			Iron					Iron	kidney	1.6E-002		1.2E-003	1.8E-002
			Isophorone	2.2E-012		1.1E-012	3.4E-012	Isophorone	kidney	1.6E-006		8.4E-007	2.5E-006
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	3.1E-003		2.2E-004	3.3E-003
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	3.3E-005			3.3E-005
			Zinc					Zinc	thyroid	1.0E-004		4.4E-006	1.1E-004
			(Total)	2.9E-008		4.8E-008	7.7E-008	(Total)		1.4E-001		9.5E-002	2.4E-001
	Air		2,2'-oxybis(1-Chloropropane)		5.8E-010		5.8E-010	2,2'-oxybis(1-Chloropropane)	liver				
			2-Butanone					2-Butanone	CNS		2.4E-006		2.4E-006
			4-Methylphenol					4-Methylphenol	NA				
			Acetone					Acetone					
			Ammonia					Ammonia	respiratory system				
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		3.0E-008		3.0E-008	Benzene	blood disorders		5.0E-001		5.0E-001
			bis(2-Chloroethyl) ether		2.9E-009		2.9E-009	bis(2-Chloroethyl) ether	liver				
			bis(2-Ethylhexyl)phthalate					bis(2-Ethylhexyl)phthalate	NA				
			Cadmium					Cadmium	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		9.1E-005		9.1E-005
			Cyanide (total)					Cyanide (total)					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese					Manganese	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Zinc					Zinc					
			(Total)		3.3E-008		3.3E-008	(Total)			5.0E-001		5.0E-001
						Total Risk Across Surface Water	1.1E-007					Total Hazard Index Across Surface Water	7.4E-001

Total Circulatory System HI =	5.0E-004
Total Respiratory System HI =	6.6E-005
Total Fetotoxic HI =	9.1E-005
Total Thyroid HI =	1.0E-004
Total Kidney HI =	2.4E-002
Total Liver HI =	6.5E-005
Total Skin HI =	7.9E-002
Total CNS HI =	2.4E-006
Total Blood Disorders HI =	6.2E-001

Table 6-5-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	1.5E-006		7.6E-006	9.1E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	1.7E-006		8.8E-006	1.1E-005
			4,4'-DDD	7.6E-009		3.8E-008	4.6E-008	4,4'-DDD	liver				
			4,4'-DDE	4.0E-008		2.0E-007	2.4E-007	4,4'-DDE	liver				
			4,4'-DDT	3.3E-008		5.0E-008	8.3E-008	4,4'-DDT	fetotoxic	5.4E-004		8.2E-004	1.4E-003
			Acetone					Acetone	fetotoxic	2.8E-007		1.8E-006	2.1E-006
			alpha-Chlordane	3.1E-008		6.3E-008	9.4E-008	alpha-Chlordane	liver	5.0E-004		1.0E-003	1.5E-003
			Anthracene					Anthracene	GI tract	9.6E-007		4.8E-006	5.8E-006
			Aroclor-1248	1.8E-007		8.9E-007	1.1E-006	Aroclor-1248	liver				
			Aroclor-1254	7.1E-006		5.6E-005	6.3E-005	Aroclor-1254	liver	5.0E-001		3.9E+000	4.4E+000
			Aroclor-1260	7.8E-007		3.9E-006	4.7E-006	Aroclor-1260	circulatory system				
			Arsenic	4.6E-006		7.3E-006	1.2E-005	Arsenic	circulatory system	2.9E-002		4.5E-002	7.4E-002
			Benzo(a)anthracene	1.1E-007		5.3E-007	6.4E-007	Benzo(a)anthracene					
			Benzo(a)pyrene	1.2E-006		9.1E-006	1.0E-005	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.3E-007		6.5E-007	7.8E-007	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	1.2E-008		6.1E-008	7.3E-008	Benzo(k)fluoranthene					
			beta-BHC	1.9E-008		9.5E-009	2.8E-008	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	2.3E-008		1.1E-007	1.4E-007	bis(2-Ethylhexyl)phthalate	liver	2.3E-004		1.1E-003	1.4E-003
			Cadmium					Cadmium	kidney	1.3E-002		1.3E+000	1.4E+000
			Carbazole	2.9E-010		1.5E-009	1.8E-009	Carbazole					
			Chromium (total)					Chromium (total)		1.2E-002		6.2E-002	7.5E-002
			Chrysene	1.1E-009		1.4E-008	1.5E-008	Chrysene	liver				
			Copper					Copper	liver	1.0E-003		8.7E-004	1.9E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	9.5E-007		4.9E-006	5.9E-006
			Dibenzo(a,h)anthracene	8.5E-007		4.8E-006	5.6E-006	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	7.3E-005		3.7E-004	4.4E-004
			Endrin					Endrin	liver	5.6E-004		2.8E-003	3.4E-003
			Fluoranthene					Fluoranthene	kidney	1.1E-005		5.6E-005	6.7E-005
			gamma-BHC	1.5E-008		7.7E-008	9.2E-008	gamma-BHC	liver	1.1E-004		5.5E-004	6.6E-004
			gamma-Chlordane	6.8E-009		1.4E-008	2.0E-008	gamma-Chlordane	liver	1.1E-004		2.2E-004	3.3E-004
			Heptachlor	1.1E-007		5.7E-007	6.8E-007	Heptachlor	liver	1.4E-004		7.0E-004	8.4E-004
			Indeno(1,2,3-cd)pyrene	1.0E-007		5.0E-007	6.0E-007	Indeno(1,2,3-cd)pyrene					
			Isophorone	1.6E-011		8.1E-011	9.7E-011	Isophorone	kidney	2.4E-007		1.2E-006	1.4E-006
			Lead					Lead	CNS				
			Mercury					Mercury	low body weight				

Table 6-5-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Methoxychlor					Methoxychlor	reproductive system	6.5E-005		3.3E-004	3.9E-004
			Naphthalene					Naphthalene	circulatory system	1.4E-006		7.1E-006	8.5E-006
			Pyrene					Pyrene	liver	1.4E-005		7.3E-005	8.7E-005
			Zinc					Zinc	thyroid	1.1E-003		1.9E-003	3.0E-003
			(Total)	1.5E-005		8.5E-005	1.0E-004	(Total)		5.5E-001		5.4E+000	5.9E+000
			Total Risk Across Sediments				1.0E-004	Total Hazard Index Across All Exposure Routes					5.9E+000

Total Reproductive System HI =	3.9E-004
Total Circulatory System HI =	7.4E-002
Total Fetotoxic HI =	1.4E-003
Total GI Tract HI =	1.6E-005
Total Thyroid HI =	3.0E-003
Total Kidney HI =	1.4E+000
Total Liver HI =	4.4E+000

Table 6-5-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI4BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	5.8E-007		1.1E-006	1.7E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	6.8E-007		1.3E-006	2.0E-006
			4,4'-DDD	5.9E-010		1.1E-009	1.7E-009	4,4'-DDD	liver				
			4,4'-DDE	3.1E-009		6.0E-009	9.1E-009	4,4'-DDE	liver				
			4,4'-DDT	2.6E-009		1.5E-009	4.1E-009	4,4'-DDT	fetotoxic	2.1E-004		1.2E-004	3.3E-004
			Acetone					Acetone	fetotoxic	1.1E-007		2.7E-007	3.8E-007
			alpha-Chlordane	2.4E-009		1.9E-009	4.3E-009	alpha-Chlordane	liver	1.9E-004		1.5E-004	3.4E-004
			Anthracene					Anthracene	GI tract	3.7E-007		7.3E-007	1.1E-006
			Aroclor-1248	1.4E-008		2.7E-008	4.1E-008	Aroclor-1248	liver				
			Aroclor-1254	5.5E-007		1.7E-006	2.2E-006	Aroclor-1254	liver	1.9E-001		5.9E-001	7.9E-001
			Aroclor-1260	6.1E-008		1.2E-007	1.8E-007	Aroclor-1260	circulatory system				
			Arsenic	3.6E-007		2.2E-007	5.8E-007	Arsenic	circulatory system	1.1E-002		6.9E-003	1.8E-002
			Benzo(a)anthracene	8.2E-009		1.6E-008	2.4E-008	Benzo(a)anthracene					
			Benzo(a)pyrene	9.1E-008		2.7E-007	3.6E-007	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.0E-008		2.0E-008	3.0E-008	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	9.4E-010		1.8E-009	2.8E-009	Benzo(k)fluoranthene					
			beta-BHC	1.5E-009		2.9E-010	1.8E-009	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	1.8E-009		3.4E-009	5.2E-009	bis(2-Ethylhexyl)phthalate	liver	8.8E-005		1.7E-004	2.6E-004
			Cadmium					Cadmium	kidney	5.2E-003		2.0E-001	2.1E-001
			Carbazole	2.3E-011		4.4E-011	6.7E-011	Carbazole					
			Chromium (total)					Chromium (total)		4.8E-003		9.4E-003	1.4E-002
			Chrysene	8.9E-011		4.3E-010	5.1E-010	Chrysene	liver				
			Copper					Copper	liver	4.1E-004		1.3E-004	5.4E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	3.7E-007		7.4E-007	1.1E-006
			Dibenzo(a,h)anthracene	6.6E-008		1.4E-007	2.1E-007	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	2.8E-005		5.6E-005	8.4E-005
			Endrin					Endrin	liver	2.2E-004		4.3E-004	6.5E-004
			Fluoranthene					Fluoranthene	kidney	4.3E-006		8.5E-006	1.3E-005
			gamma-BHC	1.2E-009		2.3E-009	3.5E-009	gamma-BHC	liver	4.2E-005		8.3E-005	1.3E-004
			gamma-Chlordane	5.3E-010		4.1E-010	9.4E-010	gamma-Chlordane	liver	4.2E-005		3.3E-005	7.5E-005
			Heptachlor	8.7E-009		1.7E-008	2.6E-008	Heptachlor	liver	5.4E-005		1.1E-004	1.6E-004
			Indeno(1,2,3-cd)pyrene	7.8E-009		1.5E-008	2.3E-008	Indeno(1,2,3-cd)pyrene					
			Isophorone	1.2E-012		2.4E-012	3.7E-012	Isophorone	kidney	9.2E-008		1.8E-007	2.7E-007
			Lead					Lead	CNS				
			Mercury					Mercury	low body weight				

Table 6-5-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: UTI4BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Methoxychlor				
			Naphthalene				
			Pyrene				
			Zinc				
			(Total)	1.2E-006		2.6E-006	3.8E-006
						Total Risk Across Sediments	3.8E-006

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Methoxychlor	reproductive system	2.5E-005		5.0E-005	7.5E-005
Naphthalene	circulatory system	5.5E-007		1.1E-006	1.6E-006
Pyrene	liver	5.6E-006		1.1E-005	1.7E-005
Zinc	thyroid	4.4E-004		2.8E-004	7.2E-004
(Total)		2.2E-001		8.1E-001	1.0E+000
				Total Hazard Index Across All Exposure Routes	1.0E+000

Total Reproductive System HI =	7.5E-005
Total Circulatory System HI =	1.8E-002
Total Fetotoxic HI =	3.3E-004
Total GI Tract HI =	3.1E-006
Total Thyroid HI =	7.2E-004
Total Kidney HI =	2.1E-001
Total Liver HI =	7.9E-001

TABLE 6-5-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG4BFWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifer	Excavation Area 4B	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system			2.63E-004	2.63E-004
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS			1.64E-002	1.64E-002
			1,2-Dichloroethane			1.70E-007	1.70E-007	1,2-Dichloroethane	fetotoxic			1.74E-004	1.74E-004
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney			2.18E-003	2.18E-003
			1,4-Dichlorobenzene			7.54E-007	7.54E-007	1,4-Dichlorobenzene	GI tract			2.93E-003	2.93E-003
			2,2'-oxybis(1-Chloropropane)			1.82E-005	1.82E-005	2,2'-oxybis(1-Chloropropane)	low body wt			1.82E-002	1.82E-002
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized			4.15E-002	4.15E-002
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory			1.19E-001	1.19E-001
			Aluminum					Aluminum	circulatory system			7.26E-004	7.26E-004
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin			2.27E-001	2.27E-001
			Arochlor-1248			2.84E-003	2.84E-003	Arochlor-1248	liver				
			Arsenic			1.17E-005	1.17E-005	Arsenic	circulatory system			7.28E-002	7.28E-002
			Barium					Barium	NA			3.37E-003	3.37E-003
			Benzene			1.16E-002	1.16E-002	Benzene	blood disorders			3.72E+002	3.72E+002
			Beryllium					Beryllium	kidney			5.55E-001	5.55E-001
			bis(2-Chloroethyl)Ether			6.96E-005	6.96E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			1.13E-005	1.13E-005	bis(2-Ethylhexyl)Phthalate	liver			1.13E-001	1.13E-001
			Cadmium (water)					Cadmium (water)	kidney			5.63E-002	5.63E-002
			Chloroethane			7.52E-006	7.52E-006	Chloroethane	liver			1.82E-002	1.82E-002
			Chloromethane			6.29E-007	6.29E-007	Chloromethane	kidney				
			Chromium (VI)			5.55E-010	5.55E-010	Chromium (VI)				1.73E-002	1.73E-002
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system			9.80E-005	9.80E-005
			Cobalt					Cobalt	circulatory system			2.65E-005	2.65E-005
			Copper					Copper	liver			4.12E-004	4.12E-004
			Diethylphthalate					Diethylphthalate	low body wt			3.68E-005	3.68E-005
			Ethylbenzene					Ethylbenzene	liver			2.84E-001	2.84E-001
			Iron					Iron				7.72E-002	7.72E-002
			Isophorone			5.84E-009	5.84E-009	Isophorone	kidney			8.61E-005	8.61E-005
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney			9.65E-002	9.65E-002
			Methylene Chloride			7.46E-007	7.46E-007	Methylene Chloride	liver			4.64E-003	4.64E-003
			Naphthalene					Naphthalene	circulatory system			4.75E-003	4.75E-003
			Nickel					Nickel	low body wt			2.41E-003	2.41E-003

TABLE 6-5-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG4BFWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			1.08E-003	1.08E-003
			Thallium					Thallium	NA			2.59E-002	2.59E-002
			Toluene					Toluene	liver			2.44E-001	2.44E-001
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney			1.05E-004	1.05E-004
			Vanadium					Vanadium	circulatory system			1.32E-003	1.32E-003
			Vinyl Chloride			2.13E-006	2.13E-006	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic			6.64E-002	6.64E-002
			Zinc					Zinc	thyroid			1.54E-003	1.54E-003
			(Total)			1.45E-002	1.45E-002	(Total)				3.74E+002	3.74E+002
	Air	Excavation Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		4.98E-005		4.98E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		5.31E-003		5.31E-003
			1,2-Dichloroethane		7.20E-008		7.20E-008	1,2-Dichloroethane	circulatory system		1.58E-003		1.58E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)					
			1,4-Dichlorobenzene		2.22E-008		2.22E-008	1,4-Dichlorobenzene	liver		1.23E-005		1.23E-005
			2,2'-oxybis(1-Chloropropane)		2.25E-006		2.25E-006	2,2'-oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	NA				
			Aluminum					Aluminum	respiratory system				
			Ammonia					Ammonia	respiratory system				
			Antimony					Antimony					
			Arochlor-1248					Arochlor-1248	NA				
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		1.35E-003		1.35E-003	Benzene	blood disorders		7.69E+001		7.69E+001
			Beryllium					Beryllium	lung				
			bis(2-Chloroethyl)Ether					bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		9.44E-004		9.44E-004
			Chloromethane					Chloromethane	kidney				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					

TABLE 6-5-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG4BFWRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Copper					Copper					
			Diethylphthalate					Diethylphthalate					
			Ethylbenzene					Ethylbenzene	respiratory tract		3.03E-003		3.03E-003
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					*Manganese (nonfood)*	*respiratory tract*				
			Methylene Chloride		5.09E-008		5.09E-008	Methylene Chloride	respiratory tract		1.00E-004		1.00E-004
			Naphthalene					Naphthalene	circulatory system		3.08E-003		3.08E-003
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Thallium					Thallium					
			Toluene					Toluene	CNS		2.43E-002		2.43E-002
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Vinyl Chloride		1.42E-007		1.42E-007	Vinyl Chloride	CNS				
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		1.36E-003		1.36E-003	(Total)			7.69E+001		7.69E+001
							Total Risk Across Groundwater	1.6E-002					Total Hazard Across Groundwater	4.5E+002
							Total Risk Across All Media and All Exposure Routes						

Total Circulatory System HI =	8.5E-002
Total Liver HI =	6.7E-001
Total Kidney HI =	7.1E-001
Total Skin HI =	2.3E-001
Total Thyroid HI =	1.5E-003
Total CNS HI =	4.1E-002
Total Respiratory Tract HI =	1.2E-001
Total GI Tract HI =	2.9E-003
Total Blood Disorders HI =	4.5E+002

TABLE 6-5-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rskbls\UG4BFWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifer	Excavation Area 4B	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system			1.59E-003	1.59E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS			9.91E-002	9.91E-002
			1,2-Dichloroethane			5.62E-010	5.62E-010	1,2-Dichloroethane	fetotoxic			1.05E-003	1.05E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney			1.32E-002	1.32E-002
			1,4-Dichlorobenzene			2.50E-009	2.50E-009	1,4-Dichlorobenzene	GI tract			1.77E-002	1.77E-002
			2,2'-oxybis(1-Chloropropane)			6.02E-008	6.02E-008	2,2'-oxybis(1-Chloropropane)	low body wt			1.10E-001	1.10E-001
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized			2.51E-001	2.51E-001
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory			7.19E-001	7.19E-001
			Aluminum					*Aluminum*	*circulatory system*			4.39E-003	4.39E-003
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin			1.37E+000	1.37E+000
			Arochlor-1248			9.41E-006	9.41E-006	Arochlor-1248	liver				
			Arsenic			3.87E-008	3.87E-008	Arsenic	circulatory system			4.40E-001	4.40E-001
			Barium					Barium	NA			2.04E-002	2.04E-002
			Benzene			3.83E-005	3.83E-005	Benzene	blood disorders			2.30E+002	2.30E+002
			Beryllium					Beryllium	kidney			3.35E+000	3.35E+000
			bis(2-Chloroethyl)Ether			2.30E-007	2.30E-007	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			3.76E-008	3.76E-008	bis(2-Ethylhexyl)Phthalate	liver			6.85E-001	6.85E-001
			Cadmium (water)					Cadmium (water)	kidney			3.40E-001	3.40E-001
			Chloroethane			2.49E-008	2.49E-008	*Chloroethane*	*liver*			1.10E-001	1.10E-001
			Chloromethane			2.08E-009	2.08E-009	Chloromethane	kidney				
			Chromium (VI)			1.84E-012	1.84E-012	Chromium (VI)				1.04E-001	1.04E-001
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system			5.92E-004	5.92E-004
			Cobalt					Cobalt	circulatory system			1.60E-004	1.60E-004
			Copper					Copper	liver			2.49E-003	2.49E-003
			Diethylphthalate					Diethylphthalate	low body wt			2.22E-004	2.22E-004
			Ethylbenzene					Ethylbenzene	liver			1.72E+000	1.72E+000
			Iron					Iron				4.66E-001	4.66E-001
			Isophorone			1.93E-011	1.93E-011	Isophorone	kidney			5.20E-004	5.20E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					*Manganese (nonfood)*	*kidney*			5.83E-001	5.83E-001
			Methylene Chloride			2.47E-009	2.47E-009	Methylene Chloride	liver			2.80E-002	2.80E-002
			Naphthalene					Naphthalene	circulatory system			2.87E-002	2.87E-002
			Nickel					Nickel	low body wt			1.45E-002	1.45E-002

TABLE 6-5-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG4BFWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			6.52E-003	6.52E-003
			Thallium					Thallium	NA			1.57E-001	1.57E-001
			Toluene					Toluene	liver			1.47E+000	1.47E+000
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney			6.34E-004	6.34E-004
			Vanadium					Vanadium	circulatory system			7.95E-003	7.95E-003
			Vinyl Chloride			7.04E-009	7.04E-009	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic			4.01E-001	4.01E-001
			Zinc					Zinc	thyroid			9.33E-003	9.33E-003
			(Total)			4.81E-005	4.81E-005	(Total)				2.43E+002	2.43E+002
	Air	Excavation Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		4.98E-005		4.98E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		5.31E-003		5.31E-003
			1,2-Dichloroethane		1.97E-010		1.97E-010	1,2-Dichloroethane	circulatory system		1.58E-003		1.58E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)					
			1,4-Dichlorobenzene		6.08E-011		6.08E-011	1,4-Dichlorobenzene	liver		1.23E-005		1.23E-005
			2,2'-oxybis(1-Chloropropane)		6.15E-009		6.15E-009	2,2'-oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	NA				
			Aluminum					Aluminum	respiratory system				
			Ammonia					Ammonia	respiratory system				
			Antimony					Antimony					
			Arochlor-1248					Arochlor-1248	NA				
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		3.71E-006		3.71E-006	Benzene	blood disorders		7.69E+001		7.69E+001
			Beryllium					Beryllium	lung				
			bis(2-Chloroethyl)Ether					bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		9.44E-004		9.44E-004
			Chloromethane					Chloromethane	kidney				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					

TABLE 6-5-4

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

American Chemical Service NPL Site

Scenario Timeframe:	*Future*
Receptor Population:	Utility Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\UG4BFWCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Copper					Copper					
			Diethylphthalate					Diethylphthalate					
			Ethylbenzene					Ethylbenzene	respiratory tract		3.03E-003		3.03E-003
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		1.39E-010		1.39E-010	Methylene Chloride	respiratory tract		1.00E-004		1.00E-004
			Naphthalene					Naphthalene	circulatory system		3.08E-003		3.08E-003
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Thallium					Thallium					
			Toluene					Toluene	CNS		2.43E-002		2.43E-002
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Vinyl Chloride		3.89E-010		3.89E-010	Vinyl Chloride	CNS				
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		3.72E-006		3.72E-006	(Total)			7.69E+001		7.69E+001

Total Risk Across Groundwater	5.2E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	3.2E+002

Total Circulatory System HI =	4.9E-001
Total Liver HI =	4.0E+000
Total Kidney HI =	4.3E+000
Total Skin HI =	1.4E+000
Total Thyroid HI =	9.3E-003
Total CNS HI =	1.2E-001
Total Respiratory Tract HI =	7.2E-001
Total GI Tract HI =	1.8E-002
Total Blood Disorders HI =	3.1E+02

Table 6-5-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	1.3E-006		7.6E-006	8.9E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	1.5E-006		8.8E-006	1.0E-005
			4,4'-DDD	6.5E-009		3.8E-008	4.4E-008	4,4'-DDD	liver				
			4,4'-DDE	3.4E-008		2.0E-007	2.3E-007	4,4'-DDE	liver				
			4,4'-DDT	2.9E-008		5.0E-008	7.8E-008	4,4'-DDT	fetotoxic	4.7E-004		8.2E-004	1.3E-003
			Acetone					Acetone	fetotoxic	2.4E-007		1.8E-006	2.0E-006
			alpha-Chlordane	2.7E-008		6.2E-008	8.9E-008	alpha-Chlordane	liver	4.3E-004		1.0E-003	1.4E-003
			Anthracene					Anthracene	GI tract	8.3E-007		4.8E-006	5.7E-006
			Aroclor-1248	1.5E-007		8.9E-007	1.0E-006	Aroclor-1248	liver				
			Aroclor-1254	6.2E-006		5.8E-005	6.2E-005	Aroclor-1254	liver	4.3E-001		3.9E+000	4.4E+000
			Aroclor-1260	6.8E-007		3.9E-006	4.6E-006	Aroclor-1260	circulatory system				
			Arsenic	4.0E-006		7.3E-006	1.1E-005	Arsenic	circulatory system	2.5E-002		4.5E-002	7.0E-002
			Benzo(a)anthracene	9.2E-008		5.3E-007	6.2E-007	Benzo(a)anthracene					
			Benzo(a)pyrene	1.0E-006		9.1E-006	1.0E-005	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.1E-007		6.5E-007	7.6E-007	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	1.0E-006		6.1E-006	7.1E-006	Benzo(k)fluoranthene					
			beta-BHC	1.6E-008		9.5E-009	2.6E-008	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	2.0E-008		1.1E-007	1.3E-007	bis(2-Ethylhexyl)phthalate	liver	2.0E-004		1.1E-003	1.3E-003
			Cadmium					Cadmium	kidney	1.2E-002		1.3E+000	1.4E+000
			Carbazole	2.5E-010		1.5E-009	1.7E-009	Carbazole					
			Chromium (total)					Chromium (total)		1.1E-002		6.2E-002	7.3E-002
			Chrysene	9.9E-010		1.4E-008	1.5E-008	Chrysene	liver				
			Copper					Copper	liver	9.1E-004		8.7E-004	1.8E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	8.2E-007		4.9E-006	5.7E-006
			Dibenzo(a,h)anthracene	7.4E-007		4.8E-006	5.5E-006	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	6.4E-005		3.7E-004	4.3E-004
			Endrin					Endrin	liver	4.9E-004		2.8E-003	3.3E-003
			Fluoranthene					Fluoranthene	kidney	9.7E-006		5.6E-005	6.6E-005
			gamma-BHC	1.3E-008		7.6E-008	9.0E-008	gamma-BHC	liver	9.5E-005		5.5E-004	6.4E-004
			gamma-Chlordane	5.9E-009		1.4E-008	1.9E-008	gamma-Chlordane	liver	9.4E-005		2.2E-004	3.1E-004
			Heptachlor	9.7E-008		5.7E-007	6.6E-007	Heptachlor	liver	1.2E-004		7.0E-004	8.3E-004
			Indeno(1,2,3-cd)pyrene	8.7E-008		5.0E-007	5.9E-007	Indeno(1,2,3-cd)pyrene					
			Isophorone	1.4E-011		8.1E-011	9.5E-011	Isophorone	kidney	2.1E-007		1.2E-006	1.4E-006

Table 6-5-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			Lead				
			Mercury				
			Methoxychlor				
			Naphthalene				
			Pyrene				
			Zinc				
			(Total)	1.3E-005		8.5E-005	9.8E-005
						Total Risk Across Sediments	9.8E-005

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Lead	CNS				
Mercury	low body weight				
Methoxychlor	reproductive system	5.7E-005		3.3E-004	3.9E-004
Naphthalene	circulatory system	1.2E-006		7.1E-006	8.3E-006
Pyrene	liver	1.3E-005		7.3E-005	8.5E-005
Zinc	thyroid	9.8E-004		1.9E-003	2.9E-003
(Total)		4.8E-001		5.4E+000	5.9E+000
				Total Hazard Index Across All Exposure Routes	5.9E+000

Total Reproductive System HI =	3.9E-004
Total Circulatory System HI =	7.0E-002
Total Fetotoxic HI =	1.3E-003
Total GI Tract HI =	1.6E-005
Total Thyroid HI =	2.9E-003
Total Kidney HI =	1.4E+000
Total Liver HI =	4.4E+000

Table 6-5-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: IND4BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	5.7E-007		1.1E-006	1.7E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	6.6E-007		1.3E-006	2.0E-006
			4,4'-DDD	5.7E-010		1.1E-009	1.7E-009	4,4'-DDD	liver				
			4,4'-DDE	3.0E-009		6.0E-009	9.1E-009	4,4'-DDE	liver				
			4,4'-DDT	2.5E-009		1.5E-009	4.0E-009	4,4'-DDT	fetotoxic	2.1E-004		1.2E-004	3.3E-004
			Acetone					Acetone	fetotoxic	1.1E-007		2.7E-007	3.8E-007
			alpha-Chlordane	2.4E-009		1.9E-009	4.3E-009	alpha-Chlordane	liver	1.9E-004		1.5E-004	3.4E-004
			Anthracene					Anthracene	GI tract	3.6E-007		7.3E-007	1.1E-006
			Aroclor-1248	1.3E-006		2.7E-006	4.0E-006	Aroclor-1248	liver				
			Aroclor-1254	5.4E-007		1.7E-006	2.2E-006	Aroclor-1254	liver	1.9E-001		5.9E-001	7.8E-001
			Aroclor-1260	6.0E-008		1.2E-007	1.8E-007	Aroclor-1260	circulatory system				
			Arsenic	3.5E-007		2.2E-007	5.7E-007	Arsenic	circulatory system	1.1E-002		6.9E-003	1.8E-002
			Benzo(a)anthracene	8.1E-009		1.6E-008	2.4E-008	Benzo(a)anthracene					
			Benzo(a)pyrene	9.0E-008		2.7E-007	3.6E-007	Benzo(a)pyrene					
			Benzo(b)fluoranthene	9.9E-009		2.0E-008	3.0E-008	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	9.2E-010		1.6E-009	2.6E-009	Benzo(k)fluoranthene					
			beta-BHC	1.4E-009		2.9E-010	1.7E-009	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	1.7E-009		3.4E-009	5.2E-009	bis(2-Ethylhexyl)phthalate	liver	8.6E-005		1.7E-004	2.6E-004
			Cadmium					Cadmium	kidney	5.1E-003		2.0E-001	2.1E-001
			Carbazole	2.2E-011		4.4E-011	6.6E-011	Carbazole					
			Chromium (total)					Chromium (total)		4.7E-003		9.4E-003	1.4E-002
			Chrysene	8.7E-011		4.3E-010	5.1E-010	Chrysene	liver				
			Copper					Copper	liver	4.0E-004		1.3E-004	5.3E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	3.6E-007		7.4E-007	1.1E-006
			Dibenzo(a,h)anthracene	6.5E-008		1.4E-007	2.1E-007	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	2.8E-005		5.6E-005	8.4E-005
			Endrin					Endrin	liver	2.1E-004		4.3E-004	6.4E-004
			Fluoranthene					Fluoranthene	kidney	4.2E-006		8.5E-006	1.3E-005
			gamma-BHC	1.2E-009		2.3E-009	3.5E-009	gamma-BHC	liver	4.1E-005		8.3E-005	1.2E-004
			gamma-Chlordane	5.2E-010		4.1E-010	9.3E-010	gamma-Chlordane	liver	4.1E-005		3.3E-005	7.4E-005
			Heptachlor	8.6E-009		1.7E-008	2.6E-008	Heptachlor	liver	5.3E-005		1.1E-004	1.6E-004
			Indeno(1,2,3-cd)pyrene	7.6E-009		1.5E-008	2.3E-008	Indeno(1,2,3-cd)pyrene					
			Isophorone	1.2E-012		2.4E-012	3.7E-012	Isophorone	kidney	9.0E-008		1.8E-007	2.7E-007
			Lead					Lead	CNS				
			Mercury					Mercury	low body weight				
			Methoxychlor					Methoxychlor	reproductive system	2.5E-005		5.0E-005	7.5E-005
			Naphthalene					Naphthalene	circulatory system	5.4E-007		1.1E-006	1.6E-006
			Pyrene					Pyrene	liver	5.5E-006		1.1E-005	1.7E-005
			Zinc					Zinc	thyroid	4.3E-004		2.8E-004	7.1E-004
			(Total)	1.2E-006		2.6E-006	3.7E-006	(Total)		2.1E-001		8.1E-001	1.0E+000
						Total Risk Across Sediments	3.7E-006					Total Hazard Index Across All Exposure Routes	1.0E+000

Total Reproductive System HI =	7.5E-005
Total Circulatory System HI =	1.8E-002
Total Fetotoxic HI =	3.3E-004
Total GI Tract HI =	3.1E-006
Total Thyroid HI =	7.1E-004
Total Kidney HI =	2.1E-001
Total Liver HI =	7.8E-001

Table 6-5-7
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: fwork/4b.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Drainage Ditch Area 4B	1,1,1-Trichloroethane					1,1,1-Trichloroethane	liver	7.5E-004		3.1E-003	3.8E-003
			1,1,2,2-Tetrachloroethane	1.7E-009		6.6E-009	8.3E-009	1,1,2,2-Tetrachloroethane	liver	1.6E-006		6.2E-006	7.8E-006
			1,1,2-Trichloroethane	1.4E-009		3.6E-009	5.0E-009	1,1,2-Trichloroethane	circulatory system	7.0E-005		1.8E-004	2.5E-004
			1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	2.3E-004		4.0E-004	6.2E-004
			1,2,4-Trimethylbenzene					1,2,4-Trimethylbenzene		6.0E-005		2.2E-003	2.3E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	nervous system	7.3E-006		1.2E-004	1.3E-004
			1,2-Dichloroethane	4.6E-009		4.8E-009	9.4E-009	1,2-Dichloroethane	fetotoxic	1.9E-005		2.0E-005	3.8E-005
			1,3,5-Trimethylbenzene					1,3,5-Trimethylbenzene		2.1E-005		4.3E-004	4.5E-004
			1,3-Dichlorobenzene					1,3-Dichlorobenzene		3.1E-006		7.3E-005	7.6E-005
			1,4-Dichlorobenzene	2.0E-010		3.3E-009	3.5E-009	1,4-Dichlorobenzene	GI tract	3.1E-006		5.2E-005	5.5E-005
			Benzene	2.7E-008		1.1E-007	1.4E-007	Benzene	blood disorders	3.4E-003		1.4E-002	1.8E-002
			Chlorobenzene					Chlorobenzene	liver	4.7E-006		1.4E-004	1.4E-004
			Chloroethane	6.6E-010		8.8E-010	1.5E-009	Chloroethane	liver	6.3E-006		8.5E-006	1.5E-005
			Chloroform	3.6E-010		7.3E-010	1.1E-009	Chloroform	circulatory system	6.6E-005		1.3E-004	2.0E-004
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene		1.8E-003		3.5E-003	5.3E-003
			Ethyl Benzene					Ethyl Benzene	lung	4.7E-006		7.6E-005	8.0E-005
			m,p-xylene					m,p-xylene	fetotoxic	7.5E-007		1.4E-005	1.5E-005
			Naphthalene					Naphthalene	spleen	3.8E-005		6.1E-004	6.4E-004
			ortho-xylene					ortho-xylene	fetotoxic	1.4E-006		2.6E-005	2.8E-005
			Tetrachloroethene	4.4E-010		6.4E-009	6.8E-009	Tetrachloroethene	liver	9.4E-006		1.4E-004	1.5E-004
			Toluene					Toluene	liver	2.1E-005		1.8E-004	2.0E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene		1.4E-005		2.9E-006	1.7E-005
			Trichloroethene	2.8E-010		1.1E-009	1.4E-009	Trichloroethene	liver	4.7E-005		1.8E-004	2.3E-004
			Vinyl Chloride	2.2E-006		2.7E-006	4.9E-006	Vinyl Chloride					
			(Total)	2.3E-006		2.8E-006	5.1E-006	(Total)		6.6E-003		2.6E-002	3.2E-002
						Total Risk Across Surface Water	5.1E-006			Total Hazard Index Across All Exposure Routes			3.2E-002

Total Circulatory System HI =	1.1E-003
Total Nervous System HI =	1.3E-004
Total GI Tract HI =	5.5E-005
Total Spleen HI =	6.4E-004
Total Fetus HI =	8.1E-005
Total Liver HI =	4.6E-003
Total Lung HI =	8.0E-005
Total Blood Disorders HI =	1.8E-002

Table 6-5-8
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Routine Worker
Receptor Age:	Adult

File: FWRKCT4B.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Drainage Ditch Area 4B	1,1,1-Trichloroethane					1,1,1-Trichloroethane	liver	1.9E-004		6.7E-004	8.5E-004
			1,1,2,2-Tetrachloroethane	8.4E-011		2.9E-010	3.7E-010	1,1,2,2-Tetrachloroethane	liver	3.9E-007		1.3E-006	1.7E-006
			1,1,2-Trichloroethane	7.2E-011		1.6E-010	2.3E-010	1,1,2-Trichloroethane	circulatory system	1.8E-005		3.8E-005	5.6E-005
			1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	5.6E-005		8.5E-005	1.4E-004
			1,2,4-Trimethylbenzene					1,2,4-Trimethylbenzene		1.5E-005		4.8E-004	5.0E-004
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	nervous system	1.8E-006		2.6E-005	2.7E-005
			1,2-Dichloroethane	2.3E-010		2.1E-010	4.4E-010	1,2-Dichloroethane	fetotoxic	4.7E-006		4.2E-006	8.9E-006
			1,3,5-Trimethylbenzene					1,3,5-Trimethylbenzene		5.2E-006		9.2E-005	9.7E-005
			1,3-Dichlorobenzene					1,3-Dichlorobenzene		7.8E-007		1.6E-005	1.6E-005
			1,4-Dichlorobenzene	1.0E-011		1.4E-010	1.5E-010	1,4-Dichlorobenzene	GI tract	7.8E-007		1.1E-005	1.2E-005
			Benzene	1.3E-009		4.8E-009	6.1E-009	Benzene	blood disorders	8.6E-004		3.1E-003	3.9E-003
			Chlorobenzene					Chlorobenzene	liver	1.2E-006		3.0E-005	3.1E-005
			Chloroethane	3.3E-011		3.8E-011	7.1E-011	Chloroethane	liver	1.6E-006		1.8E-006	3.4E-006
			Chloroform	1.8E-011		3.2E-011	4.9E-011	Chloroform	circulatory system	1.6E-005		2.9E-005	4.5E-005
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene		4.5E-004		7.5E-004	1.2E-003
			Ethyl Benzene					Ethyl Benzene	lung	1.2E-006		1.6E-005	1.7E-005
			m,p-xylene					m,p-xylene	fetotoxic	1.9E-007		3.1E-006	3.3E-006
			Naphthalene					Naphthalene	spleen	9.4E-006		1.3E-004	1.4E-004
			ortho-xylene					ortho-xylene	fetotoxic	3.4E-007		5.7E-006	6.0E-006
			Tetrachloroethene	2.2E-011		2.7E-010	3.0E-010	Tetrachloroethene	liver	2.3E-006		3.0E-005	3.2E-005
			Toluene					Toluene	liver	5.3E-006		3.9E-005	4.5E-005
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene		3.5E-006		6.3E-007	4.2E-006
			Trichloroethene	1.4E-011		4.6E-011	6.0E-011	Trichloroethene	liver	1.2E-005		3.9E-005	5.1E-005
			Vinyl Chloride	1.1E-007		1.2E-007	2.3E-007	Vinyl Chloride					
			(Total)	1.1E-007		1.2E-007	2.4E-007	(Total)		1.7E-003		5.6E-003	7.2E-003
						Total Risk Across Surface Water	2.4E-007			Total Hazard Index Across All Exposure Routes			7.2E-003

Total Circulatory System HI =	2.4E-004
Total Nervous System HI =	2.7E-005
Total Blood Disorders HI =	3.9E-003
Total GI Tract HI =	1.2E-005
Total Spleen HI =	1.4E-004
Total Fetus HI =	1.8E-005
Total Liver HI =	1.0E-003
Total Lung HI =	1.7E-005

Table 6-5-9
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: CON4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	6.5E-006		7.9E-006	1.4E-005
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	7.6E-006		9.2E-006	1.7E-005
			4,4'-DDD	9.9E-010		1.2E-009	2.2E-009	4,4'-DDD	liver				
			4,4'-DDE	5.2E-009		6.3E-009	1.1E-008	4,4'-DDE	liver				
			4,4'-DDT	4.3E-009		1.6E-009	5.9E-009	4,4'-DDT	fetotoxic	2.4E-003		8.5E-004	3.2E-003
			Acetone					Acetone	fetotoxic	1.2E-006		1.9E-006	3.1E-006
			alpha-Chlordane	4.1E-009		2.0E-009	6.0E-009	alpha-Chlordane	liver	2.2E-003		1.0E-003	3.2E-003
			Anthracene					Anthracene	GI tract	4.2E-006		5.0E-006	9.2E-006
			Aroclor-1248	2.3E-008		2.8E-008	5.1E-008	Aroclor-1248	liver				
			Aroclor-1254	9.3E-007		1.8E-006	2.7E-006	Aroclor-1254	liver	2.2E+000		4.1E+000	6.3E+000
			Aroclor-1260	1.0E-007		1.2E-007	2.3E-007	Aroclor-1260	circulatory system				
			Arsenic	6.0E-007		2.3E-007	8.3E-007	Arsenic	circulatory system	1.2E-001		4.7E-002	1.7E-001
			Benzo(a)anthracene	1.4E-008		1.7E-008	3.1E-008	Benzo(a)anthracene					
			Benzo(a)pyrene	1.5E-007		2.8E-007	4.4E-007	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.7E-008		2.0E-008	3.7E-008	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	1.6E-009		1.9E-009	3.5E-009	Benzo(k)fluoranthene					
			beta-BHC	2.5E-009		3.0E-010	2.8E-009	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	3.0E-009		3.6E-009	6.5E-009	bis(2-Ethylhexyl)phthalate	liver	9.8E-004		1.2E-003	2.2E-003
			Cadmium					Cadmium	kidney	5.8E-002		1.4E+000	1.5E+000
			Carbazole	3.8E-011		4.6E-011	8.4E-011	Carbazole					
			Chromium (total)					Chromium (total)		5.4E-002		6.5E-002	1.2E-001
			Chrysene	1.5E-010		4.4E-010	5.9E-010	Chrysene	liver				
			Copper					Copper	liver	4.5E-003		9.1E-004	5.5E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	4.1E-006		5.1E-006	9.3E-006
			Dibenzo(a,h)anthracene	1.1E-007		1.5E-007	2.6E-007	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	3.2E-004		3.9E-004	7.0E-004
			Endrin					Endrin	liver	2.5E-003		3.0E-003	5.4E-003
			Fluoranthene					Fluoranthene	kidney	4.8E-005		5.9E-005	1.1E-004
			gamma-BHC	2.0E-009		2.4E-009	4.4E-009	gamma-BHC	liver	4.7E-004		5.7E-004	1.0E-003
			gamma-Chlordane	8.9E-010		4.3E-010	1.3E-009	gamma-Chlordane	liver	4.7E-004		2.3E-004	7.0E-004
			Heptachlor	1.5E-008		1.8E-008	3.2E-008	Heptachlor	liver	6.1E-004		7.3E-004	1.3E-003
			Indeno(1,2,3-cd)pyrene	1.3E-008		1.6E-008	2.9E-008	Indeno(1,2,3-cd)pyrene					

Table 6-5-9
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: CON4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Isophorone	2.1E-012		2.5E-012	4.6E-012	Isophorone	kidney	1.0E-006		1.2E-006	2.3E-006
			Lead					Lead	CNS				
			Mercury					Mercury	low body weight				
			Methoxychlor					Methoxychlor	reproductive system	2.8E-004		3.4E-004	6.3E-004
			Naphthalene					Naphthalene	circulatory system	6.1E-006		7.4E-006	1.4E-005
			Pyrene					Pyrene	liver	6.3E-005		7.6E-005	1.4E-004
			Zinc					Zinc	thyroid	4.9E-003		2.0E-003	6.9E-003
			(Total)	2.0E-006		2.7E-006	4.7E-006	(Total)		2.4E+000		5.6E+000	8.0E+000
						Total Risk Across Sediments	4.7E-006					Total Hazard Index Across All Exposure Routes	8.0E+000

Total Reproductive System HI =	6.3E-004
Total Circulatory System HI =	1.7E-001
Total Fetotoxic HI =	3.2E-003
Total GI Tract HI =	2.6E-005
Total Thyroid HI =	6.9E-003
Total Kidney HI =	1.5E+000
Total Liver HI =	6.3E+000

