APPENDIX P

FATE AND TRANSPORT

Table P-1. List of Distribution Coefficients (K_d s) for Metal SRCs at LL1

SRCs	Kd used in modeling	Calculated R_d
Aluminum	1500[b]	12108.6
Antimony	45[a]	364.2
Arsenic	29[a]	235.1
Barium	41[a]	331.9
Beryllium	79[a]	638.7
Cadmium	75[a]	606.4
Chromium	19[a]	154.4
Cobalt	10[c]	81.7
Copper	35[a]	283.5
Cyanide	9.9[a]	80.9
Lead	270[d]	2180.4
Manganese	50[a]	404.6
Mercury	10[c]	81.7
Nickel	65[a]	525.7
Selenium	50[a]	404.6
Silver	8.3[a]	68.0
Thallium	71[a]	574.1
Vanadium	1000[a]	8072.7
Zinc	62[a]	501.4

[a] EPA Soil Screening Guidance: Technical Background Document, May 1996
[b] Baes and Sharp 1983
[c] Hoeffner 1985
[d] Sheppard and Thibault 1990

Table P-2. Physical and Chemical Properties of Organic SRCs at WBG [a]

Site-Related Chemicals	Mol. Wt.	Solubility S_w (mg/L)	S_w @ Temp. (°C)	K_{OW} (ml/ml)	Vapor Pressure (tor @ °C)	Henry's Constant (K_h) (atm.m^3/mol)	K_h @ Temp. (°C)	Air Diff. Coeff. (cm^2/s)	K_{OC} (ml/g)	Biodegradation Rate (λ) (1/day)	Log (K_{OW})
VOCs											
Acetone	58.1	1.00E+06		5.75E-01	270 @ 30	5.14E-07	25#	0.110 s	3.63E-01	2.48E-02	-0.24
Methylene chloride	84.9	1.67E+04	25	1.78E+01	429 @ 25	3.19E-03	25	0.104 s	1.00E+01 m	6.19E-03	1.25
Toluene	92.1	5.15E+02	20	4.90E+02	28 @ 25	5.92E-03	25	0.087 t	1.40E+02 m	3.30E-03	2.69
SVOCs											
2-Methylnaphthalene	142.2	2.60E+01	25	7.24E+03	10 @ 105	2.20E-02		0.056	4.56E+03		3.86
Acenaphthene	154.2	3.42E+00	25	8.32E+03		2.41E-04	25	0.062	5.24E+03	1.70E-03	3.92
Anthracene	178.2	1.29E+00	25	2.82E+04	1.95E-4 L	8.60E-05	25	0.042	2.35E+04 m	3.77E-04	4.45
Benzo(*a*)anthracene	228.3	1.00E-02	24	4.07E+05	5E-9 @ 20	2.94E-08	25#	0.051	3.58E+05 m	2.55E-04	5.61
Benzo(*a*)pyrene	252.3	3.80E-03	25	9.55E-05	5E-9 @ 21	4.90E-07	25	0.043	9.69E+05 m	3.27E-04	5.98
Benzo(*b*)fluoranthene	252.3	1.00E-03	#	3.72E-06	5E-7 L	2.94E-07	25#	0.044 #	2.34E-06	2.84E-04	6.57
Benzo(*g,h,i*)perylene	276.3	2.60E-04	25	1.70E+07	1E-10 @ 20	1.40E-07		0.042	1.07E-07	2.67E-04	7.23
Benzo(*k*)fluoranthene	252.3	3.00E-04	#	6.92E+06	1E-11 @ 20	2.54E-05	25#	0.044	4.36E-06	8.10E-05	6.84
Bis-(2-Ethylhexyl)phthalate	390.6	1.30E+00	25	2.00E+05	1.2 @ 200	3.00E-07	20	0.032 s	1.11E-05 m	1.78E-03	5.30
Carbazole		7.48E-00				1.53E-08			3.39E-03		3.59
Chrysene	228.3	6.00E-03	25	4.07E+05	6.3E-9 @25	1.05E-06	25	0.046	2.57E+05	1.73E-04	5.61
Dibenzo(*a,h*)anthracene	278.4	5.00E-04	25	9.33E+05	1E-10 L	7.30E-08	25	0.042	1.79E+06 m	1.84E-04	5.97
Dibenzofuran	168.2	1.00E+01		1.32E+04				0.068	8.31E+03	6.19E-03	4.12
Di-*n*-butylphthalate	278.4	4.00E+02	25	1.58E+05	0.1 @ 115	2.80E-07	25	0.042	1.57E+03 m	3.01E-02	5.20
Fluoranthene	202.3	2.65E-01	25	2.14E+05	5E-6 L	6.50E-06	25	0.069 s	4.91E+04 m	3.94E-04	5.33
Fluorene	166.2	1.90E+00	25	1.51E+04		1.17E-04	25	0.055	9.54E+03	2.89E-03	4.18
Indeno(1,2,3-*c,d*)pyrene	276.3	1.40E-04		4.57E+07	1E-10 L	6.95E-08	25	0.044	2.88E+07	2.37E-04	7.66
Naphthalene	128.2	3.00E+01	25	2.34E+03	0.082 @ 25	4.83E-04	25	0.059	1.19E+03 m	2.69E-03	3.37
Phenanthrene	178.2	8.16E-01	21	2.88E+04	1 @ 118	3.93E-05	25	0.054	1.82E+04	8.66E-04	4.46
Pyrene	202.3	1.60E-01	26	1.51E+05	2.5 @ 200	5.10E-06	25	0.051	6.80E+04 m	9.12E-05	5.18
1,2 Dichloroethene	96.9	3.50E+03[b]		7.24E+01[b]		4.08E-03[b]		0.074[b]	3.55E+01[b]	2.41E-04	1.86[b]

2-Butanone	72.1	2.75E+05		1.82E+00	100 @ 25	6.61E-07	25#	0.092	1.15E+00	2.48E-02	0.26
4,4-DDD	320.0	9.00E-02	24	9.77E+05		4.00E-06	25#	0.017	4.58E+04	6.16E-05	6.10
4,4-DDT	354.5	2.50E-02	25	1.55E+06		8.10E-06	25	0.014	6.78E+05	6.16E-05	6.53
BHC, beta -	290.8	2.40E-01	25	6.31E+03		7.43E-07	40*	0.014	2.14E+03	2.80E-03	3.81
Butylbenzylphthalate	312.4	2.69E+00		6.03E+04		1.26E-06	25#	0.017	1.37E+04	3.85E-03	4.84
Chlordane, alpha -*	409.8	5.60E-02		6.03E+02		4.79E-05	25	0.012	3.80E+02	2.50E-04	2.78
Chlordane, gamma -*	409.8	5.60E-02		6.03E+02		4.79E-05	25	0.012	3.80E+02	2.50E-04	2.78
Dieldrin	380.9	1.95E-01	20	1.23E+04		1.51E-05	25	0.013	2.55E+04	3.21E-04	5.37
Endrin	380.9	2.50E-01	25	3.98E+05		7.52E-06	25	0.013	1.08E+04	1.51E-03	5.06
Endrin aldehyde	381.0	NF		NF		NF		NF	NF	NF	NF
Endrin ketone	NF	NF		NF		NF		NF	NF	NF	NF
Heptachlor	373.3	1.80E-01	25	2.51E+04		1.48E+00		0.011	9.53E+03	2.65E-03	6.26
Heptachlor epoxide	389.2	2.00E-01	25	1.07E+05		9.50E-06	25	0.013	8.32E+04	NF	5.00
Pentachlorophenol	266.3	1.95E+03	20	1.02E+05		2.44E-08	20	0.056	6.45E+04	4.56E-04	5.09
Phenol	94.1	8.28E+04	25	2.88E+01		3.97E-07	25	0.082	2.88E+01	2.48E-02	1.48
Trichloroethene	131.4	1.10E+03	25	3.39E+02		1.03E-02	25	0.079	2.65E+02	4.19E-04	2.71
Methoxychlor	345.65	4.50E-02		1.20E+05		1.58E-05		0.016	8.00E+04	NF	5.08
PCB-1016 (Arochlor-1016)	257.9	4.90E-02	24	2.40E+04		1.35E-02	25	0.046	1.51E+04	NF	4.38

PCB-1254 (Arochlor-1254)	328.4	5.70E-02	24	1.07E+06		8.37E-03	25	0.041	6.75E+05	4.72E-03	6.03

[a] Solubilities, Henry's Law Constant and Log (K_{ow}) have been taken from EPA Risk Reduction Engineering Laboratory Treatability Data Base (EPA 1994a) except otherwise indicated.

[b] Used values for *cis*-1,2-Dichloroethylene from Soil Screening Guidance: Technical Background Document (EPA, May 1996).

Biodegrdation half-lives are taken from Hand Book of Environmental Degradation Rates (Howard et. al. 1991) except otherwise indicated.

Air diffusion coefficients are obtained from EPA 1987, except otherwise indicated.

[s] *Source* = Shen, Schmidt, and Card 1993; **[#]** *Source* = EPA 1991a; m = measured K_{oc} (EPA 1996b); [L] *Source* = EPA 1995.

Table P-3. Physical and Chemical Properties of Explosive-Related Compounds at WBG [a]

Site-Related Chemicals	Mol. Wt.	Solubility S_w (mg/L)	S_w @ Temp. (°C)	K_{OW} (ml/ml)	Vapor Pressure (tor @ °C)	Henry's Constant (K_h) ($atm.m^3/mol$)	K_h @ Temp. (°C)	Air Diff. Coeff. (cm^2/s)	K_{OC} (ml/g)	Biodegradation Rate (λ) (1/day)	Log (K_{OW})
1,3,5-Trinitrobenzene	213.1	3.50E+02		1.58E+01	2E-5 C	1.60E-08	C	2.49E-01 #	9.98E+00	NF	1.20
1,3-Dinitrobenzene	168.1	4.69E+02	15	3.09E+01	9E-4 C	2.30E-07	C	2.80E-01	1.95E+01	1.90E-03	1.49
2,4,6-Trinitrotoluene	227.1	1.00E+02	25	3.39E+05	.046 @ 82	2.00E-07		1.79E-01 #	2.13E+05	1.90E-03	5.53
2,4-Drinitrotoluene	182.1	2.70E+02		1.02E+02	.0013 @ 59	9.26E-08		2.00E-01	9.55E+01 x	1.90E-03	2.01
2,6-Drinitrotoluene	182.1	1.82E+02		7.41E+01	6 @ 150	7.47E-07		2.00E-01 #	6.92E+01 x	1.90E-03	1.87
2-Nitrotoluene*	137.1	4.42E+02	30	2.34E+02	0.1 @ 20	4.10E-05	20	2.30E-01 #	1.48E+02	NF	2.37
3-Nitrotoluene*	137.1	4.42E+02	30	2.34E+02	0.1 @ 20	4.10E-05	20	2.30E-01 #	1.48E+02	NF	2.37
4-Nitrotoluene	137.1	4.42E+02	30	2.34E+02	0.1 @ 20	4.10E-05	20	2.30E-01 #	1.48E+02	NF	2.37
HMX	296.2	NF		NF	NF	NF		NF	NF	NF	NF
Nitrobenzene	123.1	1.90E+03	20	6.92E+01	0.15 @ 20	2.38E-05	25	7.60E-02	1.19E+02 m	1.80E-03	1.84
Nitrocellulose as N	504.3	NF		NF	NF	NF		NF	NF	NF	NF
Nitroglycerin	227.1	1.80E+03		244	2.6E-4 @ 20	NF		NF	154 a	NF	2.38a
Nitroguanidine	104.1	4400	25	79.54	NF	NF		NF	50.1 a	NF	1.9a
RDX	222.3	6.00E+01	23	7.41E+00	NF	NF		NF	4.67E+00	NF	0.87
Tetryl	287.2	insoluble		NF	NF	NF		NF	NF	NF	NF

[a] Solubilities, Henry's Law Constant and Log (K_{ow}) have been taken from EPA Risk Reduction Engineering Laboratory Treatability Data Base (EPA 1994a) except otherwise indicated.

Biodegrdation half-lives are taken from Hand Book of Environmental Degradation Rates (Howard et. al. 1991) except otherwise indicated.

Air diffusion coefficients are obtained from EPA 1987, except otherwise indicated.

[s] *Source* = Shen, Schmidt, and Card 1993; [#] *Source* = EPA 1991a; m = measured K_{oc} (EPA 1996b); [L] *Source* = EPA 1995; [C] *Source* = SCDM (EPA 1997a)

NF – Not found

[a] Estimated Koc for Nitroguanidine and Nitroglycerine exclusively using EPA, 1985

- log Kow = 5 - 0.67 log Sw, Koc = 0.63 Kow where Sw = Solubiliy in water (umol/L)
- Nitroguanidine: Sw = 4400 mg/L, Mw = 104.07 g/mol implying Sw = 42279 umol/L
- Nitroglycerine: Sw = 1800 mg/L, Mw = 227.10 g/mol implying Sw = 7926 umol/L

Table P-4. Layers Used in SESOIL Model

Transect	Layer Number	Layer Thickness	Number of Sublayers	Purpose
CB-13 and CB-10	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	1	Contaminant Loading
	3	9.5 m (31 ft)	10	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration
CB-14, CB-17 and CA-15	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	1	Contaminant Loading and Leaching
	3	5.18 m (17 ft)	10	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration
CB-4/4A and CA-6/6A	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	1	Contaminant Loading and Leaching
	3	6.4 m (21 ft)	10	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration
CB-3 and CB-801	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	1	Contaminant Loading and Leaching
	3	9.45 m (31 ft)	10	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration
Drainage A	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	1	Leaching
	3	5.18 m (17 ft)	10	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration
Drainage C and Ponds	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	4	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration
Drainage E/F	1	0.3 m (1 ft)	1	Contaminant Loading
	2	0.6 m (2 ft)	1	Leaching
	3	9.75 m (32 ft)	10	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration

Table P-5. Climatic Data Used in SESOIL Model for the Load Line 1, Ravenna (Station: Youngstown WSO AP, Ohio)[1]

Month	Air Temp (°C)	Cloud Cover	Humidity	ALBEDO	Evapotranspiration[2] (cm/d)	Precipitation (cm)	Duration (days)	Storms per Month	Model Days in Month
October	12	0.60	0.70	0.17	0	6.46	0.42	5.33	30.4
November	5.22	0.70	0.75	0.24	0	7.4	0.53	6.67	30.4
December	-1.06	0.80	0.75	0.31	0	7.06	0.57	6.14	30.4
January	-2.94	0.80	0.80	0.3	0	7.06	0.61	5.69	30.4
February	-2.33	0.70	0.75	0.32	0	5.76	0.53	5.09	30.4
March	2.33	0.70	0.70	0.29	0	8.26	0.55	7.14	30.4
April	9.11	0.70	0.70	0.19	0	8.83	0.48	7.4	30.4
May	14.61	0.60	0.70	0.16	0	8.46	0.45	7.15	30.4
June	19.89	0.60	0.70	0.16	0	9.07	0.36	6.57	30.4
July	21.89	0.50	0.70	0.16	0	9.8	0.3	6.06	30.4
August	21.11	0.55	0.70	0.16	0	8.14	0.3	6.06	30.4
September	17.67	0.55	0.70	0.16	0	7.85	0.4	5.44	30.4

[1] 1996 data from Youngstown, Ohio, Weather Service Office - Airport Station

[2] Data calculated in SESOIL model. 0.00 indicates evapotranspiration is calculated from other climatic data.

Table P-6. Development of Preliminary Contaminant Migration Contaminants of Potential Concerns (CMCOPCs) Based on Comparison of the Site-Related-Contaminant (SRCs) Maximum Concentration with its Generic Soil Screening Level (GSSL) with DAF=20

Media	Area	Group	Analysis Type	Analyte	Maximum Detect	GSSL*20	Preliminary CMCOPC DAF=20
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4,6-Trinitrotoluene	230.00	0.0114	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4-Dinitrotoluene	9.30	0.0008	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,6-Dinitrotoluene	0.60	0.0006	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	4-Nitrotoluene	0.20	3.62	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	HMX	2.20		NA
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	Nitrocellulose	103.00		NA
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	RDX	27.00	0.00322	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Aluminum	25800.00	111000	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Antimony	98.10	6	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Arsenic	18.30	116	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Barium	410.00	1640	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Beryllium	3.40	60	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Cadmium	48.20	8	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Chromium	312.00	40	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Cobalt	32.00	448	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Copper	2390.00	11200	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Cyanide	1.00	40	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Lead	1770.00	8000	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Manganese	3650.00	2200	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Mercury	0.41	2	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Nickel	62.40	140	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Selenium	3.60	6	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Silver	0.52	40	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Thallium	0.78	0.8	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Vanadium	38.20	6000	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Zinc	4160.00	12400	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	4,4'-DDE	0.08	60	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	4,4'-DDT	0.02	40	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	Endrin aldehyde	0.05		NA
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	Heptachlor	0.03	20	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	PCB-1254	2.40	0.526	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	gamma-Chlordane	0.04	4.12	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	2-Methylnaphthalene	0.14	206	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Anthracene	0.07	11800	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Benz(a)anthracene	0.41	1.6	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Benzo(a)pyrene	0.37	8	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Benzo(b)fluoranthene	0.47	4	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Benzo(ghi)perylene	0.24		NA
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Benzo(k)fluoranthene	0.21	40	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Carbazole	0.07	0.6	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Chrysene	0.48	160	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Di-n-butyl phthalate	0.47	5400	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Fluoranthene	1.00	4200	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Fluorene	0.04	560	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	0.26	14	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Naphthalene	0.10	80	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Phenanthrene	0.45	804	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Semivolatile	Pyrene	0.79	4200	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Volatile	1,2-Dichloroethene	0.01	0.0388	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Volatile	Acetone	0.01	16	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Volatile	Methylene chloride	0.002	0.02	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Volatile	Toluene	0.004	12	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Volatile	Trichloroethene	0.003	0.06	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4,6-Trinitrotoluene	4.50	0.0114	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4-Dinitrotoluene	0.53	0.0008	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	HMX	2.70		NA
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	Nitrocellulose	90.00		NA
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	RDX	34.00	0.00322	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Aluminum	97300.00	111000	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Antimony	0.64	6	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Arsenic	112.00	116	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Barium	572.00	1640	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Beryllium	3.30	60	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Cadmium	11.60	8	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Chromium	128.00	40	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Cobalt	72.30	448	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Copper	199.00	11200	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Cyanide	2.40	40	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Lead	602.00	8000	No

All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Manganese	4700.00	2200	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Mercury	0.37	2	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Nickel	160.00	140	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Selenium	1.10	6	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Silver	0.21	40	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Thallium	4.60	0.8	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Vanadium	179.00	6000	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Zinc	881.00	12400	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	ORTOC	Total Organic Carbon	2600.00		NA
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	4,4'-DDE	0.20	60	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	Endrin aldehyde	0.30		NA
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	Endrin ketone	0.00	0.872	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	Methoxychlor	0.00	160	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	PCB-1254	4.70	0.526	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	alpha-Chlordane	0.00	4.12	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	beta-BHC	0.00		NA
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	gamma-Chlordane	0.13	4.12	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	2-Methylnaphthalene	0.17	206	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Acenaphthene	0.07	580	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Anthracene	0.16	11800	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Benz(a)anthracene	0.64	1.6	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Benzo(a)pyrene	0.84	8	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Benzo(b)fluoranthene	1.10	4	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Benzo(ghi)perylene	0.61		NA
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Benzo(k)fluoranthene	0.30	40	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	0.14	3600	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Carbazole	0.11	0.6	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Chrysene	0.64	160	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Di-n-butyl phthalate	0.72	5400	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Dibenz(a,h)anthracene	0.18	1.6	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Dibenzofuran	0.05	48	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Fluoranthene	1.40	4200	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Fluorene	0.06	560	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	0.64	14	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Naphthalene	0.11	80	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Phenanthrene	0.67	804	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Semivolatile	Pyrene	1.00	4200	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Volatile	1,2-Dichloroethene	0.003	0.0388	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Volatile	Methylene chloride	0.002	0.02	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Volatile	Toluene	0.002	12	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	1,3,5-Trinitrobenzene	0.12	5	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4,6-Trinitrotoluene	1.20	0.0114	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4-Dinitrotoluene	0.15	0.0008	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2-Nitrotoluene	0.22	3.62	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	Nitrobenzene	0.23	0.14	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	Nitrocellulose	14.90		NA
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	RDX	0.29	0.00322	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	GENERA	Chromium, hexavalent	1.40	40	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Aluminum	23200.00	111000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Antimony	648.00	6	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Arsenic	19.00	116	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Barium	347.00	1640	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Beryllium	2.50	60	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Cadmium	27.30	8	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Chromium	174.00	40	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Cobalt	10.90	448	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Copper	191.00	11200	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Cyanide	1.00	40	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Lead	1620.00	8000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Manganese	4070.00	2200	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Mercury	0.42	2	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Nickel	60.50	140	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Selenium	1.80	6	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Silver	0.46	40	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Thallium	0.80	0.8	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Vanadium	27.40	6000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Zinc	674.00	12400	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	4,4'-DDE	0.12	60	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	4,4'-DDT	0.04	40	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	Dieldrin	0.04	0.004	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	Endrin aldehyde	0.21		NA
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	Endrin ketone	0.08	0.872	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	Methoxychlor	0.03	160	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	PCB-1254	4.30	0.526	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	beta-BHC	0.22		NA
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	gamma-Chlordane	0.05	4.12	No

