Tables

TABLE 1
1999 National Air Toxics Assessment, Predicted Ambient Air Concentrations for Census Tract 06001401900
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

		Percent Contribution by Source Type				
		Stationary Sources		**Mobile Sources**		
	Predicted Concentration ($\mu g/m^3$)	**Major**	**Area & Other**	**On-Road**	**Non-Road**	**Back-ground**
Chloroform	0.14	0.1%	67.6%	0.0%	0.0%	32.3%
1,4-Dichlorobenzene	0.13	1.1%	98.9%	0.0%	0.0%	0.0%
1,4-Dioxane	0.001	56.7%	43.3%	0.0%	0.0%	0.0%
Benzene	3.5	1.4%	5.6%	65.7%	14.0%	13.3%
Carbon tetrachloride	0.27	0.0%	0.3%	0.0%	0.0%	99.7%
Ethylbenzene	1.4	1.9%	10.6%	76.7%	10.8%	0.0%
Naphthalene	0.13	0.5%	46.0%	36.9%	16.6%	0.0%
Styrene	0.11	0.5%	3.0%	83.6%	12.9%	0.0%
1,1,2,2-Tetrachloroethane	0.098	9.2%	7.4%	0.0%	0.0%	83.3%
Toluene	9.8	7.7%	24.4%	60.6%	7.3%	0.0%
Trichloroethene	0.12	14.5%	23.9%	0.0%	0.0%	61.7%
Vinyl Chloride	0.12	18.3%	14.6%	0.0%	0.0%	67.2%
Xylenes	8.0	1.3%	12.2%	61.9%	22.5%	2.1%

Source: EPA's NATA web site, http://www.epa.gov/ttn/atw/nata1999/

TABLE 2
2002 National Emissions Inventory for Alameda County, CA
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

		Percent Contribution by Source Type			
		Point Sources		**Mobile Sources**	
	Emissions (tons/year)	**Major**	**Area and Other**	**On-Road**	**Non-Road**
Benzene	548	0.2%	14.7%	24.1%	60.9%
Ethylbenzene	295	0.4%	11.7%	15%	72.9%
Chloroform	1.94	100.0%	0.0%	0.0%	0.0%
Trichloroethylene	25.3	31.0%	68.9%	0.0%	0.0%
Vinyl Chloride	3.77	18.6%	81.4%	0.0%	0.0%

Source: EPA's AirData web site, http://www.epa.gov/oar/data/

TABLE 3
Chemicals of Potential Concern
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Analyte	Site					Residential					BG and PP	
	Soil		Groundwater		Soil Gas	Soil		Soil Gas	Ambient Air	Crawl Space Air	Soil Gas	Ambient Air
	Shallow	Deep	Grab	MW		Shallow	Deep					
Metals												
Aluminum	X	X	---	X	---	X	X	---	---	---	---	---
Antimony	X	X	---	X	---	X	X	---	---	---	---	---
Arsenic	X	X	---	X	---	X	X	---	---	---	---	---
Barium	X	X	---	X	---	X	X	---	---	---	---	---
Beryllium	X	X	---	X	---	X	X	---	---	---	---	---
Boron	---	---	---	X	---	---	---	---	---	---	---	---
Cadmium	X	X	---	X	---	X	X	---	---	---	---	---
Chromium	X	X	---	X	---	X	X	---	---	---	---	---
Cobalt	X	X	---	X	---	X	X	---	---	---	---	---
Copper	X	X	---	X	---	X	X	---	---	---	---	---
Iron	X	X	---	X	---	X	X	---	---	---	---	---
Lead	X	X	---	X	---	X	X	---	---	---	---	---
Manganese	X	X	---	X	---	X	X	---	---	---	---	---
Mercury	X	X	---	X	---	X	X	---	---	---	---	---
Molybdenum	---	---	---	X	---	---	---	---	---	---	---	---
Nickel	X	X	---	X	---	X	X	---	---	---	---	---
Selenium	X	X	---	X	---	X	X	---	---	---	---	---
Silver	X	X	---	X	---	X	X	---	---	---	---	---
Thallium	X	X	---	X	---	X	X	---	---	---	---	---
Vanadium	X	X	---	X	---	X	X	---	---	---	---	---
Zinc	X	X	---	X	---	X	X	---	---	---	---	---
Hexavalent Chromium												
Chromium, hexavalent	---	---	---	X	---	---	---	---	---	---	---	---
Cyanide												
Cyanide	ND	ND	---	X	---	X	ND	---	---	---	---	---
Organochlorine Pesticides												
4,4'-DDD	X	X	---	X	---	X	X	---	---	---	---	---
4,4'-DDE	X	X	---	X	---	X	X	---	---	---	---	---
4,4'-DDT	X	X	---	X	---	X	X	---	---	---	---	---
Aldrin	X	X	---	X	---	X	X	---	---	---	---	---
alpha-BHC	X	X	---	X	---	X	X	---	---	---	---	---
alpha-Chlordane	X	X	---	X	---	X	X	---	---	---	---	---
beta-BHC	X	X	---	X	---	X	X	---	---	---	---	---
delta-BHC	X	X	---	X	---	X	X	---	---	---	---	---
Dieldrin	X	X	---	X	---	X	X	---	---	---	---	---
Endosulfan I	X	X	---	X	---	X	X	---	---	---	---	---
Endosulfan II	X	X	---	X	---	X	X	---	---	---	---	---
Endosulfan sulfate	X	X	---	X	---	X	X	---	---	---	---	---
Endrin	X	X	---	X	---	X	X	---	---	---	---	---
Endrin aldehyde	X	X	---	X	---	X	X	---	---	---	---	---
Endrin ketone	X	X	---	X	---	X	X	---	---	---	---	---

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AMCO Chemical Superfund Site, Oakland, California

Analyte	Site					Residential					BG and PP	
	Soil		Groundwater		Soil Gas	Soil		Soil Gas	Ambient Air	Crawl Space Air	Soil Gas	Ambient Air
	Shallow	Deep	Grab	MW		Shallow	Deep					
Organochlorine Pesticides												
gamma-BHC	X	X	---	X	---	X	X	---	---	---	---	---
gamma-Chlordane	X	X	---	X	---	X	X	---	---	---	---	---
Heptachlor	X	X	---	X	---	X	X	---	---	---	---	---
Heptachlor epoxide	X	X	---	X	---	X	X	---	---	---	---	---
Methoxychlor	X	ND	---	X	---	X	X	---	---	---	---	---
Organophosphorus Pesticides												
Diazinon	---	---	---	X	---	---	---	---	---	---	---	---
Herbicides												
Atrazine	ND	ND	---	X	---	ND	ND	---	---	---	---	---
PCBs												
Aroclor-1254	ND	ND	---	ND	---	X	X	---	---	---	---	---
Aroclor-1260	X	X	---	X	---	ND	ND	---	---	---	---	---
Semivolatile Organic Compounds												
1,1'-Biphenyl	X	X	---	X	---	X	ND	---	---	---	---	---
1,4-Dioxane (p-dioxane)	ND	X	X	X	X	ND	X	X	X	X	ND	X
2,4,6-Trichlorophenol	ND	ND	---	X	---	ND	ND	---	---	---	---	---
2,4-Dichlorophenol	ND	ND	---	X	---	ND	ND	---	---	---	---	---
2,4-Dimethylphenol	ND	ND	---	X	---	X	ND	---	---	---	---	---
2,6-Dinitrotoluene	ND	ND	---	ND	---	X	X	---	---	---	---	---
2-Chlorophenol	ND	ND	---	X	---	ND	ND	---	---	---	---	---
2-Methylnaphthalene	X	X	---	X	---	X	X	---	---	---	---	---
2-Methylphenol	X	ND	---	X	---	ND	ND	---	---	---	---	---
2-Nitroaniline	ND	ND	---	X	---	ND	ND	---	---	---	---	---
3&4-Methylphenol	---	---	---	X	---	---	---	---	---	---	---	---
3-Nitroaniline	ND	ND	---	ND	---	X	ND	---	---	---	---	---
4-Chloro-3-methylphenol	X	ND	---	X	---	ND	ND	---	---	---	---	---
4-Methylphenol	X	X	---	X	---	ND	ND	---	---	---	---	---
4-Nitrophenol	ND	ND	---	ND	---	X	ND	---	---	---	---	---
Acenaphthene	X	X	---	X	---	X	ND	---	---	---	---	---
Acenaphthylene	X	X	---	X	---	X	X	---	---	---	---	---
Acetophenone	X	X	---	X	---	ND	ND	---	---	---	---	---
Anthracene	X	X	---	X	---	X	X	---	---	---	---	---
Benzo(a)anthracene	X	X	---	X	---	X	X	---	---	---	---	---
Benzo(a)pyrene	X	X	---	X	---	X	X	---	---	---	---	---
Benzo(b)fluoranthene	X	X	---	X	---	X	X	---	---	---	---	---
Benzo(g,h,i)perylene	X	X	---	X	---	X	X	---	---	---	---	---
Benzo(k)fluoranthene	X	X	---	X	---	X	X	---	---	---	---	---
Benzyl butyl phthalate	X	X	---	ND	---	X	X	---	---	---	---	---
bis(2-Chloroethoxy)methane	ND	ND	---	X	---	ND	ND	---	---	---	---	---
bis(2-Ethylhexyl)phthalate	X	X	---	X	---	X	X	---	---	---	---	---
Caprolactam	X	X	---	X	---	X	X	---	---	---	---	---

TABLE 3
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Baseline Human Health Risk Assessment
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Analyte	Site					Residential					BG and PP	
	Soil		Groundwater		Soil Gas	Soil		Soil Gas	Ambient Air	Crawl Space Air	Soil Gas	Ambient Air
	Shallow	Deep	Grab	MW		Shallow	Deep					
Semivolatile Organic Compounds												
Carbazole	X	ND	---	X	---	X	X	---	---	---	---	---
Chrysene	X	X	---	X	---	X	X	---	---	---	---	---
Dibenz(a,h)anthracene	X	X	---	X	---	ND	ND	---	---	---	---	---
Dibenzofuran	X	X	---	ND	---	X	X	---	---	---	---	---
Diethylphthalate	ND	X	---	X	---	ND	ND	---	---	---	---	---
Di-n-butyl phthalate	X	X	---	X	---	X	X	---	---	---	---	---
Di-n-octyl phthalate	ND	ND	---	X	---	X	ND	---	---	---	---	---
Fluoranthene	X	X	---	X	---	X	X	---	---	---	---	---
Fluorene	X	X	---	X	---	X	X	---	---	---	---	---
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	ND	ND
Hexachloroethane	ND	ND	---	X	---	ND	ND	---	---	---	---	---
Indeno(1,2,3-c,d)pyrene	X	X	---	X	---	X	X	---	---	---	---	---
Naphthalene	X	X	X	X	X	X	X	X	X	X	X	X
Nitrobenzene	ND	ND	---	X	---	ND	ND	---	---	---	---	---
N-Nitrosodi-n-propylamine	ND	ND	---	X	---	ND	ND	---	---	---	---	---
N-Nitrosodiphenylamine	ND	ND	---	X	---	ND	ND	---	---	---	---	---
Pentachlorophenol	ND	X	---	X	---	ND	ND	---	---	---	---	---
Phenanthrene	X	X	---	X	---	X	X	---	---	---	---	---
Phenol	X	X	---	X	---	ND	X	---	---	---	---	---
Pyrene	X	X	---	X	---	X	X	---	---	---	---	---
Volatile Organic Compounds												
1,1,1-Trichloroethane	X	X	X	X	X	ND	ND	X	X	X	X	X
1,1,2,2-Tetrachloroethane	ND	ND	ND	X	X	ND	ND	X	X	X	X	X
1,1,2-Trichloroethane	X	ND	ND	X	X	ND	ND	X	X	X	ND	ND
1,1-Dichloroethane	X	X	X	X	X	ND	X	X	ND	X	X	X
1,1-Dichloroethene	X	X	X	X	X	ND	X	X	ND	ND	ND	X
1,2,3-Trichlorobenzene	ND	ND	X	X	---	ND	ND	---	---	---	---	---
1,2,4-Trichlorobenzene	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	X	X	X	X	ND	X	X	X	X	X
1,2-Dibromo-3-chloropropane	ND	ND	X	ND	---	ND	ND	---	---	---	---	---
1,2-Dibromoethane	ND	ND	ND	ND	X	ND	ND	ND	ND	X	ND	ND
1,2-Dichlorobenzene	X	X	X	X	X	ND	X	X	X	X	ND	ND
1,2-Dichloroethane	X	X	X	X	X	ND	ND	X	X	X	X	X
1,2-Dichloropropane	ND	ND	X	X	ND	ND	ND	ND	X	X	ND	X
1,3,5-Trimethylbenzene	ND	ND	X	X	X	ND	ND	X	X	X	X	X
1,3-Butadiene	---	---	---	---	ND	---	---	ND	---	---	X	---
1,3-Dichlorobenzene	X	X	X	X	X	ND	ND	X	X	X	ND	ND
1,4-Dichlorobenzene	X	X	X	X	X	ND	X	X	X	X	X	X
2,2,4-Trimethylpentane	---	---	---	---	X	---	---	ND	---	---	X	---
2,2-Dichloropropane	---	---	ND	X	---	---	---	---	---	---	---	---
2-Chlorotoluene	---	---	X	ND	---	---	---	---	---	---	---	---

TABLE 3
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Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Analyte	Site					Residential					BG and PP	
	Soil		Groundwater		Soil Gas	Soil		Soil Gas	Ambient Air	Crawl Space Air	Soil Gas	Ambient Air
	Shallow	Deep	Grab	MW		Shallow	Deep					
Volatile Organic Compounds												
2-Hexanone	ND	ND	---	X	ND	ND	ND	ND	---	---	ND	---
4-Ethyltoluene	---	---	---	---	X	---	---	X	---	---	ND	---
Acetone	X	X	X	X	X	X	X	X	---	---	X	---
Benzene	X	X	X	X	X	X	X	X	X	X	X	X
Bromoform	ND	ND	ND	X	ND	ND	ND	ND	---	---	ND	---
Bromomethane	ND	ND	ND	ND	X	ND	ND	X	X	X	X	X
Carbon disulfide	X	X	---	X	X	X	X	X	---	---	X	---
Carbon tetrachloride	ND	ND	X	X	X	ND	ND	X	X	X	X	X
Chlorobenzene	X	X	X	X	X	ND	X	X	X	X	ND	X
Chloroethane	X	X	X	X	X	ND	ND	X	X	X	X	X
Chloroform	ND	ND	X	X	X	ND	ND	X	X	X	X	X
Chloromethane	X	ND	X	X	X	ND	ND	X	X	X	X	X
cis-1,2-Dichloroethene	X	X	X	X	X	ND	X	X	X	X	X	X
cis-1,3-Dichloropropene	ND	ND	X	X	ND	ND	ND	ND	X	X	ND	X
Cyclohexane	X	X	---	X	X	ND	ND	ND	---	---	X	---
Ethanol	---	---	---	---	X	---	---	X	---	---	X	---
Ethyl tert-butyl ether	ND	ND	---	X	---	ND	ND	---	---	---	---	---
Ethylbenzene	X	X	X	X	X	X	ND	X	X	X	X	X
Freon 11	ND	ND	ND	X	X	X	X	X	X	X	X	X
Freon 113	X	ND	ND	ND	X	ND	ND	X	X	X	X	X
Freon 114	---	---	---	---	ND	---	---	ND	X	X	ND	X
Freon 12	ND	ND	ND	ND	X	ND	ND	X	X	X	X	X
Freon 134a	---	---	---	---	X	---	---	X	---	---	X	---
Isopropanol	---	---	---	---	X	---	---	X	---	---	X	---
Isopropyl ether	---	---	---	X	---	ND	ND	---	---	---	---	---
Isopropylbenzene (cumene)	X	X	X	X	X	ND	ND	ND	---	---	ND	---
Methyl acetate	ND	X	---	X	---	X	ND	---	---	---	---	---
Methyl ethyl ketone	X	X	X	X	X	X	X	X	---	---	X	---
Methyl isobutyl ketone	X	X	---	X	ND	ND	ND	ND	---	---	ND	---
Methyl tert-butyl ether	X	X	X	X	X	ND	ND	ND	X	X	ND	X
Methylcyclohexane	X	X	---	X	---	ND	ND	---	---	---	---	---
Methylene chloride	X	X	X	X	X	X	ND	X	X	X	X	X
n-Butylbenzene	---	---	X	X	---	---	---	---	---	---	---	---
n-Heptane	---	---	---	---	X	---	---	X	---	---	X	---
n-Propylbenzene	---	---	X	X	X	---	---	ND	---	---	ND	---
p-Cymene (p-isopropyltoluene)	---	---	X	X	---	---	---	---	---	---	---	---
sec-Butylbenzene	---	---	X	X	---	---	---	---	---	---	---	---
Styrene	X	ND	ND	X	X	ND	ND	X	X	X	X	X
tert-Butyl alcohol	ND	ND	---	X	---	ND	ND	---	---	---	---	---
tert-Butylbenzene	---	---	ND	X	---	---	---	---	---	---	---	---
Tetrachloroethene	X	X	X	X	X	X	X	X	X	X	X	X

TABLE 3
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Analyte	Site					Residential					BG and PP	
	Soil		Groundwater		Soil Gas	Soil		Soil Gas	Ambient Air	Crawl Space Air	Soil Gas	Ambient Air
	Shallow	Deep	Grab	MW		Shallow	Deep					
Volatile Organic Compounds												
Tetrahydrofuran	---	---	---	---	X	---	---	X	---	---	X	---
Toluene	X	X	X	X	X	X	X	X	X	X	X	X
Total hexanes	---	---	---	---	X	---	---	X	---	---	X	---
trans-1,2-Dichloroethene	X	X	X	X	X	ND	ND	X	X	ND	X	ND
trans-1,3-Dichloropropene	ND	ND	ND	X	ND	ND	ND	ND	X	X	ND	X
Trichloroethene	X	X	X	X	X	X	X	X	X	X	X	X
Vinyl chloride	X	X	X	X	X	ND	X	X	X	X	X	ND
Xylenes, m & p	X	ND	---	X	X	X	ND	X	X	X	X	X
Xylenes, o	X	ND	---	X	X	X	ND	X	X	X	X	X
Xylenes, total	X	X	---	X	---	---	---	---	---	---	---	---
Dioxins/Furans												
1,2,3,4,6,7,8-HpCDD	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,4,6,7,8-HpCDF	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,4,7,8,9-HpCDF	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,4,7,8-HxCDD	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,4,7,8-HxCDF	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,6,7,8-HxCDD	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,6,7,8-HxCDF	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,7,8,9-HxCDD	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,7,8,9-HxCDF	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,7,8-PeCDD	X	---	---	X	---	---	---	---	---	---	---	---
1,2,3,7,8-PeCDF	X	---	---	X	---	---	---	---	---	---	---	---
2,3,4,6,7,8-HxCDF	X	---	---	X	---	---	---	---	---	---	---	---
2,3,4,7,8-PeCDF	X	---	---	X	---	---	---	---	---	---	---	---
2,3,7,8-TCDD	X	---	---	ND	---	---	---	---	---	---	---	---
2,3,7,8-TCDF	X	---	---	X	---	---	---	---	---	---	---	---
OCDD	X	---	---	X	---	---	---	---	---	---	---	---
OCDF	X	---	---	X	---	---	---	---	---	---	---	---
Total Petroleum Hydrocarbons												
Diesel c10-c24	X	X	---	---	---	X	X	---	---	---	---	---
Gasoline c6-c10	X	X	---	---	---	ND	X	---	---	---	---	---
General												
Alkalinity, bicarbonate (as $CaCO_3$)	---	---	---	X	---	---	---	---	---	---	---	---
Alkalinity, total (as $CaCO_3$)	---	---	---	X	---	---	---	---	---	---	---	---

BG Background
PP Prescott Park
MW Monitoring Well
X Detected
--- Not analyzed
ND Not detected

Table 4
Soil Exposure Assumptions
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Exposure Parameter		Units	Reasonable Maximum Exposure (RME) Scenario: Occupational Worker		Construction Worker		Residential Adult		Residential Child		Intake Equation
Incidental Ingestion of Soil											
Concentration in Soil	C_s	mg/kg	Chemical specific		Chemical specific		Chemical specific		Chemical specific		
Ingestion Rate	IngR	mg/day	100	EPA, 1989	330	EPA, 1989	100	EPA, 1989	200	EPA, 1989	
Exposure Frequency	EF	days/yr	250	EPA, 1989	250	EPA, 1989	350	EPA, 1989	350	EPA, 1989	$\frac{Cs \times IngR \times EF \times ED \times CF}{BW \times AT}$
Exposure Duration	ED	years	25	EPA, 1989	1	EPA, 1989	24	EPA, 1989	6	EPA, 1989	
Conversion Factor	CF	kg/mg	1.00E-06		1.00E-06		1.00E-06		1.00E-06		
Body Weight	BW	kg	70	EPA, 1989	70	EPA, 1989	70	EPA, 1989	15	EPA, 1989	
Averaging Time for carcinogens	AT_C	days	25,550	EPA, 1989	25,550	EPA, 1989	25,550	EPA, 1989	25,550	EPA, 1989	
Averaging Time for noncarcinogens	AT_{NC}	days	9,125	EPA, 1989	365	EPA, 1989	8,760	EPA, 1989	2,190	EPA, 1989	
Inhalation of Particulates											
Concentration in Soil	C_s	mg/kg	Chemical specific		Chemical specific		Chemical specific		Chemical specific		
Inhalation Rate	InhR	m^3/day	20	EPA, 1989	20	EPA, 1989	20	EPA, 1989	10	EPA, 1989	
Exposure Frequency	EF	days/yr	250	EPA, 1989	250	EPA, 1989	350	EPA, 1989	350	EPA, 1989	$\frac{Cs \times InhR \times EF \times ED \times [(1/PEF)+(1/VF)]}{BW \times AT}$
Exposure Duration	ED	years	25	EPA, 1989	1	EPA, 1989	24	EPA, 1989	6	EPA, 1989	
1/Particulate Emission Factor	1/PEF	kg/m^3	7.60E-10	EPA, 1996	1.00E-06	EPA, 1996	7.60E-10	EPA, 1996	7.60E-10	EPA, 1996	
1/Volatilization Factor	1/VF	kg/m^3	Chemical specific	EPA, 2004	Chemical specific	EPA, 2004	Chemical specific	EPA, 2004	Chemical specific	EPA, 2004	
Body Weight	BW	kg	70	EPA, 1989	70	EPA, 1989	70	EPA, 1989	15	EPA, 1989	
Averaging Time for carcinogens	AT_C	days	25,550	EPA, 1989	25,550	EPA, 1989	25,550	EPA, 1989	25,550	EPA, 1989	
Averaging Time for noncarcinogens	AT_{NC}	days	9,125	EPA, 1989	365	EPA, 1989	8,760	EPA, 1989	2,190	EPA, 1989	
Dermal Contact with Soil											
Concentration in Soil	C_s	mg/kg	Chemical specific		Chemical specific		Chemical specific		Chemical specific		
Exposure Frequency	EF	days/yr	250	EPA, 1989	250	EPA, 1989	350	EPA, 1989	350	EPA, 1989	
Exposure Duration	ED	years	25	EPA, 1989	1	EPA, 1989	24	EPA, 1989	6	EPA, 1989	$\frac{Cs \times SA \times EF \times ED \times AF \times ABS \times CF}{BW \times AT}$
Skin Surface Area	SA	cm^2	5700	CalEPA, 2005	5700	CALEPA, 2005	5700	CalEPA, 2005	2900	CalEPA, 2005	
Soil-Skin Adherence Factor	AF	mg/cm^2/day	0.2	CalEPA, 2005	0.8	CALEPA, 2005	0.07	CalEPA, 2005	0.2	CalEPA, 2005	
Absorption Factor	ABS	unitless	Chemical specific	CalEPA, 2005	Chemical specific	CalEPA, 2005	Chemical specific	CalEPA, 2005	Chemical specific	CalEPA, 2005	
Conversion Factor	CF	kg/mg	1.00E-06		1.00E-06		1.00E-06		1.00E-06		
Body Weight	BW	kg	70	EPA, 1989	70	EPA, 1989	70	EPA, 1989	15	EPA, 1989	
Averaging Time for carcinogens	AT_C	days	25,550	EPA, 1989	25,550	EPA, 1989	25,550	EPA, 1989	25,550	EPA, 1989	
Averaging Time for noncarcinogens	ATnc	days	9,125	EPA, 1989	365	EPA, 1989	8,760	EPA, 1989	2,190	EPA, 1989	

Notes:
AT_C = 70 years x 365 days/year
AT_{NC} = ED (years) x 365 days/year
PEF = 1.32E-09 m^3/kg
RME = Reasonable maximum exposure.
EPA, 1989: Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A.
EPA, 1996: Soil Screening Guidance.
EPA, 2004: User's Guide and Background Technical Document for Preliminary Remediation Goals (PRG). Region 9. October.
CalEPA, DTSC, HERD, 2005: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities.