TABLE 6-5-10

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\UG4BFCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifer	Excavation Area 4B	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system			2.95E-003	2.95E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS			1.77E-001	1.77E-001
			1,2-Dichloroethane			5.71E-008	5.71E-008	1,2-Dichloroethane	fetotoxic			1.95E-003	1.95E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney			2.44E-002	2.44E-002
			1,4-Dichlorobenzene			2.43E-007	2.43E-007	1,4-Dichlorobenzene	GI tract			3.15E-002	3.15E-002
			2,2'-oxybis(1-Chloropropane)			6.26E-006	6.26E-006	2,2'-oxybis(1-Chloropropane)	low body wt			2.09E-001	2.09E-001
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized			4.61E-001	4.61E-001
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	respiratory			1.33E+000	1.33E+000
			Aluminum					Aluminum	circulatory system			8.33E-003	8.33E-003
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin			2.60E+000	2.60E+000
			Arochlor-1248			8.34E-004	8.34E-004	Arochlor-1248	liver				
			Arsenic			4.03E-006	4.03E-006	Arsenic	circulatory system			8.35E-001	8.35E-001
			Barium					Barium	NA			3.87E-002	3.87E-002
			Benzene			3.91E-003	3.91E-003	Benzene	blood disorders			4.20E+003	4.20E+003
			Beryllium					Beryllium	kidney			6.36E+000	6.36E+000
			bis(2-Chloroethyl)Ether			2.30E-005	2.30E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			3.33E-006	3.33E-006	bis(2-Ethylhexyl)Phthalate	liver			1.11E+000	1.11E+000
			Cadmium (water)					Cadmium (water)	kidney			6.46E-001	6.46E-001
			Chloroethane			2.55E-006	2.55E-006	Chloroethane	liver			2.05E-001	2.05E-001
			Chloromethane			2.14E-007	2.14E-007	Chloromethane	kidney				
			Chromium (VI)			1.91E-010	1.91E-010	Chromium (VI)				1.98E-001	1.98E-001
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system			1.10E-003	1.10E-003
			Cobalt					Cobalt	circulatory system			3.04E-004	3.04E-004
			Copper					Copper	liver			4.73E-003	4.73E-003
			Diethylphthalate					Diethylphthalate	low body wt			3.81E-004	3.81E-004
			Ethylbenzene					Ethylbenzene	liver			3.15E+000	3.15E+000
			Iron					Iron				8.85E-001	8.85E-001
			Isophorone			1.94E-009	1.94E-009	Isophorone	kidney			9.52E-004	9.52E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney			1.11E+000	1.11E+000
			Methylene Chloride			2.52E-007	2.52E-007	Methylene Chloride	liver			5.23E-002	5.23E-002
			Naphthalene					Naphthalene	circulatory system			5.18E-002	5.18E-002
			Nickel					Nickel	low body wt			2.76E-002	2.76E-002

TABLE 6-5-10
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG4BFCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			1.21E-002	1.21E-002
			Thallium					Thallium	NA			2.98E-001	2.98E-001
			Toluene					Toluene	liver			2.73E+000	2.73E+000
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney			1.18E-003	1.18E-003
			Vanadium					Vanadium	circulatory system			1.51E-002	1.51E-002
			Vinyl Chloride			7.22E-007	7.22E-007	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic			7.36E-001	7.36E-001
			Zinc					Zinc	thyroid			1.77E-002	1.77E-002
			(Total)			4.79E-003	4.79E-003	(Total)				4.22E+003	4.22E+003
	Air	Excavation Vapors	1,1-Dichloroethane					1,1-Dichloroethane	kidney		7.79E-005		7.79E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	low body weight		8.30E-003		8.30E-003
			1,2-Dichloroethane		3.38E-009		3.38E-009	1,2-Dichloroethane	circulatory system		2.47E-003		2.47E-003
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)					
			1,4-Dichlorobenzene		1.04E-009		1.04E-009	1,4-Dichlorobenzene	liver		1.93E-005		1.93E-005
			2,2'-oxybis(1-Chloropropane)		1.05E-007		1.05E-007	2,2'-oxybis(1-Chloropropane)	liver				
			2,4-Dimethylphenol					2,4-Dimethylphenol					
			4-Methylphenol (P-Cresol)					4-Methylphenol (P-Cresol)	NA				
			Aluminum					Aluminum	respiratory system				
			Ammonia					Ammonia	respiratory system				
			Antimony					Antimony					
			Arochlor-1248					Arochlor-1248	NA				
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		6.35E-005		6.35E-005	Benzene	blood disorders		1.20E+002		1.20E+002
			Beryllium					Beryllium	lung				
			bis(2-Chloroethyl)Ether					bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		1.48E-003		1.48E-003
			Chloromethane					Chloromethane	kidney				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					
			Copper					Copper					

TABLE 6-5-10

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG4BFCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate					Diethylphthalate					
			Ethylbenzene					Ethylbenzene	respiratory tract		4.73E-003		4.73E-003
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		2.39E-009		2.39E-009	Methylene Chloride	respiratory tract		1.57E-004		1.57E-004
			Naphthalene					Naphthalene	circulatory system		4.82E-003		4.82E-003
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Thallium					Thallium					
			Toluene					Toluene	CNS		3.81E-002		3.81E-002
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Vinyl Chloride		6.67E-009		6.67E-009	Vinyl Chloride	CNS				
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		6.37E-005		6.37E-005	(Total)			1.20E+002		1.20E+002

Total Risk Across Groundwater	4.8E-003
Total Risk Across All Media and All Exposure Routes	

Total Risk Across Groundwater	4.3E+003

Total Circulatory System HI =	9.2E-001
Total Liver HI =	7.3E+000
Total Kidney HI =	8.1E+000
Total Skin HI =	2.6E+000
Total Thyroid HI =	1.8E-002
Total CNS HI =	2.1E-001
Total Respiratory Tract HI =	1.3E+000
Total GI Tract HI =	3.2E-002
Total Blood Disorders HI =	4.3E+003

Table 6-5-11
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current\Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File:TRS4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	6.8E-007		3.0E-006	3.7E-006
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	7.9E-007		3.5E-006	4.2E-006
			4,4'-DDD	7.9E-010		3.5E-009	4.3E-009	4,4'-DDD	liver				
			4,4'-DDE	4.2E-009		1.8E-008	2.3E-008	4,4'-DDE	liver				
			4,4'-DDT	3.4E-009		4.6E-009	8.0E-009	4,4'-DDT	fetotoxic	2.4E-004		3.2E-004	5.6E-004
			Acetone					Acetone	fetotoxic	1.3E-007		7.1E-007	8.3E-007
			alpha-Chlordane	3.3E-009		5.7E-009	9.0E-009	alpha-Chlordane	liver	2.2E-004		3.9E-004	6.2E-004
			Anthracene					Anthracene	GI tract	4.3E-007		1.9E-006	2.3E-006
			Aroclor-1248	1.9E-008		8.2E-008	1.0E-007	Aroclor-1248	liver				
			Aroclor-1254	7.4E-007		5.1E-006	5.9E-006	Aroclor-1254	liver	2.2E-001		1.5E+000	1.8E+000
			Aroclor-1260	8.2E-008		3.6E-007	4.4E-007	Aroclor-1260	circulatory system				
			Arsenic	4.8E-007		6.7E-007	1.2E-006	Arsenic	circulatory system	1.3E-002		1.8E-002	3.1E-002
			Benzo(a)anthracene	1.1E-008		4.9E-008	6.0E-008	Benzo(a)anthracene					
			Benzo(a)pyrene	1.2E-007		8.3E-007	9.5E-007	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.4E-008		6.0E-008	7.3E-008	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	1.3E-009		5.6E-009	6.8E-009	Benzo(k)fluoranthene					
			beta-BHC	2.0E-009		8.7E-010	2.8E-009	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	2.4E-009		1.0E-008	1.3E-008	bis(2-Ethylhexyl)phthalate	liver	1.0E-004		4.5E-004	5.5E-004
			Cadmium					Cadmium	kidney	6.0E-003		5.3E-001	5.3E-001
			Carbazole	3.0E-011		1.3E-010	1.6E-010	Carbazole					
			Chromium (total)					Chromium (total)		5.6E-003		2.4E-002	3.0E-002
			Chrysene	1.2E-010		1.3E-009	1.4E-009	Chrysene	liver				
			Copper					Copper	liver	4.7E-004		3.4E-004	8.1E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	4.3E-007		1.9E-006	2.4E-006
			Dibenzo(a,h)anthracene	8.9E-008		4.4E-007	5.3E-007	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	3.3E-005		1.5E-004	1.8E-004
			Endrin					Endrin	liver	2.5E-004		1.1E-003	1.4E-003
			Fluoranthene					Fluoranthene	kidney	5.0E-006		2.2E-005	2.7E-005
			gamma-BHC	1.6E-009		7.0E-009	8.6E-009	gamma-BHC	liver	4.9E-005		2.2E-004	2.6E-004
			gamma-Chlordane	7.1E-010		1.2E-009	2.0E-009	gamma-Chlordane	liver	4.9E-005		8.6E-005	1.3E-004
			Heptachlor	1.2E-008		5.2E-008	6.4E-008	Heptachlor	liver	6.3E-005		2.8E-004	3.4E-004
			Indeno(1,2,3-cd)pyrene	1.0E-008		4.6E-008	5.7E-008	Indeno(1,2,3-cd)pyrene					
			Isophorone	1.7E-012		7.4E-012	9.1E-012	Isophorone	kidney	1.1E-007		4.7E-007	5.8E-007

Table 6-5-11
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current\Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File:TRS4BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Lead					Lead	CNS				
			Mercury					Mercury	low body weight				
			Methoxychlor					Methoxychlor	reproductive system	2.9E-005		1.3E-004	1.6E-004
			Naphthalene					Naphthalene	circulatory system	6.3E-007		2.8E-006	3.4E-006
			Pyrene					Pyrene	liver	6.5E-006		2.9E-005	3.5E-005
			Zinc					Zinc	thyroid	5.1E-004		7.4E-004	1.2E-003
			(Total)	1.6E-006		7.8E-006	9.4E-006	(Total)		2.5E-001		2.1E+000	2.4E+000
							Total Risk Across Sediments: 9.4E-006						Total Hazard Index Across All Exposure Routes: 2.4E+000

Total Reproductive System HI =	1.6E-004
Total Circulatory System HI =	3.1E-002
Total Fetotoxic HI =	5.7E-004
Total GI Tract HI =	6.6E-006
Total Thyroid HI =	1.2E-003
Total Kidney HI =	5.3E-001
Total Liver HI =	1.8E+000

Table 6-5-12
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRS4BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 4B	1,2-Dichloroethene (total)					1,2-Dichloroethene (total)	kidney	1.7E-007		2.5E-007	4.3E-007
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	2.0E-007		2.9E-007	5.0E-007
			4,4'-DDD	1.8E-011		2.5E-011	4.3E-011	4,4'-DDD	liver				
			4,4'-DDE	9.3E-011		1.3E-010	2.3E-010	4,4'-DDE	liver				
			4,4'-DDT	7.7E-011		3.3E-011	1.1E-010	4,4'-DDT	fetotoxic	6.3E-005		2.7E-005	9.0E-005
			Acetone					Acetone	fetotoxic	3.3E-008		6.0E-008	9.3E-008
			alpha-Chlordane	7.2E-011		4.2E-011	1.1E-010	alpha-Chlordane	liver	5.8E-005		3.3E-005	9.1E-005
			Anthracene					Anthracene	GI tract	1.1E-007		1.6E-007	2.7E-007
			Aroclor-1248	4.1E-010		6.0E-010	1.0E-009	Aroclor-1248	liver				
			Aroclor-1254	1.7E-008		3.7E-008	5.4E-008	Aroclor-1254	liver	5.8E-002		1.3E-001	1.9E-001
			Aroclor-1260	1.8E-009		2.6E-009	4.4E-009	Aroclor-1260	circulatory system				
			Arsenic	1.1E-008		4.9E-009	1.6E-008	Arsenic	circulatory system	3.3E-003		1.5E-003	4.8E-003
			Benzo(a)anthracene	2.5E-010		3.6E-010	6.0E-010	Benzo(a)anthracene					
			Benzo(a)pyrene	2.7E-009		6.0E-009	8.8E-009	Benzo(a)pyrene					
			Benzo(b)fluoranthene	3.0E-010		4.3E-010	7.4E-010	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	2.8E-011		4.0E-011	6.9E-011	Benzo(k)fluoranthene					
			beta-BHC	4.4E-011		6.3E-012	5.0E-011	beta-BHC	liver				
			bis(2-Ethylhexyl)phthalate	5.3E-011		7.6E-011	1.3E-010	bis(2-Ethylhexyl)phthalate	liver	2.6E-005		3.8E-005	6.4E-005
			Cadmium					Cadmium	kidney	1.5E-003		4.5E-002	4.6E-002
			Carbazole	6.8E-013		9.7E-013	1.7E-012	Carbazole					
			Chromium (total)					Chromium (total)		1.4E-003		2.1E-003	3.5E-003
			Chrysene	2.7E-012		9.4E-012	1.2E-011	Chrysene	liver				
			Copper					Copper	liver	1.2E-004		2.9E-005	1.5E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	1.1E-007		1.6E-007	2.7E-007
			Dibenzo(a,h)anthracene	2.0E-009		3.2E-009	5.2E-009	Dibenzo(a,h)anthracene					
			Endosulfan I					Endosulfan I	kidney	8.5E-006		1.2E-005	2.1E-005
			Endrin					Endrin	liver	6.6E-005		9.4E-005	1.6E-004
			Fluoranthene					Fluoranthene	kidney	1.3E-006		1.9E-006	3.2E-006
			gamma-BHC	3.5E-011		5.1E-011	8.6E-011	gamma-BHC	liver	1.3E-005		1.8E-005	3.1E-005
			gamma-Chlordane	1.6E-011		9.1E-012	2.5E-011	gamma-Chlordane	liver	1.3E-005		7.3E-006	2.0E-005
			Heptachlor	2.6E-010		3.8E-010	6.4E-010	Heptachlor	liver	1.6E-005		2.3E-005	4.0E-005
			Indeno(1,2,3-cd)pyrene	2.3E-010		3.4E-010	5.7E-010	Indeno(1,2,3-cd)pyrene					
			Isophorone	3.7E-014		5.4E-014	9.1E-014	Isophorone	kidney	2.8E-008		4.0E-008	6.7E-008

Table 6-5-12
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: TRS4BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Lead					Lead	CNS				
			Mercury					Mercury	low body weight				
			Methoxychlor					Methoxychlor	reproductive system	7.6E-006		1.1E-005	1.9E-005
			Naphthalene					Naphthalene	circulatory system	1.6E-007		2.4E-007	4.0E-007
			Pyrene					Pyrene	liver	1.7E-006		2.4E-006	4.1E-006
			Zinc					Zinc	thyroid	1.3E-004		6.3E-005	1.9E-004
			(Total)	3.6E-008		5.7E-008	9.2E-008	(Total)		6.5E-002		1.8E-001	2.4E-001
							Total Risk Across Sediments: 9.2E-008						Total Hazard Index Across All Exposure Routes: 2.4E-001

Total Reproductive System HI =	1.9E-005
Total Circulatory System HI =	4.8E-003
Total Fetotoxic HI =	9.0E-005
Total GI Tract HI =	7.7E-007
Total Thyroid HI =	1.9E-004
Total Kidney HI =	4.6E-002
Total Liver HI =	1.9E-001

Table 6-5-13
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: cftres4b.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Area 4B Drainage Ditch	1,1,1-Trichloroethane					1,1,1-Trichloroethane	liver	1.8E-003		2.1E-003	3.9E-003
			1,1,2,2-Tetrachloroethane	3.8E-009		4.0E-009	7.7E-009	1,1,2,2-Tetrachloroethane	liver	3.8E-006		4.0E-006	7.7E-006
			1,1,2-Trichloroethane	3.2E-009		2.3E-009	5.5E-009	1,1,2-Trichloroethane	circulatory system	1.7E-004		1.2E-004	2.9E-004
			1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	5.4E-004		2.9E-004	8.3E-004
			1,2,4-Trimethylbenzene					1,2,4-Trimethylbenzene		1.4E-004		1.4E-003	1.6E-003
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	nervous system	1.8E-005		7.6E-005	9.4E-005
			1,2-Dichloroethane	1.0E-008		3.2E-009	1.3E-008	1,2-Dichloroethane	fetotoxic	4.5E-005		1.4E-005	5.9E-005
			1,3,5-Trimethylbenzene					1,3,5-Trimethylbenzene		5.0E-005		2.7E-004	3.2E-004
			1,3-Dichlorobenzene					1,3-Dichlorobenzene		7.5E-006		4.7E-005	5.4E-005
			1,4-Dichlorobenzene	4.5E-010		2.0E-009	2.4E-009	1,4-Dichlorobenzene	GI tract	7.5E-006		3.3E-005	4.1E-005
			Benzene	6.0E-008		7.7E-008	1.4E-007	Benzene	blood disorders	8.3E-003		1.1E-002	1.9E-002
			Chlorobenzene					Chlorobenzene	liver	1.1E-005		9.3E-005	1.0E-004
			Chloroethane	1.5E-009		6.3E-010	2.1E-009	Chloroethane	liver	1.5E-005		6.5E-006	2.2E-005
			Chloroform	8.0E-010		4.8E-010	1.3E-009	Chloroform	circulatory system	1.6E-004		9.5E-005	2.5E-004
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene		4.3E-003		2.5E-003	6.8E-003
			Ethyl Benzene					Ethyl Benzene	lung	1.1E-005		5.4E-005	6.6E-005
			m,p-xylene					m,p-xylene	fetotoxic	1.8E-006		1.0E-005	1.2E-005
			Naphthalene					Naphthalene	spleen	9.0E-005		3.9E-004	4.8E-004
			ortho-xylene					ortho-xylene	fetotoxic	3.3E-006		1.9E-005	2.2E-005
			Tetrachloroethene	9.8E-010		3.8E-009	4.8E-009	Tetrachloroethene	liver	2.3E-005		8.8E-005	1.1E-004
			Toluene					Toluene	liver	5.1E-005		1.3E-004	1.8E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene		3.4E-005		2.1E-006	3.6E-005
			Trichloroethene	6.2E-010		6.9E-010	1.3E-009	Trichloroethene	liver	1.1E-004		1.3E-004	2.4E-004
			Vinyl Chloride	5.0E-006		1.9E-006	6.9E-006	Vinyl Chloride					
			(Total)	5.1E-006		2.0E-006	7.1E-006	(Total)		1.6E-002		1.9E-002	3.4E-002
						Total Risk Across Surface Water	7.1E-006					Total Hazard Index Across All Exposure Routes	3.4E-002

Total Circulatory System HI =	1.4E-003
Total Nervous System HI =	9.4E-005
Total GI Tract HI =	4.1E-005
Total Spleen HI =	4.8E-004
Total Fetus HI =	9.4E-005
Total Liver HI =	4.6E-003
Total Lung HI =	6.6E-005
Total Blood Disorders HI =	1.9E-002

Table 6-5-14
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Trespasser
Receptor Age:	Adolescent

File: tres4bct.wk4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Water	Surface Water	Drainage Ditch Area 4B	1,1,1-Trichloroethane					1,1,1-Trichloroethane	liver	5.2E-004		6.7E-004	1.2E-003
			1,1,2,2-Tetrachloroethane	9.4E-011		1.2E-010	2.1E-010	1,1,2,2-Tetrachloroethane	liver	1.1E-006		1.3E-006	2.4E-006
			1,1,2-Trichloroethane	8.0E-011		6.3E-011	1.4E-010	1,1,2-Trichloroethane	circulatory system	4.9E-005		3.8E-005	8.7E-005
			1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	1.6E-004		8.6E-005	2.4E-004
			1,2,4-Trimethylbenzene					1,2,4-Trimethylbenzene		4.2E-005		4.9E-004	5.3E-004
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	nervous system	5.1E-006		2.6E-005	3.1E-005
			1,2-Dichloroethane	2.6E-010		8.3E-011	3.4E-010	1,2-Dichloroethane	fetotoxic	1.3E-005		4.3E-006	1.7E-005
			1,3,5-Trimethylbenzene					1,3,5-Trimethylbenzene		1.4E-005		9.3E-005	1.1E-004
			1,3-Dichlorobenzene					1,3-Dichlorobenzene		2.2E-006		1.6E-005	1.8E-005
			1,4-Dichlorobenzene	1.1E-011		5.8E-011	6.9E-011	1,4-Dichlorobenzene	GI tract	2.2E-006		1.1E-005	1.3E-005
			Benzene	1.5E-009		1.9E-009	3.4E-009	Benzene	blood disorders	2.4E-003		3.1E-003	5.5E-003
			Chlorobenzene					Chlorobenzene	liver	3.3E-006		3.0E-005	3.3E-005
			Chloroethane	3.7E-011		1.5E-011	5.2E-011	Chloroethane	liver	4.4E-006		1.8E-006	6.3E-006
			Chloroform	2.0E-011		1.3E-011	3.3E-011	Chloroform	circulatory system	4.6E-005		2.9E-005	7.5E-005
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene		1.2E-003		7.5E-004	2.0E-003
			Ethyl Benzene					Ethyl Benzene	lung	3.3E-006		1.6E-005	2.0E-005
			m,p-xylene					m,p-xylene	fetotoxic	5.2E-007		3.1E-006	3.7E-006
			Naphthalene					Naphthalene	spleen	2.6E-005		1.3E-004	1.6E-004
			ortho-xylene					ortho-xylene	fetotoxic	9.5E-007		5.7E-006	6.7E-006
			Tetrachloroethene	2.4E-011		1.1E-010	1.4E-010	Tetrachloroethene	liver	6.6E-006		3.0E-005	3.6E-005
			Toluene					Toluene	liver	1.5E-005		4.0E-005	5.4E-005
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene		9.8E-006		6.4E-007	1.0E-005
			Trichloroethene	1.5E-011		1.9E-011	3.4E-011	Trichloroethene	liver	3.3E-005		4.0E-005	7.2E-005
			Vinyl Chloride	1.2E-007		4.7E-008	1.7E-007	Vinyl Chloride					
			(Total)	1.3E-007		4.9E-008	1.8E-007	(Total)		4.6E-003		5.6E-003	1.0E-002
						Total Risk Across Surface Water	1.8E-007			Total Hazard Index Across All Exposure Routes			1.0E-002

Total Circulatory System HI =	4.1E-004
Total Nervous System HI =	3.1E-005
Total GI Tract HI =	1.3E-005
Total Spleen HI =	1.6E-004
Total Fetus HI =	2.8E-005
Total Liver HI =	1.4E-003
Total Lung HI =	2.0E-005
Total Blood Disorders HI =	5.5E-003

Table 6-6-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: AreaSeRM wk4 \ TT_sum_CRESSeRM

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 5A, Surface Soil (0' to 2')	4,4'-DDE	4.1E-009	–	4.3E-008	4.7E-008	4,4'-DDE	liver		–		
			4,4'-DDT	5.2E-009	–	5.5E-008	6.0E-008	4,4'-DDT	fetotoxic	3.6E-004	–	3.8E-003	4.1E-003
			alpha-BHC	7.2E-009	–	7.6E-008	8.3E-008	alpha-BHC	liver		–		
			alpha-Chlordane	4.0E-009	–	4.2E-008	4.6E-008	*alpha-Chlordane*	liver	2.7E-004	–	2.8E-003	3.1E-003
			Aluminum		–			Aluminum	circulatory	7.8E-002	–	8.2E-001	9.0E-001
			Antimony		–			Antimony	skin	4.7E-001	–	4.9E+002	4.9E+002
			Aroclor-1248	3.1E-007	–	3.2E-006	3.5E-006	Aroclor-1248	liver		–		
			Aroclor-1254	7.0E-007	–	8.3E-006	9.0E-006	Aroclor-1254	liver	2.0E-001	–	2.4E+000	2.6E+000
			Aroclor-1260	5.0E-007	–	5.3E-006	5.8E-006	Aroclor-1260	circulatory		–		
			Arsenic	5.8E-006	–	6.2E-005	6.7E-005	Arsenic	circulatory	1.4E-001	–	1.6E+000	1.7E+000
			Barium		–			Barium		2.2E-002	–	2.3E-001	2.5E-001
			Benzo(a)anthracene	7.1E-008	–	7.5E-007	8.2E-007	Benzo(a)anthracene			–		
			Benzo(a)pyrene	8.8E-007	–	1.1E-005	1.2E-005	Benzo(a)pyrene			–		
			Benzo(b)fluoranthene	8.8E-008	–	9.2E-007	1.0E-006	Benzo(b)fluoranthene			–		
			Benzo(k)fluoranthene	7.0E-009	–	7.3E-008	8.0E-008	Benzo(k)fluoranthene			–		
			Beryllium		–			Beryllium	kidney	3.1E-003	–	3.2E+000	3.2E+000
			bis(2-Ethylhexyl)phthalate	9.7E-009	–	1.0E-007	1.1E-007	bis(2-Ethylhexyl)phthalate	liver	4.0E-004	–	4.2E-003	4.6E-003
			Butylbenzylphthalate		–			Butylbenzylphthalate	mammary	3.8E-006	–	3.8E-005	4.1E-005
			Cadmium		–			Cadmium	kidney	1.9E-002	–	8.1E+000	8.1E+000
			Chromium 3+		–			Chromium 3+	liver	2.3E-004	–	6.2E-001	6.2E-001
			Chrysene	8.8E-010	–	2.3E-008	2.3E-008	Chrysene	liver		–		
			Cobalt		–			Cobalt	heart	1.2E-003	–	1.3E-002	1.4E-002
			Copper		–			Copper	liver	6.3E-003	–	1.1E-001	1.2E-001
			Cyanide (total)		–			Cyanide (total)	liver	8.3E-005	–	1.7E-003	1.8E-003
			Dieldrin	8.7E-008	–	9.1E-007	1.0E-006	Dieldrin	liver	1.3E-003	–	1.3E-002	1.5E-002
			Di-n-butylphthalate		–			Di-n-butylphthalate	liver	1.5E-005	–	1.7E-004	1.8E-004
			Endosulfan I		–			Endosulfan I	kidney	7.5E-006	–	7.8E-005	8.6E-005
			Endrin		–			Endrin	liver	2.3E-004	–	2.5E-003	2.7E-003
			Fluoranthene		–			Fluoranthene	kidney	4.8E-005	–	5.0E-004	5.5E-004
			gamma-BHC	7.1E-010	–	7.4E-009	8.1E-009	gamma-BHC	liver	2.1E-005	–	2.2E-004	2.4E-004
			gamma-Chlordane	3.3E-009	–	3.4E-008	3.7E-008	*gamma-Chlordane*	liver	2.2E-004	–	2.3E-003	2.5E-003
			Heptachlor	6.4E-009	–	6.8E-008	7.4E-008	Heptachlor	liver	3.3E-005	–	3.5E-004	3.8E-004
			Heptachlor epoxide	4.6E-008	–	4.8E-007	5.3E-007	Heptachlor epoxide	liver	4.5E-003	–	4.8E-002	5.2E-002
			Indeno(1,2,3-cd)pyrene	7.0E-008	–	7.3E-007	8.0E-007	Indeno(1,2,3-cd)pyrene			–		
			Iron		–			Iron		4.4E-001	–	4.6E+000	5.0E+000
			Lead		–			Lead	CNS		–		
			Manganese		–			Manganese	kidney	2.8E-001	–	2.9E+000	3.2E+000
			Mercury		–			Mercury	low body wt		–		
			Methoxychlor		–			Methoxychlor	reproductive	4.3E-005	–	4.6E-004	5.0E-004
			Methylene Chloride	5.8E-011	–	1.1E-009	1.2E-009	Methylene Chloride	liver	1.5E-006	–	2.8E-005	3.0E-005
			Nickel		–			Nickel	low body wt	1.1E-002	–	2.3E+000	2.3E+000
			Pyrene		–			*Pyrene*	liver	6.8E-005	–	7.2E-004	7.8E-004
			Selenium		–			Selenium	liver	1.5E-003	–	1.5E-002	1.7E-002
			Silver		–			Silver	skin	2.8E-003	–	1.4E-001	1.4E-001
			Toluene		–			Toluene	liver	1.3E-007	–	1.3E-006	1.5E-006
			Vanadium		–			Vanadium	circulatory	2.2E-002	–	2.3E-001	2.5E-001
			Zinc		–			Zinc	thyroid	5.0E-003	–	1.8E-001	1.8E-001
			(Total)	8.4E-006		9.4E-005	1.0E-004	(Total)		1.7E+000		5.2E+002	5.2E+002
	Air	Area 5A, Surface Soil (0' to 2')	1,1-Dichloroethane	–		–		1,1-Dichloroethane	kidney	–	1.27E-003	–	1.3E-003
			1,1,1-Trichloroethane	–		–		1,1,1-Trichloroethane	liver	–	7.20E-004	–	7.2E-004
			1,1,2-Trichloroethane	–	6.61E-011	–	6.6E-011	1,1,2-Trichloroethane	liver	–		–	
			1,1,2,2-Tetrachloroethane	–	3.92E-009	–	3.9E-009	1,1,2,2-Tetrachloroethane	liver	–		–	
			1,2-Dichlorobenzene	–		–		1,2-Dichlorobenzene	low body weight	–	3.59E-002	–	3.6E-002
			1,2-Dichloroethane	–	5.54E-007	–	5.5E-007	1,2-Dichloroethane	circulatory	–	5.08E-002	–	5.1E-002
			1,2-Dichloroethene (total)	–		–		1,2-Dichloroethene (total)		–		–	
			1,2-Dichloropropane	–		–		1,2-Dichloropropane		–	6.20E-002	–	6.2E-002
			1,2,4-Trichlorobenzene	–		–		1,2,4-Trichlorobenzene	liver	–	2.90E-004	–	2.9E-004
			1,4-Dichlorobenzene	–	1.15E-008	–	1.2E-008	1,4-Dichlorobenzene	liver	–	2.67E-005	–	2.7E-005
			2-Butanone	–		–		2-Butanone	CNS	–	1.12E-007	–	1.1E-007
			2-Hexanone	–		–		2-Hexanone	CNS	–	1.09E+000	–	1.1E+000
			2-Methylnaphthalene	–		–		2-Methylnaphthalene		–		–	
			2-Methylphenol	–		–		2-Methylphenol		–		–	
			2,4-Dimethylphenol	–		–		2,4-Dimethylphenol		–		–	
			2,4,5-Trichlorophenol	–		–		2,4,5-Trichlorophenol		–		–	

Table 6-6-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: AreaSeRM wk4 \ TT_sum_CRE5seRM

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			2,6-Dinitrotoluene	–		–		2,6-Dinitrotoluene		–		–	
			3,3'-Dichlorobenzidine	–		–		3,3'-Dichlorobenzidine		–		–	
			4-Methyl-2-pentanone	–		–		4-Methyl-2-pentanone	CNS	–	9.08E-003	–	9.1E-003
			4-Methylphenol	–		–		4-Methylphenol		–		–	
			4,4'-DDD	–		–		4,4'-DDD		–		–	
			4,4'-DDE	–		–		4,4'-DDE		–		–	
			4,4'-DDT	–	2.35E-012	–	2.4E-012	4,4'-DDT	liver	–		–	
			Acenaphthene	–		–		Acenaphthene		–		–	
			Acenaphthylene	–		–		Acenaphthylene		–		–	
			Acetone	–		–		Acetone		–		–	
			Aldrin	–	5.70E-010	–	5.7E-010	Aldrin		–		–	
			alpha-BHC	–	1.15E-011	–	1.2E-011	alpha-BHC		–		–	
			Anthracene	–		–		Anthracene		–		–	
			Antimony	–		–		Antimony		–		–	
			Aroclor-1242	–	1.02E-010	–	1.0E-010	Aroclor-1242		–		–	
			Aroclor-1248	–	6.11E-010	–	6.1E-010	Aroclor-1248		–		–	
			Aroclor-1254	–	4.84E-010	–	4.8E-010	Aroclor-1254		–		–	
			Aroclor-1260	–	3.84E-009	–	3.8E-009	Aroclor-1260		–		–	
			Arsenic	–	2.39E-009	–	2.4E-009	Arsenic	respiratory	–		–	
			Barium	–		–		Barium	fetotoxic	–	1.32E-003	–	1.3E-003
			Benzene	–	5.19E-007	–	5.2E-007	Benzene	blood disorders	–	1.23E-001	–	1.2E-001
			Benzoic Acid	–		–		Benzoic Acid		–		–	
			Benzo(a)anthracene	–		–		Benzo(a)anthracene		–		–	
			Benzo(a)pyrene	–	2.63E-011	–	2.6E-011	Benzo(a)pyrene		–		–	
			Benzo(b)fluoranthene	–		–		Benzo(b)fluoranthene		–		–	
			Benzo(g,h,i)perylene	–		–		Benzo(g,h,i)perylene		–		–	
			Benzo(k)fluoranthene	–		–		Benzo(k)fluoranthene		–		–	
			Benzyl Alcohol	–		–		Benzyl Alcohol		–		–	
			Beryllium	–	1.15E-010	–	1.1E-010	Beryllium	respiratory	–	2.79E-005	–	2.8E-005
			beta-BHC	–	6.28E-012	–	6.3E-012	beta-BHC		–		–	
			bis(2-Chloroethyl) ether	–	5.57E-006	–	5.6E-006	bis(2-Chloroethyl) ether	liver	–		–	
			bis(2-Ethylhexyl)phthalate	–	5.17E-011	–	5.2E-011	bis(2-Ethylhexyl)phthalate		–		–	
			Butylbenzylphthalate	–		–		Butylbenzylphthalate		–		–	
			Cadmium	–	7.86E-009	–	7.9E-009	Cadmium		–		–	
			Carbon Disulfide	–		–		Carbon Disulfide		–	1.04E-008	–	1.0E-008
			Chlorobenzene	–		–		Chlorobenzene	liver	–	1.30E-002	–	1.3E-002
			Chloroform	–	1.72E-006	–	1.7E-006	Chloroform	liver	–	2.88E+000	–	2.9E+000
			Chromium 3+	–		–		Chromium 3+		–		–	
			Chromium 6+	–	7.99E-008	–	8.0E-008	Chromium 6+	respiratory	–		–	
			Chrysene	–		–		Chrysene		–		–	
			cis-1,2-Dichloroethene	–		–		cis-1,2-Dichloroethene		–		–	
			Cobalt	–		–		Cobalt		–		–	
			Copper	–		–		Copper		–		–	
			Cyanide (total)	–		–		Cyanide (total)		–		–	
			Dibenzofuran	–		–		Dibenzofuran		–		–	
			Diethylphthalate	–		–		Diethylphthalate		–		–	
			Dimethylphthalate	–		–		Dimethylphthalate		–		–	
			Di-n-butylphthalate	–		–		Di-n-butylphthalate		–		–	
			Di-n-octylphthalate	–		–		Di-n-octylphthalate		–		–	
			Endrin ketone	–		–		Endrin ketone		–		–	
			Ethyl Benzene	–		–		Ethyl Benzene	respiratory	–	6.02E-003	–	6.0E-003
			Fluoranthene	–		–		Fluoranthene		–		–	
			Fluorene	–		–		Fluorene		–		–	
			Heptachlor	–	1.63E-012	–	1.6E-012	Heptachlor		–		–	
			Heptachlor epoxide	–	1.58E-012	–	1.6E-012	Heptachlor epoxide		–		–	
			Hexachlorobenzene	–	8.50E-014	–	8.5E-014	Hexachlorobenzene	liver	–		–	
			Hexachlorobutadiene	–	5.92E-012	–	5.9E-012	Hexachlorobutadiene	kidney	–		–	
			Hexane, n-	–		–		Hexane, n-		–		–	
			Indeno(1,2,3-cd)pyrene	–		–		Indeno(1,2,3-cd)pyrene		–		–	
			Isophorone	–		–		Isophorone		–		–	
			Lead	–		–		Lead		–		–	
			Manganese	–		–		Manganese	respiratory	–	8.10E-003	–	8.1E-003
			Mercury	–		–		Mercury	CNS	–	1.22E-005	–	1.2E-005
			Methylene Chloride	–	8.70E-008	–	8.7E-008	Methylene Chloride	respiratory	–	7.16E-004	–	7.2E-004

Table 6-6-1
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: AreaSeRM.wk4 \ TT_sum_CRESSeRM

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	2.11E-001	--	2.1E-001
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	3.60E-004	--	3.6E-004
			Tetrachloroethene	--	9.70E-007	--	9.7E-007	Tetrachloroethene	liver	--	4.04E-002	--	4.0E-002
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	1.73E-001	--	1.7E-001
			Trichloroethene	--	8.36E-007	--	8.4E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	2.43E-007	--	2.4E-007	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		1.1E-005		1.1E-005	(total)			4.7E+000		4.7E+000
						Total Risk Across Surface Soil	1.1E-004				Total Hazard Index Across Surface Soil		5.3E+002
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	1.5E+001
Total Skin HI:	4.9E+002
Total Thyroid HI:	1.8E-001
Total Liver HI:	6.4E+000
Total Circulatory System HI:	3.2E+000
Total CNS HI:	1.3E+000
Total Fetotoxic HI:	5.4E-003
Total GI Tract HI:	0.0E+000
Total Respiratory HI:	1.5E-002
Total Eyes HI:	0.0E+000
Total Reproductive HI:	5.0E-004
Total Mammary HI:	4.1E-005
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.4E-002
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	1.8E-001
Total Blood Disorders HI:	1.2E-001

Table 6-6-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Offsite Resident
Receptor Age	Child

File: AreaSect.wk4 \ TT_sum_CRESSaCT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 5A, Surface Soil (0' to 2')	4,4'-DDE	2.0E-009	–	7.4E-009	9.4E-009	4,4'-DDE	liver		–		
			4,4'-DDT	2.6E-009	–	9.4E-009	1.2E-008	4,4'-DDT	fetotoxic	1.8E-004	–	6.4E-004	8.2E-004
			alpha-BHC	3.6E-009	–	1.3E-008	1.7E-008	alpha-BHC	liver		–		
			alpha-Chlordane	2.0E-009	–	7.2E-009	9.2E-009	alpha-Chlordane	liver	1.3E-004	–	4.8E-004	6.1E-004
			Aluminum		–			Aluminum	circulatory	3.9E-002	–	1.4E-001	1.8E-001
			Antimony		–			Antimony	skin	2.3E-001	–	8.5E+001	8.5E+001
			Aroclor-1248	1.5E-007	–	5.5E-007	7.1E-007	Aroclor-1248	liver		–		
			Aroclor-1254	3.5E-007	–	1.4E-006	1.8E-006	Aroclor-1254	liver	1.0E-001	–	4.1E-001	5.2E-001
			Aroclor-1260	2.5E-007	–	9.1E-007	1.2E-006	Aroclor-1260	circulatory		–		
			Arsenic	2.8E-006	–	1.1E-005	1.3E-005	Arsenic	circulatory	7.2E-002	–	2.7E-001	3.5E-001
			Barium		–			Barium		1.1E-002	–	3.9E-002	5.0E-002
			Benzo(a)anthracene	3.6E-008	–	1.3E-007	1.6E-007	Benzo(a)anthracene			–		
			Benzo(a)pyrene	4.4E-007	–	1.9E-006	2.3E-006	Benzo(a)pyrene			–		
			Benzo(b)fluoranthene	4.4E-008	–	1.6E-007	2.0E-007	Benzo(b)fluoranthene			–		
			Benzo(k)fluoranthene	3.5E-009	–	1.3E-008	1.6E-008	Benzo(k)fluoranthene			–		
			Beryllium		–			Beryllium	kidney	1.5E-003	–	5.5E-001	5.5E-001
			bis(2-Ethylhexyl)phthalate	4.8E-009	–	1.7E-008	2.2E-008	bis(2-Ethylhexyl)phthalate	liver	2.0E-004	–	7.2E-004	9.3E-004
			Butylbenzylphthalate		–			Butylbenzylphthalate	mammary	1.8E-006	–	6.4E-006	8.2E-006
			Cadmium		–			Cadmium	kidney	9.6E-003	–	1.4E+000	1.4E+000
			Chromium 3+		–			Chromium 3+	liver	1.2E-004	–	1.1E-001	1.1E-001
			Chrysene	4.4E-010	–	3.9E-009	4.3E-009	Chrysene	liver		–		
			Cobalt		–			Cobalt	heart	6.0E-004	–	2.1E-003	2.7E-003
			Copper		–			Copper	liver	3.1E-003	–	1.9E-002	2.2E-002
			Cyanide (total)		–			Cyanide (total)	liver	4.2E-005	–	3.0E-004	3.4E-004
			Dieldrin	4.3E-008	–	1.6E-007	2.0E-007	Dieldrin	liver	6.3E-004	–	2.3E-003	2.9E-003
			Di-n-butylphthalate		–			Di-n-butylphthalate	liver	7.7E-006	–	2.8E-005	3.6E-005
			Endosulfan I		–			Endosulfan I	kidney	3.7E-006	–	1.3E-005	1.7E-005
			Endrin		–			Endrin	liver	1.2E-004	–	4.2E-004	5.4E-004
			Fluoranthene		–			Fluoranthene	kidney	2.4E-005	–	8.6E-005	1.1E-004
			gamma-BHC	3.5E-010	–	1.3E-009	1.6E-009	gamma-BHC	liver	1.1E-005	–	3.8E-005	4.9E-005
			gamma-Chlordane	1.6E-009	–	5.9E-009	7.5E-009	gamma-Chlordane	liver	1.1E-004	–	3.9E-004	5.0E-004
			Heptachlor	3.2E-009	–	1.2E-008	1.5E-008	Heptachlor	liver	1.7E-005	–	6.0E-005	7.7E-005
			Heptachlor epoxide	2.3E-008	–	8.3E-008	1.1E-007	Heptachlor epoxide	liver	2.3E-003	–	8.1E-003	1.0E-002
			Indeno(1,2,3-cd)pyrene	3.5E-008	–	1.3E-007	1.6E-007	Indeno(1,2,3-cd)pyrene			–		
			Iron		–			Iron		2.2E-001	–	7.9E-001	1.0E+000
			Lead		–			Lead	CNS		–		
			Manganese		–			Manganese	kidney	1.4E-001	–	5.1E-001	6.5E-001
			Mercury		–			Mercury	low body wt		–		
			Methoxychlor		–			Methoxychlor	reproductive	2.2E-005	–	7.8E-005	1.0E-004
			Methylene Chloride	2.9E-011	–	1.9E-010	2.2E-010	Methylene Chloride	liver	7.5E-007	–	4.9E-006	5.6E-006
			Nickel		–			Nickel	low body wt	5.5E-003	–	3.9E-001	4.0E-001
			Pyrene		–			Pyrene	liver	3.4E-005	–	1.2E-004	1.6E-004
			Selenium		–			Selenium	liver	7.3E-004	–	2.6E-003	3.4E-003
			Silver		–			Silver	skin	1.4E-003	–	2.4E-002	2.6E-002
			Toluene		–			Toluene	liver	6.4E-008	–	2.3E-007	2.9E-007
			Vanadium		–			Vanadium	circulatory	1.1E-002	–	3.9E-002	5.0E-002
			Zinc		–			Zinc	thyroid	2.5E-003	–	3.0E-002	3.3E-002
			(Total)	4.2E-006		1.6E-005	2.0E-005	(Total)		8.6E-001		8.9E+001	9.0E+001
	Air	Area 5A, Surface Soil (0' to 2')	1,1-Dichloroethane	–		–		1,1-Dichloroethane	kidney	–	9.56E-004	–	9.6E-004
			1,1,1-Trichloroethane	–		–		1,1,1-Trichloroethane	liver	–	5.40E-004	–	5.4E-004
			1,1,2-Trichloroethane	–	4.96E-011	–	5.0E-011	1,1,2-Trichloroethane	liver	–		–	
			1,1,2,2-Tetrachloroethane	–	2.94E-009	–	2.9E-009	1,1,2,2-Tetrachloroethane	liver	–		–	
			1,2-Dichlorobenzene	–		–		1,2-Dichlorobenzene	low body weight	–	2.69E-002	–	2.7E-002
			1,2-Dichloroethane	–	4.16E-007	–	4.2E-007	1,2-Dichloroethane	circulatory	–	3.81E-002	–	3.8E-002
			1,2-Dichloroethene (total)	–		–		1,2-Dichloroethene (total)		–		–	
			1,2-Dichloropropane	–		–		1,2-Dichloropropane		–	4.65E-002	–	4.6E-002
			1,2,4-Trichlorobenzene	–		–		1,2,4-Trichlorobenzene	liver	–	2.18E-004	–	2.2E-004
			1,4-Dichlorobenzene	–	8.65E-009	–	8.6E-009	1,4-Dichlorobenzene	liver	–	2.00E-005	–	2.0E-005
			2-Butanone	–		–		2-Butanone	CNS	–	8.43E-008	–	8.4E-008
			2-Hexanone	–		–		2-Hexanone	CNS	–	8.20E-001	–	8.2E-001
			2-Methylnaphthalene	–		–		2-Methylnaphthalene		–		–	
			2-Methylphenol	–		–		2-Methylphenol		–		–	
			2,4-Dimethylphenol	–		–		2,4-Dimethylphenol		–		–	
			2,4,5-Trichlorophenol	–		–		2,4,5-Trichlorophenol		–		–	

Table 6-6-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Offsite Resident
Receptor Age	Child