All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	2-Methylnaphthalene	0.12	206	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Acenaphthene	2.40	580	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Anthracene	5.80	11800	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benz(a)anthracene	14.00	1.6	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(a)pyrene	13.00	8	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(b)fluoranthene	15.00	4	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(ghi)perylene	8.20		NA
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(k)fluoranthene	5.70	40	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	0.34	3600	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Carbazole	4.10	0.6	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Chrysene	15.00	160	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Di-n-butyl phthalate	0.50	5400	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Dibenz(a,h)anthracene	1.70	1.6	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Dibenzofuran	1.30	48	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Fluoranthene	39.00	4200	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Fluorene	2.30	560	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	8.70	14	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Naphthalene	0.05	80	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Pentachlorophenol	0.08	0.02	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Phenanthrene	30.00	804	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Phenol	0.05	100	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Pyrene	41.00	4200	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Volatile	1,2-Dichloroethene	0.008	0.0388	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Volatile	Methylene chloride	0.003	0.02	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Volatile	Trichloroethene	0.004	0.06	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3,5-Trinitrobenzene	110.00	5	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3-Dinitrobenzene	110.00	0.0192	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4,6-Trinitrotoluene	4800.00	0.0114	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4-Dinitrotoluene	0.23	0.0008	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,6-Dinitrotoluene	0.86	0.0006	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2-Nitrotoluene	0.69	3.62	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	3-Nitrotoluene	0.18		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	4-Nitrotoluene	0.20	3.62	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	HMX	260.00		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitrobenzene	0.59	0.14	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitrocellulose	388.00		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitroglycerin	7.40		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitroguanidine	0.04	22	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	RDX	2300.00	0.00322	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	GENERA	Chromium, hexavalent	13.60	40	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Aluminum	46100.00	111000	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Antimony	3.00	6	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Arsenic	55.60	116	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Barium	1970.00	1640	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Beryllium	2.60	60	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Cadmium	27.30	8	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Chromium	400.00	40	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Cobalt	49.30	448	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Copper	3680.00	11200	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Cyanide	3.80	40	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Lead	7130.00	8000	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Manganese	3500.00	2200	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Mercury	9.70	2	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Nickel	101.00	140	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Selenium	5.30	6	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Silver	0.88	40	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Thallium	2.50	0.8	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Vanadium	77.90	6000	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Zinc	1690.00	12400	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	4,4'-DDE	6.70	60	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	4,4'-DDT	0.04	40	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Dieldrin	0.55	0.004	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Endrin aldehyde	4.40		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Endrin ketone	0.01	0.872	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Heptachlor	0.32	20	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Heptachlor epoxide	0.03	0.6	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Methoxychlor	0.01	160	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	PCB-1016	0.14	0.0258	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	PCB-1254	1100.00	0.526	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	alpha-Chlordane	0.44	4.12	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	beta-BHC	0.01		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	gamma-Chlordane	5.30	4.12	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	2-Methylnaphthalene	0.08	206	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Acenaphthene	0.23	580	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Anthracene	0.55	11800	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Benz(a)anthracene	1.20	1.6	No

All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Benzo(a)pyrene	1.00	8	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Benzo(b)fluoranthene	1.40	4	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Benzo(ghi)perylene	0.55		NA
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Benzo(k)fluoranthene	0.58	40	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	0.11	3600	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Butyl benzyl phthalate	0.05	16200	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Carbazole	0.38	0.6	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Chrysene	1.10	160	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Dibenz(a,h)anthracene	0.10	1.6	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Dibenzofuran	0.19	48	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Fluoranthene	2.90	4200	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Fluorene	0.31	560	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	0.62	14	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Naphthalene	0.22	80	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Phenanthrene	2.50	804	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Phenol	0.05	100	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Semivolatile	Pyrene	2.30	4200	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Volatile	1,2-Dichloroethene	0.02	0.0388	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Volatile	Acetone	0.01	16	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Volatile	Methylene chloride	0.003	0.02	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Volatile	Trichloroethene	0.007	0.06	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Aluminum	16800.00	111000	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Antimony	12.90	6	Yes
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Arsenic	27.80	116	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Barium	183.00	1640	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Beryllium	1.20	60	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Cadmium	11.10	8	Yes
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Chromium	26.50	40	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Cobalt	15.10	448	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Copper	51.10	11200	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Cyanide	3.00	40	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Lead	532.00	8000	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Manganese	2040.00	2200	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Mercury	0.29	2	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Nickel	23.10	140	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Selenium	1.30	6	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Silver	0.35	40	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Thallium	0.73	0.8	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Vanadium	39.30	6000	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Zinc	1590.00	12400	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Pesticide/PCB	4,4'-DDE	0.002	60	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Pesticide/PCB	Endrin aldehyde	0.001		NA
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Pesticide/PCB	PCB-1254	0.11	0.526	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Benz(a)anthracene	0.07	1.6	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Benzo(a)pyrene	0.09	8	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Benzo(b)fluoranthene	0.15	4	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Benzo(ghi)perylene	0.07		NA
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Benzo(k)fluoranthene	0.07	40	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	0.06	3600	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Chrysene	0.11	160	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Fluoranthene	0.17	4200	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	0.08	14	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Phenanthrene	0.11	804	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Semivolatile	Pyrene	0.12	4200	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Volatile	Methylene chloride	0.00	0.02	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Organics-Volatile	Toluene	0.00	12	No
All Soil/Sed	Load Line 1	Drainage A	Explosives	1,3,5-Trinitrobenzene	0.18	5	No
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4,6-Trinitrotoluene	0.55	0.0114	Yes
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4-Dinitrotoluene	2.00	0.0008	Yes
All Soil/Sed	Load Line 1	Drainage A	Explosives	HMX	0.57		NA
All Soil/Sed	Load Line 1	Drainage A	Explosives	Nitrocellulose	333.00		NA
All Soil/Sed	Load Line 1	Drainage A	Metals	Aluminum	15700.00	111000	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Antimony	7.40	6	Yes
All Soil/Sed	Load Line 1	Drainage A	Metals	Arsenic	28.70	116	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Barium	153.00	1640	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Beryllium	1.00	60	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Cadmium	15.00	8	Yes
All Soil/Sed	Load Line 1	Drainage A	Metals	Chromium	154.00	40	Yes
All Soil/Sed	Load Line 1	Drainage A	Metals	Cobalt	17.50	448	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Copper	434.00	11200	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Lead	1140.00	8000	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Manganese	1840.00	2200	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Mercury	0.54	2	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Nickel	104.00	140	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Selenium	3.80	6	No

All Soil/Sed	Load Line 1	Drainage A	Metals	Thallium	1.10	0.8	Yes
All Soil/Sed	Load Line 1	Drainage A	Metals	Vanadium	33.90	6000	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Zinc	2610.00	12400	No
All Soil/Sed	Load Line 1	Drainage A	ORTOC	Total Organic Carbon	120000.00		NA
All Soil/Sed	Load Line 1	Drainage A	Organics-Pesticide/PCB	PCB-1254	0.61	0.526	Yes
All Soil/Sed	Load Line 1	Drainage A	Organics-Pesticide/PCB	gamma-Chlordane	0.03	4.12	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Semivolatile	Benz(a)anthracene	0.10	1.6	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Semivolatile	Benzo(a)pyrene	0.10	8	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Semivolatile	Benzo(b)fluoranthene	0.14	4	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Semivolatile	Chrysene	0.14	160	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Semivolatile	Fluoranthene	0.19	4200	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Semivolatile	Pyrene	0.16	4200	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Volatile	1,2-Dichloroethene	0.002	0.0388	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Volatile	Toluene	0.003	12	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Volatile	Trichloroethene	0.01	0.06	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,4,6-Trinitrotoluene	0.54	0.0114	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,6-Dinitrotoluene	0.14	0.0006	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Aluminum	13600.00	111000	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Antimony	1.20	6	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Arsenic	50.50	116	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Barium	151.00	1640	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Beryllium	0.94	60	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Cadmium	1.40	8	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Chromium	33.40	40	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Cobalt	11.00	448	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Copper	227.00	11200	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Lead	55.70	8000	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Manganese	2350.00	2200	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Mercury	0.09	2	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Nickel	53.00	140	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Selenium	3.60	6	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Thallium	0.87	0.8	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Vanadium	26.70	6000	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Zinc	303.00	12400	No
All Soil/Sed	Load Line 1	Drainage C and ponds	ORTOC	Total Organic Carbon	35000.00		NA
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Pesticide/PCB	4,4'-DDE	0.02	60	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Pesticide/PCB	PCB-1254	0.87	0.526	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Benz(a)anthracene	0.08	1.6	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Benzo(a)pyrene	0.08	8	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Benzo(b)fluoranthene	0.18	4	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Benzo(ghi)perylene	0.06		NA
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Benzo(k)fluoranthene	0.05	40	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Chrysene	0.13	160	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Fluoranthene	0.14	4200	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	0.08	14	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Phenanthrene	0.06	804	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Semivolatile	Pyrene	0.15	4200	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Volatile	1,2-Dichloroethene	0.01	0.0388	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Volatile	Acetone	0.01	16	No
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	2,4-Dinitrotoluene	0.07	0.0008	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	Nitrobenzene	0.14	0.14	Yes
All Soil/Sed	Load Line 1	Drainage E/F	GENERA	Chromium, hexavalent	11.00	40	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Aluminum	13300.00	111000	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Antimony	1180.00	6	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Arsenic	21.00	116	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Barium	168.00	1640	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Beryllium	1.10	60	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Cadmium	2.40	8	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Chromium	124.00	40	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Cobalt	17.00	448	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Copper	1020.00	11200	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Lead	1210.00	8000	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Manganese	3380.00	2200	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Mercury	0.40	2	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Nickel	43.40	140	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Selenium	2.20	6	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Thallium	0.69	0.8	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Vanadium	31.80	6000	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Zinc	805.00	12400	No
All Soil/Sed	Load Line 1	Drainage E/F	ORTOC	Total Organic Carbon	75000.00		NA
All Soil/Sed	Load Line 1	Non-source	Explosives	1,3,5-Trinitrobenzene	0.12	5	No
All Soil/Sed	Load Line 1	Non-source	Explosives	1,3-Dinitrobenzene	0.21	0.0192	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4,6-Trinitrotoluene	2.80	0.0114	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4-Dinitrotoluene	0.31	0.0008	Yes

All Soil/Sed	Load Line 1	Non-source	Explosives	2,6-Dinitrotoluene	0.13	0.0006	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2-Nitrotoluene	0.19	3.62	No
All Soil/Sed	Load Line 1	Non-source	Explosives	Nitrobenzene	0.23	0.14	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	Nitrocellulose	5.80		NA
All Soil/Sed	Load Line 1	Non-source	Explosives	Tetryl	0.57		NA
All Soil/Sed	Load Line 1	Non-source	GENERA	Chromium, hexavalent	5.40	40	No
All Soil/Sed	Load Line 1	Non-source	Metals	Aluminum	13000.00	111000	No
All Soil/Sed	Load Line 1	Non-source	Metals	Antimony	185.00	6	Yes
All Soil/Sed	Load Line 1	Non-source	Metals	Arsenic	39.00	116	No
All Soil/Sed	Load Line 1	Non-source	Metals	Barium	276.00	1640	No
All Soil/Sed	Load Line 1	Non-source	Metals	Beryllium	1.10	60	No
All Soil/Sed	Load Line 1	Non-source	Metals	Cadmium	3.50	8	No
All Soil/Sed	Load Line 1	Non-source	Metals	Chromium	72.80	40	Yes
All Soil/Sed	Load Line 1	Non-source	Metals	Cobalt	11.10	448	No
All Soil/Sed	Load Line 1	Non-source	Metals	Copper	638.00	11200	No
All Soil/Sed	Load Line 1	Non-source	Metals	Lead	306.00	8000	No
All Soil/Sed	Load Line 1	Non-source	Metals	Manganese	1600.00	2200	No
All Soil/Sed	Load Line 1	Non-source	Metals	Mercury	1.30	2	No
All Soil/Sed	Load Line 1	Non-source	Metals	Nickel	93.60	140	No
All Soil/Sed	Load Line 1	Non-source	Metals	Selenium	3.00	6	No
All Soil/Sed	Load Line 1	Non-source	Metals	Silver	3.00	40	No
All Soil/Sed	Load Line 1	Non-source	Metals	Thallium	0.80	0.8	Yes
All Soil/Sed	Load Line 1	Non-source	Metals	Vanadium	49.50	6000	No
All Soil/Sed	Load Line 1	Non-source	Metals	Zinc	2480.00	12400	No
All Soil/Sed	Load Line 1	Non-source	ORTOC	Total Organic Carbon	48000.00		NA
All Soil/Sed	Load Line 1	Non-source	Organics-Pesticide/PCB	Endrin	0.05	1	No
All Soil/Sed	Load Line 1	Non-source	Organics-Pesticide/PCB	Endrin aldehyde	0.03		NA
All Soil/Sed	Load Line 1	Non-source	Organics-Pesticide/PCB	PCB-1254	2.10	0.526	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Acenaphthene	0.70	580	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Anthracene	2.20	11800	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benz(a)anthracene	9.20	1.6	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(a)pyrene	9.50	8	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(b)fluoranthene	12.00	4	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(ghi)perylene	5.50		NA
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(k)fluoranthene	5.40	40	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Carbazole	1.60	0.6	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Chrysene	9.40	160	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Di-n-butyl phthalate	0.71	5400	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Dibenz(a,h)anthracene	1.70	1.6	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Dibenzofuran	0.41	48	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Fluoranthene	25.00	4200	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Fluorene	1.10	560	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	6.70	14	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Naphthalene	0.39	80	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Phenanthrene	12.00	804	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Pyrene	15.00	4200	No
All Soil/Sed	Load Line 1	Non-source	Organics-Volatile	1,2-Dichloroethene	0.01	0.0388	No
All Soil/Sed	Load Line 1	Non-source	Organics-Volatile	Methylene chloride	0.00	0.02	No
All Soil/Sed	Load Line 1	Non-source	Organics-Volatile	Toluene	0.02	12	No
All Soil/Sed	Load Line 1	North Area	Metals	Aluminum	12300.00	111000	No
All Soil/Sed	Load Line 1	North Area	Metals	Arsenic	8.50	116	No
All Soil/Sed	Load Line 1	North Area	Metals	Barium	133.00	1640	No
All Soil/Sed	Load Line 1	North Area	Metals	Beryllium	0.84	60	No
All Soil/Sed	Load Line 1	North Area	Metals	Cadmium	0.44	8	No
All Soil/Sed	Load Line 1	North Area	Metals	Chromium	16.40	40	No
All Soil/Sed	Load Line 1	North Area	Metals	Cobalt	10.10	448	No
All Soil/Sed	Load Line 1	North Area	Metals	Copper	18.30	11200	No
All Soil/Sed	Load Line 1	North Area	Metals	Lead	27.70	8000	No
All Soil/Sed	Load Line 1	North Area	Metals	Manganese	755.00	2200	No
All Soil/Sed	Load Line 1	North Area	Metals	Mercury	0.09	2	No
All Soil/Sed	Load Line 1	North Area	Metals	Nickel	24.80	140	No
All Soil/Sed	Load Line 1	North Area	Metals	Selenium	1.60	6	No
All Soil/Sed	Load Line 1	North Area	Metals	Thallium	0.70	0.8	No
All Soil/Sed	Load Line 1	North Area	Metals	Vanadium	21.80	6000	No
All Soil/Sed	Load Line 1	North Area	Metals	Zinc	220.00	12400	No
All Soil/Sed	Load Line 1	North Area	ORTOC	Total Organic Carbon	18000.00		NA
All Soil/Sed	Load Line 1	Off-AOC	Explosives	1,3-Dinitrobenzene	0.05	0.0192	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	2,4-Dinitrotoluene	0.05	0.0008	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	Nitrobenzene	0.11	0.14	No
All Soil/Sed	Load Line 1	Off-AOC	Explosives	Nitrocellulose	5.70		NA
All Soil/Sed	Load Line 1	Off-AOC	Explosives	Nitroguanidine	0.08	22	No
All Soil/Sed	Load Line 1	Off-AOC	Explosives	RDX	0.18	0.00322	Yes
All Soil/Sed	Load Line 1	Off-AOC	Metals	Aluminum	9890.00	111000	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Arsenic	17.20	116	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Barium	95.30	1640	No

All Soil/Sed	Load Line 1	Off-AOC	Metals	Beryllium	0.40	60	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Cadmium	0.65	8	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Chromium	14.60	40	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Cobalt	15.60	448	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Copper	22.20	11200	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Lead	19.10	8000	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Manganese	543.00	2200	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Mercury	0.08	2	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Nickel	25.40	140	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Selenium	1.10	6	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Thallium	0.74	0.8	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Vanadium	19.10	6000	No
All Soil/Sed	Load Line 1	Off-AOC	Metals	Zinc	82.80	12400	No
All Soil/Sed	Load Line 1	Off-AOC	ORTOC	Total Organic Carbon	23000.00		NA
All Soil/Sed	Load Line 1	Off-AOC	Organics-Volatile	2-Butanone	0.01	7.68	No
All Soil/Sed	Load Line 1	Off-AOC	Organics-Volatile	Acetone	0.04	16	No
All Soil/Sed	Load Line 1	Perimeter Area	GENERA	Chromium, hexavalent	1.50	40	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Aluminum	21300.00	111000	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Antimony	0.81	6	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Arsenic	24.60	116	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Barium	144.00	1640	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Beryllium	0.82	60	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Cadmium	0.32	8	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Chromium	25.20	40	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Cobalt	20.50	448	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Copper	19.60	11200	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Cyanide	1.70	40	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Lead	34.50	8000	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Manganese	2340.00	2200	Yes
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Mercury	0.09	2	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Nickel	22.80	140	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Selenium	1.70	6	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Thallium	0.86	0.8	Yes
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Vanadium	46.30	6000	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Zinc	78.30	12400	No
All Soil/Sed	Load Line 1	Perimeter Area	Organics-Semivolatile	Benzo(b)fluoranthene	0.04	4	No
All Soil/Sed	Load Line 1	Perimeter Area	Organics-Semivolatile	Fluoranthene	0.06	4200	No
All Soil/Sed	Load Line 1	Perimeter Area	Organics-Volatile	1,2-Dichloroethene	0.004	0.0388	No
All Soil/Sed	Load Line 1	Perimeter Area	Organics-Volatile	Trichloroethene	0.007	0.06	No
All Soil/Sed	Load Line 1	Railroad bed locations	Explosives	3-Nitrotoluene	0.17		NA
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Aluminum	7540.00	111000	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Arsenic	10.30	116	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Barium	91.80	1640	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Beryllium	0.77	60	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Cadmium	0.10	8	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Chromium	10.10	40	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Cobalt	5.50	448	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Copper	17.60	11200	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Lead	16.10	8000	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Manganese	1340.00	2200	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Mercury	0.01	2	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Nickel	12.80	140	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Selenium	0.35	6	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Thallium	0.46	0.8	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Vanadium	11.70	6000	No
All Soil/Sed	Load Line 1	Railroad bed locations	Metals	Zinc	121.00	12400	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Aluminum	13300.00	111000	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Antimony	1.90	6	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Arsenic	14.00	116	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Barium	77.30	1640	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Beryllium	0.92	60	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Cadmium	0.29	8	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Chromium	385.00	40	Yes
All Soil/Sed	Load Line 1	Water Tower	Metals	Cobalt	18.20	448	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Copper	51.30	11200	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Lead	2510.00	8000	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Manganese	687.00	2200	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Mercury	0.06	2	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Nickel	32.40	140	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Thallium	0.67	0.8	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Vanadium	23.90	6000	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Zinc	933.00	12400	No

NA = Not Available

Table P-7. List of Preliminary CMCOPCs (Extracted from Table P6)

Media	Area	Group	Analysis Type	Analyte
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,6-Dinitrotoluene
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	RDX
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Antimony
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Cadmium
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Chromium
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Manganese
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	RDX
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Cadmium
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Chromium
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Manganese
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Nickel
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Thallium
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	Nitrobenzene
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	RDX
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Antimony
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Cadmium
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Chromium
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Manganese
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Thallium
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	Dieldrin
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benz(a)anthracene
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(a)pyrene
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(b)fluoranthene
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Carbazole
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Dibenz(a,h)anthracene
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Pentachlorophenol
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3,5-Trinitrobenzene
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3-Dinitrobenzene
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,6-Dinitrotoluene
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitrobenzene
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	RDX
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Barium
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Cadmium

All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Chromium
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Manganese
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Mercury
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Thallium
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Dieldrin
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	PCB-1016
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	gamma-Chlordane
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Antimony
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Cadmium
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	Drainage A	Metals	Antimony
All Soil/Sed	Load Line 1	Drainage A	Metals	Cadmium
All Soil/Sed	Load Line 1	Drainage A	Metals	Chromium
All Soil/Sed	Load Line 1	Drainage A	Metals	Thallium
All Soil/Sed	Load Line 1	Drainage A	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,6-Dinitrotoluene
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Manganese
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Thallium
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	Nitrobenzene
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Antimony
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Chromium
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Manganese
All Soil/Sed	Load Line 1	Non-source	Explosives	1,3-Dinitrobenzene
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4,6-Trinitrotoluene
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	Non-source	Explosives	2,6-Dinitrotoluene
All Soil/Sed	Load Line 1	Non-source	Explosives	Nitrobenzene
All Soil/Sed	Load Line 1	Non-source	Metals	Antimony
All Soil/Sed	Load Line 1	Non-source	Metals	Chromium
All Soil/Sed	Load Line 1	Non-source	Metals	Thallium
All Soil/Sed	Load Line 1	Non-source	Organics-Pesticide/PCB	PCB-1254
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benz(a)anthracene
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(a)pyrene
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(b)fluoranthene
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Carbazole
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Dibenz(a,h)anthracene
All Soil/Sed	Load Line 1	Off-AOC	Explosives	1,3-Dinitrobenzene
All Soil/Sed	Load Line 1	Off-AOC	Explosives	2,4-Dinitrotoluene
All Soil/Sed	Load Line 1	Off-AOC	Explosives	RDX
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Manganese
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Thallium