Table 5
Groundwater Exposure Assumptions - Future Residents
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Exposure Parameter		Units	Reasonable Maximum Exposure (RME) Scenario: Residential Adult		Residential Child		Intake Equation
Ingestion of Groundwater							
Concentration in Groundwater	C_{gw}	mg/L	Chemical specific		Chemical specific		
Ingestion Rate	IngR	L/day	2	EPA, 1989	1	EPA, 1989	
Exposure Frequency	EF	days/year	350	EPA, 1989	350	EPA, 1989	$\frac{C_{gw} \times IngR \times EF \times ED}{BW \times AT}$
Exposure Duration	ED	years	24	EPA, 1989	6	EPA, 1989	
Body Weight	BW	kg	70	EPA, 1989	15	EPA, 2004[b]	
Averaging Time for carcinogens	AT_C	days	25,550	EPA, 1989	25,550	EPA, 1989	
Averaging Time for noncarcinogens	AT_{NC}	days	8,760	EPA, 1989	2,190	EPA, 1989	
Inhalation of VOCs in Groundwater							
Concentration in Groundwater	C_{gw}	mg/L	Chemical specific		Chemical specific		
Inhalation Rate	InhR	m^3/day	20	EPA, 1989	10	EPA, 1989	
Volatilization Factor	VF	L/m^3	0.5	EPA, 2004[b]	0.5	EPA, 2004[b]	$\frac{C_{gw} \times InhR \times VF \times ET \times EF \times ED}{BW \times AT}$
Exposure Time	ET	hours/day	24	EPA, 1989	24	EPA, 1989	
Exposure Frequency	EF	days/year	350	EPA, 1989	350	EPA, 1989	
Exposure Duration	ED	years	24	EPA, 1989	6	EPA, 1989	
Body Weight	BW	kg	70	EPA, 1989	15	EPA, 1989	
Averaging Time for carcinogens	AT_C	days	25,550	EPA, 1989	25,550	EPA, 1989	
Averaging Time for noncarcinogens	AT_{NC}	days	8,760	EPA, 1989	2,190	EPA, 1989	
Dermal Contact with Groundwater While Showering							
Concentration in Groundwater	C_{gw}	mg/L	Chemical specific		Chemical specific		
Absorbed dose per event per area of skin exposed	DA_{event}	mg/cm^2-event	Chemical specific	EPA, 2004[a]	Chemical specific	EPA, 2004[a]	$\frac{DA_{event} \times SA \times EF \times ED}{BW \times AT}$
Event Duration	t_{event}	hours/event	0.58	EPA, 2004[a]	1	EPA, 2004[a]	Where for Organics:
Time to reach steady state	t*	hours	Chemical specific	EPA, 2004[a]	Chemical specific	EPA, 2004[a]	
Skin Permeability Constant for chemicals in groundwater	K_P	cm/hour	Chemical specific	EPA, 2004[a]	Chemical specific	EPA, 2004[a]	If t_{event} > t*
Lag time per event	τ	hours/event	Chemical specific	EPA, 2004[a]	Chemical specific	EPA, 2004[a]	$DA_{event} = FA \times K_p \times C_{gw} \left[\frac{t_{event}}{1+B} + 2\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2} \right) \right]$
Dimensionless coefficient	B	cm/hour	Chemical specific	EPA, 2004[a]	Chemical specific	EPA, 2004[a]	
Fraction Absorbed	FA	unitless	Chemical specific	EPA, 2004[a]	Chemical specific	EPA, 2004[a]	
Skin Surface Area	SA	cm^2/day	18,000	EPA, 1997	6,600	EPA, 2004[a]	If t_{event} < t*
Exposure Frequency	EF	days/year	350	EPA, 1989	350	EPA, 1989	$DA_{event} = 2\ FA \times K_p \times C_{gw} \sqrt{\frac{6\tau \times t_{event}}{\Pi}}$
Exposure Duration	ED	years	24	EPA, 1989	6	EPA, 1989	
Body Weight	BW	kg	70	EPA, 1997	15	EPA, 1989	For Inorganics:
Averaging Time for carcinogens	AT_C	days	25,550	EPA, 1989	25,550	EPA, 1989	
Averaging Time for noncarcinogens	AT_{NC}	days	8,760	EPA, 1989	2,190	EPA, 1989	$DA_{event} = K_p \times C_{gw} \times t_{event}$

Notes:
AT_C = 70 years x 365 days/year
AT_{NC} = ED (years) x 365 days/year
RME = Reasonable maximum exposure.
EPA, 1989: Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A.
EPA, 1997: Exposure Factors Handbook. Volume I, General Factors. August.
EPA, 2004[a]: RAGS Part E, Supplemental Guidance for Dermal Risk Assessment.
EPA, 2004[b]: User's Guide and Background Technical Document for Preliminary Remediation Goals Table. Region 9. October.

Table 6
Groundwater Exposure Assumptions - Trench Workers
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

		Reasonable Maximum Exposure (RME) Scenario			
		Units	Trench Worker		Intake Equation
Inhalation of VOCs in Groundwater While Working in a Trench					
Concentration in Groundwater	C_{gw}	mg/L	Chemical specific		
Concentration (VOCs) in breathing zone	C_{air}	ug/m^3	Chemical specific	CalEPA, 2006	
Total emission rate	Ei	mg/s	Chemical specific	CalEPA, 2006	$\frac{C_{air} \times InhR \times ET \times EF \times ED \times CF_1}{BW \times AT}$
Inhalation Rate	InhR	m^3/hour	2.5	CalEPA, 2005	
Assumed velocity of air in the trench	u	m/s	0.152	CalEPA, 2006	
Mixing Height (adult breating zone)	H	m	1.83	CalEPA, 2006	
Width of trench perpendicular to wind direction	W	m	3.05	CalEPA, 2006	
Overall mass transfer coefficient	Ki	cm/s	Chemical specific	CalEPA, 2006	$C_{air} = \frac{E_i \times CF_2}{u \times H \times W}$
Bottom area of the trench covered with contaminated water	A_w	cm^2	65,032	CalEPA, 2006	
Exposure Time	ET	hours/day	8	CalEPA, 2005	
Exposure Frequency	EF	days/year	90	CalEPA, 2006	
Exposure Duration	ED	years	1	CalEPA, 2006	
Conversion Factor$_1$	CF_1	mg/ug	0.001		
Conversion Factor$_2$	CF_2	ug/mg	1000		$E_i = K_i \times A_w \times C_{gw}$
Body Weight	BW	kg	70	EPA, 1989	
Averaging Time for carcinogens	ATc	days	25,550	EPA, 1989	
Averaging Time for noncarcinogens	ATnc	days	365	CalEPA, 2006	
Dermal Contact with Groundwater While Working in a Trench					
Concentration in Groundwater	C_{gw}	mg/L	Chemical specific		
Absorbed dose per event per area of skin exposed	DA_{event}	mg/cm^2-event	Chemical specific	EPA, 2004	$\frac{DA_{event} \times SA \times EF \times ED}{BW \times AT}$
Event Duration	t_{event}	hours/event	8	CalEPA, 2005	For Organics:
Time to reach steady state	t*	hours	Chemical specific	EPA, 2004	
groundwater	K_P	cm/hour	Chemical specific	EPA, 2004	If t_{event} < t*
Lag time per event	τ	hours/event	Chemical specific	EPA, 2004	$DA_{event} = FA \times K_p C_{gw} \left[\frac{t_{event}}{1+B} + 2\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2} \right) \right]$
Dimensionless coefficient	B	cm/hour	Chemical specific	EPA, 2004	
Fraction Absorbed	FA	unitless	Chemical specific	EPA, 2004	
Skin Surface Area	SA	cm^2/day	5,700	CalEPA, 2005	If t_{event} > t*
Exposure Frequency	EF	days/year	90	CalEPA, 2006	$DA_{event} = 2\ FA \times K_p \times C_{gw} \sqrt{\frac{6\tau \times t_{event}}{\Pi}}$
Exposure Duration	ED	years	1	CalEPA, 2006	
Body Weight	BW	kg	70	EPA, 1989	For Inorganics:
Averaging Time for carcinogens	ATc	days	25,550	EPA, 1989	$DA_{event} = K_p \times C_{gw} \times t_{event}$
Averaging Time for noncarcinogens	ATnc	days	365	CalEPA, 2006	

Notes:
RME = Reasonable maximum exposure.
EPA, 1989: Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A.
EPA, 2004: RAGS Part E, Supplemental Guidance for Dermal Risk Assessment.
CalEPA, DTSC, HERD, 2005: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities.
CalEPA, DTSC, HERD, 2006: Memorandum: Risk Assessment Issues, PAHs and Exposure Routes…,T.Taros, Staff Toxicologist, DTSC, 8810 Cal Center Drive, Sacramento, CA. August 11.

Table 7
Air Exposure Assumptions
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

	Reasonable Maximum Exposure (RME) Scenario							
Exposure Parameter	**Parameter Code**	**Units**	**Adult Industrial Worker**	**Source**	**Adult Future Resident**	**Source**	**Child Future Resident**	**Source**
Exposure Frequency	EF	days/yr	250	Site Specific	350	EPA, 1989	350	EPA, 1989
Exposure Time for inhalation of volatiles	ET	hr/day	8	CalEPA, 2005	24	EPA, 1991	24	EPA, 1991
Exposure Duration	ED	years	25	CalEPA, 2005	24	EPA, 1989	6	EPA, 1989
Averaging Time for carcinogens	ATc	yr	70	EPA, 1989	70	EPA, 1989	70	EPA, 1989
Averaging Time for noncarcinogens	ATnc	yr	25	CalEPA, 2005	24	EPA, 1989	6	EPA, 1989

Notes:
ATc = 70 years x 365 days/year
ATnc = ED (years) x 365 days/year

Intake Equation

$$I = \frac{C \times ET \times EF \times ED}{AT}$$

Sources:
CalEPA, DTSC, HERD, 2005. Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities.
EPA, 1989: Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A).
EPA, 1991: Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals). USEPA
EPA, 2004a: Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual. (Part E, Supplemental Guidance for Dermal Risk Assessment, Final). July.

Table 8
Exposure Point Concentrations for Soil Exposure Areas
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
Former AMCO Chemical Facility - Shallow			
Metals			
Aluminum	mg/kg	12,600	95% Student's-t UCL
Antimony	mg/kg	14	95% Chebyshev (MVUE) UCL
Arsenic	mg/kg	8	95% Approximate Gamma UCL
Barium	mg/kg	513	95% Approximate Gamma UCL
Beryllium	mg/kg	1	95% Approximate Gamma UCL
Cadmium	mg/kg	2	95% H-UCL
Chromium	mg/kg	1,410	99% Chebyshev (Mean, Sd) UCL
Cobalt	mg/kg	9	95% Approximate Gamma UCL
Copper	mg/kg	229	95% Chebyshev (MVUE) UCL
Iron	mg/kg	26,100	95% Approximate Gamma UCL
Lead	mg/kg	640	95% Approximate Gamma UCL
Manganese	mg/kg	1,140	95% Chebyshev (Mean, Sd) UCL
Nickel	mg/kg	42	95% Student's-t UCL
Selenium	mg/kg	3	Maximum Result
Silver	mg/kg	1	95% Approximate Gamma UCL
Thallium	mg/kg	3	95% Chebyshev (Mean, Sd) UCL
Vanadium	mg/kg	42	95% Approximate Gamma UCL
Zinc	mg/kg	591	95% Approximate Gamma UCL
Pesticides/PCBs			
4,4'-DDD	ug/kg	9,160	95% Adjusted Gamma UCL
4,4'-DDE	ug/kg	3,560	95% Adjusted Gamma UCL
4,4'-DDT	ug/kg	325	99% Chebyshev (Mean, Sd) UCL
Aldrin	ug/kg	1,290	99% Chebyshev (Mean, Sd) UCL
alpha-BHC	ug/kg	26	Maximum Result
alpha-Chlordane	ug/kg	40	95% Chebyshev (MVUE) UCL
beta-BHC	ug/kg	35	Maximum Result
delta-BHC	ug/kg	4	Maximum Result
Dieldrin	ug/kg	1,340	95% Adjusted Gamma UCL
Endosulfan sulfate	ug/kg	2	Maximum Result
Endrin	ug/kg	5	Maximum Result
Endrin aldehyde	ug/kg	1	Maximum Result
Endrin ketone	ug/kg	12	Maximum Result
gamma-Chlordane	ug/kg	109	99% Chebyshev (Mean, Sd) UCL
Heptachlor	ug/kg	9	Maximum Result
Methoxychlor	ug/kg	4	Maximum Result
Aroclor-1260	ug/kg	640	Maximum Result
SVOCs/VOCs			
1,2,4-Trichlorobenzene	ug/kg	1,540	99% Chebyshev (Mean, Sd) UCL
1,2-Dichlorobenzene	ug/kg	54,700	95% Hall's Bootstrap UCL
1,3-Dichlorobenzene	ug/kg	2,020	99% Chebyshev (Mean, Sd) UCL
1,4-Dichlorobenzene	ug/kg	25,500	99% Chebyshev (Mean, Sd) UCL
2-Methylnaphthalene	ug/kg	114,000	95% Hall's Bootstrap UCL
2-Methylphenol	ug/kg	990	Maximum Result
4-Chloro-3-methylphenol	ug/kg	7,200	Maximum Result
4-Methylphenol	ug/kg	3,600	Maximum Result
Acenaphthene	ug/kg	9,180	99% Chebyshev (Mean, Sd) UCL
Anthracene	ug/kg	1,100	Maximum Result
Benzo(a)anthracene	ug/kg	550	Maximum Result
Benzo(a)pyrene	ug/kg	500	Maximum Result
Benzo(b)fluoranthene	ug/kg	420	Maximum Result
Benzo(g,h,i)perylene	ug/kg	430	Maximum Result
Benzo(k)fluoranthene	ug/kg	430	Maximum Result
Benzyl butyl phthalate	ug/kg	7,600	Maximum Result
Biphenyl (diphenyl)	ug/kg	4,400	Maximum Result

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Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
bis(2-Ethylhexyl)phthalate	ug/kg	9,850	99% Chebyshev (Mean, Sd) UCL
Caprolactam	ug/kg	95	Maximum Result
Carbazole	ug/kg	1,100	Maximum Result
Chrysene	ug/kg	910	Maximum Result
Dibenz(a,h)anthracene	ug/kg	120	Maximum Result
Dibenzofuran	ug/kg	4,100	Maximum Result
Di-n-butyl phthalate	ug/kg	2,900	Maximum Result
Fluoranthene	ug/kg	4,200	Maximum Result
Fluorene	ug/kg	8,310	99% Chebyshev (Mean, Sd) UCL
Indeno(1,2,3-c,d)pyrene	ug/kg	440	Maximum Result
Naphthalene	ug/kg	52,800	99% Chebyshev (Mean, Sd) UCL
Phenanthrene	ug/kg	12,100	99% Chebyshev (Mean, Sd) UCL
Pyrene	ug/kg	3,970	95% Approximate Gamma UCL
1,1,1-Trichloroethane	ug/kg	25	95% Chebyshev (Mean, Sd) UCL
1,1-Dichloroethane	ug/kg	10,100	99% Chebyshev (Mean, Sd) UCL
1,1-Dichloroethene	ug/kg	68	95% Chebyshev (Mean, Sd) UCL
1,2-Dichloroethane	ug/kg	61	95% Chebyshev (Mean, Sd) UCL
Acetone	ug/kg	226	95% Approximate Gamma UCL
Benzene	ug/kg	1,930	99% Chebyshev (Mean, Sd) UCL
Carbon disulfide	ug/kg	6	95% Student's-t UCL
Chlorobenzene	ug/kg	10,100	99% Chebyshev (Mean, Sd) UCL
Chloroethane	ug/kg	24	95% Chebyshev (Mean, Sd) UCL
Chloromethane	ug/kg	127	95% Chebyshev (Mean, Sd) UCL
cis-1,2-Dichloroethene	ug/kg	149,000	95% Hall's Bootstrap UCL
Cyclohexane	ug/kg	2,550	99% Chebyshev (Mean, Sd) UCL
Ethylbenzene	ug/kg	22,400	95% Hall's Bootstrap UCL
Isopropylbenzene (cumene)	ug/kg	5,350	95% Hall's Bootstrap UCL
Methyl ethyl ketone	ug/kg	314	99% Chebyshev (Mean, Sd) UCL
Methyl isobutyl ketone	ug/kg	5,740	99% Chebyshev (Mean, Sd) UCL
Methyl tert-butyl ether	ug/kg	4	Maximum Result
Methylcyclohexane	ug/kg	10,200	95% Hall's Bootstrap UCL
Methylene chloride	ug/kg	8	95% Student's-t UCL
Styrene	ug/kg	514	99% Chebyshev (Mean, Sd) UCL
Tetrachloroethene	ug/kg	88	99% Chebyshev (Mean, Sd) UCL
Toluene	ug/kg	116,000	95% Hall's Bootstrap UCL
trans-1,2-Dichloroethene	ug/kg	638	99% Chebyshev (Mean, Sd) UCL
Trichloroethene	ug/kg	521	99% Chebyshev (Mean, Sd) UCL
Vinyl chloride	ug/kg	1,280	99% Chebyshev (Mean, Sd) UCL
Xylenes, total	ug/kg	157,000	95% Hall's Bootstrap UCL

Table 8
Exposure Point Concentrations for Soil Exposure Areas
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
Dioxins/Furans			
1,2,3,4,6,7,8-HpCDD	ng/kg	972	95% Student's-t UCL
1,2,3,4,6,7,8-HpCDF	ng/kg	160	95% Student's-t UCL
1,2,3,4,7,8,9-HpCDF	ng/kg	8	95% Student's-t UCL
1,2,3,4,7,8-HxCDD	ng/kg	16	Maximum Result
1,2,3,4,7,8-HxCDF	ng/kg	2	95% Student's-t UCL
1,2,3,6,7,8-HxCDD	ng/kg	74	Maximum Result
1,2,3,6,7,8-HxCDF	ng/kg	15	95% Student's-t UCL
1,2,3,7,8,9-HxCDD	ng/kg	41	Maximum Result
1,2,3,7,8,9-HxCDF	ng/kg	9	Maximum Result
1,2,3,7,8-PeCDD	ng/kg	15	Maximum Result
2,3,4,6,7,8-HxCDF	ng/kg	15	95% Student's-t UCL
2,3,4,7,8-PeCDF	ng/kg	37	95% Student's-t UCL
2,3,7,8-TCDF	ng/kg	5	95% Student's-t UCL
OCDD	ng/kg	8,200	95% Student's-t UCL
OCDF	ng/kg	325	95% Student's-t UCL

Former AMCO Chemical Facility - Deep

Metals			
Aluminum	mg/kg	12,500	95% Student's-t UCL
Antimony	mg/kg	21	99% Chebyshev (Mean, Sd) UCL
Arsenic	mg/kg	8	95% Approximate Gamma UCL
Barium	mg/kg	555	95% H-UCL
Beryllium	mg/kg	1	95% Approximate Gamma UCL
Cadmium	mg/kg	2	95% Chebyshev (Mean, Sd) UCL
Chromium	mg/kg	495	95% Chebyshev (Mean, Sd) UCL
Cobalt	mg/kg	8	95% Approximate Gamma UCL
Copper	mg/kg	145	95% Approximate Gamma UCL
Iron	mg/kg	23,400	95% Approximate Gamma UCL
Lead	mg/kg	605	95% Approximate Gamma UCL
Manganese	mg/kg	843	95% Chebyshev (Mean, Sd) UCL
Nickel	mg/kg	37	95% Student's-t UCL
Selenium	mg/kg	3	95% Chebyshev (Mean, Sd) UCL
Silver	mg/kg	1	95% Approximate Gamma UCL
Thallium	mg/kg	3	95% Chebyshev (Mean, Sd) UCL
Vanadium	mg/kg	41	95% Approximate Gamma UCL
Zinc	mg/kg	441	95% Approximate Gamma UCL
Pesticides/PCBs			
4,4'-DDD	ug/kg	8,400	95% Hall's Bootstrap UCL
4,4'-DDE	ug/kg	5,640	99% Chebyshev (Mean, Sd) UCL
4,4'-DDT	ug/kg	247	99% Chebyshev (Mean, Sd) UCL
Aldrin	ug/kg	924	99% Chebyshev (Mean, Sd) UCL
alpha-BHC	ug/kg	26	Maximum Result
alpha-Chlordane	ug/kg	70	99% Chebyshev (Mean, Sd) UCL
beta-BHC	ug/kg	35	Maximum Result
delta-BHC	ug/kg	4	Maximum Result
Dieldrin	ug/kg	2,080	99% Chebyshev (Mean, Sd) UCL
Endosulfan sulfate	ug/kg	2	Maximum Result
Endrin	ug/kg	5	Maximum Result
Endrin aldehyde	ug/kg	1	Maximum Result
Endrin ketone	ug/kg	12	Maximum Result
gamma-BHC	ug/kg	3	Maximum Result
gamma-Chlordane	ug/kg	88	99% Chebyshev (Mean, Sd) UCL
Heptachlor	ug/kg	9	Maximum Result
Methoxychlor	ug/kg	4	Maximum Result
Aroclor-1260	ug/kg	980	Maximum Result
SVOCs/VOCs			

