

**Table 1.11  
Summary of Risk Drivers for Each Receptor by Media  
Pemaco Superfund Site, Maywood, CA**

Receptor	Receptor Age	Scenario Timeframe	Type of Risk/Hazard	Reasonable Maximum Exposure Cancer Risks and Noncancer Hazards Per Receptor by Media(1)												
				Total Risk	Exposure Medium	Exposure Route Contribution to Risk	Percent by Route	Chemicals Contributing Significantly to Risk (2)	Percent by Chemical	Exposure Point Concentration	RME Exposure Route Total	Remediation Goal Option (3)	Industrial Region 9 PRG	Units		
Trespassers	Adolescent	Current	Cancer Risk	Total Risk	Surface soil	Ingestion Dermal Inhalation	43.9 56.1 0.003	Benzo(a)pyrene Dibenzo(a,h)anthracene	29.2 44.3	1.9E+00 2.9E+00	1.3E-06 2.0E-06	1.5E+00 1.5E+00	6.2E-02 6.2E-02	ca ca	mg/kg mg/kg	
				Non-cancer Hazard	Total Hazard Index	Surface soil	Ingestion Dermal Inhalation	81.1 18.6 0.3	The total HQ did not exceed 1.0							
			Non-cancer Hazard	Total Hazard Index	Surface soil	Ingestion Dermal Inhalation	81.1 18.6 0.3	The total HQ did not exceed 1.0								
				Non-cancer Hazard	Surface soil	Ingestion Dermal Inhalation	81.1 18.6 0.3	The total HQ did not exceed 1.0								
Park User	Adult/Child	Future	Cancer Risk	Total Risk	Surface soil	Ingestion Dermal Inhalation	73.8 26.2 0.01	Arsenic Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	14.4 2.0 28.0 4.4 6.8 42.4 1.8	6.2E+00 1.3E+00 1.9E+00 3.0E+00 2.8E+00 2.9E+00 1.2E+00	1.1E-05 1.5E-06 2.2E-05 3.5E-06 5.4E-06 3.4E-05 1.4E-06	5.4E-01 8.7E-01 8.7E-02 8.7E-01 5.3E-01 8.7E-02 8.7E-01	3.9E-01 6.2E-01 6.2E-02 6.2E-01 6.2E+00 6.2E-02 6.2E-01	ca* ca ca ca ca ca ca	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	
				Non-cancer Hazard	Total Hazard Index	Surface soil	Ingestion Dermal Inhalation	93.3 5.2 1.4	The total HQ did not exceed 1.0							
			Non-cancer Hazard	Total Hazard Index	Surface soil	Ingestion Dermal Inhalation	93.3 5.2 1.4	The total HQ did not exceed 1.0								
				Non-cancer Hazard	Surface soil	Ingestion Dermal Inhalation	93.3 5.2 1.4	The total HQ did not exceed 1.0								
Excavation Worker	Adult	Future	Cancer Risk	Total Risk	Surface and subsurface soil	Ingestion Dermal Inhalation	88.1 11.1 0.8	Arsenic Benzo(a)pyrene Dibenzo(a,h)anthracene	32.6 28.7 23.0	5.2E+00 8.5E-01 6.8E-01	2.2E-06 2.0E-06 1.6E-06	2.3E+00 4.3E-01 4.3E-01	1.6E+00 2.1E-01 2.1E-01	ca ca ca	mg/kg mg/kg mg/kg	
				Non-cancer Hazard	Total Hazard Index	Surface and subsurface soil	Ingestion Dermal Inhalation	50.5 0.7 48.8	The total HQ did not exceed 1.0							
			Non-cancer Hazard	Total Hazard Index	Surface and subsurface soil	Ingestion Dermal Inhalation	50.5 0.7 48.8	The total HQ did not exceed 1.0								
				Non-cancer Hazard	Surface and subsurface soil	Ingestion Dermal Inhalation	50.5 0.7 48.8	The total HQ did not exceed 1.0								

