Table 1A
Representative Concentrations of Chemicals of Concern Detected in Soil

4200 Alameda Avenue
Oakland, California
(EKI 930040.00)

Compound	Frequency of Detection		Summary of Detected Concentration (mg/kg)				Representative Concentration (mg/kg) (e)
	Number of Times Detected	Number of Analyses Performed	Minimum (a)	Maximum (b)	Arithmetic Mean (c)	95% Upper Confidence Limit (d) (lognormal)	
TPHg (f)	34	40	2	4,100	600	31,000	4,100
TPHd (g)	40	40	1.5	11,000	1,800	26,000	11,000
TPHm (h)	38	40	21	15,000	3,500	35,000	15,000
Benzene	9	36	0.018	1.5	0.14	1.2	1.2
Chlorobenzene	5	32	0.0072	0.5	0.093	0.37	0.37
2-chlorotoluene	4	10	0.53	22	4.5	120	22
1,2-Dichlorobenzene	17	40	0.0058	11	0.66	8.8	8.8
1,1-Dichloroethane	2	17	0.012	0.023	0.0047	1.1	0.023
1,2-Dichloroethane	2	17	0.018	0.028	0.0054	1.1	0.028
cis-1,2-Dichloroethene	5	40	0.014	8.5	0.48	4.2	4.2
trans-1,2-Dichloroethene	1	17	0.033	0.033	0.0047	1.2	0.033
Ethylbenzene	31	40	0.007	34.5	3.5	140	34.5
Freon113	1	25	0.83	0.83	0.073	0.61	0.61
n-Butylbenzene	8	10	0.58	19	5.3	48	19
sec-Butylbenzene	4	7	0.66	3.4	1.0	6.9	3.4
Isopropylbenzene	3	7	0.53	3.2	0.87	7.3	3.2
p-Isopropyltoluene	8	10	0.5	8.4	2.6	11	8.4
n-Propylbenzene	8	10	0.65	19	5.8	56	19
Tetrachloroethene	4	40	0.0062	7.6	0.61	7.0	7.0
Toluene	27	40	0.02	91	6.0	55	55
1,2,4-Trimethylbenzene	9	10	1.5	140	47	7,100	140
1,3,5-Trimethylbenzene	10	10	0.56	43	15	370	43
Trichloroethene	7	37	0.0063	2.4	0.17	2.9	2.4
Vinyl Chloride	2	17	0.049	0.05	0.011	0.90	0.05
Total Xylenes	36	40	0.007	195	21	2,900	195
2-Methylnaphthalene	4	15	22	76	18	530	76

Table 1A
Representative Concentrations of Chemicals of Concern Detected in Soil

4200 Alameda Avenue
Oakland, California
(EKI 930040.00)

Compound	Frequency of Detection		Summary of Detected Concentration (mg/kg)				Representative Concentration (mg/kg) (e)
	Number of Times Detected	Number of Analyses Performed	Minimum (a)	Maximum (b)	Arithmetic Mean (c)	95% Upper Confidence Limit (d) (lognormal)	
Naphthalene	9	15	0.51	61.5	12	320	61.5
1,2,4-Trichlorobenzene	4	10	5.8	9.8	3.3	74	9.8
PCB-1242	3	38	0.045	1.1	0.085	0.28	0.28
PCB-1254	5	39	0.021	3.4	0.18	0.41	0.41
PCB-1260	24	40	0.021	27	1.2	4.7	4.7
Arsenic	4	30	6.8	28	4.4	5.1	5.1
Total Chromium	40	40	18	110	65	75	75
Lead	32	40	5.1	660	52	89	89
Cadmium	3	10	0.53	3.7	0.73	1.6	1.6
Nickel	10	10	38	170	85	110	110
Zinc	10	10	31	560	148	450	450

Notes:
(a) Minimum represents the lowest concentration detected.
(b) Maximum represents the highest concentration detected.
(c) The arithmetic mean was calculated assuming that for samples where chemicals were not reported to be present above the analytical method detection limit, the concentration of each of these chemicals is one-half of the reported detection limit. Samples were not included in the dataset to calculate the mean and 95% UCL if the detection limit exceeded the maximum detected concentration.
(d) The 95% upper confidence limit (UCL) was calculated from the arithmetic mean of the transformed lognormal data set. Samples were not included in the dataset to calculate the mean and 95% UCL if the detection limit exceeded the maximum detected concentration.
(e) Representative concentration is the lesser of the maximum detected value or the 95% UCL.
(f) TPHg - total petroleum hydrocarbons as gasoline
(g) TPHd - total petroleum hydrocarbons as diesel
(h) TPHm - total petroleum hydrocarbons as motor oil

Table 1B
Representative Concentrations of Chemicals of Concern Detected in Groundwater

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Frequency of Detection		Summary of Detected Concentration (ug/L)				Representative Concentration (ug/L) (e)
	Number of Times Detected	Number of Analyses Performed	Minimum (a)	Maximum (b)	Arithmetic Mean (c)	95% Upper Confidence Limit (d) (lognormal)	
TPHg (f)	16	16	57	160,000	15,000	77	77
TPHd (g)	16	16	4,900	850,000	170,000	240	240
TPHm (h)	4	4	67,000	800,000	370,000	660	660
Benzene	16	16	6.2	630	180	13	13
Chlorobenzene	5	15	7.3	160	32	8.0	8.0
Chloroethane	7	15	1	130	37	6.8	6.8
1,2-Dichlorobenzene	7	16	1.6	300	54	8.4	8.4
1,3-Dichlorobenzene	4	16	1.5	1,600	130	11	11
1,4-Dichlorobenzene	5	16	4.4	2,700	200	12	12
1,1-Dichloroethane	8	15	4.8	160	54	12	12
1,2-Dichloroethane	1	7	17	17	3.2	2.7	2.7
cis-1,2-Dichloroethene	10	16	8.4	6,600	1,600	200	200
trans-1,2-Dichloroethene	7	15	4.1	170	53	12	12
1,2-Dichloropropane	1	6	4.9	4.9	1.3	1.8	1.8
Ethylbenzene	13	16	28	700	120	19	19
Toluene	12	16	12	2,500	410	39	39
Trichloroethene	1	6	3.8	3.8	1.1	1.6	1.6
Vinyl Chloride	10	16	4.1	5,200	2,000	250	250
Total Xylenes	13	16	49	3,400	550	55	55
2,4-Dimethylphenol	1	6	3,400	3,400	590	150	150
2-Methylnaphthalene	1	3	11	11	5.3	7.1	7.1
2-Methylphenol	1	6	330	330	81	28	28
4-Methylphenol	2	6	9.9	550	120	31	31
Naphthalene	2	5	63	160	51	26	26