All Soil/Sed	Load Line 1	Water Tower	Metals	Chromium

Table P-8. Development of Final CMCOPCs based on Arrival Time <= 1000 years

$$R = 1 + \frac{\rho_b K_d}{\theta_w} \qquad T = L_z \theta_w R / q$$

Where,

q = Percolation rate (ft/year)	0.4900
K_d = Distribution coefficient (L/kg) = K_{oc} . f_{oc}	constituent-specific
K_{oc} = Organic carbon distribution coefficient (L/kg)	constituent-specific
f_{oc} = Fraction organic carbon (unitless)	0.0026
q_w = Water filled soil porosity (unitless)	0.2230
r_b = Bulk dry density (kg/L)	1.8000
Lz = Leaching Zone (ft)	site-specific
R = Retardation Factor (unitless)	constituent-specific
T = Arrival Time (year)	constituent-specific

Media	Area	Group	Analysis Type	Analyte	Arrival Time (year)	CMCOPC ?
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Antimony	4970	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Cadmium	8830	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Chromium	3430	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	CB-13 and CB-10	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Cadmium	8830	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Chromium	3430	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Nickel	4420	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Antimony	4970	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Cadmium	8830	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Chromium	3430	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	Dieldrin	7330	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benz(a)anthracene	103000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(a)pyrene	278000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Benzo(b)fluoranthene	352000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Carbazole	598	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Dibenz(a,h)anthracene	513000	No
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Pentachlorophenol	183	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3,5-Trinitrobenzene	16.5	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3-Dinitrobenzene	19.2	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Barium	3320	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Cadmium	8830	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Chromium	3430	No

All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Mercury	1120	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	Dieldrin	7330	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	PCB-1016	4340	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Organics-Pesticide/PCB	gamma-Chlordane	14700	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Antimony	4970	No
All Soil/Sed	Load Line 1	Change houses (CB-12, -23, -8, -22)	Metals	Cadmium	8830	No
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Drainage A	Metals	Antimony	4970	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Cadmium	8830	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Chromium	3430	No
All Soil/Sed	Load Line 1	Drainage A	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	Drainage A	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	Drainage C and ponds	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Antimony	4970	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Chromium	3430	No
All Soil/Sed	Load Line 1	Drainage E/F	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	Non-source	Explosives	1,3-Dinitrobenzene	19.2	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4,6-Trinitrotoluene	61000	No
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	Non-source	Metals	Antimony	4970	No
All Soil/Sed	Load Line 1	Non-source	Metals	Chromium	3430	No
All Soil/Sed	Load Line 1	Non-source	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	Non-source	Organics-Pesticide/PCB	PCB-1254	88600	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benz(a)anthracene	103000	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(a)pyrene	278000	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Benzo(b)fluoranthene	352000	No
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Carbazole	598	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Dibenz(a,h)anthracene	513000	No
All Soil/Sed	Load Line 1	Off-AOC	Explosives	1,3-Dinitrobenzene	19.2	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Manganese	5520	No
All Soil/Sed	Load Line 1	Perimeter Area	Metals	Thallium	4860	No
All Soil/Sed	Load Line 1	Water Tower	Metals	Chromium	3430	No

Table P-9. Revised List of CMCOPCs for SESOIL Modeling (Extracted from Table P8)

Media	Area	Group	Analysis Type	Analyte	TSSL (yr)	CMCOPC ?
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	CB-13 and CB-10	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-14, CB-17, and CA-15	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Carbazole	598	Yes
All Soil/Sed	Load Line 1	CB-3/CB-801	Organics-Semivolatile	Pentachlorophenol	183	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3,5-Trinitrobenzene	16.5	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	1,3-Dinitrobenzene	19.2	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	CB-4/4A and CA-6/6A	Explosives	RDX	15	Yes
All Soil/Sed	Load Line 1	Drainage A	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Drainage C and ponds	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Drainage E/F	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	1,3-Dinitrobenzene	19.2	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	2,6-Dinitrotoluene	33.5	Yes
All Soil/Sed	Load Line 1	Non-source	Explosives	Nitrobenzene	47.8	Yes
All Soil/Sed	Load Line 1	Non-source	Organics-Semivolatile	Carbazole	598	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	1,3-Dinitrobenzene	19.2	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	2,4-Dinitrotoluene	41	Yes
All Soil/Sed	Load Line 1	Off-AOC	Explosives	RDX	15	Yes

Table P-10. SESOIL Application Data, CB-13 and CB-10

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,4-Dinitrotoluene	4	1	1	1	1	1.49
		2	2	1	1	0.09
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
2,6-Dinitrotoluene	4	1	1	1	1	0.6
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-10. SESOIL Application Data, CB-13 and CB-10
(continued)

COPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (µg/g)
RDX	4	1	1	1	1	27
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-11. SESOIL Application Data, CB-14, CB-17, and CA-15

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,4-Dinitrotoluene	4	1	1	1	1	0.53
		2	2	1	1	0.13
		3	17	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
RDX	4	1	1	1	1	34
		2	2	1	1	0
		3	17	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-12. SESOIL Application Data, CB-3 and CB-801

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,4-Dinitrotoluene	4	1	1	1	1	0.15
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
Nitrobenzene	4	1	1	1	1	0.15
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-12. SESOIL Application Data, CB-3 and CB-801
(continued)

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
RDX	4	1	1	1	1	0.29
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
Carbazole	4	1	1	1	1	2.64
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-12. SESOIL Application Data, CB-3 and CB-801
(continued)

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
Pentchlorphenol	4	1	1	1	1	0.08
		2	2	1	1	0
		3	31	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-13. SESOIL Application Data, CB-4/4A and CA-6/6A

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
1,3,5-Trinitrobenzene	4	1	1	1	1	5.9
		2	2	1	1	11
		3	21	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
1,3-Dinitrobenzene	4	1	1	1	1	5.9
		2	2	1	1	0
		3	21	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-13. SESOIL Application Data, CB-4/4A and CA-6/6A (continued)

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,4-Dinitrotoluene	4	1	1	1	1	0.23
		2	2	1	1	0
		3	21	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
2,6-Dinitrotoluene	4	1	1	1	1	0.86
		2	2	1	1	0.14
		3	21	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-13. SESOIL Application Data, CB-4/4A and CA-6/6A (continued)

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
Nitrobenzene	4	1	1	1	1	0.59
		2	2	1	1	0
		3	21	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
RDX	4	1	1	1	1	100.2
		2	2	1	1	39.93
		3	21	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-14. SESOIL Application Data, Drainage-A

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
1,3,5-Trinitrobenzene	4	1	1	1	1	0.18
		2	2	1	1	0
		3	17	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
2,4-Dinitrotoluene	4	1	1	1	1	2
		2	2	1	1	0
		3	17	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-15. SESOIL Application Data, Drainage-C and Ponds

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,6-Dinitrotoluene	2	1	1	1	1	0.14
		2	2	4	1	0
					2	0
					3	0
					4	0
		3	0.5	1	1	0

Table P-16. SESOIL Application Data, Drainage E/F

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (feet)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,4-Dinitrotoluene	4	1	1	1	1	0.07
		2	2	1	1	0
		3	32	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0
Nitrobenzene	4	1	1	1	1	0.14
		2	2	1	1	0
		3	32	10	1	0
					2	0
					3	0
					4	0
					5	0
					6	0
					7	0
					8	0
					9	0
					10	0
		4	0.5	1	1	0

Table P-17. Unit-Specific Parameters Used in SESOIL and AT123D Modeling for Load Line 1, Ravenna

Parameters	Symbol	Units	Value							Source for LDG Value
			CB-13 and CB-10	CB-14, 17 and CA-15	CB-4/4A and CA-6/6A	CB-3 and CB-801	Drainage A	Drainage C and Ponds	Drainage E/F and Ponds	
Percolation Rate (Recharge Rate)	q	m/yr	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	HELP model
Soil pH	pH	pH	6	6	6.0	6.0	6.0	6.0	6	Site specific geotechnical data
Horizontal Area of Aggregate	A_p	sq m	32,400	28,700	73,650	19,000	0.0	0.0		Estimated from soil aggregate
Intrinsic Permeability - clayey sand	p	cm^2	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	Calibrated SESOIL model
Disconnectedness Index	c	unitless	9	9	9	9	9	9	9	Calibrated from SESOIL model
Freundlich Equation Exponent	n	unitless	1	1	1	1	1	1	1	SESOIL default
Fraction Organic Carbon	f_{oc}	unitless	2.60E-03	2.60E-03	2.60E-03	2.60E-03	3.39E-02	1.97E-02	3.87E-02	Geotech data at Load Line 1
Bulk Density	ρ_b	kg/L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	Geotech data at Load Line 2
Porosity - total	n_T	unitless	0.32	0.32	0.32	0.32	0.32	0.32	0.32	Geotech data at Load Line 6
Vadose Zone Thickness	Vz	m	10.5	6.4	7.3	10.7	6.1	1.1	10.7	Based on Water level data
Leaching Zone Thickness	Th	m	9.6	5.5	6.4	9.8	5.8	0.8	10.4	Based on soil contamination and water level data
Seepage Velocity	Sv	m/yr	6.6E-01	6.6E-01	6.6E-01	6.6E-01	6.6E-01	6.6E-01	6.6E-01	Calculated
Groundwater Data										
Aquifer Thickness	h	m (ft)	6	6	6	6	6	6	6	Conservative assumptions
Hydraulic Conductivity in Saturated Zone	K_S	cm/s	9.8E-05	3.5E-05	3.4E-04	7.0E-04	3.5E-05	1.7E-03	7.0E-04	Site specific slug test data
Hydraulic Gradient in Saturated Zone	I_S	m/m	1.70E-03	4.00E-03	2.00E-02	4.00E-02				Groundwater surface map in work plan
Effective porosity	n_e	unitless	0.2	0.2	0.2	0.2				Assumed for silty clay
Fraction Organic Carbon	f_{oc}	unitless	2.60E-03	2.60E-03	2.60E-03	2.60E-03	2.60E-03	2.60E-03	2.60E-03	Geotech data at Load Line 1
Distance to the compliance point	X	m	274	76	145	610				Shortest downgradient distance to site boundary

NA = Not Applicable - parameter not used.

Table P-18. Summary of Leachate Modeling Results for Load Line 1, RVAAP

CM COPCs[1]	RME	Predicted $C_{leachate,max}$ Beneath the Source	Predicted T_{max} (years)	Predicted $C_{gw,max}$ At the Source[2]	Observed $C_{gw,max}$ Downgradient of Source	MCL/RBC	Final CM COPC[3]
			CB-13 and CB-10				
2,4-Dinitrotoluene	1.39E+00	411	27	89.0	7.9	73	Yes
2,6-Dinitrotoluene	6.00E-01	181	22	38.5	3.8	37	Yes
RDX	3.44E+00	1.82E+04	10	5550.0	88	0.61	Yes
			CB-14 , CB-17, and CA-15				
2,4-Dinitrotoluene	4.40E-01	337	15	71.0	7.9	73	No
RDX	2.14E+01	39680	6	4980.0	88	0.61	Yes
			CB-3 and CB-801				
2,4-Dinitrotoluene	1.20E-01	36.8	27	0.5	7.9	73	No
Nitrobenzene	1.50E-01	31.3	31	0.4		3.5	No
RDX	2.60E-01	1.94E+02	10	5.2	88	0.61	Yes
Carbazole,	2.64E+00	0.00E+00	305	0.0		3.3	No
Pentachlorphenol	8.00E-02	4.25E+00	120	0.0		0.56	No
			CB-4/4A and CA-6/6A				
1,3,5-Trinitrobenzene	6.35E+00	24847	8	1550.0	12	1100	Yes
1,3-Dinitrobenzene	6.37E+00	4439	9	333.0	1.3	3.7	Yes
2,4-Dinitrotoluene	2.30E-01	81	19	3.9	7.9	73	Yes
2,6-Dinitrotoluene	8.60E-01	493	15	25.6	3.8	37	No
Nitrobenzene	5.90E-01	1.79E+02	22	7.7		3.5	Yes
RDX	8.91E+01	6.00E+04	8	6240.0	88	0.61	Yes
			Drainage A				
1,3,5-Trinitrobenzene	1.80E-01	63	20		12	1100	No
2,4-Dinitrotoluene	2.00E+00	9.50E+01	140		7.9	37	No
			Drainage C and Ponds				
2,6-Dinitrotoluene	1.30E-01	1.40E+02	15	3.7	3.8	37	No
			Drainage E/F				
2,4-Dinitrotoluene	7.00E-02	1.60E+00	278		7.9	73	No
Nitrobenzene	1.40E-01	2.50E+00	345			3.5	No

[1] Concentrations are either in ug/g or ug/L

[2] The predicted maximum concentration in groundwater ($C_{gw,max}$) at the source was calculated using AT123D model based on contaminant loading predicted by SESOIL

[3] A constituent is a Final CM COPC if it reaches the water table within 1,000 years and its predicted concentration in groundwater exceeds its MCL/RBC.

Table P-19. Summary of Groundwater Modeling Results for Load Line 1, RVAAP

CM COPC	Source Concentration[1] (ug/L)	Receptor Concentration (ug/L	MCL/RBC	CM COC[2]
	CB-13 and CB-10			
2,4-Dinitrotoluene	89.0	0	73	No
2,6-Dinitrotoluene	38.5	0	37	No
RDX	5550.0	0	0.61	No
	CB-14 , CB-17, and CA-15			
RDX	4980.0	0	0.61	No
	CB-3 and CB-801			
RDX	5.2	0	0.61	No
	CB-4/4A and CA-6/6A			
1,3,5-Trinitrobenzene	1550.0	0	1100	No
1,3-Dinitrobenzene	333.0	0	3.7	No
Nitrobenzene	7.7		3.5	No
RDX	6240.0	0	0.61	No

[1] The predicted maximum concentration in groundwater ($C_{gw,max}$) at the source was calculated using AT123D model based on contaminant loading predicted by SESOIL

[2] A constituent is a CM COC if its predicted groundwater concentration at the compliance point/receptor exceeds its MCL/RBC.

Figure P-1. Predicted leachate concentration of 2,4-dinitrotoluene due to contaminant loading from CB-13 and CB-10

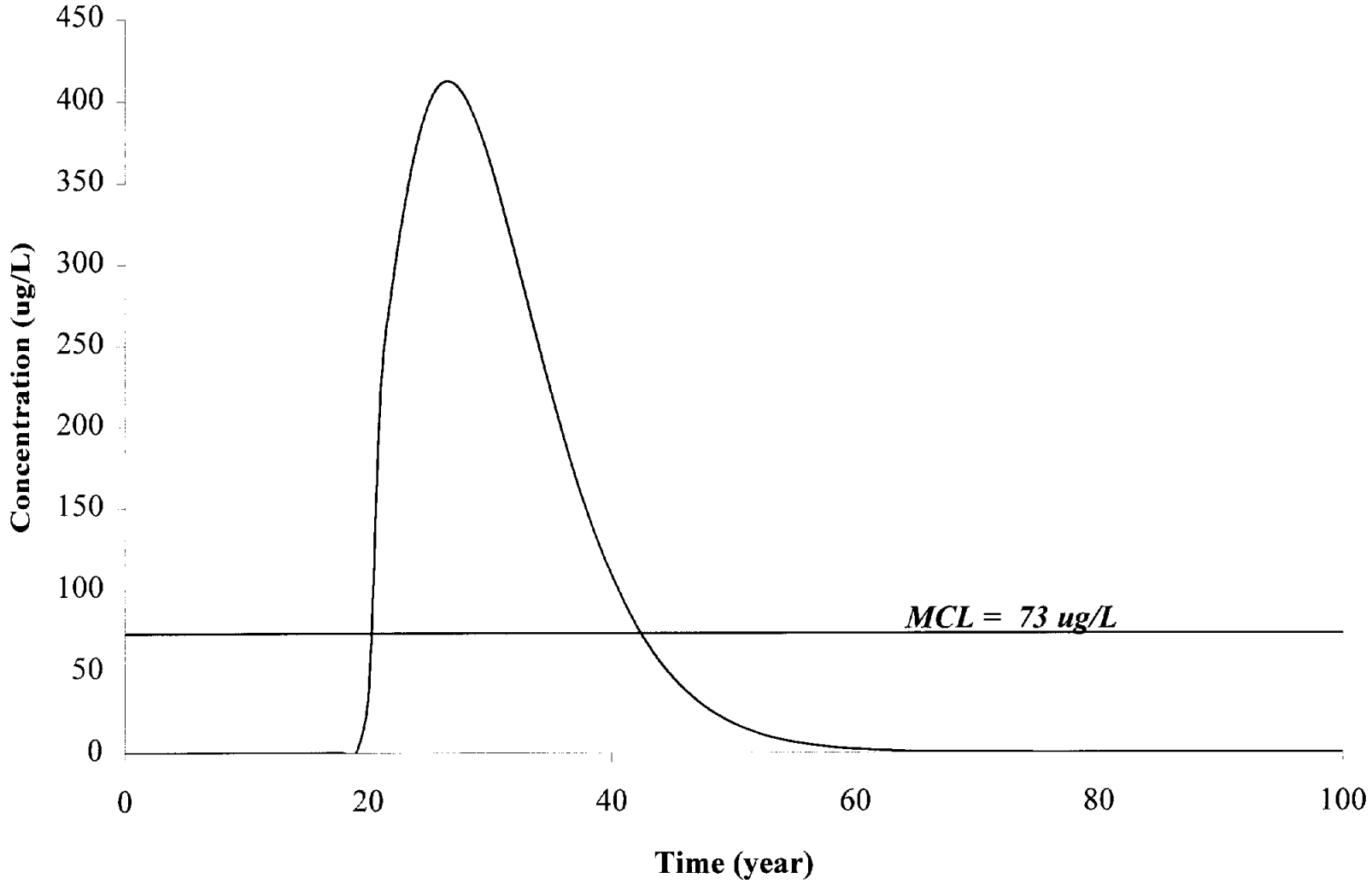

Figure P-2. Predicted leachate concentration of 2,6-dinitrotoluene due to contaminant loading from CB-13 and CB-10

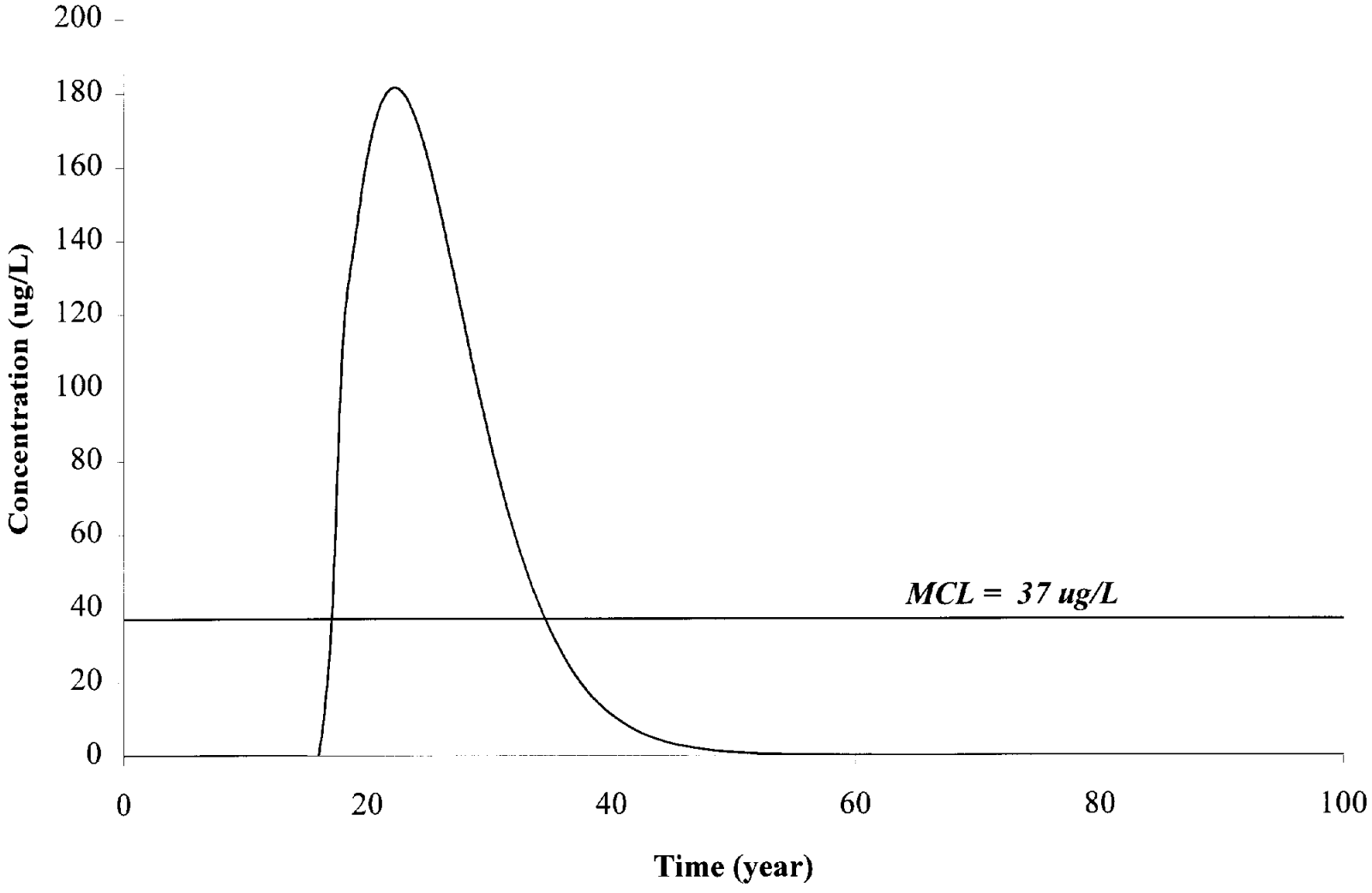

Figure P-3. Predicted leachate concentration of RDX due to contaminant loading from CB-13 and CB-10