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	6.81E-003	--	6.8E-003
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	1.77E-012	--	1.8E-012	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.27E-010	--	4.3E-010	Aldrin		--		--	
			alpha-BHC	--	6.66E-012	--	6.7E-012	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	7.62E-011	--	7.6E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	4.58E-010	--	4.6E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	3.63E-010	--	3.6E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	2.88E-009	--	2.9E-009	Aroclor-1260		--		--	
			Arsenic	--	1.79E-009	--	1.8E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	9.88E-004	--	9.9E-004
			Benzene	--	3.89E-007	--	3.9E-007	Benzene	blood disorders	--	9.21E-002	--	9.2E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	1.97E-011	--	2.0E-011	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	8.59E-011	--	8.6E-011	Beryllium	respiratory	--	2.09E-005	--	2.1E-005
			beta-BHC	--	4.71E-012	--	4.7E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.18E-006	--	4.2E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	3.88E-011	--	3.9E-011	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	5.89E-009	--	5.9E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	7.80E-009	--	7.8E-009
			Chlorobenzene	--		--		Chlorobenzene	liver	--	9.73E-003	--	9.7E-003
			Chloroform	--	1.29E-006	--	1.3E-006	Chloroform	liver	--	2.16E+000	--	2.2E+000
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	5.99E-008	--	6.0E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	4.52E-003	--	4.5E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	1.22E-012	--	1.2E-012	Heptachlor		--		--	
			Heptachlor epoxide	--	1.18E-012	--	1.2E-012	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	6.38E-014	--	6.4E-014	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	4.44E-012	--	4.4E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	6.08E-003	--	6.1E-003
			Mercury	--		--		Mercury	CNS	--	9.14E-006	--	9.1E-006
			Methylene Chloride	--	6.53E-008	--	6.5E-008	Methylene Chloride	respiratory	--	5.37E-004	--	5.4E-004

Table 6-6-2
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Offsite Resident
Receptor Age	Child

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Total Exposure
			m,p-xylene	--		--	
			Naphthalene	--		--	
			Nickel	--		--	
			N-Nitrosodiphenylamine	--		--	
			ortho-xylene	--		--	
			Pentachlorophenol	--		--	
			Phenanthrene	--		--	
			Phenol	--		--	
			Pyrene	--		--	
			Selenium	--		--	
			Silver	--		--	
			Styrene	--		--	
			Tetrachloroethene	--	7.27E-007	--	7.3E-007
			Thallium	--		--	
			Toluene	--		--	
			Trichloroethene	--	6.27E-007	--	6.3E-007
			Vanadium	--		--	
			Vinyl Chloride	--	1.82E-007	--	1.8E-007
			Xylenes (total)	--		--	
			Zinc	--		--	
			(total)		8.0E-006		8.0E-006
						Total Risk Across Surface Soil	2.8E-005
						Total Risk Across All Media and All Exposure Routes	Reserved

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
m,p-xylene		--		--	
Naphthalene	circulatory	--	1.58E-001	--	1.6E-001
Nickel	respiratory	--		--	
N-Nitrosodiphenylamine		--		--	
ortho-xylene		--		--	
Pentachlorophenol		--		--	
Phenanthrene		--		--	
Phenol		--		--	
Pyrene		--		--	
Selenium		--		--	
Silver		--		--	
Styrene	CNS	--	2.70E-004	--	2.7E-004
Tetrachloroethene	liver	--	3.03E-002	--	3.0E-002
Thallium		--		--	
Toluene	CNS	--	1.30E-001	--	1.3E-001
Trichloroethene	respiratory	--		--	
Vanadium		--		--	
Vinyl Chloride	CNS	--		--	
Xylenes (total)	CNS	--		--	
Zinc		--		--	
(total)			3.5E+000		3.5E+000
				Total Hazard Index Across Surface Soil	9.4E+001

Total Kidney HI:	2.6E+000
Total Skin HI:	8.5E+001
Total Thyroid HI:	3.3E-002
Total Liver HI:	2.9E+000
Total Circulatory System HI:	7.7E-001
Total CNS HI:	9.6E-001
Total Fetotoxic HI:	1.8E-003
Total GI Tract HI:	0.0E+000
Total Respiratory HI:	1.1E-002
Total Eyes HI:	0.0E+000
Total Reproductive HI:	1.0E-004
Total Mammary HI:	8.2E-006
Total Adrenal HI:	0.0E+000
Total Heart HI:	2.7E-003
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	3.3E-002
Total Blood Disorders HI:	9.2E-002

TABLE 6-6-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Upper Aquifer	Outdoor Use	Tap Water Area 5A	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	8.28E-005		1.52E-004	2.35E-004
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS	2.19E-004		6.41E-003	6.63E-003
			1,2-Dichloroethane	2.31E-008		2.53E-008	4.84E-008	1,2-Dichloroethane	fetotoxic	3.95E-004		4.33E-004	8.27E-004
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney	1.14E-002		2.34E-002	3.48E-002
			1,4-Dichlorobenzene	2.23E-008		6.74E-007	6.96E-007	1,4-Dichlorobenzene	GI tract	1.45E-003		4.37E-002	4.51E-002
			2,2'-oxybis(1-Chloropropane	5.62E-008		5.04E-008	1.07E-007	2,2'-oxybis(1-Chloropropane	low body wt	9.37E-004		8.40E-004	1.78E-003
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	1.14E-003		3.81E-003	4.95E-003
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	1.38E-003		1.16E-001	1.18E-001
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	9.86E-006		6.76E-006	1.66E-005
			Aluminum					Aluminum	circulatory system	1.35E-003		2.27E-004	1.58E-003
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	2.07E-002		3.48E-001	3.69E-001
			Arsenic	1.42E-005		2.51E-006	1.67E-005	Arsenic	circulatory system	1.47E+000		2.60E-001	1.73E+000
			Barium					Barium	NA	2.14E-002		3.60E-003	2.50E-002
			Benzene	7.35E-006		3.36E-005	4.09E-005	Benzene	blood disorders	3.95E+000		1.80E+001	2.20E+001
			Benzo(k)Fluoranthene	1.85E-008		4.94E-006	4.96E-006	Benzo(k)Fluoranthene	NA				
			Benzoic Acid					Benzoic Acid	GI tract	1.08E-005		1.76E-005	2.85E-005
			Beta-BHC	7.61E-009		1.21E-008	1.97E-008	Beta-BHC	liver				
			bis(2-Chloroethyl)Ether	6.88E-006		3.48E-006	1.04E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	3.43E-008		3.04E-006	3.07E-006	bis(2-Ethylhexyl)Phthalate	liver	5.72E-003		5.06E-001	5.12E-001
			Cadmium (water)					Cadmium (water)	kidney	2.37E-003		7.95E-003	1.03E-002
			Chlorobenzene					Chlorobenzene	liver	8.28E-003		2.32E-001	2.40E-001
			Chloroethane	1.77E-007		2.72E-007	4.48E-007	Chloroethane	liver	7.10E-003		1.09E-002	1.80E-002
			Chromium (VI)	1.56E-010		2.62E-010	4.19E-010	Chromium (VI)		1.22E-002		2.04E-002	3.26E-002
			Chrysene	1.85E-009		3.10E-006	3.10E-006	Chrysene	liver				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system	7.89E-005		1.62E-004	2.41E-004
			Cobalt					Cobalt	circulatory system	2.76E-004		4.64E-005	3.23E-004
			Copper					Copper	liver	7.22E-003		2.02E-003	9.24E-003
			Cyanide					Cyanide	liver	3.43E-003		1.15E-003	4.59E-003
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA	9.27E-003		1.56E+000	1.57E+000

TABLE 6-6-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate					Diethylphthalate	low body wt	9.86E-007		2.75E-006	3.74E-006
			Ethylbenzene					Ethylbenzene	liver	3.04E-002		4.93E-001	5.23E-001
			Iron					Iron		3.52E-001		5.92E-002	4.12E-001
			Isophorone	2.81E-009		2.92E-009	5.73E-009	Isophorone	kidney	6.90E-005		7.17E-005	1.41E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	7.87E-001		1.32E-001	9.19E-001
			Methylene Chloride	1.08E-008		1.77E-008	2.84E-008	Methylene Chloride	liver	1.12E-003		1.83E-003	2.95E-003
			Naphthalene					Naphthalene	circulatory system	1.38E-002		2.09E-001	2.23E-001
			Nickel					Nickel	low body wt	1.23E-002		4.12E-003	1.64E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	6.19E-002			6.19E-002
			Pentachlorophenol	3.04E-008		2.19E-005	2.19E-005	Pentachlorophenol	liver	3.95E-004		2.83E-001	2.84E-001
			Phenol					Phenol	liver	4.21E-004		4.74E-004	8.95E-004
			Selenium					Selenium	liver	2.05E-003		3.45E-004	2.40E-003
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney	5.92E-005		1.30E-005	7.22E-005
			Vanadium					Vanadium	circulatory system	1.46E-002		2.45E-003	1.70E-002
			Vinyl Chloride	6.43E-007		8.97E-007	1.54E-006	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic	3.85E-002		6.50E-001	6.89E-001
			Zinc					Zinc	thyroid	1.17E-002		3.91E-003	1.56E-002
			(Total)	2.95E-005		7.45E-005	1.04E-004	(Total)		6.86E+000		2.30E+001	2.99E+001
							Total Risk Across Groundwater	1.0E-004					Total Hazard Across Groundwater	3.0E+001
							Total Risk Across All Media and All Exposure Routes						

Total Circulatory System HI =	2.0E+000
Total Liver HI =	1.6E+000
Total Kidney HI =	9.6E-001
Total GI HI =	1.6E-001
Total CNS HI =	6.6E-003
Total Thyroid HI =	1.6E-002
Total Fetotoxic HI =	7.5E-001
Total Skin HI =	3.7E-001
Total Blood Disorders HI =	2.2E+001

TABLE 6-6-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\rsktbls\UG5AFCCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Upper Aquifer	Outdoor Use	Tap Water Area 5A	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	6.90E-006		1.51E-005	2.20E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS	1.83E-005		7.93E-004	8.12E-004
			1,2-Dichloroethane	1.92E-009		2.50E-009	4.42E-009	1,2-Dichloroethane	fetotoxic	3.29E-005		4.27E-005	7.56E-005
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney	9.50E-004		2.30E-003	3.25E-003
			1,4-Dichlorobenzene	1.86E-009		8.34E-008	8.52E-008	1,4-Dichlorobenzene	GI tract	1.21E-004		5.40E-003	5.52E-003
			2,2'-oxybis(1-Chloropropane	4.68E-009		3.60E-009	8.29E-009	2,2'-oxybis(1-Chloropropane	low body wt	7.81E-005		6.00E-005	1.38E-004
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	9.53E-005		6.24E-004	7.19E-004
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	1.15E-004		1.44E-002	1.45E-002
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	8.22E-007		6.70E-007	1.49E-006
			Aluminum					Aluminum	circulatory system	1.13E-004		1.62E-005	1.29E-004
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	1.73E-003		2.49E-002	2.66E-002
			Arsenic	1.18E-006		1.79E-007	1.36E-006	Arsenic	circulatory system	1.23E-001		1.86E-002	1.41E-001
			Barium					Barium	NA	1.78E-003		2.57E-004	2.04E-003
			Benzene	6.13E-007		3.13E-006	3.74E-006	Benzene	blood disorders	3.29E-001		1.68E+000	2.01E+000
			Benzo(k)Fluoranthene	1.54E-009		8.07E-007	8.09E-007	Benzo(k)Fluoranthene	NA				
			Benzoic Acid					Benzoic Acid	GI tract	9.04E-007		2.88E-006	3.78E-006
			Beta-BHC	6.34E-010		1.49E-009	2.13E-009	Beta-BHC	liver				
			bis(2-Chloroethyl)Ether	5.73E-007		6.06E-007	1.18E-006	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	2.86E-009		3.76E-007	3.79E-007	bis(2-Ethylhexyl)Phthalate	liver	4.77E-004		6.26E-002	6.31E-002
			Cadmium (water)					Cadmium (water)	kidney	1.97E-004		5.68E-004	7.65E-004
			Chlorobenzene					Chlorobenzene	liver	6.90E-004		3.63E-002	3.70E-002
			Chloroethane	1.47E-008		2.44E-008	3.91E-008	Chloroethane	liver	5.92E-004		9.81E-004	1.57E-003
			Chromium (VI)	1.30E-011		1.87E-011	3.18E-011	Chromium (VI)		1.01E-003		1.46E-003	2.47E-003
			Chrysene	1.54E-010		3.84E-007	3.84E-007	Chrysene	liver				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system	6.58E-006		1.59E-005	2.25E-005
			Cobalt					Cobalt	circulatory system	2.30E-005		3.31E-006	2.63E-005
			Copper					Copper	liver	6.02E-004		1.44E-004	7.46E-004
			Cyanide					Cyanide	liver	2.86E-004		8.24E-005	3.68E-004
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA	7.73E-004		1.11E-001	1.12E-001

TABLE 6-6-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\rskbls\UG5AFCCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate					Diethylphthalate	low body wt	8.22E-008		3.40E-007	4.23E-007
			Ethylbenzene					Ethylbenzene	liver	2.53E-003		9.24E-002	9.49E-002
			Iron					Iron		2.94E-002		4.23E-003	3.36E-002
			Isophorone	2.34E-010		5.02E-010	7.37E-010	Isophorone	kidney	5.75E-006		1.23E-005	1.81E-005
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	6.56E-002		9.44E-003	7.50E-002
			Methylene Chloride	8.98E-010		1.67E-009	2.57E-009	Methylene Chloride	liver	9.32E-005		1.73E-004	2.67E-004
			Naphthalene					Naphthalene	circulatory system	1.15E-003		4.69E-002	4.80E-002
			Nickel					Nickel	low body wt	1.02E-003		2.94E-004	1.32E-003
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	5.16E-003			5.16E-003
			Pentachlorophenol	2.54E-009		2.71E-006	2.71E-006	Pentachlorophenol	liver	3.29E-005		3.51E-002	3.51E-002
			Phenol					Phenol	liver	3.51E-005		4.61E-005	8.12E-005
			Selenium					Selenium	liver	1.71E-004		2.46E-005	1.96E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney	4.93E-006		1.28E-006	6.21E-006
			Vanadium					Vanadium	circulatory system	1.22E-003		1.75E-004	1.39E-003
			Vinyl Chloride	5.35E-008		7.99E-008	1.33E-007	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic	3.21E-003		1.22E-001	1.26E-001
			Zinc					Zinc	thyroid	9.71E-004		2.80E-004	1.25E-003
			(Total)	2.46E-006		8.39E-006	1.08E-005	(Total)		5.72E-001		2.27E+000	2.84E+000

Total Risk Across Groundwater	1.1E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	2.8E+000

Total Circulatory System HI =	1.9E-001
Total Liver HI =	2.3E-001
Total Kidney HI =	7.9E-002
Total GI HI =	2.0E-002
Total CNS HI =	8.1E-004
Total Thyroid HI =	1.3E-003
Total Fetotoxic HI =	1.3E-001
Total Skin HI =	2.7E-002
Total Blood Disorders HI =	2.0E+000

TABLE 6-6-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\rskbls\LG5ACCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	2-Butanone (MEK)			1.56E-009	1.56E-009	2-Butanone (MEK)	liver	1.83E-004		1.56E-009	1.83E-004
			Antimony			1.64E-004	1.64E-004	Antimony	skin	3.88E-001		1.64E-004	3.88E-001
			Arsenic	4.46E-005		5.16E-006	4.98E-005	Arsenic	circulatory system	1.16E+000		5.16E-006	1.16E+000
			Barium			1.60E-006	1.60E-006	Barium	NA	3.78E-001		1.60E-006	3.78E-001
			bis(2-Ethylhexyl)Phthalate	1.10E-007			1.10E-007	bis(2-Ethylhexyl)Phthalate	liver	4.57E-003			4.57E-003
			Cadmium (water)			8.51E-006	8.51E-006	Cadmium (water)	kidney	1.00E-001		8.51E-006	1.00E-001
			Chloroform	4.77E-008			4.77E-008	Chloroform	circulatory system	9.13E-003			9.13E-003
			Copper			2.50E-006	2.50E-006	Copper	liver	3.54E-001		2.50E-006	3.54E-001
			Iron			5.81E-006	5.81E-006	Iron		1.37E+000		5.81E-006	1.37E+000
			Lead					Lead	CNS				
			Manganese (nonfood)			1.78E-005	1.78E-005	Manganese (nonfood)	kidney	4.21E+000		1.78E-005	4.21E+000
			Methylene Chloride	1.17E-008			1.17E-008	Methylene Chloride	liver	3.04E-004			3.04E-004
			Nickel			1.93E-007	1.93E-007	Nickel	low body wt	2.28E-002		1.93E-007	2.28E-002
			Trichloroethene	2.58E-008			2.58E-008	Trichloroethene	liver	4.57E-003			4.57E-003
			Vinyl Chloride	8.92E-006			8.92E-006	Vinyl Chloride	liver				
			Zinc			4.07E-006	4.07E-006	Zinc	thyroid	4.81E-001		4.07E-006	4.81E-001
			(Total)	5.37E-005		2.10E-004	2.64E-004	(Total)		8.49E+000		2.10E-004	8.49E+000

TABLE 6-6-5
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\rsktbls\LG5ACCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	2-Butanone (MEK)					2-Butanone (MEK)	CNS		6.81E-007		6.81E-007
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroform		6.76E-010		6.76E-010	Chloroform	liver		9.13E-007		9.13E-007
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		2.75E-012		2.75E-012	Methylene Chloride	respiratory tract		2.44E-009		2.44E-009
			Nickel					Nickel	respiratory tract				
			Trichloroethene		1.50E-011		1.50E-011	Trichloroethene	respiratory tract				
			Vinyl Chloride		1.50E-009		1.50E-009	Vinyl Chloride	CNS				
			Zinc					Zinc					
			(Total)		2.20E-009		2.20E-009	(Total)			1.60E-006		1.60E-006

Total Risk Across Groundwater	2.6E-004
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater: 8.5E+000

Total Circulatory System HI =	1.2E+000
Total Liver HI =	3.6E-001
Total Kidney HI =	4.3E+000
Total Skin HI =	3.9E-001
Total Thyroid HI =	4.8E-001
Total CNS HI =	6.8E-007
Total Respiratory Tract HI =	2.4E-009

TABLE 6-6-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\rskbls\LG5ACCCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	2-Butanone (MEK)					2-Butanone (MEK)	liver	4.57E-005		3.12E-010	4.57E-005
			Antimony					Antimony	skin	9.70E-002		1.56E-005	9.70E-002
			Arsenic	1.12E-005		1.86E-011	1.12E-005	Arsenic	circulatory system	2.89E-001		4.89E-007	2.89E-001
			Barium					Barium	NA	9.46E-002		1.52E-007	9.46E-002
			bis(2-Ethylhexyl)Phthalate	2.74E-008			2.74E-008	bis(2-Ethylhexyl)Phthalate	liver	1.14E-003			1.14E-003
			Cadmium (water)					Cadmium (water)	kidney	2.51E-002		8.07E-007	2.51E-002
			Chloroform	1.19E-008			1.19E-008	Chloroform	circulatory system	2.28E-003			2.28E-003
			Copper					Copper	liver	8.85E-002		2.37E-007	8.85E-002
			Iron					Iron		3.43E-001		5.51E-007	3.43E-001
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	1.05E+000		1.69E-006	1.05E+000
			Methylene Chloride	2.94E-009			2.94E-009	Methylene Chloride	liver	7.61E-005			7.61E-005
			Nickel					Nickel	low body wt	5.71E-003		1.83E-008	5.71E-003
			Trichloroethene	6.46E-009			6.46E-009	Trichloroethene	liver	1.14E-003			1.14E-003
			Vinyl Chloride	2.23E-006		8.82E-011	2.23E-006	Vinyl Chloride	liver				
			Zinc					Zinc	thyroid	1.20E-001		3.86E-007	1.20E-001
			(Total)	1.34E-005		1.07E-010	1.34E-005	(Total)		2.12E+000		1.99E-005	2.12E+000

TABLE 6-6-6
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\risk\ls\LG5ACCCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	2-Butanone (MEK)					2-Butanone (MEK)	CNS		3.39E-007		3.39E-007
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroform		3.36E-010		3.36E-010	Chloroform	liver		4.54E-007		4.54E-007
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		1.37E-012		1.37E-012	Methylene Chloride	respiratory tract		1.21E-009		1.21E-009
			Nickel					Nickel	respiratory tract				
			Trichloroethene		7.48E-012		7.48E-012	Trichloroethene	respiratory tract				
			Vinyl Chloride		7.48E-010		7.48E-010	Vinyl Chloride	CNS				
			Zinc					Zinc					
			(Total)		1.09E-009		1.09E-009	(Total)			7.94E-007		7.94E-007

Total Risk Across Groundwater: 1.3E-005
Total Risk Across All Media and All Exposure Routes:

Total Hazard Across Groundwater: 2.1E+000

Total Circulatory System HI = 2.9E-001
Total Liver HI = 9.1E-002
Total Kidney HI = 1.1E+000
Total Skin HI = 9.7E-002
Total Thyroid HI = 1.2E-001
Total CNS HI = 3.4E-007
Total Respiratory Tract HI = 1.2E-009

TABLE 6-6-7
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\eca\raktbls\LG5AFCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	Aluminum					Aluminum	circulatory system	6.92E-001		2.91E-006	6.92E-001
			Ammonia					Ammonia	kidney				
			Arsenic	5.75E-005		2.53E-010	5.75E-005	Arsenic	circulatory system	1.49E+000		6.59E-006	1.49E+000
			Barium					Barium	NA	8.16E-001		3.44E-006	8.16E-001
			Benzoic Acid					Benzoic Acid	GI tract	1.37E-004		1.56E-008	1.37E-004
			Beryllium					Beryllium	kidney	5.01E-002		3.96E-004	5.04E-002
			bis(2-Ethylhexyl)Phthalate	6.14E-006		2.86E-008	6.17E-006	bis(2-Ethylhexyl)Phthalate	liver	2.55E-001		1.20E-003	2.56E-001
			Chromium (VI)					Chromium (VI)		4.91E-001		2.07E-005	4.91E-001
			Cobalt					Cobalt	circulatory system	1.02E-002		4.28E-008	1.02E-002
			Copper					Copper	liver	2.84E-001		2.00E-006	2.84E-001
			Iron					Iron		3.99E+000		1.68E-005	3.99E+000
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	1.35E+000		5.67E-006	1.35E+000
			Nickel					Nickel	low body wt	3.38E-001		2.84E-006	3.38E-001
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	8.28E-001			8.28E-001
			Phenol					Phenol	liver	5.01E-002		3.49E-006	5.01E-002
			Selenium					Selenium	liver	5.46E-002		2.30E-007	5.46E-002
			Thallium					Thallium	NA	4.68E+000		1.97E-005	4.68E+000
			Toluene					Toluene	liver	4.55E-005		2.56E-008	4.55E-005
			Vanadium					Vanadium	circulatory system	1.65E-001		6.95E-007	1.65E-001
			Zinc					Zinc	thyroid	1.29E-002		1.08E-007	1.29E-002
			(Total)	6.37E-005		2.89E-008	6.37E-005	(Total)		1.55E+001		1.68E-003	1.56E+001

TABLE 6-6-7
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

File: c:\projects\acs\rsktbls\LG5AFCRM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		6.61E-004		6.61E-004
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	lung				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					*Manganese (nonfood)*	respiratory tract				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					
			Toluene					Toluene	CNS		4.85E-008		4.85E-008
			Vanadium					Vanadium					
			Zinc					Zinc					
			(Total)		0.00E+000		0.00E+000	(Total)			6.61E-004		6.61E-004
						Total Risk Across Groundwater	6.4E-005					Total Hazard Across Groundwater	1.6E+001
						Total Risk Across All Media and All Exposure Routes							

Total Circulatory System HI =	2.4E+000
Total Liver HI =	6.5E-001
Total Kidney HI =	1.4E+000
Total GI Tract HI =	1.4E-004
Total CNS HI =	4.8E-008
Total Respiratory Tract HI =	6.6E-004
Total Thyroid HI =	1.3E-002

TABLE 6-6-8
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	Aluminum					Aluminum	circulatory system	1.75E-001		2.79E-007	1.75E-001
			Ammonia					Ammonia	kidney				
			Arsenic	1.44E-005		2.40E-011	1.44E-005	Arsenic	circulatory system	3.76E-001		6.30E-007	3.76E-001
			Barium					Barium	NA	2.06E-001		3.29E-007	2.06E-001
			Benzoic Acid					Benzoic Acid	GI tract	3.45E-005		2.11E-009	3.45E-005
			Beryllium					Beryllium	kidney	1.27E-002		3.79E-005	1.27E-002
			bis(2-Ethylhexyl)Phthalate	1.53E-006		3.84E-009	1.54E-006	bis(2-Ethylhexyl)Phthalate	liver	6.44E-002		1.62E-004	6.46E-002
			Chromium (VI)					Chromium (VI)		1.24E-001		1.98E-006	1.24E-001
			Cobalt					Cobalt	circulatory system	2.57E-003		4.09E-009	2.57E-003
			Copper					Copper	liver	7.19E-002		1.91E-007	7.19E-002
			Iron					Iron		1.01E+000		1.61E-006	1.01E+000
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	3.40E-001		5.43E-007	3.40E-001
			Nickel					Nickel	low body wt	8.53E-002		2.72E-007	8.53E-002
			Nitrate/Nitrite					Nitrate/Nitrite	*fetotoxic*	2.09E-001			2.09E-001
			Phenol					Phenol	liver	1.27E-002		4.72E-007	1.27E-002
			Selenium					Selenium	liver	1.38E-002		2.20E-008	1.38E-002
			Thallium					Thallium	NA	1.18E+000		1.89E-006	1.18E+000
			Toluene					Toluene	liver	1.15E-005		3.47E-009	1.15E-005
			Vanadium					Vanadium	circulatory system	4.17E-002		6.65E-008	4.17E-002
			Zinc					Zinc	thyroid	3.25E-003		1.04E-008	3.25E-003
			(Total)	1.59E-005		3.86E-009	1.59E-005	(Total)		3.93E+000		2.08E-004	3.93E+000

TABLE 6-6-8
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Child

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use	Aluminum					Aluminum	respiratory tract				
		Vapors	Ammonia					Ammonia	respiratory tract		3.30E-004		3.30E-004
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	lung				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					
			Toluene					Toluene	CNS		2.42E-008		2.42E-008
			Vanadium					Vanadium					
			Zinc					Zinc					
			(Total)		0.00E+000		0.00E+000	(Total)			3.30E-004		3.30E-004

Total Risk Across Groundwater	1.6E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	3.9E+000
Total Circulatory System HI =	5.9E-001
Total Liver HI =	1.8E-001
Total Kidney HI =	3.5E-001
Total GI Tract HI =	3.5E-005
Total CNS HI =	2.4E-008
Total Respiratory Tract HI =	3.3E-004
Total Thyroid HI =	3.3E-003

Scenario Timeframe:	Current/Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

Table 6-6-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

File: Area5aRM.wk4 \ ARES5aRM

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 5A, Surface Soil (0' to 2')	4,4'-DDE	1.8E-009	--	1.0E-007	1.0E-007	4,4'-DDE	liver		--		
			4,4'-DDT	2.2E-009	--	1.3E-007	1.3E-007	4,4'-DDT	fetotoxic	3.8E-005	--	2.2E-003	2.3E-003
			alpha-BHC	3.1E-009	--	1.8E-007	1.8E-007	alpha-BHC	liver		--		
			alpha-Chlordane	1.7E-009	--	1.0E-007	1.0E-007	alpha-Chlordane	liver	2.9E-005	--	1.7E-003	1.7E-003
			Aluminum		--			Aluminum	circulatory	8.4E-003	--	4.9E-001	4.9E-001
			Antimony		--			Antimony	skin	5.0E-002	--	2.9E+002	2.9E+002
			Aroclor-1248	1.3E-007	--	7.8E-006	7.8E-006	Aroclor-1248	liver		--		
			Aroclor-1254	3.0E-007	--	2.0E-005	2.0E-005	Aroclor-1254	liver	2.2E-002	--	1.4E+000	1.5E+000
			Aroclor-1260	2.2E-007	--	1.3E-005	1.3E-005	Aroclor-1260	circulatory		--		
			Arsenic	2.4E-006	--	1.5E-004	1.5E-004	Arsenic	circulatory	1.6E-002	--	9.5E-001	9.6E-001
			Barium		--			Barium		2.3E-003	--	1.3E-001	1.4E-001
			Benzo(a)anthracene	3.1E-008	--	1.8E-006	1.8E-006	Benzo(a)anthracene			--		
			Benzo(a)pyrene	3.8E-007	--	2.8E-005	2.6E-005	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	3.8E-008	--	2.2E-006	2.2E-006	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	3.0E-009	--	1.7E-007	1.8E-007	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	3.3E-004	--	1.9E+000	1.9E+000
			bis(2-Ethylhexyl)phthalate	4.1E-009	--	2.4E-007	2.4E-007	bis(2-Ethylhexyl)phthalate	liver	4.3E-005	--	2.5E-003	2.5E-003
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	3.8E-007	--	2.2E-005	2.3E-005
			Cadmium		--			Cadmium	kidney	2.1E-003	--	4.8E+000	4.8E+000
			Chromium 3+		--			Chromium 3+	liver	2.5E-005	--	3.6E-001	3.6E-001
			Chrysene	3.8E-010	--	5.3E-008	5.4E-008	Chrysene	liver		--		
			Cobalt		--			Cobalt	heart	1.3E-004	--	7.4E-003	7.5E-003
			Copper		--			Copper	liver	6.7E-004	--	6.5E-002	6.6E-002
			Cyanide (total)		--			Cyanide (total)	liver	8.9E-006	--	1.0E-003	1.0E-003
			Dieldrin	3.7E-008	--	2.2E-006	2.2E-006	Dieldrin	liver	1.4E-004	--	7.9E-003	8.0E-003
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	1.6E-006	--	9.8E-005	1.0E-004
			Endosulfan I		--			Endosulfan I	kidney	8.0E-007	--	4.6E-005	4.7E-005
			Endrin		--			Endrin	liver	2.5E-005	--	1.5E-003	1.5E-003
			Fluoranthene		--			Fluoranthene	kidney	5.1E-006	--	3.0E-004	3.0E-004
			gamma-BHC	3.0E-010	--	1.8E-008	1.8E-008	gamma-BHC	liver	2.3E-006	--	1.3E-004	1.3E-004
			gamma-Chlordane	1.4E-009	--	8.1E-008	8.2E-008	gamma-Chlordane	liver	2.3E-005	--	1.4E-003	1.4E-003
			Heptachlor	2.8E-009	--	1.6E-007	1.6E-007	Heptachlor	liver	3.6E-006	--	2.1E-004	2.1E-004
			Heptachlor epoxide	2.0E-008	--	1.1E-006	1.2E-006	Heptachlor epoxide	liver	4.8E-004	--	2.8E-002	2.9E-002
			Indeno(1,2,3-cd)pyrene	3.0E-008	--	1.7E-006	1.8E-006	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		4.7E-002	--	2.7E+000	2.8E+000
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	3.0E-002	--	1.7E+000	1.8E+000
			Mercury		--			Mercury	low body wt		--		
			Methoxychlor		--			Methoxychlor	reproductive	4.7E-006	--	2.7E-004	2.7E-004
			Methylene Chloride	2.5E-011	--	2.8E-009	2.6E-009	Methylene Chloride	liver	1.6E-007	--	1.7E-005	1.7E-005
			Nickel		--			Nickel	low body wt	1.2E-003	--	1.4E+000	1.4E+000
			Pyrene		--			Pyrene	liver	7.3E-006	--	4.2E-004	4.3E-004
			Selenium		--			Selenium	liver	1.6E-004	--	9.1E-003	9.2E-003
			Silver		--			Silver	skin	3.0E-004	--	8.3E-002	8.4E-002
			Toluene		--			Toluene	liver	1.4E-008	--	7.9E-007	8.1E-007
			Vanadium		--			Vanadium	circulatory	2.3E-003	--	1.4E-001	1.4E-001
			Zinc		--			Zinc	thyroid	5.4E-004	--	1.0E-001	1.0E-001
			(Total)	3.6E-006		2.2E-004	2.3E-004	(Total)		1.8E-001		3.1E+002	3.1E+002
	AIR	Area 5A, Surface Soil (0' to 2')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.73E-004	--	2.7E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.54E-004	--	1.5E-004
			1,1,2-Trichloroethane	--	5.67E-011	--	5.7E-011	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	3.36E-009	--	3.4E-009	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	7.69E-003	--	7.7E-003
			1,2-Dichloroethane	--	4.75E-007	--	4.8E-007	1,2-Dichloroethane	circulatory	--	1.09E-002	--	1.1E-002
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	1.33E-002	--	1.3E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	6.22E-005	--	6.2E-005
			1,4-Dichlorobenzene	--	9.88E-009	--	9.9E-009	1,4-Dichlorobenzene	liver	--	5.72E-006	--	5.7E-006
			2-Butanone	--		--		2-Butanone	CNS	--	2.41E-008	--	2.4E-008

Scenario Timeframe	Current/Future
Receptor Population	Offsite Resident
Receptor Age	Adult

Table 6-6-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

File: Area5aRM.wk4 \ ARES5aRM

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			2-Hexanone	--		--		2-Hexanone	CNS	--	2.34E-001	--	2.3E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.95E-003	--	1.9E-003
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	2.02E-012	--	2.0E-012	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	4.88E-010	--	4.9E-010	Aldrin		--		--	
			alpha-BHC	--	9.90E-012	--	9.9E-012	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	8.71E-011	--	8.7E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	5.23E-010	--	5.2E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	4.15E-010	--	4.2E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	3.29E-009	--	3.3E-009	Aroclor-1260		--		--	
			Arsenic	--	2.05E-009	--	2.0E-009	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.82E-004	--	2.8E-004
			Benzene	--	4.45E-007	--	4.4E-007	Benzene	blood disorders	--	2.63E-002	--	2.6E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	2.25E-011	--	2.3E-011	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	9.82E-011	--	9.8E-011	Beryllium	respiratory	--	5.98E-006	--	6.0E-006
			beta-BHC	--	5.38E-012	--	5.4E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	4.77E-006	--	4.8E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	4.43E-011	--	4.4E-011	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	6.73E-009	--	6.7E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	2.23E-009	--	2.2E-009
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.78E-003	--	2.8E-003
			Chloroform	--	1.48E-006	--	1.5E-006	Chloroform	liver	--	6.18E-001	--	6.2E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	6.85E-008	--	6.8E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	1.29E-003	--	1.3E-003
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	1.40E-012	--	1.4E-012	Heptachlor		--		--	

Table 6-6-9
Summary of Receptor Risks and Hazards For COPCs
Reasonable Maximum Exposure
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Heptachlor epoxide	--	1.35E-012	--	1.4E-012	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	7.29E-014	--	7.3E-014	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	5.07E-012	--	5.1E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		*Indeno(1,2,3-cd)pyrene*		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.74E-003	--	1.7E-003
			Mercury	--		--		Mercury	CNS	--	2.61E-006	--	2.6E-006
			Methylene Chloride	--	7.46E-008	--	7.5E-008	Methylene Chloride	respiratory	--	1.53E-004	--	1.5E-004
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		*Naphthalene*	*circulatory*	--	4.52E-002	--	4.5E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		*Phenanthrene*		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	7.71E-005	--	7.7E-005
			Tetrachloroethene	--	8.31E-007	--	8.3E-007	Tetrachloroethene	liver	--	8.66E-003	--	8.7E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	3.71E-002	--	3.7E-002
			Trichloroethene	--	7.16E-007	--	7.2E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	2.08E-007	--	2.1E-007	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		*Xylenes (total)*	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		9.1E-006		9.1E-006	(total)			1.0E+000		1.0E+000
						Total Risk Across Surface Soil	2.3E-004					Total Hazard Index Across Surface Soil	3.1E+002
						Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	8.5E+000
Total Skin HI:	2.9E+002
Total Thyroid HI:	1.0E-001
Total Liver HI:	2.8E+000
Total Circulatory System HI:	1.7E+000
Total CNS HI:	2.7E-001
Total Fetotoxic HI:	2.5E-003
Total GI Tract HI:	0.0E+000
Total Respiratory HI:	3.2E-003
Total Eyes HI:	0.0E+000
Total Reproductive HI:	2.7E-004
Total Mammary HI:	2.3E-005
Total Adrenal HI:	0.0E+000
Total Heart HI:	7.5E-003
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	1.0E-001
Total Blood Disorders HI:	2.6E-002

Scenario Timeframe	Current/Future
Receptor Population	Offsite Resident
Receptor Age:	Adult

Table 6-6-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

File: Area5aRM.wk4 \ ARES5aCT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Surface Soil	Soil	Area 5A, Surface Soil (0' to 2')	4,4'-DDE	3.3E-010	--	6.6E-009	6.9E-009	4,4'-DDE	liver		--		
			4,4'-DDT	4.2E-010	--	8.4E-009	8.8E-009	4,4'-DDT	fetotoxic	1.9E-005	--	3.8E-004	4.0E-004
			alpha-BHC	5.8E-010	--	1.2E-008	1.2E-008	alpha-BHC	liver		--		
			alpha-Chlordane	3.2E-010	--	6.4E-009	6.8E-009	alpha-Chlordane	liver	1.4E-005	--	2.9E-004	3.0E-004
			Aluminum		--			Aluminum	circulatory	4.2E-003	--	8.4E-002	8.8E-002
			Antimony		--			Antimony	skin	2.5E-002	--	5.0E+001	5.0E+001
			Aroclor-1248	2.5E-008	--	4.9E-007	5.2E-007	Aroclor-1248	liver		--		
			Aroclor-1254	5.6E-008	--	1.3E-006	1.3E-006	Aroclor-1254	liver	1.1E-002	--	2.5E-001	2.6E-001
			Aroclor-1260	4.1E-008	--	8.1E-007	8.5E-007	Aroclor-1260	circulatory		--		
			Arsenic	4.5E-007	--	9.5E-006	9.9E-006	Arsenic	circulatory	7.8E-003	--	1.6E-001	1.7E-001
			Barium		--			Barium		1.2E-003	--	2.3E-002	2.4E-002
			Benzo(a)anthracene	5.7E-009	--	1.1E-007	1.2E-007	Benzo(a)anthracene			--		
			Benzo(a)pyrene	7.1E-008	--	1.7E-006	1.7E-006	Benzo(a)pyrene			--		
			Benzo(b)fluoranthene	7.1E-009	--	1.4E-007	1.5E-007	Benzo(b)fluoranthene			--		
			Benzo(k)fluoranthene	5.6E-010	--	1.1E-008	1.2E-008	Benzo(k)fluoranthene			--		
			Beryllium		--			Beryllium	kidney	1.6E-004	--	3.3E-001	3.3E-001
			bis(2-Ethylhexyl)phthalate	7.8E-010	--	1.6E-008	1.6E-008	bis(2-Ethylhexyl)phthalate	liver	2.2E-005	--	4.3E-004	4.5E-004
			Butylbenzylphthalate		--			Butylbenzylphthalate	mammary	1.9E-007	--	3.8E-006	4.0E-006
			Cadmium		--			Cadmium	kidney	1.0E-003	--	8.2E-001	8.2E-001
			Chromium 3+		--			Chromium 3+	liver	1.3E-005	--	6.3E-002	6.3E-002
			Chrysene	7.1E-011	--	3.4E-009	3.5E-009	Chrysene	liver		--		
			Cobalt		--			Cobalt	heart	6.4E-005	--	1.3E-003	1.3E-003
			Copper		--			Copper	liver	3.4E-004	--	1.1E-002	1.2E-002
			Cyanide (total)		--			Cyanide (total)	liver	4.5E-006	--	1.8E-004	1.8E-004
			Dieldrin	7.0E-009	--	1.4E-007	1.5E-007	Dieldrin	liver	6.8E-005	--	1.4E-003	1.4E-003
			Di-n-butylphthalate		--			Di-n-butylphthalate	liver	8.2E-007	--	1.7E-005	1.8E-005
			Endosulfan I		--			Endosulfan I	kidney	4.0E-007	--	8.0E-006	8.4E-006
			Endrin		--			Endrin	liver	1.3E-005	--	2.5E-004	2.6E-004
			Fluoranthene		--			Fluoranthene	kidney	2.6E-006	--	5.1E-005	5.4E-005
			gamma-BHC	5.7E-011	--	1.1E-009	1.2E-009	gamma-BHC	liver	1.1E-006	--	2.3E-005	2.4E-005
			gamma-Chlordane	2.6E-010	--	5.2E-009	5.5E-009	gamma-Chlordane	liver	1.2E-005	--	2.3E-004	2.4E-004
			Heptachlor	5.2E-010	--	1.0E-008	1.1E-008	Heptachlor	liver	1.8E-006	--	3.6E-005	3.8E-005
			Heptachlor epoxide	3.7E-009	--	7.4E-008	7.7E-008	Heptachlor epoxide	liver	2.4E-004	--	4.8E-003	5.1E-003
			Indeno(1,2,3-cd)pyrene	5.6E-009	--	1.1E-007	1.2E-007	Indeno(1,2,3-cd)pyrene			--		
			Iron		--			Iron		2.4E-002	--	4.7E-001	4.9E-001
			Lead		--			Lead	CNS		--		
			Manganese		--			Manganese	kidney	1.5E-002	--	3.0E-001	3.2E-001
			Mercury		--			Mercury	low body wt		--		
			Methoxychlor		--			Methoxychlor	reproductive	2.3E-006	--	4.7E-005	4.9E-005
			Methylene Chloride	4.6E-012	--	1.7E-010	1.7E-010	Methylene Chloride	liver	8.0E-008	--	2.9E-006	3.0E-006
			Nickel		--			Nickel	low body wt	5.9E-004	--	2.3E-001	2.3E-001
			Pyrene		--			Pyrene	liver	3.7E-006	--	7.3E-005	7.7E-005
			Selenium		--			Selenium	liver	7.8E-005	--	1.6E-003	1.6E-003
			Silver		--			Silver	skin	1.5E-004	--	1.4E-002	1.5E-002
			Toluene		--			Toluene	liver	6.8E-009	--	1.4E-007	1.4E-007
			Vanadium		--			Vanadium	circulatory	1.2E-003	--	2.3E-002	2.5E-002
			Zinc		--			Zinc	thyroid	2.7E-004	--	1.8E-002	1.8E-002
			(Total)	8.7E-007		1.4E-005	1.5E-005	(Total)		9.2E-002		5.3E+001	5.3E+001
	AIR	Area 5A, Surface Soil (0' to 2')	1,1-Dichloroethane	--		--		1,1-Dichloroethane	kidney	--	2.05E-004	--	2.0E-004
			1,1,1-Trichloroethane	--		--		1,1,1-Trichloroethane	liver	--	1.16E-004	--	1.2E-004
			1,1,2-Trichloroethane	--	1.59E-011	--	1.6E-011	1,1,2-Trichloroethane	liver	--		--	
			1,1,2,2-Tetrachloroethane	--	9.44E-010	--	9.4E-010	1,1,2,2-Tetrachloroethane	liver	--		--	
			1,2-Dichlorobenzene	--		--		1,2-Dichlorobenzene	low body weight	--	5.77E-003	--	5.8E-003
			1,2-Dichloroethane	--	1.34E-007	--	1.3E-007	1,2-Dichloroethane	circulatory	--	8.16E-003	--	8.2E-003
			1,2-Dichloroethene (total)	--		--		1,2-Dichloroethene (total)		--		--	
			1,2-Dichloropropane	--		--		1,2-Dichloropropane		--	9.96E-003	--	1.0E-002
			1,2,4-Trichlorobenzene	--		--		1,2,4-Trichlorobenzene	liver	--	4.66E-005	--	4.7E-005
			1,4-Dichlorobenzene	--	2.78E-009	--	2.8E-009	1,4-Dichlorobenzene	liver	--	4.29E-006	--	4.3E-006
			2-Butanone	--		--		2-Butanone	CNS	--	1.81E-008	--	1.8E-008
			2-Hexanone	--		--		2-Hexanone	CNS	--	1.76E-001	--	1.8E-001
			2-Methylnaphthalene	--		--		2-Methylnaphthalene		--		--	
			2-Methylphenol	--		--		2-Methylphenol		--		--	
			2,4-Dimethylphenol	--		--		2,4-Dimethylphenol		--		--	
			2,4,5-Trichlorophenol	--		--		2,4,5-Trichlorophenol		--		--	

