

APPENDIX J

Lead Model

LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 1

Operable Unit: Surface Soil

Run Mode: Research
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***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 414.600 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	578.000	414.600
1-2	578.000	414.600
2-3	578.000	414.600
3-4	578.000	414.600
4-5	578.000	414.600
5-6	578.000	414.600
6-7	578.000	414.600

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

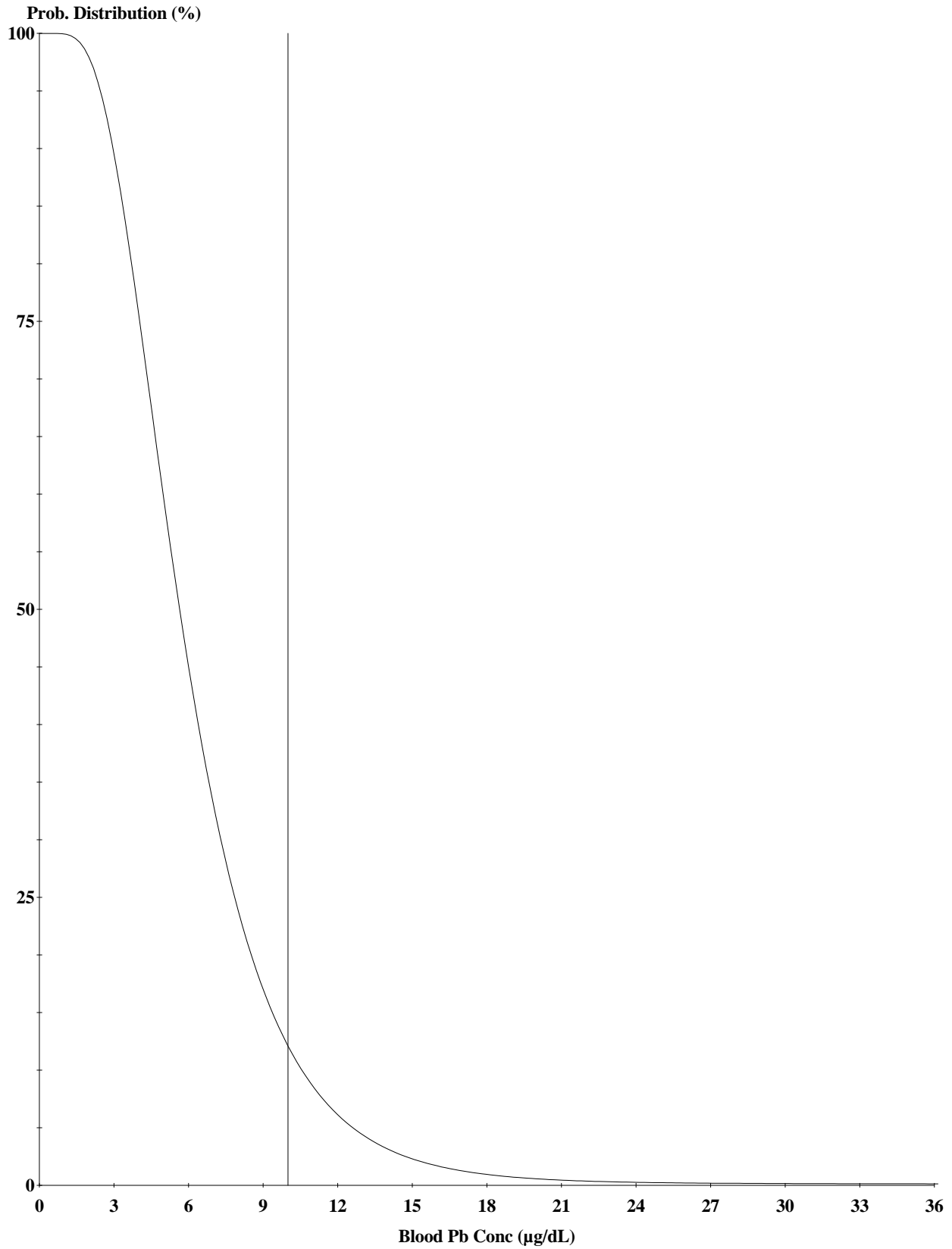
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	0.982	0.000	0.348
1-2	0.034	0.831	0.000	0.848
2-3	0.062	0.923	0.000	0.901
3-4	0.067	0.901	0.000	0.936
4-5	0.067	0.896	0.000	1.011
5-6	0.093	0.956	0.000	1.082
6-7	0.093	1.043	0.000	1.109

