RATMARK
3.06
18034

APPENDIX D

HUMAN HEALTH RISK ASSESSMENT

D-1 RAGS D RISK TABLES

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

RAYMARK - OU#4 Ballfield Site

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soils	Soils	Exposed Surface Soils 0 to 2 feet bgs	Frequent Recreational User	Adult	Ingestion	Quant	Residential properties are located in the vicinity of the site. Adults may be exposed to contaminated soil on-site through inadvertent contact.
						Dermal	Quant	Residential properties are located in the vicinity of the site, along Blakeman Place and Meadow Street. Adults may be exposed to contaminated soil near residences through inadvertent contact.
						Inhalation	Qual	Inhalation exposures represent a relatively minor exposure relative to dermal and ingestion pathways. A qualitative comparison of site soil data to USEPA Generic SSLs will be performed.
					Child	Ingestion	Quant	Residential properties are located in the vicinity of the site. Children may be exposed to contaminated soil through inadvertent contact.
						Dermal	Quant	Residential properties are located in the vicinity of the site. Children may be exposed to contaminated soil through inadvertent contact.
						Inhalation	Qual	Inhalation exposures represent a relatively minor exposure relative to dermal and ingestion pathways. A qualitative comparison of site soil data to USEPA Generic SSLs will be performed.
			Exposed Surface Soils 0 to 2 feet bgs	Commercial Worker	Adult	Ingestion	Qual	Pavement covers all surface soils in the commercial area of the site.
						Dermal	Qual	Pavement covers all surface soils in the commercial area of the site.
						Inhalation	Qual	Pavement covers all surface soils in the commercial area of the site.
Future	Soils	Soils	All Soils in Entire Area (0-15 ft), regardless of pavement	Resident	Adult	Ingestion	Quant	Future residential land-use is evaluated. Adults may be exposed to contaminated soil on-site through inadvertent contact.
						Dermal	Quant	Future residential land-use is evaluated. Adults may be exposed to contaminated soil on-site through inadvertent contact.
						Inhalation	Qual	Inhalation exposures represent a relatively minor exposure relative to dermal and ingestion pathways. A qualitative comparison of site soil data to USEPA Generic SSLs will be performed.
					Child	Ingestion	Quant	Future residential land-use is evaluated. Children may be exposed to contaminated soil through inadvertent contact.
						Dermal	Quant	Future residential land-use is evaluated. Children may be exposed to contaminated soil through inadvertent contact.
						Inhalation	Qual	Inhalation exposures represent a relatively minor exposure relative to dermal and ingestion pathways. A qualitative comparison of site soil data to USEPA Generic SSLs will be performed.
				Commercial Worker	Adult	Ingestion	Quant	Workers may be exposed to contaminated soil currently located at depth through inadvertent contact.
						Dermal	Quant	Future workers may be exposed to contaminated soil currently located at depth through inadvertent contact.
						Inhalation	Qual	Inhalation exposures represent a relatively minor exposure relative to dermal and ingestion pathways. A qualitative comparison of site soil data to USEPA Generic SSLs will be performed.

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
RAYMARK OU4 - BALLFIELD

Scenario Timeframe: Current
Medium: Soil
Exposure Medium: Soil
Exposure Point: 0 to 2 feet

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
78-93-3	2-Butanone	12	J	21		ug/kg	SB-426	4/9	10 - 20	21		3.43E+06 nc	80000	CTPMGB	NO	BSL
67-64-1	Acetone	82	J	180	J	ug/kg	SB-426	2/9	12 - 140	180		7.22E+05 nc	140000	CTPMGB	NO	BSL
75-15-0	Carbon Disulfide	0.6	J	0.6	J	ug/kg	SB-424	1/9	10 - 20	0.6		1.74E+05 nc	140000	CTPMGB	NO	BSL
108-90-7	Chlorobenzene	2	J	2	J	ug/kg	SB-421	1/9	10 - 20	2		2.69E+04 nc	20000	CTPMGB	NO	BSL
91-57-6	2-Methylnaphthalene	19	J	19	J	ug/kg	SB-425	1/9	340 - 380	19			56000	CTPMGB	NO	NTX
83-32-9	Acenaphthene	18	J	18	J	ug/kg	SB-425	1/9	340 - 380	18		1.28E+06 nc	84000	CTPMGB	NO	BSL
208-96-8	Acenaphthylene	20	J	68	J	ug/kg	SB-425	5/9	350 - 380	68			84000	CTPMGB	NO	NTX
120-12-7	Anthracene	29	J	92	J	ug/kg	SB-425	4/9	350 - 380	92		7.17E+06 nc	400000	CTPMGB	NO	BSL
56-55-3	Benzo(a)anthracene	31	J	280	J	ug/kg	SB-425	8/9	350 - 350	280		5.57E+02 ca	1000	CTPMGB	NO	BSL
50-32-8	Benzo(a)pyrene	64	J	320	J	ug/kg	SB-425	9/9	0 - 0	320		5.57E+01 ca	1000	CTPMGB	YES	ASL
205-99-2	Benzo(b)fluoranthene	58	J	230	J	ug/kg	SB-421, SB-424	9/9	0 - 0	230		5.57E+02 ca	1000	CTPMGB	NO	BSL
191-24-2	Benzo(g,h,i)perylene	49	J	390		ug/kg	SB-425	9/9	0 - 0	390			40000	CTPMGB	NO	NTX
207-08-9	Benzo(k)fluoranthene	60	J	260	J	ug/kg	SB-424	9/9	0 - 0	260		5.57E+03 ca	1000	CTPMGB	NO	BSL
85-68-7	Butylbenzylphthalate	30	J	30	J	ug/kg	SB-423	1/9	340 - 380	30		9.30E+05 sat	200000	CTPMGB	NO	BSL
86-74-8	Carbazole	21	J	27	J	ug/kg	SB-424	3/9	350 - 380	27		2.22E+04 ca	360	CTPMGB	NO	BSL
218-01-9	Chrysene	71	J	350	J	ug/kg	SB-425	9/9	0 - 0	350		5.57E+04 ca	960	CTPMGB	NO	BSL
84-74-2	Di-n-Butylphthalate	20	J	25	J	ug/kg	SB-426	2/9	340 - 380	25		2.73E+06 nc	140000	CTPMGB	NO	BSL
53-70-3	Dibenzo(a,h)anthracene	25	J	78	J	ug/kg	SB-425	5/9	340 - 380	78		5.57E+01 ca	0.96	CTPMGB	YES	ASL
132-64-9	Dibenzofuran	19	J	19	J	ug/kg	SB-425	1/9	340 - 380	19		1.03E+05 nc	5600	CTPMGB	NO	BSL
206-44-0	Fluoranthene	51	J	530		ug/kg	SB-424	9/9	0 - 0	530		9.99E+05 nc	56000	CTPMGB	NO	BSL
86-73-7	Fluorene	34	J	34	J	ug/kg	SB-425	1/9	340 - 380	34		8.94E+05 nc	56000	CTPMGB	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	51	J	300	J	ug/kg	SB-425	9/9	0 - 0	300		5.57E+02 ca	9.6	CTPMGB	NO	BSL
621-64-7	N-Nitroso-di-n-propylamine	44	J	44	J	ug/kg	SB-427	1/9	340 - 380	44		6.34E+01 ca	1	CTPMGB	NO	BSL
91-20-3	Naphthalene	22	J	22	J	ug/kg	SB-425	1/9	340 - 380	22		2.74E+04 nc	56000	CTPMGB	NO	BSL
85-01-8	Phenanthrene	18	J	360	J	ug/kg	SB-425	9/9	0 - 0	360			40000	CTPMGB	NO	NTX
129-00-0	Pyrene	87	J	720	J	ug/kg	SB-425	9/9	0 - 0	720		7.42E+05 nc	40000	CTPMGB	NO	BSL
TOTPAH	Total PAH	579		3842		ug/kg	SB-425	9/9	0 - 0	3842				CTPMGB	NO	NTX
72-54-8	4,4'-DDD	0.24	J	42	J	ug/kg	RMF B+150	9/14	3.6 - 75	42		2.36E+03 ca	29	CTPMGB	NO	BSL
72-55-9	4,4'-DDE	1.1	J	710	J*	ug/kg	RMF C+250	12/15	3.9 - 75	710		1.66E+03 ca	21	CTPMGB	NO	BSL
50-29-3	4,4'-DDT	1.2	J	560	J*	ug/kg	RMF C+250	14/15	3.9 - 3.9	560		1.66E+03 ca*	21	CTPMGB	NO	BSL
5103-71-9	alpha-Chlordane	0.6	J	31		ug/kg	SB-424	4/15	1.8 - 37	31		1.55E+03 ca*	66	CTPMGB	NO	BSL
AROCLOR1	Aroclor, Total	182.1		35149		ug/kg	BF021	44/108	33 - 250	35149		1.98E+02 ca**		CTPMGB	YES	ASL
12674-11-2	Aroclor-1016	200	J	200	J	ug/kg	SB-425	1/38	33 - 180	200		1.98E+02 ca**		CTPMGB	YES	ASL
53469-21-9	Aroclor-1242	3000	F	3000	F	ug/kg	BF020	1/70	33 - 2000	3000		1.98E+02 ca**		CTPMGB	YES	ASL
12672-29-6	Aroclor-1248	160	J	160	J	ug/kg	SB-425	1/70	33 - 180	160		1.98E+02 ca**		CTPMGB	NO	BSL
37324-23-5	Aroclor-1262	6.6	J	180	J	ug/kg	SB-402	13/70	33 - 750	180		1.98E+02 ca**		CTPMGB	NO	BSL
11100-14-4	Aroclor-1268	45	J	35000		ug/kg	BF021	42/108	33 - 10000	35000		1.98E+02 ca**		CTPMGB	YES	ASL
60-57-1	Dieldrin	0.44	J	5.1		ug/kg	SB-424	2/15	3.6 - 75	5.1		2.78E+01 ca*	7	CTPMGB	NO	BSL
959-98-8	Endosulfan I	0.23	J	2.2	J	ug/kg	RMF E+100	3/14	1.9 - 37	2.2		1.64E+05 nc	8400	CTPMGB	NO	BSL
1031-07-8	Endosulfan Sulfate	0.3	J	0.3	J	ug/kg	SB-423	1/14	3.7 - 75	0.3			8400	CTPMGB	NO	NTX
72-20-8	Endrin	0.61	J	0.61	J	ug/kg	SB-423	1/15	3.7 - 75	0.61		8.18E+03 nc	0	CTPMGB	NO	BSL
53494-70-5	Endrin Ketone	1	J	2.8	J	ug/kg	SB-422	2/15	3.6 - 75	2.8			0	CTPMGB	NO	NTX
5103-74-2	gamma-Chlordane	0.15	J	29		ug/kg	SB-424	8/15	1.9 - 2.3	29		1.55E+03 ca*	66	CTPMGB	NO	BSL
76-44-8	Heptachlor	0.058	J	0.64	J	ug/kg	SB-421	3/15	1.9 - 37	0.64		9.87E+01 ca	13	CTPMGB	NO	BSL
1024-57-3	Heptachlor Epoxide	4.2		6.5	J	ug/kg	RMF G+050	3/15	1.8 - 37	6.5		4.88E+01 ca*	20	CTPMGB	NO	BSL
72-43-5	Methoxychlor	3.3	J	10	J	ug/kg	RMF G+050	2/14	19 - 370	10		1.36E+05 nc	8000	CTPMGB	NO	BSL
7429-90-5	Aluminum	8120		16200	J	mg/kg	RMF B+200	15/15	0 - 0	16200					No	NTX
7440-38-2	Arsenic	1.6	J	27		mg/kg	BF006	18/37	1.8 - 2.3	27		3.77E-01 ca*		CTPMGB	YES	ASL
7440-39-3	Barium	30.5	J	2755		mg/kg	BF021	20/37	40 - 40	2755		2.58E+03 nc		CTPMGB	YES	ASL

TABLE 2 1
OCCURRENCE DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
RAYMARK OU4 - BALLFIELD

Scenario Timeframe: Current
Medium: Soil
Exposure Medium: Soil
Exposure Point: 0 to 2 feet

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
7440-41-7	Beryllium	0 34		1.2		mg/kg	RMF B+150	13/37	0 37 - 1	1.2		7 50E+01 nc		CTPMGB	NO	BSL
7440-43-9	Cadmium	0 47		0 81		mg/kg	SB-422	8/37	0 43 - 1	0 81		1 87E+01 nc		CTPMGB	NO	BSL
7440-70-2	Calcium	702	J	4590	J	mg/kg	SB-427	15/15	0 - 0	4590				CTPMGB	No	NUT
7440-47-3	Chromium	11		119		mg/kg	BF006	20/37	2 - 2	119		3 01E+01 ca*		CTPMGB	YES	ASL
7440-48-4	Cobalt	4 4		25		mg/kg	BF006	20/37	10 - 10	25					No	NTX
7440-50-8	Copper	9		4900		mg/kg	BF006	19/37	5 - 73 3	4900					No	NTX
7439-89-6	Iron	11000		18600	J	mg/kg	RMF E+100	15/15	0 - 0	18600					No	NTX
7439-92-1	Lead	19.2	J	8270		mg/kg	BF006	104/108	0 1 - 0 1	8270		2 00E+02 nc		CTPMGB	YES	ASL
7439-95-4	Magnesium	2480	J	6040		mg/kg	SB-427	15/15	0 - 0	6040				CTPMGB	No	NUT
7439-96-5	Manganese	162	J	560		mg/kg	BF023A	20/37	3 - 3	560		1 56E+03 nc		CTPMGB	NO	BSL
7439-97-6	Mercury	0 06	J	0 15		mg/kg	RMF B+150, RMF C+250	7/15	0 05 - 0 1	0 15		1 10E+01 nc		CTPMGB	NO	BSL
7440-02-0	Nickel	9		351		mg/kg	BF006	20/37	8 - 8	351		7 50E+02 nc		CTPMGB	NO	BSL
7440-09-7	Potassium	769	J	3400	J	mg/kg	SB-426	12/15	287 - 409	3400				CTPMGB	No	NUT
7782 49 2	Selenium	0 38	J	0 47	J	mg/kg	SB 422	2/15	0 1 - 0 54	0 47		1 87E+02 nc		CTPMGB	NO	BSL
7440-22 4	Silver	0 61		0 8		mg/kg	SB-425	2/9	0 69 - 1	0 8		1 87E+02 nc		CTPMGB	NO	BSL
7440-23-5	Sodium	33 2	J	304		mg/kg	SB-425	15/15	0 - 0	304				CTPMGB	No	NUT
7440-28-0	Thallium	1 2	J	1 2	J	mg/kg	SB-421	1/15	0 19 - 0 87	1 2		2 51E+00 nc		CTPMGB	NO	BSL
7440-62-2	Vanadium	21 6		42 7		mg/kg	RMF C+250	20/37	10 - 10	42 7		2 62E+02 nc		CTPMGB	NO	BSL
7440-66-6	Zinc	28 8		3410		mg/kg	BF006	20/37	4 - 4	3410		1 12E+04 nc		CTPMGB	NO	BSL
ASBESTOS	Asbestos	0 9		45		%	A002	79/150	0 1 - 0 1	45		1 00E+00		CTPMGB	YES	ASL