Table 1B
Representative Concentrations of Chemicals of Concern Detected in Groundwater

4200 Alameda Avenue
Oakland, California
(EKI 930040.00)

Compound	Frequency of Detection		Summary of Detected Concentration (ug/L)				Representative Concentration (ug/L) (e)
	Number of Times Detected	Number of Analyses Performed	Minimum (a)	Maximum (b)	Arithmetic Mean (c)	95% Upper Confidence Limit (d) (lognormal)	
Phenol	1	5	230	230	53	27	27
PCB-1260	1	6	31	31	7.9	6.3	6.3
Arsenic	8	8	13	93	40	6.0	6.0
Chromium	3	8	21	89	22	4.8	4.8
Lead	4	10	5	6,600	920	48	48

Notes:
(a) Minimum represents the lowest concentration detected.
(b) Maximum represents the highest concentration detected.
(c) The arithmetic mean was calculated assuming that for samples where chemicals were not reported to be present above the analytical method detection limit, the concentration of each of these chemicals is one-half of the reported detection limit. Samples were not included in the dataset to calculate the mean and 95% UCL if the detection limit exceeded the maximum detected concentration.
(d) The 95% upper confidence limit (UCL) was calculated from the arithmetic mean of the transformed lognormal data set. Samples were not included in the dataset to calculate the mean and 95% UCL if the detection limit exceeded the maximum detected concentration.
(e) Representative concentration is the lesser of the maximum detected value or the 95% UCL.
(f) TPHg - total petroleum hydrocarbons as gasoline
(g) TPHd - total petroleum hydrocarbons as diesel
(h) TPHm - total petroleum hydrocarbons as motor oil

Table 2
Summary of Inhalation Toxicity Information for Potential Chemicals of Concern in Soil and Groundwater
4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Non-Carcinogenic Toxicity Information		Carcinogenic Toxicity Information		
	Chronic Reference Dose (RfDi) (mg/kg-day)	Source (a)	Slope Factor (SF) $(mg/kg\text{-}day)^{-1}$	Weight-of-Evidence Classification (b)	Source (c)
Benzene	-(d)	-	0.1	A	Cal Potency
Chlorobenzene	0.02 (e)	IRIS	-	D	-
Chloroethane	2.86	IRIS	-	-	-
2-Chlorotoluene	0.02 (e)	IRIS	-	-	-
1,2-Dichlorobenzene	0.09 (e)	IRIS	-	D	-
1,3-Dichlorobenzene	-	-	-	D	-
1,4-Dichlorobenzene	0.23	IRIS	0.04	B2	Cal Potency
1,1-Dichloroethane	0.1	HEAST	0.0057	C	Cal Potency
1,2-Dichloroethane	-	-	0.07	B2	Cal Potency
cis-1,2-Dichloroethene	0.01 (e)	HEAST	-	D	-
trans-1,2-Dichloroethene	0.02 (e)	IRIS	-	D	-
1,2-Dichloropropane	0.0011	IRIS	0.063	B2	Cal Potency
Ethylbenzene	0.29	IRIS	-	D	-
Freon113	30 (e)	IRIS	-	-	-
n-Butylbenzene	-	-	-	-	-
sec-Butylbenzene	-	-	-	-	-
Isopropylbenzene	-	-	-	-	-
p-Isopropyltoluene	-	-	-	-	-
n-Propylbenzene	-	-	-	-	-
Tetrachloroethene	0.01 (e)	IRIS	0.021	under review	Cal Potency
Toluene	0.11	IRIS	-	D	-
1,2,4-Trimethylbenzene	-	-	-	-	-
1,3,5-Trimethylbenzene	-	-	-	-	-
Trichloroethene	-	-	0.01	under review	Cal Potency
Vinyl Chloride	-	-	0.27	A	Cal Potency
Total xylenes	2 (e)	IRIS	-	D	-
2,4-Dimethylphenol	0.02 (e)	IRIS	-	-	-
2-Methylnaphthalene	0.04 (f)	ECAO	-	D	-

Table 2
Summary of Inhalation Toxicity Information for Potential Chemicals of Concern in Soil and Groundwater
4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Non-Carcinogenic Toxicity Information		Carcinogenic Toxicity Information		
	Chronic Reference Dose (RfDi) (mg/kg-day)	Source (a)	Slope Factor (SF) $(mg/kg\text{-}day)^{-1}$	Weight-of-Evidence Classification (b)	Source (c)
2-Methylphenol	0.05 (e)	IRIS	-	C	-
4-Methylphenol	0.005 (e)	HEAST	-	C	-
Naphthalene	0.04	ECAO	-	D	-
Phenol	0.6 (e)	IRIS	-	D	-
1,2,4-Trichlorobenzene	0.01 (e)	IRIS	-	D	-
PCB-1242	0.00002 (g)	IRIS	7.7	B2	Cal Potency
PCB-1254	0.00002 (e)	IRIS	7.7	B2	Cal Potency
PCB-1260	0.00002 (g)	IRIS	7.7	B2	Cal Potency
Arsenic	0.0003 (e)	IRIS	12	A	Cal Potency
Cadmium	0.0005 (e)	IRIS	15	B1	Cal Potency
Total Chromium (h)	1.0 (h)	IRIS	-	D	-
Nickel	-	-	0.91	A	Cal Potency
Zinc	0.3 (e)	IRIS	-	D	-

Notes:

(a) Chronic reference doses obtained from U.S. EPA's Integrated Risk Information System (IRIS) or U.S. EPA's Health Effects Assessment Summary Tables (HEAST), dated March 1995, or U.S. EPA's Environmental Criteria and Assessment Office, OH (ECAO), in this order of priority.

(b) U.S. EPA weight-of-evidence classification is as follows:
A = Human Carcinogen
B1 or B2 = Probable Human Carcinogen; B1 indicates that limited human data are available; B2 indicates that there is sufficient evidence in animals and inadequate or no evidence in humans.
C = Possible Human Carcinogen
D = Not Classifiable as to Human Carcinogenicity
E = Evidence of Non-Carcinogenicity for Humans
Weight-of-evidence information obtained from IRIS or HEAST.