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	10.816	12.167	6.5
1-2	16.763	18.477	7.5
2-3	17.126	19.012	7.0
3-4	17.456	19.359	6.7
4-5	13.453	15.425	5.5
5-6	12.288	14.419	4.6
6-7	11.699	13.944	4.0



LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 2

Operable Unit: Surface Soil

Run Mode: Research
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***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 205.300 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	279.000	205.300
1-2	279.000	205.300
2-3	279.000	205.300
3-4	279.000	205.300
4-5	279.000	205.300
5-6	279.000	205.300
6-7	279.000	205.300

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

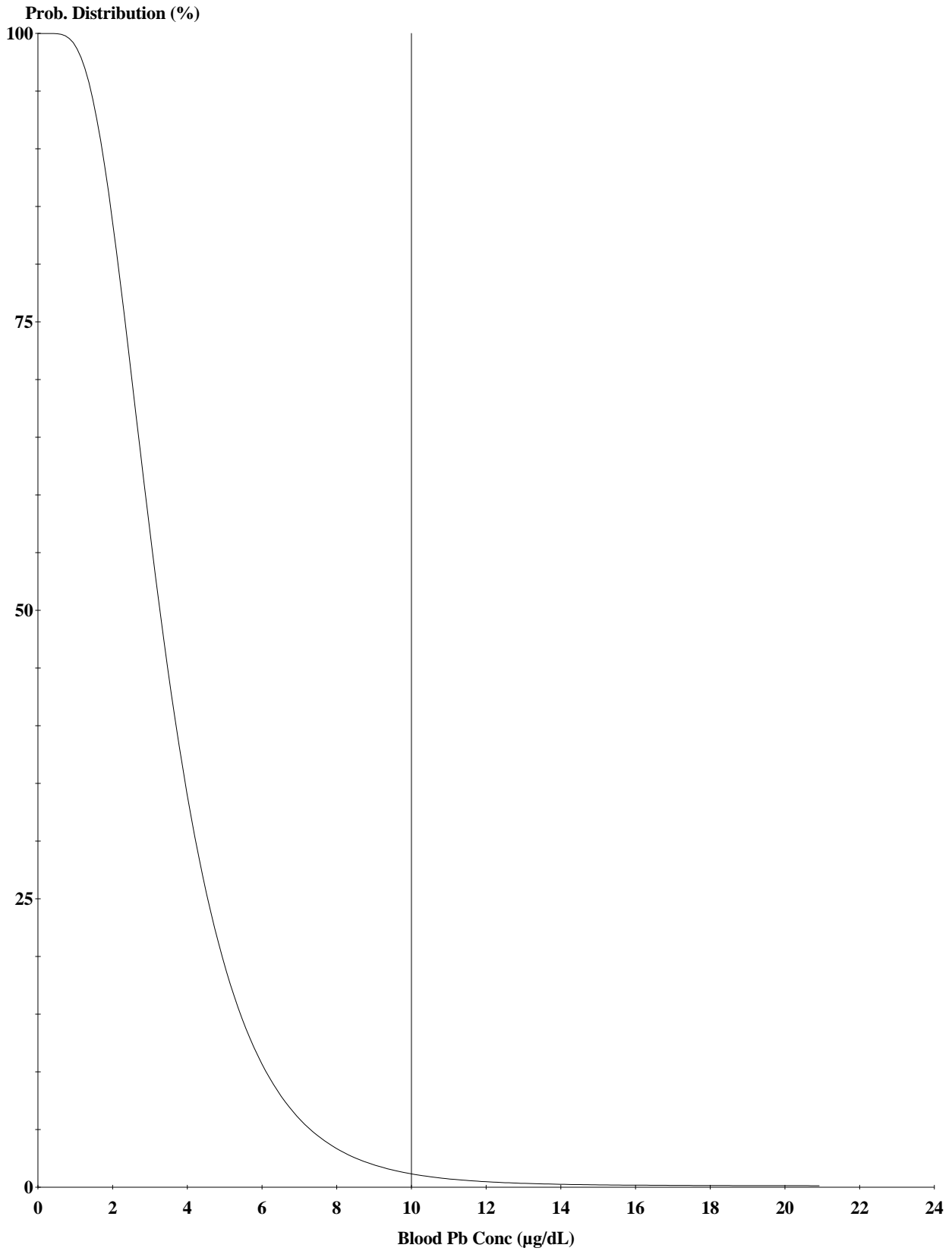
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.043	0.000	0.369
1-2	0.034	0.893	0.000	0.911
2-3	0.062	0.982	0.000	0.959
3-4	0.067	0.951	0.000	0.989
4-5	0.067	0.929	0.000	1.048
5-6	0.093	0.985	0.000	1.114
6-7	0.093	1.071	0.000	1.138