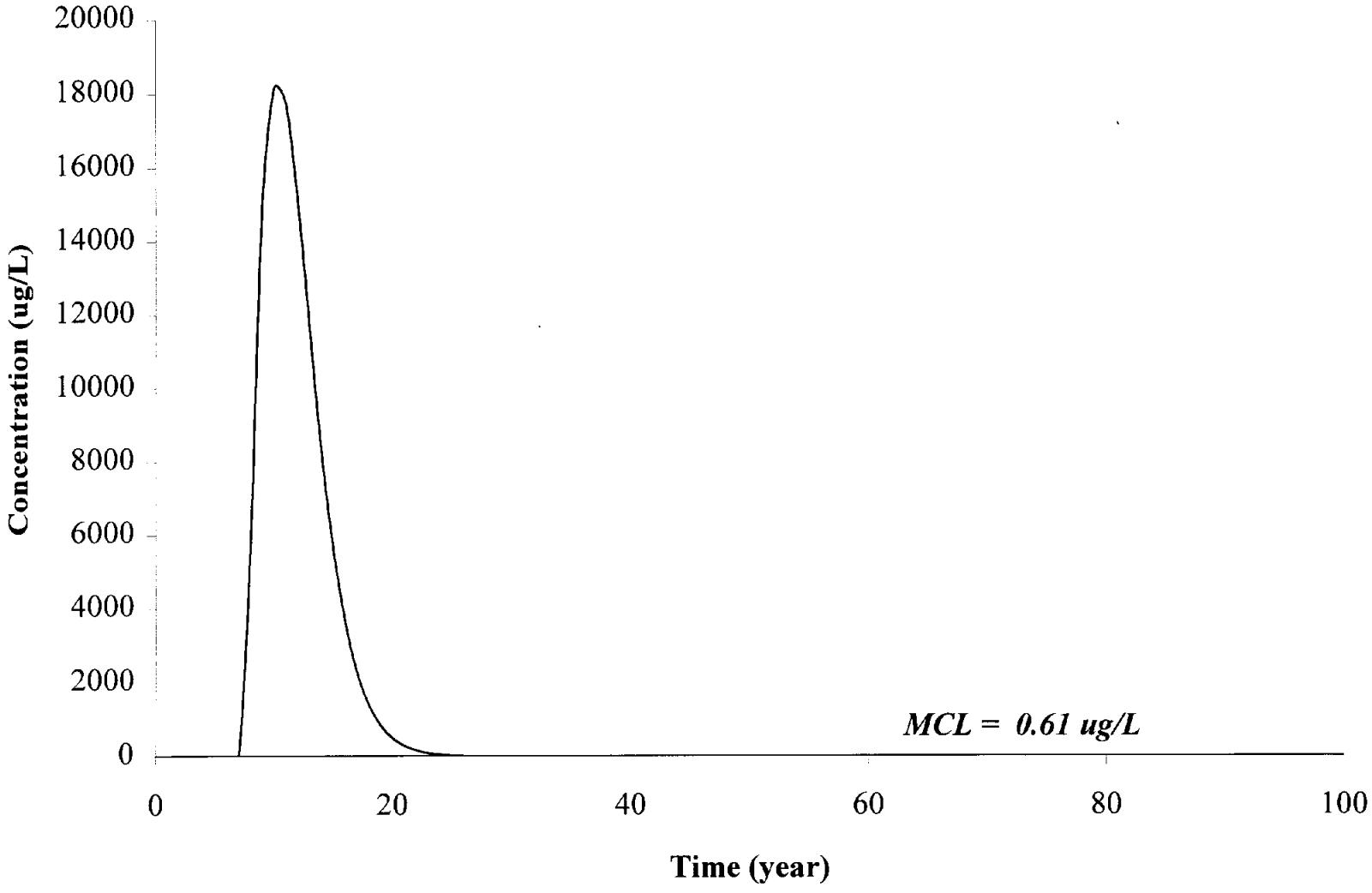

Figure P-4. Predicted leachate concentration of 2,4-dinitrotoluene due to contaminant loading from CB-14, CB-17, and CA-15

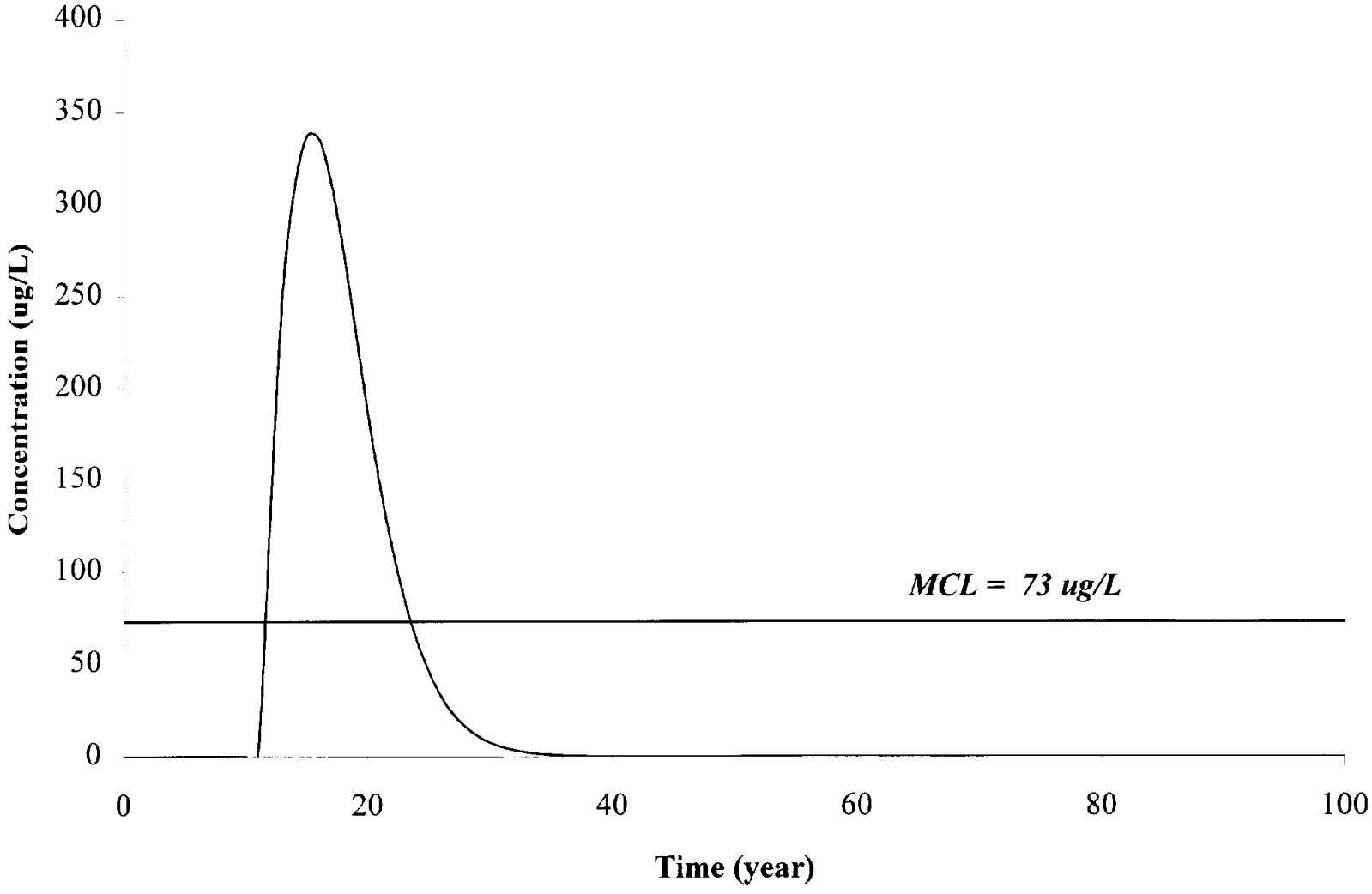

Figure P-5. Predicted leachate concentration of RDX due to contaminant loading from CB-14, CB-17, and CA-15

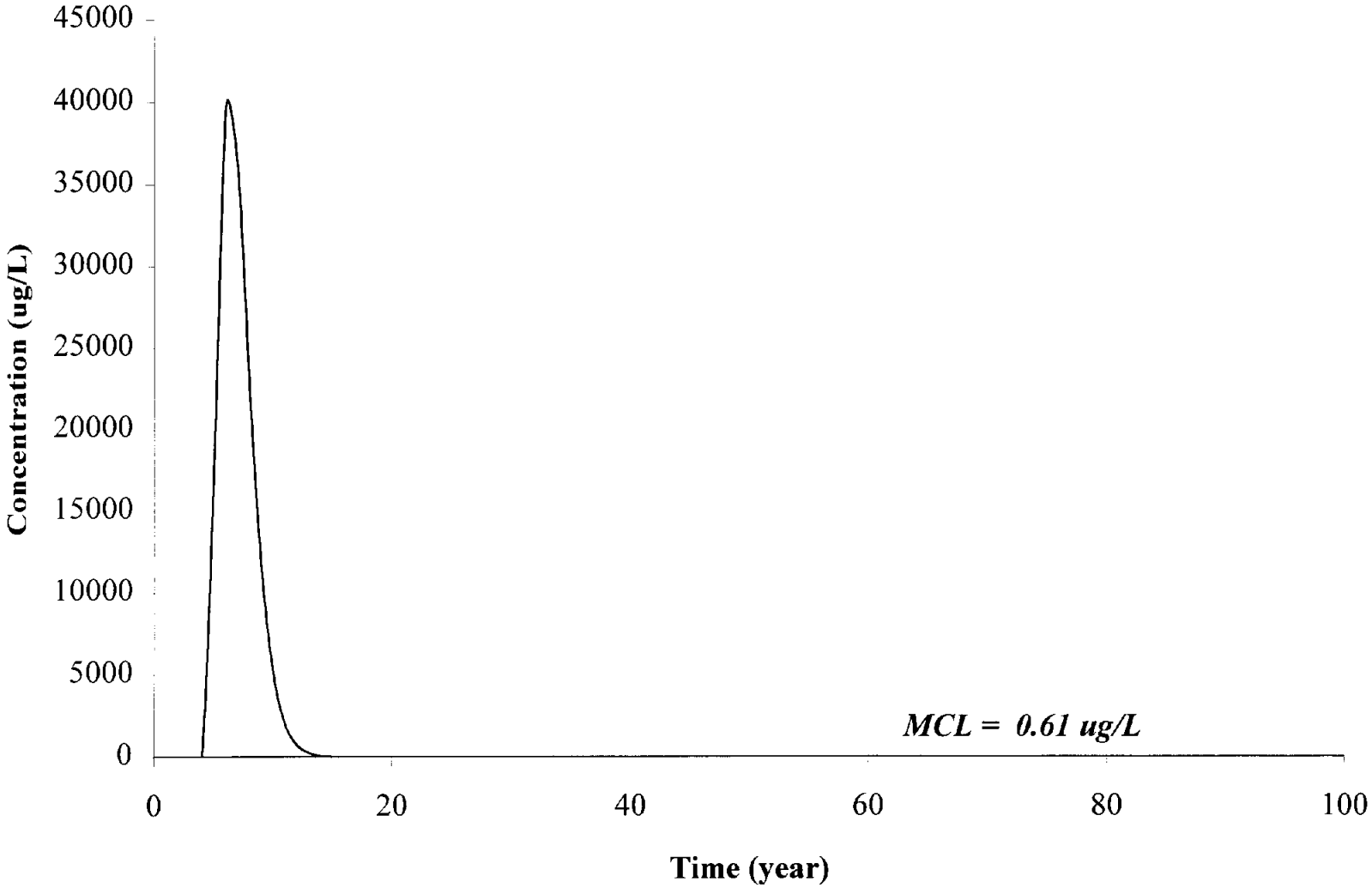

Figure P-6. Predicted leachate concentration of 2,4-dinitrotoluene due to contaminant loading from CB-3 and CB-801

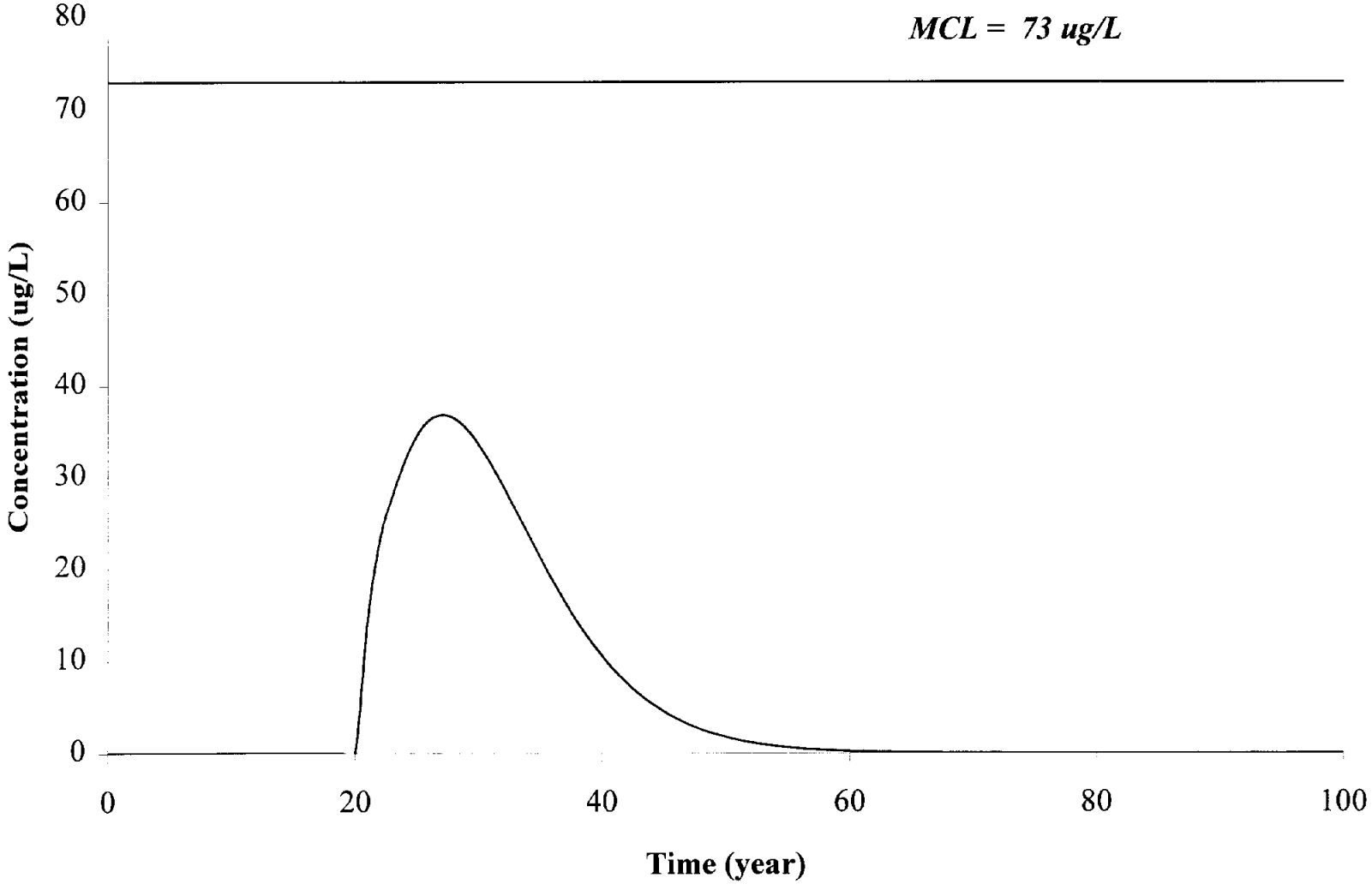

Figure P-7. Predicted leachate concentration of nitrobenzene due to contaminant loading from CB-3 and CB-801

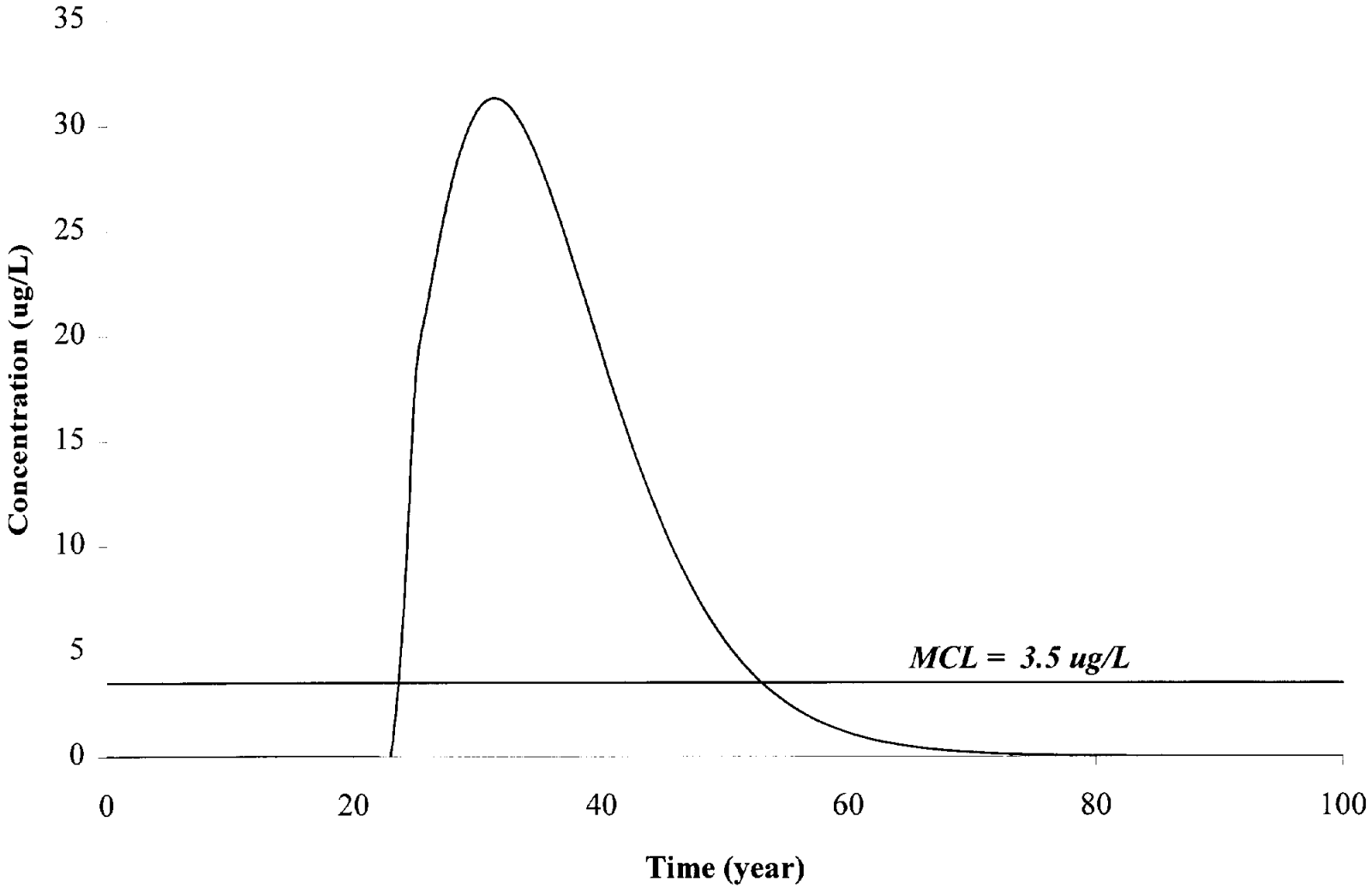

Figure P-8. Predicted leachate concentration of RDX due to contaminant loading from CB-3 and CB-801

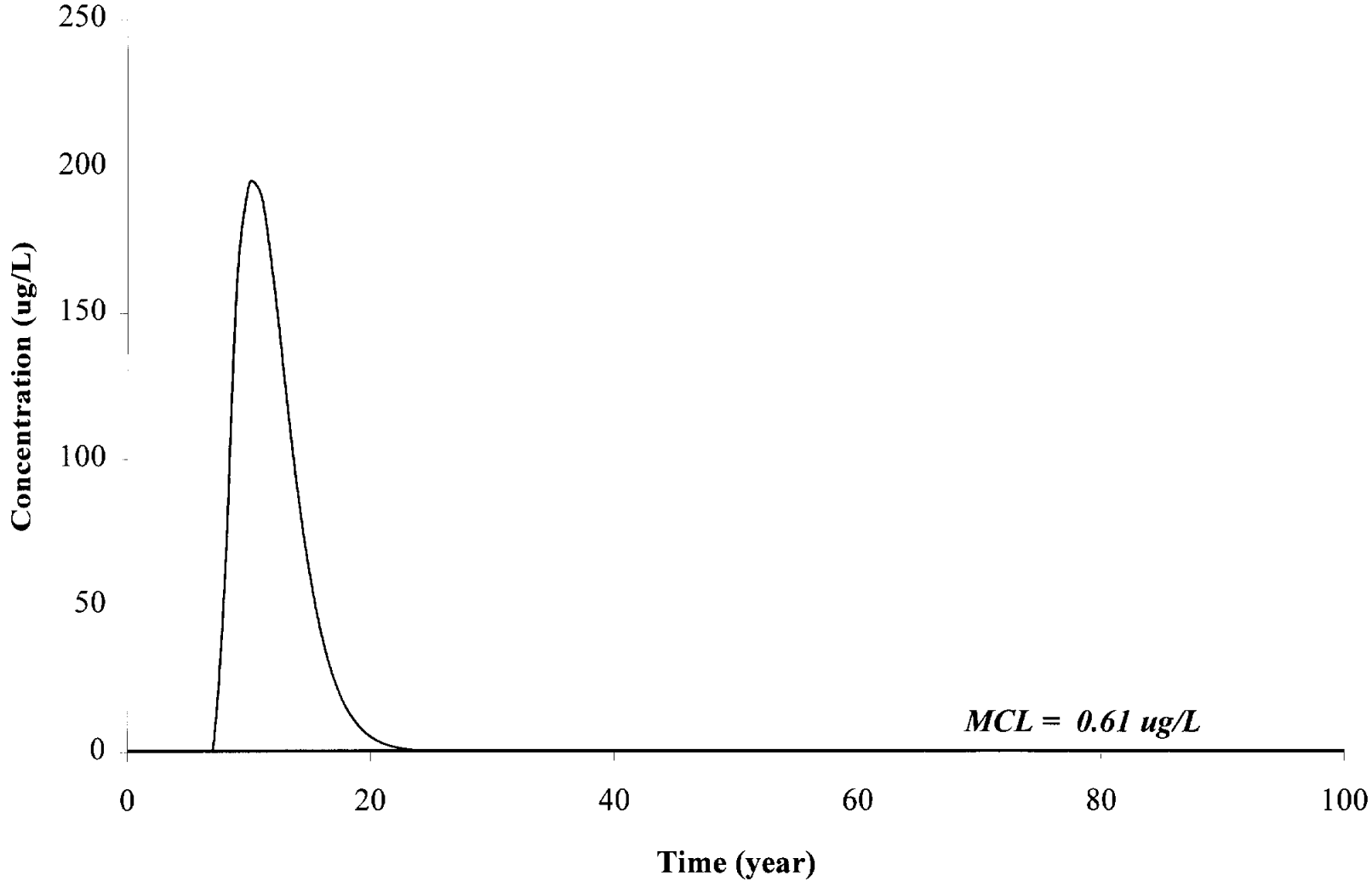

Figure P-9. Predicted leachate concentration of carbazole due to contaminant loading from CB-3 and CB-801