Table 8
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Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
1,2,4-Trichlorobenzene	ug/kg	1,050	99% Chebyshev (Mean, Sd) UCL
1,2-Dichlorobenzene	ug/kg	40,200	95% Hall's Bootstrap UCL
1,3-Dichlorobenzene	ug/kg	1,380	99% Chebyshev (Mean, Sd) UCL
1,4-Dichlorobenzene	ug/kg	17,600	99% Chebyshev (Mean, Sd) UCL
1,4-Dioxane (p-dioxane)	ug/kg	872	95% Chebyshev (Mean, Sd) UCL
2-Methylnaphthalene	ug/kg	402,000	99% Chebyshev (Mean, Sd) UCL
2-Methylphenol	ug/kg	990	Maximum Result
4-Chloro-3-methylphenol	ug/kg	7,200	Maximum Result
4-Methylphenol	ug/kg	3,600	Maximum Result
Acenaphthene	ug/kg	8,320	99% Chebyshev (Mean, Sd) UCL
Acetophenone	ug/kg	8,730	99% Chebyshev (Mean, Sd) UCL
Anthracene	ug/kg	1,100	Maximum Result
Benzo(a)anthracene	ug/kg	550	Maximum Result
Benzo(a)pyrene	ug/kg	500	Maximum Result
Benzo(b)fluoranthene	ug/kg	420	Maximum Result
Benzo(g,h,i)perylene	ug/kg	430	Maximum Result
Benzo(k)fluoranthene	ug/kg	430	Maximum Result
Benzyl butyl phthalate	ug/kg	7,600	Maximum Result
Biphenyl (diphenyl)	ug/kg	7,100	Maximum Result
bis(2-Ethylhexyl)phthalate	ug/kg	8,860	99% Chebyshev (Mean, Sd) UCL
Caprolactam	ug/kg	95	Maximum Result
Carbazole	ug/kg	1,100	Maximum Result
Chrysene	ug/kg	3,500	Maximum Result
Dibenz(a,h)anthracene	ug/kg	120	Maximum Result
Dibenzofuran	ug/kg	4,100	Maximum Result
Di-n-butyl phthalate	ug/kg	2,900	Maximum Result
Fluoranthene	ug/kg	5,900	Maximum Result
Fluorene	ug/kg	8,100	99% Chebyshev (Mean, Sd) UCL
Indeno(1,2,3-c,d)pyrene	ug/kg	440	Maximum Result
Naphthalene	ug/kg	51,000	99% Chebyshev (Mean, Sd) UCL
Pentachlorophenol	ug/kg	6,700	Maximum Result
Phenanthrene	ug/kg	15,100	99% Chebyshev (Mean, Sd) UCL
Pyrene	ug/kg	7,300	99% Chebyshev (Mean, Sd) UCL
1,1,1-Trichloroethane	ug/kg	23	95% Chebyshev (Mean, Sd) UCL
1,1-Dichloroethane	ug/kg	7,300	99% Chebyshev (Mean, Sd) UCL
1,1-Dichloroethene	ug/kg	53	95% Chebyshev (Mean, Sd) UCL
1,2-Dichloroethane	ug/kg	43	95% Chebyshev (Mean, Sd) UCL
Acetone	ug/kg	209	95% Approximate Gamma UCL
Benzene	ug/kg	1,420	99% Chebyshev (Mean, Sd) UCL
Carbon disulfide	ug/kg	7	95% Student's-t UCL
Chlorobenzene	ug/kg	6,890	99% Chebyshev (Mean, Sd) UCL
Chloroethane	ug/kg	19	95% Chebyshev (Mean, Sd) UCL
Chloromethane	ug/kg	88	95% Chebyshev (Mean, Sd) UCL
cis-1,2-Dichloroethene	ug/kg	134,000	95% Hall's Bootstrap UCL
Cyclohexane	ug/kg	2,380	99% Chebyshev (Mean, Sd) UCL
Ethylbenzene	ug/kg	25,200	95% Hall's Bootstrap UCL
Isopropylbenzene (cumene)	ug/kg	14,700	99% Chebyshev (Mean, Sd) UCL
Methyl ethyl ketone	ug/kg	281	99% Chebyshev (Mean, Sd) UCL
Methyl isobutyl ketone	ug/kg	4,190	99% Chebyshev (Mean, Sd) UCL
Methyl tert-butyl ether	ug/kg	4	Maximum Result
Methylcyclohexane	ug/kg	16,200	95% Hall's Bootstrap UCL
Methylene chloride	ug/kg	9	95% Student's-t UCL
Styrene	ug/kg	174	95% Chebyshev (Mean, Sd) UCL
Tetrachloroethene	ug/kg	509	99% Chebyshev (Mean, Sd) UCL
Toluene	ug/kg	494,000	95% Hall's Bootstrap UCL
trans-1,2-Dichloroethene	ug/kg	529	99% Chebyshev (Mean, Sd) UCL
Trichloroethene	ug/kg	2,630	99% Chebyshev (Mean, Sd) UCL
Vinyl chloride	ug/kg	895	99% Chebyshev (Mean, Sd) UCL

Table 8
Exposure Point Concentrations for Soil Exposure Areas
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
Xylenes, total	ug/kg	140,000	95% Hall's Bootstrap UCL
Dioxins/Furans			
1,2,3,4,6,7,8-HpCDD	ng/kg	972	95% Student's-t UCL
1,2,3,4,6,7,8-HpCDF	ng/kg	160	95% Student's-t UCL
1,2,3,4,7,8,9-HpCDF	ng/kg	8	95% Student's-t UCL
1,2,3,4,7,8-HxCDD	ng/kg	16	Maximum Result
1,2,3,4,7,8-HxCDF	ng/kg	2	95% Student's-t UCL
1,2,3,6,7,8-HxCDD	ng/kg	74	Maximum Result
1,2,3,6,7,8-HxCDF	ng/kg	15	95% Student's-t UCL
1,2,3,7,8,9-HxCDD	ng/kg	41	Maximum Result
1,2,3,7,8,9-HxCDF	ng/kg	9	Maximum Result
1,2,3,7,8-PeCDD	ng/kg	15	Maximum Result
2,3,4,6,7,8-HxCDF	ng/kg	15	95% Student's-t UCL
2,3,4,7,8-PeCDF	ng/kg	37	95% Student's-t UCL
2,3,7,8-TCDF	ng/kg	5	95% Student's-t UCL
OCDD	ng/kg	8,200	95% Student's-t UCL
OCDF	ng/kg	325	95% Student's-t UCL

Parking Lot - Shallow

Metals			
Aluminum	mg/kg	13,500	Maximum Result
Antimony	mg/kg	216	Maximum Result
Arsenic	mg/kg	20	Maximum Result
Barium	mg/kg	3,800	Maximum Result
Beryllium	mg/kg	1	Maximum Result
Cadmium	mg/kg	11	Maximum Result
Chromium	mg/kg	102	Maximum Result
Cobalt	mg/kg	15	Maximum Result
Copper	mg/kg	418	Maximum Result
Iron	mg/kg	74,500	Maximum Result
Lead	mg/kg	2,170	Maximum Result
Manganese	mg/kg	1,110	Maximum Result
Nickel	mg/kg	72	Maximum Result
Selenium	mg/kg	5	Maximum Result
Silver	mg/kg	1	Maximum Result
Thallium	mg/kg	5	Maximum Result
Vanadium	mg/kg	64	Maximum Result
Zinc	mg/kg	8,030	Maximum Result
Pesticides/PCBs			
4,4'-DDD	ug/kg	10	Maximum Result
4,4'-DDE	ug/kg	4	Maximum Result
4,4'-DDT	ug/kg	10	Maximum Result
Endrin	ug/kg	6	Maximum Result
Endrin ketone	ug/kg	14	Maximum Result
gamma-Chlordane	ug/kg	2	Maximum Result
Methoxychlor	ug/kg	10	Maximum Result
SVOCs/VOCs			
2-Methylnaphthalene	ug/kg	170	Maximum Result
Acenaphthylene	ug/kg	690	Maximum Result
Anthracene	ug/kg	860	Maximum Result
Benzo(a)anthracene	ug/kg	1,300	Maximum Result
Benzo(a)pyrene	ug/kg	2,600	Maximum Result
Benzo(b)fluoranthene	ug/kg	1,700	Maximum Result
Benzo(g,h,i)perylene	ug/kg	2,300	Maximum Result
Benzo(k)fluoranthene	ug/kg	1,500	Maximum Result
Biphenyl (diphenyl)	ug/kg	160	Maximum Result
Chrysene	ug/kg	1,800	Maximum Result

Table 8
Exposure Point Concentrations for Soil Exposure Areas
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AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
Fluoranthene	ug/kg	3,000	Maximum Result
Fluorene	ug/kg	500	Maximum Result
Indeno(1,2,3-c,d)pyrene	ug/kg	2,300	Maximum Result
Naphthalene	ug/kg	160	Maximum Result
Phenanthrene	ug/kg	4,400	Maximum Result
Pyrene	ug/kg	4,400	Maximum Result
Acetone	ug/kg	50	Maximum Result
cis-1,2-Dichloroethene	ug/kg	2	Maximum Result
Methyl ethyl ketone	ug/kg	21	Maximum Result
Methylene chloride	ug/kg	4	Maximum Result
Toluene	ug/kg	9	Maximum Result
Xylenes, total	ug/kg	5	Maximum Result

Table 8
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Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)	
Dioxins/Furans				**Dioxin/Furans TEQ**
1,2,3,4,6,7,8-HpCDD	ng/kg	35	Maximum Result	0.351
1,2,3,4,6,7,8-HpCDF	ng/kg	31	Maximum Result	0.308
1,2,3,4,7,8,9-HpCDF	ng/kg	3	Maximum Result	0.0283
1,2,3,4,7,8-HxCDD	ng/kg	3	Maximum Result	0.283
1,2,3,4,7,8-HxCDF	ng/kg	17	Maximum Result	1.74
1,2,3,6,7,8-HxCDD	ng/kg	6	Maximum Result	0.559
1,2,3,6,7,8-HxCDF	ng/kg	11	Maximum Result	1.13
1,2,3,7,8,9-HxCDD	ng/kg	4	Maximum Result	0.375
1,2,3,7,8,9-HxCDF	ng/kg	4	Maximum Result	0.379
1,2,3,7,8-PeCDD	ng/kg	3	Maximum Result	3.37
1,2,3,7,8-PeCDF	ng/kg	4	Maximum Result	0.1173
2,3,4,6,7,8-HxCDF	ng/kg	16	Maximum Result	1.55
2,3,4,7,8-PeCDF	ng/kg	33	Maximum Result	9.96
2,3,7,8-TCDD	ng/kg	1	Maximum Result	0.898
2,3,7,8-TCDF	ng/kg	8	Maximum Result	0.822
OCDD	ng/kg	357	Maximum Result	0.1071
OCDF	ng/kg	19	Maximum Result	0.00564
Total TEQs	ng/kg			22

Parking Lot - Deep

Metals			
Aluminum	mg/kg	13,000	95% Student's-t UCL
Antimony	mg/kg	216	Maximum Result
Arsenic	mg/kg	13	95% Student's-t UCL
Barium	mg/kg	3,500	95% Approximate Gamma UCL
Beryllium	mg/kg	1	95% Approximate Gamma UCL
Cadmium	mg/kg	11	Maximum Result
Chromium	mg/kg	80	95% Student's-t UCL
Cobalt	mg/kg	12	95% Approximate Gamma UCL
Copper	mg/kg	307	95% Student's-t UCL
Iron	mg/kg	57,400	95% Approximate Gamma UCL
Lead	mg/kg	1,450	95% Student's-t UCL
Manganese	mg/kg	857	95% Approximate Gamma UCL
Nickel	mg/kg	59	95% Student's-t UCL
Selenium	mg/kg	4	95% Approximate Gamma UCL
Silver	mg/kg	1	95% Student's-t UCL
Thallium	mg/kg	4	95% Approximate Gamma UCL
Vanadium	mg/kg	50	95% Student's-t UCL
Zinc	mg/kg	8,030	Maximum Result
Pesticides/PCBs			
4,4'-DDD	ug/kg	61	95% Approximate Gamma UCL
4,4'-DDE	ug/kg	24	95% Chebyshev (Mean, Sd) UCL
4,4'-DDT	ug/kg	9	95% Chebyshev (Mean, Sd) UCL
Dieldrin	ug/kg	9	95% Chebyshev (Mean, Sd) UCL
Endrin	ug/kg	4	95% Approximate Gamma UCL
Endrin ketone	ug/kg	13	95% Chebyshev (Mean, Sd) UCL
gamma-Chlordane	ug/kg	1	95% Approximate Gamma UCL
Methoxychlor	ug/kg	10	Maximum Result
SVOCs/VOCs			
2-Methylnaphthalene	ug/kg	1,910	95% Chebyshev (Mean, Sd) UCL
Acenaphthylene	ug/kg	1,200	Maximum Result
Anthracene	ug/kg	940	Maximum Result
Benzo(a)anthracene	ug/kg	4,140	95% Approximate Gamma UCL
Benzo(a)pyrene	ug/kg	8,900	Maximum Result
Benzo(b)fluoranthene	ug/kg	5,600	Maximum Result

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Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)	
Benzo(g,h,i)perylene	ug/kg	9,000	Maximum Result	
Benzo(k)fluoranthene	ug/kg	3,400	95% Approximate Gamma UCL	
Biphenyl (diphenyl)	ug/kg	160	Maximum Result	
Chrysene	ug/kg	6,500	Maximum Result	
Dibenz(a,h)anthracene	ug/kg	1,020	95% Chebyshev (Mean, Sd) UCL	
Fluoranthene	ug/kg	12,000	Maximum Result	
Fluorene	ug/kg	423	95% Approximate Gamma UCL	
Indeno(1,2,3-c,d)pyrene	ug/kg	8,300	Maximum Result	
Naphthalene	ug/kg	799	95% Chebyshev (Mean, Sd) UCL	
Phenanthrene	ug/kg	4,400	Maximum Result	
Pyrene	ug/kg	16,000	Maximum Result	
Acetone	ug/kg	34	95% Student's-t UCL	
cis-1,2-Dichloroethene	ug/kg	2	Maximum Result	
Methyl ethyl ketone	ug/kg	19	95% Chebyshev (Mean, Sd) UCL	
Methylene chloride	ug/kg	4	Maximum Result	
Toluene	ug/kg	8	95% Student's-t UCL	
Xylenes, total	ug/kg	5	Maximum Result	
Dioxins/Furans				**Dioxin/Furans TEQ**
1,2,3,4,6,7,8-HpCDD	ng/kg	35	Maximum Result	0.351
1,2,3,4,6,7,8-HpCDF	ng/kg	31	Maximum Result	0.308
1,2,3,4,7,8,9-HpCDF	ng/kg	3	Maximum Result	0.0283
1,2,3,4,7,8-HxCDD	ng/kg	3	Maximum Result	0.283
1,2,3,4,7,8-HxCDF	ng/kg	17	Maximum Result	1.74
1,2,3,6,7,8-HxCDD	ng/kg	6	Maximum Result	0.559
1,2,3,6,7,8-HxCDF	ng/kg	11	Maximum Result	1.13
1,2,3,7,8,9-HxCDD	ng/kg	4	Maximum Result	0.375
1,2,3,7,8,9-HxCDF	ng/kg	4	Maximum Result	0.379
1,2,3,7,8-PeCDD	ng/kg	3	Maximum Result	3.37
1,2,3,7,8-PeCDF	ng/kg	4	Maximum Result	0.1173
2,3,4,6,7,8-HxCDF	ng/kg	16	Maximum Result	1.55
2,3,4,7,8-PeCDF	ng/kg	33	Maximum Result	9.96
2,3,7,8-TCDD	ng/kg	1	Maximum Result	0.898
2,3,7,8-TCDF	ng/kg	8	Maximum Result	0.822
OCDD	ng/kg	357	Maximum Result	0.1071
OCDF	ng/kg	19	Maximum Result	0.00564

Large Vacant Lot - Shallow

Metals			
Aluminum	mg/kg	9,210	95% Approximate Gamma UCL
Antimony	mg/kg	4	95% Approximate Gamma UCL
Arsenic	mg/kg	27	95% Approximate Gamma UCL
Barium	mg/kg	937	95% Chebyshev (Mean, Sd) UCL
Beryllium	mg/kg	0	95% Student's-t UCL
Cadmium	mg/kg	2	95% Chebyshev (Mean, Sd) UCL
Chromium	mg/kg	154	95% Approximate Gamma UCL
Cobalt	mg/kg	7	95% Student's-t UCL
Copper	mg/kg	149	95% Approximate Gamma UCL
Iron	mg/kg	24,900	95% Approximate Gamma UCL
Lead	mg/kg	4,360	99% Chebyshev (Mean, Sd) UCL
Manganese	mg/kg	360	95% Student's-t UCL
Nickel	mg/kg	26	95% Student's-t UCL
Selenium	mg/kg	3	Maximum Result
Silver	mg/kg	1	95% Approximate Gamma UCL
Thallium	mg/kg	3	Maximum Result
Vanadium	mg/kg	33	95% Approximate Gamma UCL
Zinc	mg/kg	453	95% Approximate Gamma UCL
Pesticides/PCBs			

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Exposure Point Concentrations for Soil Exposure Areas
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Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
4,4'-DDD	ug/kg	9,090	95% Adjusted Gamma UCL
4,4'-DDE	ug/kg	5,260	95% Adjusted Gamma UCL
4,4'-DDT	ug/kg	140,000	Maximum Result
alpha-BHC	ug/kg	6	Maximum Result
alpha-Chlordane	ug/kg	81	Maximum Result
beta-BHC	ug/kg	24	Maximum Result
Dieldrin	ug/kg	86	Maximum Result
Endosulfan sulfate	ug/kg	4	Maximum Result
Endrin	ug/kg	14	Maximum Result
Endrin aldehyde	ug/kg	5	Maximum Result
Endrin ketone	ug/kg	7	Maximum Result
gamma-BHC	ug/kg	347	99% Chebyshev (Mean, Sd) UCL
gamma-Chlordane	ug/kg	83	Maximum Result
Heptachlor	ug/kg	1	Maximum Result
Heptachlor epoxide	ug/kg	3	Maximum Result
Methoxychlor	ug/kg	7	Maximum Result
Aroclor-1260	ug/kg	33	Maximum Result
SVOCs/VOCs			
1,2-Dichlorobenzene	ug/kg	8	95% Student's-t UCL
1,4-Dichlorobenzene	ug/kg	2	Maximum Result
2-Methylnaphthalene	ug/kg	3,870	99% Chebyshev (Mean, Sd) UCL
Acetophenone	ug/kg	260	95% Student's-t UCL
Benzo(a)anthracene	ug/kg	488	95% H-UCL
Benzo(a)pyrene	ug/kg	651	95% H-UCL
Benzo(b)fluoranthene	ug/kg	640	95% Chebyshev (Mean, Sd) UCL
Benzo(g,h,i)perylene	ug/kg	660	95% H-UCL
Benzo(k)fluoranthene	ug/kg	623	95% Chebyshev (Mean, Sd) UCL
bis(2-Ethylhexyl)phthalate	ug/kg	1,070	95% Chebyshev (Mean, Sd) UCL
Caprolactam	ug/kg	230	Maximum Result
Chrysene	ug/kg	797	95% Chebyshev (Mean, Sd) UCL
Dibenz(a,h)anthracene	ug/kg	313	95% Student's-t UCL
Fluoranthene	ug/kg	668	95% H-UCL
Indeno(1,2,3-c,d)pyrene	ug/kg	694	95% H-UCL
Naphthalene	ug/kg	283	95% Student's-t UCL
Phenanthrene	ug/kg	378	95% H-UCL
Pyrene	ug/kg	1,350	95% Chebyshev (Mean, Sd) UCL
Acetone	ug/kg	150	Maximum Result
Chlorobenzene	ug/kg	22	95% Chebyshev (Mean, Sd) UCL
cis-1,2-Dichloroethene	ug/kg	21	95% Chebyshev (Mean, Sd) UCL
Ethylbenzene	ug/kg	21	95% Chebyshev (Mean, Sd) UCL
Isopropylbenzene (cumene)	ug/kg	338	99% Chebyshev (Mean, Sd) UCL
Methyl ethyl ketone	ug/kg	24	95% Chebyshev (Mean, Sd) UCL
Methyl isobutyl ketone	ug/kg	7	95% Student's-t UCL
Methylcyclohexane	ug/kg	346	99% Chebyshev (Mean, Sd) UCL
Methylene chloride	ug/kg	7	95% Student's-t UCL
Tetrachloroethene	ug/kg	7	95% Student's-t UCL
Toluene	ug/kg	69	95% Chebyshev (Mean, Sd) UCL
Trichloroethene	ug/kg	4	Maximum Result
Xylenes, total	ug/kg	291	99% Chebyshev (Mean, Sd) UCL

Large Vacant Lot - Deep

Metals			
Aluminum	mg/kg	8,240	95% Student's-t UCL
Antimony	mg/kg	3	95% H-UCL
Arsenic	mg/kg	18	95% Approximate Gamma UCL
Barium	mg/kg	652	95% Chebyshev (Mean, Sd) UCL
Beryllium	mg/kg	0	95% Approximate Gamma UCL