Table 2
Summary of Inhalation Toxicity Information for Potential Chemicals of Concern in Soil and Groundwater
4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

(c) Cancer slope factors obtained from California Cancer Potency Factors Updated Memorandum for the Office of Environmental Health Hazard Assessment (1 November 1994) or IRIS, in this order of priority.

(d) Hyphen ("-") symbol indicates a respective reference dose or cancer slope factor is not available for this compound.

(e) In the absence of an inhalation chronic reference dose or an inhalation carcinogenic slope factor, the respective oral value was used.

(f) Health criteria for 2-methylnaphthalene assumed to be equilvalent to naphthalene.

(g) The chronic reference dose for PCB-1242 and PCB-1260 assumed to be the same as that for PCB-1254.

(h) The toxicity information for total chromium is assumed to be the same as that for chromium(III).

Table 3
Summary of Ingestion Toxicity Information for Potential Chemicals of Concern in Soil and Groundwater

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Non-Carcinogenic Toxicity Information		Carcinogenic Toxicity Information		
	Chronic Reference Dose (RfDo) (mg/kg-day)	Source (a)	Slope Factor (SF) $(mg/kg\text{-}day)^{-1}$	Weight-of-Evidence Classification (b)	Source (c)
Benzene	-(d)	-	0.1	A	Cal Potency
Chlorobenzene	0.02	IRIS	-	D	-
Chloroethane	2.86 (e)	IRIS	-	-	-
2-Chlorotoluene	0.02	IRIS	-	-	-
1,2-Dichlorobenzene	0.09	IRIS	-	D	-
1,3-Dichlorobenzene	under review	IRIS	-	D	-
1,4-Dichlorobenzene	0.23 (e)	IRIS	0.04	B2	Cal Potency
1,1-Dichloroethane	0.1 (e)	HEAST	0.0057	C	Cal Potency
1,2-Dichloroethane	-	-	0.07	B2	Cal Potency
cis-1,2-Dichloroethene	0.01	HEAST	-	D	-
trans-1,2-Dichloroethene	0.02	IRIS	-	D	-
1,2-Dichloropropane	0.0011 (e)	IRIS	0.063	B2	Cal Potency
Ethylbenzene	0.1	IRIS	-	D	-
Freon113	30	IRIS	-	-	-
n-Butylbenzene	-	-	-	-	-
sec-Butylbenzene	-	-	-	-	-
Isopropylbenzene	-	-	-	-	-
p-Isopropyltoluene	-	-	-	-	-
n-Propylbenzene	-	-	-	-	-
Tetrachloroethene	0.01	IRIS	0.051	under review	Cal Potency
Toluene	0.2	IRIS	-	D	-
1,2,4-Trimethylbenzene	-	-	-	-	-
1,3,5-Trimethylbenzene	-	-	-	-	-
Trichloroethene	-	-	0.015	under review	Cal Potency
Vinyl Chloride	-	-	0.27	A	Cal Potency
Total xylenes	2	IRIS	-	D	-
2,4-Dimethylphenol	0.02	IRIS	-	-	-
2-Methylnaphthalene	0.04 (f)	ECAO	-	D	-

Table 3
Summary of Ingestion Toxicity Information for Potential Chemicals of Concern in Soil and Groundwater
4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Non-Carcinogenic Toxicity Information		Carcinogenic Toxicity Information		
	Chronic Reference Dose (RfDo) (mg/kg-day)	Source (a)	Slope Factor (SF) $(mg/kg\text{-}day)^{-1}$	Weight-of-Evidence Classification (b)	Source (c)
2-Methylphenol	0.05	IRIS	-	C	-
4-Methylphenol	0.005	HEAST	-	C	-
Naphthalene	0.04	ECAO	-	D	-
Phenol	0.6	IRIS	-	D	-
1,2,4-Trichlorobenzene	0.01	IRIS	-	D	-
PCB-1242	0.00002 (g)	IRIS	7.7	B2	Cal Potency
PCB-1254	0.00002	IRIS	7.7	B2	Cal Potency
PCB-1260	0.00002 (g)	IRIS	7.7	B2	Cal Potency
Arsenic	0.0003	IRIS	1.75	A	Cal Potency
Cadmium	0.0005	IRIS	15 (e)	B1	Cal Potency
Total Chromium (h)	1.0	IRIS	-	D	-
Nickel	-	-	0.91(e)	A	Cal Potency
Zinc	0.3	IRIS	-	D	-

Notes:

(a) Chronic reference doses obtained from U.S. EPA's Integrated Risk Information System (IRIS), U.S. EPA's Health Effects Assessment Summary Tables (HEAST), dated March 1995, or U.S. EPA's Environmental Criteria and Assessment Office, OH (ECAO), in this order of priority.

(b) U.S. EPA weight-of-evidence classification is as follows:
A = Human Carcinogen
B1 or B2 = Probable Human Carcinogen; B1 indicates that limited human data are available; B2 indicates that there is sufficient evidence in animals and inadequate or no evidence in humans.
C = Possible Human Carcinogen
D = Not Classifiable as to Human Carcinogenicity
E = Evidence of Non-Carcinogenicity for Humans
Weight-of-evidence information obtained from IRIS or HEAST.

Table 3
Summary of Ingestion Toxicity Information for Potential Chemicals of Concern in Soil and Groundwater
4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

(c) Cancer slope factors obtained from California Cancer Potency Factors Updated Memorandum for the Office of Environmental Health Hazard Assessment (1 November 1994) or IRIS, in this order of priority.

(d) Hyphen ("-") symbol indicates a respective reference dose or cancer slope factor is not available for this compound.

(e) In the absence of an ingestion chronic reference dose or an ingestion carcinogenic slope factor, the respective inhalation value was used.

(f) Health criteria for 2-methylnaphthalene assumed to be equilvalent to naphthalene.

(g) The chronic reference dose for PCB-1242 and PCB-1260 assumed to be the same as that for PCB-1254.

(h) The toxicity information for total chromium is assumed to be the same as that for chromium(III).