(1) Minimum/maximum detected concentration.
(2) N/A - Refer to supporting information for background discussion
(3) Region 9, Preliminary Remediation Goals, Residential Soil, May 1998
Non-cancer PRGs have been adjusted to a target Hazard Quotient of 0 5
PRG for Thallium was determined by TtNUS using an adjusted RfD based on a molecular weight conversion from Thallium sulfate.
(4) Rationale Codes Selection Reason: Infrequent Detection but Associated Historically (HIST)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Deletion Reason: cPAH family (CPAH)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions
N/A = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
CTPMGB = Connecticut Pollutant Mobility Criteria for Soil in a GB area, Jan 1996
J = Estimated Value
F= Field screening data
C = Carcinogenic
N = Non-Carcinogenic

TABLE 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
RAYMARK OU4 - BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: 0 to 15 feet

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
71-55-6	1,1,1-Trichloroethane	1	J	1	J	ug/kg	SB-421	1/64	8 - 4300	1		3.42E+05 nc	40000	CTPMGB	NO	BSL
75-34-3	1,1-Dichloroethane	1	J	42		ug/kg	TP10C	4/64	8 - 4300	42		2.85E+05 nc	14000	CTPMGB	NO	BSL
540-59-0	1,2-Dichloroethene (total)	0.8	J	7	J	ug/kg	SB-426	4/64	8 - 4300	7			14000	CTPMGB	NO	NTX
78-93-3	2-Butanone	12	J	31	J	ug/kg	SB-426, TP10C	12/64	8 - 4300	31		3.43E+06 nc	80000	CTPMGB	NO	BSL
67-64-1	Acetone	10	J	350	J	ug/kg	SB-425	18/64	8 - 4300	350		7.22E+05 nc	140000	CTPMGB	NO	BSL
71-43-2	Benzene	0.4	J	1100	J	ug/kg	SB-427	20/64	8 - 1200	1100		6.19E+02 ca*	200	CTPMGB	YES	ASL
74-83-9	Bromomethane	1	J	2	J	ug/kg	SB-426, SB-427	3/64	8 - 4300	2		1.92E+03 nc		CTPMGB	NO	BSL
75-15-0	Carbon Disulfide	0.6	J	400	J	ug/kg	SB-425	24/64	8 - 4300	400		1.74E+05 nc	140000	CTPMGB	NO	BSL
108-90-7	Chlorobenzene	2	J	47000	J	ug/kg	SB-427	11/64	8 - 1200	47000		2.69E+04 nc	20000	CTPMGB	YES	ASL
75-00-3	Chloroethane	120	J	140	J	ug/kg	TP10C	2/64	8 - 4300	140		1.60E+06 sat	2400	CTPMGB	NO	BSL
67-66-3	Chloroform	0.5	J	180	J	ug/kg	SB-427	20/64	9 - 4300	180		2.44E+02 ca	1200	CTPMGB	NO	BSL
100-41-4	Ethylbenzene	2	J	8600	J	ug/kg	SB-427	13/64	8 - 25	8600		2.30E+05 sat	10100	CTPMGB	NO	BSL
108-88-3	Toluene	3	J	1900	J	ug/kg	SB-421	13/64	8 - 25	1900		5.20E+05 sat	67000	CTPMGB	NO	BSL
1330-20-7	Total Xylenes	0.8	J	4800	J	ug/kg	SB-427	17/64	8 - 25	4800		2.10E+05 sat	19500	CTPMGB	NO	BSL
79-01-6	Trichloroethene	0.6	J	540	J	ug/kg	SB-421	6/64	8 - 4300	540		2.71E+03 ca**	1000	CTPMGB	NO	BSL
75-01-4	Vinyl Chloride	1	J	1	J	ug/kg	SB-425, SB-426	3/64	8 - 4300	1		2.11E+01 ca	400	CTPMGB	NO	BSL
106-46-7	1,4-Dichlorobenzene	24	J	61	J	ug/kg	TP09G	4/63	330 - 4600	61		3.03E+03 ca	15000	CTPMGB	NO	BSL
105-67-9	2,4-Dimethylphenol	81	J	35000	*	ug/kg	SB-426	21/63	330 - 2200	35000		5.45E+05 nc	28000	CTPMGB	NO	BSL
91-57-6	2-Methylnaphthalene	19	J	1400		ug/kg	SB-426	28/63	330 - 2200	1400			56000	CTPMGB	NO	NTX
95-48-7	2-Methylphenol	36	J	3100		ug/kg	SB-426	24/63	330 - 4600	3100		1.36E+06 nc	70000	CTPMGB	NO	BSL
91-94-1	3,3'-Dichlorobenzidine	100	J	100	J	ug/kg	TP15	1/63	330 - 4600	100		9.87E+02 ca	16	CTPMGB	NO	BSL
106-44-5	4-Methylphenol	24	J	9500	*	ug/kg	SB-426	25/63	330 - 4600	9500		1.36E+05 nc	7000	CTPMGB	NO	BSL
83-32-9	Acenaphthene	18	J	420		ug/kg	SB-425	18/63	330 - 4600	420		1.28E+06 nc	84000	CTPMGB	NO	BSL
208-96-8	Acenaphthylene	20	J	1100	J	ug/kg	SB-421	15/63	330 - 4600	1100			84000	CTPMGB	NO	NTX
120-12-7	Anthracene	29	J	2500	J	ug/kg	SB-421	29/63	330 - 4600	2500		7.17E+06 nc	400000	CTPMGB	NO	BSL
56-55-3	Benzo(a)anthracene	20	J	5300	*J	ug/kg	SB-421	39/63	330 - 4600	5300		5.57E+02 ca	1000	CTPMGB	YES	ASL
50-32-8	Benzo(a)pyrene	22	J	4400	*J	ug/kg	SB-421	41/63	330 - 4600	4400		5.57E+01 ca	1000	CTPMGB	YES	ASL
205-99-2	Benzo(b)fluoranthene	29	J	3600	*J	ug/kg	SB-421	40/63	330 - 4600	3600		5.57E+02 ca	1000	CTPMGB	YES	ASL
191-24-2	Benzo(g,h,i)perylene	21	J	2700	J	ug/kg	SB-424	43/63	330 - 4600	2700			40000	CTPMGB	NO	NTX
207-08-9	Benzo(k)fluoranthene	36	J	3900	*J	ug/kg	SB-421	33/63	330 - 4600	3900		5.57E+03 ca	1000	CTPMGB	NO	BSL
117-81-7	bis(2-Ethylhexyl)phthalate	210	J	2100	J	ug/kg	TP18	14/63	330 - 4600	2100		3.17E+04 ca*	11000	CTPMGB	NO	BSL
85-68-7	Butylbenzylphthalate	30	J	83	J	ug/kg	SB-427	5/63	330 - 4600	83		9.30E+05 sat	200000	CTPMGB	NO	BSL
86-74-8	Carbazole	21	J	460	J	ug/kg	SB-425	26/63	330 - 4600	460		2.22E+04 ca	360	CTPMGB	NO	BSL
218-01-9	Chrysene	23	J	5600	*J	ug/kg	SB-421	46/63	330 - 4600	5600		5.57E+04 ca	960	CTPMGB	NO	BSL
84-74-2	Di-n-Butylphthalate	20	J	570		ug/kg	TP18	28/63	330 - 4600	570		2.73E+06 nc	140000	CTPMGB	NO	BSL
117-84-0	Di-n-octylphthalate	56	J	56	J	ug/kg	SB-401	1/63	330 - 4600	56		5.45E+05 nc	20000	CTPMGB	NO	BSL
53-70-3	Dibenzo(a,h)anthracene	25	J	800	J	ug/kg	SB-424	19/63	330 - 4600	800		5.57E+01 ca	0.96	CTPMGB	YES	ASL
132-64-9	Dibenzofuran	19	J	420	J	ug/kg	SB-421	24/63	330 - 4200	420		1.03E+05 nc	5600	CTPMGB	NO	BSL
84-66-2	Diethylphthalate	20	J	120	J	ug/kg	TP18	3/63	330 - 4600	120		2.18E+07 nc	1100000	CTPMGB	NO	BSL
206-44-0	Fluoranthene	18	J	14000	*J	ug/kg	SB-421	45/63	360 - 890	14000		9.99E+05 nc	56000	CTPMGB	NO	BSL
86-73-7	Fluorene	34	J	970	J	ug/kg	SB-421	23/63	330 - 4600	970		8.94E+05 nc	56000	CTPMGB	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	23	J	2200	J	ug/kg	SB-424	34/63	330 - 4600	2200		5.57E+02 ca	9.6	CTPMGB	YES	ASL
621-64-7	N-Nitroso-di-n-propylamine	44	J	44	J	ug/kg	SB-427	1/63	330 - 4600	44		6.34E+01 ca	1	CTPMGB	NO	BSL
86-30-6	N-Nitroso-diphenylamine	18	J	2000		ug/kg	SB-427	21/63	330 - 2200	2000		9.06E+04 ca	1400	CTPMGB	NO	BSL

TABLE 2 2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
RAYMARK OU4 - BALLFIELD

Scenario Timeframe Future
Medium: Soil
Exposure Medium Soil
Exposure Point 0 to 15 feet

CAS Number	Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
91-20-3	Naphthalene	19	J	2700		ug/kg	SB-426	34/63	330 - 670	2700		2 74E+04 nc	56000	CTPMGB	NO	BSL
87-86-5	Pentachlorophenol	53	J	53	J	ug/kg	SB-426	1/63	820 - 11000	53		2 53E+03 ca	1000	CTPMGB	NO	BSL
85-01-8	Phenanthrene	18	J	11000	*J	ug/kg	SB-421	47/63	340 - 500	11000			40000	CTPMGB	NO	NTX
108-95-2	Phenol	31	J	110000	*	ug/kg	SB-425	22/63	330 - 670	110000		1 64E+07 nc	800000	CTPMGB	NO	BSL
129-00-0	Pyrene	18	J	12000	*J	ug/kg	SB-421	48/63	360 - 530	12000		7 42E+05 nc	40000	CTPMGB	NO	BSL
TOTPAH	Total PAH	22		68820		ug/kg	SB-421	52/63	360 - 500	68820				CTPMGB	NO	NTX
72-54-8	4,4'-DDD	0.16	J	42	J	ug/kg	RMF B+150	20/69	3 6 - 270	42		2 36E+03 ca	29	CTPMGB	NO	BSL
72-55-9	4,4'-DDE	0.053	J	710	J*	ug/kg	RMF C+250	52/70	3 6 - 330	710		1 66E+03 ca	21	CTPMGB	NO	BSL
50-29-3	4,4'-DDT	0.2	J	710		ug/kg	TP18	33/70	3 8 - 1300	710		1 66E+03 ca*	21	CTPMGB	NO	BSL
309-00-2	Aldrin	0 61	J	3 9		ug/kg	SB-423	3/70	1 8 - 130	3 9		2 61E+01 ca*	0.41	CTPMGB	NO	BSL
319-84-6	alpha-BHC	0.32	J	8 8	J	ug/kg	SB-426	25/70	1 8 - 130	8 8		8 64E+01 ca	1.1	CTPMGB	NO	BSL
5103-71-9	alpha-Chlordane	0 6	J	130		ug/kg	SB-425	14/70	1 8 - 130	130		1 55E+03 ca*	66	CTPMGB	NO	BSL
AROCLORT	Aroclor, Total	173 7		348000		ug/kg	SB-426	95/163	33 - 250	348000		1 98E+02 ca**		CTPMGB	YES	ASL
12674-11-2	Aroclor-1016	18	J	200	J	ug/kg	SB-425	2/93	33 - 2700	200		1 98E+02 ca**		CTPMGB	YES	ASL
11104-28-2	Aroclor-1221	22	J	47	J	ug/kg	SB-424	7/93	67 - 5400	47		1 98E+02 ca**		CTPMGB	NO	BSL
11141-16-5	Aroclor-1232	110		210		ug/kg	SB-424	3/93	33 - 2700	210		1 98E+02 ca**		CTPMGB	YES	ASL
53469-21-9	Aroclor-1242	13	J	3000	F	ug/kg	BF020	6/125	33 - 2700	3000		1 98E+02 ca**		CTPMGB	YES	ASL
12672-29-6	Aroclor-1248	160	J	160	J	ug/kg	SB-425	1/125	33 - 2700	160		1 98E+02 ca**		CTPMGB	NO	BSL
37324-23-5	Aroclor-1262	6.6	J	110000	*J	ug/kg	SB-426	56/125	33 - 750	110000		1 98E+02 ca**		CTPMGB	YES	ASL
11100-14-4	Aroclor-1268	10	J	230000	*J	ug/kg	SB-426	89/163	33 - 10000	230000		1 98E+02 ca**		CTPMGB	YES	ASL
319-85-7	beta-BHC	0.18	J	14	J	ug/kg	SB-426	11/70	1 8 - 130	14		3 02E+02 ca	3 9	CTPMGB	NO	BSL
319-86-8	delta-BHC	0.1	J	3 9		ug/kg	SB-423	3/70	1 8 - 130	3 9			1 1	CTPMGB	NO	NTX
60-57-1	Dieldrin	0 059	J	170	J	ug/kg	TP10C	28/70	3 6 - 250	170		2 78E+01 ca*	7	CTPMGB	YES	ASL
959-98-8	Endosulfan I	0 057	J	78	J	ug/kg	TP10C	36/69	1 8 - 37	78		1 64E+05 nc	8400	CTPMGB	NO	BSL
33213-65-9	Endosulfan II	38	J	39		ug/kg	TP17	2/70	3 6 - 270	39		1 64E+05 nc	8400	CTPMGB	NO	BSL
1031-07-8	Endosulfan Sulfate	0 15	J	2.7	J	ug/kg	SB-423	6/69	3 6 - 270	2 7			8400	CTPMGB	NO	NTX
72-20-8	Endrin	0.082	J	170		ug/kg	SB-424	27/70	3 6 - 270	170		8 18E+03 nc	0	CTPMGB	NO	BSL
7421-93-4	Endrin Aldehyde	0.062	J	47		ug/kg	SB-427	3/70	3 6 - 270	47			0	CTPMGB	NO	NTX
53494-70-5	Endrin Ketone	0 71	J	530		ug/kg	TP09G	35/70	3 6 - 2300	530			0	CTPMGB	NO	NTX
58-89-9	gamma-BHC	0.021	J	6 7	J	ug/kg	SB-426	19/70	1 8 - 130	6 7		4 19E+02 ca*	40	CTPMGB	NO	BSL
5103-74-2	gamma-Chlordane	0 079	J	220		ug/kg	SB-425	40/70	1 8 - 130	220		1 55E+03 ca*	66	CTPMGB	NO	BSL
76-44-8	Heptachlor	0.058	J	130		ug/kg	SB-425	17/70	1.8 - 130	130		9 87E+01 ca	13	CTPMGB	YES	ASL
1024-57-3	Heptachlor Epoxide	0.26	J	38		ug/kg	SB-425	22/70	1.8 - 130	38		4 88E+01 ca*	20	CTPMGB	NO	BSL
72-43-5	Methoxychlor	0 7	J	10	J	ug/kg	RMF G+050	4/69	18 - 1300	10		1 36E+05 nc	8000	CTPMGB	NO	BSL
7429-90-5	Aluminum	2100		16200	J	mg/kg	RMF B+200	70/70	0 - 0	16200					No	NTX
7440-36-0	Antimony	6 5	J	13 5	J	mg/kg	SB-426	7/49	0 78 - 15.2	13 5		1 50E+01 nc		CTPMGB	NO	BSL
7440-38-2	Arsenic	0.65	J	45 5	J	mg/kg	SB-427	70/92	1 7 - 2 7	45 5		3 77E-01 ca*		CTPMGB	YES	ASL
7440-39-3	Barium	19 7		18800	J	mg/kg	TP15	75/92	40 - 40	18800		2 58E+03 nc		CTPMGB	YES	ASL
7440-41-7	Beryllium	0 17	J	1 2		mg/kg	RMF B+150	39/92	0 03 - 1	1 2		7 50E+01 nc		CTPMGB	NO	BSL
7440-43-9	Cadmium	0 24		19 3		mg/kg	SB-426	41/92	0 04 - 1	19 3		1 87E+01 nc		CTPMGB	YES	ASL
7440-70-2	Calcium	291		9100		mg/kg	TP09G	70/70	0 - 0	9100				CTPMGB	No	NUT
7440-47-3	Chromium	6 8		234		mg/kg	TP15	75/92	2 - 2	234		3 01E+01 ca*		CTPMGB	YES	ASL
7440-48-4	Cobalt	3 1	J	40 4		mg/kg	TP09G	75/92	10 - 10	40 4					No	NTX
7440-50-8	Copper	9		193000	J	mg/kg	SB-426	73/92	5 - 73 3	193000					No	NTX