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				Total Risk	Exposure Medium	Exposure Route Contribution to Risk	Percent by Route	Chemicals Contributing Significantly to Risk (2)	Percent by Chemical	Exposure Point Concentration	RME Exposure Route Total	Remediation Goal Option (3)	Residential Region 9 PRG	Units			
Resident (onsite)	Adult/Child	Future	Cancer Risk	1.1E-04	Surface soil	Ingestion Dermal Inhalation	73.8 26.1 0.01	Arsenic Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	14.4 2.0 28.0 4.4 6.8 42.4 1.8	6.2E+00 1.3E+00 1.9E+00 3.0E+00 2.8E+00 2.9E+00 1.2E+00	1.6E-05 2.2E-06 3.1E-05 4.8E-06 7.5E-06 4.7E-05 2.0E-06	3.9E-01 6.2E-01 6.2E-02 6.2E-01 3.8E-01 6.2E-02 6.2E-01	3.9E-01 6.2E-01 6.2E-02 6.2E-01 6.2E+00 6.2E-02 6.2E-01	ca* ca ca ca ca ca ca	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg		
				1.6E-01	Groundwater	Ingestion Dermal Inhalation	21.9 2.8 75.4	1,1-Dichloroethane Arsenic Benzene bis(2-Ethylhexyl)phthalate Chloroform Ethylbenzene Tetrachloroethene Trichloroethene Vinyl Chloride	0.001 0.8 0.4 0.001 0.04 0.001 0.01 95.1 3.6	2.0E+00 5.1E+01 2.0E+02 2.0E+00 3.4E+01 3.5E+00 8.1E+00 4.1E+03 2.0E+02	1.1E-06 1.3E-03 6.5E-04 1.1E-06 6.8E-05 1.4E-06 1.7E-05 1.6E-01 6.0E-03	1.9E+00 3.8E-02 3.1E-01 1.8E+00 5.0E-01 2.6E+00 4.8E-01 2.6E-02 3.3E-02	2.0E+00 4.5E-02 3.4E-01 4.8E+00 5.3E-01 2.9E+00 6.6E-01 2.8E-02 2.0E-02	Cal/ca ca ca* ca Cal/ca ca ca ca ca	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L		
				Non-cancer Hazard	Total Hazard Index	Exposure Medium	Exposure Route Contribution to HI	Percent by Route	Chemicals Contributing Significantly to HI (2)	Percent by Chemical	Exposure Point Concentration	RME Exposure Route Total	Remediation Goal Option (3)	Residential Region 9 PRG	Units		
					4.4E-01	Surface soil	Ingestion Dermal Inhalation	91.8 5.2 3.1	The total HQ did not exceed 1.0								
					1.8E+03	Groundwater	Ingestion Dermal Inhalation	75.5 8.5 15.8	Acetone Arsenic Benzene Chloroform cis-1,2-Dichloroethene Hexane Manganese Trichloroethene Vinyl Chloride	1.8 0.9 2.4 0.7 5.7 0.1 0.2 87.6 0.5	8.0E+03 5.1E+01 2.0E+02 3.4E+01 2.5E+03 3.1E+02 1.4E+03 4.1E+03 2.0E+02	3.3E+01 1.6E+01 4.5E+01 1.3E+01 1.0E+02 2.2E+00 3.1E+00 1.6E+03 8.9E+00	2.4E+02 3.1E+00 4.5E+00 2.6E+00 2.4E+01 1.4E+02 4.4E+02 2.6E+00 2.3E+01	6.1E+02 4.5E-02 3.4E-01 5.3E-01 6.1E+01 3.5E+02 8.8E+02 2.8E-02 2.0E-02	nc ca ca* Cal/ca nc nc nc ca ca	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	
					Cancer Risk	Total Risk	Exposure Medium	Exposure Route Contribution to Risk	Percent by Route	Chemicals Contributing Significantly to Risk (2)	Percent by Chemical	Exposure Point Concentration	RME Exposure Route Total	Remediation Goal Option (3)	Region 9 PRG	Units	
						9.9E-06	Vapor Intrusion	Inhalation	100.0	Benzene Tetrachloroethene Trichloroethene	0.1 4.1 95.7	-- -- --	9.5E-07 4.1E-07 1.0E-08	-- -- --	2.3E-01 6.7E-01 1.7E-02	ca ca ca	µg/m <sup>3</sup> µg/m <sup>3</sup> µg/m <sup>3</sup>
						Total Hazard Index	Exposure Medium	Exposure Route Contribution to HI	Percent by Pathway	Chemicals Contributing Significantly to HI (2)	Percent by Chemical	Exposure Point Concentration	RME Exposure Route Total	Remediation Goal Option (3)	Region 9 PRG	Units	
					--	Vapor Intrusion	Inhalation	100.0	The total HQ did not exceed 1.0								

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Resident (offsite)	Adult/Child	Current	Cancer Risk	9.2E-05	Indoor/Outdoor Air	Inhalation	100.0	Benzene Chloroform Chloromethane Methyl tert butyl ether Tetrachloroethene	29.3 25.2 3.8 4.8 36.8	See Note 4.		2.3E-01	ca	$\mu\text{g}/\text{m}^3$	
												3.5E-01	ca	$\mu\text{g}/\text{m}^3$	
			Non-cancer Hazard	Total Hazard Index	Exposure Medium	Exposure Route Contribution to HI	Percent by Pathway	Chemicals Contributing Significantly to HI (2)	Percent by Chemical	Exposure Point Concentration	RME Exposure Route Total	Remediation Goal Option (3)	Region 9 PRG	Units	
				1.1E+01	Indoor/Outdoor Air	Inhalation	100.0	Benzene Chloroform Dichlorodifluoromethane Methyl tert butyl ether Tetrachloroethene 1,2,4-Trimethylbenzene	19.1 49.7 0.4 0.1 0.7 29.7	See Note 4.		2.3E-01	ca	$\mu\text{g}/\text{m}^3$	
														3.5E-01	ca
													6.2E+00	ca	$\mu\text{g}/\text{m}^3$
													2.3E-01	ca	$\mu\text{g}/\text{m}^3$
													3.5E-01	ca	$\mu\text{g}/\text{m}^3$
													6.2E+00	ca	$\mu\text{g}/\text{m}^3$
													2.3E-01	ca	$\mu\text{g}/\text{m}^3$
													3.5E-01	ca	$\mu\text{g}/\text{m}^3$
													6.2E+00	ca	$\mu\text{g}/\text{m}^3$

Notes:

- (1) Reasonable maximum exposure receptor scenario selected to be conservative.
- (2) Chemicals with total risk exceeding 1.0E-6 or total Hazard Index exceeding 1.0.
- (3) Remediation Goal Option calculated for an Excess Lifetime Cancer Risk of 1E-6 or for a Hazard Index of 1.0.
- (4) Residential air sampling for current offsite residents still on-going. Total risk and total hazard index values estimated from previous air sampling events. Chemical percentages, exposure point concentrations, and remedial goal options not yet finalized.
- (5) Vapor intrusion modeling for current offsite resident scenario and future onsite resident scenario both result in cancer risks within range of USEPA target range and noncancer hazards well below the threshold level of 1.0. The greatest potential cancer risk was due to exposure to trichloroethene for both scenarios. A remedial goal option could not be determined for TCE due to limitations of the Johnson-Ettinger model.