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Exposure Point Concentrations for Soil Exposure Areas
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Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
Cadmium	mg/kg	2	95% Chebyshev (Mean, Sd) UCL
Chromium	mg/kg	166	95% Chebyshev (Mean, Sd) UCL
Cobalt	mg/kg	6	95% Student's-t UCL
Copper	mg/kg	114	95% Approximate Gamma UCL
Iron	mg/kg	21,400	95% Approximate Gamma UCL
Lead	mg/kg	2,750	99% Chebyshev (Mean, Sd) UCL
Manganese	mg/kg	324	95% Student's-t UCL
Nickel	mg/kg	25	95% Student's-t UCL
Selenium	mg/kg	4	Maximum Result
Silver	mg/kg	0	95% H-UCL
Thallium	mg/kg	3	Maximum Result
Vanadium	mg/kg	29	95% Approximate Gamma UCL
Zinc	mg/kg	321	95% Approximate Gamma UCL
Pesticides/PCBs			
4,4'-DDD	ug/kg	3,790	95% Adjusted Gamma UCL
4,4'-DDE	ug/kg	2,100	95% Adjusted Gamma UCL
4,4'-DDT	ug/kg	80,500	99% Chebyshev (MVUE) UCL
alpha-BHC	ug/kg	6	Maximum Result
alpha-Chlordane	ug/kg	81	Maximum Result
beta-BHC	ug/kg	24	Maximum Result
Dieldrin	ug/kg	86	Maximum Result
Endosulfan I	ug/kg	1	Maximum Result
Endosulfan sulfate	ug/kg	4	Maximum Result
Endrin	ug/kg	14	Maximum Result
Endrin aldehyde	ug/kg	5	Maximum Result
Endrin ketone	ug/kg	7	Maximum Result
gamma-BHC	ug/kg	216	99% Chebyshev (Mean, Sd) UCL
gamma-Chlordane	ug/kg	83	Maximum Result
Heptachlor	ug/kg	1	Maximum Result
Heptachlor epoxide	ug/kg	3	Maximum Result
Methoxychlor	ug/kg	7	Maximum Result
Aroclor-1260	ug/kg	33	Maximum Result
SVOCs/VOCs			
1,1-Dichloroethane	ug/kg	7	95% Student's-t UCL
1,2-Dichlorobenzene	ug/kg	1,050	99% Chebyshev (Mean, Sd) UCL
1,3-Dichlorobenzene	ug/kg	2	Maximum Result
1,4-Dichlorobenzene	ug/kg	74	95% Chebyshev (Mean, Sd) UCL
2-Methylnaphthalene	ug/kg	1,360	95% Chebyshev (Mean, Sd) UCL
Acetophenone	ug/kg	236	95% Student's-t UCL
Anthracene	ug/kg	81	Maximum Result
Benzo(a)anthracene	ug/kg	495	95% Chebyshev (Mean, Sd) UCL
Benzo(a)pyrene	ug/kg	617	95% Chebyshev (Mean, Sd) UCL
Benzo(b)fluoranthene	ug/kg	501	95% Chebyshev (Mean, Sd) UCL
Benzo(g,h,i)perylene	ug/kg	581	95% Chebyshev (Mean, Sd) UCL
Benzo(k)fluoranthene	ug/kg	495	95% Chebyshev (Mean, Sd) UCL
Benzyl butyl phthalate	ug/kg	270	Maximum Result
bis(2-Ethylhexyl)phthalate	ug/kg	904	95% Chebyshev (Mean, Sd) UCL
Caprolactam	ug/kg	230	Maximum Result
Chrysene	ug/kg	597	95% Chebyshev (Mean, Sd) UCL
Dibenz(a,h)anthracene	ug/kg	267	95% Student's-t UCL
Fluoranthene	ug/kg	735	95% Chebyshev (Mean, Sd) UCL
Indeno(1,2,3-c,d)pyrene	ug/kg	600	95% Chebyshev (Mean, Sd) UCL
Naphthalene	ug/kg	249	95% Student's-t UCL
Phenanthrene	ug/kg	308	95% Student's-t UCL
Pyrene	ug/kg	1,020	95% Chebyshev (Mean, Sd) UCL
Acetone	ug/kg	61	95% Approximate Gamma UCL
Chlorobenzene	ug/kg	2,240	99% Chebyshev (Mean, Sd) UCL
cis-1,2-Dichloroethene	ug/kg	18	95% Chebyshev (Mean, Sd) UCL

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Exposure Point Concentrations for Soil Exposure Areas
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Chemical of Potential Concern	Units	Exposure Point Concentration (may be Max)	EPC Basis (may be Max)
Ethylbenzene	ug/kg	10	95% Student's-t UCL
Isopropylbenzene (cumene)	ug/kg	105	95% Chebyshev (Mean, Sd) UCL
Methyl ethyl ketone	ug/kg	18	95% Chebyshev (Mean, Sd) UCL
Methyl isobutyl ketone	ug/kg	7	95% Student's-t UCL
Methylcyclohexane	ug/kg	107	95% Chebyshev (Mean, Sd) UCL
Methylene chloride	ug/kg	6	95% Student's-t UCL
Tetrachloroethene	ug/kg	6	95% Student's-t UCL
Toluene	ug/kg	44	95% Chebyshev (Mean, Sd) UCL
Trichloroethene	ug/kg	4	Maximum Result
Vinyl chloride	ug/kg	1	Maximum Result
Xylenes, total	ug/kg	91	95% Chebyshev (Mean, Sd) UCL

Small Vacant Lot - Shallow

Metals			
Aluminum	mg/kg	8,020	Maximum Result
Arsenic	mg/kg	14	Maximum Result
Barium	mg/kg	278	Maximum Result
Beryllium	mg/kg	0	Maximum Result
Cadmium	mg/kg	2	Maximum Result
Chromium	mg/kg	34	Maximum Result
Cobalt	mg/kg	7	Maximum Result
Copper	mg/kg	96	Maximum Result
Iron	mg/kg	16,300	Maximum Result
Lead	mg/kg	386	Maximum Result
Manganese	mg/kg	312	Maximum Result
Nickel	mg/kg	24	Maximum Result
Selenium	mg/kg	1	Maximum Result
Silver	mg/kg	1	Maximum Result
Thallium	mg/kg	1	Maximum Result
Vanadium	mg/kg	27	Maximum Result
Zinc	mg/kg	736	Maximum Result
Pesticides/PCBs			
4,4'-DDD	ug/kg	6	Maximum Result
4,4'-DDE	ug/kg	18	Maximum Result
4,4'-DDT	ug/kg	45	Maximum Result
alpha-Chlordane	ug/kg	8	Maximum Result
Dieldrin	ug/kg	1	Maximum Result
gamma-Chlordane	ug/kg	6	Maximum Result

Table 9
Exposure Point Concentrations for Groundwater
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AMCO Chemical Superfund Site, Oakland, California

Chemical	Units	Exposure Point Concentration	EPC Basis
Metals			
Aluminum	ug/L	9,398	97.5% Chebyshev (Mean, Sd) UCL
Antimony	ug/L	1.5	95% Student's-t UCL
Arsenic	ug/L	287	95% H-UCL
Barium	ug/L	168	95% H-UCL
Beryllium	ug/L	0.8	95% Chebyshev (Mean, Sd) UCL
Boron	ug/L	4,307	95% Approximate Gamma UCL
Cadmium	ug/L	1.3	95% Chebyshev (Mean, Sd) UCL
Chromium	ug/L	36	97.5% Chebyshev (Mean, Sd) UCL
Chromium (VI)	ug/L	0.4	Maximum Result
Cobalt	ug/L	8.9	95% Approximate Gamma UCL
Copper	ug/L	47	95% H-UCL
Iron	ug/L	53,504	95% Chebyshev (MVUE) UCL
Lead	ug/L	40	95% H-UCL
Manganese	ug/L	4,331	95% Approximate Gamma UCL
Mercury	ug/L	0.1	95% Student's-t UCL
Molybdenum	ug/L	5.6	95% Chebyshev (Mean, Sd) UCL
Nickel	ug/L	55	95% H-UCL
Selenium	ug/L	19	95% Chebyshev (Mean, Sd) UCL
Silver	ug/L	0.1	Maximum Result
Thallium	ug/L	0.1	Maximum Result
Vanadium	ug/L	32	97.5% Chebyshev (Mean, Sd) UCL
Zinc	ug/L	303	95% H-UCL
Cyanide	ug/L	63	Maximum Result
Pesticides/PCBs			
4,4'-DDD	ug/L	5.0	99% Chebyshev (Mean, Sd) UCL
4,4'-DDE	ug/L	0.8	97.5% Chebyshev (Mean, Sd) UCL
4,4'-DDT	ug/L	0.2	Maximum Result
Aldrin	ug/L	0.4	97.5% Chebyshev (Mean, Sd) UCL
alpha-BHC	ug/L	0.3	Maximum Result
alpha-Chlordane	ug/L	0.3	97.5% Chebyshev (Mean, Sd) UCL
Atrazine	ug/L	2.0	Maximum Result
beta-BHC	ug/L	0.4	97.5% Chebyshev (Mean, Sd) UCL
delta-BHC	ug/L	0.2	Maximum Result
Diazinon	ug/L	0.3	95% Chebyshev (Mean, Sd) UCL
Dieldrin	ug/L	0.9	97.5% Chebyshev (Mean, Sd) UCL
Endosulfan I	ug/L	0.3	97.5% Chebyshev (Mean, Sd) UCL
Endosulfan II	ug/L	0.2	Maximum Result
Endosulfan sulfate	ug/L	0.1	Maximum Result
Endrin	ug/L	0.6	97.5% Chebyshev (Mean, Sd) UCL
Endrin aldehyde	ug/L	0.1	Maximum Result
Endrin ketone	ug/L	0.2	Maximum Result
gamma-BHC	ug/L	0.3	97.5% Chebyshev (Mean, Sd) UCL
gamma-Chlordane	ug/L	0.3	Maximum Result
Heptachlor	ug/L	0.1	97.5% Chebyshev (Mean, Sd) UCL
Heptachlor epoxide	ug/L	0.1	Maximum Result
Methoxychlor	ug/L	0.1	Maximum Result
Aroclor-1260	ug/L	1.0	95% Chebyshev (Mean, Sd) UCL
SVOCs/VOCs			
1,4-Dioxane (p-dioxane)	ug/L	780	Maximum Result
2,4,6-Trichlorophenol	ug/L	7	97.5% Chebyshev (Mean, Sd) UCL
2,4-Dimethylphenol	ug/L	79	97.5% Chebyshev (Mean, Sd) UCL
2-Chlorophenol	ug/L	4.3	Maximum Result

Table 9
Exposure Point Concentrations for Groundwater
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Chemical	Units	Exposure Point Concentration	EPC Basis
2-Methylnaphthalene	ug/L	226	99% Chebyshev (Mean, Sd) UCL
2-Methylphenol	ug/L	123	97.5% Chebyshev (Mean, Sd) UCL
2-Nitroaniline	ug/L	10	Maximum Result
3,4-methylphenol	ug/L	840	Maximum Result
4-Chloro-3-methylphenol	ug/L	24	95% Chebyshev (Mean, Sd) UCL
4-Methylphenol	ug/L	194	97.5% Chebyshev (Mean, Sd) UCL
Acenaphthene	ug/L	4.5	Maximum Result
Acenaphthylene	ug/L	10	97.5% Chebyshev (Mean, Sd) UCL
Anthracene	ug/L	3.2	Maximum Result
Benzo(a)anthracene	ug/L	0.9	Maximum Result
Benzo(a)pyrene	ug/L	0.5	Maximum Result
Benzo(b)fluoranthene	ug/L	0.8	Maximum Result
Benzo(g,h,i)perylene	ug/L	0.2	Maximum Result
Benzo(k)fluoranthene	ug/L	0.5	Maximum Result
Biphenyl (Diphenyl)	ug/L	1.3	Maximum Result
bis(2-Chloroethoxy)methane	ug/L	0.2	Maximum Result
bis(2-Ethylhexyl)phthalate	ug/L	17	97.5% Chebyshev (Mean, Sd) UCL
Bromoform	ug/L	12	Maximum Result
Caprolactam	ug/L	2.4	Maximum Result
Carbazole	ug/L	13	99% Chebyshev (Mean, Sd) UCL
Chrysene	ug/L	1.1	Maximum Result
Dibenz(a,h)anthracene	ug/L	0.0	Maximum Result
Diethylphthalate	ug/L	10	95% Chebyshev (Mean, Sd) UCL
Di-n-butyl phthalate	ug/L	12	95% Chebyshev (Mean, Sd) UCL
Fluoranthene	ug/L	2.4	Maximum Result
Fluorene	ug/L	2.6	Maximum Result
Hexachloroethane	ug/L	1.0	Maximum Result
Indeno(1,2,3-c,d)pyrene	ug/L	0.2	Maximum Result
Naphthalene	ug/L	136	99% Chebyshev (Mean, Sd) UCL
Nitrobenzene	ug/L	2.0	Maximum Result
N-Nitrosodi-n-propylamine	ug/L	2.0	Maximum Result
N-Nitrosodiphenylamine	ug/L	1.2	Maximum Result
Pentachlorophenol	ug/L	11	97.5% Chebyshev (Mean, Sd) UCL
Phenanthrene	ug/L	6.0	Maximum Result
Pyrene	ug/L	2.4	Maximum Result
1,1-Dichloroethane	ug/L	557	99% Chebyshev (Mean, Sd) UCL
1,1-Dichloroethene	ug/L	42	97.5% Chebyshev (Mean, Sd) UCL
1,1,1-Trichloroethane	ug/L	118	97.5% Chebyshev (Mean, Sd) UCL
1,1,2-Trichloroethane	ug/L	13	97.5% Chebyshev (Mean, Sd) UCL
1,1,2,2-Tetrachloroethane	ug/L	13	97.5% Chebyshev (Mean, Sd) UCL
1,2,3-Trichlorobenzene	ug/L	2.7	97.5% Chebyshev (Mean, Sd) UCL
1,2,4-Trichlorobenzene	ug/L	15	97.5% Chebyshev (Mean, Sd) UCL
1,2,4-Trimethylbenzene	ug/L	278	99% Chebyshev (Mean, Sd) UCL
1,2-Dibromo-3-chloropropane	ug/L	2.4	Maximum Result
1,2-Dichlorobenzene	ug/L	734	99% Chebyshev (Mean, Sd) UCL
1,2-Dichloroethane	ug/L	14	97.5% Chebyshev (Mean, Sd) UCL
1,2-Dichloropropane	ug/L	5.1	Maximum Result
1,3-Dichlorobenzene	ug/L	27	97.5% Chebyshev (Mean, Sd) UCL
1,3,5-Trimethylbenzene	ug/L	110	99% Chebyshev (Mean, Sd) UCL
1,4-Dichlorobenzene	ug/L	218	97.5% Chebyshev (Mean, Sd) UCL
2-Chlorotoluene	ug/L	2.9	97.5% Chebyshev (Mean, Sd) UCL
2-Hexanone	ug/L	24	95% Chebyshev (Mean, Sd) UCL
2,2-Dichloropropane	ug/L	0.5	Maximum Result

Table 9
Exposure Point Concentrations for Groundwater
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical	Units	Exposure Point Concentration	EPC Basis	
Acetone	ug/L	485	97.5% Chebyshev (Mean, Sd) UCL	
Benzene	ug/L	400	99% Chebyshev (Mean, Sd) UCL	
Carbon disulfide	ug/L	3.1	Maximum Result	
Carbon tetrachloride	ug/L	0.3	Maximum Result	
Chlorobenzene	ug/L	674	99% Chebyshev (Mean, Sd) UCL	
Chloroethane	ug/L	97	99% Chebyshev (Mean, Sd) UCL	
Chloroform	ug/L	4.4	Maximum Result	
Chloromethane	ug/L	7.4	Maximum Result	
cis-1,2-Dichloroethene	ug/L	13,720	99% Chebyshev (Mean, Sd) UCL	
cis-1,3-Dichloropropene	ug/L	4.2	Maximum Result	
Cyclohexane	ug/L	18	Maximum Result	
Ethyl tert-butyl ether (ETBE)	ug/L	1.2	Maximum Result	
Ethylbenzene	ug/L	449	99% Chebyshev (Mean, Sd) UCL	
Isopropyl ether	ug/L	430	Maximum Result	
Isopropylbenzene (cumene)	ug/L	27	97.5% Chebyshev (Mean, Sd) UCL	
Methyl acetate	ug/L	23	97.5% Chebyshev (Mean, Sd) UCL	
Methyl ethyl ketone	ug/L	430	97.5% Chebyshev (Mean, Sd) UCL	
Methyl isobutyl ketone	ug/L	4,858	99% Chebyshev (Mean, Sd) UCL	
Methyl tert-butyl ether	ug/L	20	97.5% Chebyshev (Mean, Sd) UCL	
Methylcyclohexane	ug/L	25	97.5% Chebyshev (Mean, Sd) UCL	
Methylene chloride	ug/L	8.2	97.5% Chebyshev (Mean, Sd) UCL	
n-Butylbenzene	ug/L	6.1	97.5% Chebyshev (Mean, Sd) UCL	
n-Propylbenzene	ug/L	56	99% Chebyshev (Mean, Sd) UCL	
p-Cymene (p-isopropyltoluene)	ug/L	79	99% Chebyshev (Mean, Sd) UCL	
Phenol	ug/L	48	97.5% Chebyshev (Mean, Sd) UCL	
sec-Butylbenzene	ug/L	5.6	97.5% Chebyshev (Mean, Sd) UCL	
Styrene	ug/L	14	97.5% Chebyshev (Mean, Sd) UCL	
tert-Butylbenzene	ug/L	2.1	Maximum Result	
tert-Butyl alcohol	ug/L	117	97.5% Chebyshev (Mean, Sd) UCL	
Tetrachloroethene	ug/L	12	Maximum Result	
Toluene	ug/L	6,112	99% Chebyshev (Mean, Sd) UCL	
trans-1,2-Dichloroethene	ug/L	401	99% Chebyshev (Mean, Sd) UCL	
trans-1,3-Dichloropropene	ug/L	4.1	Maximum Result	
Trichloroethene	ug/L	57	97.5% Chebyshev (Mean, Sd) UCL	
Vinyl chloride	ug/L	1,627	99% Chebyshev (Mean, Sd) UCL	
m,p-Xylene	ug/L	944	99% Chebyshev (Mean, Sd) UCL	
o-Xylene	ug/L	445	99% Chebyshev (Mean, Sd) UCL	
Xylenes, total	ug/L	1,600	99% Chebyshev (Mean, Sd) UCL	
Dioxans/Furans				**Dioxin/Furans TEQ**
1,2,3,4,6,7,8-HpCDD	pg/L	464	99% Chebyshev (Mean, Sd) UCL	4.64
1,2,3,4,6,7,8-HpCDF	pg/L	95	99% Chebyshev (Mean, Sd) UCL	0.95
1,2,3,4,7,8,9-HpCDF	pg/L	10	99% Chebyshev (Mean, Sd) UCL	0.098
1,2,3,4,7,8-HxCDD	pg/L	2.6	95% Chebyshev (Mean, Sd) UCL	0.26
1,2,3,4,7,8-HxCDF	pg/L	8.5	99% Chebyshev (Mean, Sd) UCL	0.85
1,2,3,6,7,8-HxCDD	pg/L	13	99% Chebyshev (Mean, Sd) UCL	1.33
1,2,3,6,7,8-HxCDF	pg/L	1.6	95% Chebyshev (Mean, Sd) UCL	0.16
1,2,3,7,8,9-HxCDD	pg/L	4.4	95% Chebyshev (Mean, Sd) UCL	0.44
1,2,3,7,8,9-HxCDF	pg/L	3.9	99% Chebyshev (Mean, Sd) UCL	0.39
1,2,3,7,8-PeCDD	pg/L	1.1	95% H-UCL	1.08
1,2,3,7,8-PeCDF	pg/L	2.3	95% Chebyshev (Mean, Sd) UCL	0.068
2,3,4,6,7,8-HxCDF	pg/L	3.9	99% Chebyshev (Mean, Sd) UCL	0.39
2,3,4,7,8-PeCDF	pg/L	2.6	95% Chebyshev (Mean, Sd) UCL	0.79
2,3,7,8-TCDF	pg/L	1.7	95% Chebyshev (Mean, Sd) UCL	0.17

Table 9
Exposure Point Concentrations for Groundwater
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Chemical	Units	Exposure Point Concentration	EPC Basis	
OCDF	pg/L	744	99% Chebyshev (Mean, Sd) UCL	0.22
OCDD	pg/L	2180	95% Hall's Bootstrap UCL	0.65
Total TEQs	pg/L			12.5