Table 6-6-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe	Current/Future
Receptor Population	Offsite Resident
Receptor Age	Adult

File: Area5aRM.wk4 \ ARES5aCT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			2,6-Dinitrotoluene	--		--		2,6-Dinitrotoluene		--		--	
			3,3'-Dichlorobenzidine	--		--		3,3'-Dichlorobenzidine		--		--	
			4-Methyl-2-pentanone	--		--		4-Methyl-2-pentanone	CNS	--	1.46E-003	--	1.5E-003
			4-Methylphenol	--		--		4-Methylphenol		--		--	
			4,4'-DDD	--		--		4,4'-DDD		--		--	
			4,4'-DDE	--		--		4,4'-DDE		--		--	
			4,4'-DDT	--	5.67E-013	--	5.7E-013	4,4'-DDT	liver	--		--	
			Acenaphthene	--		--		Acenaphthene		--		--	
			Acenaphthylene	--		--		Acenaphthylene		--		--	
			Acetone	--		--		Acetone		--		--	
			Aldrin	--	1.37E-010	--	1.4E-010	Aldrin		--		--	
			alpha-BHC	--	2.78E-012	--	2.8E-012	alpha-BHC		--		--	
			Anthracene	--		--		Anthracene		--		--	
			Antimony	--		--		Antimony		--		--	
			Aroclor-1242	--	2.45E-011	--	2.4E-011	Aroclor-1242		--		--	
			Aroclor-1248	--	1.47E-010	--	1.5E-010	Aroclor-1248		--		--	
			Aroclor-1254	--	1.17E-010	--	1.2E-010	Aroclor-1254		--		--	
			Aroclor-1260	--	9.25E-010	--	9.2E-010	Aroclor-1260		--		--	
			Arsenic	--	5.76E-010	--	5.8E-010	Arsenic	respiratory	--		--	
			Barium	--		--		Barium	fetotoxic	--	2.12E-004	--	2.1E-004
			Benzene	--	1.25E-007	--	1.3E-007	Benzene	blood disorders	--	1.97E-002	--	2.0E-002
			Benzoic Acid	--		--		Benzoic Acid		--		--	
			Benzo(a)anthracene	--		--		Benzo(a)anthracene		--		--	
			Benzo(a)pyrene	--	6.34E-012	--	6.3E-012	Benzo(a)pyrene		--		--	
			Benzo(b)fluoranthene	--		--		Benzo(b)fluoranthene		--		--	
			Benzo(g,h,i)perylene	--		--		Benzo(g,h,i)perylene		--		--	
			Benzo(k)fluoranthene	--		--		Benzo(k)fluoranthene		--		--	
			Benzyl Alcohol	--		--		Benzyl Alcohol		--		--	
			Beryllium	--	2.76E-011	--	2.8E-011	Beryllium	respiratory	--	4.48E-006	--	4.5E-006
			beta-BHC	--	1.51E-012	--	1.5E-012	beta-BHC		--		--	
			bis(2-Chloroethyl) ether	--	1.34E-006	--	1.3E-006	bis(2-Chloroethyl) ether	liver	--		--	
			bis(2-Ethylhexyl)phthalate	--	1.25E-011	--	1.2E-011	bis(2-Ethylhexyl)phthalate		--		--	
			Butylbenzylphthalate	--		--		Butylbenzylphthalate		--		--	
			Cadmium	--	1.89E-009	--	1.9E-009	Cadmium		--		--	
			Carbon Disulfide	--		--		Carbon Disulfide		--	1.67E-009	--	1.7E-009
			Chlorobenzene	--		--		Chlorobenzene	liver	--	2.08E-003	--	2.1E-003
			Chloroform	--	4.15E-007	--	4.1E-007	Chloroform	liver	--	4.63E-001	--	4.6E-001
			Chromium 3+	--		--		Chromium 3+		--		--	
			Chromium 6+	--	1.93E-008	--	1.9E-008	Chromium 6+	respiratory	--		--	
			Chrysene	--		--		Chrysene		--		--	
			cis-1,2-Dichloroethene	--		--		cis-1,2-Dichloroethene		--		--	
			Cobalt	--		--		Cobalt		--		--	
			Copper	--		--		Copper		--		--	
			Cyanide (total)	--		--		Cyanide (total)		--		--	
			Dibenzofuran	--		--		Dibenzofuran		--		--	
			Diethylphthalate	--		--		Diethylphthalate		--		--	
			Dimethylphthalate	--		--		Dimethylphthalate		--		--	
			Di-n-butylphthalate	--		--		Di-n-butylphthalate		--		--	
			Di-n-octylphthalate	--		--		Di-n-octylphthalate		--		--	
			Endrin ketone	--		--		Endrin ketone		--		--	
			Ethyl Benzene	--		--		Ethyl Benzene	respiratory	--	9.68E-004	--	9.7E-004
			Fluoranthene	--		--		Fluoranthene		--		--	
			Fluorene	--		--		Fluorene		--		--	
			Heptachlor	--	3.93E-013	--	3.9E-013	Heptachlor		--		--	
			Heptachlor epoxide	--	3.80E-013	--	3.8E-013	Heptachlor epoxide		--		--	
			Hexachlorobenzene	--	2.05E-014	--	2.0E-014	Hexachlorobenzene	liver	--		--	
			Hexachlorobutadiene	--	1.43E-012	--	1.4E-012	Hexachlorobutadiene	kidney	--		--	
			Hexane, n-	--		--		Hexane, n-		--		--	
			Indeno(1,2,3-cd)pyrene	--		--		Indeno(1,2,3-cd)pyrene		--		--	
			Isophorone	--		--		Isophorone		--		--	
			Lead	--		--		Lead		--		--	
			Manganese	--		--		Manganese	respiratory	--	1.30E-003	--	1.3E-003
			Mercury	--		--		Mercury	CNS	--	1.96E-006	--	2.0E-006
			Methylene Chloride	--	2.10E-008	--	2.1E-008	Methylene Chloride	respiratory	--	1.15E-004	--	1.2E-004

Table 6-6-10
Summary of Receptor Risks and Hazards For COPCs
Central Tendency
American Chemical Services Site

Scenario Timeframe:	Current/Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: Area5aRM.wk4 \ ARES5aCT

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			m,p-xylene	--		--		m,p-xylene		--		--	
			Naphthalene	--		--		Naphthalene	circulatory	--	3.39E-002	--	3.4E-002
			Nickel	--		--		Nickel	respiratory	--		--	
			N-Nitrosodiphenylamine	--		--		N-Nitrosodiphenylamine		--		--	
			ortho-xylene	--		--		ortho-xylene		--		--	
			Pentachlorophenol	--		--		Pentachlorophenol		--		--	
			Phenanthrene	--		--		Phenanthrene		--		--	
			Phenol	--		--		Phenol		--		--	
			Pyrene	--		--		Pyrene		--		--	
			Selenium	--		--		Selenium		--		--	
			Silver	--		--		Silver		--		--	
			Styrene	--		--		Styrene	CNS	--	5.78E-005	--	5.8E-005
			Tetrachloroethene	--	2.34E-007	--	2.3E-007	Tetrachloroethene	liver	--	6.50E-003	--	6.5E-003
			Thallium	--		--		Thallium		--		--	
			Toluene	--		--		Toluene	CNS	--	2.78E-002	--	2.8E-002
			Trichloroethene	--	2.01E-007	--	2.0E-007	Trichloroethene	respiratory	--		--	
			Vanadium	--		--		Vanadium		--		--	
			Vinyl Chloride	--	5.86E-008	--	5.9E-008	Vinyl Chloride	CNS	--		--	
			Xylenes (total)	--		--		Xylenes (total)	CNS	--		--	
			Zinc	--		--		Zinc		--		--	
			(total)		2.8E-006		2.6E-006	(total)			7.6E-001		7.6E-001
							Total Risk Across Surface Soil	1.8E-005					Total Hazard Index Across Surface Soil	5.4E+001
							Total Risk Across All Media and All Exposure Routes	Reserved						

Total Kidney HI:	1.5E+000
Total Skin HI:	5.0E+001
Total Thyroid HI:	1.8E-002
Total Liver HI:	8.1E-001
Total Circulatory System HI:	3.3E-001
Total CNS HI:	2.1E-001
Total Fetotoxic HI:	6.1E-004
Total GI Tract HI:	0.0E+000
Total Respiratory HI:	2.4E-003
Total Eyes HI:	0.0E+000
Total Reproductive HI:	4.9E-005
Total Mammary HI:	4.0E-006
Total Adrenal HI:	0.0E+000
Total Heart HI:	1.3E-003
Total Skeletal System HI:	0.0E+000
Total Thyroid HI:	1.8E-002
Total Blood Disorders HI:	2.0E-002

TABLE 6-6-11

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

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Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Upper Aquifer	Outdoor Use	Tap Water Area 5A	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	3.95E-005		6.93E-005	1.09E-004
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS	1.04E-005		3.65E-004	3.76E-004
			1,2-Dichloroethane	7.33E-009		7.66E-009	1.50E-008	1,2-Dichloroethane	fetotoxic	1.88E-005		1.96E-005	3.84E-005
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney	5.43E-004		1.06E-003	1.60E-003
			1,4-Dichlorobenzene	7.09E-009		2.56E-007	2.63E-007	1,4-Dichlorobenzene	GI tract	6.89E-005		2.49E-003	2.56E-003
			2,2'-oxybis(1-Chloropropane	1.78E-008		1.11E-008	2.89E-008	2,2'-oxybis(1-Chloropropane	low body wt	4.46E-005		2.76E-005	7.23E-005
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	5.45E-004		2.87E-003	3.42E-003
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	6.58E-005		6.62E-003	6.69E-003
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	4.70E-006		3.08E-006	7.78E-006
			Aluminum					Aluminum	circulatory system	6.44E-005		7.47E-006	7.19E-005
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	9.86E-004		1.14E-002	1.24E-002
			Arsenic	4.51E-006		5.51E-007	5.06E-006	Arsenic	circulatory system	7.01E-002		8.56E-003	7.87E-002
			Barium					Barium	NA	1.02E-003		1.18E-004	1.14E-003
			Benzene	2.33E-006		9.61E-006	1.19E-005	Benzene	blood disorders	1.88E-001		7.73E-001	9.61E-001
			Benzo(k)Fluoranthene	5.88E-009		2.48E-006	2.48E-006	Benzo(k)Fluoranthene	NA				
			Benzoic Acid					Benzoic Acid	GI tract	5.17E-007		1.32E-006	1.84E-006
			Beta-BHC	2.42E-009		4.58E-009	7.00E-009	Beta-BHC	liver				
			bis(2-Chloroethyl)Ether	2.18E-006		1.86E-006	4.05E-006	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	1.09E-008		1.15E-006	1.16E-006	bis(2-Ethylhexyl)Phthalate	liver	2.72E-004		2.88E-002	2.91E-002
			Cadmium (water)					Cadmium (water)	kidney	1.13E-004		2.62E-004	3.74E-004
			Chlorobenzene					Chlorobenzene	liver	3.95E-004		1.67E-002	1.71E-002
			Chloroethane	5.60E-008		7.49E-008	1.31E-007	Chloroethane	liver	3.38E-004		4.52E-004	7.90E-004
			Chromium (VI)	4.96E-011		5.75E-011	1.07E-010	Chromium (VI)		3.86E-003		4.47E-003	8.33E-003
			Chrysene	5.88E-010		1.18E-006	1.18E-006	Chrysene	liver				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system	3.76E-005		7.33E-005	1.11E-004
			Cobalt					Cobalt	circulatory system	1.32E-005		1.53E-006	1.47E-005
			Copper					Copper	liver	3.44E-004		6.65E-005	4.10E-004
			Cyanide					Cyanide	liver	1.63E-004		3.79E-005	2.01E-004
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA	4.41E-004		5.12E-002	5.17E-002

TABLE 6-6-11
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\UG5AFARM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate					Diethylphthalate	low body wt	4.70E-007		1.57E-006	2.04E-006
			Ethylbenzene					Ethylbenzene	liver	1.45E-003		4.25E-002	4.40E-002
			Iron					Iron		1.68E-002		1.95E-003	1.87E-002
			Isophorone	8.92E-010		1.54E-009	2.43E-009	Isophorone	kidney	3.29E-005		5.68E-005	8.97E-005
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	3.75E-002		4.35E-003	4.18E-002
			Methylene Chloride	3.42E-009		5.13E-009	8.55E-009	Methylene Chloride	liver	5.32E-005		7.98E-005	1.33E-004
			Naphthalene					Naphthalene	circulatory system	1.32E-003		4.32E-002	4.45E-002
			Nickel					Nickel	low body wt	5.84E-004		1.36E-004	7.20E-004
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.95E-003			2.95E-003
			Pentachlorophenol	9.66E-009		8.30E-006	8.31E-006	Pentachlorophenol	liver	1.88E-005		1.61E-002	1.62E-002
			Phenol					Phenol	liver	2.00E-005		2.12E-005	4.13E-005
			Selenium					Selenium	liver	9.77E-005		1.13E-005	1.09E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney	2.82E-005		5.89E-006	3.41E-005
			Vanadium					Vanadium	circulatory system	6.95E-004		8.06E-005	7.76E-004
			Vinyl Chloride	2.04E-007		2.45E-007	4.49E-007	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic	3.66E-004		1.33E-002	1.36E-002
			Zinc					Zinc	thyroid	5.55E-004		1.29E-004	6.84E-004
			(Total)	9.35E-006		2.57E-005	3.51E-005	(Total)		3.30E-001		1.03E+000	1.36E+000

Total Risk Across Groundwater	3.5E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	1.4E+000

Total Circulatory System HI =	1.2E-001
Total Liver HI =	1.1E-001
Total Kidney HI =	4.4E-002
Total GI HI =	9.2E-003
Total CNS HI =	3.8E-004
Total Thyroid HI =	6.8E-004
Total Fetotoxic HI =	1.7E-002
Total Skin HI =	1.2E-002
Total Blood Disorders HI =	9.6E-001

TABLE 6-6-12
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG5AFACT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Upper Aquifer	Outdoor Use	Tap Water Area 5A	1,1-Dichloroethane					1,1-Dichloroethane	circulatory system	3.94E-005		5.98E-005	9.92E-005
			1,2-Dichlorobenzene					1,2-Dichlorobenzene	CNS	1.04E-005		3.15E-004	3.25E-004
			1,2-Dichloroethane	2.75E-009		2.48E-009	5.22E-009	1,2-Dichloroethane	fetotoxic	1.88E-005		1.69E-005	3.57E-005
			1,2-Dichloroethene(mixture)					1,2-Dichloroethene(mixture)	kidney	5.43E-004		9.13E-004	1.46E-003
			1,4-Dichlorobenzene	2.66E-009		8.27E-008	8.54E-008	1,4-Dichlorobenzene	GI tract	6.89E-005		2.14E-003	2.21E-003
			2,2'-oxybis(1-Chloropropane	6.69E-009		3.57E-009	1.03E-008	2,2'-oxybis(1-Chloropropane	low body wt	4.46E-005		2.38E-005	6.84E-005
			2,4-Dimethylphenol					2,4-Dimethylphenol	generalized	5.45E-004		2.47E-003	3.02E-003
			2-Methylnaphthalene					2-Methylnaphthalene	GI tract	6.57E-005		5.71E-003	5.77E-003
			4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	4.70E-006		2.66E-006	7.35E-006
			Aluminum					Aluminum	circulatory system	6.44E-005		6.44E-006	7.09E-005
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	9.86E-004		9.86E-003	1.08E-002
			Arsenic	1.69E-006		1.78E-007	1.87E-006	Arsenic	circulatory system	7.01E-002		7.38E-003	7.75E-002
			Barium					Barium	NA	1.02E-003		1.02E-004	1.12E-003
			Benzene	8.76E-007		3.11E-006	3.98E-006	Benzene	blood disorders	1.88E-001		6.66E-001	8.54E-001
			Benzo(k)Fluoranthene	2.20E-009		8.01E-007	8.03E-007	Benzo(k)Fluoranthene	NA				
			Benzoic Acid					Benzoic Acid	GI tract	5.17E-007		1.14E-006	1.66E-006
			Beta-BHC	9.06E-010		1.48E-009	2.39E-009	Beta-BHC	liver				
			bis(2-Chloroethyl)Ether	8.19E-007		6.01E-007	1.42E-006	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	4.09E-009		3.73E-007	3.77E-007	bis(2-Ethylhexyl)Phthalate	liver	2.72E-004		2.48E-002	2.51E-002
			Cadmium (water)					Cadmium (water)	kidney	1.13E-004		2.25E-004	3.38E-004
			Chlorobenzene					Chlorobenzene	liver	3.94E-004		1.44E-002	1.48E-002
			Chloroethane	2.10E-008		2.42E-008	4.52E-008	Chloroethane	liver	3.38E-004		3.89E-004	7.28E-004
			Chromium (VI)	1.86E-011		1.86E-011	3.72E-011	Chromium (VI)		3.86E-003		3.86E-003	7.71E-003
			Chrysene	2.20E-010		3.81E-007	3.81E-007	Chrysene	liver				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system	3.76E-005		6.32E-005	1.01E-004
			Cobalt					Cobalt	circulatory system	1.31E-005		1.31E-006	1.45E-005
			Copper					Copper	liver	3.44E-004		5.73E-005	4.01E-004
			Cyanide					Cyanide	liver	1.63E-004		3.27E-005	1.96E-004
			Di-n-Octyl Phthalate					Di-n-Octyl Phthalate	NA	4.41E-004		4.41E-002	4.46E-002

TABLE 6-6-12
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG5AFACT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Diethylphthalate					Diethylphthalate	low body wt	4.70E-007		1.35E-006	1.82E-006
			Ethylbenzene					Ethylbenzene	liver	1.45E-003		3.67E-002	3.81E-002
			Iron					Iron		1.68E-002		1.68E-003	1.85E-002
			Isophorone	3.35E-010		4.98E-010	8.33E-010	Isophorone	kidney	3.29E-005		4.90E-005	8.18E-005
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	3.75E-002		3.75E-003	4.12E-002
			Methylene Chloride	1.28E-009		1.66E-009	2.94E-009	Methylene Chloride	liver	5.32E-005		6.88E-005	1.22E-004
			Naphthalene					Naphthalene	circulatory system	1.31E-003		3.72E-002	3.85E-002
			Nickel					Nickel	low body wt	5.84E-004		1.17E-004	7.01E-004
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.95E-003			2.95E-003
			Pentachlorophenol	3.62E-009		2.68E-006	2.69E-006	Pentachlorophenol	liver	1.88E-005		1.39E-002	1.39E-002
			Phenol					Phenol	liver	2.00E-005		1.83E-005	3.83E-005
			Selenium					Selenium	liver	9.77E-006		9.77E-006	1.07E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney	2.82E-005		5.07E-006	3.32E-005
			Vanadium					Vanadium	circulatory system	6.95E-004		6.95E-005	7.64E-004
			Vinyl Chloride	7.65E-008		7.93E-008	1.56E-007	Vinyl Chloride	liver				
			Xylene (mixed)					Xylene (mixed)	fetotoxic	3.66E-004		1.14E-002	1.18E-002
			Zinc					Zinc	thyroid	5.55E-004		1.11E-004	6.66E-004
			(Total)	3.51E-006		8.32E-006	1.18E-005	(Total)		3.30E-001		8.89E-001	1.22E+000

Total Risk Across Groundwater	1.2E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	1.2E+000
Total Circulatory System HI =	1.2E-001
Total Liver HI =	9.4E-002
Total Kidney HI =	4.3E-002
Total GI HI =	7.7E-002
Total CNS HI =	3.3E-004
Total Thyroid HI =	6.7E-004
Total Fetotoxic HI =	1.5E-002
Total Skin HI =	1.1E-002
Total Blood Disorders HI =	8.5E-001

TABLE 6-6-13
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LG5ACARM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	2-Butanone (MEK)					2-Butanone (MEK)	liver	1.83E-004		2.62E-006	1.85E-004
			Antimony					Antimony	skin	1.16E-001		7.81E-002	1.95E-001
			Arsenic	5.35E-005		3.78E-007	5.39E-005	Arsenic	circulatory system	3.47E-001		2.45E-003	3.49E-001
			Barium					Barium	NA	1.14E-001		7.61E-004	1.14E-001
			bis(2-Ethylhexyl)Phthalate	1.32E-007		1.05E-006	1.19E-006	bis(2-Ethylhexyl)Phthalate	liver	1.37E-003		1.10E-002	1.23E-002
			Cadmium (water)					Cadmium (water)	kidney	6.03E-002		8.09E-003	6.84E-002
			Chloroform	5.73E-008		1.36E-008	7.09E-008	Chloroform	circulatory system	2.74E-003		6.50E-004	3.39E-003
			Copper					Copper	liver	1.06E-001		1.19E-003	1.07E-001
			Iron					Iron		4.12E-001		2.76E-003	4.15E-001
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	1.26E+000		8.48E-003	1.27E+000
			Methylene Chloride	1.41E-008		2.32E-009	1.64E-008	Methylene Chloride	liver	9.13E-005		1.51E-005	1.06E-004
			Nickel					Nickel	low body wt	6.85E-003		9.19E-005	6.94E-003
			Trichloroethene	3.10E-008		1.40E-008	4.50E-008	Trichloroethene	liver	1.37E-003		6.19E-004	1.99E-003
			Vinyl Chloride	1.07E-005		9.02E-007	1.16E-005	Vinyl Chloride	liver				
			Zinc					Zinc	thyroid	1.44E-001		1.94E-003	1.46E-001
			(Total)	6.45E-005		2.36E-006	6.68E-005	(Total)		2.58E+000		1.16E-001	2.69E+000

TABLE 6-6-13
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\risk\bis\LG5ACARM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	2-Butanone (MEK)					2-Butanone (MEK)	CNS		4.61E-005		4.61E-005
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroform		1.83E-007		1.83E-007	Chloroform	liver		3.83E-002		3.83E-002
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		7.46E-010		7.46E-010	Methylene Chloride	respiratory tract		7.67E-007		7.67E-007
			Nickel					Nickel	respiratory tract				
			Trichloroethene		4.07E-009		4.07E-009	Trichloroethene	respiratory tract				
			Vinyl Chloride		4.07E-007		4.07E-007	Vinyl Chloride	CNS				
			Zinc					Zinc					
			(Total)		5.95E-007		5.95E-007	(Total)			3.84E-002		3.84E-002

Total Risk Across Groundwater: 6.7E-005
Total Risk Across All Media and All Exposure Routes:

Total Hazard Across Groundwater: 2.7E+000

Total Circulatory System HI =	3.5E-001
Total Liver HI =	1.8E-001
Total Kidney HI =	1.3E+000
Total Skin HI =	1.9E-001
Total Thyroid HI =	1.5E-001
Total CNS HI =	4.6E-005
Total Respiratory Tract HI =	7.7E-007

TABLE 6-6-14
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rskbbl\LG5ACACT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	2-Butanone (MEK)					2-Butanone (MEK)	liver	1.28E-004		1.83E-006	1.30E-004
			Antimony					Antimony	skin	8.15E-002		1.94E-002	1.01E-001
			Arsenic	1.41E-005		3.52E-008	1.41E-005	Arsenic	circulatory system	2.43E-001		6.09E-004	2.44E-001
			Barium					Barium	NA	7.95E-002		1.89E-004	7.96E-002
			bis(2-Ethylhexyl)Phthalate	3.45E-008		1.84E-007	2.18E-007	bis(2-Ethylhexyl)Phthalate	liver	9.59E-004		5.10E-003	6.06E-003
			Cadmium (water)					Cadmium (water)	kidney	4.22E-002		2.01E-003	4.42E-002
			Chloroform	1.50E-008		2.37E-009	1.74E-008	Chloroform	circulatory system	1.92E-003		3.02E-004	2.22E-003
			Copper					Copper	liver	7.43E-002		2.95E-004	7.46E-002
			Iron					Iron		2.88E-001		6.86E-004	2.89E-001
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	8.85E-001		2.11E-003	8.87E-001
			Methylene Chloride	3.70E-009		4.05E-010	4.10E-009	Methylene Chloride	liver	6.39E-005		7.00E-006	7.09E-005
			Nickel					Nickel	low body wt	4.79E-003		2.28E-005	4.82E-003
			Trichloroethene	8.14E-009		2.44E-009	1.06E-008	Trichloroethene	liver	9.59E-004		2.88E-004	1.25E-003
			Vinyl Chloride	2.81E-006		2.36E-007	3.05E-006	Vinyl Chloride	liver				
			Zinc					Zinc	thyroid	1.01E-001		4.81E-004	1.01E-001
			(Total)	1.69E-005		4.60E-007	1.74E-005	(Total)		1.80E+000		3.15E-002	1.84E+000

TABLE 6.6.14

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

American Chemical Service NPL Site

Scenario Timeframe:	Current
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\ecs\rskbbs\LG5ACACT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	2-Butanone (MEK)					2-Butanone (MEK)	CNS		1.35E-005		1.35E-005
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroform		2.01E-008		2.01E-008	Chloroform	liver		1.12E-002		1.12E-002
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Methylene Chloride		8.20E-011		8.20E-011	Methylene Chloride	respiratory tract		2.25E-007		2.25E-007
			Nickel					Nickel	respiratory tract				
			Trichloroethene		4.47E-010		4.47E-010	Trichloroethene	respiratory tract				
			Vinyl Chloride		4.47E-006		4.47E-006	Vinyl Chloride	CNS				
			Zinc					Zinc					
			(Total)		6.54E-006		6.54E-006	(Total)			1.13E-002		1.13E-002

Total Risk Across Groundwater	1.7E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	1.8E+000

Total Circulatory System HI =	2.5E-001
Total Liver HI =	9.3E-002
Total Kidney HI =	9.3E-001
Total Skin HI =	1.0E-001
Total Thyroid HI =	1.0E-001
Total CNS HI =	1.4E-005
Total Respiratory Tract HI =	2.2E-007

TABLE 6-6-15
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rskbls\LG5AFARM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	Aluminum					Aluminum	circulatory system	2.08E-001		1.40E-003	2.10E-001
			Ammonia					Ammonia	kidney				
			Arsenic	6.90E-005		4.88E-007	6.95E-005	Arsenic	circulatory system	4.47E-001		3.16E-003	4.51E-001
			Barium					Barium	NA	2.46E-001		1.65E-003	2.47E-001
			Benzoic Acid					Benzoic Acid	GI tract	4.11E-005		7.98E-006	4.91E-005
			Beryllium					Beryllium	kidney	1.51E-002		1.90E-001	2.05E-001
			bis(2-Ethylhexyl)Phthalate	7.36E-006		5.90E-005	6.64E-005	bis(2-Ethylhexyl)Phthalate	liver	7.67E-002		6.15E-001	6.91E-001
			Chromium (VI)					Chromium (VI)		9.86E-001		6.62E-002	1.05E+000
			Cobalt					Cobalt	circulatory system	3.08E-003		2.05E-005	3.08E-003
			Copper					Copper	liver	8.56E-002		9.57E-004	8.66E-002
			Iron					Iron		1.20E+000		8.06E-003	1.21E+000
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	4.05E-001		2.72E-003	4.08E-001
			Nickel					Nickel	low body wt	1.02E-001		1.36E-003	1.03E-001
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	2.49E-001			2.49E-001
			Phenol					Phenol	liver	1.51E-002		1.79E-003	1.69E-002
			Selenium					Selenium	liver	1.64E-002		1.10E-004	1.65E-002
			Thallium					Thallium	NA	1.41E+000		9.45E-003	1.42E+000
			Toluene					Toluene	liver	1.37E-004		1.31E-004	2.68E-004
			Vanadium					Vanadium	circulatory system	4.97E-002		3.33E-004	5.00E-002
			Zinc					Zinc	thyroid	3.88E-003		5.20E-005	3.93E-003
			(Total)	7.64E-005		5.95E-005	1.36E-004	(Total)		5.52E+000		9.02E-001	6.42E+000

TABLE 6-6-15
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LG5AFARM.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		4.50E-002		4.50E-002
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	lung				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					
			Toluene					Toluene	CNS		2.89E-005		2.89E-005
			Vanadium					Vanadium					
			Zinc					Zinc					
			(Total)		0.00E+000		0.00E+000	(Total)			4.50E-002		4.50E-002

Total Risk Across Groundwater: 1.4E-004
Total Risk Across All Media and All Exposure Routes:

Total Hazard Across Groundwater: 6.5E+000

Total Circulatory System HI =	7.1E-001
Total Liver HI =	8.1E-001
Total Kidney HI =	6.1E-001
Total GI Tract HI =	4.9E-005
Total CNS HI =	2.9E-005
Total Respiratory Tract HI =	4.5E-002
Total Thyroid HI =	3.9E-003

TABLE 6-6-16
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LG5AFACT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5A	Aluminum					Aluminum	circulatory system	1.46E-001		3.47E-004	1.46E-001
			Ammonia					Ammonia	kidney				
			Arsenic	1.81E-005		4.54E-008	1.82E-005	Arsenic	circulatory system	3.13E-001		7.85E-004	3.14E-001
			Barium					Barium	NA	1.72E-001		4.10E-004	1.72E-001
			Benzoic Acid					Benzoic Acid	GI tract	2.88E-005		3.71E-006	3.25E-005
			Beryllium					Beryllium	kidney	1.05E-002		4.72E-002	5.78E-002
			bis(2-Ethylhexyl)Phthalate	1.93E-006		1.03E-005	1.22E-005	bis(2-Ethylhexyl)Phthalate	liver	5.37E-002		2.86E-001	3.39E-001
			Chromium (VI)					Chromium (VI)		6.90E-001		1.64E-002	7.07E-001
			Cobalt					Cobalt	circulatory system	2.14E-003		5.10E-006	2.15E-003
			Copper					Copper	liver	5.99E-002		2.38E-004	6.02E-002
			Iron					Iron		8.41E-001		2.00E-003	8.43E-001
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	2.84E-001		6.76E-004	2.85E-001
			Nickel					Nickel	low body wt	7.12E-002		3.39E-004	7.15E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	1.75E-001			1.75E-001
			Phenol					Phenol	liver	1.05E-002		8.31E-004	1.14E-002
			Selenium					Selenium	liver	1.15E-002		2.74E-005	1.15E-002
			Thallium					Thallium	NA	9.86E-001		2.35E-003	9.89E-001
			Toluene					Toluene	liver	9.59E-005		6.10E-005	1.57E-004
			Vanadium					Vanadium	circulatory system	3.48E-002		8.28E-005	3.49E-002
			Zinc					Zinc	thyroid	2.71E-003		1.29E-005	2.73E-003
			(Total)	2.01E-005		1.03E-005	3.04E-005	(Total)		3.86E+000		3.57E-001	4.22E+000

TABLE 6-6-16

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY

American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Offsite Resident
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LG5AFACT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
	Air	Indoor Use Vapors	Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		1.32E-002		1.32E-002
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	lung				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Selenium					Selenium					
			Thallium					Thallium					
			Toluene					Toluene	CNS		8.48E-006		8.48E-006
			Vanadium					Vanadium					
			Zinc					Zinc					
			(Total)		0.00E+000		0.00E+000	(Total)			1.32E-002		1.32E-002

Total Risk Across Groundwater	3.0E-005
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater: 4.2E+000

Total Circulatory System HI =	5.0E-001
Total Liver HI =	4.2E-001
Total Kidney HI =	3.4E-001
Total GI Tract HI =	3.2E-005
Total CNS HI =	8.5E-006
Total Respiratory Tract HI =	1.3E-002
Total Thyroid HI =	2.7E-003

TABLE 6-7-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG5BFCW.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Upper Aquifer	Excavation Area 5B	2,6-Dinitrotoluene			2.05E-007	2.05E-007	2,6-Dinitrotoluene	CNS			2.82E-002	2.82E-002
			Aluminum					Aluminum	circulatory system			1.72E-003	1.72E-003
			Antimony			4.01E-006	4.01E-006	Antimony	skin			1.64E+000	1.64E+000
			Arsenic			1.25E-006	1.25E-006	Arsenic	circulatory system			2.59E-001	2.59E-001
			Barium					Barium	NA			1.19E-002	1.19E-002
			Benzene			3.72E-004	3.72E-004	Benzene	blood disorders			3.99E+002	3.99E+002
			Beryllium					Beryllium	kidney			6.36E+000	6.36E+000
			bis(2-Chloroethyl)Ether			2.59E-006	2.59E-006	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			8.59E-007	8.59E-007	bis(2-Ethylhexyl)Phthalate	liver			2.86E-001	2.86E-001
			Bromodichloromethane			2.08E-008	2.08E-008	Bromodichloromethane	liver			1.56E-003	1.56E-003
			Chloroethane			1.34E-006	1.34E-006	Chloroethane	liver			1.08E-001	1.08E-001
			Chloroform			3.42E-009	3.42E-009	Chloroform	circulatory system			5.23E-003	5.23E-003
			Chloromethane			1.19E-007	1.19E-007	Chloromethane	kidney				
			Chromium (VI)			1.31E-010	1.31E-010	Chromium (VI)				1.35E-001	1.35E-001
			Cobalt					Cobalt	circulatory system			3.04E-004	3.04E-004
			Copper					Copper	liver			2.91E-003	2.91E-003
			Iron					Iron				5.35E-001	5.35E-001
			Isophorone			2.58E-010	2.58E-010	Isophorone	kidney			1.27E-004	1.27E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney			1.79E-001	1.79E-001
			Mercury					Mercury	low body wt				
			Methylene Chloride			2.52E-007	2.52E-007	Methylene Chloride	liver			5.23E-002	5.23E-002
			Nickel					Nickel	low body wt			9.90E-003	9.90E-003
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			5.55E-003	5.55E-003
			Thallium					Thallium	NA			2.98E-001	2.98E-001

TABLE 6-7-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG5BFCW.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene					Toluene	liver			2.37E-003	2.37E-003
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney			2.94E-004	2.94E-004
			Vanadium					Vanadium	circulatory system			1.79E-003	1.79E-003
			Zinc					Zinc	thyroid			1.60E-004	1.60E-004
			(Total)			3.82E-004	3.82E-004	(Total)				4.08E+002	4.08E+002
	Air	Excavation	2,6-Dinitrotoluene					2,6-Dinitrotoluene	NA				
			Aluminum					Aluminum	respiratory system				
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		5.46E-006		5.46E-006	Benzene	blood disorders		1.03E+001		1.03E+001
			Beryllium					Beryllium	lung				
			bis(2-Chloroethyl)Ether		7.94E-008		7.94E-008	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Bromodichloromethane					Bromodichloromethane	NA				
			Chloroethane					Chloroethane	fetotoxic		7.77E-004		7.77E-004
			Chloroform					Chloroform	liver				
			Chloromethane					Chloromethane	kidney				
			Chromium (VI)					Chromium (VI)	respiratory tract				
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Mercury					Mercury	CNS				
			Methylene Chloride					Methylene Chloride	respiratory tract				
			Nickel					Nickel	respiratory tract				

TABLE 6-7-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\UG5BFCW.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Thallium					Thallium					
			Toluene					Toluene	CNS		1.62E-005		1.62E-005
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Zinc					Zinc					
			(Total)		5.54E-006		5.54E-006	(Total)			1.03E+001		1.03E+001

Total Risk Across Groundwater	3.9E-004
Total Risk Across All Media and All Exposure Routes	3.9E-004

Total Hazard Across Groundwater	4.2E+002

Total Circulatory System HI =	2.7E-001
Total Liver HI =	4.6E-001
Total Kidney HI =	6.5E+000
Total CNS HI =	2.8E-002
Total Skin HI =	1.6E+000
Total Blood Disorders HI =	4.1E+002

TABLE 6-7-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Commercial Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGW5BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5B	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver			1.23E-003	1.23E-003
			Acetone					Acetone	fetotoxic			3.33E-004	3.33E-004
			Aluminum					Aluminum	circulatory system			3.80E-002	3.80E-002
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin			5.26E-002	5.26E-002
			Arsenic			1.79E-004	1.79E-004	Arsenic	circulatory system			1.11E+000	1.11E+000
			Barium					Barium	NA			5.87E-002	5.87E-002
			Benzene			2.00E-004	2.00E-004	Benzene	blood disorders			6.44E+000	6.44E+000
			Benzoic Acid					Benzoic Acid	GI tract			3.10E-005	3.10E-005
			Beryllium					Beryllium	kidney			2.41E-001	2.41E-001
			bis(2-Chloroethyl)Ether			9.21E-005	9.21E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			3.80E-004	3.80E-004	bis(2-Ethylhexyl)Phthalat	liver			3.80E+000	3.80E+000
			Cadmium (water)					Cadmium (water)	kidney			3.63E+000	3.63E+000
			Chloroethane			6.41E-005	6.41E-005	Chloroethane	liver			1.55E-001	1.55E-001
			Chromium (Total as VI)					Chromium (Total as VI)				6.09E-001	6.09E-001
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system			1.05E-001	1.05E-001
			Cobalt					Cobalt	circulatory system			5.92E-004	5.92E-004
			Copper					Copper	liver			1.32E-002	1.32E-002
			Iron					Iron				4.35E-001	4.35E-001
			Isophorone			2.18E-008	2.18E-008	Isophorone	kidney			3.21E-004	3.21E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney			2.12E-001	2.12E-001
			Mercury					Mercury	low body wt				0.00E+000
			Nickel					Nickel	low body wt			6.52E-002	6.52E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			8.54E-003	8.54E-003

TABLE 6-7-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Commercial Worker
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGW5BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene					Toluene	liver			1.78E-003	1.78E-003
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney			2.93E-004	2.93E-004
			Vanadium					Vanadium	circulatory system			1.10E-002	1.10E-002
			Xylene (mixed)					Xylene (mixed)	fetotoxic			6.33E-004	6.33E-004
			Zinc					Zinc	thyroid			1.69E-001	1.69E-001
			(Total)			9.16E-004	9.16E-004	(Total)				1.72E+001	1.72E+001
	Air	Indoor Use Vapors	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS				
			Acetone					Acetone					
			Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		1.26E+001		1.26E+001
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		6.28E-004		6.28E-004	Benzene	blood disorders		1.78E+001		1.78E+001
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	respiratory tract				
			bis(2-Chloroethyl)Ether		3.38E-003		3.38E-003	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalat	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		9.78E-002		9.78E-002
			Chromium (Total as VI)					Chromium (Total as VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Mercury					Mercury	CNS				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					

TABLE 6-7-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Commercial Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGW5BRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene					Toluene	CNS		2.57E-003		2.57E-003
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		4.01E-003		4.01E-003	(Total)			3.05E+001		3.05E+001

Total Risk Across Groundwater	4.9E-003
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater: 4.77E+001

Total Circulatory System HI =	1.27E+000
Total Stomach HI =	0.00E+000
Total Liver HI =	3.98E+000
Total Kidney HI =	4.09E+000
Total Fetotoxic HI =	9.88E-002
Total Skin HI =	5.26E-002
Total GI Tract HI =	3.10E-005
Total Adrenal HI =	0.00E+000
Total Thyroid HI =	1.69E-001
Total Respiratory Tract HI =	1.26E+001
Total CNS HI =	2.57E-003
Total Blood Disorders HI =	2.4E+001

TABLE 6-7-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Commercial Worker
Receptor Age:	Adult

File: c:\projects\acsvsk\bls\LGW5BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Area 5B	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver			8.32E-004	8.32E-004
			Acetone					Acetone	fetotoxic			2.25E-004	2.25E-004
			Aluminum					Aluminum	circulatory system			2.57E-002	2.57E-002
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin			3.55E-002	3.55E-002
			Arsenic			2.41E-005	2.41E-005	Arsenic	circulatory system			7.51E-001	7.51E-001
			Barium					Barium	NA			3.96E-002	3.96E-002
			Benzene			2.70E-005	2.70E-005	Benzene	blood disorders			4.35E+000	4.35E+000
			Benzoic Acid					Benzoic Acid	GI tract			2.09E-005	2.09E-005
			Beryllium					Beryllium	kidney			1.63E-001	1.63E-001
			bis(2-Chloroethyl)Ether			1.24E-005	1.24E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate			5.13E-005	5.13E-005	bis(2-Ethylhexyl)Phthalat	liver			2.57E+000	2.57E+000
			Cadmium (water)					Cadmium (water)	kidney			2.45E+000	2.45E+000
			Chloroethane			8.66E-006	8.66E-006	Chloroethane	liver			1.04E-001	1.04E-001
			Chromium (Total as VI)					Chromium (Total as VI)				4.11E-001	4.11E-001
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system			7.11E-002	7.11E-002
			Cobalt					Cobalt	circulatory system			3.99E-004	3.99E-004
			Copper					Copper	liver			8.91E-003	8.91E-003
			Iron					Iron				2.94E-001	2.94E-001
			Isophorone			2.94E-009	2.94E-009	Isophorone	kidney			2.16E-004	2.16E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney			1.43E-001	1.43E-001
			Mercury					Mercury	low body wt				0.00E+000
			Nickel					Nickel	low body wt			4.40E-002	4.40E-002
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic				
			Phenol					Phenol	liver			5.76E-003	5.76E-003

TABLE 6-7-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Commercial Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGW5BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene					Toluene	liver			1.20E-003	1.20E-003
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney			1.98E-004	1.98E-004
			Vanadium					Vanadium	circulatory system			7.43E-003	7.43E-003
			Xylene (mixed)					Xylene (mixed)	fetotoxic			4.27E-004	4.27E-004
			Zinc					Zinc	thyroid			3.12E-004	3.12E-004
			(Total)			1.24E-004	1.24E-004	(Total)				1.15E+001	1.15E+001
	Air	Indoor Use Vapors	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone *	CNS				
			Acetone					Acetone					
			Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		1.10E+001		1.10E+001
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		1.10E-004		1.10E-004	Benzene	blood disorders		1.56E+001		1.56E+001
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	respiratory tract				
			bis(2-Chloroethyl)Ether		5.93E-004		5.93E-004	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalat	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		8.57E-002		8.57E-002
			Chromium (Total as VI)					Chromium (Total as VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				

TABLE 6-7-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Commercial Worker
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGW5BCT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Mercury					Mercury	CNS				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Toluene					Toluene	CNS		2.26E-003		2.26E-003
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		7.03E-004		7.03E-004	(Total)			2.67E+001		2.67E+001

Total Risk Across Groundwater	8.3E-004
Total Risk Across All Media and All Exposure Routes	

Total Hazard Across Groundwater	3.8E+001

Total Circulatory System HI =	8.6E-001
Total Liver HI =	2.7E+000
Total Kidney HI =	2.8E+000
Total Fetotoxic HI =	8.6E-002
Total Skin HI =	3.6E-002
Total GI Tract HI =	2.1E-005
Total Adrenal HI =	0.0E+000
Total Thyroid HI =	3.1E-004
Total Respiratory Tract HI =	1.1E+001
Total CNS HI =	2.3E-003
Total Blood Disorders HI =	2.0E+001