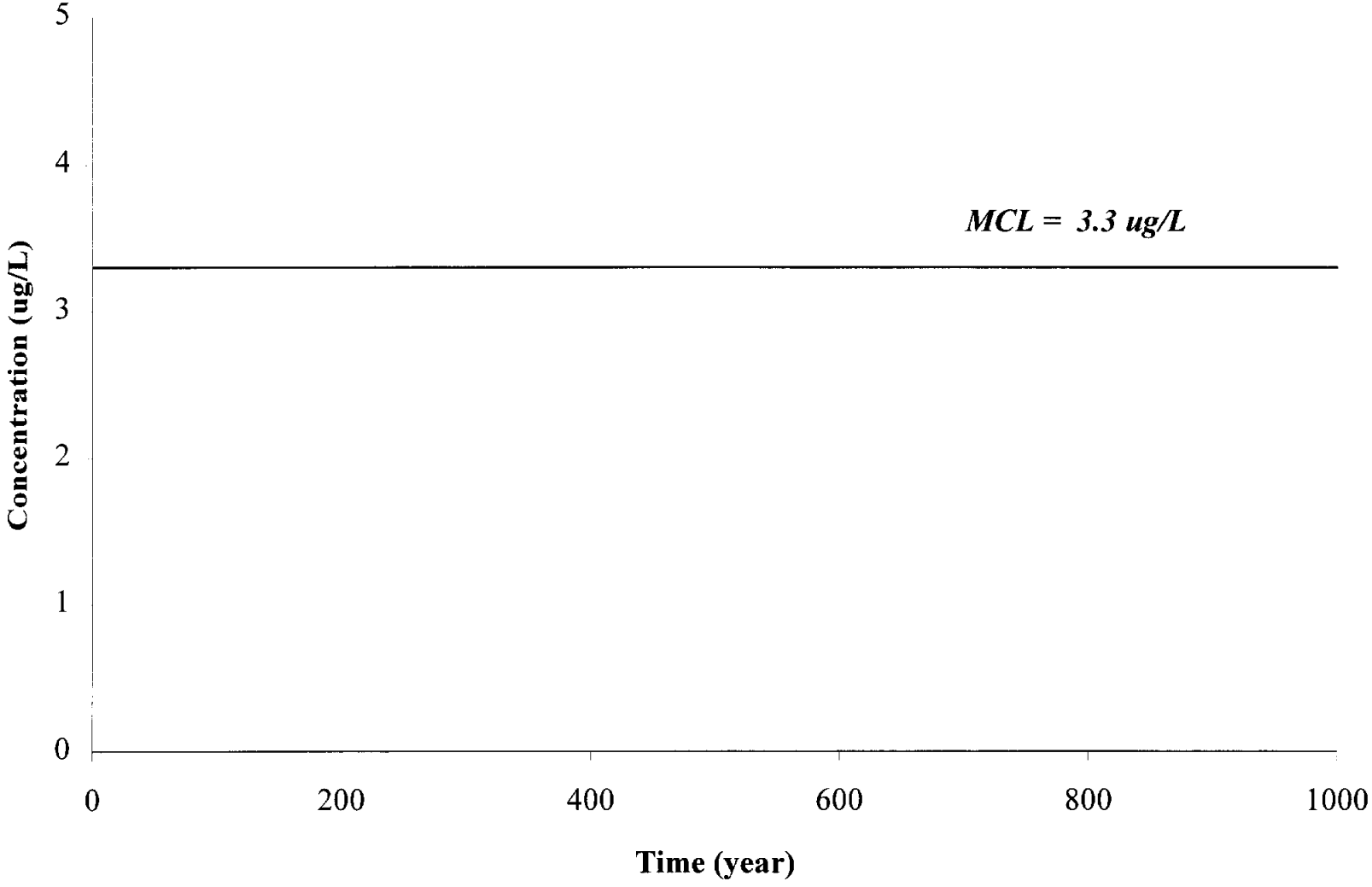

Figure P-10. Predicted leachate concentration of pentachlorophenol due to contaminant loading from CB-3 and CB-801

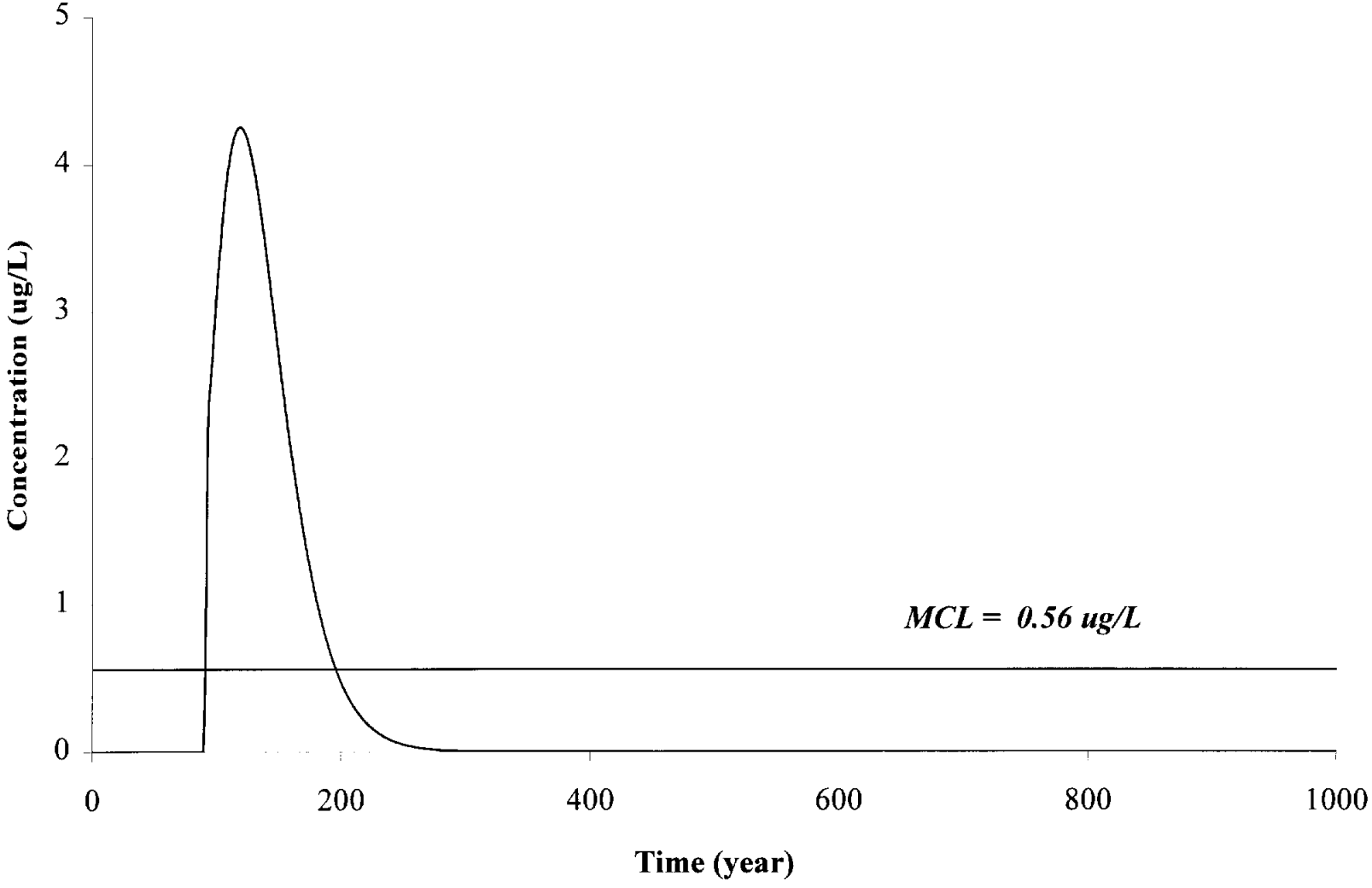

Figure P-11. Predicted leachate concentration of 1,3,5-trinitrobenzene due to contaminant loading from CB-4/4A and CA-6/6A

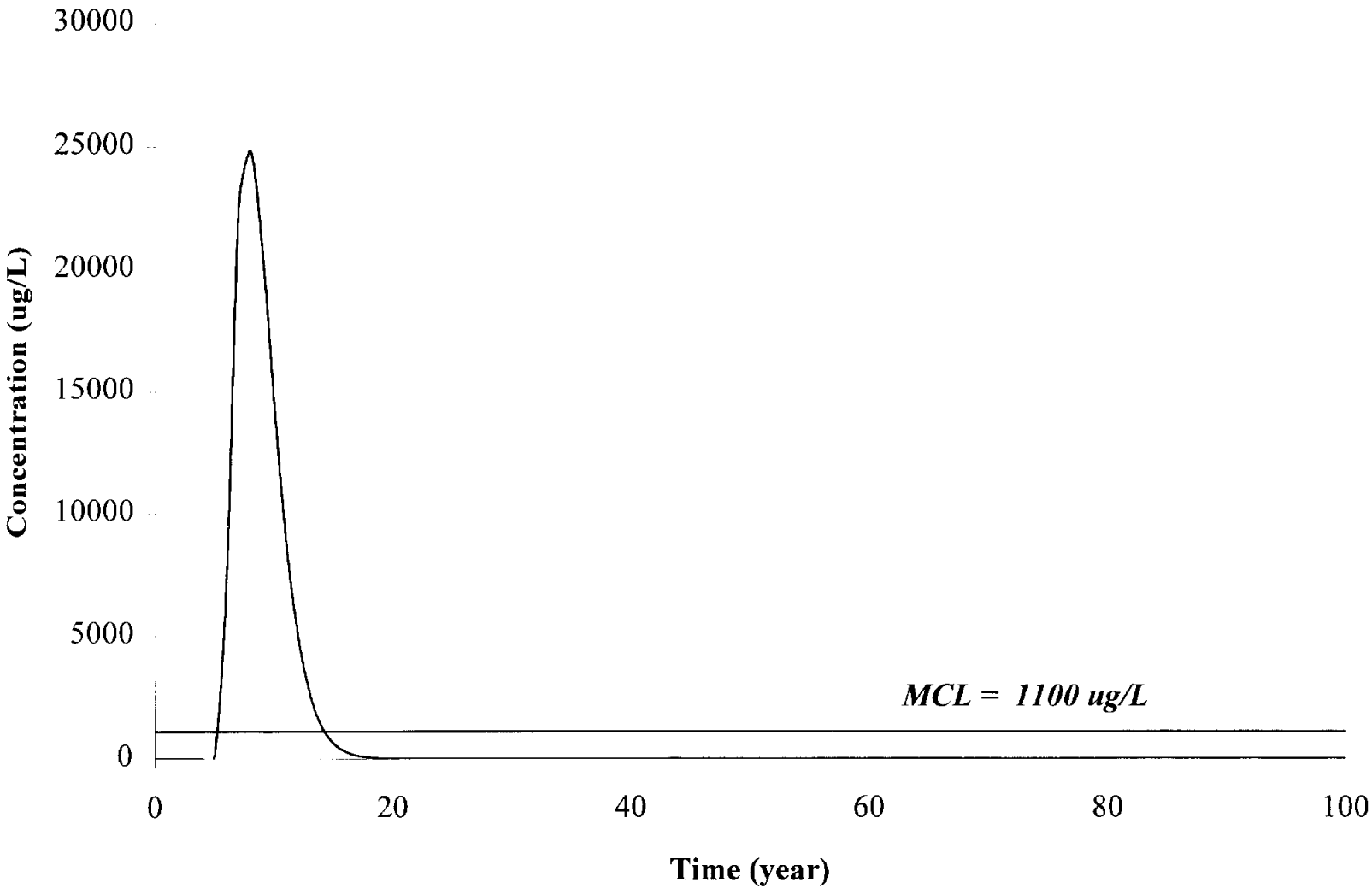

Figure P-12. Predicted leachate concentration of 1,3-dinitrobenzene due to contaminant loading from CB-4/4A and CA-6/6A

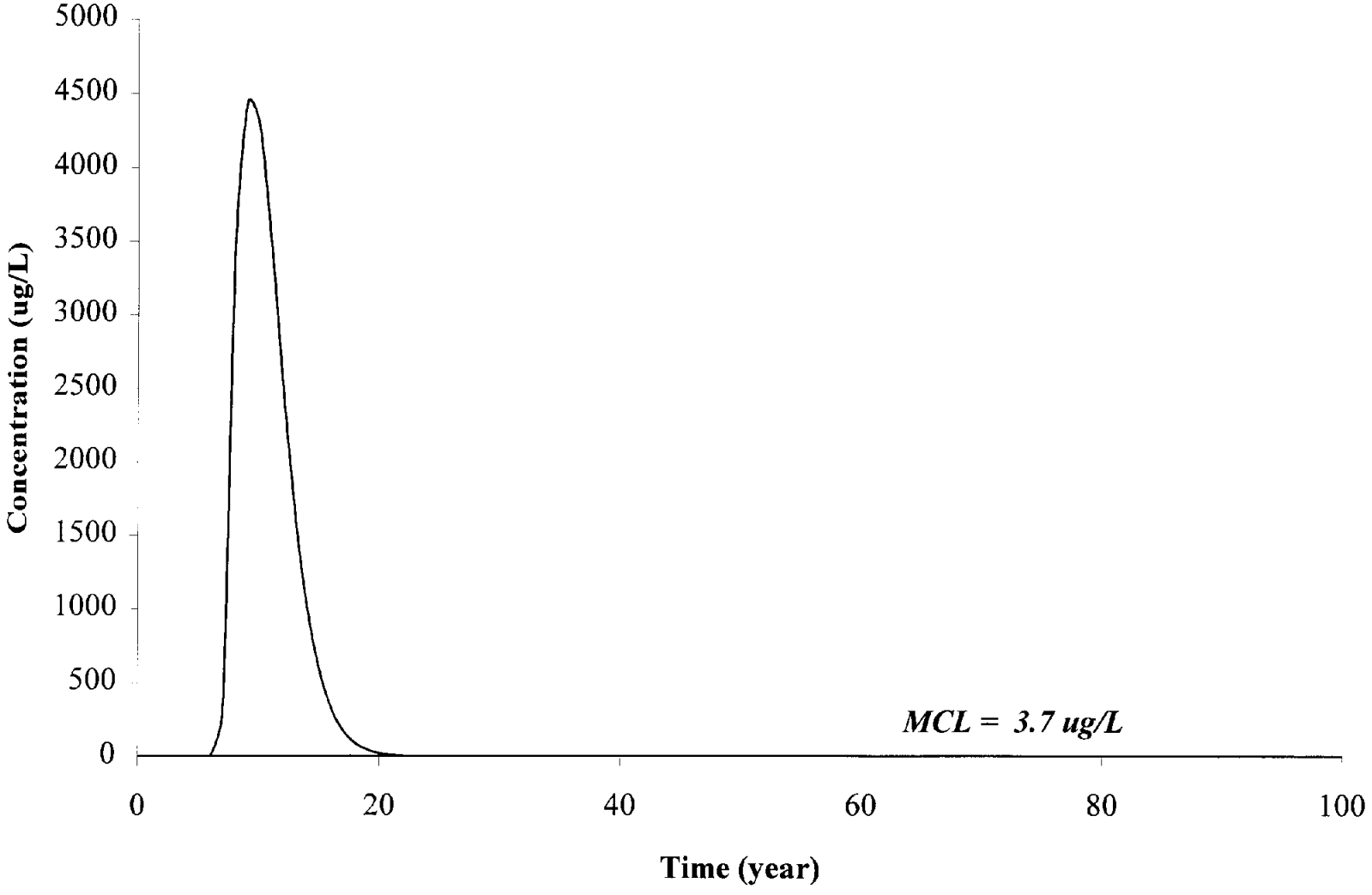

Figure P-13. Predicted leachate concentration of 2,4-dinitrotoluene due to contaminant loading from CB-4/4A and CA-6/6A

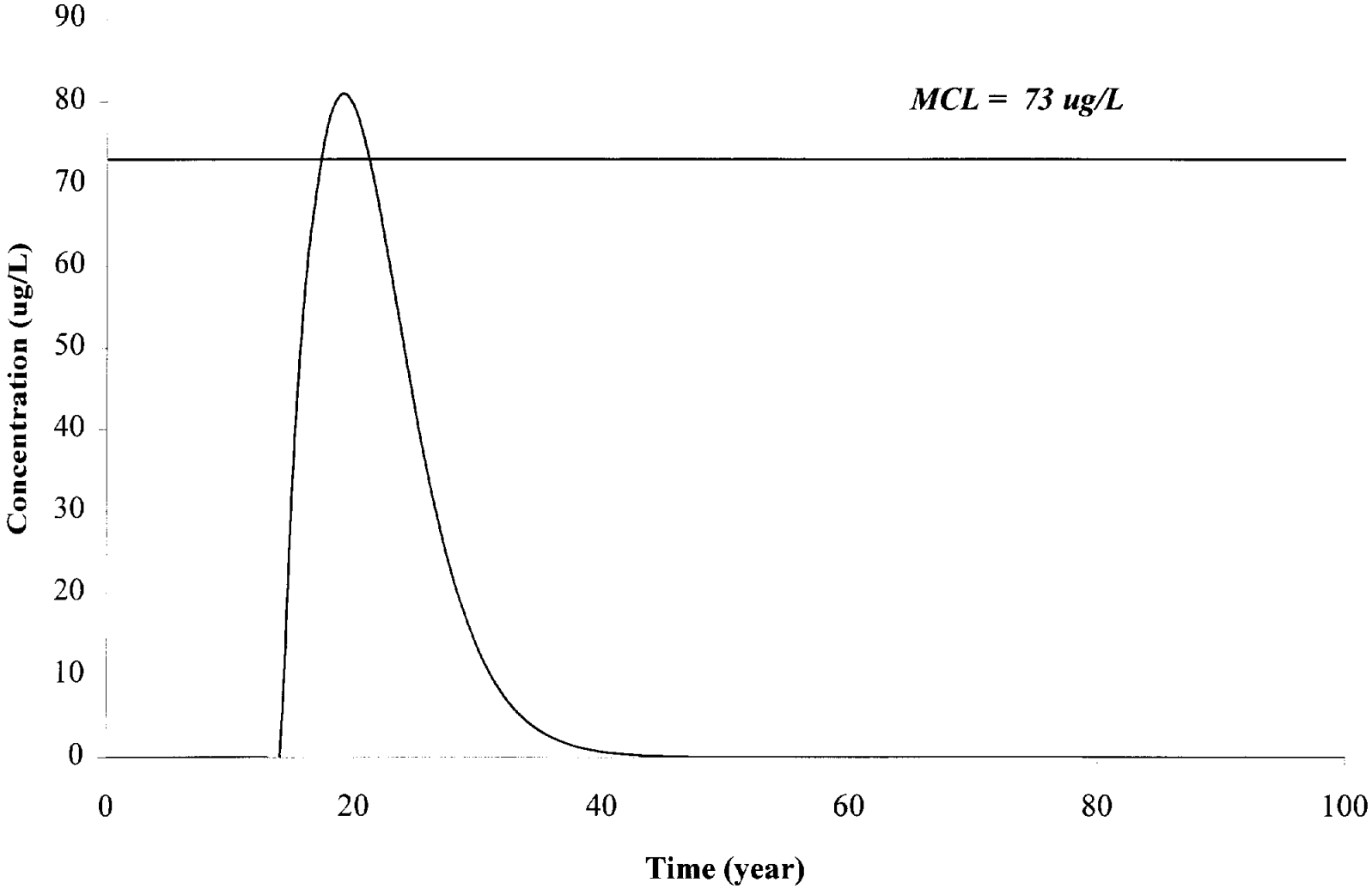

Figure P-14. Predicted leachate concentration of 2,6-dinitrotoluene due to contaminant loading from CB-4/4A and CA-6/6A