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	5.612	7.045	3.8
1-2	8.796	10.633	4.4
2-3	8.905	10.908	4.1
3-4	9.007	11.013	3.9
4-5	6.817	8.861	3.2
5-6	6.185	8.377	2.7
6-7	5.866	8.169	2.4



Cutoff = 10.000 µg/dl
Geo Mean = 3.422
GSD = 1.600
% Above = 1.125

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 3

Operable Unit: Surface Soil

Run Mode: Research
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***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 159.100 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	213.000	159.100
1-2	213.000	159.100
2-3	213.000	159.100
3-4	213.000	159.100
4-5	213.000	159.100
5-6	213.000	159.100
6-7	213.000	159.100

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

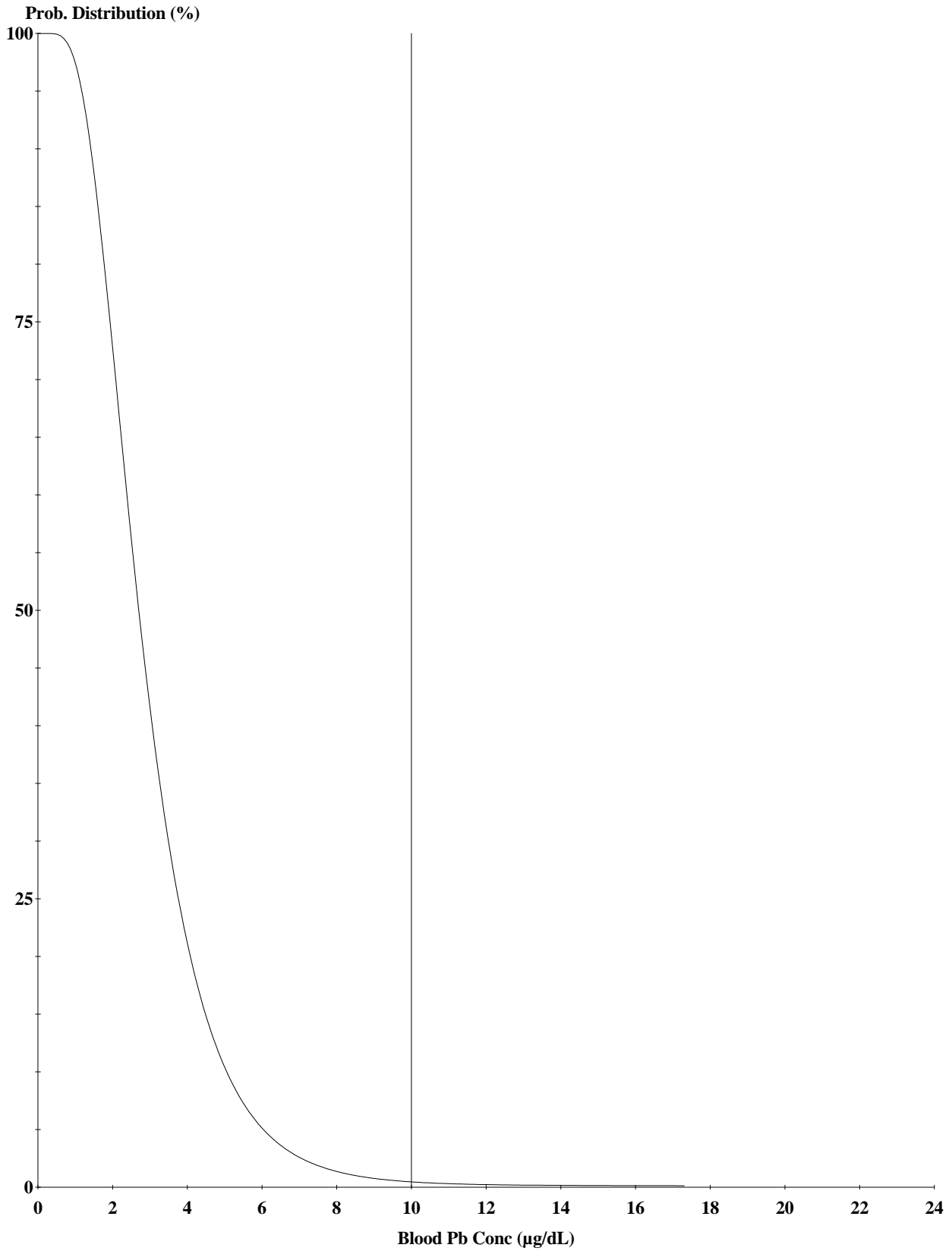
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.058	0.000	0.374
1-2	0.034	0.908	0.000	0.926
2-3	0.062	0.996	0.000	0.973
3-4	0.067	0.963	0.000	1.001
4-5	0.067	0.937	0.000	1.057
5-6	0.093	0.991	0.000	1.122
6-7	0.093	1.077	0.000	1.145

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	4.376	5.829	3.2
1-2	6.878	8.747	3.6
2-3	6.948	8.980	3.4
3-4	7.014	9.045	3.2
4-5	5.286	7.347	2.6
5-6	4.788	6.994	2.2
6-7	4.537	6.853	2.0



Cutoff = 10.000 µg/dl
Geo Mean = 2.831
GSD = 1.600
% Above = 0.363

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 4

Operable Unit: Surface Soil

Run Mode: Research
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***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 124.100 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	163.000	124.100
1-2	163.000	124.100
2-3	163.000	124.100
3-4	163.000	124.100
4-5	163.000	124.100
5-6	163.000	124.100
6-7	163.000	124.100