Table 6-8-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

File: CRES6RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 6	2-Butanone					2-Butanone	liver	4.2E-008		2.3E-008	6.5E-008
			4-Methylphenol					4-Methylphenol	respiratory system	4.1E-004		3.3E-004	7.4E-004
			Acenaphthene					Acenaphthene	eyes	2.9E-005		1.5E-005	4.4E-005
			Aluminum					Aluminum	circulatory system	1.2E-001		6.3E-003	1.3E-001
			Anthracene					Anthracene	GI tract	1.1E-006		5.6E-007	1.6E-006
			Antimony					Antimony	skin	9.7E-002		5.1E-001	6.1E-001
			Arsenic	1.8E-005		2.5E-006	1.9E-005	Arsenic	circulatory system	5.7E-001		9.4E-002	6.6E-001
			Barium					Barium		1.2E-002		6.1E-004	1.2E-002
			Benzo(a)anthracene	6.6E-007		3.5E-007	1.0E-006	Benzo(a)anthracene					
			Benzo(a)pyrene	1.4E-005		8.2E-006	2.2E-005	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.7E-006		9.0E-007	2.6E-006	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	8.5E-006		4.5E-006	1.3E-007	Benzo(k)fluoranthene					
			Benzoic Acid					Benzoic Acid	GI tract	1.4E-006		7.3E-007	2.1E-006
			Beryllium					Beryllium	kidney	2.7E-003		1.4E-001	1.5E-001
			bis(2-Ethylhexyl)phthalate	3.4E-009		1.8E-009	5.2E-009	bis(2-Ethylhexyl)phthalate	liver	1.9E-004		9.9E-005	2.9E-004
			Cadmium					Cadmium	kidney	1.4E-002		1.4E-001	1.6E-001
			Carbazole	5.9E-009		3.1E-009	8.9E-009	Carbazole					
			Chloroform	2.4E-011		1.2E-011	3.6E-011	Chloroform	circulatory system	6.1E-006		3.3E-006	9.4E-006
			Chromium (total)					Chromium (total)		1.2E-002		6.3E-003	1.8E-002
			Chrysene	1.3E-008		2.7E-009	1.5E-008	Chrysene	liver				
			Copper					Copper	liver	7.9E-003		6.9E-004	8.6E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	5.0E-007		2.7E-007	7.7E-007
			Dibenzo(a,h)anthracene	2.3E-006		1.1E-006	3.3E-006	Dibenzo(a,h)anthracene					
			Dibenzofuran					Dibenzofuran	decreased growth rate	2.1E-004		1.1E-004	3.2E-004
			Fluoranthene					Fluoranthene	kidney	3.6E-004		1.9E-004	5.5E-004
			Fluorene					Fluorene	skeletal system	4.4E-006		2.3E-006	6.7E-006
			Heptachlor	5.5E-009		2.9E-009	8.4E-009	Heptachlor	liver	3.8E-004		2.0E-004	5.8E-004
			Indeno(1,2,3-cd)pyrene	6.1E-007		3.2E-007	9.3E-007	Indeno(1,2,3-cd)pyrene					
			Iron					Iron		8.7E-001		4.6E-002	9.2E-001
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.6E-001		8.4E-003	1.7E-001
			Naphthalene					Naphthalene	circulatory system	4.9E-005		2.6E-005	7.5E-005
			Nickel					Nickel	low body weight	1.5E-002		1.6E-002	3.2E-002
			Pyrene					Pyrene	liver	4.1E-005		2.1E-005	6.2E-005
			Vanadium					Vanadium	circulatory system	3.8E-002		2.0E-003	4.0E-002
			Zinc					Zinc	thyroid	6.9E-003		1.2E-003	8.1E-003
			(Total)	3.8E-005		1.3E-005	4.9E-005	(Total)		1.9E+000		9.8E-001	2.9E+000
						Total Risk Across Sediments	4.9E-005					Total Hazard Index Across All Exposure Routes	2.9E+000

Total Circulatory System HI =	8.3E-001
Total Respiratory System HI =	7.4E-004
Total Skeletal System HI =	6.7E-006
Total Thyroid HI =	8.1E-003
Total Kidney HI =	4.7E-001
Total Liver HI =	9.5E-003
Total Skin HI =	6.1E-001

Table 6-8-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

File: CRES6CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 6	2-Butanone					2-Butanone	liver	2.1E-008		7.9E-009	2.9E-008
			4-Methylphenol					4-Methylphenol	respiratory system	2.0E-004		1.1E-004	3.2E-004
			Acenaphthene					Acenaphthene	eyes	1.5E-005		5.2E-006	2.0E-005
			Aluminum					Aluminum	circulatory system	6.0E-002		2.1E-003	6.2E-002
			Anthracene					Anthracene	GI tract	5.3E-007		1.9E-007	7.2E-007
			Antimony					Antimony	skin	4.8E-002		1.7E-001	2.2E-001
			Arsenic	2.7E-006		2.6E-007	3.0E-006	Arsenic	circulatory system	2.8E-001		3.2E-002	3.2E-001
			Barium					Barium		5.8E-003		2.1E-004	6.0E-003
			Benzo(a)anthracene	1.1E-007		4.0E-008	1.5E-007	Benzo(a)anthracene					
			Benzo(a)pyrene	2.4E-006		9.4E-007	3.3E-006	Benzo(a)pyrene					
			Benzo(b)fluoranthene	2.9E-007		1.0E-007	3.9E-007	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	1.4E-006		5.1E-009	1.9E-006	Benzo(k)fluoranthene					
			Benzoic Acid					Benzoic Acid	GI tract	6.9E-007		2.5E-007	9.4E-007
			Beryllium					Beryllium	kidney	1.4E-003		4.9E-002	5.1E-002
			bis(2-Ethylhexyl)phthalate	5.7E-010		2.0E-010	7.7E-010	bis(2-Ethylhexyl)phthalate	liver	9.5E-005		3.4E-005	1.3E-004
			Cadmium					Cadmium	kidney	6.8E-003		4.9E-002	5.6E-002
			Carbazole	9.8E-010		3.5E-010	1.3E-009	Carbazole					
			Chloroform	4.0E-012		1.4E-012	5.3E-012	Chloroform	circulatory system	3.0E-006		1.1E-006	4.2E-006
			Chromium (total)					Chromium (total)		6.0E-003		2.2E-003	8.1E-003
			Chrysene	2.1E-009		3.1E-010	2.4E-009	Chrysene	liver				
			Copper					Copper	liver	3.9E-003		2.4E-004	4.2E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	2.5E-007		9.3E-008	3.4E-007
			Dibenzo(a,h)anthracene	3.8E-007		1.2E-007	5.0E-007	Dibenzo(a,h)anthracene					
			Dibenzofuran					Dibenzofuran	decreased growth rate	1.0E-004		3.8E-005	1.4E-004
			Fluoranthene					Fluoranthene	kidney	1.8E-004		6.5E-005	2.5E-004
			Fluorene					Fluorene	skeletal system	2.2E-006		7.9E-007	3.0E-006
			Heptachlor	9.2E-010		3.3E-010	1.2E-009	Heptachlor	liver	1.9E-004		6.8E-005	2.6E-004
			Indeno(1,2,3-cd)pyrene	1.0E-007		3.6E-008	1.4E-007	Indeno(1,2,3-cd)pyrene					
			Iron					Iron		4.4E-001		1.6E-002	4.5E-001
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	8.0E-002		2.9E-003	8.2E-002
			Naphthalene					Naphthalene	circulatory system	2.4E-005		8.8E-006	3.3E-005
			Nickel					Nickel	low body weight	7.7E-003		5.5E-003	1.3E-002
			Pyrene					Pyrene	liver	2.0E-005		7.3E-006	2.8E-005
			Vanadium					Vanadium	circulatory system	1.9E-002		6.8E-004	1.9E-002
			Zinc					Zinc	thyroid	3.4E-003		4.1E-004	3.8E-003
			(Total)	6.0E-006		1.5E-006	7.5E-006	(Total)		9.6E-001		3.4E-001	1.3E+000
						Total Risk Across Sediment	7.5E-006					Total Hazard Index Across Sediment	1.3E+000

Total Circulatory System HI =	4.0E-001
Total Respiratory System HI =	3.2E-004
Total Skeletal System HI =	3.0E-006
Total Thyroid HI =	3.8E-003
Total Kidney HI =	1.9E-001
Total Liver HI =	4.6E-003
Total Skin HI =	2.2E-001

Table 6-8-3
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

File: ARE96RME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 6	2-Butanone					2-Butanone	liver	2.1E-008		1.3E-007	1.5E-007
			4-Methylphenol					4-Methylphenol	respiratory system	6.2E-005		5.5E-004	6.1E-004
			Acenaphthene					Acenaphthene	eyes	4.4E-006		2.5E-005	3.0E-005
			Aluminum					Aluminum	circulatory system	1.8E-002		1.0E-002	2.8E-002
			Anthracene					Anthracene	GI tract	1.6E-006		9.2E-006	1.1E-005
			Antimony					Antimony	skin	1.5E-002		8.5E-001	8.6E-001
			Arsenic	2.7E-007		4.5E-007	7.2E-007	Arsenic	circulatory system	8.6E-002		1.6E-001	2.4E-001
			Barium					Barium		1.7E-003		1.0E-003	2.8E-003
			Benzo(a)anthracene	1.1E-006		6.4E-006	7.5E-006	Benzo(a)anthracene					
			Benzo(a)pyrene	2.3E-007		1.5E-006	1.7E-006	Benzo(a)pyrene					
			Benzo(b)fluoranthene	2.8E-006		1.6E-007	1.9E-007	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	1.4E-009		8.2E-009	9.6E-009	Benzo(k)fluoranthene					
			Benzoic Acid					Benzoic Acid	GI tract	2.1E-007		1.2E-006	1.4E-006
			Beryllium					Beryllium	kidney	4.1E-004		2.4E-001	2.4E-001
			bis(2-Ethylhexyl)phthalate	5.6E-011		3.3E-010	3.8E-010	bis(2-Ethylhexyl)phthalate	liver	2.8E-005		1.7E-004	1.9E-004
			Cadmium					Cadmium	kidney	2.1E-003		2.4E-001	2.4E-001
			Carbazole	9.7E-011		5.6E-010	6.6E-010	Carbazole					
			Chloroform	3.9E-013		2.2E-012	2.6E-012	Chloroform	circulatory system	9.1E-007		5.5E-006	6.4E-006
			Chromium (total)					Chromium (total)		1.2E-002		7.0E-002	8.2E-002
			Chrysene	2.1E-010		5.0E-010	7.0E-010	Chrysene	liver				
			Copper					Copper	liver	1.2E-003		1.1E-003	2.3E-003
			Di-n-butylphthalate					Di-n-butylphthalate	liver	7.5E-007		4.5E-006	5.3E-006
			Dibenzo(a,h)anthracene	3.7E-006		1.9E-007	2.3E-007	Dibenzo(a,h)anthracene					
			Dibenzofuran					Dibenzofuran	decreased growth rate	3.1E-005		1.8E-004	2.1E-004
			Fluoranthene					Fluoranthene	kidney	5.4E-005		3.1E-004	3.7E-004
			Fluorene					Fluorene	skeletal system	6.6E-006		3.8E-005	4.5E-005
			Heptachlor	9.1E-011		5.3E-010	6.2E-010	Heptachlor	liver	5.7E-006		3.3E-005	3.9E-005
			Indeno(1,2,3-cd)pyrene	1.0E-006		5.8E-006	6.8E-006	Indeno(1,2,3-cd)pyrene					
			Iron					Iron		1.3E-001		7.6E-002	2.1E-001
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	2.4E-002		1.4E-002	3.8E-002
			Naphthalene					Naphthalene	circulatory system	1.5E-005		8.5E-005	1.0E-004
			Nickel					Nickel	low body weight	2.3E-003		2.7E-002	2.9E-002
			Pyrene					Pyrene	liver	6.1E-005		3.5E-004	4.1E-004
			Vanadium					Vanadium	circulatory system	5.7E-003		3.3E-003	9.0E-003
			Zinc					Zinc	thyroid	1.0E-003		2.0E-003	3.0E-003
			(Total)	5.9E-007		2.4E-006	3.0E-006	(Total)		3.0E-001		1.7E+000	2.0E+000
							Total Risk Across Sediments: 3.0E-006						Total Hazard Index Across All Exposure Routes: 2.0E+000

Total Circulatory System HI =	2.8E-001
Total Respiratory System HI =	6.1E-004
Total Skeletal System HI =	4.5E-005
Total Thyroid HI =	3.0E-003
Total Kidney HI =	5.2E-001
Total Liver HI =	3.0E-003
Total Skin HI =	8.6E-001

Table 6-8-4
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Services NPL Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

File: ARES6CT.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Sediment	Sediment	Creek Area 6	2-Butanone					2-Butanone	liver	1.3E-008		2.8E-008	4.1E-008
			4-Methylphenol					4-Methylphenol	respiratory system	3.8E-005		1.2E-004	1.6E-004
			Acenaphthene					Acenaphthene	eyes	2.7E-006		5.5E-006	8.2E-006
			Aluminum					Aluminum	circulatory system	1.1E-002		2.2E-003	1.3E-002
			Anthracene					Anthracene	GI tract	1.0E-006		2.0E-006	3.0E-006
			Antimony					Antimony	skin	9.1E-003		1.8E-001	1.9E-001
			Arsenic	1.7E-006		9.7E-009	2.7E-006	Arsenic	circulatory system	5.4E-002		3.4E-002	8.7E-002
			Barium					Barium		1.1E-003		2.2E-004	1.3E-003
			Benzo(a)anthracene	6.8E-010		1.4E-009	2.1E-009	Benzo(a)anthracene					
			Benzo(a)pyrene	1.5E-008		3.2E-008	4.7E-008	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.8E-009		3.5E-009	5.3E-009	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	8.8E-011		1.8E-010	2.6E-010	Benzo(k)fluoranthene					
			Benzoic Acid					Benzoic Acid	GI tract	1.3E-007		2.6E-007	3.9E-007
			Beryllium					Beryllium	kidney	2.6E-004		5.1E-002	5.2E-002
			bis(2-Ethylhexyl)phthalate	3.5E-012		7.0E-012	1.1E-011	bis(2-Ethylhexyl)phthalate	liver	1.8E-005		3.6E-005	5.3E-005
			Cadmium					Cadmium	kidney	1.3E-003		5.1E-002	5.3E-002
			Carbazole	6.0E-012		1.2E-011	1.8E-011	Carbazole					
			Chloroform	2.5E-014		4.7E-014	7.2E-014	Chloroform	circulatory system	5.7E-007		1.2E-006	1.8E-006
			Chromium (total)					Chromium (total)		7.5E-003		1.5E-002	2.3E-002
			Chrysene	1.3E-011		1.1E-011	2.4E-011	Chrysene	liver				
			Copper					Copper	liver	7.4E-004		2.5E-004	9.9E-004
			Di-n-butylphthalate					Di-n-butylphthalate	liver	4.7E-007		9.7E-007	1.4E-006
			Dibenzo(a,h)anthracene	2.3E-009		4.2E-009	6.5E-009	Dibenzo(a,h)anthracene					
			Dibenzofuran					Dibenzofuran	decreased growth rate	2.0E-005		3.9E-005	5.9E-005
			Fluoranthene					Fluoranthene	kidney	3.4E-005		6.8E-005	1.0E-004
			Fluorene					Fluorene	skeletal system	4.1E-006		8.2E-006	1.2E-005
			Heptachlor	5.7E-012		1.1E-011	1.7E-011	Heptachlor	liver	3.6E-006		7.1E-006	1.1E-005
			Indeno(1,2,3-cd)pyrene	6.3E-010		1.3E-009	1.9E-009	Indeno(1,2,3-cd)pyrene					
			Iron					Iron		8.2E-002		1.6E-002	9.9E-002
			Lead					Lead	CNS				
			Manganese					Manganese	kidney	1.5E-002		3.0E-003	1.8E-002
			Naphthalene					Naphthalene	circulatory system	9.2E-006		1.8E-005	2.8E-005
			Nickel					Nickel	low body weight	1.4E-003		5.8E-003	7.2E-003
			Pyrene					Pyrene	liver	3.8E-005		7.6E-005	1.1E-004
			Vanadium					Vanadium	circulatory system	3.5E-003		7.1E-004	4.2E-003
			Zinc					Zinc	thyroid	6.5E-004		4.3E-004	1.1E-003
			(Total)	3.7E-006		5.3E-006	9.0E-006	(Total)		1.9E-001		3.6E-001	5.5E-001
						Total Risk Across Sediment	9.0E-006					Total Hazard Index Across Sediment	5.5E-001

Total Circulatory System HI =	1.1E-001
Total Respiratory System HI =	1.6E-004
Total Skeletal System HI =	1.2E-005
Total Thyroid HI =	1.1E-003
Total Kidney HI =	1.2E-001
Total Liver HI =	1.2E-003
Total Skin HI =	1.9E-001

TABLE 6-9-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGOVRRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Areas 1, 2, 3, and 4B	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	1.54E-003		1.49E-004	1.69E-003
			Acetone					Acetone	fetotoxic	3.01E-003		3.10E-005	3.04E-003
			Aluminum					Aluminum	circulatory system	2.05E-001		1.13E-003	2.07E-001
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	2.84E-001		1.56E-003	2.86E-001
			Arsenic	9.17E-004		1.97E-001	1.97E-001	Arsenic	circulatory system	5.71E+000		3.29E-002	5.74E+000
			Barium					Barium	NA	3.17E-001		1.74E-003	3.19E-001
			Benzene	4.40E-005		9.99E-003	9.99E-003	Benzene	blood disorders	1.42E+000		6.87E-001	2.10E+000
			Benzoic Acid					Benzoic Acid	GI tract	2.05E-005		4.31E-006	2.49E-005
			Beryllium					Beryllium	kidney	1.30E-002		7.13E-003	2.01E-002
			bis(2-Chloroethyl)Ether	2.37E-004		4.84E-002	4.84E-002	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	6.37E-006		1.30E-003	1.30E-003	bis(2-Ethylhexyl)Phthalat	liver	6.37E-002		5.51E-001	6.15E-001
			Cadmium (water)					Cadmium (water)	kidney	9.81E-001		1.07E-001	1.09E+000
			Chloroethane	4.11E-005				Chloroethane	liver	9.93E-002		1.50E-002	1.14E-001
			Chromium (Total as VI)					Chromium (Total as VI)		1.64E+000		1.80E-002	1.66E+000
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system	5.27E-002		1.25E-002	6.53E-002
			Cobalt					Cobalt	circulatory system	3.20E-003		1.75E-005	3.21E-003
			Copper					Copper	liver	4.28E-002		3.91E-004	4.32E-002
			Iron					Iron		2.35E+000		1.29E-002	2.36E+000
			Isophorone	2.32E-008		4.75E-006	4.75E-006	Isophorone	kidney	3.42E-004		4.84E-005	3.91E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	1.14E+000		6.26E-003	1.15E+000
			Mercury					Mercury	low body wt				
			Nickel					Nickel	low body wt	1.76E-001		1.93E-003	1.78E-001
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	1.44E-001			1.44E-001
			Phenol					Phenol	liver	7.76E-003		9.95E-004	8.76E-003
			Toluene					Toluene	liver	2.05E-004		2.13E-004	4.18E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney	1.37E-003		3.48E-005	1.40E-003
			Vanadium					Vanadium	circulatory system	5.95E-002		3.26E-004	5.98E-002
			Xylene (mixed)					Xylene (mixed)	fetotoxic	4.11E-005		1.21E-004	1.62E-004
			Zinc					Zinc	thyroid	1.52E+000		5.00E-003	1.53E+000
			(Total)	1.25E-003		2.57E-001	2.57E-001	(Total)		1.62E+001		1.46E+000	1.77E+001
	Air	Indoor Use Vapors	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS		1.83E-003		1.83E-003
			Acetone					Acetone					
			Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		5.25E-001		5.25E-001
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				

TABLE 6-9-1
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGOVRRME.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Benzene		1.72E-006		1.72E-006	Benzene	blood disorders		7.43E-001		7.43E-001
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	respiratory tract				
			bis(2-Chloroethyl)Ether		9.26E-006		9.26E-006	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalat	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		4.08E-003		4.08E-003
			Chromium (Total as VI)					Chromium (Total as VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				
			Mercury					Mercury	CNS				
			Nickel					Nickel	respiratory tract				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Toluene					Toluene	CNS		1.07E-004		1.07E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		1.10E-005		1.10E-005	(Total)			1.27E+000		1.27E+000
							Total Risk Across Groundwater	2.6E-001					Total Risk Across Groundwater	1.9E+001
							Total Risk Across All Media and All Exposure Routes							

Total Circulatory System HI =	6.1E+000
Total Liver HI =	7.8E-001
Total Kidney HI =	2.3E+000
Total Fetotoxic HI =	1.5E-001
Total Skin HI =	2.9E-001
Total GI Tract HI =	2.5E-005
Total Adrenal HI =	0.0E+000
Total Thyroid HI =	1.5E+000
Total Respiratory Tract HI =	5.2E-001
Total CNS HI =	1.9E-003
Total Blood Disorders HI =	2.8E+000

* Worker - Includes routine and utility maintenance workers

TABLE 6-9-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\vsktbls\LGOVRCTA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
Groundwater	Lower Aquifer	Tap Water Areas 1, 2, 3, and 4B	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	liver	9.64E-004		8.00E-005	1.04E-003
			Acetone					Acetone	fetotoxic	1.89E-003		1.67E-005	1.90E-003
			Aluminum					Aluminum	circulatory system	1.29E-001		4.29E-004	1.29E-001
			Ammonia					Ammonia	kidney				
			Antimony					Antimony	skin	1.78E-001		5.93E-004	1.78E-001
			Arsenic	1.15E-004		4.03E-007	1.15E-004	Arsenic	circulatory system	3.57E+000		1.25E-002	3.58E+000
			Barium					Barium	NA	1.98E-001		6.61E-004	1.99E-001
			Benzene	5.50E-006		2.30E-006	5.50E-006	Benzene	blood disorders	8.86E-001		3.70E-001	1.26E+000
			Benzoic Acid					Benzoic Acid	GI tract	1.29E-005		2.32E-006	1.52E-005
			Beryllium					Beryllium	kidney	8.14E-003		2.71E-003	1.09E-002
			bis(2-Chloroethyl)Ether	2.96E-005		1.78E-006	2.96E-005	bis(2-Chloroethyl)Ether	reproductive				
			bis(2-Ethylhexyl)Phthalate	7.97E-007		5.94E-006	7.97E-007	bis(2-Ethylhexyl)Phthalate	liver	3.99E-002		2.97E-001	3.37E-001
			Cadmium (water)					Cadmium (water)	kidney	6.14E-001		4.09E-002	6.55E-001
			Chloroethane	5.15E-006		6.70E-007	5.15E-006	Chloroethane	liver	6.21E-002		8.09E-003	7.02E-002
			Chromium (Total as VI)					Chromium (Total as VI)		1.03E+000		6.86E-003	1.04E+000
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	circulatory system	3.30E-002		6.74E-003	3.97E-002
			Cobalt					Cobalt	circulatory system	2.00E-003		6.67E-006	2.01E-003
			Copper					Copper	liver	2.68E-002		1.49E-004	2.69E-002
			Iron					Iron		1.47E+000		4.90E-003	1.48E+000
			Isophorone	2.91E-009		3.54E-010	2.91E-009	Isophorone	kidney	2.14E-004		2.61E-005	2.40E-004
			Lead					Lead	CNS				
			Manganese (nonfood)					Manganese (nonfood)	kidney	7.16E-001		2.39E-003	7.18E-001
			Mercury					Mercury	low body wt				
			Nickel					Nickel	low body wt	1.10E-001		7.34E-004	1.11E-001
			Nitrate/Nitrite					Nitrate/Nitrite	fetotoxic	9.00E-002			9.00E-002
			Phenol					Phenol	liver	4.86E-003		5.36E-004	5.39E-003

TABLE 6-9-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	Future
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rsktbls\LGOVRCTA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Toluene					Toluene	liver	1.29E-004		1.15E-004	2.43E-004
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene	kidney	8.57E-004		1.87E-005	8.76E-004
			Vanadium					Vanadium	circulatory system	3.72E-002		1.24E-004	3.73E-002
			Xylene (mixed)					Xylene (mixed)	fetotoxic	2.57E-005		6.52E-005	9.09E-005
			Zinc					Zinc	thyroid	9.51E-001		1.90E-003	9.53E-001
			(Total)	1.56E-004		1.11E-005	1.56E-004	(Total)		1.02E+001		7.58E-001	1.09E+001
	Air	Indoor Use Vapors	4-Methyl-2-Pentanone					4-Methyl-2-Pentanone	CNS		1.21E-003		1.21E-003
			Acetone					Acetone					
			Aluminum					Aluminum	respiratory tract				
			Ammonia					Ammonia	respiratory tract		3.45E-001		3.45E-001
			Antimony					Antimony					
			Arsenic					Arsenic	respiratory tract				
			Barium					Barium	fetotoxic				
			Benzene		1.72E-006		1.72E-006	Benzene	blood disorders		4.88E-001		4.88E-001
			Benzoic Acid					Benzoic Acid					
			Beryllium					Beryllium	respiratory tract				
			bis(2-Chloroethyl)Ether		9.26E-006		9.26E-006	bis(2-Chloroethyl)Ether	liver				
			bis(2-Ethylhexyl)Phthalate					bis(2-Ethylhexyl)Phthalate	NA				
			Cadmium (water)					Cadmium (water)	respiratory tract				
			Chloroethane					Chloroethane	fetotoxic		2.68E-003		2.68E-003
			Chromium (Total as VI)					Chromium (Total as VI)	respiratory tract				
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene					
			Cobalt					Cobalt					
			Copper					Copper					
			Iron					Iron					
			Isophorone					Isophorone	NA				
			Lead					Lead					
			Manganese (nonfood)					Manganese (nonfood)	respiratory tract				

TABLE 6-9-2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
American Chemical Service NPL Site

Scenario Timeframe:	*Future*
Receptor Population:	Worker *
Receptor Age:	Adult

File: c:\projects\acs\rskbls\LGOVRCTA.WK4

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Total Exposure		Primary Target Organ	Ingestion	Inhalation	Dermal	Total Exposure
			Mercury					Mercury	CNS				
			Nickel					Nickel	*respiratory tract*				
			Nitrate/Nitrite					Nitrate/Nitrite					
			Phenol					Phenol					
			Toluene					Toluene	CNS		7.05E-005		7.05E-005
			trans-1,2-Dichloroethene					trans-1,2-Dichloroethene					
			Vanadium					Vanadium					
			Xylene (mixed)					Xylene (mixed)	CNS				
			Zinc					Zinc					
			(Total)		1.10E-005		1.10E-005	(Total)			8.36E-001		8.36E-001
						Total Risk Across Groundwater	1.7E-004					Total Risk Across Groundwater	1.2E+001
						Total Risk Across All Media and All Exposure Routes							

* Worker - Includes routine and utility workers

Total Circulatory System HI =	3.8E+000
Total Liver HI =	4.4E-001
Total Kidney HI =	1.4E+000
Total Fetotoxic HI =	9.5E-002
Total Skin HI =	1.8E-001
Total GI Tract HI =	1.5E-005
Total Adrenal HI =	0.0E+000
Total Thyroid HI =	9.5E-001
Total Respiratory Tract HI =	3.4E-001
Total CNS HI =	1.3E-003
Total Blood Disorders HI =	1.7E+000

TABLE 6-10-1
Blood Lead Levels and Probability of Screening Level Exceedance
American Chemcial Service Site

			Female Routine Workers Of Child-Bearing Age					
			Area 1		Area 2	Area 3	Area 4B	No Site Related Contribution
			Surface Soil 0-2'	Subsurface Soil 0-10'	Subsurface Soil 0-10'	Subsurface Soil 0-10'	Surface Soil/ Sediment	
CENTRAL ESTIMATE OF BLOOD LEAD CONCENTRATIONS			current scenario	future scenario	future scenario	future scenario	future scenario	Sensitivity Analysis
Typical blood lead level	$PbB_{adult,0}$	ug-Pb/dL	1.7	1.7	1.7	1.7	1.7	1.7
Soil lead concentration	**PbS**	**mg-Pb/kg-soil**	**142**	**598**	**10200**	**17200**	**144**	**0**
Biokinetic slope factor	BKSF	ug-Pb/dL per ug-Pb/day	0.4	0.4	0.4	0.4	0.4	0.4
Ingestion rate of soil	IR_s	g-soil/day	0.05	0.05	0.05	0.05	0.05	0.05
Gastrointestinal absorption fraction	AF_s	unitless	0.12	0.12	0.12	0.12	0.12	0.12
Exposure frequency	EF_s	days/year	219	219	219	219	219	219
Averaging time	AT	days/year	365	365	365	365	365	365
Central estimate of blood lead level in adults	$PbB_{adult,central}$	**ug-Pb/day**	**1.90**	**2.56**	**16.39**	**26.47**	**1.91**	**1.70**
DISTRIBUTIONAL BLOOD LEAD MODEL			**Fetuses of Female Routine Workers Of Child-Bearing Age**					
Geometric standard deviation	$GSD_{i,adult}$	unitless	1.8	1.8	1.8	1.8	1.8	1.8
Constant of proportionality between fetal and maternal blood lead concentration	$R_{fetal/maternal}$	unitless	0.9	0.9	0.9	0.9	0.9	0.9
Z value for 10 ug/dL	Z	unitless	3.00	2.50	-0.66	-1.48	3.00	3.19
Probability of fetal PbB > 10 ug/dL			0.1%	0.6%	75%	93%	0.1%	0.1%

TABLE 6-10-1 (continued)
Blood Lead Levels and Probability of Screening Level Exceedance
American Chemical System Site

			Female Construction Workers Of Child-Bearing Age						
			Area 1	Area 2		Area 3		Area 4B	No Site Related Contribution
			Slab on Grade 0-4'	Slab on Grade 0-4'	Subsurface Soil 0-10'	Slab on Grade 0-4'	Subsurface Soil 0-10'	Slab on Grade 0-4'	
CENTRAL ESTIMATE OF BLOOD LEAD CONCENTRATIONS			future scenario	future scenario	future scenario	future scenario	future scenario	future scenario	Sensitivity Analysis
Typical blood lead level	$PbB_{adult,0}$	ug-Pb/dL	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Soil lead concentration	PbS	mg-Pb/kg-soil	1190	10200	10200	16200	17200	144	0
Biokinetic slope factor	BKSF	ug-Pb/dL per ug-Pb/day	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Ingestion rate of soil	IR_s	g-soil/day	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gastrointestinal absorption fraction	AF_s	unitless	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Exposure frequency	EF_s	days/year	196	196	196	196	196	196	196
Averaging time	AT	days/year	274	274	274	274	274	274	274
Central estimate of blood lead level in adults	$PbB_{adult,central}$	ug-Pb/day	5.79	36.72	36.72	57.32	60.76	2.19	1.70
DISTRIBUTIONAL BLOOD LEAD MODEL			Fetuses of Female Construction Workers Of Child-Bearing Age						
Geometric standard deviation	$GSD_{i,adult}$	unitless	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Constant of proportionality between fetal and maternal blood lead concentration	$R_{fetal/maternal}$	unitless	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Z value for 10 ug/dL	Z	unitless	1.11	-2.03	-2.03	-2.79	-2.89	2.76	3.19
Probability of fetal PbB > 10 ug/dL			13%	98%	98%	100%	100%	0%	0%

TABLE 6-10-1 (continued)
Blood Lead Levels and Probability of Screening Level Exceedance
American Chemical Service Site

			Trespassers (Age 9 to 18)							
			Area 1	Area 2		Area 3		Area 4A	Area 4B	No Site Related Contribution
			Surface Soil 0-10'	Surface Soil 0-4'	Subsurface Soil 0-10'	Surface Soil 0-2'	Subsurface Soil 0-10'	Surface Soil/ Sediment	Surface Soil/ Sediment	
CENTRAL ESTIMATE OF BLOOD LEAD CONCENTRATIONS			future scenario	current scenario	future scenario	current scenario	future scenario	current/ future scenario	current/ future scenario	Sensitivity Analysis
Typical blood lead level	$PbB_{adult,0}$	ug-Pb/dL	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Soil lead concentration	**PbS**	**mg-Pb/kg-soil**	**142**	**10200**	**10200**	**10700**	**17200**	**213**	**144**	**0.0**
Biokinetic slope factor	BKSF	ug-Pb/dL per ug-Pb/day	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Ingestion rate of soil	IR_s	g-soil/day	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Gastrointestinal absorption fraction	AF_s	unitless	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Exposure frequency	EF_s	days/year	12	12	12	12	12	12	12	12
Averaging time	AT	days/year	183	183	183	183	183	183	183	183
Central estimate of blood lead level in adults	**$PbB_{adult,central}$**	**ug-Pb/day**	**1.72**	**3.31**	**3.31**	**3.39**	**4.41**	**1.73**	**1.72**	**1.70**
DISTRIBUTIONAL BLOOD LEAD MODEL			Trespassers (Age 9 to 18)							
Geometric standard deviation	$GSD_{i,adult}$	unitless	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Constant of proportionality between fetal and maternal blood lead concentration	$R_{fetal/maternal}$	unitless	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Z value for 10 ug/dL	Z	unitless	3.17	2.06	2.06	2.02	1.57	3.16	3.17	3.19
Probability of fetal PbB > 10 ug/dL			0.1%	2%	2%	2%	6%	0.1%	0.1%	0.07%

Tables 7-1
through 7-4

TABLE 7-1

SUMMARY OF RME RECEPTOR RISKS FOR CURRENT LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
AREA 1								
Routine Worker								
Surface Soil (0' to 2')	6.2×10^{-6}	4.6×10^{-6}	4.4×10^{-4}	4.5×10^{-4}	0.4	0.5	63	63
Sediment	2.0×10^{-6}	--	1.3×10^{-4}	1.3×10^{-4}	0.1	--	8	8
Surface Water	5.1×10^{-8}	--	2.3×10^{-5}	2.3×10^{-5}	0.06	--	0.05	0.1
Groundwater, Lower Aquifer	1.6×10^{-2}	1.2×10^{-3}	1.9×10^{-3}	1.9×10^{-2}	470	3,000	58	3,500
Total Risk Across All Media and Exposure Routes				**2.0×10^{-2}**				**3,600**
Utility Worker								
Soil (0' to 10')	5.0×10^{-4}	5.2×10^{-4}	2.6×10^{-2}	2.7×10^{-2}	13	130	850	1,000
Sediment	1.8×10^{-5}	--	1.3×10^{-4}	1.5×10^{-4}	1	--	8	9
Groundwater, Upper Aquifer	--	3.8×10^{-6}	3.2×10^{-4}	3.2×10^{-4}	--	77	3000	3,100
Total Risk Across All Media and Exposure Routes				**2.7×10^{-2}**				**4,100**
AREA 2								
Utility Worker								
Soil (2' to 10')	3.2×10^{-3}	4.6×10^{-4}	1.6×10^{-1}	1.6×10^{-1}	4	17	2,800	2,800
Total Risk Across All Media and Exposure Routes				**1.6×10^{-1}**				**2,800**
Trespasser								
Soil (2' to 4')	2.5×10^{-4}	7.6×10^{-7}	1.2×10^{-2}	1.2×10^{-2}	23	0.4	2,100	2,100
Sediment	5.0×10^{-7}	--	3.0×10^{-6}	3.5×10^{-6}	0.03	--	0.3	0.3
Total Risk Across All Media and Exposure Routes				**1.2×10^{-2}**				**2,100**
AREA 3								
Utility Worker								
Soil (0' to 10')	1.5×10^{-3}	9.1×10^{-4}	7.8×10^{-2}	8.0×10^{-2}	19	13	6,900	7,000
Total Risk Across All Media and Exposure Routes				**8.0×10^{-2}**				**7,000**
Trespasser								
Soil (0' to 2')	1.1×10^{-5}	4.5×10^{-7}	4.8×10^{-4}	4.9×10^{-4}	1	0.1	570	570
Total Risk Across All Media and Exposure Routes				**4.9×10^{-4}**				**570**

TABLE 7-1

SUMMARY OF RME RECEPTOR RISKS FOR CURRENT LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
AREA 4A								
Trespasser								
Sediment	$2.6x10^{-6}$	--	$1.0x10^{-5}$	$1.3x10^{-5}$	0.4	--	2	2
Surface Water	$9.1x10^{-7}$	$9.2x10^{-7}$	$7.7x10^{-7}$	$2.6x10^{-6}$	0.4	0.9	0.2	2
Total Risk Across All Media and Exposure Routes				**$1.6x10^{-5}$**				**4**
AREA 4B								
Trespasser								
Sediment	$1.6x10^{-6}$	--	$7.8x10^{-6}$	$9.4x10^{-6}$	0.3	--	2	2
Surface Water	$5.1x10^{-6}$	--	$2.0x10^{-6}$	$7.1x10^{-6}$	0.02	--	0.02	0.03
Total Risk Across All Media and Exposure Routes				**$1.7x10^{-5}$**				**2**
AREA 5A								
Child Resident								
Surface Soil (0' to 2')	$8.4x10^{-6}$	$1.1x10^{-5}$	$9.4x10^{-5}$	$1.1x10^{-4}$	2	5	520	530
Groundwater, Lower Aquifer	$5.4x10^{-5}$	$2.2x10^{-9}$	$2.1x10^{-4}$	$2.6x10^{-4}$	9	0.000002	0.0002	9
Total Risk Across All Media and Exposure Routes				**$3.7x10^{-4}$**				**540**
Adult Resident								
Surface Soil (0' to 2')	$3.6x10^{-6}$	$9.1x10^{-6}$	$2.2x10^{-4}$	$2.3x10^{-4}$	0.2	1	310	310
Groundwater, Lower Aquifer	$6.5x10^{-5}$	$6.0x10^{-7}$	$2.4x10^{-6}$	$6.7x10^{-5}$	3	0.04	0.1	3
Total Risk Across All Media and Exposure Routes				**$3.0x10^{-4}$**				**310**
Cumulative Excess Lifetime Cancer Risk for Residents (Adult + Child)				**$6.0x10^{-4}$**				
AREA 6								
Child Resident								
Sediment	$3.6x10^{-5}$	--	$1.3x10^{-5}$	$4.9x10^{-5}$	2	--	1	3
Total Risk Across All Media and Exposure Routes				**$4.9x10^{-5}$**				**3**
Adult Resident								
Sediment	$5.9x10^{-7}$	--	$2.4x10^{-6}$	$3.0x10^{-6}$	0.3	--	2	2
Total Risk Across All Media and Exposure Routes				**$3.0x10^{-6}$**				**2**
Cumulative Excess Lifetime Cancer Risk for Residents (Adult + Child)				**$5.2x10^{-5}$**				

TABLE 7-2

SUMMARY OF CENTRAL TENDENCY RECEPTOR RISKS FOR CURRENT LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
AREA 1								
Routine Worker								
Surface Soil (0' to 2')	$5.4x10^{-7}$	$8.0x10^{-7}$	$1.3x10^{-5}$	$1.5x10^{-5}$	0.2	0.5	9	10
Sediment	$1.7x10^{-7}$	--	$3.9x10^{-6}$	$4.1x10^{-6}$	0.05	--	1	1
Surface Water	$1.4x10^{-8}$	--	$7.4x10^{-6}$	$7.4x10^{-6}$	0.004	--	0.003	0.007
Groundwater, Lower Aquifer	$1.9x10^{-3}$	$1.2x10^{-3}$	$1.5x10^{-5}$	$3.2x10^{-3}$	290	2,000	2	2,300
Total Risk Across All Media and Exposure Routes				**$3.2x10^{-3}$**				**2,300**
Utility Worker								
Soil (0' to 10')	$1.7x10^{-6}$	$2.1x10^{-6}$	$1.8x10^{-5}$	$2.2x10^{-5}$	16	200	210	430
Sediment	$1.4x10^{-6}$	--	$3.9x10^{-6}$	$5.3x10^{-6}$	0.4	--	1	2
Groundwater, Upper Aquifer	--	$6.6x10^{-7}$	$4.8x10^{-5}$	$4.9x10^{-5}$	--	67	2,300	2,300
Total Risk Across All Media and Exposure Routes				**$7.6x10^{-5}$**				**2,700**
AREA 2								
Utility Worker								
Soil (2' to 10')	$2.5x10^{-4}$	$8.1x10^{-5}$	$4.9x10^{-3}$	$5.2x10^{-3}$	2	15	420	430
Total Risk Across All Media and Exposure Routes				**$5.2x10^{-3}$**				**430**
Trespasser								
Soil (2' to 4')	$5.7x10^{-6}$	$1.7x10^{-8}$	$8.6x10^{-5}$	$9.1x10^{-5}$	6	0.1	180	180
Sediment	$1.1x10^{-8}$	--	$2.2x10^{-8}$	$3.3x10^{-8}$	0.008	--	0.02	0.03
Total Risk Across All Media and Exposure Routes				**$9.1x10^{-5}$**				**180**
AREA 3								
Utility Worker								
Soil (0' to 10')	$1.2x10^{-4}$	$1.6x10^{-4}$	$2.3x10^{-3}$	$2.6x10^{-3}$	7	11	1,000	1,100
Total Risk Across All Media and Exposure Routes				**$2.6x10^{-3}$**				**1,100**
Trespasser								
Soil (0' to 2')	$2.4x10^{-7}$	$1.0x10^{-8}$	$3.5x10^{-6}$	$3.8x10^{-6}$	0.3	0.04	48	48
Total Risk Across All Media and Exposure Routes				**$3.8x10^{-6}$**				**48**

TABLE 7-2

SUMMARY OF CENTRAL TENDENCY RECEPTOR RISKS FOR CURRENT LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
AREA 4A								
Trespasser								
Sediment	$5.7x10^{-8}$	--	$7.3x10^{-8}$	$1.3x10^{-7}$	0.09	--	0.2	0.3
Surface Water	$2.9x10^{-8}$	$3.3x10^{-8}$	$4.8x10^{-8}$	$1.1x10^{-7}$	0.1	0.5	0.1	0.7
Total Risk Across All Media and Exposure Routes				**$2.4x10^{-7}$**				**1**
AREA 4B								
Trespasser								
Sediment	$3.6x10^{-8}$	--	$5.7x10^{-8}$	$9.2x10^{-8}$	0.07	--	0.2	0.2
Surface Water	$1.3x10^{-7}$	--	$4.9x10^{-8}$	$1.8x10^{-7}$	0.005	--	0.006	0.01
Total Risk Across All Media and Exposure Routes				**$2.7x10^{-7}$**				**0.3**
AREA 5A								
Child Resident								
Surface Soil (0' to 2')	$4.2x10^{-6}$	$8.0x10^{-6}$	$1.6x10^{-5}$	$2.8x10^{-5}$	0.9	4	89	94
Groundwater, Lower Aquifer	$1.3x10^{-5}$	$1.1x10^{-9}$	$1.1x10^{-10}$	$1.3x10^{-5}$	2	0.0000008	0.00002	2
Total Risk Across All Media and Exposure Routes				**$4.1x10^{-5}$**				**96**
Adult Resident								
Surface Soil (0' to 2')	$6.7x10^{-7}$	$2.6x10^{-6}$	$1.4x10^{-5}$	$1.8x10^{-5}$	0.09	0.8	53	54
Groundwater, Lower Aquifer	$1.7x10^{-5}$	$6.5x10^{-8}$	$4.6x10^{-7}$	$1.7x10^{-5}$	2	0.01	0.03	2
Total Risk Across All Media and Exposure Routes				**$3.5x10^{-5}$**				**56**
Cumulative Excess Lifetime Cancer Risk for Residents (Adult + Child)				**$7.6x10^{-5}$**				
AREA 6								
Child Resident								
Sediment	$6.0x10^{-6}$	--	$1.5x10^{-6}$	$7.5x10^{-6}$	1	--	0.3	1
Total Risk Across All Media and Exposure Routes				**$7.5x10^{-6}$**				**1**
Adult Resident								
Sediment	$3.7x10^{-8}$	--	$5.3x10^{-8}$	$9.0x10^{-8}$	0.2	--	0.4	0.6
Total Risk Across All Media and Exposure Routes				**$9.0x10^{-8}$**				**0.6**
Cumulative Excess Lifetime Cancer Risk for Residents (Adult + Child)				**$7.6x10^{-6}$**				