TABLE 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
RAYMARK OU4 - BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: 0 to 15 feet

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
7439-89-6	Iron	7320		96200	J	mg/kg	SB-421	70/70	0 - 0	96200					No	NTX
7439-92-1	Lead	3.3		172000	J	mg/kg	SB-421	156/163	0.1 - 15.7	172000		2.00E+02 nc		CTPMGB	YES	ASL
7439-95-4	Magnesium	1690	J	114000		mg/kg	TP15	70/70	0 - 0	114000				CTPMGB	No	NUT
7439-96-5	Manganese	92.4		1530	J	mg/kg	TP09G	75/92	3 - 3	1530		1.56E+03 nc		CTPMGB	NO	BSL
7439-97-6	Mercury	0.057	J	6.2	J	mg/kg	SB-421	35/70	0.05 - 0.6	6.2		1.10E+01 nc		CTPMGB	NO	BSL
7440-02-0	Nickel	6		644		mg/kg	TP09G	73/92	8 - 9.7	644		7.50E+02 nc		CTPMGB	NO	BSL
7440-09-7	Potassium	147		3760	J	mg/kg	SB-424	67/70	287 - 409	3760				CTPMGB	No	NUT
7782-49-2	Selenium	0.38	J	7.3	J	mg/kg	SB-421	16/70	0.1 - 1.9	7.3		1.87E+02 nc		CTPMGB	NO	BSL
7440-22-4	Silver	0.19	J	18.6		mg/kg	SB-426	36/64	0.25 - 1	18.6		1.87E+02 nc		CTPMGB	NO	BSL
7440-23-5	Sodium	33.2	J	1340		mg/kg	TP10C	58/67	28.8 - 86.6	1340				CTPMGB	No	NUT
7440-28-0	Thallium	1	J	6.4		mg/kg	SB-421	14/70	0.18 - 135	6.4		2.51E+00 nc		CTPMGB	YES	ASL
7440-62-2	Vanadium	2.6		93.6		mg/kg	TP18	75/92	10 - 10	93.6		2.62E+02 nc		CTPMGB	NO	BSL
7440-66-6	Zinc	20.7		23500		mg/kg	SB-426	73/92	4 - 20.5	23500		1.12E+04 nc		CTPMGB	YES	ASL
ASBESTOS	Asbestos	0.9		60		%	TP17	118/193	0.1 - 0.1	60		1.00E+00		CTPMGB	YES	ASL
80-44-0	Total Organic Carbon	945	J	6371	J	mg/kg	SB-424	3/3	0 - 0	6371				CTPMGB	NO	NTX

(1) Minimum/maximum detected concentration.
(2) N/A - Refer to supporting information for background discussion
(3) Region 9, Preliminary Remediation Goals, Residential Soil, May 1998
Non-cancer PRGs have been adjusted to a target Hazard Quotient of 0.5
PRG for Thallium was determined by TINUS using an adjusted RfD based on a molecular weight conversion from Thallium sulfate.
(4) Rationale Codes Selection Reason: Infrequent Detection but Associated Historically (HIST)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Deletion Reason: cPAH family (CPAH)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions: N/A = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
CTPMGB = Connecticut Pollutant Mobility Criteria for Soil in a GB area, Jan 1996
J = Estimated Value
F = Field screening data
C = Carcinogenic
N = Non-Carcinogenic

TABLE 3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
RAYMARK OU4 - BALLFIELD

Scenario Timeframe: Current
Medium: Soil
Exposure Medium: Soil
Exposure Point: 0 to 2 feet

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)pyrene	ug/kg	150	NA	320	J	ug/kg	320	Max	W-Test(4)	150	Mean-N	W-Test(1)
Dibenzo(a,h)anthracene	ug/kg	98	NA	78	J	ug/kg	78	Max	W-Test(4)	78	Max	W-Test(1)
Aroclor, Total	ug/kg	1700	2600	35149		ug/kg	2400	95% UCL-T	W-Test(1)	2400	95% UCL-T	W-Test(1)
Arsenic	mg/kg	4	5.5	27		mg/kg	5.9	95% UCL-T	W-Test(1)	5.9	95% UCL-T	W-Test(1)
Barium	mg/kg	203	372	2755		mg/kg	209	95% UCL-T	W-Test(1)	209	95% UCL-T	W-Test(1)
Chromium	mg/kg	13.3	19.2	119		mg/kg	39	95% UCL-T	W-Test(1)	39	95% UCL-T	W-Test(1)
Lead	mg/kg	562	779	8270		mg/kg	2130	95% UCL-T	W-Test(1)	2130	95% UCL-T	W-Test(1)
Asbestos	%	2	3	45		%	3	95% UCL-T	W-Test(1)	3	95% UCL-T	W-Test(1)

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration, for duplicate sample results, the maximum value was used in the calculation.
W-Test: Developed by Shapiro and Wilk, refer to Supplemental Guidance to RAGS: Calculating the Concentration Term, OSWER Directive 9285.7-081, May 1992.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Shapiro-Wilk W-Test indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for RME EPC, lesser of Mean-N or Max used for CTE EPC.
(3) Shapiro-Wilk W Test indicates data are normally distributed.
(4) < 20 sample results. Therefore, maximum concentration used for RME EPC, lesser of Mean-N or Max used for CTE EPC.

TABLE 3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
RAYMARK OU4 - BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: 0 to 15 feet

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzene	ug/kg	54	93	1100		ug/kg	46	95% UCL-T	W-Test(1)	46	95% UCL-T	W-Test(1)
Chlorobenzene	ug/kg	1100	2600	47000		ug/kg	310	95% UCL-T	W-Test(1)	310	95% UCL-T	W-Test(1)
Benzo(a)anthracene	ug/kg	480	670	5300		ug/kg	620	95% UCL-T	W-Test(1)	620	95% UCL-T	W-Test(1)
Benzo(a)pyrene	ug/kg	480	650	4400		ug/kg	650	95% UCL-T	W-Test(1)	650	95% UCL-T	W-Test(1)
Benzo(b)fluoranthene	ug/kg	440	590	3600		ug/kg	570	95% UCL-T	W-Test(1)	570	95% UCL-T	W-Test(1)
Dibenzo(a,h)anthracene	ug/kg	300	400	800	J	ug/kg	380	95% UCL-T	W-Test(1)	380	95% UCL-T	W-Test(1)
Indeno(1,2,3-cd)pyrene	ug/kg	370	490	2200	J	ug/kg	470	95% UCL-T	W-Test(1)	470	95% UCL-T	W-Test(1)
Aroclor, Total	ug/kg	14000	20000	348000		ug/kg	55000	95% UCL-T	W-Test(1)	55000	95% UCL-T	W-Test(1)
Dieldrin	ug/kg	15	21	130	J	ug/kg	30	95% UCL-T	W-Test(1)	30	95% UCL-T	W-Test(1)
Heptachlor	ug/kg	8.5	13	130		ug/kg	16	95% UCL-T	W-Test(1)	16	95% UCL-T	W-Test(1)
Arsenic	mg/kg	6.4	7.7	45.5	J	mg/kg	8.6	95% UCL-T	W-Test(1)	8.6	95% UCL-T	W-Test(1)
Barium	mg/kg	2290	3090	18800	J	mg/kg	9400	95% UCL-T	W-Test(1)	9400	95% UCL-T	W-Test(1)
Cadmium	mg/kg	1.9	2.6	19.3		mg/kg	2.7	95% UCL-T	W-Test(1)	2.7	95% UCL-T	W-Test(1)
Chromium	mg/kg	42.7	52.7	234		mg/kg	110	95% UCL-T	W-Test(1)	110	95% UCL-T	W-Test(1)
Lead	mg/kg	5800	8250	172000	J	mg/kg	27200	95% UCL-T	W-Test(1)	27200	95% UCL-T	W-Test(1)
Thallium	mg/kg	3.4	6	6.4		mg/kg	2.5	95% UCL-T	W-Test(1)	2.5	95% UCL-T	W-Test(1)
Zinc	mg/kg	2310	3230	23500		mg/kg	23500	Max	W-Test(2)	2310	Mean-N	W-Test(2)
Asbestos	%	6	7	60		%	14	95% UCL-T	W-Test(1)	14	95% UCL-T	W-Test(1)

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration; for duplicate sample results, the maximum value was used in the calculation.
W-Test: Developed by Shapiro and Wilk, refer to Supplemental Guidance to RAGS: Calculating the Concentration Term, OSWER Directive 9285.7-081, May 1992.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T), Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Shapiro-Wilk W-Test indicates data are log-normally distributed
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for RME EPC, lesser of Mean-N or Max used for CTE EPC.
(3) Shapiro-Wilk W Test indicates data are normally distributed.
(4) < 20 sample results. Therefore, maximum concentration used for RME EPC, lesser of Mean-N or Max used for CTE EPC.

TABLE 4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS
RAYMARK-OU#4
Site - Adult Recreational Exposures to Surface Soil

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil
Exposure Point: Site
Receptor Population: Frequent Recreational User
Receptor Age: Adult

Exposure Route	Paramete Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR-S	Ingestion Rate of Soil	mg/day	100	EPA, 1997	50	EPA, 1997	(CS x IR-S x FI x OABS x EF x ED x CF1)/(BW x AT)
	FI	Fraction Ingested	dimensionless	1	(1)	1	(1)	
	OABS	Oral Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	150	EPA, 1994	150	EPA, 1994	
	ED	Exposure Duration	years	24	EPA, 1997	7	EPA, 1997	
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	
	BW	Body Weight	kg	70	EPA, 1997	70	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	EPA, 1989	2,555	EPA, 1989	
Dermal Absorption	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	CDI (mg/kg-day) =
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	(CS x CF1 x SA x SSAF x DABS x EF x ED)/
	SA	Skin Surface Area Available for Contact	cm2/day	5,700	EPA, 1997	5,700	EPA, 1997	(BW x AT)
	SSAF	Soil to Skin Adherence Factor	mg/cm2	0.07	EPA, 1997	0.01	EPA, 1997	
	DABS	Dermal Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	150	EPA, 1994	150	EPA, 1994	
	ED	Exposure Duration	years	24	EPA, 1997	7	EPA, 1997	
	BW	Body Weight	kg	70	EPA, 1997	70	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	EPA, 1989	2,555	EPA, 1989	

(1) Professional Judgement.
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.
EPA, 1994: USEPA Region I Waste Management Division, USEPA Risk Update No. 2, Aug. 1994.
EPA, 1997: Exposure Factors Handbook. Volume I, Aug. 1997, EPA/600/P-25/002FA.

TABLE 4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS
RAYMARK-OU#4
Site - Child Recreational Exposures to Surface Soil

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil
Exposure Point: Site
Receptor Population: Frequent Recreational User
Receptor Age: Child - Ages 0-6 years

Exposure Route	Paramete Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR-S	Ingestion Rate of Soil	mg/day	200	EPA, 1997	100	EPA, 1997	(CS x IR-S x FI x OABS x EF x ED x CF1)/(BW x AT)
	FI	Fraction Ingested	dimensionless	1	(1)	1	(1)	
	OABS	Oral Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	150	EPA, 1994	150	EPA, 1994	
	ED	Exposure Duration	years	6	EPA, 1997	2	EPA, 1997	
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	
	BW	Body Weight	kg	15	EPA, 1997	15	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	EPA, 1989	730	EPA, 1989	
ermal Absorptio	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	CDI (mg/kg-day) =
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	(CS x CF1 x SA x SSAF x DABS x EF x ED)/
	SA	Skin Surface Area Available for Contact	cm2/day	2,900	EPA, 1997	2,900	EPA, 1997	(BW x AT)
	SSAF	Soil to Skin Adherence Factor	mg/cm2	0.2	EPA, 1997	0.06	EPA, 1997	
	DABS	Dermal Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	150	EPA, 1994	150	EPA, 1994	
	ED	Exposure Duration	years	6	EPA, 1997	2	EPA, 1997	
	BW	Body Weight	kg	15	EPA, 1997	15	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	EPA, 1989	730	EPA, 1989	

(1) Professional Judgement.
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.
EPA, 1994: USEPA Region I Waste Management Division, USEPA Risk Update No. 2, Aug. 1994.
EPA, 1997: Exposure Factors Handbook. Volume I, Aug. 1997, EPA/600/P-25/002FA.

TABLE 4.3
VALUES USED FOR DAILY INTAKE CALCULATIONS
RAYMARK-OU#4
Site - Future Adult Resident Exposures to Soil

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: All Soil
Exposure Point: Site
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Paramete Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR-S	Ingestion Rate of Soil	mg/day	100	EPA, 1997	50	EPA, 1997	(CS x IR-S x FI x OABS x EF x ED x CF1)/(BW x AT)
	FI	Fraction Ingested	dimensionless	1	(1)	1	(1)	
	OABS	Oral Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	350	EPA, 1994	350	EPA, 1994	
	ED	Exposure Duration	years	24	EPA, 1997	7	EPA, 1997	
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	
	BW	Body Weight	kg	70	EPA, 1997	70	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	EPA, 1989	2,555	EPA, 1989	
Dermal Absorption	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	CDI (mg/kg-day) =
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	(CS x CF1 x SA x SSAF x DABS x EF x ED)/
	SA	Skin Surface Area Available for Contact	cm2/day	5,700	EPA, 1997	5,700	EPA, 1997	(BW x AT)
	SSAF	Soil to Skin Adherence Factor	mg/cm2	0.07	EPA, 1997	0.01	EPA, 1997	
	DABS	Dermal Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	350	EPA, 1994	350	EPA, 1994	
	ED	Exposure Duration	years	24	EPA, 1997	7	EPA, 1997	
	BW	Body Weight	kg	70	EPA, 1997	70	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	EPA, 1989	2,555	EPA, 1989	

(1) Professional Judgement.
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.
EPA, 1994: USEPA Region I Waste Management Division, USEPA Risk Update No. 2, Aug. 1994.
EPA, 1997: Exposure Factors Handbook. Volume I, Aug. 1997, EPA/600/P-25/002FA.