Table 4
Human Health Risk-Based Exposure Assessment Summary

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Site Condition	Receptor	Exposure Scenario
Future	Maintenance Personnel	Soil Ingestion Dermal contact with soil Dust inhalation of non-volatiles from soil Inhalation of vapors from soil and from dust particles to outdoor air
Future	Restaurant Employee	Inhalation of vapors from soil to indoor air

Table 5
Exposure Assumptions Used in the Human Health Risk Screening Evaluation

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Potentially Exposed Population		Exposure Parameter (a)		Reference
Maintenance Personnel				
	EF	Exposure Frequency	2 days/year (b)	Best Professional Judgment
	ED	Exposure Duration	25 years	U.S.EPA (1989a, 1991); Cal-EPA (1992)
	BW	Body Weight	70 kg	U.S.EPA (1989a, 1991); Cal-EPA (1992)
	AT	Averaging Time	50 days; 25,550 days (c)	U.S. EPA (1989a); Cal-EPA (1992)
	Soil			
	SAs	Skin Surface Area Available for Contact with Soil	3,160 cm^2	U.S. EPA (1992a)
	IRs	Incidental Soil Ingestion Rate	480 mg/day	U.S. EPA (1991)
	AF	Soil to Skin Adherence Factor	1 mg/cm^2	U.S. EPA (1992a); Cal-EPA (1992)
	Air			
	IRa	Inhalation Rate of Air	20 m^3/day	U.S.EPA (1989a, 1991); Cal-EPA (1992)
	RDC	Respirable Dust concentration	1 mg/m3 (d)	Best Professional Judgment
Resturant Employee				
	EF	Exposure Frequency	250 days/year	U.S.EPA (1989a, 1991); Cal-EPA (1992)
	ED	Exposure Duration	25 years	U.S.EPA (1989a, 1991); Cal-EPA (1992)
	BW	Body Weight	70 kg	U.S.EPA (1989a, 1991); Cal-EPA (1992)
	AT	Averaging Time	6250 days; 25,550 days	Cal-EPA (1992)
	Air			
	IRa	Inhalation Rate of Air	20 m^3/day	U.S.EPA (1989a, 1991); Cal-EPA (1992)

Notes:
(a) Exposure assumptions are compiled from:
Cal-EPA (State of California, Environmental Protection Agency), January 1994, *Preliminary Endangerment Assessment Guidance Manual*, Department of Toxic Substances Control (DTSC).
Cal-EPA, July 1992, *Supplemental Guidance for Human Health Multimedia Risk Assessments for Hazardous Waste Sites and Permitted Facilities*, DTSC, The Office of the Science Advisor.

Table 5
Exposure Assumptions Used in the Human Health Risk Screening Evaluation

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

U.S. EPA (U.S. Environmental Protection Agency), January 1992a, *Dermal Exposure Assessment: Principles and Applications, Interim Report*, Office of Research and Development, EPA/600/8-91/011B.
U.S. EPA, March 1991, *Risk Assessment Guidance for Superfund - Volume I: Human Health Evaluation Manual, Supplemental Guidance, "Standard Default Exposure Factors"*, Interim Final, OSWER Directive: 9285.6-03.
U.S. EPA, December 1989a, *Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part A)*, OERR, EPA/540/12-89/002.

(b) The values are based on the following assumptions:
It is assumed that 1 maintenance event in which contaminated soil is exposed occurs every 2 years. Each maintenance event is assumed to take 4 working days. Therefore, the exposure frequency for maintenance personnel is 4 days every 2 years, or 2 days/year. The exposure duration (ED) of 25 years for maintenance personnel assumes that same person performs the work over a 25 year period.

(c) Averaging time for non-carcinogenic effects, which equals the period of exposure in units of days, is listed first. Averaging time for carcinogenic effects, which equals a 70 year lifetime in units of days, is listed second.

(d) A respirable dust concentration (concentration of dust with particles less than 10 micrometers in diameter) of 1 mg/m3 corresponds to the presence of visible dust clouds. Because it is unlikely that maintenance personnel will be working in visible dust clouds 8 hours/day, a respirable dust concentration of 1.0 mg/m3 is conservative. For comparison, the permissible exposure limit (PEL) for respirable dust is 5 mg/m3 (CCR, Title 8, Section 5155, Table AC-1).

Table 6
Assumptions Used in the Risk Based Corrective Action ("RBCA") Exposure Model

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Parameter	Definition	Units	Commercial
d	Lower depth of surficial soil zone	cm	100
ER	Enclosed-space air exchange rate	1/s	0.00023
f_{oc}	Fraction of organic carbon	g-C/g-soil	0.00038 (a)
h_{cap}	thickness of capillary fringe	cm	5
h_v	thickness of vadose zone	cm	Lgw - hcap
k_s	Soil-water sorption coefficient	cm3-water/g-C	foc * koc
L_B	Enclosed-space volume/infiltration area ratio	cm	300
L_{crack}	Enclosed-space foundation or wall thickness	cm	15
L_{gw}	Depth to groundwater	cm	300
L_S	Depth to subsurface soil sources	cm	30 (b)
P_e	Particulate emission rate	g/cm^2-s	6.9×10^{-14}
U_{air}	Wind speed above ground surface in ambient mixing zone	cm/s	340 (c)
U_{gw}	Ground water Darcy velocity	cm/year	2500
W	Width of source area parallel to wind, or ground water flow direction	cm	3000 (d)
δ_{air}	Ambient air mixing zone height	cm	200
δ_{gw}	Groundwater mixing zone thickness	cm	200
η	Areal fraction of cracks in foundations/walls	cm^2-cracks/cm^2-total area	0.001 (e)
θ_{acap}	Volumetric air content in capillary fringe soils	cm^3-air/cm^3-soil	0.038
θ_{acrack}	Volumetric air content in foundation/wall cracks	cm^3-air/cm^3-total volume	0.063 (a)
θ_{as}	Volumetric air content in vadose zone soils	cm^3-air/cm^3-soil	0.063 (a)
θ_T	Total soil porosity	cm^3/cm^3-soil	0.39 (a)
θ_{wcap}	Volumetric water content in capillary fringe soils	cm^3-water/cm^3-soil	0.352
θ_{wcrack}	Volumetric water content in foundation/wall cracks	cm^3-water/cm^3-soil	0.327 (a)
θ_{ws}	Volumetric water content in vadose zone soils	cm^3-water/cm^3-soil	0.327 (a)
ρ_s	Soil bulk density	g-soil/cm^3-soil	1.62 (a)
τ	Averaging time for vapor flux	s	7.88×10^8

Notes:

(a) Site-specific soil properties were obtained from SOMA Environmental Engineering, Inc. "*Baseline Health Risk Assessment American National Can Company, Oakland, California Facility*" (January 31, 1994).

(b) Depth to subsurface soil sources is assumed to be 1foot (30 cm), which is approximately the depth where the soil was detected of chemicals of concern.