TABLE 7-3

SUMMARY OF RME RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
AREA 1								
Routine Worker								
Soil (0' to 10')	3.8×10^{-4}	9.6×10^{-5}	2.6×10^{-2}	2.7×10^{-2}	10	17	850	880
Sediment	2.0×10^{-6}	--	1.3×10^{-4}	1.3×10^{-4}	0.1	--	8	8
Surface Water	5.1×10^{-8}	--	2.3×10^{-5}	2.3×10^{-5}	0.06	--	0.05	0.1
Groundwater, Lower Aquifer (Sitewide)	1.3×10^{-3}	1.1×10^{-5}	2.6×10^{-1}	2.6×10^{-1}	16	1	2	19
Total Risk Across All Media and Exposure Routes				**2.9×10^{-1}**				**910**
Utility Worker								
Soil (0' to 10')	5.0×10^{-4}	5.2×10^{-4}	2.6×10^{-2}	2.7×10^{-2}	13	130	850	1,000
Sediment	1.8×10^{-5}	--	1.3×10^{-4}	1.5×10^{-4}	1	--	8	9
Groundwater, Upper Aquifer	--	3.8×10^{-6}	3.2×10^{-4}	3.2×10^{-4}	--	77	3,000	3,100
Groundwater, Lower Aquifer (Sitewide)	1.3×10^{-3}	1.1×10^{-5}	2.6×10^{-1}	2.6×10^{-1}	16	1	2	19
Total Risk Across All Media and Exposure Routes				**2.9×10^{-1}**				**4,100**
Construction Worker								
Soil (0' to 4')	6.2×10^{-4}	2.5×10^{-5}	7.5×10^{-3}	8.2×10^{-3}	140	210	2,100	2,400
Surface Water	9.2×10^{-9}	--	4.8×10^{-6}	4.8×10^{-6}	0.02	--	0.02	0.04
Groundwater, Upper Aquifer	--	6.4×10^{-5}	4.8×10^{-3}	4.9×10^{-3}	--	120	4,200	4,300
Total Risk Across All Media and Exposure Routes				**1.3×10^{-2}**				**6,700**
Trespasser								
Soil (0' to 10')	2.6×10^{-5}	9.7×10^{-7}	2.4×10^{-3}	2.4×10^{-3}	3	0.7	340	340
Sediment	1.9×10^{-6}	--	1.2×10^{-5}	1.4×10^{-5}	0.5	--	3	4
Surface Water	1.8×10^{-8}	--	5.2×10^{-6}	5.2×10^{-6}	0.005	--	0.004	0.009
Total Risk Across All Media and Exposure Routes				**2.4×10^{-3}**				**340**
AREA 2								
Routine Worker								
Soil (0' to 10')	2.4×10^{-3}	8.5×10^{-5}	1.6×10^{-1}	1.6×10^{-1}	3	10	2,800	2,800
Sediment	1.0×10^{-6}	--	3.3×10^{-5}	3.4×10^{-5}	0.02	--	0.7	0.8
Surface Water	2.9×10^{-5}	--	1.9×10^{-5}	4.8×10^{-5}	0.8	--	1	2
Groundwater, Lower Aquifer (Sitewide)	1.3×10^{-3}	1.1×10^{-5}	2.6×10^{-1}	2.6×10^{-1}	16	1	2	20
Total Risk Across All Media and Exposure Routes				**4.2×10^{-1}**				**2,800**

TABLE 7-3

SUMMARY OF RME RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
Utility Worker								
Soil (2' to 10')	3.2×10^{-3}	4.6×10^{-4}	1.6×10^{-1}	1.6×10^{-1}	4	17	2,800	2,800
Sediment	9.6×10^{-6}	--	3.3×10^{-5}	4.2×10^{-5}	0.1	--	0.7	0.9
Groundwater, Lower Aquifer (Sitewide)	1.3×10^{-3}	1.1×10^{-5}	2.6×10^{-1}	2.6×10^{-1}	16	1	2	19
Total Risk Across All Media and Exposure Routes				**4.2×10^{-1}**				**2,800**
Construction Worker								
Soil (2' to 4')	3.2×10^{-4}	8.5×10^{-5}	4.0×10^{-3}	4.4×10^{-3}	220	10	5,600	5,800
Soil (2' to 10')	4.2×10^{-4}	2.2×10^{-5}	5.0×10^{-3}	5.5×10^{-3}	16	27	2,900	2,900
Total Risk Across All Media and Exposure Routes				**9.9×10^{-3}**				**8,700**
Trespasser								
Soil (2' to 10')	3.3×10^{-4}	8.6×10^{-7}	1.5×10^{-2}	1.5×10^{-2}	2	0.4	1,100	1,100
Sediment	5.0×10^{-7}	--	3.0×10^{-6}	3.5×10^{-6}	0.03	--	0.3	0.3
Surface Water	1.8×10^{-6}	--	7.3×10^{-7}	2.6×10^{-6}	0.06	--	0.06	0.1
Total Risk Across All Media and Exposure Routes				**1.5×10^{-2}**				**1,100**
AREA 3								
Routine Worker								
Soil (0' to 10')	1.3×10^{-3}	1.1×10^{-4}	7.8×10^{-2}	7.9×10^{-2}	16	5	6,900	7,000
Groundwater, Lower Aquifer (Sitewide)	1.3×10^{-3}	1.1×10^{-5}	2.6×10^{-1}	2.6×10^{-1}	16	1	2	19
Total Risk Across All Media and Exposure Routes				**3.4×10^{-1}**				**7,020**
Utility Worker								
Soil (0' to 10')	1.5×10^{-3}	9.1×10^{-4}	7.8×10^{-2}	8.0×10^{-2}	19	13	6,900	7,000
Groundwater, Lower Aquifer (Sitewide)	1.3×10^{-3}	1.1×10^{-5}	2.6×10^{-1}	2.6×10^{-1}	16	1	2	19
Total Risk Across All Media and Exposure Routes				**3.4×10^{-1}**				**7,020**
Construction Worker								
Soil (0' to 4')	5.5×10^{-5}	2.2×10^{-5}	6.7×10^{-4}	7.5×10^{-4}	12	16	1,900	1,900
Soil (0' to 10')	2.0×10^{-4}	4.3×10^{-5}	2.4×10^{-3}	2.7×10^{-3}	81	20	7,300	7,400
Total Risk Across All Media and Exposure Routes				**3.5×10^{-3}**				**9,300**
Trespasser								
Soil (0' to 10')	1.6×10^{-4}	2.3×10^{-6}	7.1×10^{-3}	7.3×10^{-3}	8	0.4	2,700	2,700
Total Risk Across All Media and Exposure Routes				**7.3×10^{-3}**				**2,700**

TABLE 7-3

SUMMARY OF RME RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	*Inhalation*	*Dermal*	*Total Exposure*	*Ingestion*	*Inhalation*	*Dermal*	*Total Exposure*
AREA 4A								
Trespasser								
Sediment	$2.6x10^{-6}$	--	$1.0x10^{-5}$	$1.3x10^{-5}$	0.4	--	2	2
Surface Water	$9.1x10^{-7}$	$9.2x10^{-7}$	$7.7x10^{-7}$	$2.6x10^{-6}$	0.4	0.9	0.2	2
Total Risk Across All Media and Exposure Routes				**$1.6x10^{-5}$**				**4**
AREA 4B								
Routine Worker								
Sediment	$1.3x10^{-5}$	--	$8.5x10^{-5}$	$9.8x10^{-5}$	0.5	--	5	6
Surface Water	$2.3x10^{-6}$	--	$2.8x10^{-6}$	$5.1x10^{-6}$	0.007	--	0.03	0.03
Groundwater, Lower Aquifer (Sitewide)	$1.3x10^{-3}$	$1.1x10^{-5}$	$2.6x10^{-1}$	$2.6x10^{-1}$	16	1	2	19
Total Risk Across All Media and Exposure Routes				**$2.6x10^{-1}$**				**25**
Utility Worker								
Sediment	$1.5x10^{-5}$	--	$8.5x10^{-5}$	$1.0x10^{-4}$	0.6	--	5	6
Groundwater, Upper Aquifer	--	$1.4x10^{-3}$	$1.5x10^{-2}$	$1.6x10^{-2}$	--	77	370	450
Groundwater, Lower Aquifer (Sitewide)	$1.3x10^{-3}$	$1.1x10^{-5}$	$2.6x10^{-1}$	$2.6x10^{-1}$	16	1	2	19
Total Risk Across All Media and Exposure Routes				**$2.8x10^{-1}$**				**470**
Construction Worker								
Sediment	$2.0x10^{-6}$	--	$2.7x10^{-6}$	$4.7x10^{-6}$	2	--	6	8
Groundwater, Upper Aquifer	--	$6.4x10^{-5}$	$4.8x10^{-3}$	$4.8x10^{-3}$	--	120	4,200	4,300
Total Risk Across All Media and Exposure Routes				**$4.8x10^{-3}$**				**4,300**
Trespasser								
Sediment	$1.6x10^{-6}$	--	$7.8x10^{-6}$	$9.4x10^{-6}$	0.3	--	2	2
Surface Water	$5.1x10^{-6}$	--	$2.0x10^{-6}$	$7.1x10^{-6}$	0.02	--	0.02	3
Total Risk Across All Media and Exposure Routes				**$1.7x10^{-5}$**				**5**
AREA 5A								
Child Resident								
Surface Soil (0' to 2')	$8.4x10^{-6}$	$1.1x10^{-5}$	$9.4x10^{-5}$	$1.1x10^{-4}$	2	5	520	530
Groundwater, Upper Aquifer	$3.0x10^{-5}$	--	$7.5x10^{-5}$	$1.0x10^{-4}$	7	--	23	30
Groundwater, Lower Aquifer	$6.4x10^{-5}$	$0.0x10^{0}$	$2.9x10^{-8}$	$6.4x10^{-5}$	16	0.0007	0.002	16
Total Risk Across All Media and Exposure Routes				**$2.7x10^{-4}$**				**580**

TABLE 7-3

SUMMARY OF RME RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
Adult Resident								
Surface Soil (0' to 2')	$3.6x10^{-6}$	$9.1x10^{-6}$	$2.2x10^{-4}$	$2.3x10^{-4}$	0.2	1	310	310
Groundwater, Upper Aquifer	$9.4x10^{-6}$	--	$2.6x10^{-5}$	$3.5x10^{-5}$	0.3	--	1	1
Groundwater, Lower Aquifer	$7.6x10^{-5}$	$0.0x10^{0}$	$6.0x10^{-5}$	$1.4x10^{-4}$	6	0.05	0.9	7
Total Risk Across All Media and Exposure Routes				**$4.1x10^{-4}$**				**320**
Cumulative Excess Lifetime Cancer Risk for Resident (Adult + Child)				**$6.8x10^{-4}$**				
AREA 5B								
Construction Worker								
Groundwater, Upper Aquifer	--	$5.5x10^{-6}$	$3.8x10^{-4}$	$3.9x10^{-4}$	--	10	410	420
Total Risk Across All Media and Exposure Routes				**$3.9x10^{-4}$**				**420**
Commercial Worker								
Groundwater, Lower Aquifer	--	$4.0x10^{-3}$	$9.2x10^{-4}$	$4.9x10^{-3}$	--	31	17	48
Total Risk Across All Media and Exposure Routes				**$4.9x10^{-3}$**				**48**
AREA 6								
Child Resident								
Sediment	$3.6x10^{-5}$	--	$1.3x10^{-5}$	$4.9x10^{-5}$	2	--	1	3
Total Risk Across All Media and Exposure Routes				**$4.9x10^{-5}$**				**3**
Adult Resident								
Sediment	$5.9x10^{-7}$	--	$2.4x10^{-6}$	$3.0x10^{-6}$	0.3	--	2	2
Total Risk Across All Media and Exposure Routes				**$3.0x10^{-6}$**				**2**
Cumulative Excess Lifetime Cancer Risk for Resident (Adult + Child)				**$5.2x10^{-5}$**				

TABLE 7-4

SUMMARY OF CENTRAL TENDENCY RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
AREA 1								
Routine Worker								
Soil (0' to 10')	$3.3x10^{-5}$	$1.7x10^{-5}$	$7.9x10^{-4}$	$8.4x10^{-4}$	4	15	130	150
Sediment	$1.7x10^{-7}$	--	$3.9x10^{-6}$	$4.1x10^{-6}$	0.05	--	1	1
Surface Water	$1.4x10^{-8}$	--	$7.4x10^{-6}$	$7.4x10^{-6}$	0.004	--	0.003	0.007
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$1.0x10^{-3}$**				**160**
Utility Worker								
Soil (0' to 10')	$1.7x10^{-6}$	$2.1x10^{-6}$	$1.8x10^{-5}$	$2.2x10^{-5}$	16	200	210	430
Sediment	$1.4x10^{-6}$	--	$3.9x10^{-6}$	$5.3x10^{-6}$	0.4	--	1	2
Groundwater, Upper Aquifer	--	$6.6x10^{-7}$	$4.8x10^{-5}$	$4.9x10^{-5}$	--	67	2,300	2,300
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$2.5x10^{-4}$**				**2,700**
Trespasser								
Soil (0' to 10')	$5.8x10^{-7}$	$2.2x10^{-8}$	$1.7x10^{-5}$	$1.8x10^{-5}$	0.8	0.2	28	29
Sediment	$4.3x10^{-8}$	--	$8.6x10^{-8}$	$1.3x10^{-7}$	0.1	--	0.3	0.4
Surface Water	$3.9x10^{-10}$	--	$1.3x10^{-7}$	$1.3x10^{-7}$	0.001	--	0.0007	0.002
Total Risk Across All Media and Exposure Routes				**$1.8x10^{-5}$**				**29**
AREA 2								
Routine Worker								
Soil (0' to 10')	$2.1x10^{-4}$	$1.5x10^{-5}$	$4.9x10^{-3}$	$5.1x10^{-3}$	1	9	420	430
Sediment	$9.1x10^{-8}$	--	$9.9x10^{-7}$	$1.1x10^{-6}$	0.007	--	0.1	0.1
Surface Water	$5.1x10^{-6}$	--	$2.9x10^{-6}$	$8.0x10^{-6}$	0.7	--	1	2
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$5.3x10^{-3}$**				**440**
Utility Worker								
Soil (2' to 10')	$2.5x10^{-4}$	$8.1x10^{-5}$	$4.9x10^{-3}$	$5.2x10^{-3}$	2	15	420	430
Sediment	$3.3x10^{-8}$	--	$2.3x10^{-8}$	$5.6x10^{-8}$	0.003	--	0.003	0.005
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$5.4x10^{-3}$**				**440**

TABLE 7-4

SUMMARY OF CENTRAL TENDENCY RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
Trespasser								
Soil (2' to 10')	$7.4x10^{-6}$	$1.9x10^{-8}$	$1.1x10^{-4}$	$1.1x10^{-4}$	0.4	0.1	92	93
Sediment	$1.1x10^{-8}$	--	$2.2x10^{-8}$	$3.3x10^{-8}$	0.008	--	0.02	0.03
Surface Water	$3.9x10^{-8}$	--	$1.6x10^{-8}$	$5.5x10^{-8}$	0.01	--	0.01	0.03
Total Risk Across All Media and Exposure Routes				**$1.1x10^{-4}$**				**93**
AREA 3								
Routine Worker								
Soil (0' to 10')	$1.2x10^{-4}$	$2.0x10^{-5}$	$2.3x10^{-3}$	$2.5x10^{-3}$	7	4	1,000	1,000
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$2.7x10^{-3}$**				**1,000**
Utility Worker								
Soil (0' to 10')	$1.2x10^{-4}$	$1.6x10^{-4}$	$2.3x10^{-3}$	$2.6x10^{-3}$	7	11	1,000	1,000
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$2.8x10^{-3}$**				**1,000**
Trespasser								
Soil (0' to 10')	$3.6x10^{-6}$	$5.1x10^{-8}$	$5.2x10^{-5}$	$5.6x10^{-5}$	2	0.1	230	230
Total Risk Across All Media and Exposure Routes				**$5.6x10^{-5}$**				**230**
AREA 4A								
Trespasser								
Sediment	$5.7x10^{-8}$	--	$7.3x10^{-8}$	$1.3x10^{-7}$	0.09	--	0.2	0.3
Surface Water	$2.9x10^{-8}$	$3.3x10^{-8}$	$4.8x10^{-8}$	$1.1x10^{-7}$	0.1	0.5	0.1	0.7
Total Risk Across All Media and Exposure Routes				**$2.4x10^{-7}$**				**1**
AREA 4B								
Routine Worker								
Sediment	$1.2x10^{-6}$	--	$2.6x10^{-6}$	$3.7x10^{-6}$	0.2	--	0.8	1
Surface Water	$1.1x10^{-7}$	--	$1.2x10^{-7}$	$2.4x10^{-7}$	0.002	--	0.006	0.007
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$1.7x10^{-4}$**				**13**
Utility Worker								
Sediment	$1.2x10^{-6}$	--	$2.6x10^{-6}$	$3.8x10^{-6}$	0.2	--	0.8	1
Groundwater, Upper Aquifer	--	$3.7x10^{-6}$	$4.8x10^{-5}$	$5.2x10^{-5}$	--	77	240	320
Groundwater, Lower Aquifer (Sitewide)	$1.6x10^{-4}$	$1.1x10^{-5}$	$1.1x10^{-5}$	$1.7x10^{-4}$	10	0.8	0.8	12
Total Risk Across All Media and Exposure Routes				**$2.3x10^{-4}$**				**330**

TABLE 7-4

SUMMARY OF CENTRAL TENDENCY RECEPTOR RISKS FOR FUTURE LAND USE SCENARIOS

American Chemical Service NPL Site

	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient			
	Ingestion	Inhalation	Dermal	Total Exposure	Ingestion	Inhalation	Dermal	Total Exposure
Trespasser								
Sediment	$3.6x10^{-8}$	--	$5.7x10^{-8}$	$9.2x10^{-8}$	0.07	--	0.2	0.2
Surface Water	$1.3x10^{-7}$	--	$4.9x10^{-8}$	$1.8x10^{-7}$	0.005	--	0.006	0.01
Total Risk Across All Media and Exposure Routes				**$2.7x10^{-7}$**				**0.2**
AREA 5A								
Child Resident								
Surface Soil (0' to 2')	$4.2x10^{-6}$	$8.0x10^{-6}$	$1.6x10^{-5}$	$2.8x10^{-5}$	0.9	4	89	94
Groundwater, Upper Aquifer	$2.5x10^{-6}$	--	$8.4x10^{-6}$	$1.1x10^{-5}$	0.6	--	2	3
Groundwater, Lower Aquifer	$1.6x10^{-5}$	$0.0x10^{0}$	$3.9x10^{-9}$	$1.6x10^{-5}$	4	0.0003	0.0002	4
Total Risk Across All Media and Exposure Routes				**$5.5x10^{-5}$**				**100**
Adult Resident								
Surface Soil (0' to 2')	$6.7x10^{-7}$	$2.6x10^{-6}$	$1.4x10^{-5}$	$1.8x10^{-5}$	0.09	0.8	53	54
Groundwater, Upper Aquifer	$3.5x10^{-6}$	--	$8.3x10^{-6}$	$1.2x10^{-5}$	0.3	--	0.9	1
Groundwater, Lower Aquifer	$2.0x10^{-5}$	$0.0x10^{0}$	$1.0x10^{-5}$	$3.0x10^{-5}$	4	0.01	0.4	4
Total Risk Across All Media and Exposure Routes				**$6.0x10^{-5}$**				**59**
Cumulative Excess Lifetime Cancer Risk for Resident (Adult + Child)				**$1.1x10^{-4}$**				
AREA 5B								
Commercial Worker								
Groundwater, Lower Aquifer	--	$7.0x10^{-4}$	$1.2x10^{-4}$	$8.3x10^{-4}$	--	27	12	38
Total Risk Across All Media and Exposure Routes				$8.3x10^{-4}$				**38**
AREA 6								
Child Resident								
Sediment	$6.0x10^{-6}$	--	$1.5x10^{-6}$	$7.5x10^{-6}$	1	--	0.3	1
Total Risk Across All Media and Exposure Routes				**$7.5x10^{-6}$**				**1**
Adult Resident								
Sediment	$3.7x10^{-8}$	--	$5.3x10^{-8}$	$9.0x10^{-8}$	0.2	--	0.4	0.6
Total Risk Across All Media and Exposure Routes				**$9.0x10^{-8}$**				**0.6**
Cumulative Excess Lifetime Cancer Risk for Resident (Adult + Child)				**$7.6x10^{-6}$**				

Appendix A

APPENDIX A

Land Use Memorandum

ENVIRON

June 24, 1997

Federal Express

Ms. Sheri Bianchin
United States Environmental Protection Agency (USEPA)
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Reasonably Anticipated Future Land Use at the ACS Site
American Chemical Services (ACS) NPL Site

Dear Ms. Bianchin:

Please find enclosed two copies of the evaluation *Reasonably Anticipated Future Land Use at the ACS Site*, which was sent by facsimile earlier today. We look forward to receiving your comments on the Scope of Work for the risk assessment later this week. If you have any questions, please feel free to contact me at (609) 243-9805 or Steve Washburn at (609) 243-9817.

Sincerely,

Kristen G. Edelmann

Kristen G. Edelmann
Senior Associate

Enclosures

cc: Christopher Brown, IDEM
Steve Mrkvicka, Black & Veatch
ACS Technical Committee

214 Carnegie Center • Princeton, New Jersey 08540-6284 • USA • Tel: (609) 452-9000 • Fax: (609) 452-0284

Reasonably Anticipated Future Land Use at the ACS Site
Griffith, Indiana
June 24, 1997

1.0 Introduction

ENVIRON has been retained to perform a baseline human health risk assessment for the American Chemical Services (ACS) NPL Site ("the Site") in the Town of Griffith, Lake County, Indiana. A chemical manufacturing plant has been operating continuously at the Site for over 40 years, and intends to continue operating at the Site in the future. There are no plans to use the property for any non-industrial purposes.

An evaluation of reasonably anticipated future land use is one of the first steps in a baseline risk assessment. Land use assumptions affect the exposure pathways that are evaluated in the baseline risk assessment. In many cases, residential use is the least restricted land use, with the greatest potential for human exposure. However, according to USEPA (55 FR 8666, March 8, 1990, p. 8710), "the assumption of future residential land use is not a requirement" and "may not be justifiable if the probability that the site will support residential use in the future is small." In such circumstances, assumptions in a baseline assessment should conform with expected future conditions, such as industrial or commercial land use, based on site-specific conditions.

In 1995, the USEPA Office of Solid Waste and Emergency Response (OSWER) issued OSWER Directive No. 9355.7-04, entitled "Land Use in the CERCLA Remedy Selection Process" (USEPA 1995). This guidance presents a framework and specific factors to be used in determining the reasonably anticipated land use for the purpose of estimating potential future risks. Based on USEPA (1995), a comprehensive review of information pertinent to future land use patterns on and around the Site has been conducted to confirm the assumption of

continued industrial land use at the Site.

2.0 Evaluation of Reasonably Anticipated Future Land Use

Historical and current land use at the Site are described in Section 2.1 of this report. This information is combined with consideration of local land use development patterns, visual inspection of the Site, and a review of the sources and types of information identified in USEPA guidance (USEPA 1995) to establish reasonably anticipated future land use at the Site. Sources of site-specific information consulted include the following:

- Master Plan for Future Land Use, Griffith, Indiana
- Official Zoning Map for Town of Griffith (see Attachment 1)
- Personal communications with the Building Commissioner of Griffith
- Information from the Northwestern Indiana Regional Planning Commission (NIRPC)[1]
- U.S. Census data
- U.S. topographic, wetland inventory, and flood plain maps
- Declarations of Land Use Restriction of Real Property (See Attachment 2)
- Information from the Historic Landmarks Foundation of Indiana

The Master Plan for Griffith (Vilizan-Leman 1975) is used by the Town government to determine zoning and development in Griffith.

The specific factors identified in USEPA (1995) for evaluating reasonably anticipated future land use are discussed in the following sections:

2.1. Historical and Current Land Use
- Current land use
- Zoning maps
- Historical and recent development patterns
- Site location in relation to urban, residential, commercial, industrial, agricultural, and recreational areas

2.2 Zoning and Future Land Use Plans
- Zoning laws

[1]NIRPC is a multi-purpose areawide planning agency representing local governments within Lake, Porter, and LaPorte Counties; at least two-thirds of the Commission must be local officials.

- Comprehensive community master plans

2.3 Likelihood of Future Residential Use
- Population growth patterns and projections
- Accessibility of site to existing infrastructure
- Institutional controls currently in place

2.4 Other Information Potentially Related to Land Use
- Federal/State land use designation
- Cultural factors
- Natural resources information
- Location of Wellhead Protection areas/Potential vulnerability of groundwater
- Environmental justice issues
- Location of on-site or nearby wetlands
- Proximity of site to a floodplain
- Proximity of site to critical habitats of endangered or threatened species
- Geologic and hydrogeologic information

2.1 Historical and Current Land Use

The Site, which covers approximately 21 acres, is located at 420 South Colfax Avenue, in an area of the Town of Griffith that historically has been developed primarily for industrial and commercial uses. The part of Griffith in which the Site is located is referred to as the "eastern portion of the Town" in the Master Plan for the Town of Griffith, Indiana (i.e., including all lands east of Broad Street between the Penn Central and C & E Railroads). The entire "eastern portion of the Town", including the Site, is zoned for industrial use. Maps showing the location, features, and zoning of the Site are provided in Attachment 1 (Figures 1, 2, and 3, respectively).

ACS owns or leases approximately 19 acres of the Site and began operations at the Site as a solvent recovery facility in May 1955.[2] Through the nearly 42 years of continuous operation, ACS has modernized, modified, and expanded operations at the Site. For example, in the 1960's ACS added facilities to manufacture small batches of specialty chemicals and in the 1970's built an epoxidation plant to produce a plasticizer. It currently employs over 40 full-time workers. As a result, ACS has established a strong and consistent presence in the

[2]Four of the acres are leased from CSX.

Town of Griffith. ACS intends to continue specialty chemical manufacturing and epoxidation operations at the Site "in full force" (see Attachment 2).

In addition to the ACS property, the Site includes 2 acres that also have a history of industrial use. These 2 acres are located south of the ACS facility and adjacent to the Griffith Municipal Landfill (labeled "Kapica-Pazmey" on Figure 2). Kapica Drum, Inc. began drum reconditioning operations on this portion of the Site in 1951. Pazmey Corporation bought the property in February 1980 and sold it in March 1987 to Darija Djurovic who used the property for automobile storage and repair.

Land surrounding the Site is currently zoned for industrial use, but historically has been used for a combination of industrial, residential, and recreational purposes. In the following paragraphs, current land uses in the vicinity of the Site are described in a clockwise fashion, beginning at the northeast corner[3].

Located northeast of the Site, beyond the intersection of Colfax Avenue and the Grand Trunk Railroad right-of-way, are the Oak Ridge Prairie County Park and the Griffith Airport. Immediately east of the Site and north of the Chesapeake and Ohio Railroad right-of-way, the land is undeveloped and zoned general industrial. To the east of Colfax Avenue and south of the Chesapeake and Ohio Railroad right-of-way are several small businesses. To the east of Colfax Avenue and along Reder Road, several small businesses and several single family residences are present. South of the intersection of Reder Road and Colfax Avenue, on Arbogast Avenue, are a private residence and a small industrial building. The area was zoned for industrial use after the residences were built, with the intention that any future development in the area be industrial.[4]

To the west and southwest of the Site, south of the Chesapeake and Ohio Railroad right-of-way, are the Griffith Municipal Landfill and Town of Griffith Municipal Garage.

---

[3]Note that the land surrounding the Site is shown in Figure 1, and the roads and railroads immediately surrounding the Site are labeled in Figure 2. Zoning areas are provided in Figure 3 (where I-1 and I-2 indicate areas targeted for industrial use, while R-1 and R-2 indicate areas zoned for residential use).

[4]The residences in the industrial zone are "non-conforming uses" and a zoning ordinance cannot force changes in these existing uses. However, the ordinance can prevent expansion of a non-conforming use, and if the non-conforming use is discontinued, the ordinance can also prevent it from being resumed (Sargent 1997).

Beyond the municipal landfill and west of the C & E Railroad right-of-way, are vacant land and a residential development.

North of the Chesapeake and Ohio Railroad right-of-way to the west of the Site, and north of the Grand Trunk Railroad right-of-way along the northern boundary of the Site, the land is primarily vacant, and classified as wetlands. Further to the north, along Main Street, are small businesses and an industrial park.

2.2 Zoning and Future Land Use Plans

The Town of Griffith adopted the Master Plan as a guide for long-range, future land use planning. According to the Building Commissioner of Griffith (personal communication, June 18, 1997), the land use goals established in the Master Plan are followed to establish zoning and applied when new developments are proposed. At the time the Master Plan was prepared, 8%, or about 390 acres, of the total land area in Griffith was under industrial use, and approximately 46%, or 2,160 acres, was zoned for industrial use. Overall, the Master Plan reduced the total area zoned for industry from 2,160 acres to approximately 1,500 acres. Specifically, the classification of areas in the northern and western portions of Griffith were changed to "research office" or residential. However, it is significant that the Master Plan called for no reductions in industrial zoned land in the eastern portion of the Town where the Site is located, and classified the area as light and heavy industrial "to reflect current development patterns and reflective of potential industrial need for certain industry types. For instance, light industrial represents a more logical development pattern for areas near airports..." (Master Plan, p. 54).

Thus, current zoning in the immediate vicinity of the Site is industrial (see Figure 3, Zoning District Map: Town of Griffith, Indiana, 1992). The Site itself is zoned general industrial; the areas adjacent to the Site are zoned either general industrial or light industrial. The closest area zoned for residential development is located west and southwest of the Site, beyond the Griffith Municipal Landfill and the C & E Railroad right-of-way. According to Town of Griffith officials, no zoning changes are planned for the Site area.

For the eastern portion of town, where the Site is located, the Master Plan aims to

maintain existing industries and businesses while expanding commercial/industrial development to promote new business growth, especially around the Griffith Airport. Consistent with the goals for the eastern portion of town, the Master Plan for Griffith envisions no expansion of residential land use in the area of the Site. Potential residential growth in Griffith is planned for "the western portion of town", to the west of the C & E Railroad right-of-way and the Griffith Municipal Landfill. The Master Plan estimated that this area, in combination with other areas zoned for residential use, would meet the needs of a capacity population of approximately 29,000 individuals in Griffith (see section below regarding historical and predicted population trends for Griffith).

2.3 Likelihood of Future Residential Use

- Importance of the Facility to the Local Economy

  The facility on the Site is not only an important part of ACS's operations but also represents a part of the Town of Griffith's job base. ACS is listed as one of eight major industries in Griffith (NIPSC 1992). ACS plans to continue operations at the facility and remain an important part of the business community in the Town of Griffith and the surrounding area. However, in the unlikely event that ACS should cease operations at this location, continued industrial use is consistent with the Town of Griffith Plan's goal for industrial growth in the eastern portion of town and with maintaining a similar job base for skilled workers at this location.

- Suitability for Residential Development

  There are several structures or features on or near the Site that are incompatible with potential residential development, in the unlikely event that the ACS facility were to cease operations. First, the Site is located adjacent to the Griffith Municipal Landfill which would render the location unattractive for potential new residential development. Second, the Site borders two major

active east/west railroad lines, which would also tend to hinder potential residential development because of potential concerns with noise and safety. (Conversely, the Site's proximity to the railroad lines makes its location ideal for commerce and continued industrial use.) Third, the Site is in the flight path of the Griffith Airport, located approximately 2,000 feet from the northeast corner of the Site, which would likewise be expected to inhibit potential new residential development.

- Historical and Predicted Population Trends

Trends in Town of Griffith's population indicate that the probability of future residential land use at the Site is very small. As mentioned previously, the Master Plan for Griffith zoned areas for residential or industrial development based on an estimated capacity population of 29,092 for the Town. Thus, current zoning patterns should be adequate for populations below 29,000 individuals. Between 1970 and 1990, the population decreased slightly from 18,168 to 17,916 persons in Griffith, and from 546,253 to 475,594 in Lake County (US Census Bureau 1996, NIPSC 1992). Migration patterns for Lake County also indicate that the probability of future residential development at the Site is small. For people five years of age and older who moved between 1985 and 1990, 50,696 people moved into Lake County but 72,389 moved out of Lake County (IUSB 1997).

Projected population growth rates in the area are similarly low. In fact, the population is predicted to remain virtually unchanged, with a projected increase of only 0.6% in Lake County between 1990 and 2010 (i.e., from 475,594 persons in 1990 to 478,500 persons in 2010) (IUSB 1996). Residential growth in Griffith, should it occur, is planned for areas zoned for residential use to the west of the Site, rather than for the area where the Site is located.

- Institutional controls currently in place

  Declarations of Land Use Restriction of Real Property are currently in place for the Site, including the ACS property (signed January 14, 1994), the Djurovic property (signed December 4, 1996), and the CSX property that is leased to ACS (signed March 4, 1994). Copies of these deed restrictions are provided in Attachment 2. These restrictions prohibit the use of the property for residential purposes, prohibit use of ground water as drinking water, and prohibit disturbance of components of the remedial action. These deed restrictions "run with the land and remain in full force and effect in perpetuity...irrespective of any sale, conveyance, alienation or other transfer of any interest or estate in that property...".

2.4 Other Information Potentially Related to Land Use

According to USEPA (1995), the following sources and types of information may also be pertinent to the determination of anticipated future land use at the Site:

- Federal/State land use designation

  The Site is not located on or near land controlled by the Federal or State government. The closest land with designated Federal/State control is Hoosier Prairie, a National Natural Landmark that is owned and managed by the Indiana Department of Natural Resources as part of the Indiana Dunes National Lakeshore. Hoosier Prairie is located approximately 1.5 miles west of the Site.

- Cultural factors

  Based on a review of historic sites in Griffith, no historical sites or structures have been identified on or near the Site (Historic Landmarks Foundation of Indiana, 1996).

- Natural resources information

  No specific natural resources, as defined in CERCLA Section 101, are located at the Site. Oak Ridge Prairie County Park, which may be considered a natural resource, is located to the northeast of the Site across Colfax Avenue and occupies over 340 acres of the area zoned for industrial use in Griffith. According to NIRPC (personal communication with NIRPC Data Services Coordinator, June 17, 1997), the park is unlikely to be developed for industrial use, and it is more likely that other properties already developed for industrial use (e.g., the airport, the ACS property) will be retained for industrial use.

- Location of Wellhead Protection areas/Potential vulnerability of ground water

  According to the Wellhead Protection Hydrogeologist with the Indiana Department of Environmental Management (IDEM) (personal communication, June 23, 1997), the Site is not currently located within a Wellhead Protection Zone. IDEM is currently defining Wellhead Protection Zones in the area for public water supply systems (i.e., systems that serve over 25 people or have at least 15 connections). Since the municipal water supply in Griffith draws on water from Lake Michigan rather than ground water, it is unlikely that Wellhead Protection Zones will be established near the Site.

  Ground water contamination has been detected in the area of the Site, and a barrier wall and pump and treat system have been installed to address ground water contamination. The facility at the Site relies on municipal water which is drawn from Lake Michigan, as mentioned above.

- Environmental justice issues

  The fraction of the 1990 population in Griffith categorized as "white" by the US Bureau of Census represents approximately 95% of the total population. For comparison, the US Bureau of Census categorized 75% of the total population in Lake County as "white". The percentage of individuals below the poverty

level was approximately 4% for the Town of Griffith. For comparison, approximately 14% of individuals in Lake County were below the poverty level. The Census data do not provide information on the geographic distribution of minority or low-income communities within the Town of Griffith.

- Location of on-site or nearby wetlands

  Wetland areas are located to the west of the Site, between the Grand Trunk and C&E Railroad right-of-ways. According to U.S. Department of Interior Fish and Wildlife Service Wetlands Inventory Maps (dated November, 1981), the wetlands are classified as Palustrine Emergent Seasonally Flooded and Permanently Flooded. Though zoned for industrial development, the wetlands are unlikely to be developed for either residential or industrial purposes.

- Proximity of site to a floodplain

  Based on a review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for the Town of Griffith, the Site is not located in or near a floodplain.

- Proximity of site to critical habitats of endangered or threatened species

  No critical habitats of endangered or threatened species have been identified on the Site. To the northeast of the Site, the Oak Ridge Prairie County Park has been identified as a "high quality natural community and natural area" by the Indiana Department of Natural Resources. As indicated above, a wetland area is located to the west of the Site. It is highly unlikely that these areas will be developed for either residential or industrial purposes.

- Geologic and hydrogeologic information

  A detailed description of the geology and hydrogeology at and surrounding the Site is provided in Section 4 of the RI report. There are no known geologic features (e.g., seismic features) at or near the Site that would be pertinent to the

determination of anticipated future land use at the Site.

3.0 Conclusion

A comprehensive review of information pertinent to reasonably anticipated future land use patterns confirms that continued industrial land use at the ACS Site represents a reasonable and appropriate assumption for use in the Baseline Risk Assessment. Factors supporting this conclusion include the following:

- A chemical manufacturing plant has been operating continuously at the Site for over 40 years, and intends to continue operating at the Site in the future.
- The Site is zoned industrial, and is slated for continued industrial use in the Master Plan for the Town of Griffith.
- An existing deed restriction for the Site does not allow for future residential development at the Site.
- All property adjacent to the Site is zoned industrial. The Griffith Municipal Landfill, the Town of Griffith Municipal Garage, and two active railroad lines are located immediately adjacent to the Site. In addition, an active airport is located nearby, with a flight path directly over the Site.
- Vacant land zoned for residential use is located in the western portion of the Town of Griffith. The area of this land is more than sufficient to meet projections of residential growth in the town.
- There are no other factors listed in EPA's land use guidance that could suggest anything other than industrial development at the Site.

Thus, the ACS NPL Site fits the description provided in USEPA (1995): "future industrial land use is likely to be a reasonable assumption where a site is currently used for industrial purposes, is located in an area where the surroundings are zoned for industrial purposes, and the comprehensive plan predicts the site will continue to be used for industrial purposes."(p. 6)

4.0 References

Federal Emergency Management Agency. 1982. Flood Insurance Rate Map: Town of Griffith, Indiana (Community-Panel Number 185175). October.

Historic Landmarks Foundation of Indiana. 1996. Indiana Historic Site and Structures Inventory: Lake County Interim Report. May.

Indiana University School of Business (IUSB). 1997. Indiana County Profiles: Status of Indiana families Profile 1996 - Lake County. Http://www.iupui.edu/it/ibrc/profiles/sift/page1/co45.pg1.pdf.

Northern Indiana Public Service Company (NIPSC). 1992. Community Analysis for Griffith, Indiana. May.

Sargent, C.A. 1997. EC-208: Answers to Your Questions About Planning and Zoning in Indiana. Cooperative Extension Service, Purdue University.

Torrenga Engineering. 1992. Zoning District Map: Town of Griffith, Indiana. Adopted by the Board of Trustees of the Town of Griffith, Indiana, April 3, 1979; revised February 7, 1992.

United States Department of the Interior, Fish and Wildlife Service. 1981. National Wetlands Inventory Maps for Highland and St. John Quadrangles. November. (Provided by the Lake County Soil and Water Conservation District, June 6, 1997)

United States Department of the Interior, Geological Survey. 1991. Topographic Map: Highland Quadrangle, Indiana - Lake Co.

United States Environmental Protection Agency (USEPA). 1995. Land Use in the CERCLA Remedy Selection Process. OSWER Directive No. 9355.7-04. Office of Solid Waste and Emergency Response. May 25.

Vilizan-Leman & Assoc. 1975. Master Plan for Future Land Use, Griffith, Indiana. Sponsored by the Griffith Planning Commission. May.

ATTACHMENT 1

Maps of the ACS NPL Site and Surrounding Area

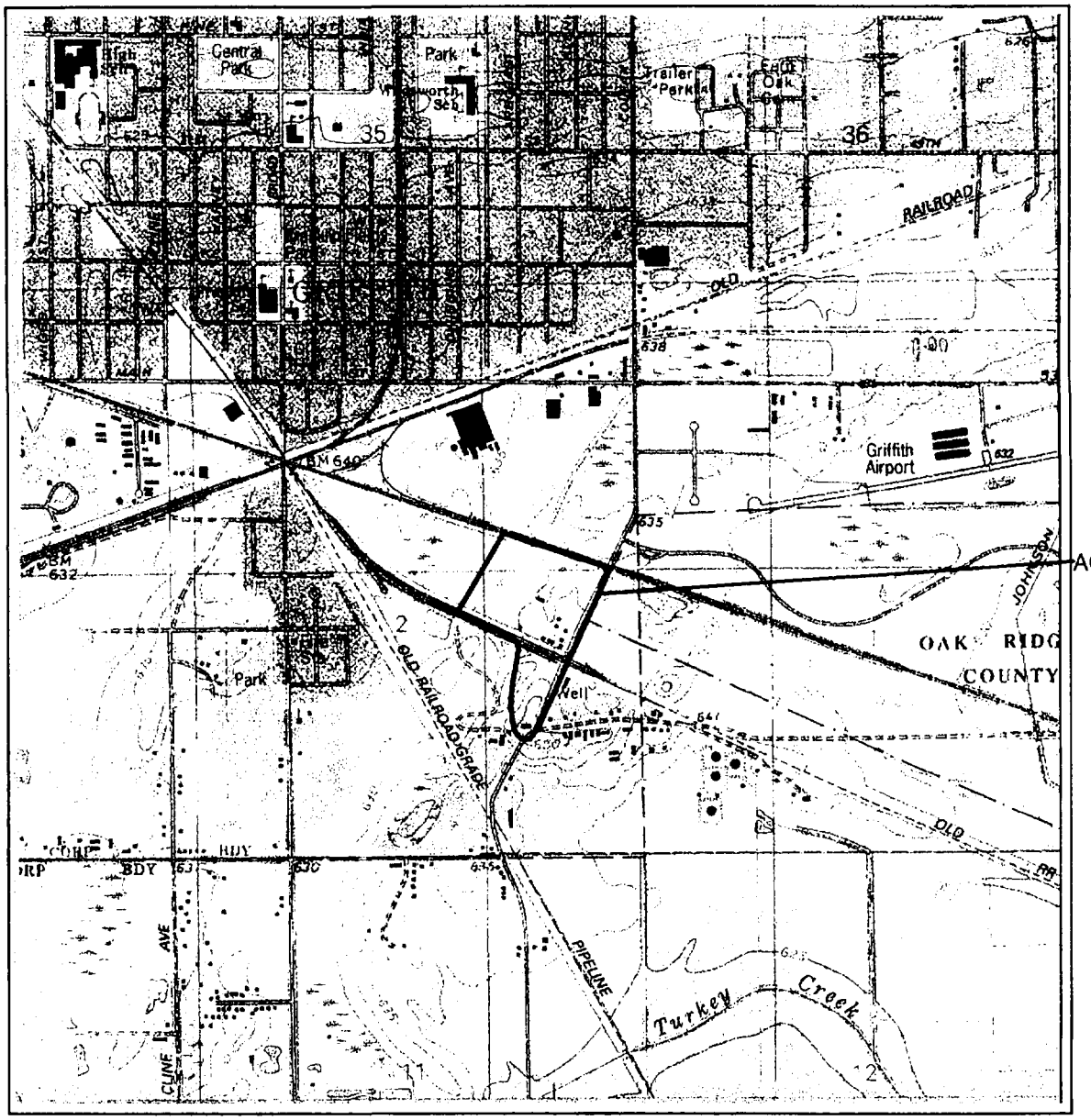
SDMS US EPA REGION V

COLOR-RESOLUTION - 2

IMAGERY INSERT FORM

The following page(s) of this document include color or resolution variations. Unless otherwise noted, these pages are available in monochrome. The original document is available for viewing at the Superfund Records Center.