TABLE 4.4
VALUES USED FOR DAILY INTAKE CALCULATIONS
RAYMARK-OU#4
Site - Future Child Residental Exposures to All Soil

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: All Soil
Exposure Point: Site
Receptor Population: Resident
Receptor Age: Child - Ages 0-6 years

Exposure Route	Paramete Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR-S	Ingestion Rate of Soil	mg/day	200	EPA, 1997	100	EPA, 1997	(CS x IR-S x FI x OABS x EF x ED x CF1)/(BW x AT)
	FI	Fraction Ingested	dimensionless	1	(1)	1	(1)	
	OABS	Oral Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	350	EPA, 1994	350	EPA, 1994	
	ED	Exposure Duration	years	6	EPA, 1997	2	EPA, 1997	
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	
	BW	Body Weight	kg	15	EPA, 1997	15	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	EPA, 1989	730	EPA, 1989	
ermal Absorptio	CS	Chemical Concentration in Surface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	CDI (mg/kg-day) =
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	(CS x CF1 x SA x SSAF x DABS x EF x ED)/
	SA	Skin Surface Area Available for Contact	cm2/day	2,900	EPA, 1997	2,900	EPA, 1997	(BW x AT)
	SSAF	Soil to Skin Adherence Factor	mg/cm2	0.2	EPA, 1997	0.06	EPA, 1997	
	DABS	Dermal Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	350	EPA, 1994	350	EPA, 1994	
	ED	Exposure Duration	years	6	EPA, 1997	2	EPA, 1997	
	BW	Body Weight	kg	15	EPA, 1997	15	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	EPA, 1989	730	EPA, 1989	

(1) Professional Judgement.
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.
EPA, 1994: USEPA Region I Waste Management Division, USEPA Risk Update No. 2, Aug. 1994.
EPA, 1997: Exposure Factors Handbook. Volume I, Aug. 1997, EPA/600/P-25/002FA.

TABLE 4.5
VALUES USED FOR DAILY INTAKE CALCULATIONS
RAYMARK-OU#4
Site - Adult Commercial Worker Exposures to All Soil

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: All Soil
Exposure Point: Site
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Paramete Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Subsurface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR-S	Ingestion Rate of Soil	mg/day	100	EPA, 1997	50	EPA, 1997	(CS x IR-S x FI x OABS x EF x ED x CF1)/(BW x AT)
	FI	Fraction Ingested	dimensionless	1	(1)	1	(1)	
	OABS	Oral Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	250	EPA, 1994	250	EPA, 1994	
	ED	Exposure Duration	years	25	EPA, 1997	7	EPA, 1997	
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	
	BW	Body Weight	kg	70	EPA, 1997	70	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	9,125	EPA, 1989	2,555	EPA, 1989	
Dermal Absorption	CS	Chemical Concentration in Subsurface Soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	CDI (mg/kg-day) =
	CF1	Conversion Factor	kg/mg	1E-06	--	1E-06	--	(CS x CF1 x SA x SSAF x DABS x EF x ED)/
	SA	Skin Surface Area Available for Contact	cm2/day	5,700	EPA, 1997	5,700	EPA, 1997	(BW x AT)
	SSAF	Soil to Skin Adherence Factor	mg/cm2	0.07	EPA, 1997	0.07	EPA, 1997	
	DABS	Dermal Absorption Factor (chemical-specific)	dimensionless	See Table 5.1	See Table 5.1	See Table 5.1	See Table 5.1	
	EF	Exposure Frequency	days/year	250	EPA, 1994	250	EPA, 1994	
	ED	Exposure Duration	years	25	EPA, 1997	7	EPA, 1997	
	BW	Body Weight	kg	70	EPA, 1997	70	EPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA, 1989	25,550	EPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	9,125	EPA, 1989	2,555	EPA, 1989	

(1) Professional Judgement.

EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1994: USEPA Region I Waste Management Division, USEPA Risk Update No. 2, Aug. 1994.

EPA, 1997: Exposure Factors Handbook. Volume I, Aug. 1997, EPA/600/P-25/002FA.

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

RAYMARK OU-4 BALLFIELD

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD Value (1,2,3)	Oral RfD Units	GI Absorption in Toxicity Study	Adjusted Dermal RfD (4)	Units	Primary Target Organ (5)	Combined Uncertainty/Modifying Factors	Sources of RfD Target Organ	Dates of RfD Target Organ (MM/DD/YY)	Dermal Absorption Factor for Soils (DABS)	Oral Absorption Factor for Soils (OABS)
Arsenic	Chronic	3.00E-04	mg/kg-day	1.00E+00	3.00E-04	mg/kg-day	Skin	3	IRIS	05/04/99	0.03	1.0
Barium	Chronic	7.00E-02	mg/kg-day	7.00E-02	4.90E-03	mg/kg-day	Cardiovascular/Kidney	3	IRIS	03/18/99	NA	1.0
Cadmium	Chronic	1.00E-03	mg/kg-day	2.50E-02	2.50E-05	mg/kg-day	Kidney	10	IRIS	05/21/99	0.01	1.0
Chromium	Chronic	3.00E-03	mg/kg-day	2.50E-02	7.50E-05	mg/kg-day	Kidney	900	IRIS	05/04/99	NA	1.0
Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	1.0
Thallium	Chronic	7.00E-05	mg/kg-day	1.00E+00	7.00E-05	mg/kg-day	Blood	3000	IRIS	05/21/99	NA	1.0
Zinc	Chronic	3.00E-01	mg/kg-day	1.00E+00	3.00E-01	mg/kg-day	Blood	3	IRIS	03/18/99	NA	1.0
Aroclor, Total	Chronic	2.00E-05	mg/kg-day	1.00E+00	2.00E-05	mg/kg-day	Skin/Eye	300	IRIS	03/14/99	0.14	1.0
Dieldrin	Chronic	5.00E-05	mg/kg-day	1.00E+00	5.00E-05	mg/kg-day	Liver	100	IRIS	03/15/99	NA	1.0
Heptachlor	Chronic	5.00E-04	mg/kg-day	1.00E+00	5.00E-04	mg/kg-day	Liver	300	IRIS	05/04/99	NA	1.0
Benz(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	1.0
Benzo(a)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	1.0
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	1.0
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	1.0
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	1.0
Benzene		3.00E-03	mg/kg-day	1.00E+00	3.00E-03	mg/kg-day			NCEA	05/21/99	NA	1.0
Chlorobenzene	Chronic	2.00E-02	mg/kg-day	1.00E+00	2.00E-02	mg/kg-day	Liver	1000	IRIS	05/21/99	NA	1.0

N/A = Not Applicable

(1) To be used for oral pathway only. Based on administered dose.

(2) Oral RfD for thallium is estimated from the Oral RfD for thallium sulfate using a molecular weight conversion factor.

(3) Oral RfD for PCBs is based on the RfD for Aroclor-1254. Although 1268 and 1262 are the predominant aroclors on site, an RfD only exists for 1254, which is conservatively used to assess noncarcinogenic effects for all Aroclors detected.

(4) Adjusted RfD = oral RfD x GI absorption value in toxicity study upon which the RfD is based. To be used for dermal pathway only.

(5) Critical study for hexavalent chromium found no effect, but the indicated route(s) appear to be the most sensitive for assessing toxicant interactions because hexavalent chromium potentiates the effects of other nephrotoxins (ATSDR, 1998)

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

RAYMARK OU-4 BALLFIELD

Chemical of Potential Concern	Oral Cancer Slope Factor (1)	GI Absorption in Toxicity Study	Adjusted Dermal Cancer Slope Factor (2)	Units	Weight of Evidence/ Cancer Guideline Description	Source	Date (MM/DD/YY)	Dermal Absorption Factor for Soils (DABS)	Oral Absorption Factor for Soils (OABS)
Arsenic	1.50E+00	1.00E+00	1.50E+00	1/(mg/kg-day)	A	IRIS	05/04/99	0.03	1.0
Barium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0
Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.01	1.0
Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0
Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0
Thallium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0
Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0
Aroclor, Total	2.00E+00	1.00E+00	2.00E+00	1/(mg/kg-day)	B2	IRIS	03/03/99	0.14	1.0
Dieldrin	1.60E+01	1.00E+00	1.60E+01	1/(mg/kg-day)	B2	IRIS	03/15/99	N/A	1.0
Heptachlor	4.50E+00	1.00E+00	4.50E+00	1/(mg/kg-day)	B2	IRIS	05/04/99	N/A	1.0
Benz(a)anthracene	7.30E-01	1.00E+00	7.30E-01	1/(mg/kg-day)	B2	EPA-NCEA	02/24/99	0.13	1.0
Benzo(a)pyrene	7.30E+00	1.00E+00	7.30E+00	1/(mg/kg-day)	B2	IRIS	05/04/99	0.13	1.0
Benzo(b)fluoranthene	7.30E-01	1.00E+00	7.30E-01	1/(mg/kg-day)	B2	EPA-NCEA	02/24/99	0.13	1.0
Dibenz(a,h)anthracene	7.30E+00	1.00E+00	7.30E+00	1/(mg/kg-day)	B2	EPA-NCEA	03/14/99	0.13	1.0
Indeno(1,2,3-cd)pyrene	7.30E-01	1.00E+00	7.30E-01	1/(mg/kg-day)	B2	EPA-NCEA	03/18/99	0.13	1.0
Benzene	2.90E-02	1.00E+00	2.90E-02	1/(mg/kg-day)	A	IRIS	05/21/99	N/A	1.0
Chlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

NCEA=National Center for Environmental Assessment

(1) To be used for oral pathway only. Based on administered dose.

(2) Adjusted slope factor (SF) = oral SF x GI absorption value in toxicity study upon which the SF is based. To be used for dermal pathway only.

EPA Group:

A - Human carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as a human carcinogen

E - Evidence of noncarcinogenicity

Weight of Evidence:

Known/Likely

Cannot be Determined

Not Likely

TABLE 7.1a CTE
CALCULATION OF NON-CANCER HAZARDS - ADULT RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	1.73E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	5.77E-03
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	6.14E-05	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	8.76E-04
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	1.14E-05	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	3.82E-03
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	6.25E-04	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	7.05E-07	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	3.52E-02
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	4.40E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	2.29E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												4.57E-02
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	5.92E-08	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.97E-04
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.12E-07	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	5.62E-03
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	6.53E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	3.39E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												5.82E-03
												Total of Routes	5.15E-02

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.1a RME
CALCULATION OF NON-CANCER HAZARDS - ADULT RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	3.46E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.15E-02
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	1.23E-04	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	1.75E-03
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	2.29E-05	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	7.63E-03
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	1.25E-03	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.41E-06	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	7.05E-02
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	1.88E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	4.58E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												9.14E-02
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	4.15E-07	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.38E-03
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	7.87E-07	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	3.94E-02
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	9.74E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	2.38E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												4.07E-02
												Total of Routes	1.32E-01

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.1b CTE
CALCULATION OF NON-CANCER HAZARDS - CHILD RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	1.62E-05	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	5.39E-02
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	5.73E-04	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	8.18E-03
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	1.07E-04	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	3.56E-02
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	5.84E-03	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	6.58E-06	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	3.29E-01
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	4.11E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	2.14E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												4.26E-01
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	8.44E-07	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	2.81E-03
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.60E-06	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	8.01E-02
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	9.30E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	4.83E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												8.29E-02
												Total of Routes	5.09E-01

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.1b RME
CALCULATION OF NON-CANCER HAZARDS - CHILD RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	3.23E-05	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.08E-01
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	1.15E-03	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	1.64E-02
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	2.14E-04	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	7.12E-02
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	1.17E-02	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.32E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	6.58E-01
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	1.75E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	4.27E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												8.53E-01
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	2.81E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	9.38E-03
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	5.34E-06	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	2.67E-01
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	6.61E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	1.61E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	(Total)												2.76E-01
												Total of Routes	1.13E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.2a CTE
CALCULATION OF NON-CANCER HAZARDS - ADULT RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	5.89E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.96E-02
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	6.44E-03	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	9.20E-02
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.85E-06	mg/kg-day	1.00E-03	mg/kg-day	N/A	N/A	1.85E-03
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	7.53E-05	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	2.51E-02
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.86E-02	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.71E-06	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	2.45E-02
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	1.58E-03	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	5.27E-03
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.77E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	1.88E+00
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	2.05E-08	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	4.11E-04
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	1.10E-08	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	2.19E-05
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	4.25E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.45E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.90E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.60E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	3.22E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	3.15E-08	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	1.05E-05
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	2.12E-07	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	1.06E-05
	(Total)												2.05E+00
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	2.01E-07	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	6.72E-04
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	2.11E-08	mg/kg-day	2.50E-05	mg/kg-day	N/A	N/A	8.43E-04
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	NA
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	NA
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	6.01E-06	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	3.01E-01
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	6.29E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	6.60E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	5.79E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	3.86E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	4.77E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	NA
	(Total)												3.02E-01
												Total of Routes	2.35E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation