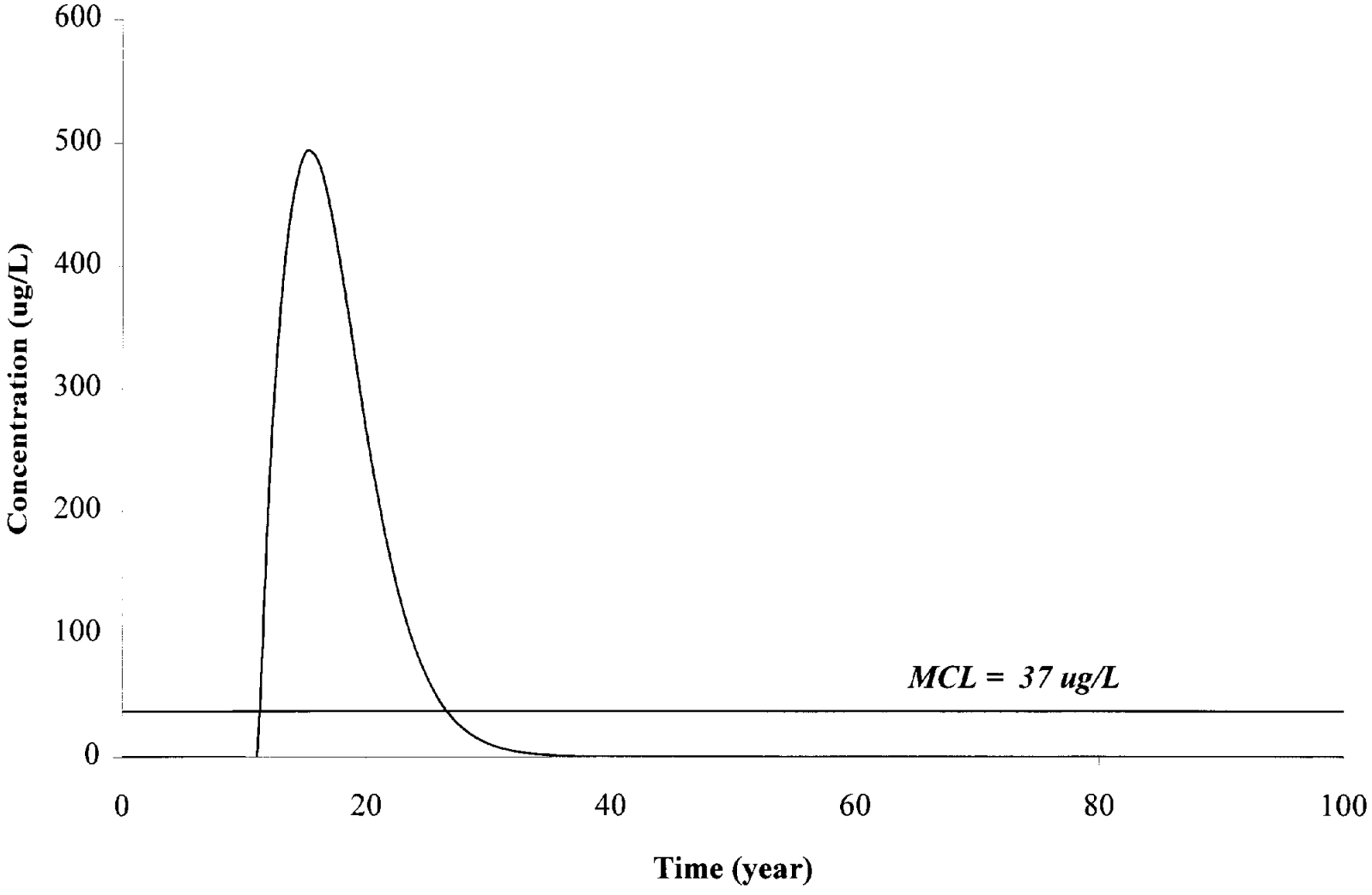

Figure P-15. Predicted leachate concentration of nitrobenzene due to contaminant loading from CB-4/4A and CA-6/6A

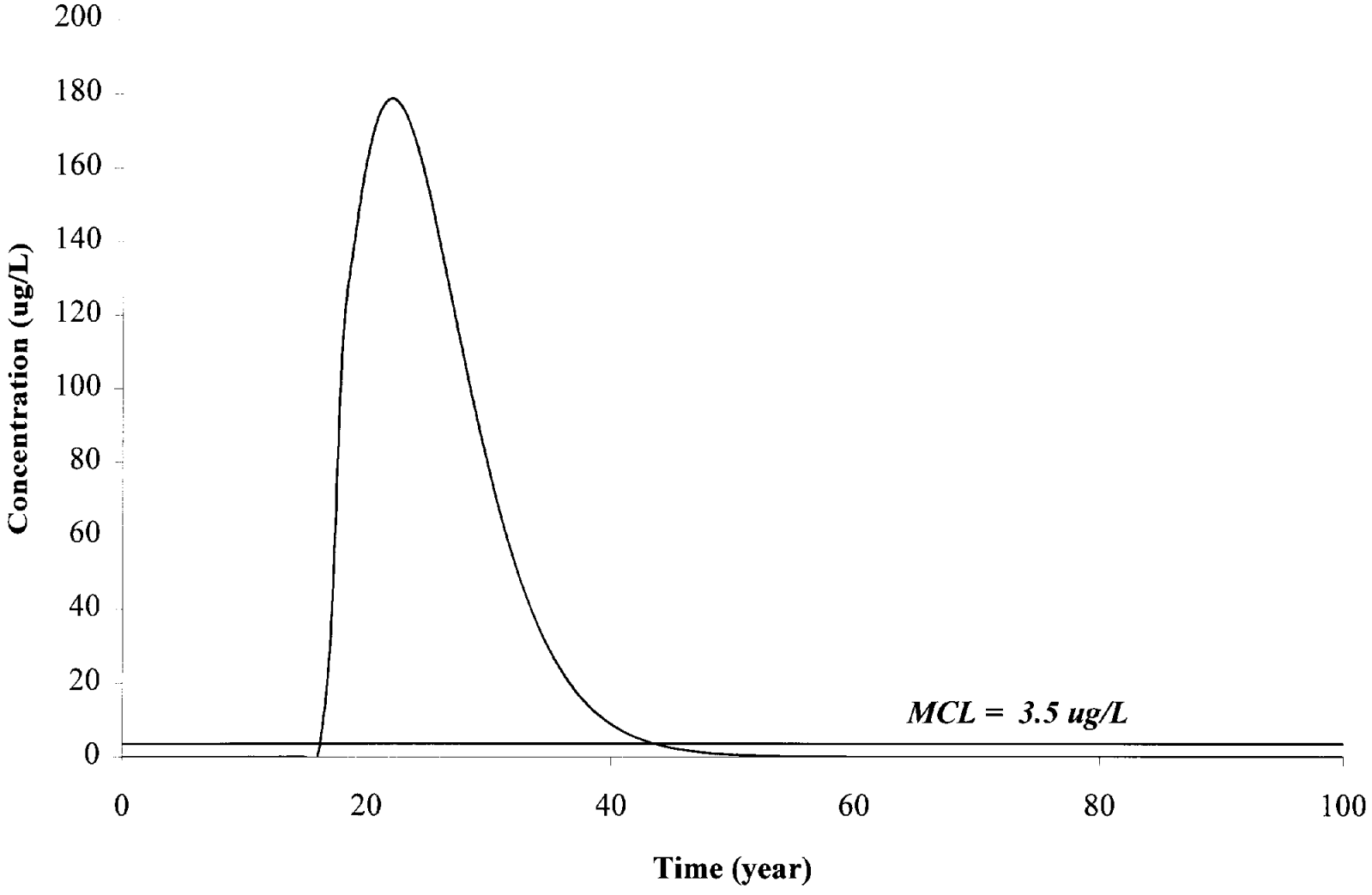

Figure P-16. Predicted leachate concentration of RDX due to contaminant loading from CB-4/4A and CA-6/6A

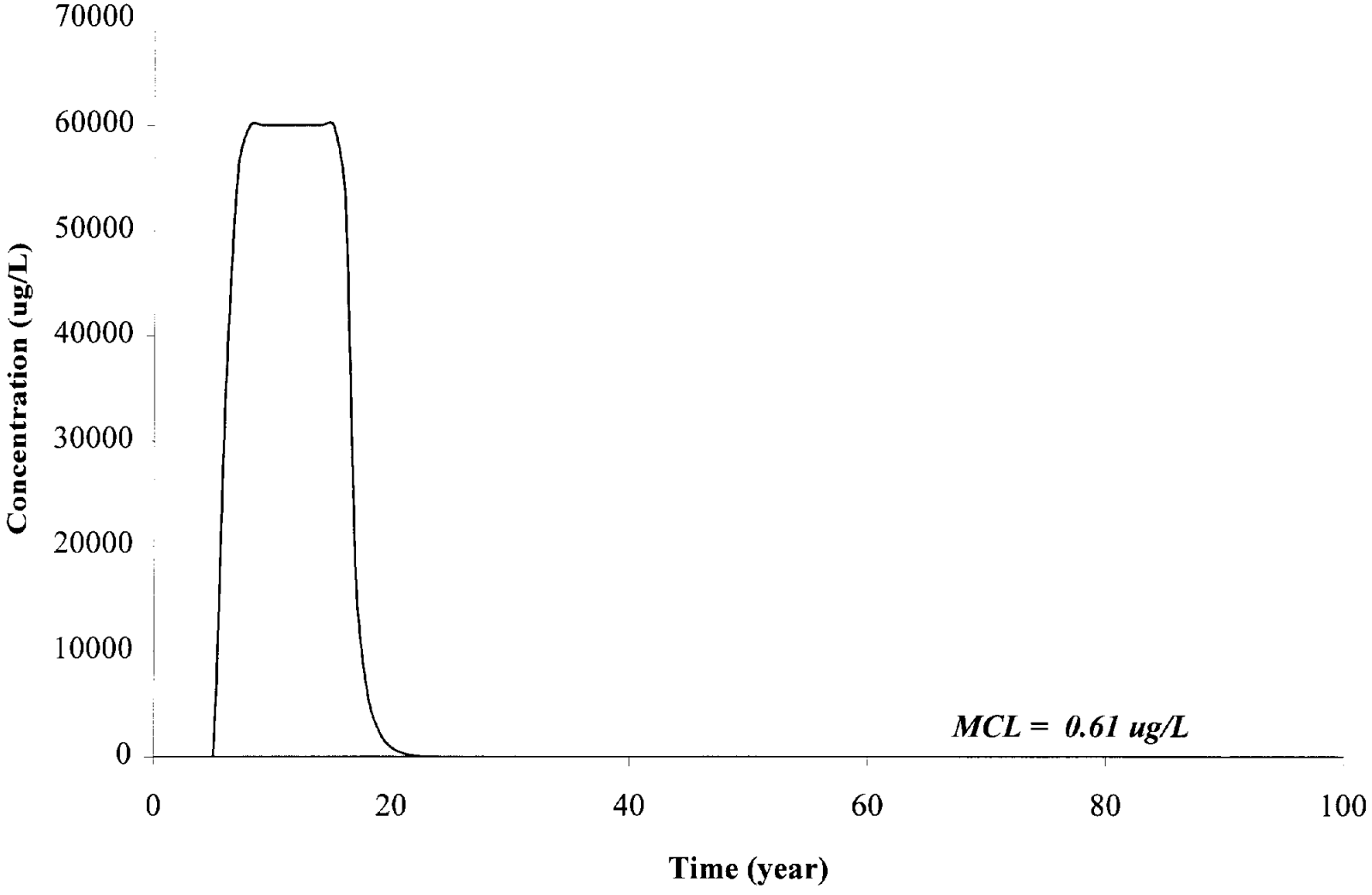

Figure P-17. Predicted leachate concentration of 1,3,5-trinitrobenzene due to contaminant loading from Drainage-A

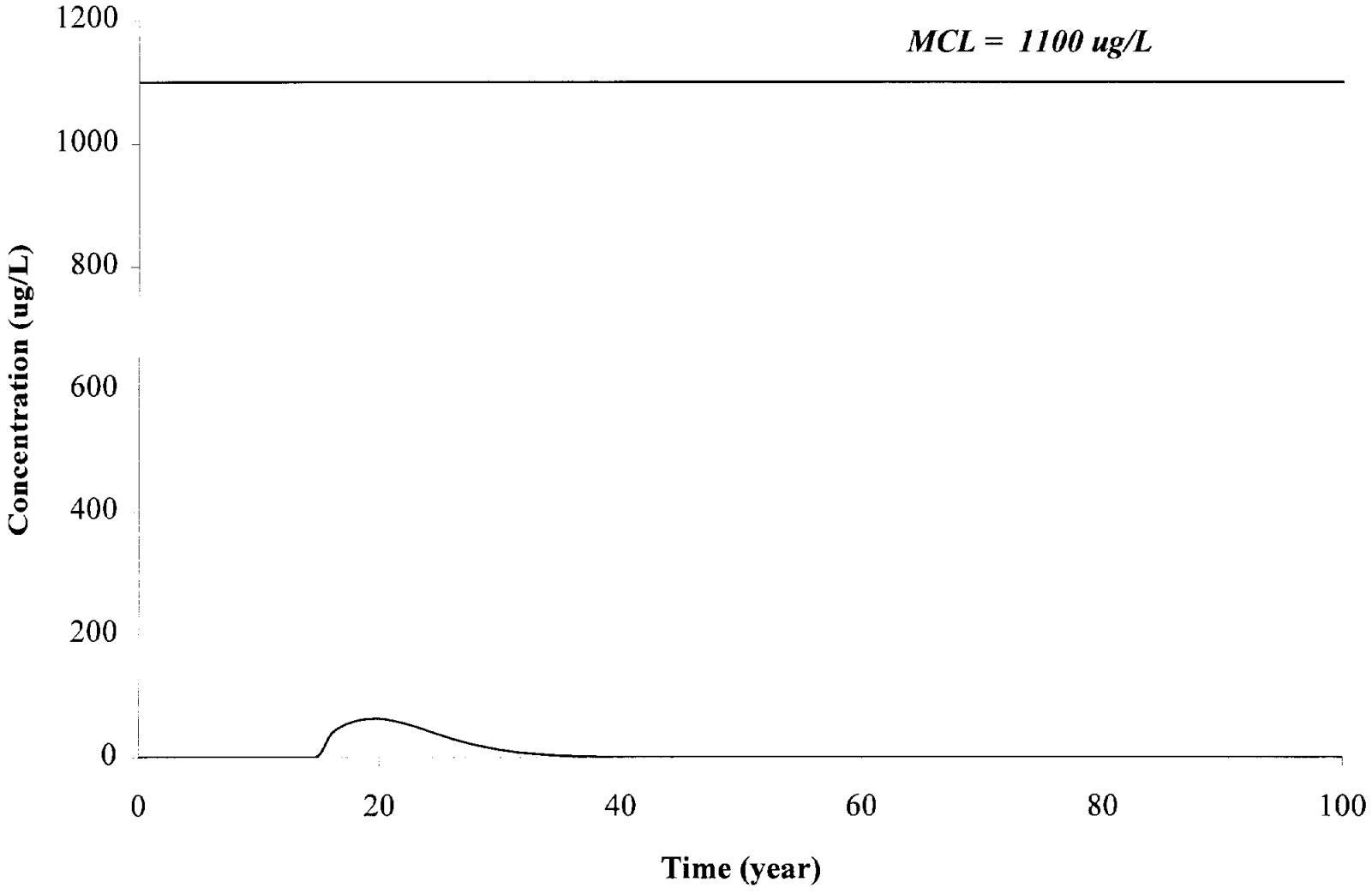

Figure P-18. Predicted leachate concentration of 2,4-dinitrotoluene due to contaminant loading from Drainage-A

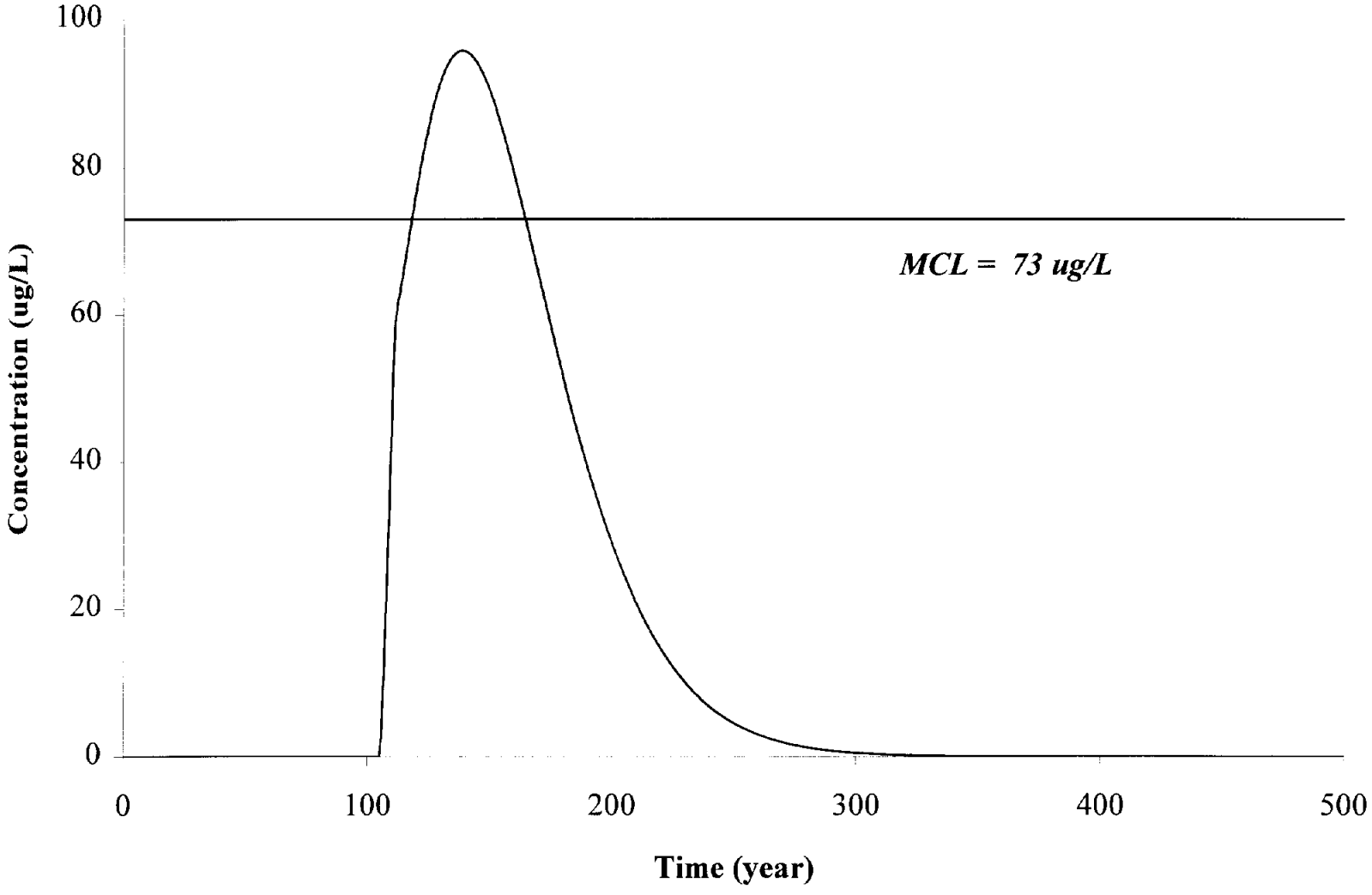

Figure P-19. Predicted leachate concentration of 2,6-dinitrotoluene due to contaminant loading from Drainage-C and Ponds

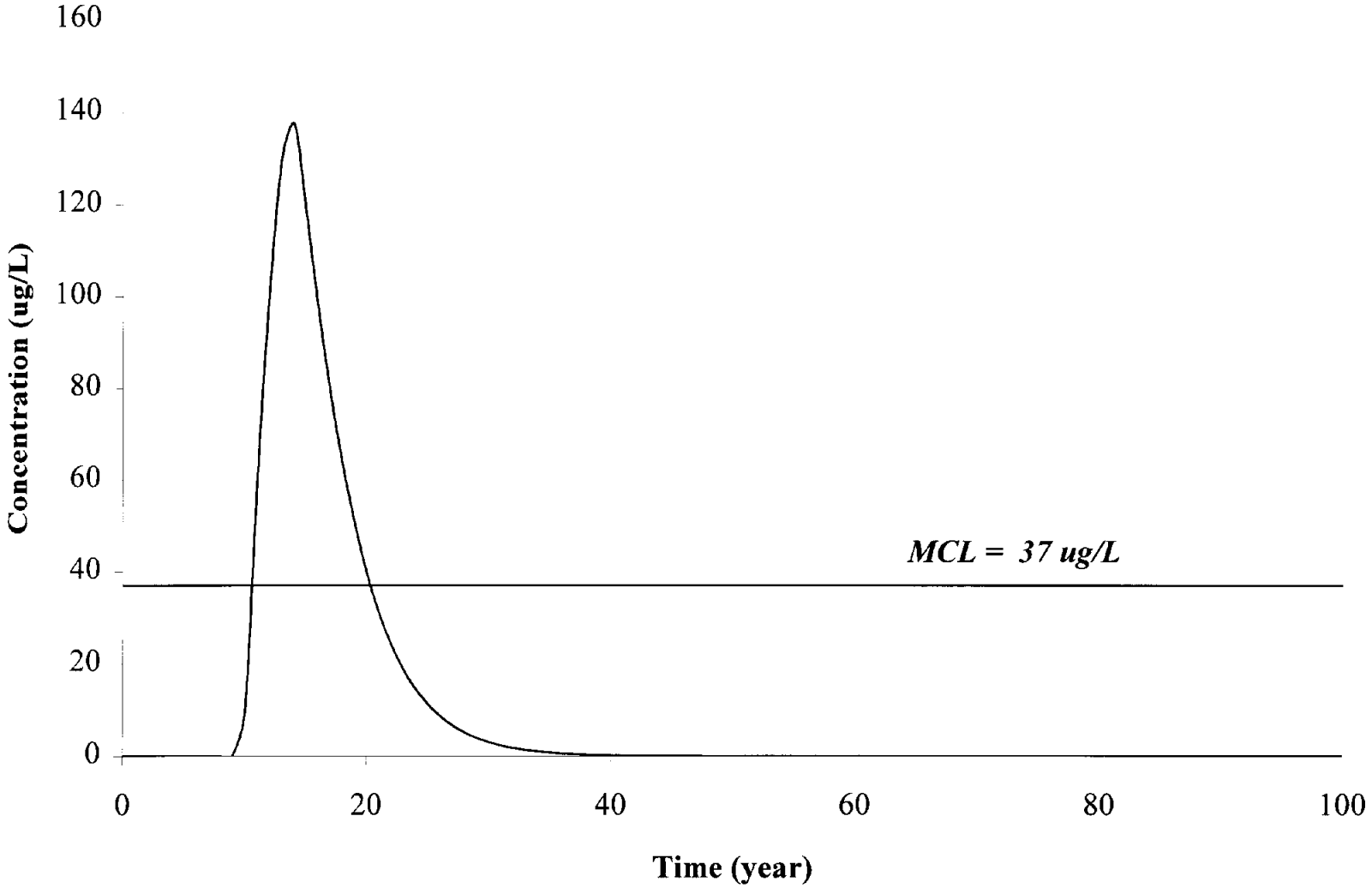

Figure P-20. Predicted leachate concentration of 2,4-dinitrotoluene due to contaminant loading from Drainage-E/F