(c) Oakland airport wind rose

(d) Approx. length of a future building

(e) Areal fraction of cracks in foundations/walls for commercial buildings was set to 0.001, which is appropriate for newly constructed commerical buildings (Daugherty, 1991).

DRAFT

Table 7A
Estimated Lifetime Cancer Risk for Future Resturant Employee

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	SFi	VFwesp (mg/m^3-air) ($mg/L\text{-}H_2O$) (a)	VFsesp (mg/m^3-air) (mg/kg-soil) (a)	Cair from groundwater (ug/m^3) (a)	Cair from soil (ug/m^3) (a)	Estimated Risk	
								from inhalation of vapors from groundwater	from inhalation of vapors from soil
Benzene	13	1.2	0.1	1.4E-05	6.5E-05	1.9E-04	7.9E-02	1.3E-09	5.5E-07
Chlorobenzene	8.0	0.37	- (c)	7.9E-06	3.0E-05	6.3E-05	1.1E-02	-	-
Chloroethane	6.8	ND	-	3.3E-05	1.5E-04	2.2E-04	-	-	-
2-Chlorotoluene	ND	22	-	0.0E+00	0.0E+00	-	-	-	-
1,2-Dichlorobenzene	8.4	8.8	-	5.2E-06	8.2E-06	4.3E-05	7.2E-02	-	-
1,3-Dichlorobenzene	11	ND	-	1.3E-05	3.3E-05	1.5E-04	-	-	-
1,4-Dichlorobenzene	12	ND	0.04	1.1E-05	1.7E-05	1.3E-04	-	3.6E-10	-
1,1-Dichloroethane	12	0.023	0.0057	1.2E-05	5.4E-05	1.4E-04	1.2E-03	5.6E-11	4.9E-10
1,2-Dichloroethane	2.7	0.028	0.07	3.7E-06	1.8E-05	1.0E-05	5.1E-04	4.9E-11	2.5E-09
cis-1,2-Dichloroethene	200	4.2	-	1.1E-05	5.0E-05	2.2E-03	2.1E-01	-	-
trans-1,2-Dichloroethene	12	0.033	-	1.5E-05	6.4E-05	1.8E-04	2.1E-03	-	-
1,2-Dichloropropane	1.8	ND	0.063	6.0E-06	2.8E-05	1.1E-05	-	4.8E-11	-
Ethylbenzene	19	34.5	-	1.6E-05	6.7E-05	3.1E-04	2.3E+00	-	-
Freon113	ND	0.61	-	6.2E-04	7.1E-04	-	4.4E-01	-	-
n-Butylbenzene	ND	19	-	0.0E+00	0.0E+00	-	-	-	-
sec-Butylbenzene	ND	3.4	-	0.0E+00	0.0E+00	-	-	-	-
Isopropylbenzene	ND	3.2	-	0.0E+00	0.0E+00	-	-	-	-
p-Isopropyltoluene	ND	8.4	-	0.0E+00	0.0E+00	-	-	-	-
n-Propylbenzene	ND	19	-	0.0E+00	0.0E+00	-	-	-	-
Tetrachloroethene	ND	7.0	0.021	2.9E-05	6.2E-05	-	4.3E-01	-	6.4E-07
Toluene	39	55	-	1.5E-05	5.9E-05	5.9E-04	3.2E+00	-	-
1,2,4-Trimethylbenzene	ND	140	-	0.0E+00	0.0E+00	-	-	-	-
1,3,5-Trimethylbenzene	ND	43	-	0.0E+00	0.0E+00	-	-	-	-
Trichloroethene	1.6	2.4	0.01	2.1E-05	7.9E-05	3.3E-05	1.9E-01	2.3E-11	1.3E-07
Vinyl Chloride	250	0.05	0.27	8.0E-05	3.0E-04	2.0E-02	1.5E-02	3.8E-07	2.9E-07
Total xylenes	55	195	-	1.4E-05	4.8E-05	7.9E-04	9.4E+00	-	-

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Table 7A
Estimated Lifetime Cancer Risk for Future Resturant Employee

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	SFi	VFwesp (mg/m^3-air) ($mg/L\text{-}H_2O$) (a)	VFsesp (mg/m^3-air) (mg/kg-soil) (a)	Cair from groundwater (ug/m^3) (a)	Cair from soil (ug/m^3) (a)	Estimated Risk	
								from inhalation of vapors from groundwater	from inhalation of vapors from soil
2,4-Dimethylphenol	150	ND	-	1.1E-06	4.4E-06	1.6E-04	-	-	-
2-Methylnaphthalene	7.1	76	-	0.0E+00	0.0E+00	0.0E+00	-	-	-
2-Methylphenol	28	ND	-	1.1E-06	5.6E-06	3.2E-05	-	-	-
4-Methylphenol	31	ND	-	1.1E-06	5.3E-06	3.6E-05	-	-	-
Naphthalene	26	61.5	-	3.6E-06	5.3E-06	9.4E-05	3.3E-01	-	-
Phenol	27	ND	-	1.3E-06	6.4E-06	3.5E-05	-	-	-
1,2,4-Trichlorobenzene	ND	9.8	-	4.9E-06	1.4E-06	-	1.3E-02	-	-
PCB-1242	ND	0.28	7.7	1.5E-06	7.0E-07	-	2.0E-04	-	1.1E-07
PCB-1254	ND	0.41	7.7	1.1E-06	6.9E-08	-	2.8E-05	-	1.5E-08
PCB-1260	6.3	4.7	7.7	1.1E-06	1.1E-09	6.8E-06	5.2E-06	3.7E-09	2.8E-09
Arsenic	6.0	5.1	12	-	-	-	-	-	-
Cadmium	ND	1.6	15	-	-	-	-	-	-
Total Chromium	4.8	75	510	-	-	-	-	-	-
Nickel	ND	110	0.91	-	-	-	-	-	-
Zinc	ND	450	-	-	-	-	-	-	-
								3.8E-07	**1.7E-06**

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Table 7B
Estimated Lifetime Cancer Risk for Maintenance Personnel