TABLE 7 2a RME
CALCULATION OF NON-CANCER HAZARDS - ADULT RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe Future
Medium: Soil
Exposure Medium Soil
Exposure Point Contact with (0 - 15 feet) Soil
Receptor Population Resident
Receptor Age Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	8 60E+00	mg/kg	8 60E+00	mg/kg	M	1 18E-05	mg/kg-day	3 00E-04	mg/kg-day	N/A	N/A	3 93E-02
	Barium	9 40E+03	mg/kg	9 40E+03	mg/kg	M	1 29E-02	mg/kg-day	7 00E-02	mg/kg-day	N/A	N/A	1 84E-01
	Cadmium	2 70E+00	mg/kg	2 70E+00	mg/kg	M	3 70E-06	mg/kg-day	1 00E-03	mg/kg-day	N/A	N/A	3 70E-03
	Chromium	1 10E+02	mg/kg	1 10E+02	mg/kg	M	1 51E-04	mg/kg-day	3 00E-03	mg/kg-day	N/A	N/A	5 02E-02
	Lead	2 72E+04	mg/kg	2 72E+04	mg/kg	M	3 73E-02	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2 50E+00	mg/kg	2 50E+00	mg/kg	M	3 42E-06	mg/kg-day	7 00E-05	mg/kg-day	N/A	N/A	4 89E-02
	Zinc	2 35E+04	mg/kg	2 35E+04	mg/kg	M	3 22E-02	mg/kg-day	3 00E-01	mg/kg-day	N/A	N/A	1 07E-01
	Aroclor, Total	5 50E+04	ug/kg	5 50E+04	ug/kg	M	7 53E-05	mg/kg-day	2 00E-05	mg/kg-day	N/A	N/A	3 77E+00
	Dieldrin	3 00E+01	ug/kg	3 00E+01	ug/kg	M	4 11E-08	mg/kg-day	5 00E-05	mg/kg-day	N/A	N/A	8 22E-04
	Heptachlor	1 60E+01	ug/kg	1 60E+01	ug/kg	M	2 19E-08	mg/kg-day	5 00E-04	mg/kg-day	N/A	N/A	4 38E-05
	Benz(a)anthracene	6 20E+02	ug/kg	6 20E+02	ug/kg	M	8 49E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6 50E+02	ug/kg	6 50E+02	ug/kg	M	8 90E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5 70E+02	ug/kg	5 70E+02	ug/kg	M	7 81E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3 80E+02	ug/kg	3 80E+02	ug/kg	M	5 21E 07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4 70E+02	ug/kg	4 70E+02	ug/kg	M	6 44E 07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4 60E+01	ug/kg	4 60E+01	ug/kg	M	6 30E-08	mg/kg-day	3 00E-03	mg/kg-day	N/A	N/A	2 10E-05
	Chlorobenzene	3 10E+02	ug/kg	3 10E+02	ug/kg	M	4 25E-07	mg/kg-day	2 00E-02	mg/kg-day	N/A	N/A	2 12E-05
	(Total)												4 20E+00
Dermal	Arsenic	8 60E+00	mg/kg	8 60E+00	mg/kg	M	1 41E-06	mg/kg-day	3 00E-04	mg/kg-day	N/A	N/A	4 70E-03
	Barium	9 40E+03	mg/kg	9 40E+03	mg/kg	M	NA	mg/kg-day	4 90E-03	mg/kg-day	N/A	N/A	NA
	Cadmium	2 70E+00	mg/kg	2 70E+00	mg/kg	M	1 48E-07	mg/kg-day	2 50E-05	mg/kg-day	N/A	N/A	5 90E-03
	Chromium	1 10E+02	mg/kg	1 10E+02	mg/kg	M	NA	mg/kg-day	7 50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2 72E+04	mg/kg	2 72E+04	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2 50E+00	mg/kg	2 50E+00	mg/kg	M	NA	mg/kg-day	7 00E-05	mg/kg-day	N/A	N/A	NA
	Zinc	2 35E+04	mg/kg	2 35E+04	mg/kg	M	NA	mg/kg-day	3 00E-01	mg/kg-day	N/A	N/A	NA
	Aroclor, Total	5 50E+04	ug/kg	5 50E+04	ug/kg	M	4 21E-05	mg/kg-day	2 00E-05	mg/kg-day	N/A	N/A	2 10E+00
	Dieldrin	3 00E+01	ug/kg	3 00E+01	ug/kg	M	NA	mg/kg-day	5 00E-05	mg/kg-day	N/A	N/A	NA
	Heptachlor	1 60E+01	ug/kg	1 60E+01	ug/kg	M	NA	mg/kg-day	5 00E-04	mg/kg-day	N/A	N/A	NA
	Benz(a)anthracene	6 20E+02	ug/kg	6 20E+02	ug/kg	M	4 41E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6 50E+02	ug/kg	6 50E+02	ug/kg	M	4 62E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5 70E+02	ug/kg	5 70E+02	ug/kg	M	4 05E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3 80E+02	ug/kg	3 80E+02	ug/kg	M	2 70E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4 70E+02	ug/kg	4 70E+02	ug/kg	M	3 34E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4 60E+01	ug/kg	4 60E+01	ug/kg	M	NA	mg/kg-day	3 00E-03	mg/kg-day	N/A	N/A	NA
	Chlorobenzene	3 10E+02	ug/kg	3 10E+02	ug/kg	M	NA	mg/kg-day	2 00E-02	mg/kg-day	N/A	N/A	NA
	(Total)												2 11E+00
												Total of Routes	6 32E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation

TABLE 7.2b CTE
CALCULATION OF NON-CANCER HAZARDS - CHILD RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	5.50E-05	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.83E-01
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	6.01E-02	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	8.58E-01
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.73E-05	mg/kg-day	1.00E-03	mg/kg-day	N/A	N/A	1.73E-02
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	7.03E-04	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	2.34E-01
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.74E-01	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.60E-05	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	2.28E-01
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	1.48E-02	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	4.92E-02
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.52E-04	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	1.76E+01
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	1.92E-07	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	3.84E-03
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	1.02E-07	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	2.05E-04
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.96E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.16E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.64E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.43E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	3.00E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	2.94E-07	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	9.80E-05
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	1.98E-06	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	9.91E-05
	(Total)												1.92E+01
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	2.87E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	9.57E-03
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	3.00E-07	mg/kg-day	2.50E-05	mg/kg-day	N/A	N/A	1.20E-02
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	NA
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	NA
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	8.56E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	4.28E+00
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	8.97E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	9.40E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	8.24E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	5.49E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	6.80E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	NA
	(Total)												4.30E+00
												Total of Routes	2.35E+01

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation

TABLE 7.2b RME
CALCULATION OF NON-CANCER HAZARDS - CHILD RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.10E-04	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	3.67E-01
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	1.20E-01	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	1.72E+00
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	3.45E-05	mg/kg-day	1.00E-03	mg/kg-day	N/A	N/A	3.45E-02
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	1.41E-03	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	4.69E-01
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	3.48E-01	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	3.20E-05	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	4.57E-01
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	3.00E-01	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	1.00E+00
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	7.03E-04	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	3.52E+01
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	3.84E-07	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	7.67E-03
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	2.05E-07	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	4.09E-04
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	7.93E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	8.31E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	7.29E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	4.86E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	6.01E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	5.88E-07	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	1.96E-04
	Chlorobenzene (Total)	3.10E+02	ug/kg	3.10E+02	ug/kg	M	3.96E-06	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	1.98E-04
													3.92E+01
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	9.57E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	3.19E-02
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.00E-06	mg/kg-day	2.50E-05	mg/kg-day	N/A	N/A	4.00E-02
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	NA
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	NA	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	NA
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	2.85E-04	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	1.43E+01
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	2.99E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	3.13E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.75E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.83E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.27E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	NA
	Chlorobenzene (Total)	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	NA
													1.43E+01
												Total of Routes	5.36E+01

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation

TABLE 7.3 CTE
CALCULATION OF NON-CANCER HAZARDS - ADULT COMMERCIAL WORKER CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	4.21E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	1.40E-02
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	4.60E-03	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	6.57E-02
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.32E-06	mg/kg-day	1.00E-03	mg/kg-day	N/A	N/A	1.32E-03
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	5.38E-05	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	1.79E-02
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.33E-02	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.22E-06	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.75E-02
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	1.13E-03	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	3.77E-03
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	2.69E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	1.35E+00
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	1.47E-08	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	2.94E-04
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	7.83E-09	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	1.57E-05
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.03E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	3.18E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.79E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.86E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.30E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	2.25E-08	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	7.50E-06
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	1.52E-07	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	7.58E-06
	(Total)												1.47E+00
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.26E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	4.21E-03
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.32E-07	mg/kg-day	2.50E-05	mg/kg-day	N/A	N/A	5.28E-03
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	NA
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	NA
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.77E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	1.88E+00
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.94E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.13E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.63E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.42E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.99E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	NA
	(Total)												1.89E+00
												Total of Routes	3.36E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation

TABLE 7.3 RME
CALCULATION OF NON-CANCER HAZARDS - ADULT COMMERCIAL WORKER CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	8.41E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	2.80E-02
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	9.20E-03	mg/kg-day	7.00E-02	mg/kg-day	N/A	N/A	1.31E-01
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	2.64E-06	mg/kg-day	1.00E-03	mg/kg-day	N/A	N/A	2.64E-03
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	1.08E-04	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	3.59E-02
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	2.66E-02	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	2.45E-06	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	3.49E-02
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	2.30E-02	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	7.66E-02
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	5.38E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	2.69E+00
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	2.94E-08	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	5.87E-04
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	1.57E-08	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	3.13E-05
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	6.07E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	6.36E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	5.58E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	3.72E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	4.60E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	4.50E-08	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	1.50E-05
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	3.03E-07	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	1.52E-05
	(Total)												3.00E+00
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.26E-06	mg/kg-day	3.00E-04	mg/kg-day	N/A	N/A	4.21E-03
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	4.90E-03	mg/kg-day	N/A	N/A	NA
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.32E-07	mg/kg-day	2.50E-05	mg/kg-day	N/A	N/A	5.28E-03
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	7.50E-05	mg/kg-day	N/A	N/A	NA
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	NA
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	NA	mg/kg-day	3.00E-01	mg/kg-day	N/A	N/A	NA
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.77E-05	mg/kg-day	2.00E-05	mg/kg-day	N/A	N/A	1.88E+00
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	5.00E-05	mg/kg-day	N/A	N/A	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	5.00E-04	mg/kg-day	N/A	N/A	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.94E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.13E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.63E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.42E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.99E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	--
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	3.00E-03	mg/kg-day	N/A	N/A	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	2.00E-02	mg/kg-day	N/A	N/A	NA
	(Total)												1.89E+00
												Total of Routes	4.89E+00

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation

TABLE 8.1a CTE
CALCULATION OF CANCER RISKS - ADULT RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	1.73E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	2.60E-07
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	6.14E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	1.14E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	6.25E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	7.05E-08	mg/kg-day	2.00E+00	1/(mg/kg-day)	1.41E-07
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	4.40E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	3.21E-08
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	2.29E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.67E-08
	(Total)										4.50E-07
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	5.92E-09	mg/kg-day	1.50E+00	1/(mg/kg-day)	8.88E-09
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.12E-08	mg/kg-day	2.00E+00	1/(mg/kg-day)	2.25E-08
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	6.53E-10	mg/kg-day	7.30E+00	1/(mg/kg-day)	4.76E-09
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	3.39E-10	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.48E-09
	(Total)										3.86E-08
										Total of Routes	4.88E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.1a RME
CALCULATION OF CANCER RISKS - ADULT RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	1.19E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.78E-06
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	4.21E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	7.85E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	4.29E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	4.83E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	9.66E-07
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	6.44E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	4.70E-07
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	1.57E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.15E-07
	(Total)										3.33E-06
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	1.42E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	2.13E-07
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	2.70E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	5.40E-07
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	3.34E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.44E-07
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	8.14E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	5.94E-08
	(Total)										1.06E-06
										Total of Routes	4.39E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.1b CTE
CALCULATION OF CANCER RISKS - CHILD RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	4.62E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	6.93E-07
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	1.64E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	3.05E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	1.67E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.88E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	3.76E-07
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	1.17E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	8.57E-08
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	6.11E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	4.46E-08
	(Total)										1.20E-06
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	2.41E-08	mg/kg-day	1.50E+00	1/(mg/kg-day)	3.62E-08
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	4.58E-08	mg/kg-day	2.00E+00	1/(mg/kg-day)	9.15E-08
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	2.66E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.94E-08
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	1.38E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.01E-08
	(Total)										1.57E-07
										Total of Routes	1.36E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.1b RME
CALCULATION OF CANCER RISKS - CHILD RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	2.77E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	4.16E-06
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	9.82E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	1.83E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	1.00E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.13E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	2.25E-06
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	1.50E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.10E-06
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	3.66E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.67E-07
	(Total)										7.78E-06
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	2.41E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	3.62E-07
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	4.58E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	9.15E-07
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	5.67E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	4.14E-07
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	1.38E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.01E-07
	(Total)										1.79E-06
										Total of Routes	9.57E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.1c CTE
CALCULATION OF CANCER RISKS - LIFETIME RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Child/Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	6.35E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	9.53E-07
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	6.14E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	1.14E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	6.25E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	2.58E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	5.17E-07
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	1.61E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.18E-07
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	8.40E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	6.13E-08
	(Total)										1.65E-06
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	3.00E-08	mg/kg-day	1.50E+00	1/(mg/kg-day)	4.50E-08
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	5.70E-08	mg/kg-day	2.00E+00	1/(mg/kg-day)	1.14E-07
	Benzo(a)pyrene	1.50E+02	ug/kg	1.50E+02	ug/kg	M	3.31E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.42E-08
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	1.72E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.26E-08
	(Total)										1.96E-07
										Total of Routes	1.84E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.1c RME
CALCULATION OF CANCER RISKS - LIFETIME RECREATIONAL USER CONTACT WITH EXPOSED (0 - 2 FEET) SURFACE SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Contact with Exposed (0 - 2 feet) Surface Soil
Receptor Population: Recreational User
Receptor Age: Child/Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	3.96E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	5.94E-06
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	4.21E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	7.85E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	4.29E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	1.61E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	3.22E-06
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	2.15E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.57E-06
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	5.23E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	3.82E-07
	(Total)										1.11E-05
Dermal	Arsenic	5.90E+00	mg/kg	5.90E+00	mg/kg	M	3.83E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	5.75E-07
	Barium	2.09E+02	mg/kg	2.09E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	3.90E+01	mg/kg	3.90E+01	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.13E+03	mg/kg	2.13E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	2.40E+03	ug/kg	2.40E+03	ug/kg	M	7.27E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	1.45E-06
	Benzo(a)pyrene	3.20E+02	ug/kg	3.20E+02	ug/kg	M	9.01E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	6.58E-07
	Dibenz(a,h)anthracene	7.80E+01	ug/kg	7.80E+01	ug/kg	M	2.20E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.60E-07
	(Total)										2.85E-06
										Total of Routes	1.40E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.2a CTE
CALCULATION OF CANCER RISKS - ADULT RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	5.89E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	8.84E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	6.44E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.85E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	7.53E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.86E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.71E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	1.58E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.77E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	7.53E-06
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	2.05E-09	mg/kg-day	1.60E+01	1/(mg/kg-day)	3.29E-08
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	1.10E-09	mg/kg-day	4.50E+00	1/(mg/kg-day)	4.93E-09
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	4.25E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	3.10E-08
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.45E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	3.25E-07
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.90E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.85E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.60E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.90E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	3.22E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.35E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	3.15E-09	mg/kg-day	2.90E-02	1/(mg/kg-day)	9.14E-11
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	2.12E-08	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										9.05E-06
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	2.01E-08	mg/kg-day	1.50E+00	1/(mg/kg-day)	3.02E-08
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	2.11E-09	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	6.01E-07	mg/kg-day	2.00E+00	1/(mg/kg-day)	1.20E-06
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	6.29E-09	mg/kg-day	7.30E-01	1/(mg/kg-day)	4.59E-09
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	6.60E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	4.82E-08
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	5.79E-09	mg/kg-day	7.30E-01	1/(mg/kg-day)	4.22E-09
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	3.86E-09	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.82E-08
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	4.77E-09	mg/kg-day	7.30E-01	1/(mg/kg-day)	3.48E-09
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										1.32E-06
										Total of Routes	1.04E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.2a RME
CALCULATION OF CANCER RISKS - ADULT RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	4.04E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	6.06E-06
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	4.41E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.27E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	5.17E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.28E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.17E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	1.10E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	2.58E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	5.17E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	1.41E-08	mg/kg-day	1.60E+01	1/(mg/kg-day)	2.25E-07
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	7.51E-09	mg/kg-day	4.50E+00	1/(mg/kg-day)	3.38E-08
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	2.91E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.13E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	3.05E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.23E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.68E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.95E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.78E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.30E-06
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.21E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.61E-07
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	2.16E-08	mg/kg-day	2.90E-02	1/(mg/kg-day)	6.27E-10
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	1.46E-07	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										6.21E-05
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	4.83E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	7.25E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	5.06E-08	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	1.44E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	2.89E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	1.51E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.10E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	1.58E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.16E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	1.39E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.01E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	9.26E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	6.76E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	1.15E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	8.36E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										3.17E-05
										Total of Routes	9.38E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.2b CTE
CALCULATION OF CANCER RISKS - CHILD RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.57E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	2.36E-06
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	1.72E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	4.93E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	2.01E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	4.97E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	4.57E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	4.22E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	1.00E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	2.01E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	5.48E-09	mg/kg-day	1.60E+01	1/(mg/kg-day)	8.77E-08
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	2.92E-09	mg/kg-day	4.50E+00	1/(mg/kg-day)	1.32E-08
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	1.13E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	8.27E-08
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	1.19E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	8.67E-07
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	1.04E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	7.60E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	6.94E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	5.07E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	8.58E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	6.27E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	8.40E-09	mg/kg-day	2.90E-02	1/(mg/kg-day)	2.44E-10
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	5.66E-08	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										2.41E-05
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	8.20E-08	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.23E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	8.58E-09	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	2.45E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	4.89E-06
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	2.56E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.87E-08
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	2.69E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.96E-07
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.35E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.72E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.57E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.15E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	1.94E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.42E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										5.38E-06
										Total of Routes	2.95E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.2b RME
CALCULATION OF CANCER RISKS - CHILD RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	9.42E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.41E-05
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	1.03E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	2.96E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	1.21E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	2.98E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	2.74E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	2.58E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	6.03E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	1.21E-04
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	3.29E-08	mg/kg-day	1.60E+01	1/(mg/kg-day)	5.26E-07
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	1.75E-08	mg/kg-day	4.50E+00	1/(mg/kg-day)	7.89E-08
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	6.79E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	4.96E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	7.12E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	5.20E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	6.25E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	4.56E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	4.16E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	3.04E-06
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	5.15E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	3.76E-07
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	5.04E-08	mg/kg-day	2.90E-02	1/(mg/kg-day)	1.46E-09
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	3.40E-07	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										1.45E-04
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	8.20E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.23E-06
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	8.58E-08	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	2.45E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	4.89E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	2.56E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.87E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	2.69E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.96E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.35E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.72E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.57E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.15E-06
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	1.94E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.42E-07
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										5.38E-05
										Total of Routes	1.99E-04