SITE NAME	AMERICAN CHEMICAL SERVICES
DOC ID #	152044
DESCRIPTION OF ITEM(S)	SITE LOCATION MAP
PRP	RMD - AMERICAN CHEMICAL
DOCUMENT VARIATION	__X__ COLOR **OR** ___ RESOLUTION
DATE OF ITEM(S)	6/24/97
NO. OF ITEMS	1
PHASE	REM
OPERABLE UNITS	
PHASE (AR DOCUMENTS ONLY)	____ Remedial ____ Removal ____ Deletion Docket ____Original ____ Update # ____ Volume ____ of ____
COMMENT(S)	
FIGURE 1	



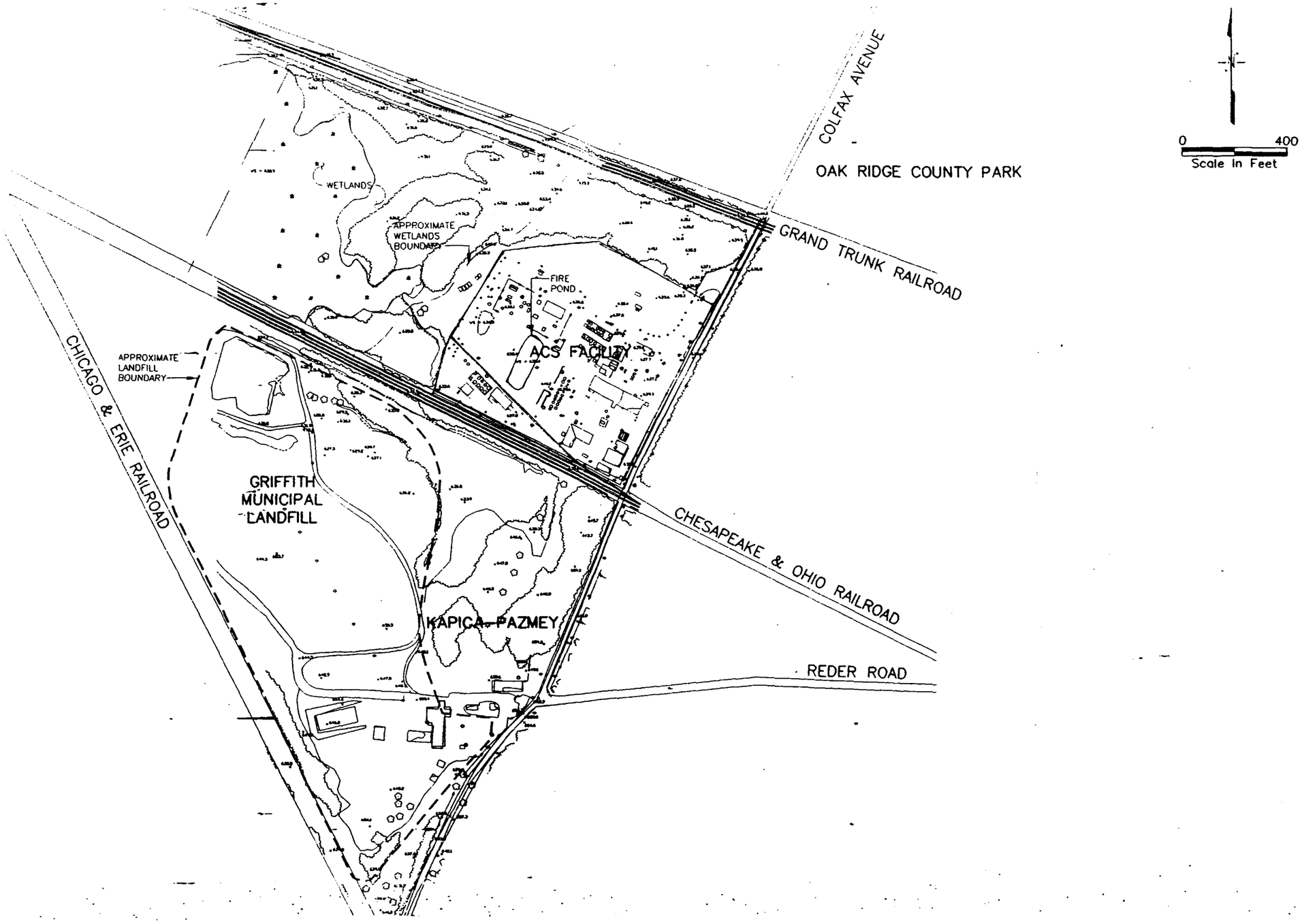
0 2000 4000

Scale In Feet

APPROXIMATE BOUNDARY

SOURCE: USGS TOPOGRAPHIC; HIGHLAND QUADRANGLE, I NDIANA, 1991

ENVIRON	SITE LOCATION MAP ACS NPL SITE GRIFFITH, INDIANA	Figure 1
Drafted By: HFZ Date: 6/24/97		5543BJ01



SITE FEATURES MAP
ACS NPL SITE
GRIFFITH, INDIANA

FIGURE
2

5543AB01

ATTACHMENT 2

Deed Restrictions on the Properties of the ACS NPL Site

94004751

DECLARATION OF LAND USE RESTRICTION OF REAL PROPERTY

American Chemical Services, Inc., an Indiana corporation, owner in fee simple of the real estate described below, hereby imposes restrictions on the described real estate located at or about 420 South Colfax Road, Griffith, Indiana more particularly described in attached Exhibit A.

WHEREAS, American Chemical Services, Inc. ("ACS") is the owner of certain real property described in Exhibit A which comprise the largest portion of the American Chemical Service Superfund Site ("ACS Site").

WHEREAS, the United States Environmental Protection Agency ("U.S. EPA") has determined that there has been an actual or threatened release of hazardous substances as defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. §9601(14) (1991) ("CERCLA")) from the ACS Site.

WHEREAS, a Remedial Investigation ("RI") has been conducted at the ACS Site to determine the nature and the extent of any release or threatened release of hazardous substances, pollutants or contaminants and a Feasibility Study ("FS") performed to identify and to evaluate alternatives for the appropriate remedial action necessary to prevent or to mitigate the migration or the release or threatened release of hazardous substances, pollutants or contaminants at or from the ACS Site.

WHEREAS, the U.S. EPA has issued a Record of Decision ("ROD") to address actual and threatened releases of hazardous substances to and from the ACS Site.

JAN 27 1994

WHEREAS, ACS desires to restrict the use of the ACS Site so as to reduce the potential of any harm whatsoever arising from the actual and threatened releases of hazardous substances from the ACS Site, to protect public health and the environment and to prevent interference with remedial action and maintenance work at its property.

NOW, THEREFORE, by this instrument there is created, declared and established for the ACS Site the following land use restriction which shall run with the land and remain in full force and effect in perpetuity from the date hereof, irrespective of any sale, conveyance, alienation or other transfer of any interest or estate in the ACS Site.

I. LAND USE RESTRICTION

A. ACS covenants and encumbers the property described in Exhibit A shall be occupied exclusively for industrial and/or commercial purposes and that no residential use whatsoever of the ACS Site shall be permitted.

B. ACS intends that the Declaration of the Land Use Restriction be established for its own benefit and ACS intends to continue the operations of ACS in full force.

II. NOTICE AND RECORDATION OF THE LAND USE RESTRICTION

This Declaration shall be recorded in the Office of the Recorder, Lake County, Indiana in the chain of title of the ACS property, and by so doing shall constitute notice to the public and to all heirs, successors and assigns of the ACS property.

III. TERMINATION

The Declaration of Land Use Restriction shall be construed as a covenant running with the land and binding upon all parties having any right, title or interest in the ACS Site or any part thereof, and on their heirs, successors and assigns or persons acting under their direction or control. The Declaration of Land Use Restriction shall be terminated only upon the occurrence of one of the following:

A. The United States Environmental Protection Agency or its successor agency or assigns with jurisdiction over such matters, notifies the owner(s) of the ACS Site in writing that an environmental cleanup has been completed to its satisfaction rendering the ACS Site suitable for all uses whatsoever or until such time as the U.S. EPA determines that the ACS Site poses no unacceptable risk for residential use.

B. The Indiana Department of Environmental Management, or its successor agency or assigns with jurisdiction over such matters, notifies the owner(s) of the ACS Site in writing that an environmental cleanup has been completed to its satisfaction rendering the ACS Site suitable for all uses whatsoever or until such time as the IDEM determines that the ACS Site poses no unacceptable risk for residential use.

C. The procedure for clearing the title of this encumbrance, upon the occurrence of the above event shall be that the

owner(s) of the encumbered property may record an affidavit terminating this restrictive covenant and shall attach thereto the written determination or notification described herein as the pre-requisite for termination.

IV. SEVERABILITY

If any provision of this Declaration of Land Use Restriction is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions. All such other provisions shall continue unimpaired in full force and effect.

V. CERTIFICATION

The undersigned persons executing the Declaration of Land Use Restriction on behalf of ACS represent and certify that they are duly authorized and have been fully empowered to execute and to deliver this Land Use Restriction.

IN WITNESS THEREOF, the said owner(s) of record of the real property subject to this Declaration of Land Use Restriction, ACS, acting through its duly authorized representatives, have caused the Declaration of Land Use Restriction to be executed this 14th day of January, 1994.

AMERICAN CHEMICAL SERVICES, INC.

By: _____
Title: _____

By: _____
Title: _____

STATE OF INDIANA)
)
COUNTY OF LAKE)

The foregoing instrument was acknowledged before me this 14th day of January, 1994 by James Murphy and James Tripo as duly authorized representatives of the American Chemical Services, Inc.

Laura R. DiSanto
Notary Public
Laura R. DiSanto
Printed Name
Lake
County of Residence
My Commission Expires 2/9/91

This instrument was prepared by:

Andrew H. Perellis
E. Lynn Grayson
Seyfarth, Shaw, Fairweather & Geraldson
55 East Monroe Street
42nd Floor
Chicago, Illinois 60603
312/346-8000

SMACS043

EXHIBIT A

Property owned by American Chemical Service, Inc. for which the proceeding deed restrictions apply:

1. Knott Brothers Addition, Part of Lots 19 thru 24.
   Unit 15, Key number 26 0093 0068

2. Knott Brothers Addition, Southwesterly part of Lots 78 thru 82 and all of Lot 83
   Unit 15, Key number 26 0093 0066

3. 420 S. Colfax, Griffith, IN 46319
   Colfax Chemical Sub.
   (8.74 acres) Lot 1, except North 160 ft. of West 272 ft.
   Unit 15, Key number 26 0341 0001

4. Pt. 100 ft. R/W N.W.¼, S.W.¼
   S. 1 T. 35 R.9
   0.093 acre
   Unit 39, Key number 51 0001 0070

5. Knott Brothers Addition, Southwesterly part of lots 84 & 85
   Unit 15, Key Number 26 0093 0065

6. 420 S. Colfax, Griffith, IN 46319
   Pt. N.½, S.E. Westerly of Colfax Ave.
   Northeasterly of C & ERR S. 2, T. 35, R.9
   Cont'g 6 Acre M/L
   Unit 15,. Key Number 26 0003 0026

7. Approx. 421 Avenue D, Griffith, IN 46319
   Pt. S½, SW¼, NE¼
   S.2, T.35, R.9
   1.6 Acre
   Unit 15, Key Number 26 0001 0089

8. 420 S. Colfax, Griffith, IN 46319
   Colfax Chemical Sub
   N 160 Ft. of W. 272ft.
   S.2, T.35 R.9
   Unit 15, Key Number 26.0341 0002

06 23 97 14:00

Kara Gorris + White
4H N. Orleans
Suite 810
Chicago Ill
60610

E 643
79938D

DECLARATION OF LAND USE RESTRICTION OF REAL PROPERTY

Zarija and Nadzda Djurovic, owners in fee simple of the real estate described below, hereby imposes restrictions on the described real estate located along Colfax Avenue in Griffith, Indiana described in attached Exhibit A.

018C

WHEREAS, Zarija and Nadzda Djurovic ("Djurovics") are the owners of certain real property described in Exhibit A which comprises a portion of the U.S.EPA defined American Chemical Service, Inc. Superfund Site.

WHEREAS, the U.S. EPA has determined that there have been actual or threatened releases of hazardous substances as defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. Section 9601 (14) (1991) (CERCLA) from the American Chemical Service, Inc. Site.

97010456

WHEREAS, a Remedial Investigation (RI) has been conducted at the American Chemical Service Site to determine the nature and the extent of any release or threatened release of hazardous substances, pollutants, or contaminants and a Feasibility Study (FS) has been performed to identify and evaluate alternatives for the appropriate remedial action necessary to prevent to mitigate the migration or the release or threatened release of hazardous substances, pollutants or contaminants at or from the American Chemical Service Site.

STATE OF INDIANA
LAKE COUNTY
FILED FOR RECORD
97 FEB 20 AM 11:29
MORRIS W. CARTER
RECORDER

WHEREAS, The U.S. EPA has issued a Record of Decision ("ROD") to address the actual and threatened releases of hazardous substances to and from the American Chemical Service Site.

FILED

FEB 20 1997

SAM ORLICH
AUDITOR LAKE COUNTY

000900

19.00
CS

WHEREAS, the Djurovics desire to restrict the use of their property within the American Chemical Service Site so as to reduce the potential of any harm whatsoever arising from any actual or threatened releases of hazardous substances from the American Chemical Service Site, to protect public health and the environment and to prevent interference with remedial action and maintenance work at their property.

NOW, THEREFORE, by this instrument there is created, declared and established for the Djurovic property within the American Chemical Service Site described on Exhibit A the following land use restriction, which shall run with the land and remain in full force and effect in perpetuity from the date hereof, irrespective of any sale, conveyance, alienation or other transfer of any interest or estate in that property as described in Exhibit A.

I. LAND USE RESTRICTION

A. The Djurovics hereby covenant and encumber their property described in Exhibit A that no use of the ground water in the shallow aquifer beneath the property as a drinking water source or for other domestic uses shall be made or allowed.

B. The Djurovics hereby further covenant and encumber their property described in Exhibit A that such property shall be occupied exclusively for non-residential purposes.

C. The Djurovics hereby further covenant and encumber their property described in Exhibit A uses of such property shall not interfere with or be detrimental to any remedial components on that property.

II. NOTICE AND RECORDATION OF THE LAND USE RESTRICTION

This Declaration shall be recorded in the Office of the Recorder, Lake County, Indiana in the chain of title of the Djurovic property described in Exhibit A, and by so doing shall constitute notice to the public and to all heirs, successors and assigns of that property.

III. TERMINATION

The Declaration of Land Use Restriction shall be construed as a covenant running with the land and binding upon all parties having any right, title or interest in the Djurovic property described in Exhibit A or any part thereof, and on their heirs, successors and assigns or persons acting under their direction or control. The Declaration of Land Use Restriction shall be terminated only upon the occurrence of the following:

A. The U.S. EPA or its successor agency or assigns with jurisdiction over such matters, notifies the owner(s) of the Djurovic property described in Exhibit A in writing that an environmental cleanup has been completed to its satisfaction rendering the American Chemical Service Site suitable for all uses whatsoever or until such time as the U.S.EPA determines that the American Chemical Service Site poses no unacceptable risk for residential use.

B. The Indiana Department of Environmental Management or its successor agency or assigns with jurisdiction over such matters, notifies the owner(s) of the property described in Exhibit A that an environmental cleanup has been

completed to its satisfaction rendering the property suitable for all uses whatsoever or until such time as the Department of Environmental Management determines that the American Chemical Service Site poses no unacceptable risk for residential use.

c. The procedure for clearing the title of this encumbrance, upon the occurrence of the above event shall be that the owner(s) of the encumbered property may record an affidavit terminating this restrictive covenant and shall attach thereto the written determination or notification described herein as the pre-requisite for termination.

IV. SEVERABILITY

If any provision of this Declaration of Land Use Restriction is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions. All such other provisions shall continue unimpaired in full force and effect.

V. CERTIFICATION

The undersigned persons executing the Declaration of Land Use Restriction on behalf of the Djurovics represent and certify that they are duly authorized and have been fully empowered to execute and to deliver this Land Use Restriction.

IN WITNESS THEREOF, the said owner(s) of record of the real property subject to this Declaration of Land Use Restriction, the Djurovics, acting through its duly authorized representatives, have caused the Declaration of Land Use Restriction to be executed this 4 day of Dec, 1996.

The Djurovics

By: _____
Title: _____

By: _____
Title: _____

STATE OF INDIANA)
)
COUNTY OF LAKE)

The foregoing instrument was acknowledged before me this 4 day of December, 1996 by _____ and _____ as duly authorized representatives of the Djurovics.

_____
Notary Public
Joyce A. Furto
Printed Name
Lake
County of Residence

SMACS043

THE GRANTOR Parmey Associates, Ltd., an Indiana limited partnership

for and in consideration of

Ten DOLLARS,

and other good and valuable consideration in hand paid,

CONVEY s and WARRANT s to

Zarija Djurovic of Griffith, Indiana

(The Above Space For Recorder's Use Only)

NAME AND ADDRESS OF GRANTEE

the following described Real Estate situated in the County of Lake in the

Part of the Northwest quarter of the Southeast quarter and Part of the Northeast quarter of the Southeast quarter of Section 2, Township 35 North, Range 9 West of 2nd Principal Meridian, described as follows: Beginning at a point on the East line of said Northwest quarter of the Southeast quarter, 205.01 feet North of the Southeast corner of said Northwest quarter of the Southeast quarter, thence West on a line 205 feet North of and parallel to the South line thereof 703.11 feet, thence North parallel to the East line of said Northwest quarter of the Southeast quarter, 100.01 feet; thence East on a line 305 feet North of and parallel to the South line thereof 703.11 feet to the East line of said Northwest quarter of the southeast quarter, thence East on a line 305 feet North of and parallel to the South line of the Northeast quarter of the Southeast quarter, 216.34 feet to the centerline of Colfax Avenue; thence Southerly on said centerline 107.71 feet; thence West on a line 205 feet North of and parallel to the South line of the Northeast quarter of the Southeast quarter 175.29 feet to the place of beginning; all in the Town of Griffith, Lake County, Indiana.

hereby releasing and waiving all rights under and by virtue of the Homestead Exemption Laws of the State of Illinois

Permanent Real Estate Index Number(s) 01 [illegible]

Address(es) of Real Estate 600 Arbogast, Griffith, Indiana

DATED this 9th day of March 19 87

PLEASE PRINT OR TYPE NAME(S) BELOW SIGNATURE(S)

(SEAL) Parmey Associates, Ltd. (SEAL)
by Parmey Corporation
General Partner

(SEAL) by (SEAL)
Corporate Secretary President

State of Illinois, County of Cook ss. I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that Robert Pazdro

IMPRESS SEAL HERE

personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he signed, sealed and delivered the said instrument as his free and voluntary act, for the uses and purposes therein set forth, including the release and waiver of the right of homestead.

Given under my hand and official seal, this 9th day of March 19 87

Commission expires December 22 19 89

NOTARY PUBLIC C. M. Saternus

This instrument was prepared by Christopher M. Saternus 102 W. Emerson Arlington Hts, IL 60005
NAME AND ADDRESS

MAIL TO

(Name)

(Address)

(City, State and Zip)

SEND SUBSEQUENT TAX BILLS TO

(Name)

(Address)

(City, State and Zip)

RECORDER'S OFFICE BOX NO.

EXHIBIT A

DECLARATION OF LAND USE
RESTRICTION OF REAL PROPERTY

This Declaration is made by CSX Transportation, Inc. ("CSXT"), a Virginia corporation, as owner in fee simple of real estate containing 4.03 acres of land, more or less, described in Exhibit A ("CSXT Property"), forming a part of the real estate commonly known by street address as 420 South Colfax Road, Griffith, Indiana, which comprises a portion of the American Chemical Service Superfund Site ("ACS Site"); and

WHEREAS, the United States Environmental Protection Agency ("U.S. EPA") has determined that there has been an actual or threatened release of hazardous substances as defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. § 9601(14) (1991) ("CERCLA")) from the ACS Site; and

WHEREAS, a Remedial Investigation ("RI") has been conducted at the ACS Site for the purpose of determining the nature and the extent of any release or threatened release of hazardous substances, pollutants or contaminants, and a Feasibility Study ("FS") has been performed for the purpose of identifying and evaluating alternatives for remedial action regarding the prevention or mitigation of the migration, if any, or the release or threatened release of hazardous substances, pollutants or contaminants, if any, at or from the ACS Site; and

WHEREAS, the U.S. EPA has issued a Record of Decision ("ROD") to address actual and threatened releases of hazardous substances to and from the ACS Site; and

MAR 11 1994

WHEREAS, CSXT intends to restrict the use of the CSXT Property so as to reduce the potential for harm arising from alleged actual or threatened releases of hazardous substances from the ACS Site, and to protect public health and the environment;

NOW, THEREFORE, by this instrument there is created, declared and established for the CSXT Property the following land use restriction which shall run with the land and remain in full force and effect in perpetuity from the date hereof, unless the restriction is terminated in accordance with the termination provisions hereof, irrespective of any sale, conveyance, alienation or other transfer of any interest or estate in the CSXT Property.

I. LAND USE RESTRICTION

A. CSXT covenants and declares that the use and occupancy of the CSXT Property hereafter shall be restricted to industrial and commercial purposes and that hereafter the CSXT Property, including groundwater thereunder, shall not be used for residential purposes, until and unless this declaration is terminated in accordance with the provisions for termination set forth below.

B. This declaration is not intended and shall not be construed to be an acknowledgement or admission by CSXT (i) of any release or threatened release of any substance to or from said CSXT Property, or (ii) of an imminent and substantial endangerment to the public health or welfare or the environment.

or (iii) of liability or responsibility for any purpose or in any respect whatsoever.

C. This declaration is made for the benefit of CSXT and nothing herein contained is intended to modify or affect CSXT's rights as lessor under the current lease of the CSXT Property under which American Chemical Services, Inc. is lessee, provided that CSXT hereby further declares that said lease is not for residential use purposes, but only for industrial and/or commercial use purposes.

II. NOTICE AND RECORDATION OF THE LAND USE RESTRICTION

This Declaration of Land Use Restriction shall be recorded in the Office of the Recorder, Lake County, Indiana in the chain of title of the CSXT Property, and by so doing shall constitute notice to the public, anyone hereafter having the right to occupy the CSXT Property and to all successors and assigns of the CSXT Property.

III. TERMINATION

This Declaration shall be construed as a covenant running with the land and binding on all parties having any right, title or interest in the CSXT Property or any part thereof, and on their employees, agents, successors and assigns or persons acting under their direction or control. This Declaration of Land Use Restriction shall be terminated only upon the occurrence of one or the following:

A. The U.S. EPA or its successor agency or assigns with jurisdiction over such matters, (i) confirms in writing

that an environmental cleanup on the ACS Site has been completed, in compliance with current regulatory standards, rendering the CSXT Property suitable for residential use, or (ii) determines that the CSXT Property poses no unacceptable risk for residential use; or

B. The Indiana Department of Environmental Management ("IDEM"), or its successor agency or assigns with jurisdiction over such matters, (i) confirms in writing that an environmental cleanup on the ACS Site has been completed, in compliance with current regulatory standards, rendering the CSXT Property suitable for residential use, or (ii) determines that the CSXT Property poses no unacceptable risk for residential use.

The procedure for clearing the title of this restriction, upon the occurrence of any one of the above events, shall be that the owner(s) of the restricted use property may record an affidavit terminating this restrictive covenant and shall attach thereto the written confirmation or determination described herein as the pre-requisite for termination.

IV. SEVERABILITY

If any provision of this Declaration is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of other provisions hereof; and all such other provisions shall continue in force and effect.

V. CERTIFICATION

The undersigned persons executing this Declaration on behalf of CSXT represent and certify that they are duly authorized and are fully empowered to execute and to deliver this Declaration of Land Use Restriction.

IN WITNESS WHEREOF, CSXT, as the owner of record of the real estate subject to this Declaration of Land Use Restriction, acting through its duly authorized representatives, have caused this instrument to be executed this 4th day of March, 1994.

CSX TRANSPORTATION, INC.

By: Gerald L. Nichols

Name: Gerald L. Nichols

Title: Sr. Vice President

ATTEST: SEAL

By: Joyce A. Dolan

Name: JOYCE A. DOLAN

Title: Assistant/Corporate Secretary

STATE OF FLORIDA)
) SS.
COUNTY OF DUVAL)

I, Robert L. Wheatley, a Notary Public of the State of Florida and the County of Duval, do certify that, on the date below, before me in said County came Gerald L. Nichols, (✓ to me know personally or ( ) satisfactorily proven to me by current evidence (_____) to be the person whose name is subscribed to the above Declaration of Land Use Restriction of Real Property, who, being by me first duly sworn, did make oath, acknowledge and say that: s/he resides in Jacksonville, Duval County, Florida; s/he is Sr. Vice President of CSX Transportation, Inc., the corporation described in and which executed said instrument; s/he is fully informed of the contents of the instrument; s/he knows the seal of said corporation; the seal affixed to said instrument is such seal; it was so affixed by authority of the Board of Directors of said corporation; s/he signed his/her name thereto for said corporation pursuant to such authority; said instrument is the free act and deed of said corporation; and the conveyance herein is not part of a transaction, sale, lease, exchange or other transfer or conveyance of all or substantially all of the property and/or assets of the Grantor.

IN WITNESS WHEREOF, I hereunto set my hand and official seal, this 4th day of March, 1994.

My commission expires on:

Robert L. Wheatley (SEAL)
Notary Public

Robert L. Wheatley
Notary Public, State of Florida
Commission No. CC 138168
My Commission Expires 12/07/97
Bonded Through Fla. Notary Service & Bonding Co.

This instrument was prepared by:

Marvin F. Metge
Gorham, Metge, Bowman & Hourigan
300 West Washington, Suite 1500
Chicago, Illinois 60606
(312) 236-2713

EXHIBIT A

Description of property at: Griffith, Indiana

All that certain land situate in Section 2, Township 35 North, Range 9 West, Lake County, Indiana, more fully described as follows:
BEGINNING at the point of intersection of the west line of Colfax Avenue with the south line of Parcel 'C' as described in exchange deed dated February 19, 1925, between the Chesapeake and Ohio Railway Company and the Grand Trunk Western Railway Company, recorded in Deed Book 354, Page 381; thence in a westerly direction along the south line of Parcel 'C' a distance of 362 ft., more or less, to a corner of Parcel 'C'; thence continuing along the south line of Parcel 'C' in a northwesterly direction a distance of 404 ft., more or less, to the point of intersection of the south line of Parcel 'C' with a line perpedicular to the centerline of the former Chesapeake and Ohio Railway Company's main line track at Valuation Station 7952+17.36; thence South 25° 06' 30" West along said perpendicular line a distance of 333 ft., more or less, to the northwest corner of lands conveyed by the Chesapeake and Ohio Railway Company to American Chemical Service, Inc., dated October 10, 1967; thence with the north line of the American Chemical lands, South 64° 53' 30" East a distance of 761.36 ft. to the west line of Colfax Avenue; thence with the west line of Colfax Avenue, North 25° 06' 30" East a distance of 300 ft., more or less, to the POINT OF BEGINNING.

Appendix B

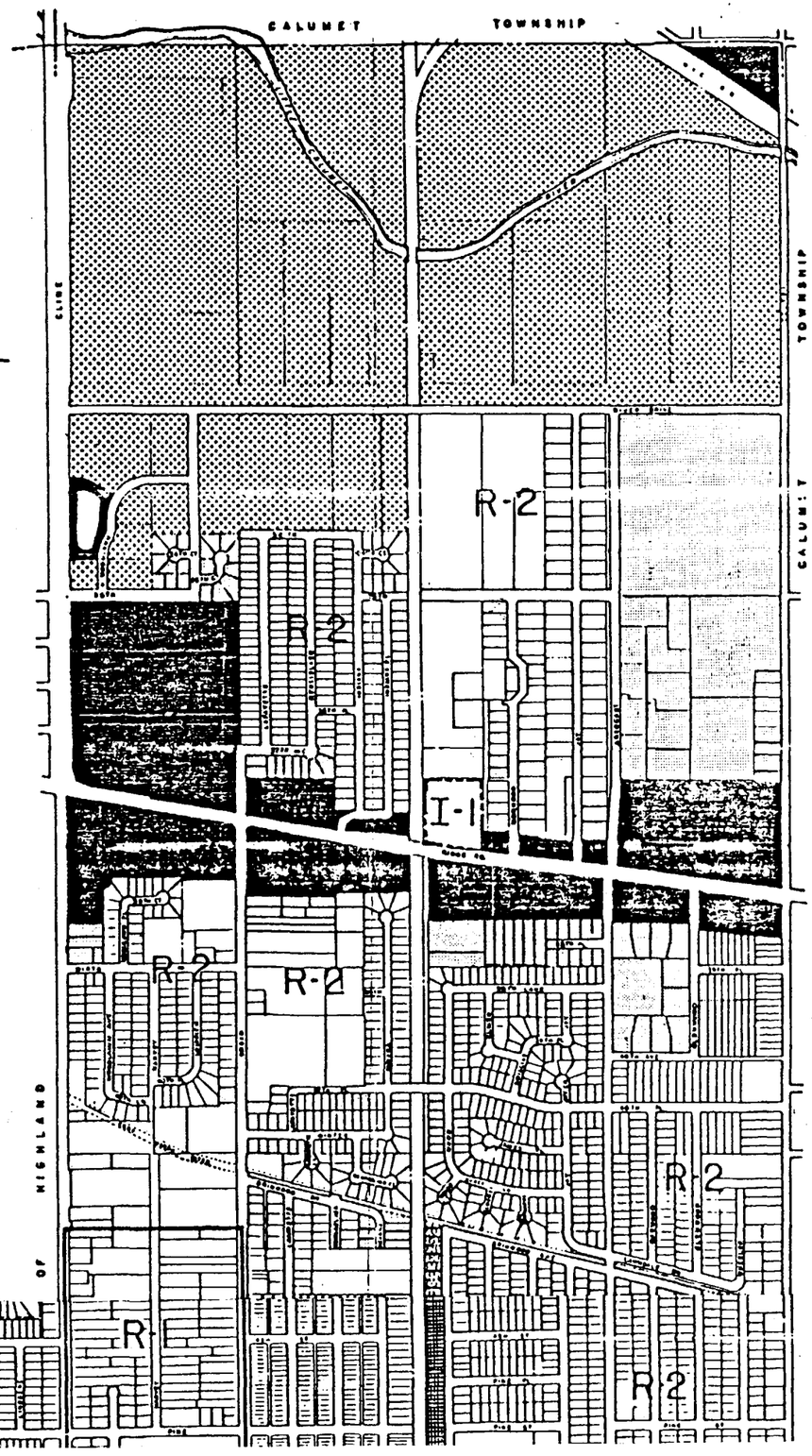
SDMS US EPA REGION V
FORMAT- OVERSIZED - 5
IMAGERY INSERT FORM

The item(s) listed below are not available in SDMS. In order to view original document or document pages, contact the Superfund Records Center.

SITE NAME	AMERICAN CHEMICAL		
DOC ID #	151747		
DESCRIPTION OF ITEM(S)	OVERSIZE SITE MAP		
REASON WHY UNSCANNABLE	__X__ OVERSIZED	OR	___ FORMAT
DATE OF ITEM(S)			
NO. OF ITEMS	1		
PHASE	REM		
PRP			
PHASE (AR DOCUMENTS ONLY)	___ Remedial ___ Removal ___ Deletion Docket ___ AR ___ Original ___ Update # ___ Volume ___ of ___		
O.U.			
LOCATION	Box # 1 Folder # 2 Subsection _____		
COMMENT(S)			
PARTIAL COPY OF OVERSIZED SITE MAP			

ZONING DISTRICT MAP

TOWN OF GRIFFITH, INDIANA



-1996-

TOWN COUNCIL

WAYNE GOVERT
1st Ward

RICHARD C. KONOPASEK
2nd Ward

DAVID BLOUNT
3rd Ward

PATRICIA G. SCHAADT
4th Ward

STANLEY E. DOBOSZ
5th Ward

CLERK - TREASURER

RICHARD J. SZAFARCZYK

DIRECTOR OF PUBLIC WORKS

RON COOPER

TOWN ATTORNEY

JOHN F. HILBRICH

RESIDENTIAL DISTRICTS

- R-1 R-1 ONE-FAMILY
- R-2 R-2 ONE-FAMILY
- R T TWO-FAMILY
- RM-1 MULTIPLE-FAMILY
- RM-2 MEDIUM DENSITY MULTI-FAMILY

NON-RESIDENTIAL DISTRICTS

- OS-1 OFFICE SERVICE
- B-1 LOCAL BUSINESS

Adopted by the Board of Trustees
of the Town of Griffith, Indiana
on the 3rd day of April, 1979.

REVISED : FEBRUARY 5, 1986
JUNE 27, 1989
FEBRUARY 7, 1992
BY : TORRENGA ENGINEERING, INC.

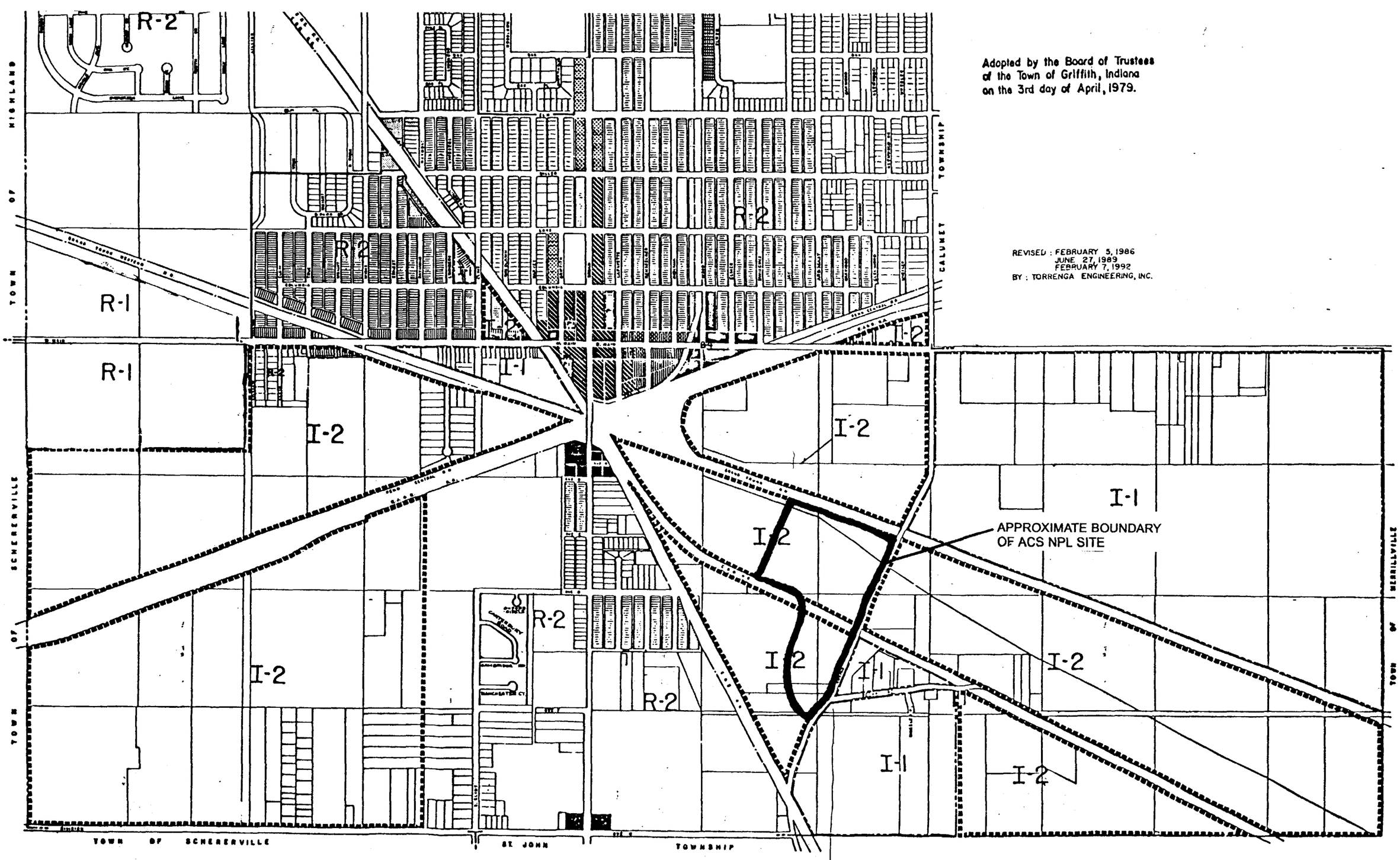


FIGURE 3

APPENDIX B

Chemical-Specific Toxicity Assessments for Chemicals of Concern

Chemical-Specific Toxicity Assessments
for
Chemicals of Concern

Health Effects of Chemicals of Concern

This subsection contains chemical-specific information on the adverse health effects that are caused by each chemical of concern at the American Chemical Services site.

Acetone

Acetone is a commonly used solvent, which probably is not very persistent in the environment. It is considered to have rather low toxicity, and no chronic health hazards have been associated with exposure to it. Acetone is not very toxic to aquatic organisms. (Clement Associates)

Limited human studies have shown that workers exposed to acetone vapors (600 to 2,150 ppm) experienced transient eye and nose irritation. Animals exposed to acetone vapors at 45,134 mg/cu.m experienced slight, but not significant, decreases in organ and body weights. A study by the EPA (1986) showed increased liver and kidney weights and nephrotoxicity. Acetone was administered by gavage for 90 days to groups of albino rats (30/sex/group) at 0, 100, 500, or 2,500 mg/kg/day. Statistical analysis of the absolute and relative organ weight data revealed significantly increased kidney weights for females in the 500 and 2,500 mg/kg/day groups and increased kidney-to-body and brain weight ratios for males and females in the 2,500 mg/kg/day groups. Liver weight and liver/body weight ratios were also increased in the 2,500 mg/kg/day males and females. Histopathologic studies revealed a marked increase in severity in tubular degeneration of the kidneys and hyaline droplet accumulation with increasing doses.

Acetone has a D classification--not classifiable as to human carcinogenicity, based on lack of data concerning carcinogenicity in humans or animals. (IRIS)

Aldrin

Aldrin is an organochlorine insecticide also known as HHDN, Octalene, and Aldrec. Pure Aldrin is a colorless crystalline solid and a 95% mixture is tan to dark brown. 27 micrograms of Aldrin will dissolve in one liter of water, making it very insoluble (ATSDR 1988).

The health effects as related to the noncarcinogenic effects of aldrin are demonstrated by Fitzhugh, et al., (1964). Rats were fed aldrin at levels of 0 to 150 ppm for two years. Liver lesions characteristic of chlorinated insecticide poisoning were observed at dose levels of 0.5 ppm and greater. A statistically significant increase in liver-to-body weight ratio was observed at all dose levels (IRIS 1987).

Regarding the carcinogenic effects of aldrin, human carcinogenicity data are inadequate for evidence of aldrin being a human carcinogen. Animal studies, however, are sufficient to classify aldrin as a probable human carcinogen or group B2.

Orally administered aldrin produced significant increases in tumor responses in three different strains of mice in both males and females. Tumor induction has been observed for structurally related chemicals, including dieldrin, a metabolite.

Ammonia

Ammonia is a colorless gas with a very sharp odor. Ammonia easily dissolves in water, where it changes to ammonium, which is not a gas and does not smell. Eighty percent of all man-made ammonia is used as fertilizer. Ammonia is also used to manufacture synthetic fibers, plastics and explosives. Many cleaning products also contain ammonia. Ammonia does not last very long in the environment. In soil or water, plants and microorganisms rapidly take up ammonia. In the air, ammonia will last about a week. (ATSDR)

Holness et al (1989) investigated production workers exposed to ammonia in a soda ash facility. Since the study was cross-sectional in design with a small population, it is possible that selection bias may have occurred. Therefore the critical effects include decreased pulmonary function or changes in subjective symptomatology could not be established. Broderson et al (1976) exposed groups of F344 rats continuously to 25,50, 150, or 250 ppm ammonia for 7 days prior to inoculation and from 28-42 days after. All levels of ammonia, whether produced naturally or derived from a purified source, significantly increased the severity of rhinitis, otitis media and a pneumonia. Furthermore, there was a significant concentration response between observed respiratory lesions and increasing environmental ammonia concentration for gross and microscopic lesions.

This substance has not undergone a complete carcinogenic evaluation and determination under US EPA's IRIS program for evidence of human carcinogenic potential.

Antimony

Antimony is a naturally occurring metal that is used in various manufacturing processes. It exists in valence states of 3 and 5 (Budavari, 1989; ATSDR, 1990). Antimony is transported in the blood, its distribution varying among species and dependent on its valence state (Felicetti et al., 1974b). It is not metabolized but may bind to macromolecules and react covalently with sulfhydryl and phosphate groups (ATSDR, 1990).

Acute oral exposure of humans and animals to high doses of antimony or antimony-containing compounds (antimonials) may cause gastrointestinal disorders (vomiting, diarrhea), respiratory

difficulties, and death at extremely high doses (Bradley and Frederick, 1941; Beliles, 1979; ATSDR, 1990). Subchronic and chronic oral exposure may affect hematologic parameters (ATSDR, 1990). Long-term exposure to high doses of antimony or antimonials has been shown to adversely affect longevity in animals (Schroeder et al., 1970). Limited data suggest that prenatal and postnatal exposure of rats to antimony interferes with vasomotor responses (Marmo et al., 1987; Rossi et al., 1987).

Acute inhalation exposure of humans may cause gastrointestinal disorders (probably due to ingestion of airborne antimony) (ATSDR, 1990). Long-term occupational exposure of humans has resulted in electrocardiac disorders, respiratory disorders, and possibly increased mortality (Renes, 1953; Breiger et al., 1954). Antimony levels for these occupational exposure evaluations ranged from 2.2 to 11.98 mg Sb/m^3. Based on limited data, occupational exposure of women to metallic antimony and several antimonials has reportedly caused alterations in the menstrual cycle and an increased incidence of spontaneous abortions (Belyaeva, 1967).

No data were available indicating that dermal exposure of humans to antimony or its compounds results in adverse effects. However dermal application of high doses of antimony oxide (1,584 mg Sb/kg) resulted in the death of rabbits within one day (IBTL, 1972). Eye irritation due to exposure to stibine gas and several antimony oxides has been reported for humans (Stevenson, 1965; Potkonjak and Pavlovich, 1983).

Aroclor - 1242

Arochlor 1242 is a synonym for polychlorinated biphenyls (PCBs–see below).

Aroclor 1248

In general, Rhesus monkeys have shown adverse effects to PCB mixtures at doses 10-fold lower than in other species. Schantz et al. (1989) evaluated neurobehavioral performance in offspring of rhesus monkeys that had been exposed to 0.03, 0.1 and 0.2 mg/kg-day of dietary Aroclor 1248 for different durations. Mild dermatological lesions and hyperpigmentation about the hairline developed in offspring in all the treated groups during nursing, but no signs of toxicity were evident at the time of neurological testing (age 14 months). Necropsy of the infants who died showed signs of PCB intoxication that included thymic atrophy and skin hyperpigmentation. Offspring weights at birth and weaning were significantly reduced in Group III (0.2 mg/kg-day). Decreased performance on a shape discrimination problem was observed in Group III when irrelevant cues were inserted.

This substance has not undergone a complete evaluation and determination under US EPA's IRIS program for evidence of human carcinogenic potential.

Aroclor 1254

Human data available for risk assessment of Arochlor 1254 are useful only in a qualitative manner. Studies of the general population who were exposed to PCBs by consumption of contaminated food, particularly neurobehavioral evaluations of infants exposed inutero and/or through lactation, have been reported, but the original PCB mixtures, exposure levels and other details of exposure are not known. Most of the information on health effects of PCB mixtures in humans is available from studies of occupation exposure. Some of these studies examined workers who had some occupational exposure to Arochlor 1254, but sequential or concurrent exposure to other Arochlor mixtures nearly always occurred, exposure involved dermal as well as inhalation routes (relative contribution by each route not known), and monitoring data are lacking or inadequate. Insufficient data are available in these studies to determine possible contributions of Aroclor 1254 alone, extent of direct skin exposure and possible contaminants. However, it is relevant to note that dermal and ocular effects, including skin irritation, chloracne, hyperpigmentation and eyelid and conjunctival irritation, have been observed in humans occupationally exposed to Aroclor 1254 and other Aroclor formulas. This substance has not undergone a complete evaluation and determination under US EPA's IRIS program for evidence of human carcinogenic potential.

There is a range of noncarcinogenic health effects. Monkeys that ingested 0.005-0,08 mg/kg-day doses of Aroclor 1254 showed ocular exudate, prominence and inflammation of the Meibomian glands and distortion in nail bed formation. These changes were seen at the lowest dose tested, 0.005 mg/kg-day, and a dose-dependent response was demonstrated. Similar changes have been documented in humans for accidental oral ingestion of PCBs.

Aroclor 1260

Aroclor 1260 is a synonym for polychlorinated hydrocarbons (PCBs–see below).

Arsenic

Arsenic is a naturally-occurring metalloid element. Pure arsenic is not commonly found in the environment. It is usually found combined with one or more other elements, such as oxygen, chlorine, or sulphur. Arsenic combined with these elements is referred to as inorganic arsenic, while arsenic combined with carbon and hydrogen is referred to as organic arsenic. The organic arsenic forms are usually less toxic than the inorganic forms.

The results of human studies indicate that doses as low as 20 to 60 ug/kg/day may produce the characteristic signs of arsenic toxicity, including gastrointestinal irritation, anemia, neuropathy, skin lesions, vascular lesions, and lipidic or renal injury. There does not appear to be a strong trend toward cumulative toxicity because doses of about 50 ug/kg/day produce similar effects after both short and long-term exposure. In most cases of subchronic or chronic exposure, many or all of the

signs of arsenic toxicity are detected together, indicating systemic end points are similar. Doses of about 10 ug/kg/day do not generally cause measurable signs of arsenic intoxication.

Many reports indicate that dermal exposure to inorganic arsenic compounds leads to dermatitis. However, none of these reports provides quantitative information on dose-duration relationships.