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
1414 3rd St	Crawlspace Air	1,1,1-Trichloroethane	µg/m^3	15.8	95% Approximate Gamma UCL
1414 3rd St	Crawlspace Air	1,1,2-Trichloroethane	µg/m^3	0.041	Maximum Result
1414 3rd St	Crawlspace Air	1,1-Dichloroethane	µg/m^3	21.3	95% Approximate Gamma UCL
1414 3rd St	Crawlspace Air	1,1-Dichloroethene	µg/m^3	1.05	95% KM (Chebyshev) UCL
1414 3rd St	Crawlspace Air	1,2,4-Trimethylbenzene	µg/m^3	2.14	95% H-UCL
1414 3rd St	Crawlspace Air	1,2-Dibromoethane	µg/m^3	0.11	Maximum Result
1414 3rd St	Crawlspace Air	1,2-Dichloroethane	µg/m^3	0.802	95% KM (Chebyshev) UCL
1414 3rd St	Crawlspace Air	1,2-Dichloropropane	µg/m^3	0.0619	95% KM (t) UCL
1414 3rd St	Crawlspace Air	1,3,5-Trimethylbenzene	µg/m^3	0.364	95% KM (Percentile Bootstrap) UCL
1414 3rd St	Crawlspace Air	1,4-Dichlorobenzene	µg/m^3	0.417	95% KM (t) UCL
1414 3rd St	Crawlspace Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.724	Too Few Unique Detected Values *
1414 3rd St	Crawlspace Air	Benzene	µg/m^3	0.724	95% Approximate Gamma UCL
1414 3rd St	Crawlspace Air	Bromomethane	µg/m^3	0.189	95% KM (t) UCL
1414 3rd St	Crawlspace Air	Carbon tetrachloride	µg/m^3	6.05	95% Chebyshev (Mean, Sd) UCL
1414 3rd St	Crawlspace Air	Chlorobenzene	µg/m^3	0.0878	95% KM (t) UCL
1414 3rd St	Crawlspace Air	Chloroethane	µg/m^3	0.384	95% KM (Percentile Bootstrap) UCL
1414 3rd St	Crawlspace Air	Chloroform	µg/m^3	1.35	95% KM (Chebyshev) UCL
1414 3rd St	Crawlspace Air	Chloromethane	µg/m^3	24.2	97.5% KM (Chebyshev) UCL
1414 3rd St	Crawlspace Air	cis-1,2-Dichloroethene	µg/m^3	272	95% Approximate Gamma UCL
1414 3rd St	Crawlspace Air	cis-1,3-Dichloropropene	µg/m^3	0.056	Maximum Result
1414 3rd St	Crawlspace Air	Ethylbenzene	µg/m^3	1.11	95% Student's-t UCL
1414 3rd St	Crawlspace Air	Freon 11	µg/m^3	2.68	95% Student's-t UCL
1414 3rd St	Crawlspace Air	Freon 113	µg/m^3	0.675	95% Student's-t UCL
1414 3rd St	Crawlspace Air	Freon 12	µg/m^3	4.23	95% Student's-t UCL
1414 3rd St	Crawlspace Air	Methyl tert-butyl ether	µg/m^3	0.0777	95% KM (t) UCL
1414 3rd St	Crawlspace Air	Methylene chloride	µg/m^3	0.801	95% KM (t) UCL
1414 3rd St	Crawlspace Air	Naphthalene	µg/m^3	0.638	95% KM (t) UCL
1414 3rd St	Crawlspace Air	Styrene	µg/m^3	0.347	95% KM (t) UCL
1414 3rd St	Crawlspace Air	Tetrachloroethene	µg/m^3	9.47	95% Approximate Gamma UCL
1414 3rd St	Crawlspace Air	Toluene	µg/m^3	9.3	95% Student's-t UCL
1414 3rd St	Crawlspace Air	trans-1,2-Dichloroethene	µg/m^3	0.635	95% KM (Chebyshev) UCL
1414 3rd St	Crawlspace Air	trans-1,3-Dichloropropene	µg/m^3	0.057	Maximum Result
1414 3rd St	Crawlspace Air	Trichloroethene	µg/m^3	13.6	95% Approximate Gamma UCL
1414 3rd St	Crawlspace Air	Vinyl chloride	µg/m^3	1.61	95% KM (BCA) UCL
1414 3rd St	Crawlspace Air	Xylenes, m & p	µg/m^3	3.86	95% Student's-t UCL
1428 3rd St	Crawlspace Air	Xylenes, o	µg/m^3	0.985	95% Student's-t UCL
1428 3rd St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.0941	95% KM (t) UCL
1428 3rd St	Ambient Air	1,1,2,2-Tetrachloroethane	µg/m^3	0.159	95% KM (t) UCL
1428 3rd St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	4.74	95% Chebyshev (MVUE) UCL
1428 3rd St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.126	95% KM (Percentile Bootstrap) UCL
1428 3rd St	Ambient Air	1,2-Dichloropropane	µg/m^3	0.0513	95% KM (t) UCL
1428 3rd St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	4.09	95% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	1,3-Dichlorobenzene	µg/m^3	51	Maximum Result
1428 3rd St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	1.14	95% KM (t) UCL
1428 3rd St	Ambient Air	Benzene	µg/m^3	3.2	95% Chebyshev (Mean, Sd) UCL
1428 3rd St	Ambient Air	Bromomethane	µg/m^3	0.244	95% KM (t) UCL
1428 3rd St	Ambient Air	Carbon tetrachloride	µg/m^3	0.565	95% Student's-t UCL
1428 3rd St	Ambient Air	Chlorobenzene	µg/m^3	0.3	Maximum Result
1428 3rd St	Ambient Air	Chloroethane	µg/m^3	0.089	95% KM (t) UCL
1428 3rd St	Ambient Air	Chloroform	µg/m^3	0.208	95% KM (Percentile Bootstrap) UCL
1428 3rd St	Ambient Air	Chloromethane	µg/m^3	1.28	95% Student's-t UCL
1428 3rd St	Ambient Air	cis-1,3-Dichloropropene	µg/m^3	0.052	Maximum Result
1428 3rd St	Ambient Air	Ethylbenzene	µg/m^3	12	Maximum Result
1428 3rd St	Ambient Air	Freon 11	µg/m^3	2.08	95% Student's-t UCL
1428 3rd St	Ambient Air	Freon 113	µg/m^3	0.672	95% Student's-t UCL
1428 3rd St	Ambient Air	Freon 114	µg/m^3	0.13	Maximum Result
1428 3rd St	Ambient Air	Freon 12	µg/m^3	2.71	95% Student's-t UCL
1428 3rd St	Ambient Air	Methyl tert-butyl ether	µg/m^3	0.023	Maximum Result

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
1428 3rd St	Ambient Air	Methylene chloride	µg/m^3	6.26	95% KM (t) UCL
1428 3rd St	Ambient Air	Naphthalene	µg/m^3	5.18	95% KM (t) UCL
1428 3rd St	Ambient Air	Styrene	µg/m^3	6.8	Maximum Result
1428 3rd St	Ambient Air	Tetrachloroethene	µg/m^3	1.16	95% Chebyshev (Mean, Sd) UCL
1428 3rd St	Ambient Air	Toluene	µg/m^3	12.5	95% Chebyshev (MVUE) UCL
1428 3rd St	Ambient Air	trans-1,2-Dichloroethene	µg/m^3	0.042	Maximum Result
1428 3rd St	Ambient Air	trans-1,3-Dichloropropene	µg/m^3	0.041	Maximum Result
1428 3rd St	Ambient Air	Trichloroethene	µg/m^3	0.261	95% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	Vinyl chloride	µg/m^3	0.0385	Too Few Unique Detected Values *
1428 3rd St	Ambient Air	Xylenes, m & p	µg/m^3	44	Maximum Result
1428 3rd St	Ambient Air	Xylenes, o	µg/m^3	18	Maximum Result
1428 3rd St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.114	95% KM (t) UCL
1428 3rd St	Ambient Air	1,1,2,2-Tetrachloroethane	µg/m^3	0.074	Maximum Result
1428 3rd St	Ambient Air	1,1,2-Trichloroethane	µg/m^3	0.065	Maximum Result
1428 3rd St	Ambient Air	1,1-Dichloroethane	µg/m^3	0.026	Maximum Result
1428 3rd St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	33.5	99% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	1,2-Dibromoethane	µg/m^3	0.034	Maximum Result
1428 3rd St	Ambient Air	1,2-Dichloroethane	µg/m^3	2.1	99% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	1,2-Dichloropropane	µg/m^3	0.0906	95% KM (t) UCL
1428 3rd St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	9.46	99% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.565	95% KM (t) UCL
1428 3rd St	Ambient Air	Benzene	µg/m^3	1.1	95% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	Bromomethane	µg/m^3	0.185	95% KM (t) UCL
1428 3rd St	Ambient Air	Carbon tetrachloride	µg/m^3	0.501	95% KM (BCA) UCL
1428 3rd St	Ambient Air	Chlorobenzene	µg/m^3	0.0372	95% KM (t) UCL
1428 3rd St	Ambient Air	Chloroethane	µg/m^3	0.178	95% KM (BCA) UCL
1428 3rd St	Ambient Air	Chloroform	µg/m^3	2.53	95% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	Chloromethane	µg/m^3	8.88	97.5% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	Ethylbenzene	µg/m^3	1.26	95% Approximate Gamma UCL
1428 3rd St	Ambient Air	Freon 11	µg/m^3	2.95	95% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	Freon 113	µg/m^3	0.654	95% KM (t) UCL
1428 3rd St	Ambient Air	Freon 12	µg/m^3	2.54	95% KM (t) UCL
1428 3rd St	Ambient Air	Methylene chloride	µg/m^3	2.17	95% KM (t) UCL
1428 3rd St	Ambient Air	Naphthalene	µg/m^3	1.09	95% KM (t) UCL
1428 3rd St	Ambient Air	Styrene	µg/m^3	0.498	95% KM (Chebyshev) UCL
1428 3rd St	Ambient Air	Tetrachloroethene	µg/m^3	1.74	95% Chebyshev (Mean, Sd) UCL
1428 3rd St	Ambient Air	Toluene	µg/m^3	12.6	95% Approximate Gamma UCL
1428 3rd St	Ambient Air	trans-1,3-Dichloropropene	µg/m^3	0.018	Maximum Result
1428 3rd St	Ambient Air	Trichloroethene	µg/m^3	3.37	99% Chebyshev (Mean, Sd) UCL
1428 3rd St	Ambient Air	Vinyl chloride	µg/m^3	1.58	95% KM (t) UCL
1428 3rd St	Ambient Air	Xylenes, m & p	µg/m^3	5.49	95% Approximate Gamma UCL
1428 3rd St	Ambient Air	Xylenes, o	µg/m^3	3.43	95% Chebyshev (MVUE) UCL
1432 3rd St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.0823	95% KM (t) UCL
1432 3rd St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.983	95% KM (Chebyshev) UCL
1432 3rd St	Ambient Air	1,2-Dichlorobenzene	µg/m^3	0.13	Maximum Result
1432 3rd St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.0557	95% KM (t) UCL
1432 3rd St	Ambient Air	1,2-Dichloropropane	µg/m^3	0.0438	95% KM (t) UCL
1432 3rd St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.354	95% KM (Chebyshev) UCL
1432 3rd St	Ambient Air	1,3-Dichlorobenzene	µg/m^3	0.092	Maximum Result
1432 3rd St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.25	Maximum Result
1432 3rd St	Ambient Air	Benzene	µg/m^3	0.852	95% Approximate Gamma UCL
1432 3rd St	Ambient Air	Bromomethane	µg/m^3	1.18	95% KM (Chebyshev) UCL
1432 3rd St	Ambient Air	Carbon tetrachloride	µg/m^3	0.525	95% Student's-t UCL
1432 3rd St	Ambient Air	Chlorobenzene	µg/m^3	0.022	Maximum Result
1432 3rd St	Ambient Air	Chloroethane	µg/m^3	0.0991	95% KM (t) UCL
1432 3rd St	Ambient Air	Chloroform	µg/m^3	0.234	95% KM (t) UCL
1432 3rd St	Ambient Air	Chloromethane	µg/m^3	1.21	95% Student's-t UCL
1432 3rd St	Ambient Air	cis-1,3-Dichloropropene	µg/m^3	0.051	Maximum Result

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
1432 3rd St	Ambient Air	Ethylbenzene	µg/m^3	0.642	95% Approximate Gamma UCL
1432 3rd St	Ambient Air	Freon 11	µg/m^3	2.05	95% Student's-t UCL
1432 3rd St	Ambient Air	Freon 113	µg/m^3	0.645	95% Student's-t UCL
1432 3rd St	Ambient Air	Freon 114	µg/m^3	0.13	Maximum Result
1432 3rd St	Ambient Air	Freon 12	µg/m^3	2.52	95% Student's-t UCL
1432 3rd St	Ambient Air	Methyl tert-butyl ether	µg/m^3	0.019	Maximum Result
1432 3rd St	Ambient Air	Methylene chloride	µg/m^3	1.78	95% KM (t) UCL
1432 3rd St	Ambient Air	Naphthalene	µg/m^3	0.74	Maximum Result
1432 3rd St	Ambient Air	Styrene	µg/m^3	0.193	95% KM (t) UCL
1432 3rd St	Ambient Air	Tetrachloroethene	µg/m^3	0.239	95% KM (t) UCL
1432 3rd St	Ambient Air	Toluene	µg/m^3	3.96	95% Approximate Gamma UCL
1432 3rd St	Ambient Air	trans-1,3-Dichloropropene	µg/m^3	0.046	Maximum Result
1432 3rd St	Ambient Air	Trichloroethene	µg/m^3	0.102	95% KM (t) UCL
1432 3rd St	Ambient Air	Xylenes, m & p	µg/m^3	2.12	95% Approximate Gamma UCL
1432 3rd St	Ambient Air	Xylenes, o	µg/m^3	0.704	95% Approximate Gamma UCL
1432 3rd St	Crawlspace Air	1,1,1-Trichloroethane	µg/m^3	0.0961	95% KM (t) UCL
1432 3rd St	Crawlspace Air	1,2,4-Trimethylbenzene	µg/m^3	30.9	99% Chebyshev (Mean, Sd) UCL
1432 3rd St	Crawlspace Air	1,2-Dichlorobenzene	µg/m^3	0.16	Maximum Result
1432 3rd St	Crawlspace Air	1,2-Dichloroethane	µg/m^3	0.627	97.5% KM (Chebyshev) UCL
1432 3rd St	Crawlspace Air	1,2-Dichloropropane	µg/m^3	0.0615	95% KM (t) UCL
1432 3rd St	Crawlspace Air	1,3,5-Trimethylbenzene	µg/m^3	11	Maximum Result
1432 3rd St	Crawlspace Air	1,3-Dichlorobenzene	µg/m^3	63	Maximum Result
1432 3rd St	Crawlspace Air	1,4-Dichlorobenzene	µg/m^3	1.63	95% KM (t) UCL
1432 3rd St	Crawlspace Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.26	Maximum Result
1432 3rd St	Crawlspace Air	Benzene	µg/m^3	16	Maximum Result
1432 3rd St	Crawlspace Air	Bromomethane	µg/m^3	0.33	95% KM (t) UCL
1432 3rd St	Crawlspace Air	Carbon tetrachloride	µg/m^3	0.531	95% Student's-t UCL
1432 3rd St	Crawlspace Air	Chlorobenzene	µg/m^3	0.146	95% KM (t) UCL
1432 3rd St	Crawlspace Air	Chloroethane	µg/m^3	0.166	95% KM (t) UCL
1432 3rd St	Crawlspace Air	Chloroform	µg/m^3	0.389	95% KM (t) UCL
1432 3rd St	Crawlspace Air	Chloromethane	µg/m^3	3.07	95% H-UCL
1432 3rd St	Crawlspace Air	cis-1,3-Dichloropropene	µg/m^3	0.036	Maximum Result
1432 3rd St	Crawlspace Air	Ethylbenzene	µg/m^3	20	99% Chebyshev (Mean, Sd) UCL
1432 3rd St	Crawlspace Air	Freon 11	µg/m^3	2.16	95% Student's-t UCL
1432 3rd St	Crawlspace Air	Freon 113	µg/m^3	0.676	95% Student's-t UCL
1432 3rd St	Crawlspace Air	Freon 114	µg/m^3	0.23	Maximum Result
1432 3rd St	Crawlspace Air	Freon 12	µg/m^3	2.54	95% Student's-t UCL
1432 3rd St	Crawlspace Air	Methyl tert-butyl ether	µg/m^3	0.019	Maximum Result
1432 3rd St	Crawlspace Air	Methylene chloride	µg/m^3	1.37	95% KM (t) UCL
1432 3rd St	Crawlspace Air	Naphthalene	µg/m^3	0.882	95% KM (t) UCL
1432 3rd St	Crawlspace Air	Styrene	µg/m^3	5.56	95% KM (Chebyshev) UCL
1432 3rd St	Crawlspace Air	Tetrachloroethene	µg/m^3	2.21	97.5% KM (Chebyshev) UCL
1432 3rd St	Crawlspace Air	Toluene	µg/m^3	30.6	95% Approximate Gamma UCL
1432 3rd St	Crawlspace Air	trans-1,3-Dichloropropene	µg/m^3	0.04	Maximum Result
1432 3rd St	Crawlspace Air	Trichloroethene	µg/m^3	0.886	95% KM (Chebyshev) UCL
1432 3rd St	Crawlspace Air	Vinyl chloride	µg/m^3	2.8	Maximum Result
1432 3rd St	Crawlspace Air	Xylenes, m & p	µg/m^3	93.7	99% Chebyshev (Mean, Sd) UCL
1432 3rd St	Crawlspace Air	Xylenes, o	µg/m^3	32.9	99% Chebyshev (Mean, Sd) UCL
1436 3rd St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.099	95% KM (t) UCL
1436 3rd St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	1.59	95% Student's-t UCL
1436 3rd St	Ambient Air	1,2-Dichlorobenzene	µg/m^3	0.1	Maximum Result
1436 3rd St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.061	95% KM (t) UCL
1436 3rd St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.537	95% Student's-t UCL
1436 3rd St	Ambient Air	1,3-Dichlorobenzene	µg/m^3	0.074	Maximum Result
1436 3rd St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.204	95% KM (t) UCL
1436 3rd St	Ambient Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.22	Maximum Result
1436 3rd St	Ambient Air	Benzene	µg/m^3	1.32	95% Student's-t UCL
1436 3rd St	Ambient Air	Bromomethane	µg/m^3	0.295	95% KM (t) UCL

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
1436 3rd St	Ambient Air	Carbon tetrachloride	µg/m^3	0.568	95% Student's-t UCL
1436 3rd St	Ambient Air	Chlorobenzene	µg/m^3	0.048	Maximum Result
1436 3rd St	Ambient Air	Chloroethane	µg/m^3	0.0689	95% KM (t) UCL
1436 3rd St	Ambient Air	Chloroform	µg/m^3	0.274	95% KM (BCA) UCL
1436 3rd St	Ambient Air	Chloromethane	µg/m^3	7.27	95% Chebyshev (Mean, Sd) UCL
1436 3rd St	Ambient Air	Ethylbenzene	µg/m^3	1.57	95% Student's-t UCL
1436 3rd St	Ambient Air	Freon 11	µg/m^3	1.98	95% Student's-t UCL
1436 3rd St	Ambient Air	Freon 113	µg/m^3	0.692	95% Student's-t UCL
1436 3rd St	Ambient Air	Freon 114	µg/m^3	0.14	Maximum Result
1436 3rd St	Ambient Air	Freon 12	µg/m^3	2.81	95% Student's-t UCL
1436 3rd St	Ambient Air	Methylene chloride	µg/m^3	6.99	95% KM (t) UCL
1436 3rd St	Ambient Air	Naphthalene	µg/m^3	0.62	Maximum Result
1436 3rd St	Ambient Air	Styrene	µg/m^3	0.314	95% KM (t) UCL
1436 3rd St	Ambient Air	Tetrachloroethene	µg/m^3	0.252	95% KM (t) UCL
1436 3rd St	Ambient Air	Toluene	µg/m^3	14	Maximum Result
1436 3rd St	Ambient Air	Trichloroethene	µg/m^3	0.189	95% KM (t) UCL
1436 3rd St	Ambient Air	Vinyl chloride	µg/m^3	0.627	Too Few Unique Detected Values *
1436 3rd St	Ambient Air	Xylenes, m & p	µg/m^3	7.9	Maximum Result
1436 3rd St	Ambient Air	Xylenes, o	µg/m^3	1.65	95% Student's-t UCL
320 Center St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.0868	95% Student's-t UCL
320 Center St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	1.72	95% Student's-t UCL
320 Center St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.0785	95% Student's-t UCL
320 Center St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.83	Maximum Result
320 Center St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.19	Maximum Result
320 Center St	Ambient Air	Benzene	µg/m^3	1.35	95% Student's-t UCL
320 Center St	Ambient Air	Bromomethane	µg/m^3	0.18	Maximum Result
320 Center St	Ambient Air	Carbon tetrachloride	µg/m^3	0.546	95% Student's-t UCL
320 Center St	Ambient Air	Chlorobenzene	µg/m^3	0.02	Maximum Result
320 Center St	Ambient Air	Chloroform	µg/m^3	0.311	95% KM (t) UCL
320 Center St	Ambient Air	Chloromethane	µg/m^3	1.1	Maximum Result
320 Center St	Ambient Air	cis-1,3-Dichloropropene	µg/m^3	0.046	Maximum Result
320 Center St	Ambient Air	Ethylbenzene	µg/m^3	1.27	95% Student's-t UCL
320 Center St	Ambient Air	Freon 11	µg/m^3	3.09	95% Approximate Gamma UCL
320 Center St	Ambient Air	Freon 113	µg/m^3	0.736	95% KM (t) UCL
320 Center St	Ambient Air	Freon 12	µg/m^3	2.66	95% Student's-t UCL
320 Center St	Ambient Air	Methylene chloride	µg/m^3	3.01	95% KM (t) UCL
320 Center St	Ambient Air	Naphthalene	µg/m^3	1.9	Maximum Result
320 Center St	Ambient Air	Styrene	µg/m^3	0.315	95% KM (t) UCL
320 Center St	Ambient Air	Tetrachloroethene	µg/m^3	0.27	Maximum Result
320 Center St	Ambient Air	Toluene	µg/m^3	8.71	95% Student's-t UCL
320 Center St	Ambient Air	trans-1,3-Dichloropropene	µg/m^3	0.037	Maximum Result
320 Center St	Ambient Air	Trichloroethene	µg/m^3	0.1	Maximum Result
320 Center St	Ambient Air	Xylenes, m & p	µg/m^3	6.4	Maximum Result
320 Center St	Ambient Air	Xylenes, o	µg/m^3	2.2	Maximum Result
320 Center St	Crawlspace Air	1,1,1-Trichloroethane	µg/m^3	0.117	95% Student's-t UCL
320 Center St	Crawlspace Air	1,2,4-Trimethylbenzene	µg/m^3	1.94	95% H-UCL
320 Center St	Crawlspace Air	1,2-Dichloroethane	µg/m^3	1.17	95% Approximate Gamma UCL
320 Center St	Crawlspace Air	1,2-Dichloropropane	µg/m^3	0.14	Maximum Result
320 Center St	Crawlspace Air	1,3,5-Trimethylbenzene	µg/m^3	0.678	95% Chebyshev (Mean, Sd) UCL
320 Center St	Crawlspace Air	1,4-Dichlorobenzene	µg/m^3	0.916	95% KM (t) UCL
320 Center St	Crawlspace Air	Benzene	µg/m^3	1.32	95% Student's-t UCL
320 Center St	Crawlspace Air	Bromomethane	µg/m^3	0.353	95% KM (t) UCL
320 Center St	Crawlspace Air	Carbon tetrachloride	µg/m^3	0.537	95% Student's-t UCL
320 Center St	Crawlspace Air	Chlorobenzene	µg/m^3	0.032	Maximum Result
320 Center St	Crawlspace Air	Chloroethane	µg/m^3	0.029	Maximum Result
320 Center St	Crawlspace Air	Chloroform	µg/m^3	0.353	95% KM (BCA) UCL
320 Center St	Crawlspace Air	Chloromethane	µg/m^3	1.04	95% Student's-t UCL
320 Center St	Crawlspace Air	cis-1,3-Dichloropropene	µg/m^3	0.053	Maximum Result