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.2c CTE
CALCULATION OF CANCER RISKS - LIFETIME RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Child/Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	2.16E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	3.24E-06
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	6.44E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.85E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	7.53E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.86E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.71E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	1.58E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	1.38E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	2.76E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	7.53E-09	mg/kg-day	1.60E+01	1/(mg/kg-day)	1.21E-07
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	4.02E-09	mg/kg-day	4.50E+00	1/(mg/kg-day)	1.81E-08
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	1.56E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.14E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	1.63E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.19E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	1.43E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.05E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	9.54E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	6.97E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	1.18E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	8.62E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	1.16E-08	mg/kg-day	2.90E-02	1/(mg/kg-day)	3.35E-10
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	2.12E-08	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										3.32E-05
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.02E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.53E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	2.11E-09	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.05E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	6.10E-06
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	--
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	--
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.19E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.33E-08
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	3.35E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.44E-07
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.93E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.14E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.96E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.43E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.42E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.77E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	--
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										6.70E-06
										Total of Routes	3.99E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

TABLE 8.2c RME
CALCULATION OF CANCER RISKS - LIFETIME RESIDENT CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Resident
Receptor Age: Child/Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.35E-05	mg/kg-day	1.50E+00	1/(mg/kg-day)	2.02E-05
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	4.41E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.27E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	5.17E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.28E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.17E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	1.10E-02	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	8.61E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	1.72E-04
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	4.70E-08	mg/kg-day	1.60E+01	1/(mg/kg-day)	7.51E-07
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	2.50E-08	mg/kg-day	4.50E+00	1/(mg/kg-day)	1.13E-07
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	9.71E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	7.09E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	1.02E-06	mg/kg-day	7.30E+00	1/(mg/kg-day)	7.43E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	8.92E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	6.51E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	5.95E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	4.34E-06
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	7.36E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	5.37E-07
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	7.20E-08	mg/kg-day	2.90E-02	1/(mg/kg-day)	2.09E-09
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	1.46E-07	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										2.07E-04
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.30E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.96E-06
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	5.06E-08	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.89E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	7.78E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	--
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	--
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	4.07E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.97E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.27E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	3.12E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.74E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.73E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.50E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.82E-06
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	3.09E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.25E-07
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	--
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										8.55E-05
										Total of Routes	2.92E-04

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.3 CTE
CALCULATION OF CANCER RISKS - ADULT COMMERCIAL WORKER CONTACT WITH (0 - 15 FEET) SOIL
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Contact with (0 - 15 feet) Soil
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	4.21E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	6.31E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	4.60E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.32E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	5.38E-06	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	1.33E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	1.22E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	1.13E-04	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	2.69E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	5.38E-06
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	1.47E-09	mg/kg-day	1.60E+01	1/(mg/kg-day)	2.35E-08
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	7.83E-10	mg/kg-day	4.50E+00	1/(mg/kg-day)	3.52E-09
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.03E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.21E-08
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	3.18E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	2.32E-07
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	2.79E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.04E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.86E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.36E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.30E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.68E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	2.25E-09	mg/kg-day	2.90E-02	1/(mg/kg-day)	6.53E-11
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	1.52E-08	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										6.47E-06
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	1.26E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	1.89E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	1.32E-08	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.31E+03	mg/kg	2.31E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	3.77E-06	mg/kg-day	2.00E+00	1/(mg/kg-day)	7.53E-06
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	3.94E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.88E-08
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	4.13E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	3.02E-07
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	3.63E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.65E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	2.42E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.76E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	2.99E-08	mg/kg-day	7.30E-01	1/(mg/kg-day)	2.18E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										8.28E-06
										Total of Routes	1.47E-05

(1) Specify Medium Specific (M) or Route-Specific (R) EPC selected for risk calculation

TABLE 8.3 RME
CALCULATION OF CANCER RISKS - ADULT COMMERCIAL WORKER CONTACT WITH (0 - 15 FEET) SOIL
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe Future
Medium Soil
Exposure Medium Soil
Exposure Point Contact with (0 - 15 feet) Soil
Receptor Population Commercial Worker
Receptor Age Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	3.01E-06	mg/kg-day	1.50E+00	1/(mg/kg-day)	4.51E-06
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	3.28E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	9.44E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	3.84E-05	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	9.51E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	8.74E-07	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	8.21E-03	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	1.92E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	3.84E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	1.05E-08	mg/kg-day	1.60E+01	1/(mg/kg-day)	1.68E-07
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	5.59E-09	mg/kg-day	4.50E+00	1/(mg/kg-day)	2.52E-08
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	2.17E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.58E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	2.27E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.66E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	1.99E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.45E-07
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	1.33E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	9.69E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	1.64E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.20E-07
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	1.61E-08	mg/kg-day	2.90E-02	1/(mg/kg-day)	4.66E-10
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	1.08E-07	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										4.62E-05
Dermal	Arsenic	8.60E+00	mg/kg	8.60E+00	mg/kg	M	4.51E-07	mg/kg-day	1.50E+00	1/(mg/kg-day)	6.76E-07
	Barium	9.40E+03	mg/kg	9.40E+03	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Cadmium	2.70E+00	mg/kg	2.70E+00	mg/kg	M	4.72E-08	mg/kg-day	--	1/(mg/kg-day)	--
	Chromium	1.10E+02	mg/kg	1.10E+02	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Lead	2.72E+04	mg/kg	2.72E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Thallium	2.50E+00	mg/kg	2.50E+00	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Zinc	2.35E+04	mg/kg	2.35E+04	mg/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	Aroclor, Total	5.50E+04	ug/kg	5.50E+04	ug/kg	M	1.35E-05	mg/kg-day	2.00E+00	1/(mg/kg-day)	2.69E-05
	Dieldrin	3.00E+01	ug/kg	3.00E+01	ug/kg	M	NA	mg/kg-day	1.60E+01	1/(mg/kg-day)	NA
	Heptachlor	1.60E+01	ug/kg	1.60E+01	ug/kg	M	NA	mg/kg-day	4.50E+00	1/(mg/kg-day)	NA
	Benz(a)anthracene	6.20E+02	ug/kg	6.20E+02	ug/kg	M	1.41E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	1.03E-07
	Benzo(a)pyrene	6.50E+02	ug/kg	6.50E+02	ug/kg	M	1.48E-07	mg/kg-day	7.30E+00	1/(mg/kg-day)	1.08E-06
	Benzo(b)fluoranthene	5.70E+02	ug/kg	5.70E+02	ug/kg	M	1.29E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	9.45E-08
	Dibenz(a,h)anthracene	3.80E+02	ug/kg	3.80E+02	ug/kg	M	8.63E-08	mg/kg-day	7.30E+00	1/(mg/kg-day)	6.30E-07
	Indeno(1,2,3-cd)pyrene	4.70E+02	ug/kg	4.70E+02	ug/kg	M	1.07E-07	mg/kg-day	7.30E-01	1/(mg/kg-day)	7.79E-08
	Benzene	4.60E+01	ug/kg	4.60E+01	ug/kg	M	NA	mg/kg-day	2.90E-02	1/(mg/kg-day)	NA
	Chlorobenzene	3.10E+02	ug/kg	3.10E+02	ug/kg	M	NA	mg/kg-day	--	1/(mg/kg-day)	--
	(Total)										2.96E-05
										Total of Routes	7.58E-05

(1) Specify Medium Specific (M) or Route Specific (R) EPC selected for risk calculation

TABLE 9.1a CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECREATIONAL USER EXPOSURE TO EXPOSED SURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Contact with Exposed (0 - 2 feet) Surface Soil	Arsenic	2.60E-07	--	8.88E-09	2.69E-07	Arsenic	Skin	5.77E-03	--	1.97E-04	5.97E-03
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	8.76E-04	--	NA	8.76E-04
			Chromium	--	--	--	--	Chromium	Kidney	3.82E-03	--	NA	3.82E-03
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Aroclor, Total	1.41E-07	--	2.25E-08	1.63E-07	Aroclor, Total	Skin/Eye	3.52E-02	--	5.62E-03	4.08E-02
			Benzo(a)pyrene	3.21E-08	--	4.76E-09	3.69E-08	Benzo(a)pyrene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	1.67E-08	--	2.48E-09	1.92E-08	Dibenz(a,h)anthracene	N/A	--	--	--	--
			(Total)	4.50E-07	--	3.86E-08	4.88E-07	(Total)		4.57E-02	--	5.82E-03	5.15E-02
						Total Risk Across Surface Soil	4.88E-07					Total Hazard Index Across Surface Soil	5.15E-02
						Total Risk Across All Media and All Exposure Routes	4.88E-07					Total Hazard Index Across All Media and All Exposure Routes	5.15E-02

Total Cardiovascular HI =	8.76E-04
Total Eye HI =	4.08E-02
Total Kidney HI =	4.69E-03
Total Skin HI =	4.68E-02

TABLE 9.1a RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECREATIONAL USER EXPOSURE TO EXPOSED SURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Contact with Exposed (0 - 2 feet) Surface Soil											
			Arsenic	1.78E-06	--	2.13E-07	1.99E-06	Arsenic	Skin	1.15E-02	--	1.38E-03	1.29E-02
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	1.75E-03	--	NA	1.75E-03
			Chromium	--	--	--	--	Chromium	Kidney	7.63E-03	--	NA	7.63E-03
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Aroclor, Total	9.66E-07	--	5.40E-07	1.51E-06	Aroclor, Total	Skin/Eye	7.05E-02	--	3.94E-02	1.10E-01
			Benzo(a)pyrene	4.70E-07	--	2.44E-07	7.14E-07	Benzo(a)pyrene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	1.15E-07	--	5.94E-08	1.74E-07	Dibenz(a,h)anthracene	N/A	--	--	--	--
			(Total)	3.33E-06	--	1.06E-06	4.39E-06	(Total)		9.14E-02	--	4.07E-02	1.32E-01
			Total Risk Across Surface Soil				4.39E-06		Total Hazard Index Across Surface Soil				1.32E-01
			Total Risk Across All Media and All Exposure Routes				4.39E-06		Total Hazard Index Across All Media and All Exposure Routes				1.32E-01

Total Cardiovascular HI =	1.75E-03
Total Eye HI =	1.10E-01
Total Kidney HI =	9.38E-03
Total Skin HI =	1.23E-01

TABLE 9.1b CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - CHILD RECREATIONAL USER EXPOSURE TO EXPOSED SURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Contact with Exposed (0 - 2 feet) Surface Soil	Arsenic	6.93E-07	--	3.62E-08	7.29E-07	Arsenic	Skin	5.39E-02	--	2.81E-03	5.67E-02
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	8.18E-03	--	NA	8.18E-03
			Chromium	--	--	--	--	Chromium	Kidney	3.56E-02	--	NA	3.56E-02
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Aroclor, Total	3.76E-07	--	9.15E-08	4.67E-07	Aroclor, Total	Skin/Eye	3.29E-01	--	8.01E-02	4.09E-01
			Benzo(a)pyrene	8.57E-08	--	1.94E-08	1.05E-07	Benzo(a)pyrene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	4.46E-08	--	1.01E-08	5.47E-08	Dibenz(a,h)anthracene	N/A	--	--	--	--
			(Total)	1.20E-06	--	1.57E-07	1.36E-06	(Total)		4.26E-01	--	8.29E-02	5.09E-01
						Total Risk Across Surface Soil	1.36E-06					Total Hazard Index Across Surface Soil	5.09E-01
						Total Risk Across All Media and All Exposure Routes	1.36E-06					Total Hazard Index Across All Media and All Exposure Routes	5.09E-01

Total Cardiovascular HI =	8.18E-03
Total Eye HI =	4.09E-01
Total Kidney HI =	4.38E-02
Total Skin HI =	4.66E-01

TABLE 9.1b RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - CHILD RECREATIONAL USER EXPOSURE TO EXPOSED SURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Contact with Exposed (0 - 2 feet) Surface Soil											
			Arsenic	4.16E-06	--	3.62E-07	4.52E-06	Arsenic	Skin	1.08E-01	--	9.38E-03	1.17E-01
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	1.64E-02	--	NA	1.64E-02
			Chromium	--	--	--	--	Chromium	Kidney	7.12E-02	--	NA	7.12E-02
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Aroclor, Total	2.25E-06	--	9.15E-07	3.17E-06	Aroclor, Total	Skin/Eye	6.58E-01	--	2.67E-01	9.24E-01
			Benzo(a)pyrene	1.10E-06	--	4.14E-07	1.51E-06	Benzo(a)pyrene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	2.67E-07	--	1.01E-07	3.68E-07	Dibenz(a,h)anthracene	N/A	--	--	--	--
			(Total)	7.78E-06	--	1.79E-06	9.57E-06	(Total)		8.53E-01	--	2.76E-01	1.13E+00
						Total Risk Across Surface Soil	9.57E-06					Total Hazard Index Across Surface Soil	1.13E+00
						Total Risk Across All Media and All Exposure Routes	9.57E-06					Total Hazard Index Across All Media and All Exposure Routes	1.13E+00

Total Cardiovascular HI =	1.64E-02
Total Eye HI =	9.24E-01
Total Kidney HI =	8.76E-02
Total Skin HI =	1.04E+00