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	SFo	SFi	VFss (mg/m3-air) (mg/kg-soil) (a)	VFp (mg/m3-air) (mg/kg-soil) (a)	VFwamb (mg/m3-air) (mg/L-H2O) (a)	Cair for non-volatiles (mg/m^3)	Estimated Risk				
									from Ingestion of Soil	from Dermal Contact with Soil	from dust inhalation of non-volatiles	from inhalation of particulates and vapors from soil	from inhalation of vapors originated from groundwater
Benzene	13	1.2	0.1	0.1	9.1E-06	3.0E-12	2.2E-06	-	1.6E-09	5.3E-10	-	6.1E-10	1.6E-12
Chlorobenzene	8	0.37	-	-	9.1E-06	3.0E-12	1.2E-06	-	-	-	-	-	-
Chloroethane	6.8	ND	-	-	9.1E-06	3.0E-12	4.8E-06	-	-	-	-	-	-
2-Chlorotoluene	ND	22	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
1,2-Dichlorobenzene	8.4	8.8	-	-	6.6E-06	3.0E-12	7.8E-07	-	-	-	-	-	-
1,3-Dichlorobenzene	11	ND	-	-	9.1E-06	3.0E-12	2.0E-06	-	-	-	-	-	-
1,4-Dichlorobenzene	12	ND	0.04	0.04	9.1E-06	3.0E-12	1.6E-06	-	-	-	-	-	4.3E-13
1,1-Dichloroethane	12	0.023	0.0057	0.0057	9.1E-06	3.0E-12	1.7E-06	-	1.8E-12	5.8E-13	-	6.6E-13	6.7E-14
1,2-Dichloroethane	2.7	0.028	0.07	0.07	9.1E-06	3.0E-12	5.7E-07	-	2.6E-11	8.7E-12	-	9.9E-12	6.0E-14
cis-1,2-Dichloroethene	200	4.2	-	-	9.1E-06	3.0E-12	1.7E-06	-	-	-	-	-	-
trans-1,2-Dichloroethene	12	0.033	-	-	9.1E-06	3.0E-12	2.2E-06	-	-	-	-	-	-
1,2-Dichloropropane	1.8	ND	0.063	0.063	9.1E-06	3.0E-12	9.1E-07	-	-	-	-	-	5.8E-14
Ethylbenzene	19	34.5	-	-	9.1E-06	3.0E-12	2.4E-06	-	-	-	-	-	-
Freon113	ND	0.61	-	-	9.1E-06	3.0E-12	9.0E-05	-	-	-	-	-	-
n-Butylbenzene	ND	19	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
sec-Butylbenzene	ND	3.4	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
Isopropylbenzene	ND	3.2	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
p-Isopropyltoluene	ND	8.4	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
n-Propylbenzene	ND	19	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
Tetrachloroethene	ND	7	0.051	0.021	9.1E-06	3.0E-12	4.3E-06	-	4.8E-09	1.6E-09	-	7.5E-10	-
Toluene	39	55	-	-	9.1E-06	3.0E-12	2.3E-06	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ND	140	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ND	43	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
Trichloroethene	1.6	2.4	0.015	0.01	9.1E-06	3.0E-12	3.0E-06	-	4.8E-10	1.6E-10	-	1.2E-10	-
Vinyl Chloride	250	0.05	0.27	0.27	9.1E-06	3.0E-12	1.2E-05	-	1.8E-10	6.0E-11	-	6.8E-11	4.4E-10
Total xylenes	55	195	-	-	9.1E-06	3.0E-12	2.1E-06	-	-	-	-	-	-

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Table 7B
Estimated Lifetime Cancer Risk for Maintenance Personnel

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	SFo	SFi	VFss (mg/m3-air) (mg/kg-soil) (a)	VFp (mg/m3-air) (mg/kg-soil) (a)	VFwamb (mg/m3-air) (mg/L-H2O) (a)	Cair for non-volatiles (mg/m^3)	Estimated Risk				
									from Ingestion of Soil	from Dermal Contact with Soil	from dust inhalation of non-volatiles	from inhalation of particulates and vapors from soil	from inhalation of vapors originated from groundwater
2,4-Dimethylphenol	150	ND	-	-	4.8E-06	3.0E-12	1.6E-07	-	-	-	-	-	-
2-Methylnaphthalene	7.1	76	-	-	0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
2-Methylphenol	28	ND	-	-	5.4E-06	3.0E-12	1.8E-07	-	-	-	-	-	-
4-Methylphenol	31	ND	-	-	5.3E-06	3.0E-12	1.8E-07	-	-	-	-	-	-
Naphthalene	26	61.5	-	-	5.3E-06	3.0E-12	5.6E-07	-	-	-	-	-	-
Phenol	27	ND	-	-	5.8E-06	3.0E-12	2.0E-07	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ND	9.8	-	-	2.7E-06	3.0E-12	7.5E-07	-	-	-	-	-	-
PCB-1242	ND	0.28	7.7	7.7	1.9E-06	3.0E-12	2.3E-07	-	2.9E-08	1.4E-08	-	2.3E-09	-
PCB-1254	ND	0.41	7.7	7.7	6.0E-07	3.0E-12	1.6E-07	-	4.2E-08	2.1E-08	-	1.1E-09	-
PCB-1260	6.3	4.7	7.7	7.7	7.7E-08	3.0E-12	1.7E-07	-	4.9E-07	2.4E-07	-	1.6E-09	4.5E-12
Arsenic	6	5.1	1.75	12	-	-	-	5.1E-06	1.2E-07	1.2E-08	3.4E-08	-	-
Cadmium	ND	1.6	15	15	-	-	-	1.6E-06	3.2E-07	1.1E-09	1.3E-08	-	-
Total Chromium	4.8	75	-	-	-	-	-	7.5E-05	-	-	-	-	-
Nickel	ND	110	0.91	0.91	-	-	-	1.1E-04	1.3E-06	4.4E-08	5.6E-08	-	-
Zinc	ND	450	-	-	-	-	-	4.5E-04	-	-	-	-	-
									2.3E-06	**3.3E-07**	**1.0E-07**	**6.5E-09**	**4.5E-10**

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Table 8A
Estimated Non-Carcinogenic Hazard Indices for Future Resturant Employee