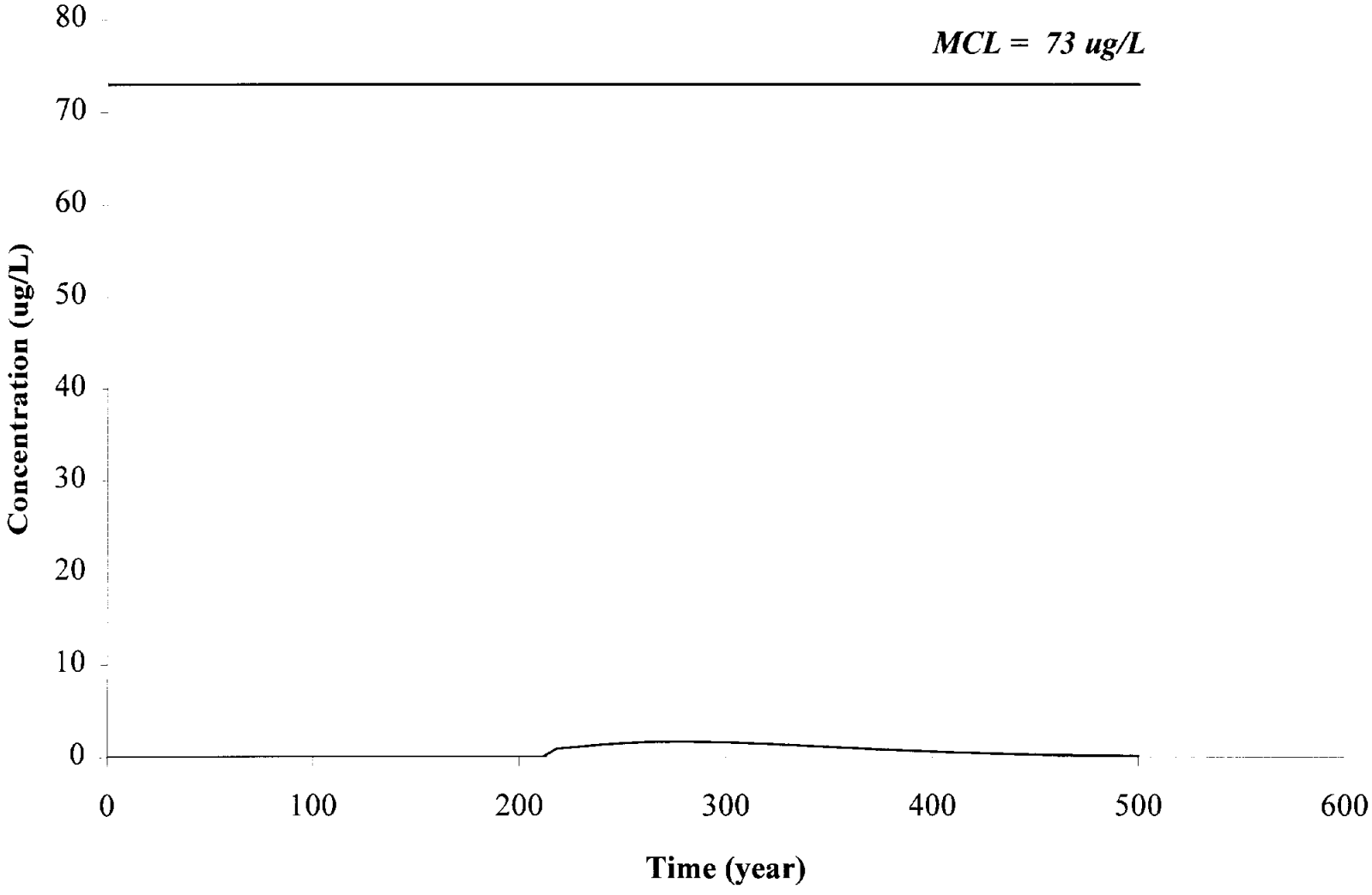

Figure P-21. Predicted leachate concentration of nitrobenzene due to contaminant loading from Drainage-E/F

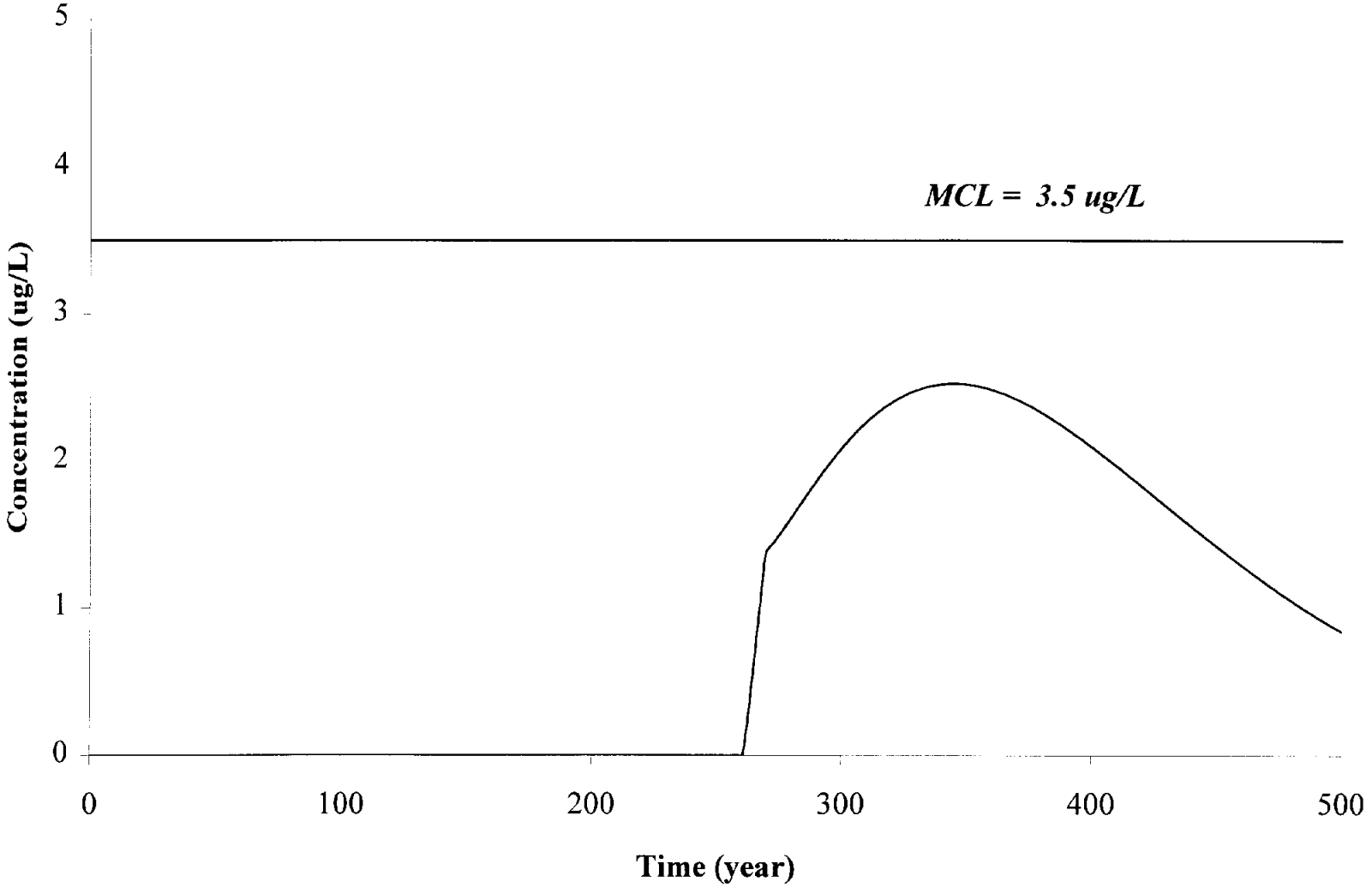

Figure P-22. Predicted groundwater concentration of 2,4-dinitro-toluene due to contaminant loading from CB-13 and CB-10

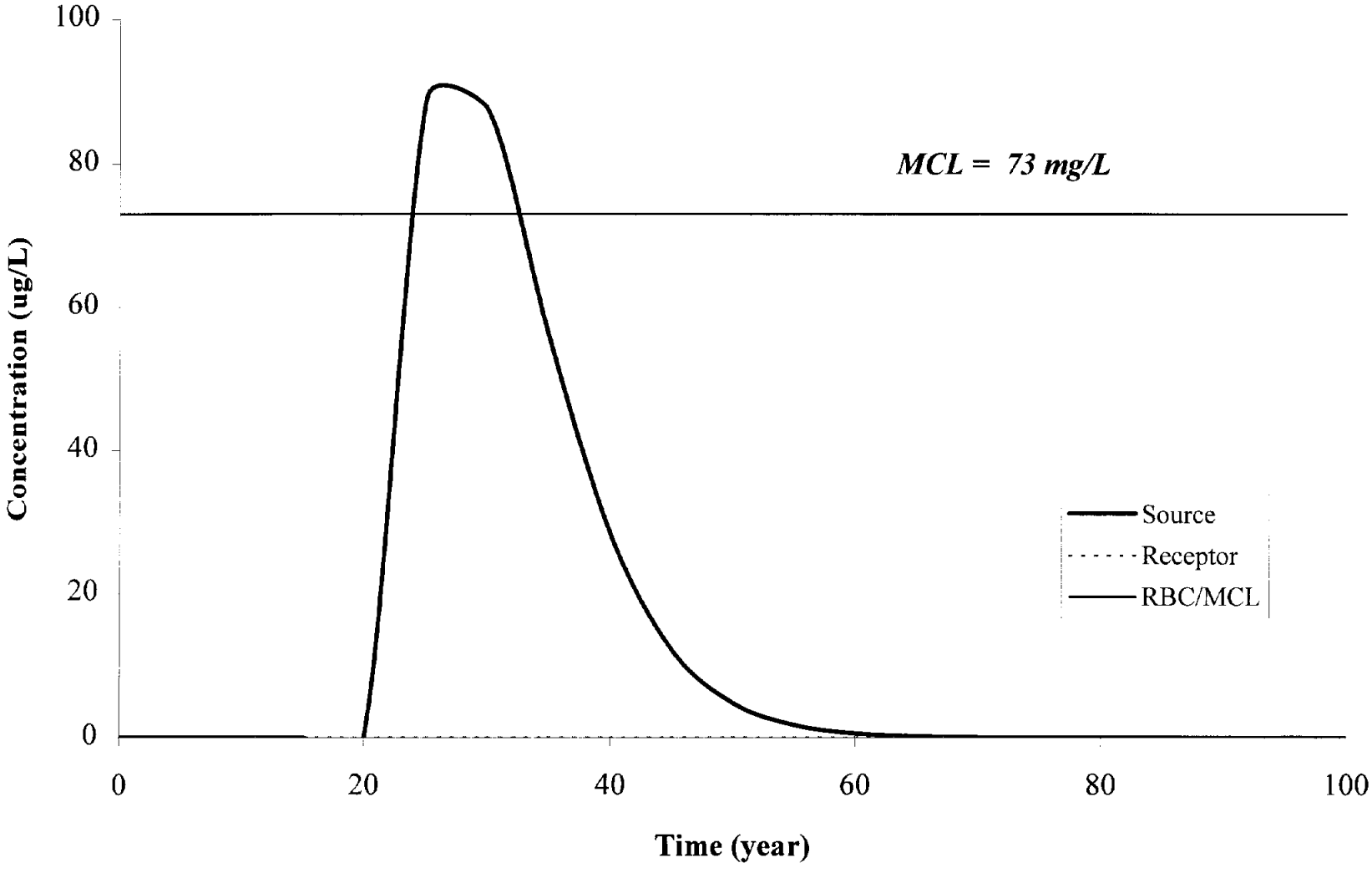

Figure P-23. Predicted groundwater concentration of 2,6-dinitro-toluene due to contaminant loading from CB-13 and CB-10

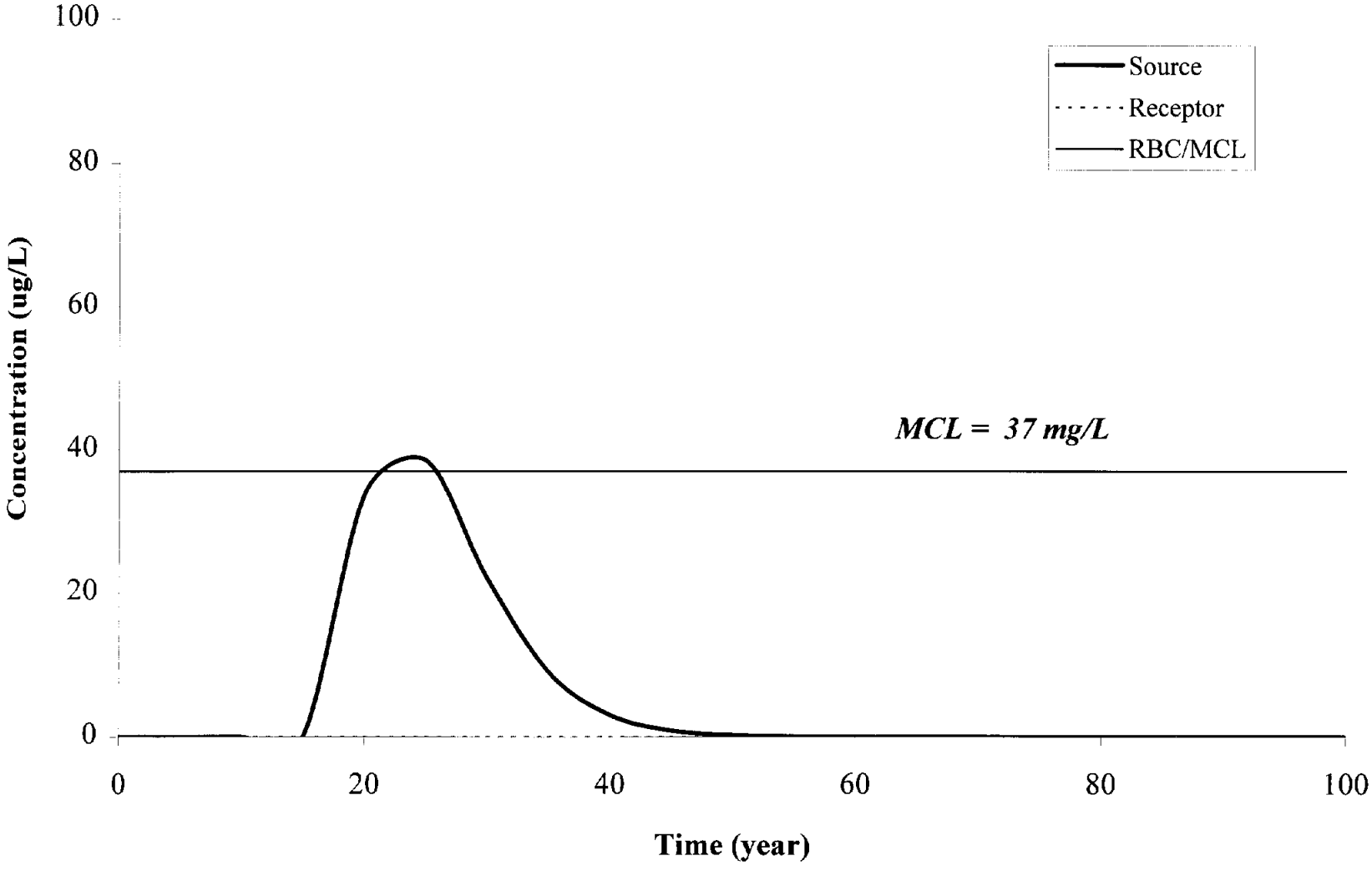

Figure P-24. Predicted groundwater concentration of RDX due to contaminant loading from CB-13 and CB-10

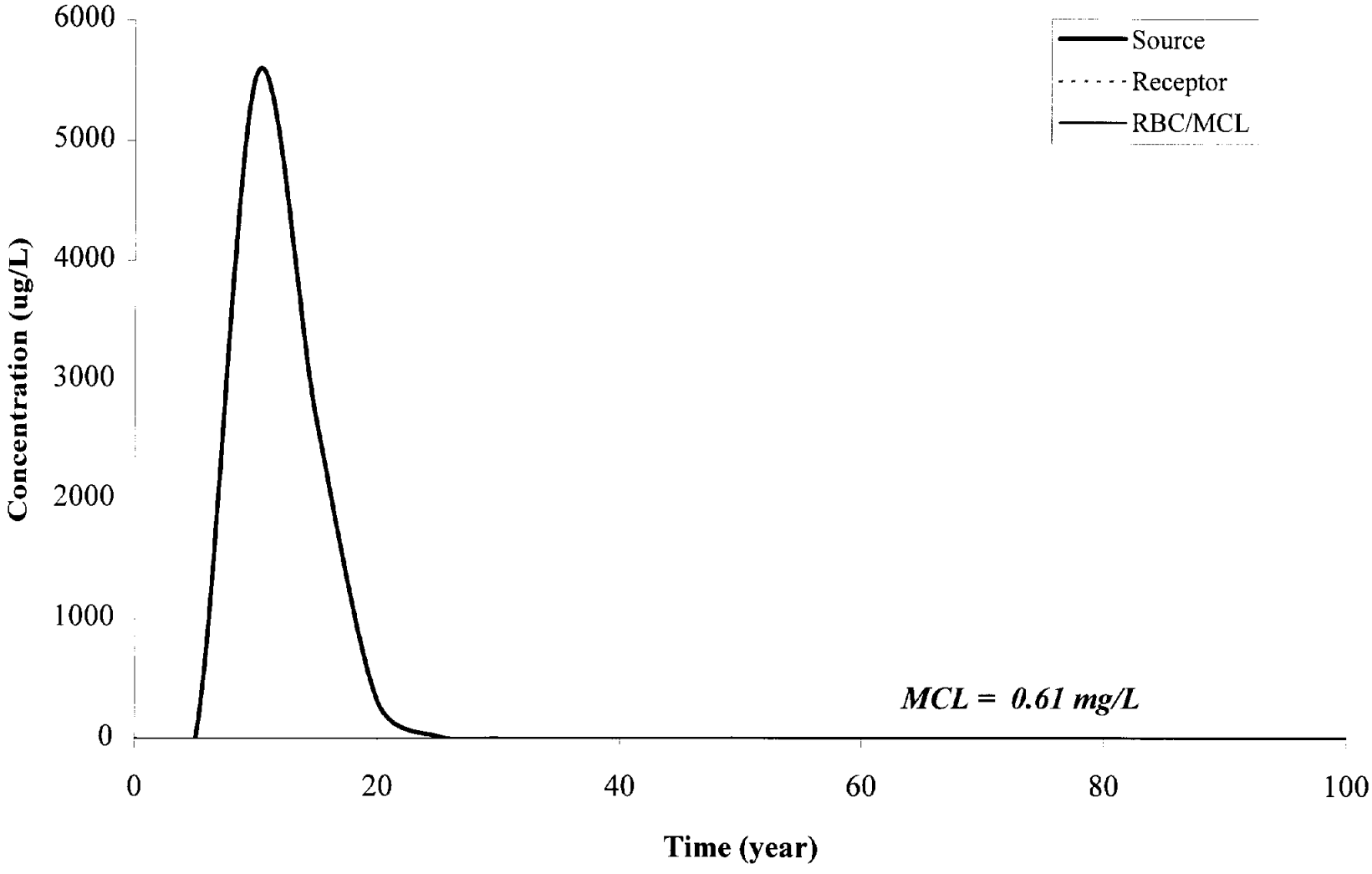

Figure P-25. Predicted groundwater concentration of RDX due to contaminant loading from CB-14, CB-17, and CA-15