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
320 Center St	Crawlspace Air	Ethylbenzene	µg/m^3	1.67	95% Chebyshev (Mean, Sd) UCL
320 Center St	Crawlspace Air	Freon 11	µg/m^3	2.71	95% Approximate Gamma UCL
320 Center St	Crawlspace Air	Freon 113	µg/m^3	0.64	95% Student's-t UCL
320 Center St	Crawlspace Air	Freon 12	µg/m^3	2.5	95% Student's-t UCL
320 Center St	Crawlspace Air	Methyl tert-butyl ether	µg/m^3	0.022	Maximum Result
320 Center St	Crawlspace Air	Methylene chloride	µg/m^3	4.4	95% KM (BCA) UCL
320 Center St	Crawlspace Air	Styrene	µg/m^3	0.462	95% Student's-t UCL
320 Center St	Crawlspace Air	Tetrachloroethene	µg/m^3	0.539	95% Approximate Gamma UCL
320 Center St	Crawlspace Air	Toluene	µg/m^3	14.1	95% Student's-t UCL
320 Center St	Crawlspace Air	trans-1,3-Dichloropropene	µg/m^3	0.047	Maximum Result
320 Center St	Crawlspace Air	Trichloroethene	µg/m^3	1.19	95% Student's-t UCL
320 Center St	Crawlspace Air	Vinyl chloride	µg/m^3	0.0202	95% KM (t) UCL
326 Center St	Crawlspace Air	Xylenes, m & p	µg/m^3	5.8	95% Chebyshev (Mean, Sd) UCL
326 Center St	Crawlspace Air	Xylenes, o	µg/m^3	2.02	95% Chebyshev (Mean, Sd) UCL
326 Center St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.0861	95% KM (t) UCL
326 Center St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.612	95% Approximate Gamma UCL
326 Center St	Ambient Air	1,2-Dichlorobenzene	µg/m^3	0.083	Maximum Result
326 Center St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.0526	95% KM (t) UCL
326 Center St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.511	95% KM (Chebyshev) UCL
326 Center St	Ambient Air	1,3-Dichlorobenzene	µg/m^3	0.047	Maximum Result
326 Center St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.85	Maximum Result
326 Center St	Ambient Air	Benzene	µg/m^3	1.01	95% Approximate Gamma UCL
326 Center St	Ambient Air	Bromomethane	µg/m^3	0.269	95% KM (BCA) UCL
326 Center St	Ambient Air	Carbon tetrachloride	µg/m^3	0.516	95% Student's-t UCL
326 Center St	Ambient Air	Chlorobenzene	µg/m^3	0.015	Maximum Result
326 Center St	Ambient Air	Chloroethane	µg/m^3	0.0629	95% KM (t) UCL
326 Center St	Ambient Air	Chloroform	µg/m^3	0.255	95% KM (Chebyshev) UCL
326 Center St	Ambient Air	Chloromethane	µg/m^3	1.19	95% KM (t) UCL
326 Center St	Ambient Air	cis-1,3-Dichloropropene	µg/m^3	0.052	Maximum Result
326 Center St	Ambient Air	Ethylbenzene	µg/m^3	1.06	95% Approximate Gamma UCL
326 Center St	Ambient Air	Freon 11	µg/m^3	1.58	95% Student's-t UCL
326 Center St	Ambient Air	Freon 113	µg/m^3	0.66	95% Student's-t UCL
326 Center St	Ambient Air	Freon 12	µg/m^3	2.61	95% KM (t) UCL
326 Center St	Ambient Air	Methyl tert-butyl ether	µg/m^3	0.023	Maximum Result
326 Center St	Ambient Air	Methylene chloride	µg/m^3	3.14	Too Few Unique Detected Values *
326 Center St	Ambient Air	Naphthalene	µg/m^3	0.036	Maximum Result
326 Center St	Ambient Air	Styrene	µg/m^3	0.0831	95% KM (t) UCL
326 Center St	Ambient Air	Tetrachloroethene	µg/m^3	0.26	95% KM (t) UCL
326 Center St	Ambient Air	Toluene	µg/m^3	10	Maximum Result
326 Center St	Ambient Air	trans-1,3-Dichloropropene	µg/m^3	0.048	Maximum Result
326 Center St	Ambient Air	Trichloroethene	µg/m^3	0.0761	95% KM (t) UCL
326 Center St	Ambient Air	Xylenes, m & p	µg/m^3	3.99	95% Approximate Gamma UCL
326 Center St	Ambient Air	Xylenes, o	µg/m^3	1.31	95% Approximate Gamma UCL
326 Center St	Crawlspace Air	1,1,1-Trichloroethane	µg/m^3	0.0864	95% KM (t) UCL
326 Center St	Crawlspace Air	1,1,2,2-Tetrachloroethane	µg/m^3	0.39	Too Few Unique Detected Values *
326 Center St	Crawlspace Air	1,1,2-Trichloroethane	µg/m^3	0.076	Maximum Result
326 Center St	Crawlspace Air	1,1-Dichloroethane	µg/m^3	0.015	Maximum Result
326 Center St	Crawlspace Air	1,2,4-Trimethylbenzene	µg/m^3	1.08	95% Approximate Gamma UCL
326 Center St	Crawlspace Air	1,2-Dichlorobenzene	µg/m^3	0.13	Maximum Result
326 Center St	Crawlspace Air	1,2-Dichloroethane	µg/m^3	1.57	97.5% KM (Chebyshev) UCL
326 Center St	Crawlspace Air	1,2-Dichloropropane	µg/m^3	0.102	95% KM (t) UCL
326 Center St	Crawlspace Air	1,3,5-Trimethylbenzene	µg/m^3	0.22	95% KM (t) UCL
326 Center St	Crawlspace Air	1,3-Dichlorobenzene	µg/m^3	0.096	Maximum Result
326 Center St	Crawlspace Air	1,4-Dichlorobenzene	µg/m^3	2.5	95% KM (BCA) UCL
326 Center St	Crawlspace Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.18	Maximum Result
326 Center St	Crawlspace Air	Benzene	µg/m^3	0.978	95% Student's-t UCL
326 Center St	Crawlspace Air	Bromomethane	µg/m^3	0.204	95% KM (t) UCL
326 Center St	Crawlspace Air	Carbon tetrachloride	µg/m^3	0.519	95% Student's-t UCL

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
326 Center St	Crawlspace Air	Chlorobenzene	µg/m^3	0.033	95% KM (t) UCL
326 Center St	Crawlspace Air	Chloroethane	µg/m^3	0.0607	95% KM (t) UCL
326 Center St	Crawlspace Air	Chloroform	µg/m^3	0.272	95% KM (BCA) UCL
326 Center St	Crawlspace Air	Chloromethane	µg/m^3	1.06	95% Student's-t UCL
326 Center St	Crawlspace Air	cis-1,2-Dichloroethene	µg/m^3	0.018	Maximum Result
326 Center St	Crawlspace Air	cis-1,3-Dichloropropene	µg/m^3	0.039	Maximum Result
326 Center St	Crawlspace Air	Ethylbenzene	µg/m^3	1	95% Student's-t UCL
326 Center St	Crawlspace Air	Freon 11	µg/m^3	2.14	95% Approximate Gamma UCL
326 Center St	Crawlspace Air	Freon 113	µg/m^3	0.668	95% Student's-t UCL
326 Center St	Crawlspace Air	Freon 114	µg/m^3	0.11	Maximum Result
326 Center St	Crawlspace Air	Freon 12	µg/m^3	2.84	95% Student's-t UCL
326 Center St	Crawlspace Air	Hexachlorobutadiene	µg/m^3	0.68	Maximum Result
326 Center St	Crawlspace Air	Methyl tert-butyl ether	µg/m^3	0.016	Maximum Result
326 Center St	Crawlspace Air	Methylene chloride	µg/m^3	2.12	95% KM (t) UCL
326 Center St	Crawlspace Air	Styrene	µg/m^3	0.508	95% KM (BCA) UCL
326 Center St	Crawlspace Air	Tetrachloroethene	µg/m^3	0.469	95% KM (t) UCL
326 Center St	Crawlspace Air	Toluene	µg/m^3	16.2	95% Student's-t UCL
326 Center St	Crawlspace Air	Trichloroethene	µg/m^3	1.69	95% KM (Chebyshev) UCL
326 Center St	Crawlspace Air	Vinyl chloride	µg/m^3	0.0357	95% KM (t) UCL
326 Center St	Crawlspace Air	Xylenes, m & p	µg/m^3	3.78	95% Student's-t UCL
326 Center St	Crawlspace Air	Xylenes, o	µg/m^3	0.913	95% Student's-t UCL
339 Center St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.062	Maximum Result
339 Center St	Ambient Air	1,1,2,2-Tetrachloroethane	µg/m^3	0.18	Maximum Result
339 Center St	Ambient Air	1,1,2-Trichloroethane	µg/m^3	0.033	Maximum Result
339 Center St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.37	Maximum Result
339 Center St	Ambient Air	1,2-Dichlorobenzene	µg/m^3	0.22	Maximum Result
339 Center St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.067	Maximum Result
339 Center St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.16	Maximum Result
339 Center St	Ambient Air	1,3-Dichlorobenzene	µg/m^3	0.19	Maximum Result
339 Center St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.24	Maximum Result
339 Center St	Ambient Air	Benzene	µg/m^3	0.38	Maximum Result
339 Center St	Ambient Air	Bromomethane	µg/m^3	0.41	Maximum Result
339 Center St	Ambient Air	Carbon tetrachloride	µg/m^3	0.4	Maximum Result
339 Center St	Ambient Air	Chloromethane	µg/m^3	0.92	Maximum Result
339 Center St	Ambient Air	Ethylbenzene	µg/m^3	0.21	Maximum Result
339 Center St	Ambient Air	Freon 11	µg/m^3	1.1	Maximum Result
339 Center St	Ambient Air	Freon 113	µg/m^3	0.45	Maximum Result
339 Center St	Ambient Air	Freon 12	µg/m^3	2	Maximum Result
339 Center St	Ambient Air	Methyl tert-butyl ether	µg/m^3	0.03	Maximum Result
339 Center St	Ambient Air	Methylene chloride	µg/m^3	0.46	Maximum Result
339 Center St	Ambient Air	Naphthalene	µg/m^3	1.1	Maximum Result
339 Center St	Ambient Air	Tetrachloroethene	µg/m^3	0.096	Maximum Result
339 Center St	Ambient Air	Toluene	µg/m^3	1.2	Maximum Result
339 Center St	Ambient Air	Trichloroethene	µg/m^3	0.13	Maximum Result
339 Center St	Ambient Air	Xylenes, m & p	µg/m^3	0.67	Maximum Result
339 Center St	Ambient Air	Xylenes, o	µg/m^3	0.28	Maximum Result
356 Center St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.065	Maximum Result
356 Center St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.79	Maximum Result
356 Center St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.054	Maximum Result
356 Center St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.19	Maximum Result
356 Center St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.62	Maximum Result
356 Center St	Ambient Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.89	Maximum Result
356 Center St	Ambient Air	Benzene	µg/m^3	0.41	Maximum Result
356 Center St	Ambient Air	Bromomethane	µg/m^3	0.36	Maximum Result
356 Center St	Ambient Air	Carbon tetrachloride	µg/m^3	0.5	Maximum Result
356 Center St	Ambient Air	Chloromethane	µg/m^3	0.98	Maximum Result
356 Center St	Ambient Air	cis-1,2-Dichloroethene	µg/m^3	0.031	Maximum Result
356 Center St	Ambient Air	Ethylbenzene	µg/m^3	0.53	Maximum Result

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
356 Center St	Ambient Air	Freon 11	µg/m^3	1.2	Maximum Result
356 Center St	Ambient Air	Freon 113	µg/m^3	0.68	Maximum Result
356 Center St	Ambient Air	Freon 12	µg/m^3	2.4	Maximum Result
356 Center St	Ambient Air	Methylene chloride	µg/m^3	0.6	Maximum Result
356 Center St	Ambient Air	Naphthalene	µg/m^3	1.9	Maximum Result
356 Center St	Ambient Air	Tetrachloroethene	µg/m^3	0.12	Maximum Result
356 Center St	Ambient Air	Toluene	µg/m^3	2.1	Maximum Result
356 Center St	Ambient Air	Trichloroethene	µg/m^3	0.034	Maximum Result
356 Center St	Ambient Air	Xylenes, m & p	µg/m^3	1.2	Maximum Result
356 Center St	Ambient Air	Xylenes, o	µg/m^3	0.57	Maximum Result
360 Center St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.103	95% KM (t) UCL
360 Center St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	5.8	Maximum Result
360 Center St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.106	95% KM (t) UCL
360 Center St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	1.12	95% KM (t) UCL
360 Center St	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.243	95% KM (t) UCL
360 Center St	Ambient Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.36	Maximum Result
360 Center St	Ambient Air	Benzene	µg/m^3	1.47	95% KM (t) UCL
360 Center St	Ambient Air	Bromomethane	µg/m^3	0.311	95% KM (t) UCL
360 Center St	Ambient Air	Carbon tetrachloride	µg/m^3	0.666	95% Student's-t UCL
360 Center St	Ambient Air	Chlorobenzene	µg/m^3	0.052	Maximum Result
360 Center St	Ambient Air	Chloroethane	µg/m^3	0.075	Maximum Result
360 Center St	Ambient Air	Chloroform	µg/m^3	0.272	95% KM (t) UCL
360 Center St	Ambient Air	Chloromethane	µg/m^3	1.18	95% Student's-t UCL
360 Center St	Ambient Air	Ethylbenzene	µg/m^3	3.5	Maximum Result
360 Center St	Ambient Air	Freon 11	µg/m^3	1.63	95% Student's-t UCL
360 Center St	Ambient Air	Freon 113	µg/m^3	0.626	95% Student's-t UCL
360 Center St	Ambient Air	Freon 114	µg/m^3	0.12	Maximum Result
360 Center St	Ambient Air	Freon 12	µg/m^3	2.6	Maximum Result
360 Center St	Ambient Air	Methylene chloride	µg/m^3	3.25	95% KM (t) UCL
360 Center St	Ambient Air	Naphthalene	µg/m^3	0.041	Maximum Result
360 Center St	Ambient Air	Styrene	µg/m^3	0.397	95% KM (t) UCL
360 Center St	Ambient Air	Tetrachloroethene	µg/m^3	0.322	95% KM (t) UCL
360 Center St	Ambient Air	Toluene	µg/m^3	34	Maximum Result
360 Center St	Ambient Air	Trichloroethene	µg/m^3	0.151	95% KM (t) UCL
360 Center St	Ambient Air	Xylenes, m & p	µg/m^3	12	Maximum Result
360 Center St	Ambient Air	Xylenes, o	µg/m^3	3.4	Maximum Result
366 Center St	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.051	Maximum Result
366 Center St	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.32	Maximum Result
366 Center St	Ambient Air	1,2-Dichloroethane	µg/m^3	0.11	Maximum Result
366 Center St	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.11	Maximum Result
366 Center St	Ambient Air	Benzene	µg/m^3	0.42	Maximum Result
366 Center St	Ambient Air	Carbon tetrachloride	µg/m^3	0.48	Maximum Result
366 Center St	Ambient Air	Chloromethane	µg/m^3	1.2	Maximum Result
366 Center St	Ambient Air	Ethylbenzene	µg/m^3	0.74	Maximum Result
366 Center St	Ambient Air	Freon 11	µg/m^3	1.1	Maximum Result
366 Center St	Ambient Air	Freon 113	µg/m^3	0.52	Maximum Result
366 Center St	Ambient Air	Freon 12	µg/m^3	2	Maximum Result
366 Center St	Ambient Air	Methylene chloride	µg/m^3	0.78	Maximum Result
366 Center St	Ambient Air	Styrene	µg/m^3	0.23	Maximum Result
366 Center St	Ambient Air	Tetrachloroethene	µg/m^3	0.26	Maximum Result
366 Center St	Ambient Air	Toluene	µg/m^3	2	Maximum Result
366 Center St	Ambient Air	Trichloroethene	µg/m^3	0.045	Maximum Result
366 Center St	Ambient Air	Xylenes, m & p	µg/m^3	2.5	Maximum Result
366 Center St	Ambient Air	Xylenes, o	µg/m^3	0.85	Maximum Result
Prescott Park	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.0983	95% Student's-t UCL
Prescott Park	Ambient Air	1,1,2,2-Tetrachloroethane	µg/m^3	0.024	Maximum Result
Prescott Park	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.751	95% KM (t) UCL
Prescott Park	Ambient Air	1,2-Dichloroethane	µg/m^3	0.183	95% KM (t) UCL

Table 10
Exposure Point Concentrations for Crawlspace and Ambient Air
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Location	Matrix	Chemical	Units	Exposure Point Concentration	EPC Basis
Prescott Park	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.245	95% KM (t) UCL
Prescott Park	Ambient Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.891	Too Few Unique Detected Values *
Prescott Park	Ambient Air	Benzene	µg/m^3	0.937	95% Student's-t UCL
Prescott Park	Ambient Air	Bromomethane	µg/m^3	1.12	95% KM (t) UCL
Prescott Park	Ambient Air	Carbon tetrachloride	µg/m^3	0.577	95% Student's-t UCL
Prescott Park	Ambient Air	Chlorobenzene	µg/m^3	0.034	Maximum Result
Prescott Park	Ambient Air	Chloroethane	µg/m^3	0.0833	95% KM (t) UCL
Prescott Park	Ambient Air	Chloroform	µg/m^3	0.373	95% KM (t) UCL
Prescott Park	Ambient Air	Chloromethane	µg/m^3	1.2	Maximum Result
Prescott Park	Ambient Air	cis-1,2-Dichloroethene	µg/m^3	0.038	Maximum Result
Prescott Park	Ambient Air	Ethylbenzene	µg/m^3	0.651	95% Student's-t UCL
Prescott Park	Ambient Air	Freon 11	µg/m^3	1.84	95% Student's-t UCL
Prescott Park	Ambient Air	Freon 113	µg/m^3	0.719	95% Student's-t UCL
Prescott Park	Ambient Air	Freon 12	µg/m^3	2.8	95% Student's-t UCL
Prescott Park	Ambient Air	Methyl tert-butyl ether	µg/m^3	0.0097	Maximum Result
Prescott Park	Ambient Air	Methylene chloride	µg/m^3	0.4	Maximum Result
Prescott Park	Ambient Air	Styrene	µg/m^3	0.231	95% KM (t) UCL
Prescott Park	Ambient Air	Tetrachloroethene	µg/m^3	0.314	95% Student's-t UCL
Prescott Park	Ambient Air	Toluene	µg/m^3	3.45	95% Student's-t UCL
Prescott Park	Ambient Air	Trichloroethene	µg/m^3	0.105	95% KM (t) UCL
Prescott Park	Ambient Air	Xylenes, m & p	µg/m^3	1.96	95% Student's-t UCL
Prescott Park	Ambient Air	Xylenes, o	µg/m^3	0.688	95% Student's-t UCL
Combined Background	Ambient Air	1,1,1-Trichloroethane	µg/m^3	0.0797	95% KM (t) UCL
Combined Background	Ambient Air	1,1-Dichloroethane	µg/m^3	0.011	Maximum Result
Combined Background	Ambient Air	1,1-Dichloroethene	µg/m^3	0.0392	Too Few Unique Detected Values *
Combined Background	Ambient Air	1,2,4-Trimethylbenzene	µg/m^3	0.639	95% H-UCL
Combined Background	Ambient Air	1,2-Dichloroethane	µg/m^3	0.0535	95% KM (t) UCL
Combined Background	Ambient Air	1,2-Dichloropropane	µg/m^3	0.0448	95% KM (t) UCL
Combined Background	Ambient Air	1,3,5-Trimethylbenzene	µg/m^3	0.272	95% KM (Chebyshev) UCL
Combined Background	Ambient Air	1,4-Dichlorobenzene	µg/m^3	0.0948	95% KM (t) UCL
Combined Background	Ambient Air	1,4-Dioxane (p-dioxane)	µg/m^3	0.383	Too Few Unique Detected Values *
Combined Background	Ambient Air	Benzene	µg/m^3	0.8	95% Approximate Gamma UCL
Combined Background	Ambient Air	Bromomethane	µg/m^3	0.682	95% KM (Chebyshev) UCL
Combined Background	Ambient Air	Carbon tetrachloride	µg/m^3	0.526	95% Student's-t UCL
Combined Background	Ambient Air	Chlorobenzene	µg/m^3	0.0268	95% KM (t) UCL
Combined Background	Ambient Air	Chloroethane	µg/m^3	0.0484	95% KM (t) UCL
Combined Background	Ambient Air	Chloroform	µg/m^3	0.154	95% KM (BCA) UCL
Combined Background	Ambient Air	Chloromethane	µg/m^3	1.16	95% Student's-t UCL
Combined Background	Ambient Air	cis-1,2-Dichloroethene	µg/m^3	0.025	Maximum Result
Combined Background	Ambient Air	cis-1,3-Dichloropropene	µg/m^3	0.0593	95% KM (t) UCL
Combined Background	Ambient Air	Ethylbenzene	µg/m^3	0.582	95% H-UCL
Combined Background	Ambient Air	Freon 11	µg/m^3	1.89	95% Student's-t UCL
Combined Background	Ambient Air	Freon 113	µg/m^3	0.674	95% Student's-t UCL
Combined Background	Ambient Air	Freon 114	µg/m^3	0.12	Maximum Result
Combined Background	Ambient Air	Freon 12	µg/m^3	2.56	95% Student's-t UCL
Combined Background	Ambient Air	Methyl tert-butyl ether	µg/m^3	0.23	95% KM (t) UCL
Combined Background	Ambient Air	Methylene chloride	µg/m^3	0.233	95% KM (t) UCL
Combined Background	Ambient Air	Naphthalene	µg/m^3	0.376	95% KM (t) UCL
Combined Background	Ambient Air	Styrene	µg/m^3	0.182	95% KM (BCA) UCL
Combined Background	Ambient Air	Tetrachloroethene	µg/m^3	0.286	95% KM (BCA) UCL
Combined Background	Ambient Air	Toluene	µg/m^3	3.31	95% H-UCL
Combined Background	Ambient Air	trans-1,3-Dichloropropene	µg/m^3	0.056	Maximum Result
Combined Background	Ambient Air	Trichloroethene	µg/m^3	0.089	95% KM (t) UCL
Combined Background	Ambient Air	Xylenes, m & p	µg/m^3	2.5	95% Chebyshev (Mean, Sd) UCL
Combined Background	Ambient Air	Xylenes, o	µg/m^3	0.853	95% Chebyshev (Mean, Sd) UCL