TABLE 9.1c CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - LIFETIME RECREATIONAL USER EXPOSURE TO EXPOSED SURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Contact with Exposed (0 - 2 feet) Surface Soil	Arsenic	9.53E-07	--	4.50E-08	9.98E-07	Arsenic	N/A	N/A	--	N/A	--
			Barium	--	--	--	--	Barium	N/A	N/A	--	N/A	--
			Chromium	--	--	--	--	Chromium	N/A	N/A	--	N/A	--
			Lead	--	--	--	--	Lead	N/A	N/A	--	N/A	--
			Aroclor, Total	5.17E-07	--	1.14E-07	6.31E-07	Aroclor, Total	N/A	N/A	--	N/A	--
			Benzo(a)pyrene	1.18E-07	--	2.42E-08	1.42E-07	Benzo(a)pyrene	N/A	N/A	--	N/A	--
			Dibenz(a,h)anthracene	6.13E-08	--	1.26E-08	7.38E-08	Dibenz(a,h)anthracene	N/A	N/A	--	N/A	--
			(Total)	1.65E-06	--	1.96E-07	1.84E-06	(Total)		--	--	--	--
						Total Risk Across Surface Soil	1.84E-06					Total Hazard Index Across Surface Soil	--
						Total Risk Across All Media and All Exposure Routes	1.84E-06					Total Hazard Index Across All Media and All Exposure Routes	--

TABLE 9.1c RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - LIFETIME RECREATIONAL USER EXPOSURE TO EXPOSED SURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Contact with Exposed (0 - 2 feet) Surface Soil											
			Arsenic	5.94E-06	--	5.75E-07	6.51E-06	Arsenic	N/A	N/A	--	N/A	--
			Barium	--	--	--	--	Barium	N/A	N/A	--	N/A	--
			Chromium	--	--	--	--	Chromium	N/A	N/A	--	N/A	--
			Lead	--	--	--	--	Lead	N/A	N/A	--	N/A	--
			Aroclor, Total	3.22E-06	--	1.45E-06	4.68E-06	Aroclor, Total	N/A	N/A	--	N/A	--
			Benzo(a)pyrene	1.57E-06	--	6.58E-07	2.22E-06	Benzo(a)pyrene	N/A	N/A	--	N/A	--
			Dibenz(a,h)anthracene	3.82E-07	--	1.60E-07	5.42E-07	Dibenz(a,h)anthracene	N/A	N/A	--	N/A	--
			(Total)	1.11E-05	--	2.85E-06	1.40E-05	(Total)		--	--	--	--
			Total Risk Across Surface Soil				1.40E-05		Total Hazard Index Across Surface Soil				--
			Total Risk Across All Media and All Exposure Routes				1.40E-05		Total Hazard Index Across All Media and All Exposure Routes				--

TABLE 9.2a CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	8.84E-07	--	3.02E-08	9.14E-07	Arsenic	Skin	1.96E-02	--	6.72E-04	2.03E-02
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	9.20E-02	--	NA	9.20E-02
			Cadmium	--	--	--	--	Cadmium	Kidney	1.85E-03	--	8.43E-04	2.69E-03
			Chromium	--	--	--	--	Chromium	Kidney	2.51E-02	--	NA	2.51E-02
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Thallium	--	--	--	--	Thallium	Blood	2.45E-02	--	NA	2.45E-02
			Zinc	--	--	--	--	Zinc	Blood	5.27E-03	--	NA	5.27E-03
			Aroclor, Total	7.53E-06	--	1.20E-06	8.74E-06	Aroclor, Total	Skin/Eye	1.88E+00	--	3.01E-01	2.18E+00
			Dieldrin	3.29E-08	--	NA	3.29E-08	Dieldrin	Liver	4.11E-04	--	NA	4.11E-04
			Heptachlor	4.93E-09	--	NA	4.93E-09	Heptachlor	Liver	2.19E-05	--	NA	2.19E-05
			Benz(a)anthracene	3.10E-08	--	4.59E-09	3.56E-08	Benz(a)anthracene	N/A	--	--	--	--
			Benzo(a)pyrene	3.25E-07	--	4.82E-08	3.73E-07	Benzo(a)pyrene	N/A	--	--	--	--
			Benzo(b)fluoranthene	2.85E-08	--	4.22E-09	3.27E-08	Benzo(b)fluoranthene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	1.90E-07	--	2.82E-08	2.18E-07	Dibenz(a,h)anthracene	N/A	--	--	--	--
			Indeno(1,2,3-cd)pyrene	2.35E-08	--	3.48E-09	2.70E-08	Indeno(1,2,3-cd)pyrene	N/A	--	--	--	--
			Benzene	9.14E-11	--	NA	9.14E-11	Benzene		1.05E-05	--	NA	1.05E-05
			Chlorobenzene	--	--	--	--	Chlorobenzene	Liver	1.06E-05	--	NA	1.06E-05
			(Total)	9.05E-06	--	1.32E-06	1.04E-05	(Total)		2.05E+00	--	3.02E-01	2.35E+00
						Total Risk Across Soil	1.04E-05					Total Hazard Index Across Soil	2.35E+00
						Total Risk Across All Media and All Exposure Routes	1.04E-05					Total Hazard Index Across All Media and All Exposure Routes	2.35E+00

Total Blood HI =	2.97E-02
Total Cardiovascular HI =	9.20E-02
Total Eye HI =	2.18E+00
Total Kidney HI =	1.20E-01
Total Liver HI =	4.43E-04
Total Skin HI =	2.20E+00

TABLE 9.2a RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil											
			Arsenic	6.06E-06	--	7.25E-07	6.78E-06	Arsenic	Skin	3.93E-02	--	4.70E-03	4.40E-02
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	1.84E-01	--	NA	1.84E-01
			Cadmium	--	--	--	--	Cadmium	Kidney	3.70E-03	--	5.90E-03	9.60E-03
			Chromium	--	--	--	--	Chromium	Kidney	5.02E-02	--	NA	5.02E-02
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Thallium	--	--	--	--	Thallium	Blood	4.89E-02	--	NA	4.89E-02
			Zinc	--	--	--	--	Zinc	Blood	1.07E-01	--	NA	1.07E-01
			Aroclor, Total	5.17E-05	--	2.89E-05	8.05E-05	Aroclor, Total	Skin/Eye	3.77E+00	--	2.10E+00	5.87E+00
			Dieldrin	2.25E-07	--	NA	2.25E-07	Dieldrin	Liver	8.22E-04	--	NA	8.22E-04
			Heptachlor	3.38E-08	--	NA	3.38E-08	Heptachlor	Liver	4.38E-05	--	NA	4.38E-05
			Benz(a)anthracene	2.13E-07	--	1.10E-07	3.23E-07	Benz(a)anthracene	N/A	--	--	--	--
			Benzo(a)pyrene	2.23E-06	--	1.16E-06	3.38E-06	Benzo(a)pyrene	N/A	--	--	--	--
			Benzo(b)fluoranthene	1.95E-07	--	1.01E-07	2.97E-07	Benzo(b)fluoranthene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	1.30E-06	--	6.76E-07	1.98E-06	Dibenz(a,h)anthracene	N/A	--	--	--	--
			Indeno(1,2,3-cd)pyrene	1.61E-07	--	8.36E-08	2.45E-07	Indeno(1,2,3-cd)pyrene	N/A	--	--	--	--
			Benzene	6.27E-10	--	NA	6.27E-10	Benzene		2.10E-05	--	NA	2.10E-05
			Chlorobenzene	--	--	--	--	Chlorobenzene	Liver	2.12E-05	--	NA	2.12E-05
			(Total)	6.21E-05	--	3.17E-05	9.38E-05	(Total)		4.20E+00	--	2.11E+00	6.32E+00
						Total Risk Across Soil	9.38E-05					Total Hazard Index Across Soil	6.32E+00
						Total Risk Across All Media and All Exposure Routes	9.38E-05					Total Hazard Index Across All Media and All Exposure Routes	6.32E+00

Total Blood HI =	1.56E-01
Total Cardiovascular HI =	1.84E-01
Total Eye HI =	5.87E+00
Total Kidney HI =	2.44E-01
Total Liver HI =	8.87E-04
Total Skin HI =	5.92E+00

TABLE 9.2b CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - CHILD RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	2.36E-06	--	1.23E-07	2.48E-06	Arsenic	Skin	1.83E-01	--	9.57E-03	1.93E-01
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	8.58E-01	--	NA	8.58E-01
			Cadmium	--	--	--	--	Cadmium	Kidney	1.73E-02	--	1.20E-02	2.93E-02
			Chromium	--	--	--	--	Chromium	Kidney	2.34E-01	--	NA	2.34E-01
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Thallium	--	--	--	--	Thallium	Blood	2.28E-01	--	NA	2.28E-01
			Zinc	--	--	--	--	Zinc	Blood	4.92E-02	--	NA	4.92E-02
			Aroclor, Total	2.01E-05	--	4.89E-06	2.50E-05	Aroclor, Total	Skin/Eye	1.76E+01	--	4.28E+00	2.19E+01
			Dieldrin	8.77E-08	--	NA	8.77E-08	Dieldrin	Liver	3.84E-03	--	NA	3.84E-03
			Heptachlor	1.32E-08	--	NA	1.32E-08	Heptachlor	Liver	2.05E-04	--	NA	2.05E-04
			Benz(a)anthracene	8.27E-08	--	1.87E-08	1.01E-07	Benz(a)anthracene	N/A	--	--	--	--
			Benzo(a)pyrene	8.67E-07	--	1.96E-07	1.06E-06	Benzo(a)pyrene	N/A	--	--	--	--
			Benzo(b)fluoranthene	7.60E-08	--	1.72E-08	9.32E-08	Benzo(b)fluoranthene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	5.07E-07	--	1.15E-07	6.21E-07	Dibenz(a,h)anthracene	N/A	--	--	--	--
			Indeno(1,2,3-cd)pyrene	6.27E-08	--	1.42E-08	7.68E-08	Indeno(1,2,3-cd)pyrene	N/A	--	--	--	--
			Benzene	2.44E-10	--	NA	2.44E-10	Benzene		9.80E-05	--	NA	9.80E-05
			Chlorobenzene	--	--	--	--	Chlorobenzene	Liver	9.91E-05	--	NA	9.91E-05
			(Total)	2.41E-05	--	5.38E-06	2.95E-05	(Total)		1.92E+01	--	4.30E+00	2.35E+01
						Total Risk Across Soil	2.95E-05					Total Hazard Index Across Soil	2.35E+01
						Total Risk Across All Media and All Exposure Routes	2.95E-05					Total Hazard Index Across All Media and All Exposure Routes	2.35E+01

Total Blood HI =	2.78E-01
Total Cardiovascular HI =	8.58E-01
Total Eye HI =	2.19E+01
Total Kidney HI =	1.12E+00
Total Liver HI =	4.14E-03
Total Skin HI =	2.21E+01

TABLE 9.2b RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - CHILD RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil											
			Arsenic	1.41E-05	--	1.23E-06	1.54E-05	Arsenic	Skin	3.67E-01	--	3.19E-02	3.98E-01
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	1.72E+00	--	NA	1.72E+00
			Cadmium	--	--	--	--	Cadmium	Kidney	3.45E-02	--	4.00E-02	7.46E-02
			Chromium	--	--	--	--	Chromium	Kidney	4.69E-01	--	NA	4.69E-01
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Thallium	--	--	--	--	Thallium	Blood	4.57E-01	--	NA	4.57E-01
			Zinc	--	--	--	--	Zinc	Blood	1.00E+00	--	NA	1.00E+00
			Aroclor, Total	1.21E-04	--	4.89E-05	1.69E-04	Aroclor, Total	Skin/Eye	3.52E+01	--	1.43E+01	4.94E+01
			Dieldrin	5.26E-07	--	NA	5.26E-07	Dieldrin	Liver	7.67E-03	--	NA	7.67E-03
			Heptachlor	7.89E-08	--	NA	7.89E-08	Heptachlor	Liver	4.09E-04	--	NA	4.09E-04
			Benz(a)anthracene	4.96E-07	--	1.87E-07	6.83E-07	Benz(a)anthracene	N/A	--	--	--	--
			Benzo(a)pyrene	5.20E-06	--	1.96E-06	7.16E-06	Benzo(a)pyrene	N/A	--	--	--	--
			Benzo(b)fluoranthene	4.56E-07	--	1.72E-07	6.28E-07	Benzo(b)fluoranthene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	3.04E-06	--	1.15E-06	4.19E-06	Dibenz(a,h)anthracene	N/A	--	--	--	--
			Indeno(1,2,3-cd)pyrene	3.76E-07	--	1.42E-07	5.18E-07	Indeno(1,2,3-cd)pyrene	N/A	--	--	--	--
			Benzene	1.46E-09	--	NA	1.46E-09	Benzene		1.96E-04	--	NA	1.96E-04
			Chlorobenzene	--	--	--	--	Chlorobenzene	Liver	1.98E-04	--	NA	1.98E-04
			(Total)	1.45E-04	--	5.38E-05	1.99E-04	(Total)		3.92E+01	--	1.43E+01	5.36E+01
						Total Risk Across Soil	1.99E-04					Total Hazard Index Across Soil	5.36E+01
						Total Risk Across All Media and All Exposure Routes	1.99E-04					Total Hazard Index Across All Media and All Exposure Routes	5.36E+01

Total Blood HI =	1.46E+00
Total Cardiovascular HI =	1.72E+00
Total Eye HI =	4.94E+01
Total Kidney HI =	2.26E+00
Total Liver HI =	8.28E-03
Total Skin HI =	4.98E+01

TABLE 9.2c CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - LIFETIME RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	3.24E-06	--	1.53E-07	3.39E-06	Arsenic	N/A	N/A	--	N/A	--
			Barium	--	--	--	--	Barium	N/A	N/A	--	N/A	--
			Cadmium	--	--	--	--	Cadmium	N/A	N/A	--	N/A	--
			Chromium	--	--	--	--	Chromium	N/A	N/A	--	N/A	--
			Lead	--	--	--	--	Lead	N/A	N/A	--	N/A	--
			Thallium	--	--	--	--	Thallium	N/A	N/A	--	N/A	--
			Zinc	--	--	--	--	Zinc	N/A	N/A	--	N/A	--
			Aroclor, Total	2.76E-05	--	6.10E-06	3.37E-05	Aroclor, Total	N/A	N/A	--	N/A	--
			Dieldrin	1.21E-07	--	--	1.21E-07	Dieldrin	N/A	N/A	--	N/A	--
			Heptachlor	1.81E-08	--	--	1.81E-08	Heptachlor	N/A	N/A	--	N/A	--
			Benz(a)anthracene	1.14E-07	--	2.33E-08	1.37E-07	Benz(a)anthracene	N/A	N/A	--	N/A	--
			Benzo(a)pyrene	1.19E-06	--	2.44E-07	1.44E-06	Benzo(a)pyrene	N/A	N/A	--	N/A	--
			Benzo(b)fluoranthene	1.05E-07	--	2.14E-08	1.26E-07	Benzo(b)fluoranthene	N/A	N/A	--	N/A	--
			Dibenz(a,h)anthracene	6.97E-07	--	1.43E-07	8.39E-07	Dibenz(a,h)anthracene	N/A	N/A	--	N/A	--
			Indeno(1,2,3-cd)pyrene	8.62E-08	--	1.77E-08	1.04E-07	Indeno(1,2,3-cd)pyrene	N/A	N/A	--	N/A	--
			Benzene	3.35E-10	--	--	3.35E-10	Benzene	N/A	N/A	--	N/A	--
			Chlorobenzene	--	--	--	--	Chlorobenzene	N/A	N/A	--	N/A	--
			(Total)	3.32E-05	--	6.70E-06	3.99E-05	(Total)		--	--	--	--
						Total Risk Across Soil	3.99E-05					Total Hazard Index Across Soil	--
						Total Risk Across All Media and All Exposure Routes	3.99E-05					Total Hazard Index Across All Media and All Exposure Routes	--