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	RfDi	VFwesp (mg/m3-air) (mg/L-H2O) (a)	VFsesp (mg/m3-air) (mg/kg-soil) (a)	Cair from groundwater (ug/m^3) (a)	Cair from soil (ug/m^3) (a)	Estimated Hazard Index	
								from inhalation of vapors originating from groundwater	from inhalation of vapors originating from soil
Benzene	13	1.2	-	1.4E-05	6.5E-05	1.9E-04	7.9E-02	-	-
Chlorobenzene	8	0.37	0.02	7.9E-06	3.0E-05	6.3E-05	1.1E-02	6.2E-07	1.1E-04
Chloroethane	6.8	ND	2.86	3.3E-05	1.5E-04	2.2E-04	-	1.5E-08	-
2-Chlorotoluene	ND	22	0.02	0.0E+00	0.0E+00	-	-	-	-
1,2-Dichlorobenzene	8.4	8.8	0.09	5.2E-06	8.2E-06	4.3E-05	7.2E-02	9.4E-08	1.6E-04
1,3-Dichlorobenzene	11	ND	-	1.3E-05	3.3E-05	1.5E-04	-	-	-
1,4-Dichlorobenzene	12	ND	0.23	1.1E-05	1.7E-05	1.3E-04	-	1.1E-07	-
1,1-Dichloroethane	12	0.023	0.1	1.2E-05	5.4E-05	1.4E-04	1.2E-03	2.7E-07	2.4E-06
1,2-Dichloroethane	2.7	0.028	-	3.7E-06	1.8E-05	1.0E-05	5.1E-04	-	-
cis-1,2-Dichloroethene	200	4.2	0.01	1.1E-05	5.0E-05	2.2E-03	2.1E-01	4.3E-05	4.1E-03
trans-1,2-Dichloroethene	12	0.033	0.02	1.5E-05	6.4E-05	1.8E-04	2.1E-03	1.7E-06	2.1E-05
1,2-Dichloropropane	1.8	ND	0.0011	6.0E-06	2.8E-05	1.1E-05	-	1.9E-06	-
Ethylbenzene	19	34.5	0.29	1.6E-05	6.7E-05	3.1E-04	2.3E+00	2.1E-07	1.6E-03
Freon113	ND	0.61	30	6.2E-04	7.1E-04	-	4.4E-01	-	2.8E-06
n-Butylbenzene	ND	19	-	0.0E+00	0.0E+00	-	-	-	-
sec-Butylbenzene	ND	3.4	-	0.0E+00	0.0E+00	-	-	-	-
Isopropylbenzene	ND	3.2	-	0.0E+00	0.0E+00	-	-	-	-
p-Isopropyltoluene	ND	8.4	-	0.0E+00	0.0E+00	-	-	-	-
n-Propylbenzene	ND	19	-	0.0E+00	0.0E+00	-	-	-	-
Tetrachloroethene	ND	7	0.01	2.9E-05	6.2E-05	-	4.3E-01	-	8.5E-03
Toluene	39	55	0.11	1.5E-05	5.9E-05	5.9E-04	3.2E+00	1.1E-06	5.8E-03
1,2,4-Trimethylbenzene	ND	140	-	0.0E+00	0.0E+00	-	-	-	-
1,3,5-Trimethylbenzene	ND	43	-	0.0E+00	0.0E+00	-	-	-	-
Trichloroethene	1.6	2.4	0.01	2.1E-05	7.9E-05	3.3E-05	1.9E-01		3.7E-03
Vinyl Chloride	250	0.05	-	8.0E-05	3.0E-04	2.0E-02	1.5E-02	-	-
Total xylenes	55	195	2	1.4E-05	4.8E-05	7.9E-04	9.4E+00	7.7E-08	9.2E-04

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Table 8A
Estimated Non-Carcinogenic Hazard Indices for Future Resturant Employee

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	RfDi	VFwesp (mg/m3-air) (mg/L-H2O) (a)	VFsesp (mg/m3-air) (mg/kg-soil) (a)	Cair from groundwater (ug/m^3) (a)	Cair from soil (ug/m^3) (a)	Estimated Hazard Index	
								from inhalation of vapors originating from groundwater	from inhalation of vapors originating from soil
2,4-Dimethylphenol	150	ND	0.02	-	-	-	-	-	-
2-Methylnaphthalene	7.1	76	0.04	0.0E+00	0.0E+00	-	-	-	-
2-Methylphenol	28	ND	0.05	-	-	-	-	-	-
4-Methylphenol	31	ND	0.005	-	-	-	-	-	-
Naphthalene	26	61.5	0.04	3.6E-06	5.3E-06	9.4E-05	3.3E-01	4.6E-07	1.6E-03
Phenol	27	ND	0.6	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ND	9.8	0.01	4.9E-06	1.4E-06	-	1.3E-02	-	2.6E-04
PCB-1242	ND	0.28	0.00002	1.5E-06	7.0E-07	-	2.0E-04	-	1.9E-03
PCB-1254	ND	0.41	0.00002	1.1E-06	6.9E-08	-	2.8E-05	-	2.8E-04
PCB-1260	6.3	4.7	0.00002	1.1E-06	1.1E-09	6.8E-06	5.2E-06	6.7E-05	5.1E-05
Arsenic	6	5.1	0.0003	-	-	-	-	-	-
Cadmium	ND	1.6	0.0005	-	-	-	-	-	-
Total Chromium	4.8	75	1	-	-	-	-	-	-
Nickel	ND	110	-	-	-	-	-	-	-
Zinc	ND	450	0.3	-	-	-	-	-	-
								0.00012	**0.029**

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Table 8B
Estimated Non-Carcinogenic Hazard Indices for Maintenance Personnel