Table 11
Cancer and Noncancer Toxicity Values for COPCs
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Oral RfD (mg/kg-day)	References	REL or Reference Conc (mg/m^3)	Inhalation RFD (mg/kg-day)	References	Primary Target Organ/Effect	Uncertainty/ Modifying Factors	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References	Inhalation Unit Risk $(mg/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References
Aluminum	1	PPRTV	0.005	0.0014	PPRTV	NA	--	NA	--	NA	NA	--
Antimony	0.0004	IRIS	NA	NA	--	Blood (glucose), Mortality	--	NA	--	NA	NA	--
Arsenic	0.0003	IRIS	NA	NA	--	Skin, Circulatory System	--	1.5	IRIS	4.3	15.1	IRIS
Arsenic	NA	--	1.5E-05	0.000004	OEHHA	--	--	1.5	OEHHA	3.3	12	OEHHA
Barium	0.2	IRIS	0.0005	0.00014	HEAST	Kidney	--	NA	--	NA	NA	--
Beryllium	0.002	IRIS	2.0E-05	0.000006	IRIS	GI (Small intestinal lesions)	--	NA	--	NA	8.4	IRIS
Beryllium	NA	--	7.0E-06	0.000002	OEHHA	--	--	NA	--	2.4	8.4	OEHHA
Boron	0.2	IRIS	2.0E-02	0.0057	HEAST	Testes	--	NA	--	NA	NA	--
Cadmium	0.0005	IRIS	1.0E-05	0.000003	ATSDR	Kidney	--	NA	--	NA	6.3	IRIS
Cadmium	0.000011	OEHHA*	0.02	0.000006	OEHHA	--	--	NA	--	4.2	14.7	OEHHA
Chromium	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Hexavalent Chromium	0.003	IRIS	1.0E-04	0.000029	IRIS	NOAEL	--	0.5	NJ	84	2.9E+02	IRIS
Cobalt	0.0003	PPRTV	6.0E-06	0.000002	PPRTV	Circulatory	--	NA	--	9	3.2E+01	PPRTV
Copper	0.04	HEAST	NA	NA	--	GI	--	NA	--	NA	NA	--
Iron	0.7	PPRTV	NA	NA	--	NA	--	NA	--	NA	NA	--
Lead	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Manganese	0.024	IRIS	5.0E-05	0.000014	IRIS	CNS	--	NA	--	NA	NA	--
Manganese	0.03	OEHHA*	9.0E-05	0.000026	OEHHA	--	--	NA	--	NA	NA	--
Mercury	0.0003	IRIS	NA	NA	--	CNS	--	NA	--	NA	NA	--
Molybdenum	0.005	IRIS	NA	NA	--	Kidney	--	NA	--	NA	NA	--
Nickel	0.02	IRIS	9.0E-05	2.6E-05	ATSDR	Whole body	--	NA	--	NA	NA	--
Nickel	0.011	OEHHA*	5.0E-02	1.4E-02	OEHHA	--	--	NA	--	0.26	0.91	OEHHA
Selenium	0.005	IRIS	0.02	0.0057	OEHHA	Respiratory system - selenosis	--	NA	--	NA	NA	--
Silver	0.005	IRIS	NA	NA	--	Skin	--	NA	--	NA	NA	--
Thallium	0.000066	IRIS	NA	NA	--	NA	3000/1	NA	--	NA	NA	--
Vanadium	0.005	RSL	NA	NA	--	NA	--	NA	--	NA	NA	--
Zinc	0.3	IRIS	NA	NA	--	Red blood cells	--	NA	--	NA	NA	--
Cyanide	0.02	IRIS	NA	NA	--	Weight loss, thyroid effects and myelin degeneration	100/5	NA	--	NA	NA	--
4,4'-DDD	NA	--	NA	NA	--	--	--	0.24	IRIS	0.069	0.24	OEHHA/ Route Extrapolation
4,4'-DDE	NA	--	NA	NA	--	--	--	0.34	IRIS	0.097	0.34	OEHHA/ Route Extrapolation
4,4'-DDT	0.0005	IRIS	NA	NA	--	Liver	--	0.34	IRIS	0.097	0.34	IRIS
Aldrin	0.00003	IRIS	NA	NA	--	Liver	1000/1	17	IRIS	4.9	17.2	IRIS/OEHHA
alpha-BHC	0.0005	NCEA	NA	NA	--	NA	NA	6.3	IRIS	1.8	6.3	IRIS
alpha-BHC	NA	--	NA	NA	--	--	NA	2.7	OEHHA	0.77	2.7	OEHHA
alpha-Chlordane	0.0005	IRIS	7.0E-04	0.0002	IRIS	Liver	300/1	0.35	IRIS	0.1	0.35	IRIS
alpha-Chlordane	0.000033	OEHHA*	NA	NA	--	--	300/1	1.3	OEHHA	0.34	1.2	OEHHA
beta-BHC	NA	--	NA	NA	--	--	NA	1.8	IRIS	0.53	1.9	IRIS
beta-BHC	NA	--	NA	NA	--	--	NA	1.5	OEHHA	0.43	1.5	OEHHA
delta-BHC	NA	--	NA	NA	--	--	NA	NA	--	NA	NA	--
Diazinon	0.0007	ATSDR	NA	NA	--	Liver	--	NA	--	NA	NA	--

Table 11
Cancer and Noncancer Toxicity Values for COPCs
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Oral RfD (mg/kg-day)	References	REL or Reference Conc (mg/m^3)	Inhalation RFD (mg/kg-day)	References	Primary Target Organ/Effect	Uncertainty/ Modifying Factors	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References	Inhalation Unit Risk $(mg/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References
Dieldrin	0.00005	IRIS	NA	NA	--	Liver	100/1	16	IRIS	4.6	16.1	IRIS
Endosulfan I	0.006	IRIS	NA	NA	--	Reduced body weight	100/1	NA	--	NA	NA	--
Endosulfan II	0.006	IRIS	NA	NA	--	Reduced body weight	100/1	NA	--	NA	NA	--
Endosulfan sulfate	0.006	IRIS	NA	NA	--	Reduced body weight	100/1	NA	--	NA	NA	--
Endrin	0.0003	IRIS	NA	NA	--	Liver	100/1	NA	--	NA	NA	--
Endrin aldehyde	0.0003	IRIS	NA	NA	--	Liver	100/1	NA	--	NA	NA	--
Endrin ketone	0.0003	IRIS	NA	NA	--	Liver	100/1	NA	--	NA	NA	--
gamma-BHC	0.0003	IRIS	NA	NA	--	Liver	1000/1	1.1	Cal/EPA	NA	NA	--
gamma-BHC	NA	--	NA	NA	--	--	1000/1	1.1	OEHHA	0.31	1.1	OEHHA
gamma-Chlordane	0.0005	IRIS	7.0E-04	0.0002	IRIS	Liver	300/1	0.35	IRIS	0.1	0.35	IRIS
gamma-Chlordane	0.000033	OEHHA*	NA	NA	--	--	300/1	1.2	OEHHA	0.34	1.2	OEHHA
Heptachlor	0.0005	IRIS	NA	NA	--	Liver	300/1	4.5	IRIS	1.3	4.55	IRIS
Heptachlor	0.00003	OEHHA*	NA	NA	--	--	300/1	4.1	OEHHA	NA	4.1	OEHHA
Heptachlor epoxide	0.000013	IRIS	NA	NA	--	Liver	1000/1	9.1	IRIS	NA	9.1	IRIS
Heptachlor epoxide	0.000013	OEHHA*	NA	NA	--	--	1000/1	5.5	OEHHA	NA	5.5	OEHHA
Methoxychlor	0.005	IRIS	NA	NA	--	Reproductive	1000/1	NA	--	NA	NA	--
Methoxychlor	0.00002	OEHHA*		NA	--	--	NA	NA	--	NA	NA	--
Toxaphene	NA	--	NA	NA	--	--	NA	1.1	IRIS	0.34	1.2	IRIS
Toxaphene	NA	--	NA	NA	--	--	NA	1.2	OEHHA	0.34	1.2	OEHHA
Aroclor-1016	0.00007	IRIS	NA	NA	--	Reduced birth weight	100/1	0.07	IRIS	0.02	0.07	IRIS
Aroclor-1221	0.00002	Surrogate	NA	NA	--	--	--	2	IRIS	0.57	2	IRIS
Aroclor-1232	0.00002	Surrogate	NA	NA	--	--	--	2	IRIS	0.57	2	IRIS
Aroclor-1242	0.00002	Surrogate	NA	NA	--	--	--	2	IRIS	0.57	2	IRIS
Aroclor-1248	0.00002	Surrogate	NA	NA	--	--	--	2	IRIS	0.57	2	IRIS
Aroclor-1254	0.00002	IRIS	NA	NA	--	Eyes	300/1	2	IRIS	0.57	2	IRIS
Aroclor-1260	0.00002	Surrogate	NA	NA	--	Eyes	300/1	2	IRIS	0.57	2	IRIS
1,2,4,5-Tetrachlorobenzene	0.0003	IRIS	NA	NA	--	--	--	NA	--	NA	NA	--
2,4,5-Trichlorophenol	0.1	IRIS	NA	NA	--	--	--	NA	--	NA	NA	--
2,4,6-Trichlorophenol	0.001	PPRTV	NA	NA	--	--	--	0.011	IRIS	0.02	0.07	IRIS
2,4,6-Trichlorophenol	NA	--	NA	NA	--	--	--	0.07	OEHHA	0.02	0.07	OEHHA
2,2-Dichloropropane	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
2,4-Dichlorophenol	0.003	IRIS	NA	NA	--	Decreased delayed hypersensitivity response	100/1	NA	--	NA	NA	--
2,4-Dimethylphenol	0.02	IRIS	NA	NA	--	Clinical signs (lethargy, prostration, ataxia) and hematological changes	3000/1	NA	--	NA	NA	--
2,4-Dinitrophenol	0.002	IRIS	NA	NA	--	Cataract formation	1000/1	NA	--	NA	NA	--
2,4-Dinitrotoluene	0.002	IRIS	NA	NA	--	Neurotoxicity, Heinz bodies and biliary tract hyperplasia	100/1	0.68	IRIS	0.089	0.31	Cal/EPA

Table 11
Cancer and Noncancer Toxicity Values for COPCs
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AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Oral RfD (mg/kg-day)	References	REL or Reference Conc (mg/m^3)	Inhalation RFD (mg/kg-day)	References	Primary Target Organ/Effect	Uncertainty/ Modifying Factors	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References	Inhalation Unit Risk $(mg/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References
2,4-Dinitrotoluene	NA	--	NA	NA	--	--	100/1	0.31	OEHHA	0.089	0.31	OEHHA
2,6-Dinitrotoluene	0.001	PPRTV	NA	NA	--	--	--	NA	--	NA	NA	--
2-Chloronaphthalene	0.08	IRIS	NA	NA	--	Dyspnea, abnormal appearance, liver enlargement	3000/1	NA	--	NA	NA	--
2-Chlorophenol	0.005	IRIS	NA	NA	--	Reproductive effects	1000/1	NA	--	NA	NA	--
2-Chlorotoluene	0.02	IRIS	NA	NA	--	Decrease in body weight gain	1000/1	NA	--	NA	NA	--
2-Methylnaphthalene	0.004	IRIS	NA	NA	--	Pulmonary alveolar proteinosis	1000/1	NA	--	NA	NA	--
2-Methylphenol	0.05	IRIS	0.6	0.17	Cal/EPA	Decreased body weight & Neurotoxicity	1000/1	NA	--	NA	NA	--
2-Nitroaniline	0.01	X	0.00005	0.000014	X	NA	--	NA	--	NA	NA	--
2-Nitrophenol	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
3,3'-Dichlorobenzidine	NA	--	NA	NA	--	--	--	0.45	IRIS	0.34	1.2	Cal/EPA
3,3'-Dichlorobenzidine	NA	--	NA	NA	--	--	--	1.2	OEHHA	0.34	1.2	OEHHA
3,4-Methylphenol	0.005	HEAST	0.6	0.171429	Cal/EPA	Decreased body weights and neurotoxicity	1000/1	NA	--	NA	NA	--
3-Nitroaniline	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
4,6-Dinitro-2-methylphenol	8.00E-05	X	NA	NA	--	--	--	NA	--	NA	NA	--
4-Bromophenylphenyl ether	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
4-Chloro-3-methylphenol	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
4-Chloroaniline	0.004	IRIS	NA	NA	--	Nonneoplastic lesions of splenic capsule	3000/1	0.2	PPRTV	NA	NA	--
4-Chlorophenylphenyl ether	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
4-Methylphenol	0.005	HEAST	0.6	0.17	Cal/EPA	--	--	NA	--	NA	NA	--
4-Nitroaniline	0.004	PPRTV	0.006	0.002	PPRTV	--	--	0.02	PPRTV	NA	NA	--
4-Nitrophenol	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Acenaphthene	0.06	IRIS	NA	NA	--	Hepatotoxicity	3000/1	NA	--	NA	NA	--
Acenaphthylene	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Acetophenone	0.1	IRIS	NA	NA	--	General toxicity	3000/1	NA	--	NA	NA	--
Anthracene	0.3	IRIS	NA	NA	--	No observed effects	3000/1	NA	--	NA	NA	--
Atrazine	0.035	IRIS	NA	NA	--	Decreased body weight gain	100/1	0.23	Cal/EPA	NA	NA	--
Atrazine	NA	--	NA	NA	--	--	100/1	0.23	OEHHA	NA	NA	--
Benzaldehyde	0.1	IRIS	NA	NA	--	Forestomach lesions, kidney toxicity	1000/1	NA	--	NA	NA	--
Benzo(a)anthracene	NA	--	NA	NA	--	--	--	0.73	ECAO	0.11	0.39	Cal/EPA
Benzo(a)anthracene	NA	--	NA	NA	--	--	--	1.2	OEHHA	0.11	0.39	OEHHA
Benzo(a)pyrene	NA	--	NA	NA	--	--	--	7.3	IRIS	1.1	3.85	Cal/EPA
Benzo(a)pyrene	NA	--	NA	NA	--	--	--	12	OEHHA	1.1	3.85	OEHHA

Table 11
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Chemical of Potential Concern	Oral RfD (mg/kg-day)	References	REL or Reference Conc (mg/m^3)	Inhalation RFD (mg/kg-day)	References	Primary Target Organ/Effect	Uncertainty/ Modifying Factors	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References	Inhalation Unit Risk $(mg/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References
Benzo(b)fluoranthene	NA	--	NA	NA	--	--	--	0.73	ECAO	0.11	0.39	Cal/EPA
Benzo(b)fluoranthene	NA	--	NA	NA	--	--	--	1.2	OEHHA	0.11	0.39	OEHHA
Benzo(g,h,i)perylene	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Benzo(k)fluoranthene	NA	--	NA	NA	--	--	--	0.073	NCEA	0.11	0.39	Cal/EPA
Benzo(k)fluoranthene	NA	--	NA	NA	--	--	--	1.2	OEHHA	0.11	0.39	OEHHA
Benzyl butyl phthalate	0.2	IRIS	NA	NA	--	Significantly increased liver-to-body weight and liver-to-brain weight ratios	1000/1	0.0019	PPRTV	NA	NA	--
Biphenyl (diphenyl)	0.05	IRIS	NA	NA	--	Kidney damage	100/10	NA	--	NA	NA	--
bis(2-Chloroethoxy)methane	0.003	PPRTV	NA	NA	--	--	--	NA	--	NA	NA	--
bis(2-Chloroethyl)ether	NA	--	NA	NA	--	--	--	1.1	IRIS	0.33	1.2	IRIS
bis(2-Chloroethyl)ether	NA	--	NA	NA	--	--	--	2.5	OEHHA	0.71	2.5	OEHHA
bis(2-Ethylhexyl)phthalate	0.02	IRIS	--	--	--	Increased relative liver weight	1000/1	0.014	IRIS	0.0024	0.0084	Cal/EPA
bis(2-Ethylhexyl)phthalate	NA	--	NA	NA	--	--	1000/1	0.003	OEHHA	0.0024	0.0084	OEHHA
Caprolactam	0.5	IRIS	NA	NA	--	Reduced offspring body weight	100/1	NA	--	NA	NA	--
Carbazole	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Chrysene	NA	--	NA	NA	--	--	--	0.0073	ECAO	0.011	0.039	Cal/EPA
Chrysene	NA	--	NA	NA	--	--	--	0.12	OEHHA	0.011	0.039	OEHHA
Dibenz(a,h)anthracene	NA	--	NA	NA	--	--	--	4.1	OEHHA	1.2	4.2	OEHHA
Dibenzofuran	0.002	NCEA	NA	NA	--	--	--	NA	--	NA	NA	--
Diethylphthalate	0.8	IRIS	NA	NA	--	Decreased growth rate, food consumption and altered organ weights	1000/1	NA	--	NA	NA	--
Dimethylphthalate	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Di-n-butyl phthalate	0.1	IRIS	NA	NA	--	Increased mortality	1000/1	NA	--	NA	NA	--
Di-n-octyl phthalate	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Fluoranthene	0.04	IRIS	NA	NA	--	Kidney, Liver, Circulatory	3000/1	NA	--	NA	NA	--
Fluorene	0.04	IRIS	NA	NA	--	Kidney, Liver, Circulatory	3000/1	NA	--	NA	NA	--
Hexachlorobenzene	0.0008	IRIS	NA	NA	--	Liver effects	100/1	0.078	IRIS	0.46	1.6	IRIS
Hexachlorobenzene	--	--	NA	NA	--	--	100/1	1.8	OEHHA	0.51	1.8	OEHHA
Hexachlorobutadiene	0.001	PPRTV	NA	0.0003	Route Extrapolation	--	--	0.078	IRIS	0.022	0.077	IRIS
Hexachlorocyclopentadiene	0.006	IRIS	0.0002	0.000057	IRIS	Chronic irritation	1000/1	NA	--	NA	NA	--
Hexachloroethane	0.001	IRIS	NA	NA	--	Atrophy and degeneration of the renal tubules	1000/1	0.014	IRIS	0.004	0.014	IRIS
Hexachloroethane	NA	--	NA	NA	--	--	1000/1	0.039	OEHHA	0.011	0.04	OEHHA
Indeno(1,2,3-c,d)pyrene	NA	--	NA	NA	--	--	--	0.73	NCEA	0.011	0.04	Cal/EPA
Indeno(1,2,3-c,d)pyrene	NA	--	NA	NA	--	--	--	1.2	OEHHA	0.011	0.39	OEHHA

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Isophorone	0.2	IRIS	2	0.57	Cal/EPA	No observed effects	1000/1	0.00095	IRIS	NA	NA	--
p-Cymene (p-Isopropyltoluene)	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Naphthalene	0.02	IRIS	0.003	0.00086	IRIS	Decreased body weight	3000/1	NA	--	0.034	0.12	Cal/EPA
Naphthalene	NA	--	9	2.6	OEHHA	--	3000/1	0.12	OEHHA	0.034	0.12	OEHHA
Nitrobenzene	0.002	IRIS	0.009	0.0026	IRIS	Hematologic, adrenal, renal and hepatic lesions	10000/1	NA	--	0.04	0.14	IRIS
N-Nitrosodi-n-propylamine	NA	--	NA	NA	--	--	--	7	IRIS	0.002	7	OEHHA
N-Nitrosodiphenylamine	0.02	PPRTV	NA	0.02	PPRTV	--	--	0.0049	IRIS	0.0026	0.009	Cal/EPA
N-Nitrosodiphenylamine	NA	--	NA	NA	--	--	--	0.009	OEHHA	0.0026	0.009	OEHHA
Pentachlorophenol	0.03	IRIS	--	--	--	Liver and kidney pathology	100/1	0.12	IRIS	0.0051	0.018	Cal/EPA
Pentachlorophenol	0.003	OEHHA*	NA	NA	--	--	--	0.018	OEHHA	0.0051	0.018	OEHHA
Phenanthrene	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Phenol	NA	--	0.2	0.057	OEHHA	--	300/1	NA	--	NA	NA	--
n-Propylbenzene	0.04	NCEA	NA	NA	--	--	--	NA	--	NA	NA	--
Pyrene	0.03	IRIS	NA	NA	--	tubular pathology,	3000/1	NA	--	NA	NA	--
1,1,1-Trichloroethane	2	IRIS	5	1.4	IRIS	--	--	NA	--	NA	NA	--
1,1,2,2-Tetrachloroethane	0.004	PPRTV	NA	0.06	Route Extrapolation	--	--	0.2	IRIS	0.058	0.2	IRIS
1,1,2,2-Tetrachloroethane	NA	--	NA	NA	--	--	--	0.27	OEHHA	0.058	0.2	OEHHA
1,1,2-Trichloroethane	0.004	IRIS	NA	NA	--	Clinical serum chemistry	1000/1	0.057	IRIS	0.016	0.056	IRIS
1,1,2-Trichloroethane	NA	--	NA	NA	--	--	1000/1	0.072	OEHHA	0.016	0.057	OEHHA
1,1-Dichloroethane	0.2	PPRTV	NA	NA	--	--	--	0.0057	OEHHA	0.0016	0.0057	OEHHA
1,1-Dichloroethene	0.05	IRIS	0.2	0.057	IRIS	--	--	NA	--	NA	0.091	IRIS
1,1-Dichloroethene	NA	--	0.07	0.02	OEHHA	--	--	NA	--	NA	NA	--
1,2,3-Trichlorobenzene	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
1,2,4-Trichlorobenzene	NA	--	NA	NA	--	--	--	0.0036	OEHHA	NA	NA	--
1,2,4-Trimethylbenzene	0.007	PPRTV	NA	NA	--	NA	--	NA	--	NA	NA	--
1,2-Dibromo-3-chloropropane	0.0002	PPRTV	0.0002	0.000057	IRIS	--	--	0.8	PPRTV	0.006	0.021	PPRTV
1,2-Dibromo-3-chloropropane	NA	--	NA	NA	--	--	--	7	OEHHA	2	7	OEHHA
1,2-Dibromoethane	0.009	IRIS	0.009	0.0026	IRIS	Testicular atrophy, liver peliosis, and adrenal cortical degeneration	3000/1	2	IRIS	0.6	2	IRIS
1,2-Dibromoethane	NA	--	NA	NA	--	--	--	3.6	OEHHA	0.071	0.25	OEHHA
1,2-Dichlorobenzene	0.09	IRIS	0.2	0.057	HEAST	No adverse effects observed	1000/1	NA	--	NA	NA	--
1,2-Dichloroethane	NA	--	NA	NA	--	--	--	0.047	OEHHA	0.021	0.074	OEHHA
1,2-Dichloropropane	0.09	ATSDR	0.004	0.0011	IRIS	--	--	0.036	OEHHA	0.01	0.035	OEHHA
1,3-Butadiene	NA	--	0.002	0.00057	IRIS	--	--	3.4	OEHHA	0.03	0.11	OEHHA
1,3-Dichlorobenzene	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
1,3,5-Trimethylbenzene	0.01	X	NA	NA	--	NA	--	NA	--	NA	NA	--
1,4-Dichlorobenzene	0.07	ATSDR	0.8	0.23	IRIS	--	--	0.0054	OEHHA	0.011	0.04	OEHHA
1,4-Dioxane (p-dioxane)	0.1	ATSDR	3.6	1.03	ATSDR	--	--	0.011	IRIS	0.0077	0.027	Cal/EPA