TABLE 9.2c RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - LIFETIME RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil											
			Arsenic	2.02E-05	--	1.96E-06	2.22E-05	Arsenic	N/A	N/A	--	N/A	--
			Barium	--	--	--	--	Barium	N/A	N/A	--	N/A	--
			Cadmium	--	--	--	--	Cadmium	N/A	N/A	--	N/A	--
			Chromium	--	--	--	--	Chromium	N/A	N/A	--	N/A	--
			Lead	--	--	--	--	Lead	N/A	N/A	--	N/A	--
			Thallium	--	--	--	--	Thallium	N/A	N/A	--	N/A	--
			Zinc	--	--	--	--	Zinc	N/A	N/A	--	N/A	--
			Aroclor, Total	1.72E-04	--	7.78E-05	2.50E-04	Aroclor, Total	N/A	N/A	--	N/A	--
			Dieldrin	7.51E-07	--	--	7.51E-07	Dieldrin	N/A	N/A	--	N/A	--
			Heptachlor	1.13E-07	--	--	1.13E-07	Heptachlor	N/A	N/A	--	N/A	--
			Benz(a)anthracene	7.09E-07	--	2.97E-07	1.01E-06	Benz(a)anthracene	N/A	N/A	--	N/A	--
			Benzo(a)pyrene	7.43E-06	--	3.12E-06	1.05E-05	Benzo(a)pyrene	N/A	N/A	--	N/A	--
			Benzo(b)fluoranthene	6.51E-07	--	2.73E-07	9.25E-07	Benzo(b)fluoranthene	N/A	N/A	--	N/A	--
			Dibenz(a,h)anthracene	4.34E-06	--	1.82E-06	6.16E-06	Dibenz(a,h)anthracene	N/A	N/A	--	N/A	--
			Indeno(1,2,3-cd)pyrene	5.37E-07	--	2.25E-07	7.62E-07	Indeno(1,2,3-cd)pyrene	N/A	N/A	--	N/A	--
			Benzene	2.09E-09	--	--	2.09E-09	Benzene	N/A	N/A	--	N/A	--
			Chlorobenzene	--	--	--	--	Chlorobenzene	N/A	N/A	--	N/A	--
			(Total)	2.07E-04	--	8.55E-05	2.92E-04	(Total)		--	--	--	--
						Total Risk Across Soil	2.92E-04					Total Hazard Index Across Soil	--
						Total Risk Across All Media and All Exposure Routes	2.92E-04					Total Hazard Index Across All Media and All Exposure Routes	--

TABLE 9.3 CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT COMMERCIAL WORKER EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	6.31E-07	--	1.89E-07	8.20E-07	Arsenic	Skin	1.40E-02	--	4.21E-03	1.82E-02
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	6.57E-02	--	NA	6.57E-02
			Cadmium	--	--	--	--	Cadmium	Kidney	1.32E-03	--	5.28E-03	6.60E-03
			Chromium	--	--	--	--	Chromium	Kidney	1.79E-02	--	NA	1.79E-02
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Thallium	--	--	--	--	Thallium	Blood	1.75E-02	--	NA	1.75E-02
			Zinc	--	--	--	--	Zinc	Blood	3.77E-03	--	NA	3.77E-03
			Aroclor, Total	5.38E-06	--	7.53E-06	1.29E-05	Aroclor, Total	Skin/Eye	1.35E+00	--	1.88E+00	3.23E+00
			Dieldrin	2.35E-08	--	NA	2.35E-08	Dieldrin	Liver	2.94E-04	--	NA	2.94E-04
			Heptachlor	3.52E-09	--	NA	3.52E-09	Heptachlor	Liver	1.57E-05	--	NA	1.57E-05
			Benz(a)anthracene	2.21E-08	--	2.88E-08	5.09E-08	Benz(a)anthracene	N/A	--	--	--	--
			Benzo(a)pyrene	2.32E-07	--	3.02E-07	5.34E-07	Benzo(a)pyrene	N/A	--	--	--	--
			Benzo(b)fluoranthene	2.04E-08	--	2.65E-08	4.68E-08	Benzo(b)fluoranthene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	1.36E-07	--	1.76E-07	3.12E-07	Dibenz(a,h)anthracene	N/A	--	--	--	--
			Indeno(1,2,3-cd)pyrene	1.68E-08	--	2.18E-08	3.86E-08	Indeno(1,2,3-cd)pyrene	N/A	--	--	--	--
			Benzene	6.53E-11	--	NA	6.53E-11	Benzene	Liver	7.50E-06	--	NA	7.50E-06
			Chlorobenzene	--	--	--	--	Chlorobenzene		7.58E-06	--	NA	7.58E-06
			(Total)	6.47E-06	--	8.28E-06	1.47E-05	(Total)		1.47E+00	--	1.89E+00	3.36E+00
						Total Risk Across Soil	1.47E-05					Total Hazard Index Across Soil	3.36E+00
						Total Risk Across All Media and All Exposure Routes	1.47E-05					Total Hazard Index Across All Media and All Exposure Routes	3.36E+00

Total Blood HI =	2.12E-02
Total Cardiovascular HI =	6.57E-02
Total Eye HI =	3.23E+00
Total Kidney HI =	9.02E-02
Total Liver HI =	3.17E-04
Total Skin HI =	3.25E+00

TABLE 9.3 RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT COMMERCIAL WORKER EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	4.51E-06	--	6.76E-07	5.18E-06	Arsenic	Skin	2.80E-02	--	4.21E-03	3.23E-02
			Barium	--	--	--	--	Barium	Cardiovascular/Kidney	1.31E-01	--	NA	1.31E-01
			Cadmium	--	--	--	--	Cadmium	Kidney	2.64E-03	--	5.28E-03	7.93E-03
			Chromium	--	--	--	--	Chromium	Kidney	3.59E-02	--	NA	3.59E-02
			Lead	--	--	--	--	Lead	N/A	--	--	--	--
			Thallium	--	--	--	--	Thallium	Blood	3.49E-02	--	NA	3.49E-02
			Zinc	--	--	--	--	Zinc	Blood	7.66E-02	--	NA	7.66E-02
			Aroclor, Total	3.84E-05	--	2.69E-05	6.53E-05	Aroclor, Total	Skin/Eye	2.69E+00	--	1.88E+00	4.57E+00
			Dieldrin	1.68E-07	--	NA	1.68E-07	Dieldrin	Liver	5.87E-04	--	NA	5.87E-04
			Heptachlor	2.52E-08	--	NA	2.52E-08	Heptachlor	Liver	3.13E-05	--	NA	3.13E-05
			Benz(a)anthracene	1.58E-07	--	1.03E-07	2.61E-07	Benz(a)anthracene	N/A	--	--	--	--
			Benzo(a)pyrene	1.66E-06	--	1.08E-06	2.74E-06	Benzo(a)pyrene	N/A	--	--	--	--
			Benzo(b)fluoranthene	1.45E-07	--	9.45E-08	2.40E-07	Benzo(b)fluoranthene	N/A	--	--	--	--
			Dibenz(a,h)anthracene	9.69E-07	--	6.30E-07	1.60E-06	Dibenz(a,h)anthracene	N/A	--	--	--	--
			Indeno(1,2,3-cd)pyrene	1.20E-07	--	7.79E-08	1.98E-07	Indeno(1,2,3-cd)pyrene	N/A	--	--	--	--
			Benzene	4.66E-10	--	NA	4.66E-10	Benzene		1.50E-05	--	NA	1.50E-05
			Chlorobenzene	--	--	--	--	Chlorobenzene	Liver	1.52E-05	--	NA	1.52E-05
			(Total)	4.62E-05	--	2.96E-05	7.58E-05	(Total)		3.00E+00	--	1.89E+00	4.89E+00
						Total Risk Across Soil	7.58E-05					Total Hazard Index Across Soil	4.89E+00
						Total Risk Across All Media and All Exposure Routes	7.58E-05					Total Hazard Index Across All Media and All Exposure Routes	4.89E+00

Total Blood HI =	1.12E-01
Total Cardiovascular HI =	1.31E-01
Total Eye HI =	4.57E+00
Total Kidney HI =	1.75E-01
Total Liver HI =	6.34E-04
Total Skin HI =	4.61E+00

TABLE 10.2a CTE
RISK ASSESSMENT SUMMARY - ADULT RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil						Arsenic	Skin	1.96E-02	--	6.72E-04	2.03E-02
								Aroclor, Total	Skin/Eye	1.88E+00	--	3.01E-01	2.18E+00
			(Total)	--	--	--	--	(Total)		1.90E+00	--	3.01E-01	2.20E+00
						Total Risk Across Soil	--					Total Hazard Index Across Soil	2.20E+00
						Total Risk Across All Media and All Exposure Routes	--					Total Hazard Index Across All Media and All Exposure Routes	2.20E+00

Total Eye HI = 2.18E+00
Total Skin HI = 2.20E+00

TABLE 10.2a RME
RISK ASSESSMENT SUMMARY - ADULT RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil						Arsenic	Skin	3.93E-02	--	4.70E-03	4.40E-02
								Aroclor, Total	Skin/Eye	3.77E+00	--	2.10E+00	5.87E+00
			(Total)	--	--	--	--	(Total)		3.81E+00	--	2.11E+00	5.92E+00
							Total Risk Across Soil --						Total Hazard Index Across Soil 5.92E+00
							Total Risk Across All Media and All Exposure Routes --						Total Hazard Index Across All Media and All Exposure Routes 5.92E+00

Total Eye HI = 5.87E+00
Total Skin HI = 5.92E+00

TABLE 10.2b CTE
RISK ASSESSMENT SUMMARY - CHILD RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil						Arsenic	Skin	1.83E-01	--	9.57E-03	1.93E-01
								Barium	Cardiovascular/Kidney	8.58E-01	--	NA	8.58E-01
								Cadmium	Kidney	1.73E-02	--	1.20E-02	2.93E-02
								Chromium	Kidney	2.34E-01	--	NA	2.34E-01
								Aroclor, Total	Skin/Eye	1.76E+01	--	4.28E+00	2.19E+01
			(Total)	--	--	--	--	(Total)		1.89E+01	--	4.30E+00	2.32E+01
							Total Risk Across Soil	--				Total Hazard Index Across Soil	2.32E+01
							Total Risk Across All Media and All Exposure Routes	--				Total Hazard Index Across All Media and All Exposure Routes	2.32E+01

Total Eye HI =	2.19E+01
Total Kidney HI =	1.12E+00
Total Skin HI =	2.21E+01

TABLE 10.2b RME
RISK ASSESSMENT SUMMARY - CHILD RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	1.41E-05	--	1.23E-06	1.54E-05	Arsenic	Skin	3.67E-01	--	3.19E-02	3.98E-01
								Barium	Cardiovascular/Kidney	1.72E+00	--	NA	1.72E+00
								Cadmium	Kidney	3.45E-02	--	4.00E-02	7.46E-02
								Chromium	Kidney	4.69E-01	--	NA	4.69E-01
								Thallium	Blood	4.57E-01	--	NA	4.57E-01
								Zinc	Blood	1.00E+00	--	NA	1.00E+00
			Aroclor, Total	1.21E-04	--	4.89E-05	1.69E-04	Aroclor, Total	Skin/Eye	3.52E+01	--	1.43E+01	4.94E+01
			Benzo(a)pyrene	5.20E-06	--	1.96E-06	7.16E-06		N/A	--	--	--	--
			Dibenz(a,h)anthracene	3.04E-06	--	1.15E-06	4.19E-06		N/A	--	--	--	--
			(Total)	1.43E-04	--	5.33E-05	1.96E-04	(Total)		3.92E+01	--	1.43E+01	5.36E+01
						Total Risk Across Soil	1.96E-04					Total Hazard Index Across Soil	5.36E+01
						Total Risk Across All Media and All Exposure Routes	1.96E-04					Total Hazard Index Across All Media and All Exposure Routes	5.36E+01

Total Blood HI =	1.46E+00
Total Cardiovascular HI =	1.72E+00
Total Eye HI =	4.94E+01
Total Kidney HI =	2.26E+00
Total Skin HI =	4.98E+01

TABLE 10.2c RME
RISK ASSESSMENT SUMMARY - LIFETIME RESIDENT EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil	Arsenic	2.02E-05	--	1.96E-06	2.22E-05		N/A	N/A	--	N/A	--
			Aroclor, Total	1.72E-04	--	7.78E-05	2.50E-04		N/A	N/A	--	N/A	--
			Benz(a)anthracene	7.09E-07	--	2.97E-07	1.01E-06		N/A	N/A	--	N/A	--
			Benzo(a)pyrene	7.43E-06	--	3.12E-06	1.05E-05		N/A	N/A	--	N/A	--
			Dibenz(a,h)anthracene	4.34E-06	--	1.82E-06	6.16E-06		N/A	N/A	--	N/A	--
			(Total)	2.05E-04	--	8.50E-05	2.90E-04	(Total)		--	--	--	--
						Total Risk Across Soil	2.90E-04					Total Hazard Index Across Soil	--
						Total Risk Across All Media and All Exposure Routes	2.90E-04					Total Hazard Index Across All Media and All Exposure Routes	--

TABLE 10.3 CTE
RISK ASSESSMENT SUMMARY - ADULT COMMERCIAL WORKER EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
CENTRAL TENDENCY EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil					--	Arsenic	Skin	1.40E-02	--	4.21E-03	1.82E-02
							--	Aroclor, Total	Skin/Eye	1.35E+00	--	1.88E+00	3.23E+00
			(Total)	--	--	--	--	(Total)		1.36E+00	--	1.89E+00	3.25E+00
						Total Risk Across Soil	--					Total Hazard Index Across Soil	3.25E+00
						Total Risk Across All Media and All Exposure Routes	--					Total Hazard Index Across All Media and All Exposure Routes	3.25E+00

Total Eye HI = 3.23E+00
Total Skin HI = 3.25E+00

TABLE 10.3 RME
RISK ASSESSMENT SUMMARY - ADULT COMMERCIAL WORKER EXPOSURE TO (0 - 15 FEET) SUBSURFACE SOILS
REASONABLE MAXIMUM EXPOSURE
RAYMARK OU-4 BALLFIELD

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

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Contact with (0 - 15 feet) Soil					
			(Total)	--	--	--	--
						Total Risk Across Soil	--
						Total Risk Across All Media and All Exposure Routes	--

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Arsenic	Skin	2.80E-02	--	4.21E-03	3.23E-02
Aroclor, Total	Skin/Eye	2.69E+00	--	1.88E+00	4.57E+00
(Total)		2.72E+00	--	1.89E+00	4.61E+00
				Total Hazard Index Across Soil	4.61E+00
				Total Hazard Index Across All Media and All Exposure Routes	4.61E+00

Total Eye HI = 4.57E+00
Total Skin HI = 4.61E+00

Appendices D-2 to D-7
(pages 63-115)
are available
in a separate file (size: 3.7 MB)

Click here to view.

Appendices D-8 to D-10
(pages 116-188)
are available
in a separate file (size: 4.3 MB)

Click here to view.

Appendix E
(pages 189-194)
is available
in a separate file (size: 4.8 MB)

Click here to view.