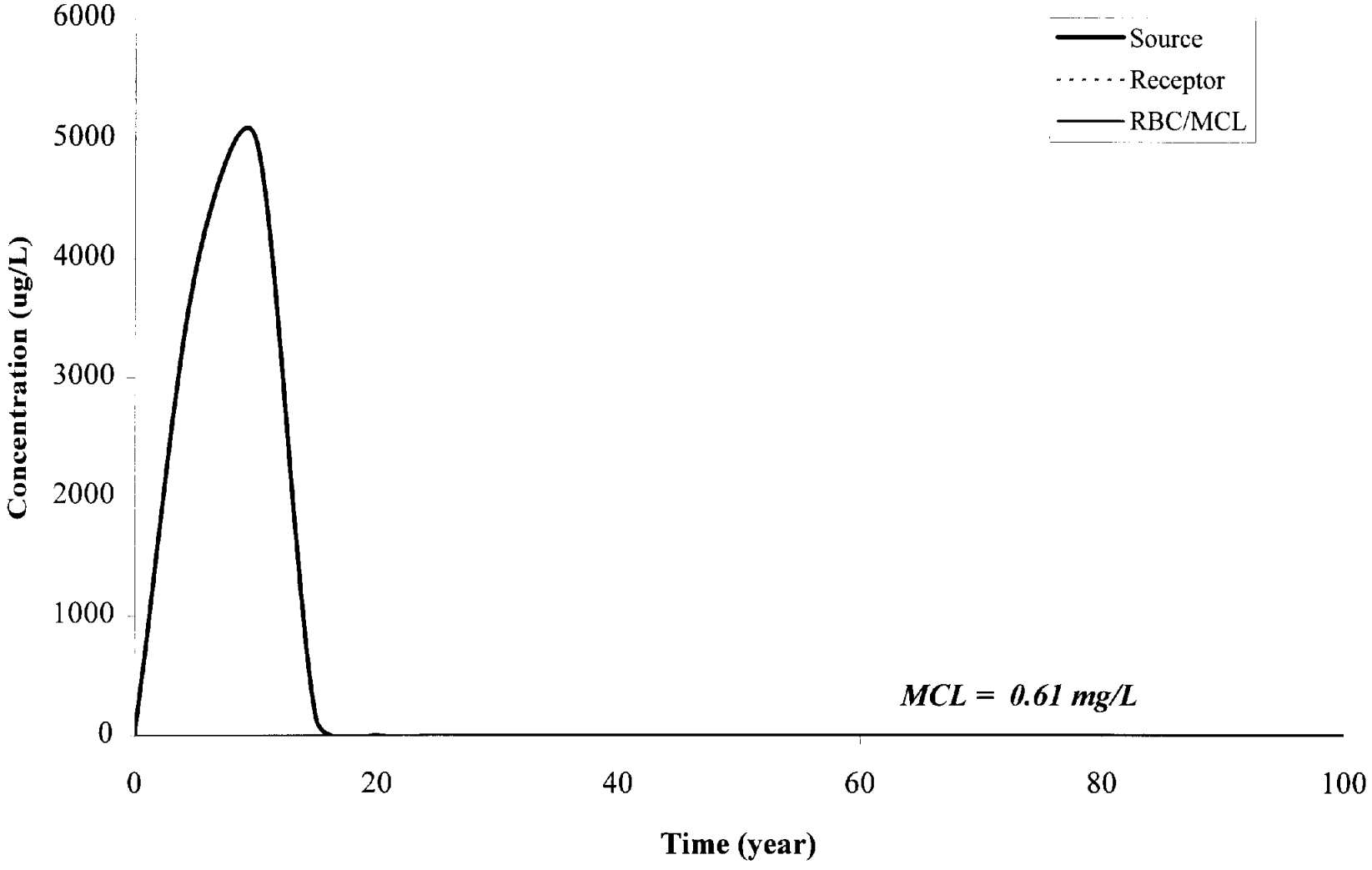

Figure P-26. Predicted groundwater concentration of RDX due to contaminant loading from CB-3 and CB-801

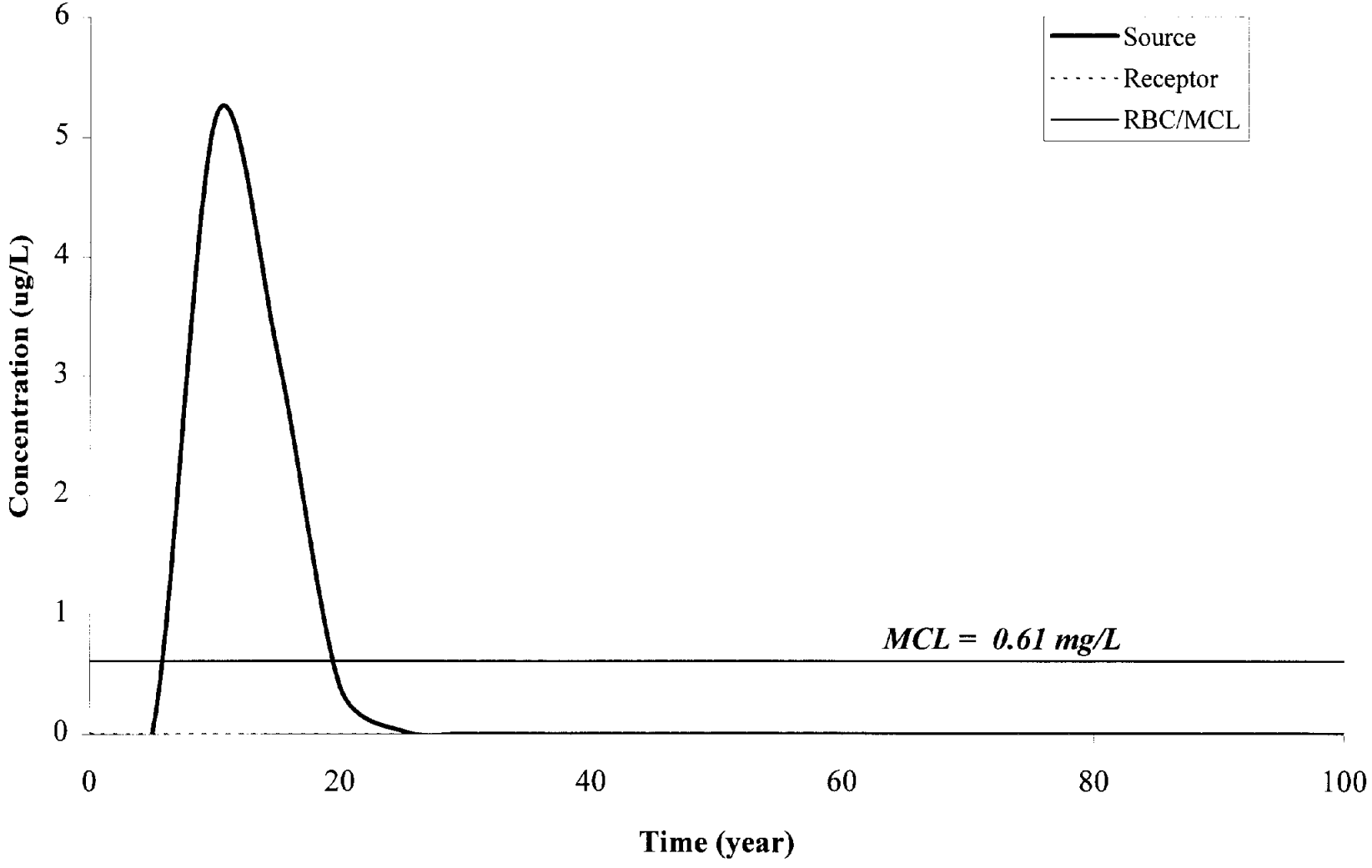

Figure P-27. Predicted groundwater concentration of 1,3,5-trinitro-benzene due to contaminant loading from CB-4/4A and CA-6/6A

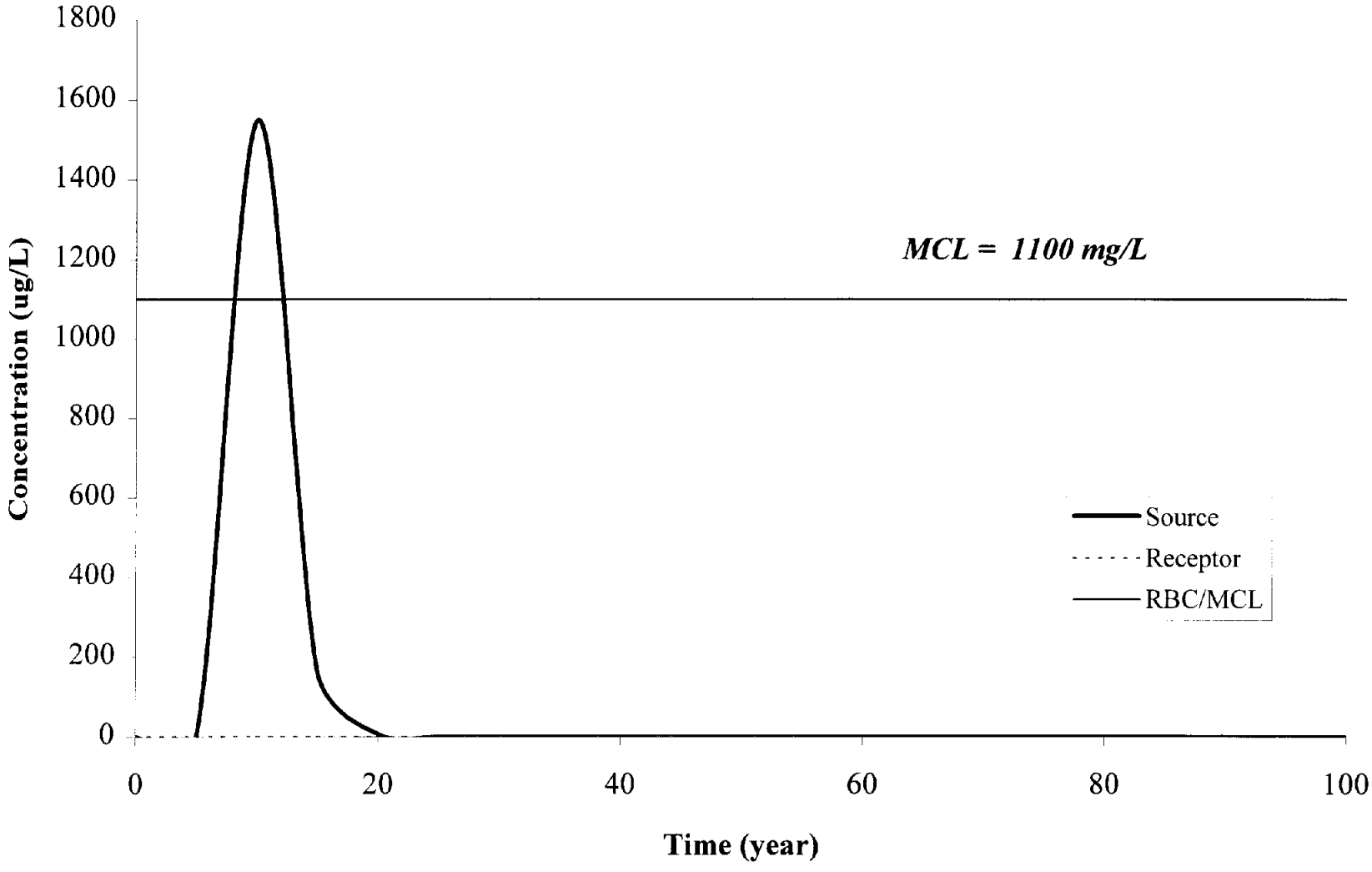

Figure P-28. Predicted groundwater concentration of 1,3-dinitro-benzene due to contaminant loading from CB-4/4A and CA-6/6A

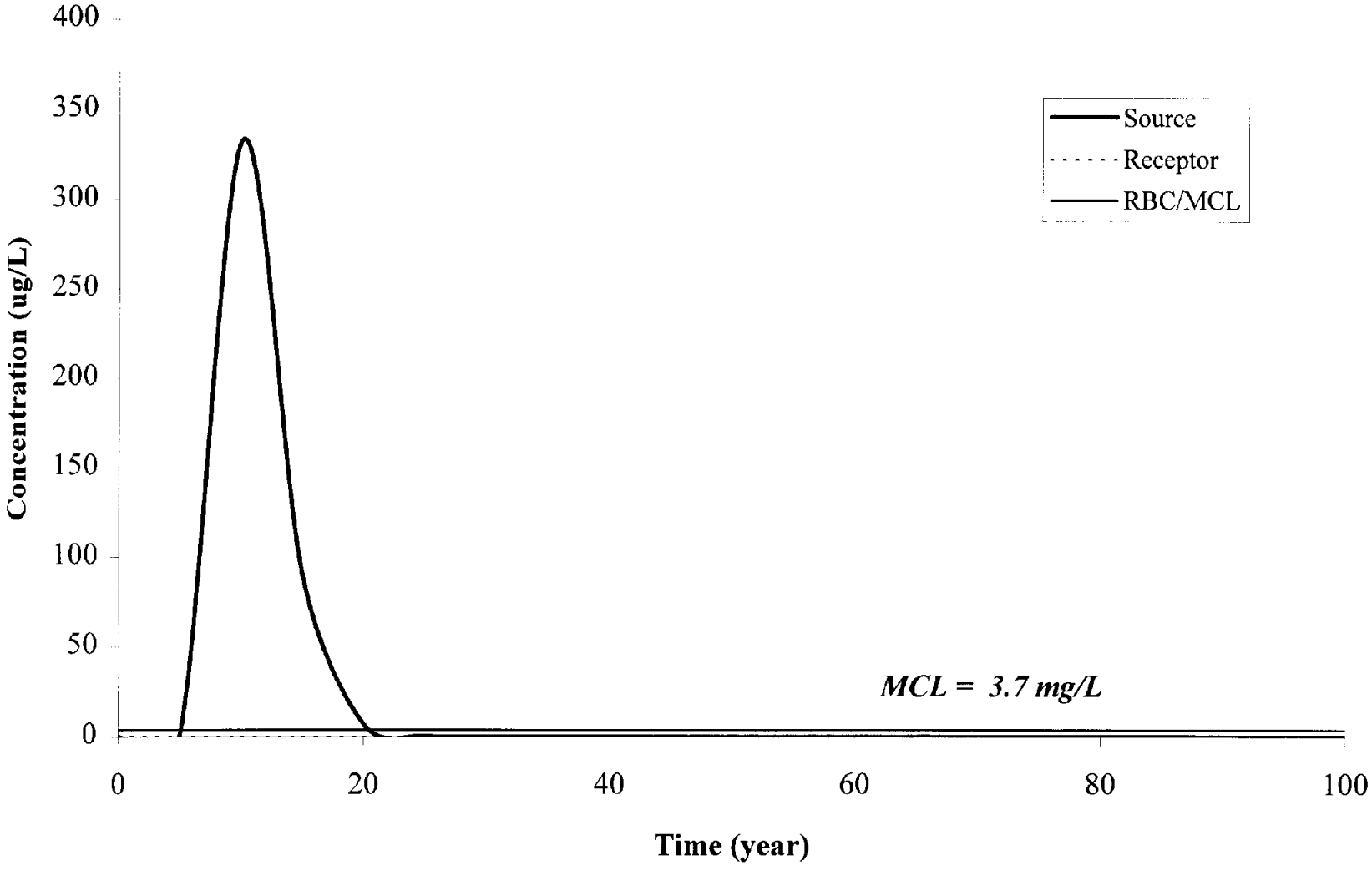

Figure P-29. Predicted groundwater concentration of 2,4-dinitro-toluene due to contaminant loading from CB-4/4A and CA-6/6A

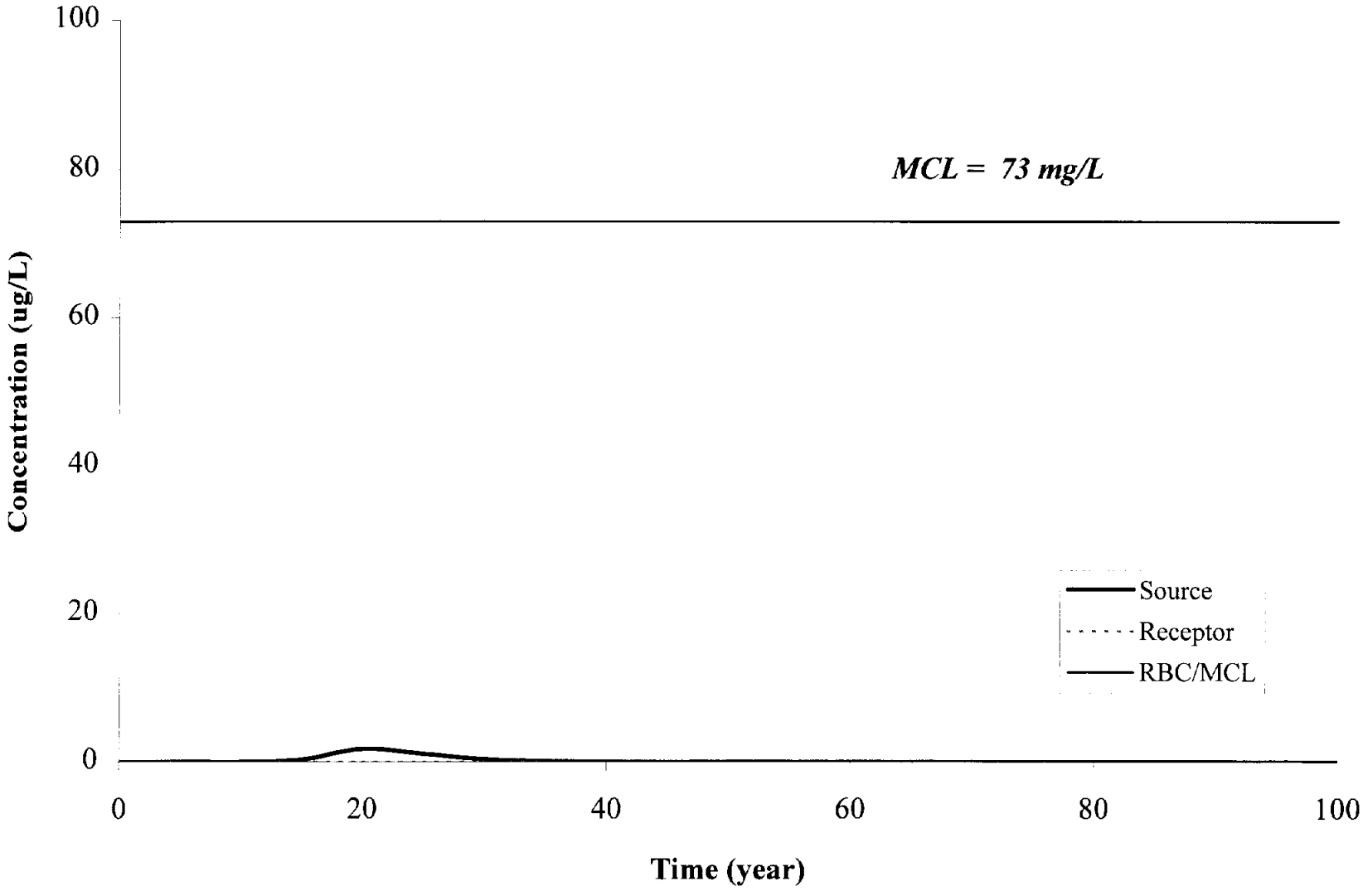

Figure P-30. Predicted groundwater concentration of nitrobenzene due to contaminant loading from CB-4/4A and CA-6/6A

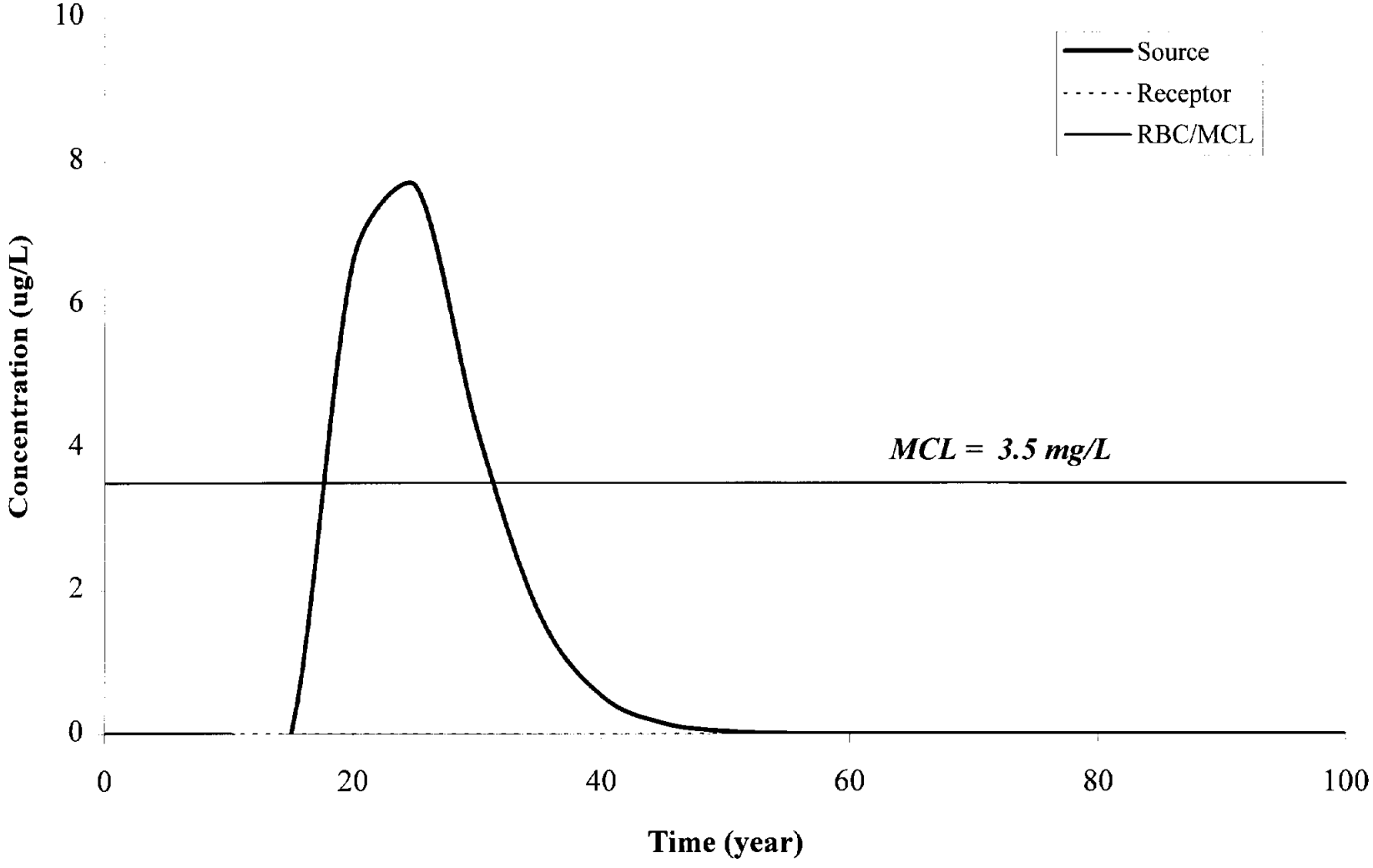

Figure P-31. Predicted groundwater concentration of RDX due to contaminant loading from CB-4/4A and CA-6/6A