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1,4-Dioxane (p-dioxane)	NA	--	3	0.86	OEHHA	--	--	0.027	OEHHA	0.0077	0.027	OEHHA
2-Hexanone	0.005	IRIS	0.03	0.009	IRIS	--	--	NA	--	NA	NA	--
Acetone	0.9	IRIS	31	8.86	ATSDR	Nephropathy	1000/1	NA	--	NA	NA	--
Benzene	0.004	IRIS	0.03	0.0086	IRIS	Immune system (decreased lymphocyte count)	300/1	0.055	IRIS	0.0078	0.027	IRIS
Benzene	NA	--	0.06	0.017	OEHHA	--	300/1	0.1	OEHHA	0.029	0.1	OEHHA
Bromodichloromethane	0.02	IRIS	NA	NA	--	Renal cytomegaly	1000/1	0.062	IRIS	0.037	0.13	Cal/EPA
Bromodichloromethane	NA	--	NA	NA	--	--	1000/1	0.13	OEHHA	0.037	0.1	OEHHA
Bromoform	0.02	IRIS	NA	NA	--	Hepatic lesions	1000/1	0.0079	IRIS	0.0011	0.0039	IRIS
Bromoform	NA	--	NA	NA	--	--	1000/1	0.011	OEHHA	NA	NA	--
Bromomethane	0.0014	IRIS	0.005	0.0014	IRIS	Epithelial hyperplasia of the forestomach	1000/1	NA	--	NA	NA	--
Carbon disulfide	NA	--	0.8	0.23	OEHHA	--	100/1	NA	--	NA	NA	--
Carbon tetrachloride	0.004	IRIS	0.1	0.03	IRIS	Liver lesions	1000/1	0.07	IRIS	0.006	0.021	IRIS
Carbon tetrachloride	NA	--	0.04	0.011	OEHHA	--	1000/1	0.15	OEHHA	0.042	0.15	OEHHA
Chlorobenzene	0.02	IRIS	0.05	0.014	PPRTV	Histopathologic changes in liver	1000/1	NA	--	NA	NA	--
Chlorobenzene	NA	--	1	0.29	OEHHA	--	1000/1	NA	--	NA	NA	--
Chloroethane	NA	--	10	2.86	IRIS	--	--	NA	--	NA	0.0029	Route Extrapolation
Chloroform	0.01	IRIS	0.098	0.028	ATSDR	Moderate/marked fatty cyst formation in the liver and elevated SGPT	100/1	0.031	OEHHA	0.0053	0.019	OEHHA
Chloromethane	NA	--	0.09	0.026	IRIS	Brain (cerebellar lesions)	1000/1	NA	--	NA	NA	--
cis-1,2-Dichloroethene	0.01	PPRTV	NA	NA	--	Decreased hematocrit and hemoglobin (Blood)	--	NA	--	NA	NA	--
cis-1,3-Dichloropropene	0.03	IRIS	0.02	0.0057	IRIS	Chronic irritation	100/1	0.1	IRIS	0.004	0.014	IRIS
cis-1,3-Dichloropropene	NA	--	NA	NA	--	--	100/1	0.091	OEHHA	0.016	0.056	OEHHA
Cyclohexane	NA	--	6	1.7	IRIS	--	--	NA	--	NA	NA	--
Dibromochloromethane	0.02	IRIS	NA	NA	--	Hepatic lesions	1000/1	0.084	IRIS	0.027	0.095	CalEPA
Dibromochloromethane	NA	--	NA	NA	--	--	1000/1	0.094	OEHHA	0.027	0.095	OEHHA
Ethyl tertiary butyl ether	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--
Ethylbenzene	NA	--	2	0.57	OEHHA	--	1000/1	0.011	OEHHA	0.0025	0.00875	OEHHA
Freon 11	0.3	IRIS	0.7	0.20	HEAST	Survival and histopathology	1000/1	NA	--	NA	NA	--
Freon 113	30	IRIS	30	8.57	HEAST	Psychomotor impairment	10/1	NA	--	NA	NA	--
Freon 12	0.2	IRIS	0.2	0.057	HEAST	Reduced body weight	100/1	NA	--	NA	NA	--
Isopropylbenzene (cumene)	0.1	IRIS	0.4	0.11	IRIS	Increased kidney weights in female rats and adrenal weights in male and female rats	1000/1	NA	--	NA	NA	--
Isopropyl ether	NA	--	NA	NA	--	--	--	NA	--	NA	NA	--

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Methyl acetate	1	HEAST	NA	NA	--	--	--	NA	--	NA	NA	--
Methyl ethyl ketone	0.6	IRIS	5	1.4	IRIS	Decreased pup body weight	1000/1	NA	--	NA	NA	--
Methyl isobutyl ketone	0.08	HEAST	3	0.86	IRIS	--	--	NA	--	NA	NA	--
Methyl tert-butyl ether	NA	--	8	2.3	OEHHA	--	--	0.0018	OEHHA	0.00026	0.00091	OEHHA
Methylcyclohexane	NA	--	NA	0.86	HEAST	--	--	NA	--	NA	NA	--
Methylene chloride	0.06	IRIS	1	0.29	ATSDR	Liver toxicity	100/1	0.0075	IRIS	0.00047	0.0016	IRIS
Methylene chloride	NA	--	0.4	0.11	OEHHA	--	100/1	0.014	OEHHA	0.001	0.0035	OEHHA
n-Butylbenzene	0.04	NCEA	NA	NA	--	--	--	NA	--	NA	NA	--
Styrene	0.2	IRIS	1	0.29	IRIS	Red blood cell and liver effects	1000/1	NA	--	NA	NA	--
Styrene	NA	--	0.9	0.26	OEHHA	--	1000/1	NA	--	NA	NA	--
sec-Butylbenzene	0.04	NCEA	NA	0.04	Route Extrapolation	--	--	NA	--	NA	NA	--
tert-Butyl alcohol	0.1	IRIS	NA	0.0026	NCEA	--	--	NA	--	NA	NA	--
tert-Butylbenzene	0.04	NCEA		NA	--	--	--	NA	--	NA	NA	--
Tetrachloroethene	0.01	IRIS	0.27	0.08	ATSDR	Hepatotoxicity in mice, weight gain in rats	1000/1	0.54	OEHHA	0.0059	0.021	OEHHA
Tetrachloroethene	NA		0.035	0.01	OEHHA	--	--	0.54	OEHHA	0.0059	0.021	OEHHA
Toluene	0.08	IRIS	5	1.43	IRIS	Kidney	3000/1	NA	--	NA	NA	--
Toluene	NA	--	0.3	0.086	OEHHA	--	--	NA	--	NA	NA	--
trans-1,2-Dichloroethene	0.02	IRIS	0.06	0.02	PPRTV	Increased serum alkaline phosphatase in male mice	1000/1	NA	--	NA	NA	--
trans-1,3-Dichloropropene	0.03	IRIS	0.02	0.0057	IRIS	Chronic irritation	100/1	0.1	IRIS	0.004	0.014	IRIS
trans-1,3-Dichloropropene	NA	--	NA	NA	--	--	--	0.091	OEHHA	0.016	0.056	OEHHA
Trichloroethene	0.0003	NCEA	NA	0.01	NCEA	NA	--	NA	--	NA	NA	--
Trichloroethene	NA	--	600	0.17	OEHHA	--	--	0.0059	OEHHA	0.002	0.007	OEHHA
Vinyl chloride	0.003	IRIS	0.1	0.0286	IRIS	Liver	30/1	0.72	IRIS	0.0044	0.0154	IRIS
Vinyl chloride	NA	--	NA	NA	--	--	30/1	0.27	OEHHA	0.078	0.27	OEHHA
o-Xylene	0.2	IRIS	0.7	0.2	OEHHA	Decreased body weight, increased mortality	1000/1	NA	--	NA	NA	--
m,p-Xylenes	0.2	IRIS	0.7	0.2	OEHHA	Decreased body weight, increased mortality	1000/1	NA	--	NA	NA	--
Xylenes, total	NA	--	0.7	0.2	OEHHA	--	1000/1	NA	--	NA	NA	--
1,2,3,4,6,7,8-HpCDD	NA	--	NA	NA	--	--	--	1500	calc using TEF	NA	1500	calc using TEF
1,2,3,4,6,7,8-HpCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	1300	OEHHA	380000	1300	OEHHA
1,2,3,4,6,7,8-HpCDF	NA	--	NA	NA	--	--	--	1500	calc using TEF	NA	1500	calc using TEF
1,2,3,4,6,7,8-HpCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	1300	OEHHA	380000	1300	OEHHA
1,2,3,4,7,8,9-HpCDF	NA	--	NA	NA	--	--	--	1500	calc using TEF	NA	1500	calc using TEF
1,2,3,4,7,8,9-HpCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	1300	OEHHA	380000	1300	OEHHA
1,2,3,4,7,8-HxCDD	NA	--	NA	NA	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
1,2,3,4,7,8-HxCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
1,2,3,4,7,8-HxCDF	NA	--	NA	NA	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
1,2,3,4,7,8-HxCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA

Table 11
Cancer and Noncancer Toxicity Values for COPCs
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Chemical of Potential Concern	Oral RfD (mg/kg-day)	References	REL or Reference Conc (mg/m^3)	Inhalation RFD (mg/kg-day)	References	Primary Target Organ/Effect	Uncertainty/ Modifying Factors	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References	Inhalation Unit Risk $(mg/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	References
1,2,3,6,7,8-HxCDD	NA	--	NA	NA	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
1,2,3,6,7,8-HxCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
1,2,3,6,7,8-HxCDF	NA	--	NA	NA	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
1,2,3,6,7,8-HxCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
1,2,3,7,8,9-HxCDD	NA	--	NA	NA	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
1,2,3,7,8,9-HxCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
1,2,3,7,8,9-HxCDF	NA	--	NA	--	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
1,2,3,7,8,9-HxCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
1,2,3,7,8-PeCDD	NA	--	NA	--	--	--	--	150000	calc using TEF	NA	150000	calc using TEF
1,2,3,7,8-PeCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	6500	OEHHA	37600000	130000	OEHHA
1,2,3,7,8-PeCDF	NA	--	NA	--	--	--	--	7500	calc using TEF	NA	7500	calc using TEF
1,2,3,7,8-PeCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	6500	OEHHA	1857140	6500	OEHHA
2,3,4,6,7,8-HxCDF	NA	--	NA	--	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
2,3,4,6,7,8-HxCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
2,3,4,7,8-PeCDF	NA	--	NA	--	--	--	--	75000	calc using TEF	NA	75000	calc using TEF
2,3,4,7,8-PeCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	65000	OEHHA	18571300	65000	OEHHA
2,3,7,8-TCDD	NA	--	NA	--	--	--	--	150000	HEAST	NA	150000	HEAST
2,3,7,8-TCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	130000	OEHHA	37600000	130000	OEHHA
2,3,7,8-TCDF	NA	--	NA	--	--	--	--	15000	calc using TEF	NA	15000	calc using TEF
2,3,7,8-TCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	13000	OEHHA	3760000	13000	OEHHA
OCDD	NA	--	NA	--	--	--	--	15	calc using TEF	NA	15	calc using TEF
OCDD	NA	--	0.00004	0.00000001	OEHHA	--	--	13	OEHHA	3800	13	OEHHA
OCDF	NA	--	NA	--	--	--	--	15	calc using TEF	NA	15	calc using TEF
OCDF	NA	--	0.00004	0.00000001	OEHHA	--	--	13	OEHHA	3800	13	OEHHA

References
HEAST: Health Effects Assessment Summary Tables (1997)
IRIS: Integrated Risk Information System (EPA 2010)
NCEA: National Center for Environmental Assessment (as cited on the RSL Table, 2010)
OEHHA: California Office of Environmental Health Hazard Assessment. Toxicity Criteria Database (2010)
OEHHA*: California Office of Environmental Health Hazard Assessment. Child Reference Dose (2007)
PPRTV : Provisional Peer Reviewed Toxicity Value (as cited on the RSL Table, 2010)
Shaded values are State of California toxicity values

Table 12
Summary of Cancer Risks and Noncancer Hazards - Soil
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

	Former AMCO Chemical Facility			Parking Lot			Large Vacant Lot		
Exposure Scenario/ Receptor	**Cancer**	**Noncancer**	**Risk Drivers**	**Cancer**	**Noncancer**	**Risk Drivers**	**Cancer**	**Noncancer**	**Risk Drivers**
Worker									
Industrial Worker									
Shallow Soil	1E-04	1	Vinyl chloride, xylenes, naphthalene, 2-methylnaphthalene, manganese, aluminum, cadmium, aldrin and dieldrin	5E-05	1	Lead, arsenic[1], benzo(a)pyrene, antimony and cadmium	6E-05	0.7	Lead, arsenic[1], DDT, benzo(a)pyrene, and cadmium
Deep Soil	1E-04	1		1E-04	1		4E-05	0.5	
Future Construction Worker									
Shallow Soil	1E-05	23		9E-06	30		1E-05	12	
Deep Soil	1E-05	20		2E-05	25		7E-06	10	
Hypothetical Resident									
Future Adult Resident (24 years)									
Shallow Soil	1E-04	1		5E-05	1		6E-05	0.8	
Deep Soil	1E-04	2		1E-04	1		4E-05	0.6	
Future Child Resident (6 years)									
Shallow Soil	2E-04	10		1E-04	26		1E-04	10	
Deep Soil	2E-04	11		2E-04	25		9E-05	7	
Sum of Adult plus Child (30 years)									
Shallow Soil	3E-04			2E-04			2E-04		
Deep Soil	3E-04			4E-04			1E-04		

Notes:

[1] Although arsenic is a risk driver, concentrations of arsenic detected in this exposure area are similar to or less than arsenic levels found in the background data set; therefore, the risk contributions from arsenic may not be site-related.

Table 12
Summary of Cancer Risks and Noncancer Hazards - Soil
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

	Small Vacant Lot			Background		
Exposure Scenario/ Receptor	**Cancer**	**Noncancer**	**Risk Drivers**	**Cancer**	**Noncancer**	**Risk Drivers**
Worker						
Industrial Worker						
Shallow Soil	4E-05	0.4	Arsenic[1], dieldrin, DDT, aluminum, and cadmium	1E-05	0.8	Arsenic and thallium
Future Construction Worker						
Shallow Soil	7E-06	7		1E-06	3	
Hypothetical Resident						
Future Adult Resident (24 years)						
Shallow Soil	5E-05	0.4		1E-05	1	
Future Child Resident (6 years)						
Shallow Soil	1E-04	12		3E-05	11	
Sum of Adult plus Child (30 years)						
Shallow Soil	1E-04			4E-05		

Notes:

[1] Although arsenic is a risk driver, concentrations of arsenic detected in this exposure area are similar to or less than arsenic levels found in the background data set; therefore, the risk contributions from arsenic may not be site-related.

Table 13
Summary of Cancer Risks and Noncancer Hazards - Groundwater
Remedial Investigation Report
AMCO Chemical Superfund Site, Oakland, California

Exposure Scenario/ Receptor	Cancer	Noncancer	Risk Drivers
Trench Worker	1E-04	34	Vinyl chloride, arsenic, benzene, cis-1, 2-dichloroethene, benzo(a)pyrene, and Aroclor-1260
Hypothetical Resident			
Future Adult Resident (24 years)	5E-02	262	
Future Child Resident (6 years)	3E-02	628	
Sum of Adult plus Child (30 years)	7E-02		

Table 14

Risk and Hazards Summary for Vapor Intrusion Evaluation

Baseline Human Health Risk Assessment

AMCO Chemical Superfund Site, Oakland, California

	Crawlspace Air		Outdoor Air	
Location	**Cancer Risk**	**Noncancer HI**	**Cancer Risk**	**Noncancer HI**
Commercial/Industrial Scenario				
1414 3rd St	6E-05	0.6		
Residential Scenario				
1428 3rd St	3E-04	7	2E-04	4
1432 3rd St	6E-04	8	4E-05	0.8
1436 3rd St			1E-04	0.8
320 Center St	6E-05	0.7	6E-05	1
326 Center St	8E-05	0.5	3E-05	0.4
339 Center St			4E-05	0.7
356 Center St			5E-05	0.9
360 Center St			4E-05	1
366 Center St			2E-05	0.1
Prescott Park			3E-05	0.5
Combined Background			3E-05	0.5

TABLE 15
Irrigation Well Detected Analytical Results
Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Analyte	Screening Level	Agricultural Water Quality Limit	Units	9/2/2004	6/24/2005	10/12/2005
Volatile Organic Compounds						
Acetone	5,500	NE	µg/L	ND (4)	4 J	---
cis-1,2-Dichloroethene	6	NE	µg/L	0.6	ND (0.5)	---
Methyl tert-butyl ether	13	NE	µg/L	0.6	ND (0.5)	---
trans-1,2-Dichloroethene	10	NE	µg/L	0.2 J	ND (0.5)	---
Trichloroethene	5	NE	µg/L	0.3 J	ND (0.5)	---
Semivolatile Organic Compounds						
1,4-Dioxane (p-dioxane)	6.1	NE	µg/L	1.1	ND (1)	---
bis(2-Ethylhexyl)phthalate	4.8	NE	µg/L	1.8	---	---
Metals						
Aluminum	1,000	5,000	µg/L	320	---	---
Antimony	6	NE	µg/L	4.2	---	---
Arsenic	10	100	µg/L	2.3	---	---
Barium	1,000	NE	µg/L	170	---	---
Boron	7,300	700	µg/L	2,800	---	---
Cadmium	5	10	µg/L	2.2	---	---
Calcium	NA	NE	µg/L	190,000	---	---
Chromium	50	NE	µg/L	3.2	---	---
Cobalt	730	50	µg/L	2.2	---	---
Copper	1,300	200	µg/L	40	---	---
Iron	11,000	5,000	µg/L	1,400	---	---
Lead	15	5,000	µg/L	**79**	---	---
Magnesium	NA	NE	µg/L	34,000	---	---
Manganese	880	200	µg/L	390	---	---
Mercury	2	NE	µg/L	0.23	---	---
Molybdenum	180	10	µg/L	6.2	---	---
Nickel	100	200	µg/L	25	---	---
Potassium	NA	NE	µg/L	33,000	---	---
Sodium	NA	69,000	µg/L	150,000	---	---
Zinc	11,000	2,000	µg/L	520	---	---
Organochlorine Pesticides/PCBs						
4,4'-DDD	0.28	NE	µg/L	---	0.004 J	---
4,4'-DDT	0.2	NE	µg/L	---	0.003 J	---
Water Quality Indicators						
Hardness (as CaCO3)	NA	NE	µg/L	610,000	---	---

Notes:
Only Organophosphorus Pesticides were analyzed for the sample collected on 10/12/2005 and none of the results were detected above the reporting limit.
Screening levels are the lower of the Federal or California Primary MCL, or EPA Region 9 tap water PRG, if a Primary MCL is not available.
Agricultural Water Quality Limit - suitability of water for irrigation of plants/crops (Ayers, R.S., and D.W. Westcot, 1985)
Results greater than the Screening Level ae bolded.

--- not analyzed
NA not applicable
NE not established
µg/L micrograms per liter
ND not detected above the reporting limit
J estimated value

TABLE 16
Minimum Analyte Reporting Limits Above Applicable Groundwater Screening Level
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

	Minimum RL (μg/L)	**Screening Levels (μg/L)**	**Number that Exceeded Screening Level (%)**	**Total Number of Samples**
1,1,1,2-Tetrachloroethane	0.5	0.43	118 (100)	118
1,2,3-Trichloropropane	0.5	0.0056	118 (100)	118
1,4-Dioxane (p-dioxane)	1000	6.1	64 (80)	80
Naphthalene	0.2	0.093	81 (69)	118
bis(2-Chloroethyl)ether	0.08	0.01	111 (100)	111
Dibenz(a,h)anthracene	0.01	0.0092	111 (100)	111
Naphthalene	0.1	0.093	88 (81)	109
N-Nitrosodi-n-propylamine	0.01	0.0096	106 (96)	110
Aldrin	0.01	0.004	80 (80)	100
Dieldrin	0.02	0.0042	62 (63)	98

TABLE 17
Minimum Analyte Reporting Limits Above Applicable Ambient/Crawlspace Air Screening Level
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

	Minimum RL ($\mu g/m^3$)	**Screening Levels ($\mu g/m^3$)**	**Number that Exceeded Screening Level (%)**	**Total Number of Samples**
AMBIENT AIR				
1,1,1,2-Tetrachloroethane	0.19	0.43	21 (99)	22
1,2-Dibromoethane	0.21	0.033	22 (100)	22
1,2-Dichloroethane	0.11	0.0034	19 (86)	22
Benzene	0.59	0.074	1 (4)	22
Chloroform	0.16	0.25	4 (18)	22
Hexachlorobutadiene	1.5	0.083	22 (100)	22
Naphthalene	3.6	0.086	6 (43)	14
Trichloroethene	0.028	0.056	11 (50)	22
CRAWLSPACE AIR				
1,1,1,2-Tetrachloroethane	0.19	0.43	21 (99)	22
1,2-Dibromoethane	0.21	0.033	22 (100)	22
1,2-Dichloroethane	0.11	0.0034	19 (86)	22
Chloroform	0.16	0.25	4 (18)	22
Hexachlorobutadiene	1.5	0.083	22 (100)	22
Naphthalene	3.6	0.086	6 (43)	14
Trichloroethene	0.028	0.056	11 (50)	22

Table 18
Summary of Surrogate Toxicity Values
Baseline Human Health Risk Assessment
AMCO Chemical Superfund Site, Oakland, California

Compound	Surrogate	Oral RfD (mg/kg-day)	Reference	Inhalation RfD (mg/kg-day)	Reference	Oral CSF $(mg/kg\text{-}day)^{-1}$	Reference	Inhalation CSF $(mg/kg\text{-}day)\text{-}^{1}$	Reference
alpha-Chlordane	Chlordane	0.0005	IRIS	0.0002	IRIS	1.2	OEHHA	1.2	OEHHA
gamma-Chlordane									
Endosulfan I	Endosulfan	0.006	IRIS	0.006	Route Extrapolation	NA	--	NA	--
Endosulfan II									
Endosulfan sulfate									
Endrin aldehyde	Endrin	0.0003	IRIS	0.0003	Route Extrapolation	NA	--	NA	--
Endrin ketone									
Aroclor-1221	Aroclor-1254	0.00002	IRIS	0.00002	Route Extrapolation	2.0	IRIS	2.0	IRIS
Aroclor-1232									
Aroclor-1242									
Aroclor-1248									
Aroclor-1260									
o-Xylene	Xylenes	0.2	IRIS	0.03	IRIS	NA	--	NA	--
m,p-Xylenes									

Notes:
IRIS - Integrated Risk Information System (http://www.epa.gov/iris/)
RfD - Reference Dose
CSF - Cancer Slope Factor
NA - Toxicity value not available
OEHHA - Office of Environmental Health and Hazard Assessment, California State