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	RfDo	RfDi	VFss (mg/m3-air) (mg/kg-soil) (a)	VFp (mg/m3-air) (mg/kg-soil) (a)	VFwamb (mg/m3-air) (mg/L-H2O) (a)	Cair for non-Volatiles (mg/m^3)	Estimated Hazard Index				
									from Ingestion of Soil	from Dermal Contact with Soil	from dust inhalation of non-volatiles	from inhalation of vapors originated from soil& particles	from inhalation of vapors originated from groundwater
Benzene	13	1.2			9.1E-06	3.0E-12	2.2E-06	-	-	-	-	-	-
Chlorobenzene	8	0.37	0.02	0.02	9.1E-06	3.0E-12	1.2E-06	-	7.0E-07	2.3E-07	-	2.6E-07	7.4E-10
Chloroethane	6.8	ND	2.86	2.86	9.1E-06	3.0E-12	4.8E-06	-	-	-	-	-	1.8E-11
2-Chlorotoluene	ND	22	0.02	0.02	0.0E+00	3.0E-12	0.0E+00	-	4.1E-05	1.4E-05	-	5.2E-12	-
1,2-Dichlorobenzene	8.4	8.8	0.09	0.09	6.6E-06	3.0E-12	7.8E-07	-	3.7E-06	1.2E-06	-	1.0E-06	1.1E-10
1,3-Dichlorobenzene	11	ND			9.1E-06	3.0E-12	2.0E-06	-	-	-	-	-	-
1,4-Dichlorobenzene	12	ND	0.23	0.23	9.1E-06	3.0E-12	1.6E-06	-	-	-	-	-	1.3E-10
1,1-Dichloroethane	12	0.023	0.1	0.1	9.1E-06	3.0E-12	1.7E-06	-	8.6E-09	2.8E-09	-	3.3E-09	3.3E-10
1,2-Dichloroethane	2.7	0.028	-		9.1E-06	3.0E-12	5.7E-07	-	-	-	-	-	-
cis-1,2-Dichloroethene	200	4.2	0.01	0.01	9.1E-06	3.0E-12	1.7E-06	-	1.6E-05	5.2E-06	-	6.0E-06	5.2E-08
trans-1,2-Dichloroethene	12	0.033	0.02	0.02	9.1E-06	3.0E-12	2.2E-06	-	6.2E-08	2.0E-08	-	2.3E-08	2.1E-09
1,2-Dichloropropane	1.8	ND	0.0011	0.0011	9.1E-06	3.0E-12	9.1E-07	-	-	-	-	-	2.3E-09
Ethylbenzene	19	34.5	0.1	0.29	9.1E-06	3.0E-12	2.4E-06	-	1.3E-05	4.3E-06	-	1.7E-06	2.5E-10
Freon113	ND	0.61	30	30	9.1E-06	3.0E-12	9.0E-05	-	7.6E-10	2.5E-10	-	2.9E-10	-
n-Butylbenzene	ND	19			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
sec-Butylbenzene	ND	3.4			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
Isopropylbenzene	ND	3.2			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
p-Isopropyltoluene	ND	8.4			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
n-Propylbenzene	ND	19			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
Tetrachloroethene	ND	7	0.01	0.01	9.1E-06	3.0E-12	4.3E-06	-	2.6E-05	8.7E-06	-	9.9E-06	-
Toluene	39	55	0.2	0.11	9.1E-06	3.0E-12	2.3E-06	-	1.0E-05	3.4E-06	-	7.1E-06	1.3E-09
1,2,4-Trimethylbenzene	ND	140			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ND	43			0.0E+00	3.0E-12	0.0E+00	-	-	-	-	-	-
Trichloroethene	1.6	2.4	-	0.01	9.1E-06	3.0E-12	3.0E-06	-	-	-	-	3.4E-06	-
Vinyl Chloride	250	0.05	-	-	9.1E-06	3.0E-12	1.2E-05	-	-	-	-	-	-
Total xylenes	55	195	2	2	9.1E-06	3.0E-12	2.1E-06	-	3.7E-06	1.2E-06	-	1.4E-06	9.2E-11

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Table 8B
Estimated Non-Carcinogenic Hazard Indices for Maintenance Personnel

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Compound	Representative Concentration in groundwater (ug/L)	Representative Concentration in Soil (mg/kg)	RfDo	RfDi	VFss (mg/m3-air) (mg/kg-soil) (a)	VFp (mg/m3-air) (mg/kg-soil) (a)	VFwamb (mg/m3-air) (mg/L-H2O) (a)	Cair for non-Volatiles (mg/m^3)	Estimated Hazard Index				
									from Ingestion of Soil	from Dermal Contact with Soil	from dust inhalation of non-volatiles	from inhalation of vapors originated from soil& particles	from inhalation of vapors originated from groundwater
2,4-Dimethylphenol	150	ND	0.02	0.02	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	7.1	76	0.04	0.04	0.0E+00	3.0E-12	0.0E+00	-	7.1E-05	3.5E-05	-	9.1E-12	-
2-Methylphenol	28	ND	0.05	0.05	-	-	-	-	-	-	-	-	-
4-Methylphenol	31	ND	0.005	0.005	-	-	-	-	-	-	-	-	-
Naphthalene	26	61.5	0.04	0.04	5.3E-06	3.0E-12	5.6E-07	-	5.8E-05	2.9E-05	-	1.3E-05	5.7E-10
Phenol	27	ND	0.6	0.6	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ND	9.8	0.01	0.01	2.7E-06	3.0E-12	7.5E-07	-	3.7E-05	1.2E-05	-	4.1E-06	-
PCB-1242	ND	0.28	0.00002	0.00002	1.9E-06	3.0E-12	2.3E-07	-	5.3E-04	2.6E-04	-	4.2E-05	-
PCB-1254	ND	0.41	0.00002	0.00002	6.0E-07	3.0E-12	1.6E-07	-	7.7E-04	3.8E-04	-	1.9E-05	-
PCB-1260	6.3	4.7	0.00002	0.00002	7.7E-08	3.0E-12	1.7E-07	-	8.8E-03	4.4E-03	-	2.8E-05	8.3E-08
Arsenic	6	5.1	0.0003	0.0003	-	-	-	5.1E-06	6.4E-04	6.3E-05	2.7E-05	-	-
Cadmium	ND	1.6	0.0005	0.0005	-	-	-	1.6E-06	1.2E-04	4.0E-07	5.0E-06	-	-
Total Chromium	4.8	75	1	1	-	-	-	7.5E-05	2.8E-06	9.3E-08	1.2E-07	-	-
Nickel	ND	110	-	-	-	-	-	1.1E-04	-	-	-	-	-
Zinc	ND	450	0.3	0.3	-	-	-	4.5E-04	5.6E-05	1.9E-06	2.3E-06	-	-
									0.011	**0.0052**	**0.000034**	**0.00014**	**0.00000014**

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Table 9
Summary of Estimated Human Health Risks – SOIL ONLY

4200 Alameda Avenue
Oakland, California
(EKI 930040.05)

Receptor	Exposure Scenario	Estimated Incremental Lifetime Cancer Risk	Estimated Non-Carcinogenic Hazard Index
Future Restaurant Employee	Inhalation of vapors from soil to indoor air	**1.7×10^{-6}**	**0.029**
Future Maintenance Personnel	Soil Ingestion	2.3×10^{-6}	0.011
	Dermal contact with soil	3.3×10^{-7}	0.0052
	Dust inhalation of non-volatiles from soil	1.0×10^{-7}	0.000034
	Inhalation of vapors from soil and from dust particles to outdoor air	6.5×10^{-9}	0.00014
	Total Estimated Risk	**2.8×10^{-6}**	**0.016**