Arsenic is classified as a known carcinogen (Category A) under the Risk Assessment Guidelines of 1986. Studies have indicated that skin cancer prevalence is proportional to arsenic exposure level. Other studies show the same results, with increased frequency of skin cancer or internal cancer in individuals exposed to water containing 0.3 mg/l or more. Failure to detect significant increases at lower doses may be due to lack of statistical power in the studies, or it could suggest that arsenic-induced cancers have a threshold dose.

Many studies report above-average lung cancer rates in groups of people with above-average exposure to airborne arsenic. It has been concluded that arsenic is a more potent lung carcinogen than previously believed, with a dose-response relationship concave downward at exposure levels below 10,000 ug/m^3/year. The relationship between lung cancer an urinary arsenic levels was linear, suggesting that bioavailability and lung absorption of arsenic tend to be proportionately greater at low exposure levels than at high exposure levels.

EPA has established a maximum contaminant level (MCL) of 0.05 mg/L for arsenic.

Barium

Barium is a silvery white metallic element which oxidizes very easily. It is one of the less expensive metals that have the distinctive properties of absorbing gases. It belongs to the alkaline earth group, resembling calcium chemically. The most important compounds are peroxide, chloride, sulfate, carbonate, nitrate, and chlorate. Traces of barium are very widely distributed.

Compounds of barium can be highly toxic. The fatal dose of $BaCl_2$ for man is reported to be between 0.8 and 0.9 g (0.55 to 0.6 g as Ba).

Soluble barium compounds are very toxic to humans after exposure by inhalation or ingestion. The greatest effect of barium poisoning is a strong, prolonged stimulant action on muscle. Effects on the hematopoietic system and cerebral cortex of humans have also been reported. Inhalation of barium sulfate dust, barium oxide dust, and barium carbonate gives rise to baritosis, a benign pneumoconiosis and occupational disease.

Baritosis was first described in Italy. Baritosis was later reported in the United Stated in bariet miners by Pendergrass Leopold, in Germany, and in Czechoslovakia. Baritosis also occurred among workers handling lithopone. Baritosis causes no specific symptoms and no changes in pulmonary function.

Brenniman, et al., concluded that there was no statistically significant difference in blood pressure between humans ingesting drinking water containing barium at 7.3 mg/L compared with 0.1 mg/L. A concentration of 7.3 mg/L corresponds to a dose of 0.20 mg/kg/day (assuming that a 70-kg adult drinks 2 L/day).

Perry, et al., exposed weaning rats to barium at 1, 10, or 100 ppm in drinking water for up to 16 months (average daily barium doses of 0.051, 0.51, and 5.1 mg/kg, respectively). There were no signs of toxicity at any barium dose level. Systolic blood pressure measurements revealed no increase in pressure in animals exposed to 1 ppm barium for 16 months, an increase of 4 mm Hg ($p<0.01$) in animals exposed to 10 ppm barium for 16 months, and an increase of 16 mm HG ($p<0.001$) in animals exposed to 100 ppm barium for 16 months. The animals in this study were maintained in a special contaminant-free environment and fed a diet designed to reduce exposure to trace metals. It is possible that the restricted intake of certain beneficial metals (e.g., calcium and potassium) may have predisposed the test animals to the hypertensive effects of barium.

No evidence of the carcinogenicity of barium could be located in the literature.

EPA has established an MCL of 2 mg/L for barium.

Benzene

Benzene is an important industrial solvent and chemical intermediate. It is rather volatile, and atmospheric photoxidation is probably the most important fate process. Benzene is a known human carcinogen, causing leukemia in exposed individuals. It also adversely affects the hematopoietic system. Benzene has been shown to be fetotoxic and to cause embryolethality in experimental animals. Exposure to high concentrations of benzene in the air causes central nervous system depression and cardiovascular effects, and dermal exposure may cause dermatitis.

Acute inhalation exposure to benzene at concentrations from 50 to 3, 000 ppm results in a range of effects on the nervous system, depending on level and duration. Common signs include dizziness, nausea, headache, sleepiness, and loss of coordination. These effects are generally fully reversible, although exposure to a very high level (20,000ppm) can induce coma and even cause death. Long-term exposure to lower levels of benzene can injure the hematopoietic (blood forming) system. Panytopenia, aplastic anemia, and other abnormalities of blood cells have been reported to occur more

frequently in groups of workers exposed to benzene in the workplace at levels perhaps as low as 20 to 30ppm. (Goldwater, Aksoy, and Goldstein). Similar blood dyscrasia have been reported in many animal studies of inhalation exposure to levels of around 100 ppm or higher or oral doses of 50 to 500 mg/kg/day (Wolfe, 1956; NTP, 1986a). Abnormalities in the immune system have also been detected in humans and animals exposed to benzene (ATSDR 1987). (App A)

Benzene is classified as a known human carcinogen (Category A) under the Risk Assessment Guidelines of 1986. Under the proposed revised Carcinogen Risk Assessment Guidelines (USEPA, 1996), Benzene is characterized as a known human carcinogen for all routes of exposure based upon convincing evidence as well as supporting evidence from animal studies. Epidemiologic studies and case studies provide clear evidence of a causal association between exposure to benzene and acute nonlymphocytic leukemia (ANLL) and also suggest evidence for chronic nonlymphocytic leukemia (CNLL). Other neoplastic conditions that are associated with an increased risk in humans are hematologic neoplasms, blood disorders such as preleukemia and aplastic anemia, Hodgkin's lymphoma, and myelodysplastic syndrome (MDS). These human data are supported by animal studies. The experimental animal data add to the argument that exposure to benzene increases the risk of cancer in multiple species at multiple organ sites (hematopoietic, oral and nasal, liver, forestomach, preputial gland, lung, ovary, and mammary gland). It is likely that these responses are due to interactions of the metabolites of benzene with DNA. Recent evidence supports the viewpoint that there are likely multiple mechanistic pathways leading to cancer and, in particular, to leukemogenesis from exposure to benzene. (IRIS)

Beryllium

Beryllium, one of the lightest of metals, is widely distributed geographically, and has found wide application in industry. Some features that have contributed to its wide use in industry are that it is a stable lightweight metal with a high melting point, it has a high strength to weight ratio, and it imparts resistance to corrosion, vibration, and shock when alloyed with other metals.

Beryllium usually exists in nature as a compound. Bextrandixe and beryl ores are used commercially for obtaining beryllium. Beryllium is also found in coal and gasoline. Common forms of beryllium are beryllium oxide, fluoride, and hydroxide.

Although beryllium is a naturally-occurring substance, the major source of its emission to air is the combustion of coal and fuel oil, which releases particulates and fly ash containing beryllium into the atmosphere. The average concentration of beryllium in coal is 1.8 - 2.2 micrograms per gram. Fuel oil can contain 0.08 ppm beryllium. The beryllium released from coal combustion is likely to be in the form of beryllium oxide. Beryllium oxide is relatively insoluble and would not be mobilized in soil or surface water at normal pH ranges. It is believed that most environmental beryllium is present

in an insoluble form. This is substantiated by empirical data which indicate that even in polluted rivers, dissolved beryllium levels are very low. In most types of soils, beryllium is expected to be tightly adsorbed because it displaces divalent cations which share common adsorption sites. Removal of beryllium from the atmosphere results from wet and dry deposition. No evidence was found that any environmental process results in the volatilization of beryllium into the atmosphere from water or soil.

Exposure to beryllium may lead to certain toxic effects, such as cellular necrosis. Schroeder and Mitchner (1975) orally administered beryllium (as beryllium sulfate) to rats at dose levels of 0 and 0.54 mg/kg/day. The exposure was for a lifetime, after which the rats were observed for changes in the heart, kidney, liver, and spleen. There were no effects of treatment on these organs nor on the number of tumors, the life span, urinalysis, serum glucose, cholesterol, and uric acid.

Occupational exposure to beryllium may lead to beryllium sensitization and progression to chronic beryllium diseases. Chronic beryllium disease is a chronic inflammatory lung lesion that can result from inhalation exposure to beryllium. Short-term human and animal exposures to high levels of beryllium leads to development of inflammation or reddening and swelling of the lungs (similar to pneumonia). A skin allergy has been shown to develop when beryllium comes in contact with the skin.

Beryllium is classified as a probable human carcinogen (Category B2), based on limited evidence of carcinogenicity in humans exposed to airborne beryllium (lung cancer) and sufficient evidence of carcinogenicity in animals.

EPA has established an MCL of 0.004 mg/L for beryllium.

Bis (2-chloroethyl) ether

Bis (2-chloroethyl) ether was used in the past as a soil fumigant and is now used as a solvent and chemical reagent. It is fairly soluble in water and is probably moderately persistent in the environment. It caused an increased incidence of liver tumors in male mice following oral administration, and it was found to mutagenic using the Ames assay. In the air, it is irritating to the eyes and nasal passages and when inhaled can damage the lungs, liver, kidneys and brain. (Clement Associates)

There is little information available concerning the environmental transport and fate of bis (2-chloroethyl) ether and the relative importance of the various transport and fate processes. Some volatilization of this compound form aquatic and terrestrial systems, and subsequent atmospheric transport probably can occur. Because it is somewhat soluble in water, bis (2-chloroethyl) ether can migrate through the soil. Direct photolysis is not expected to take place in the atmosphere or in surface

waters. However photooxidation of the bis(2-chloroethyl) ether that reaches the trophosphere is likely to occur. Slow hydrolytic cleavage of the carbon-chlorine bonds can occur and is probably the most important aquatic fate. Adsorption on particulate matter does not appear to be a significant environmental transport process. A limited amount of indirect evidence suggests that bis(2-chloroethyl) ether has little potential for bioaccumulation. Available information is not adequate to characterize the importance of biodegradation as a fate process. It is reported that significant degradation can occur in aquatic systems after a period of acclimation.

Bis (2-chloroethyl) ether has a B2 classification--probable human carcinogen based on positive carcinogenicity results in two strains of mice and evidence of mutagenicity.(IRIS)

Bis (2-ethylhexyl) phthalate

Bis (2-ethylhexyl) phthalate, is a phthalate ester also known as DEHP, dioctyl phthalate, di-n-butylphthalate, and octoil. Bis (2-ethylhexyl) phthalate is a non-volatile, colorless liquid, only slightly soluble in water. It is widely used as a plasticizer for polyvinyl chloride and other polymers and is likely to be released to air and water during production and waste disposal of these plastic products. Bis (2-ethylhexyl) phthalate will be carried long distances and be removed by rain. Carpenter et al (1953) conducted chronic oral toxicity studies on rats, guinea pigs, and dogs. The guinea pigs were fed diets containing bis(2-ethylhexyl) phthalate for a period of one year at levels corresponding to 19 and 64 mg/kg/day. Significant increases were observed in relative liver weights in both treated groups. Groups of rats were maintained for 2 years on diets containing bis(2-ethylhexyl) phthalate. The results of this study demonstrated that guinea pigs offer the most sensitive animal model. (App A)

There is inadequate human carcinogenicity data for bis(2-ethylhexyl) phthalate. A mortality study conducted by Thiess et al (1978) was limited by a short follow-up period and unquantified bis (2-ethylhexyl) phthalate worker exposure. In a NTP (1982) study, rats and mice were fed diets containing bis(2-ethylhexyl) phthalate for 102 weeks. A statistically significant increase in the incidence of hepatocellular carcinomas and combined incidence of carcinomas and adenomas were observed in female rats and both sexes of the mice. Based on a significant oral dose related increase in liver tumor responses in rats and mice, USEPA classified bis(2-ethylhexyl) phthalate as B2-probably human carcinogen. (IRIS)

Cadmium

Cadmium is a silver-blue-white metal. Pure metallic cadmium is not common in the environment. It is most often encountered in combination with other elements such as oxygen, chlorine, and sulfur. Metallic cadmium has a low melting point for metal and is insoluble in water.

U.S. EPA conducted a toxicokinetic model to determine the highest level of exposure associated with a lack of proteinuria of the human renal cortex (i.e., the critical effect).

Human epidemiological studies of cadmium smelter workers supply limited evidence of human studies human lung carcinogenicity. The study by Thun et al. (1985) was reported by the U.S. EPA Carcinogen Assessment Group as not adequately accounting for the possibilities of confounding factors due to the presence of arsenic or to smoking. Other studies have linked cadmium with prostate cancer, and again lung cancer; however, these studies also did not take the presence of other carcinogens into effect.

Chloroform

Chloroform is a colorless, volatile liquid that is widely used as a general solvent and as an intermediate in the production of refrigerants, plastics, and pharmaceuticals (Torkelson and Rowe, 1976; IARC, 1976). Chloroform is rapidly absorbed from the lungs and the gastrointestinal tract, and to some extent through the skin. It is extensively metabolized in the body, with carbon dioxide as the major end product. The primary sites of metabolism are the liver and kidneys. Excretion of chloroform occurs primarily via the lungs, either as unchanged chloroform or as carbon dioxide (ATSDR, 1989).

Target organs for chloroform toxicity are the liver, kidneys, and central nervous system. Liver effects (hepatomegaly, fatty liver, and hepatitis) were observed in individuals occupationally exposed to chloroform (Bomski et al., 1967). Several subchronic and chronic studies by the oral or inhalation routes of exposure documented hepatotoxic effects in rats, mice, and dogs (Palmer et al., 1979; Munson et al., 1979; Heywood et al., 1979). Renal effects were reported in rats and mice following oral and inhalation exposures (Roe et al., 1979; Reuber, 1976; Torkelson et al., 1976), but evidence for chloroform-induced renal toxicity in humans is sparse. Chloroform is a central nervous system depressant, inducing narcosis and anesthesia at high concentrations. Lower concentrations may cause irritability, lassitude, depression, gastrointestinal symptoms, and frequent and burning urination (ATSDR, 1989).

Developmental toxicity studies with rodents indicate that inhaled and orally administered chloroform is toxic to dams and fetuses. Possible teratogenic effects were reported in rats and mice exposed to chloroform by inhalation (Schwetz et al.; 1974; Murray et al., 1979). Chloroform may cause sperm abnormalities in mice and gonadal atrophy in rats (Palmer et al, 1979; Reuber, 1979; Land et al., 1981).

A Reference Dose (RfD) of 0.01 mg/kg/day for subchronic and chronic oral exposure was calculated from a lowest-observed-adverse-effect level (LOAEL) of 15 mg/kg/day based on fatty cyst formation

in the liver of dogs exposed to chloroform for 7.5 years (Heywood et al., 1979). Development of an inhalation Reference Concentration (RfC) is presently under review (U.S. EPA, 1992b).

Epidemiological studies indicate a possible relationship between exposure to chloroform present in chlorinated drinking water and cancer of the bladder, large intestine, and rectum. Chloroform is one of several contaminants present in drinking water, but it has not been identified as the sole or primary cause of the excess cancer rate (ATSDR, 1989; U.S. EPA, 1985). In animal carcinogenicity studies, positive results included increased incidences of renal epithelial tumors in male rats, hepatocellular carcinomas in male and female mice, and kidney tumors in male mice (Jorgensen et al., 1985; Roe et al., 1979; NCI, 1976).

Based on U.S. EPA guidelines, chloroform was assigned to weight-of-evidence Group B2, probable human carcinogen, on the basis of an increased incidence of several tumor types in rats and in three strains of mice. The carcinogen slope factor (q_1*) for chloroform is 6.1E-3 $(mg/kg/day)^{-1}$ for oral exposure (U.S. EPA, 1992b) and 8.1E-2 $(\mu g/m^3)^{-1}$ for inhalation exposure (U.S. EPA, 1992a). An inhalation unit risk of 2.3E-5 $(g/m^3)^{-1}$ is based on hepatocellular carcinomas in mice in an oral gavage study (U.S. EPA, 1992b).

Copper

Copper is a reddish metal that occurs naturally in rock, soil, water, sediment, and air. Its average concentration in the earth's crust is about 50 parts per million. Copper has the ability to alloy with many metals, such as zinc, tin, and beryllium. Next to copper metal, copper sulfate is the most commercially important use of copper. Copper sulfate is also produced as a by-product of copper production by ore-leaching with sulfuric acid.

There are a number of human cases where they were exposed to levels of copper. For example, cases where the single dose was estimated to be between 0.1 mg/kg and 0.14 mg/kg, symptoms of diarrhea, vomiting, and nausea were common.

High levels of copper can be toxic to humans. Metallic copper dust exposure can cause illness similar to metal fume fever which includes chills, fever, aching muscles, dryness of mouth, and headache. Exposure to copper fumes produces respiratory tract irritation, nausea, metal fume fever, and discoloration of skin and nails. More serious systematic toxic effects include hemolysis, hepatic narcosis, gastrointestinal bleeding, hermaturia, proteinuria, convolutions, and death.

Little information exists concerning subchronic toxicity of copper in the usual laboratory species. The one study in the literature that used rats noted an accumulation of copper in the liver and kidney but no accumulation was found in the cornea or brain. No criteria of toxicity was mentioned. Several

studies on pigs revealed accelerated weight gain at dosed between 1.8 – 3.2 mg/kg/day. At 5.5 mg/kg/day, reduced growth and hemoglobin levels were noted, as well as increased liver copper concentrations.

Chromium

The ammonium and alkali metal salts of hexavalent chromium are generally water-soluble, but the alkaline metal salts (calcium, strontium) are sparingly soluble or insoluble in water. Hexavalent chromium rarely occurs in nature apart from man-made sources because it is readily reduced in the presence of oxidizable organic matter; however, hexavalent chromium compounds that occur most commonly in the form of chromate and dichromate are stable in many natural waters because of the low concentration of reducing matter. Except acetate and nitrate salts, the trivalent chromium compounds are generally insoluble in water. In most biological systems, chromium is present in the trivalent form. The physical or chemical forms and the mode by which chromium (III) compounds are incorporated into biological systems are poorly characterized.

Chromium occurs naturally in the earth's crust. Continental dust is the primary source of natural chromium present in the environment; however, chromium is released to the environment because of human activities in much larger amounts. Chromium is primarily removed from the atmosphere by fallout and precipitation. Atmospheric chromium removed by physical processes predominantly enters surface water or soil; however, before their removal, chromium particles of aerodynamic diameter less than 20 um may remain airborne for long periods and may be transported long distances.

Because there are no known chromium compounds that can volatilize from water, transport of chromium from water to the atmosphere is not likely other than by transport in windblown sea sprays. Most of the chromium (III) is eventually expected to precipitate in sediments. Small amounts of chromium (III) may remain in solution as soluble complexes. Chromium (VI) will be present predominantly in soluble form. These soluble forms of chromium may be stable enough to undergo intramedia transport; however, organic matters present in water will eventually reduce chromium (VI) to chromium (III). It has been estimated that the residence time of chromium in lake water is from 4.6 to 18 years.

Chromium probably occurs as insoluble $Cr_2O_3 H_2O$ in soil because the organic matter in soil is expected to convert soluble chromate to insoluble Cr_2O_3. Chromium in soil may be transported to the atmosphere in the aerosol form, and runoff and leaching may transport chromium from soil to surface waters and groundwater. Runoff could remove both soluble and bulk precipitate with final deposition on either a different land area or a water body. Flooding of soils and the subsequent anaerobic decomposition of plant matter may increase mobilization of chromium in soils because of the formation of soluble complexes. The half-life of chromium in soils may be several years.

Chronic oral studies of chromium compounds have not identified any adverse effects on toxicological end points including body and organ weights, clinical chemistry values, and histologic appearance of tissue. Chromium (hexavalent) compounds can cause DNA and chromosome damage in animals and humans. Inhalation of hexavalent chromium salts cause inflammation and irritation of the nasal mucosa, and ulceration and perforation of the nasal septum. Hexavalent chromium also produces kidney damage in humans and animals. Chromium (III), which is less toxic than hexavalent chromium, causes dermatitis in humans upon contact.

Studies indicate that oral chromium (VI) may result in reproductive toxicity. Inhalation exposure has several key effects including respiratory tract effects, irritation of the nasal mucosa; transient decreases in lung function; and induction of cancer. Many cases of nasal mucosal ulceration and perforation have been reported in workers exposed to chromium (VI). Slight effects on lung function have also been observed in exposed workers.

Studies of chromosome effects in lymphocytes of workers exposed to chromium (VI) have given mixed results. In vitro assays for gene mutations, chromosome effects, and cell transformation have consistently given positive results for chromium (VI) and negative results for chromium (III). The positive dominant lethal study considered with positive results in human somatic cells raises concern that chromium (VI) may be a potentially human germ-cell mutagen.

Hexavalent chromium is classified as a known human carcinogen (Category A) by the inhalation route under the Risk Assessment Guidelines of 1986. Carcinogenicity by the oral route of exposure cannot be determined and is classified as Group D.

Applying the criteria for evaluating the overall weight of evidence for carcinogenicity to humans outlined in EPA's guidelines for carcinogen risk assessment (U.S. EPA, 1986), trivalent chromium is most appropriately designated a Group D – Not classified as to its human carcinogenicity. Using the Proposed Guidelines for Carcinogen Risk Assessment (EPA, 1996), there are inadequate data to determine the potential carcinogenicity of trivalent chromium, as discussed below. However, the classification of hexavalent chromium as a known human carcinogen raises a concern for the carcinogenic potential of trivalent chromium.

EPA has established an MCL of 0.1 mg/L for chromium (total).

Di-n-octyl phthalate

Di-n-octyl phthalate is an aromatic dicarboxylic acid ester. It is a liquid with a very high boiling point and a very low vapor pressure that is sometimes mistakenly reported as its isomer, bis(2-ethylhexyl)

phthalate, in the literature. No information on the environmental fate or the health effects could be located in the literature. (Clement Associates)

Ethylbenzene

Ethylbenzene has a strong tendency to partition into the atmosphere, as indicated by its physical and chemical properties and the magnitude of the Henry's Law constant. Migration occurs in most soils, although sorption and retardation by soil organic carbon may occur to a small extent. Ethylbenzene is transported in the atmosphere until it is removed by physical or chemical processes.

Inhalation exposure of humans to ethylbenzene at concentrations of 230 ppm and above causes eye and throat irritations and vertigo. A variety of acute and subchronic inhalation exposures in rats, mice, and rabbits indicate that ethylbenzene causes toxicity to lungs, liver, kidney, and hematological systems. Ethylbenzene did not elicit embryotoxicity, fetotoxicity, or teratogenicity in rabbits when exposed to either 100 or 1,000 ppm; however, there was a reduced number of live rabbit kits per litter. In rats exposed only during gestation, there were no histopathological effects in any of the maternal organs when exposed to either 100 or 1,000 ppm. However, the fetuses had an increased incidence of extra ribs in both the high or 100 ppm groups. Also, both absolute and relative liver, kidney, and spleen weights were significantly increased in pregnant rats for the 1,000 ppm group. Skeletal variants were observed at both 100 and 1,000 ppm in the rats with the effects at 100 ppm being reduced compared with those occurring at 1,000 ppm.

Oral exposure in female rats showed histopathologic changes in the liver and kidney. Confidence in the oral study is low because rats of only one sex were tested and the experiment was not of chronic duration.

No data are available on the effects of dermal exposure of humans to ethylbenzene. A single study of dermal exposure to ethylbenzene in rabbits found irritation and blistering to the skin and eye.

No data are available on the carcinogenicity of ethylbenzene to humans; therefore, it is classified in Class D, not classifiable as to human carcinogenicity. The National Toxicology Program has plans to evaluate the rodent carcinogenicity of ethylbenzene (IRIS 1998).

EPA has established an MCL of 0.7 mg/L for this chemical.

4-Methyl-2-Pentanone

4-methyl-2-pentanone is a synonym for methyl isobutyl ketone or MIBK. It produced kidney damage in exposed rats. In humans, exposure has produced headaches, nausea, vomiting and eye irritations. MIBK in general is not very persistent in the environment. It is expected to volatilize fairly readily.

However, because it is somewhat soluble in water, volatilization form wet environments is probably limited. Once in the atmosphere, it is apparently oxidized. MIBK has a low octanol/water partition coefficient and therefore is probably not readily absorbed. Biodegradation is probably the predominant fate of MIBK in the environment. No studies of carcinogenicity were found in the literature. Kidney damage was observed in rats exposed to 400 mg/m3 of MIBK for 2 weeks but the damage appeared to be reversible. MIBK caused headache, nausea, vomiting, and eye irritation in a number of workers exposed to concentrations of 200 to 2,000 mg/m3. MIBK is probably also not very toxic to aquatic species or to terrestrial animals. (Clement Associates)

Pentachlorophenol

Pentachlorophenol is probably persistent in the natural environments. It is embryotoxic and fetotoxic. Chronic exposure has been shown to cause chloracne, headache, muscle weakness, weight loss, and liver and kidney damage. Pentachlorophenol is highly toxic to aquatic organisms. (Clement Associates)

The critical effect of pentachlorophenol is liver and kidney pathology according to a rat oral chronic study by Schwetz et al (1978).

Only one chronic study regarding oral exposure was located in the available literature. Twenty-five rats/sex were administered 1 of 3 doses in the diet. At the 30 mg/kg/day level of treatment, a reduced rate of body weight gain and increased specific gravity of the urine were observed in females. Pigmentation of the liver and kidneys was observed in females exposed at 10 mg/kg/day or higher levels and in males exposed to 30 mg/kg/day. The 3 mg/kg/day level of exposure was reported as a chronic NOAEL. A number of studies that have investigated the teratogenicity of orally administered pentachlorophenol in rodents are available in the literature. Although these studies did not reveal teratogenic effects, fetomaternal toxicity was seen at 30 mg/kg/day. Since pentachlorophenol apparently does not cross the placental barrier, the observed fetotoxicity may be a reflection of maternal toxicity.

The classification, B2–probable human carcinogen, is based on inadequate human data and sufficient evidence of carcinogenicity in animals: statistically significant increases in the incidences of multiple biologically significant tumor types (hepatocellular adenomas and carcinomas, adrenal medulla pheochromocytomas and malignant pheochromocytomas, and/or hemangiosarcomas and hemangiomas) in one or both sexes of B6C3F1 mice using two different preparations of pentachlorphenol (PeCP). In addition, a high incidence of two uncommon tumors (adrenal medulla pheochromocytomas and hemangiomas/hemangiosarcomas) was observed with both preparations. This classification is supported by mutagenicity data, which provides some indication that PeCP has clastogenic potential.

Polychlorinated Biphenyls (PCBs)

This is a general assessment of PCBs, which include a wide variety of substances. Chemical-specific information is contained within individual listings. PCBs are classified B2, probable human carcinogens. A 1996 study found liver tumors in female rats exposed to Aroclors 1260, 1254, 1242, and 1016, and in male rats exposed to Aroclor 1260. These mixtures contain overlapping groups of congeners that, together, span the range of congeners most often found in environmental mixtures. Earlier studies found high, significantly significant incidences of liver tumors in rats ingesting Aroclor 1260 or Clophen A 60. Mechanistic studies are beginning to identify several congeners that have dioxin-like activity and may promote tumors by different modes of action. PCBs are absorbed through ingestion, inhalation, and dermal exposure, after which they are transported similarly through the circulation. This provides a reasonable basis for expecting similar internal effects from different routes of environmental exposure. Information on relative absorption rates suggests that differences in toxicity across exposure routes is small. The human studies are being updated; currently available evidence is inadequate, but suggestive. (IRIS)

Tetrachloroethene

Tetrachloroethene is a synonym of tetrachloroethylene. Tetrachloroethylene (CAS No. 127-18-4) is a halogenated aliphatic hydrocarbon with a vapor pressure of 17.8 mm Hg at 25C (U.S. EPA, 1982). The chemical is used primarily as a solvent in industry and, less frequently, in commercial dry-cleaning operations (ATSDR, 1990). Occupational exposure to tetrachloroethylene occurs via inhalation, resulting in systemic effects, and via dermal contact, resulting in local effects. Exposure to the general population can occur through contaminated air, food and water (ATSDR, 1990).

The respiratory tract is the primary route of entry for tetrachloroethylene (NTP, 1986; U.S. EPA, 1988). The chemical is rapidly absorbed by this route and reaches an equilibrium in the blood within 3 hours after the initiation of exposure (Hake and Stewart, 1977). Tetrachloroethylene is also significantly absorbed by the gastrointestinal (g.i.) tract, but not through the skin (Koppel et al., 1985; ATSDR, 1990). The chemical accumulates in tissues with high lipid content, where the half-life is estimated to be 55 hours (Stewart, 1969; ATSDR, 1990), and has been identified in perineal fat, brain, liver, placentofetal tissue, and amniotic fluid (Savolainen et al., 1977). The proposed first step for the biotransformation of tetrachloroethylene is the formation of an epoxide thought to be responsible for the carcinogenic potential of the chemical (Henschler and Hoos, 1982; Calabrese and Kenyon, 1991). Tetrachloroethylene is excreted mainly unchanged through the lungs, regardless of route of administration (NTP, 1986). The urine and feces comprise secondary routes of excretion (Monster et al., 1979; Ohtsuki et al., 1983). The major urinary metabolite of tetrachloroethylene, trichloroacetic acid, is formed via the cytochrome P-450 system (ATSDR, 1990).

The main targets of tetrachloroethylene toxicity are the liver and kidney by both oral and inhalation exposure, and the central nervous system by inhalation exposure. Acute exposure to high concentrations of the chemical (estimated to be greater than 1500 ppm for a 30-minute exposure) may be fatal to humans (Torkelson and Rowe, 1981). Chronic exposure causes respiratory tract irritation, headache, nausea, sleeplessness, abdominal pains, constipation, cirrhosis of the liver, hepatitis, and nephritis in humans; and microscopic changes in renal tubular cells, squamous metaplasia of the nasal epithelium, necrosis of the liver, and congestion of the lungs in animals (Chmielewski et al., 1976; Coler and Rossmiller, 1953; Stewart et al., 1970; von Ottingen, 1964; Stewart, 1969; NTP, 1986).

Some epidemiology studies have found an association between inhalation exposure to tetrachloroethylene and an increased risk for spontaneous abortion, idiopathic infertility, and sperm abnormalities among dry-cleaning workers, but others have not found similar effects (Kyyronen et al, 1989; van der Gulden and Zielhuis, 1989). The adverse effects in humans are supported in part by the results of animal studies in which tetrachloroethylene induced fetotoxicity (but did not cause malformations) in the offspring of treated dams (Schwetz et al., 1975; Beliles et al., 1980; Nelson et al., 1980).

Reference doses (RfDs) for subchronic and chronic oral exposure to tetrachloroethylene are 1E-1 mg/kg/day and 1E-2 mg/kg/day, respectively (Buben and Flaherty, 1985; U.S. EPA, 1990; 1992a). These values are based on hepatotoxicity observed in mice given 100 mg tetrachloroethylene/kg body weight for 6 weeks and a no-observed-adverse effect level (NOAEL) of 20 mg/kg.

Epidemiology studies of dry cleaning and laundry workers have demonstrated excesses in mortality due to various types of cancer, including liver cancer, but the data are regarded as inconclusive because of various confounding factors (Lynge and Thygesen, 1990; U.S. EPA, 1988). The tenuous finding of an excess of liver tumors in humans is strengthened by the results of carcinogenicity bioassays in which tetrachloroethylene, administered either orally or by inhalation, induced hepatocellular tumors in mice (NCI, 1977; NTP, 1986). The chemical also induced mononuclear cell leukemia and renal tubular cell tumors in rats. Tetrachloroethylene was negative for tumor initiation in a dermal study and for tumor induction in a pulmonary tumor assay (Van Duuren et al., 1979; Theiss et al., 1977).

Although U.S. EPA's Science Advisory Board recommended a weight-of-evidence classification of C-B2 continuum © = possible human carcinogen; B2 = probable human carcinogen), the agency has not adopted a current position on the weight-of-evidence classification (U.S. EPA, 1992b). In an earlier evaluation, tetrachloroethylene was assigned to weight-of-evidence Group B2, probable human carcinogen, based on sufficient evidence from oral and inhalation studies for carcinogenicity in animals and no or inadequate evidence for carcinogenicity to humans (NCI, 1977; NTP, 1986; U.S.

EPA, 1987). The unit risk and slope factor values for tetrachloroethylene have been withdrawn from IRIS and HEAST. The upper bound risk estimates from the 1985 Health Assessment Document (U.S. EPA, 1985) as amended by inhalation values from the 1987 addendum (U.S. EPA, 1987) have not yet been verified by the IRIS-CRAVE Workgroup. For oral exposure, the slope factor is 5.2E-2 $(mg/kg/day)^{-1}$; the unit risk is 1.5E-6 $(\mu g/L)^{-1}$. For inhalation exposure, the slope factor is 2.0E-3 $(mg/kg/day)^{-1}$; the unit risk ranges from 2.9E-7 to 9.5E-7 $(\mu g/m^3)^{-1}$ with a geometric mean of 5.8E-7 $(\mu g/m^3)^{-1}$ (U.S. EPA, 1987). When the Agency makes a decision about weight-of-evidence, the CRAVE-IRIS verification will be completed and the information put on IRIS (U.S. EPA, 1992b).

Toluene

The principal effect associated with exposure to toluene is depression of the central nervous system. In humans, inhalation of toluene in air at concentrations of 100 ppm can cause sleepiness and decreased dexterity. Exposure to levels of 200 to 800 ppm can lead to narcosis, characterized by impaired mental and motor functions. These effects appear to be fully reversible, although very high exposures can lead to permanent central nervous system damage and may produce such profound CNS depression that death ensues.

Volatilization appears to be the major route of removal of toluene from aquatic environments, and atmospheric reactions of toluene probably subordinate all other fate processes. Photoxidation is the primary atmospheric fate process for toluene, and benzaldehyde is reported to be the principal organic product. Subsequent precipitation or dry deposition can deposit toluene and its oxidation products into aquatic and terrestrial systems. (Clement Associates)

The principal study was conducted by the National Toxicology Program (1989). The oral toxicity of toluene was investigated in this subchronic gavage study in F344 rats. Several toxic effects were noted at doses greater than or equal to 2500 mg/kg, included prostration, hypoactivity, ataxia, piloerectiion, lacrimation, excessive salivation, and body tremors. No signs of biologic significance were seen in groups receiving less than or equal to 1250 mg/kg. There were several pathologic findings and organ weight changes in the liver, kidney, brain, and urinary bladder. (IRIS)

Inhalation exposure to toluene does not usually lead to significant effects on tissues other than the central nervous system (Bruckner 1981), although lung irritation, decreased immunological function, and development effects have been noted in some studies of animals or humans exposed to levels of 200 ppm or higher (Courney, 1942). (HEAST 1991)

In a 2-year bioassay, Fischer 344 rats (60/sex/group) were exposed to 0, 600, or 1200 ppm toluene vapors, 6.5 hours/day, 5 days/week.. At the end of 2 years, there was a significant increase in the incidence of erosion of the olfactory epithelium in the exposed animals. (National Toxicology

Program, 1990).(IRIS)

Toluene-induced neurotoxicity has been documented in humans over a broad spectrum of severity that correlates well with concentration. Numerous case studies on chronic toluene abuses (repeatedly exposed to greater than 30,000 ppm) have demonstrated functional deficits of the CNS accompanied by abnormal morphology of cerebellar and cortical areas o f the brain. Under acute exposure conditions (short exposures to greater than 10,000 ppm), toluene produces CNS narcosis (ACGIH). Lower concentrations (i.e., 800-400 ppm) have been associated with worker complaints of CNS-related effects. Clinical studies using controlled exposure to toluene have demonstrated concentration-related occurrence of complaints such as drowsiness, ataxia, visual impairment, and headache. (IRIS)

Dermal or ocular contact with toluene can result in irritation and skin damage, but neurological or systemic effects have not be noted (ATSDR 1988)

There are no studies of humans that indicate that toluene is carcinogenic, and cancer studies of animals exposed by inhalation (CIIT 1980) or dermal contact (Weiss 1986) have been negative. However, due to limitations in these studies, the EPA does not consider the weight of evidence adequate to rank toluene as a noncarcinogen. (App A). Toluene did not produce positive results in the majority of genotoxic assays. (IRIS) Toluene has been shown to be embryotoxic in experimental animals, and the incidence of cleft palate increased in the offspring of dosed mice. (Clement Associates)

1,1,1-Trichloroethane

1,1,1-Trichloroethane (1,1,1-TCA) was shown to be mutagenic using the Ames assay, and it causes transformation in cultured rate embryo cells. Inhalation exposure to high concentration of 1,1,1-TCA depressed the central nervous system; affected cardiovascular function; and damaged the lungs, liver, and kidneys in animals and humans. Irritation of the skin and mucous membranes has also been associated with human exposure. 1,1,1-TCA disperses from surface water primarily by volatilization. Several studies have indicated that it may be adsorbed onto organic materials in the sediment, but this is probably not an important route of elimination from surface water. 1,1,1-TCA can be transported in the groundwater, but the speed of transport depends on the composition of the soil. Photooxidation by reaction with hydroxyl radicals in the atmosphere is probably the principal fate process. The most notable toxic effects of 1,1,1-TCA in humans and animals are central nervous system depression, including anesthesia at very high concentrations and impairment o coordination, equilibrium, and judgment at lower concentrations (350 ppm and above), cardiovascular effects, including premature ventricular contractions, decreased blood pressure, and sensitization to epinephrine-induced arrythmia; and adverse effects on the lungs, liver, and kidneys. Irritation of the skin and mucous membranes resulting from exposure have also been reported. (Clement Associates)

There are no reported human data and animal studies (one lifetime gavage, one intermediate-term inhalation) that have demonstrated carcinogenicity. Technical grade 1,1,2- trichlorethane gas been shown to be weakly mutagenic, although the contaminant,1,4-dioxane, a known animal carcinogen, may be responsible for this response. (IRIS)

Trichloroethene

Trichloroethene (TCE) is an industrial solvent used primarily in metal degreasing and cleaning operations. TCE can be absorbed through the lungs, mucous membranes, gastrointestinal tract, and the skin. TCE is extensively metabolized in humans to trichloroacetic acid and trichloroethanol, as well as to several minor metabolites, with most of the absorbed dose excreted in urine (ATSDR, 1989; U.S. EPA, 1985).

TCE rapidly volatilizes into the atmosphere where it reacts with hydroxyl radicals to produce hydrochloric acid, carbon monoxide, carbon dioxide, and carboxylic acid. This is probably the most important transport and fate process for TCE in surface water and in the upper layer of soil. TCE adsorbs to organic materials and can be bioaccumulated to some degree. TCE leaches into the groundwater fairly readily. (Clement Associates)

Human and animal data indicate that exposure to TCE can result in toxic effects on a number of organs and systems, including the liver, kidney, blood, skin, immune system, reproductive system, nervous system, and cardiovascular system. In humans, acute inhalation exposure to TCE causes central nervous system symptoms such as headache, dizziness, nausea, and unconsciousness (U.S. EPA, 1985). Among the reported effects from occupational exposure studies are fatigue, light-headedness, sleepiness, vision distortion, abnormal reflexes, tremors, ataxia, nystagmus, increased respiration, as well as neurobehavioral or psychological changes. Cardiovascular effects include tachycardia, extrasystoles, EKG abnormalities, and precordial pain (Landrigan et al., 1987; Grandjean et al., 1955; Milby, 1968). The use of TCE as an anesthetic has been associated with cardiac arrhythmias (U.S. EPA, 1985).

Cases of severe liver and kidney damage, including necrosis, have been reported in humans following acute exposure to TCE (Defalque, 1961), but these effects generally are not associated with long-term occupational exposures. In animals, TCE has produced liver enlargement with hepatic biochemical and/or histological changes (Nomiyama et al., 1986; Kjellstrand et al., 1981, 1983; Stott et al., 1982; Tucker et al., 1982) and kidney enlargement, renal tubular alterations and/or toxic nephropathy (NTP, 1982, 1986a, 1988). Also observed in animals were hematological effects (Tucker et al., 1982; Mazza and Brancaccio, 1967) and immunosuppression (Sanders et al., 1982). Inhalation studies with rats indicate that TCE is a developmental toxicant causing skeletal ossification anomalies and other effects consistent with delayed maturation (Healy et al., 1982; Dorfmueller et al., 1979). TCE may cause

dermatitis and dermographism (U.S. EPA, 1985).

Epidemiologic studies have been inadequate to determine if a correlation exists between exposure to TCE and increased cancer risk. Chronic oral exposure to TCE increased the incidences of hepatocellular carcinomas in mice and renal adenocarcinomas and leukemia in rats (NTP, 1988; Maltoni et al., 1986; NTP, 1986a, 1982; NCI, 1976). Chronic inhalation exposure induced lung and liver tumors in mice and testicular Leydig cell tumors in rats (Maltoni et al., 1986, 1988; Fukuda et al., 1983; Bell et al., 1978). Although U.S. EPA's Science Advisory Board recommended a weight-of-evidence classification of C-B2 continuum © = possible human carcinogen; B2 = probable human carcinogen), the agency has not adopted a current position on the weight-of-evidence classification (U.S. EPA, 1992b). In an earlier evaluation, TCE was assigned to weight-of-evidence Group B2, probable human carcinogen, based on tumorigenic responses in rats and mice for both oral and inhalation exposure and on inadequate data in humans (U.S. EPA, 1987, 1990). Carcinogen slope factors are 1.1E-2 $(mg/kg/day)^{-1}$ and 6.0E-3 $(mg/kg/day)^{-1}$ for oral and inhalation exposure, respectively. (U.S. EPA, 1992b).

Xylenes

Most xylenes released to water or soil tend to evaporate into the air because of their moderate volatility. Volatilization half-lives range from several hours to several weeks, depending upon conditions. Xylenes degrade in air mainly by reacting with photochemically generated hydroxyl radicals, with usual half-lives of eight to twenty-four hours. Significant levels may exist in surface water or groundwater because of their moderate water solubility. Xylenes have only a moderate tendency to adsorb onto soil or sediment because of a fairly low octanol water partition coefficient. In water, soil and sediment, biodegradation occurs with usual half-lives of about ten days, but volatilization remains the primary fate in the environment. (ATSDR)

Acute inhalation exposure of humans to xylenes at levels of 200 ppm or higher irritates the eyes, nose, and throat (ACGIH 1986; ATSDR 1989). Similar levels (100 to 400 ppm) can lead to central nervous system effects, including headache, nausea, and decreased performance on tests on mental and physical dexterity (EPA 1989; ATSDR 1989).

Acute oral doses of 2,000 mg/kg/day or more leads to shallow breathing, unsteadiness, tremors, and prostration in mice. These effects tend to appear within five to 10 minutes and last 15 to 60 minutes. Acute oral doses of 4,000 to 6,000 mg/kg/day can cause death (EPA 1989).

Effects of longer-term exposure of humans to xylene are not well documented, but studies of animals suggest the liver is subject to mild injury. Inhalation exposure of rats to concentrations of 3,500 ppm for six weeks caused liver enlargement (but no histologic abnormalities), but no effects were noted

at 810 ppm. USEPA has calculated a chronic inhalation RfD of 0.3 mg/kg/day (HEAST 1991).

Oral exposure of rats to 10 mg/kg/day for six months resulted only in increased vacuolation in hepatocytes (Bowers 1982). Chronic (2-year) oral dosing of rats with 500 mg/kg/day caused hyperactivity (a sign of CNS toxicity) in mice. No clinical signs of injury were detected in rats or mice at doses of 250 mg/kg/day. Based on this value, the EPA has calculated a chronic oral RfD for xylene of 2 mg/kg/day (IRIS 1987).

Another effect of concern is fetotoxicity. Epidemiological studies of women exposed to xylenes are not adequate to draw firm conclusions, but fetotoxicity has been reported in animals exposed to concentrations of 12 to 691 ppm in air during gestation (ATSDR 1989). This has not been reported following oral exposure of animals.

Some earlier studies of xylene effects in animals have reported effects on the blood, but this is suspected to be because of traces of benzene concentration. No hematological abnormalities were detected in the recent subchronic or chronic oral studies.

Xylene has been found to have some developmental effects in animals exposed to relatively high does, but the RfD values calculated are believed to be protective for these effects (IRIS 1987).

Xylenes have been tested for genotoxic potential in a variety of systems, and the results indicate that xylene is nonmutagenic (IRIS 1990). Limited data suggest that oral exposure of rats to 500 mg/kg/day for one year might cause increased frequency of tumors. In a more thorough study, the NTP (1986) detected no evidence of tendency to develop tumors in rats exposed to 500 mg/kg/day or in mice exposed to 1,000 mg/kg/day for two years.