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

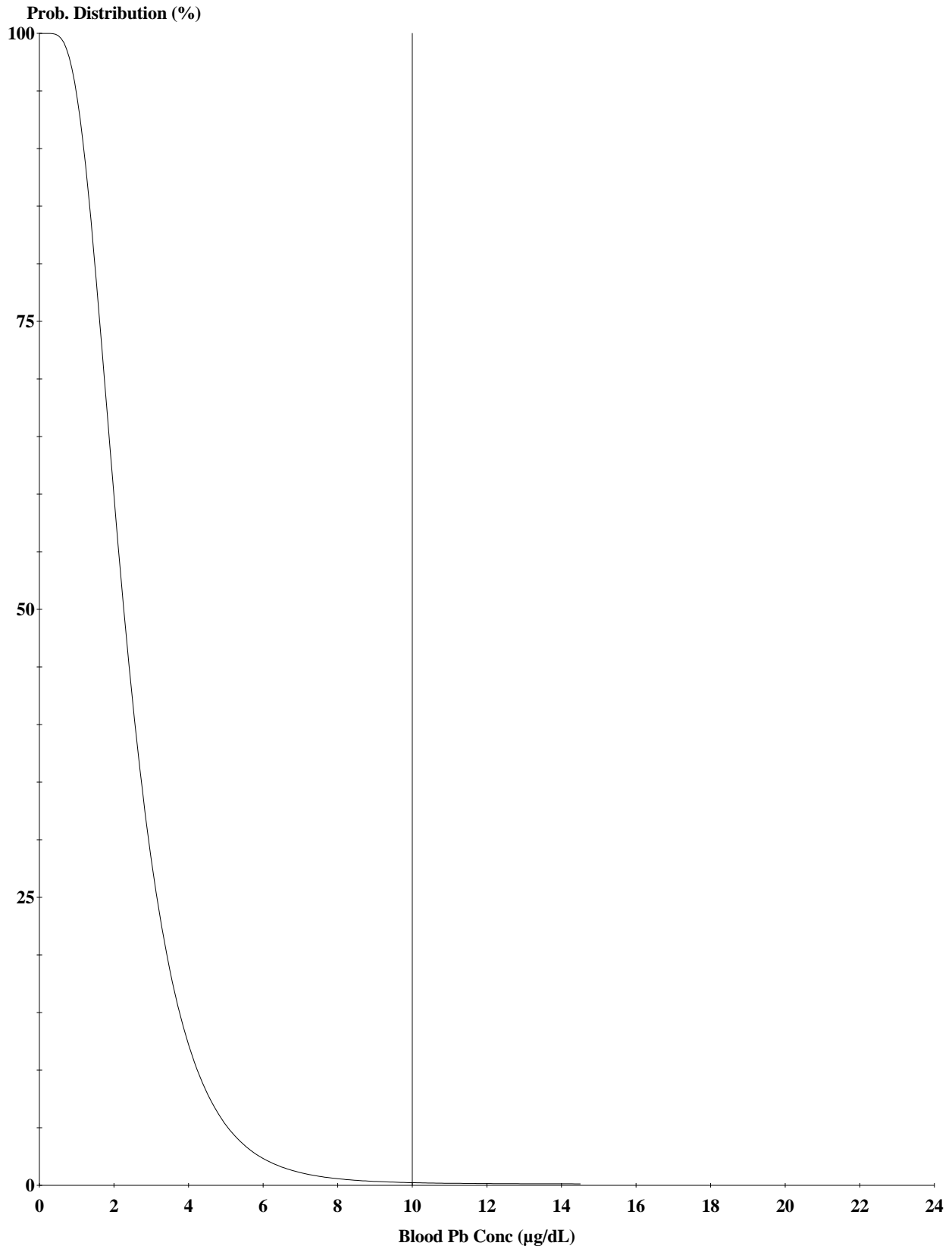
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.069	0.000	0.378
1-2	0.034	0.920	0.000	0.939
2-3	0.062	1.008	0.000	0.984
3-4	0.067	0.973	0.000	1.011
4-5	0.067	0.943	0.000	1.064
5-6	0.093	0.996	0.000	1.128
6-7	0.093	1.082	0.000	1.150

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	3.417	4.885	2.7
1-2	5.382	7.275	3.0
2-3	5.427	7.481	2.8
3-4	5.470	7.521	2.6
4-5	4.109	6.182	2.2
5-6	3.717	5.934	1.9
6-7	3.520	5.845	1.7



Cutoff = 10.000 µg/dl
Geo Mean = 2.373
GSD = 1.600
% Above = 0.110

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 5

Operable Unit: Surface Soil

Run Mode: Research
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***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 188.500 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	255.000	188.500
1-2	255.000	188.500
2-3	255.000	188.500
3-4	255.000	188.500
4-5	255.000	188.500
5-6	255.000	188.500
6-7	255.000	188.500

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

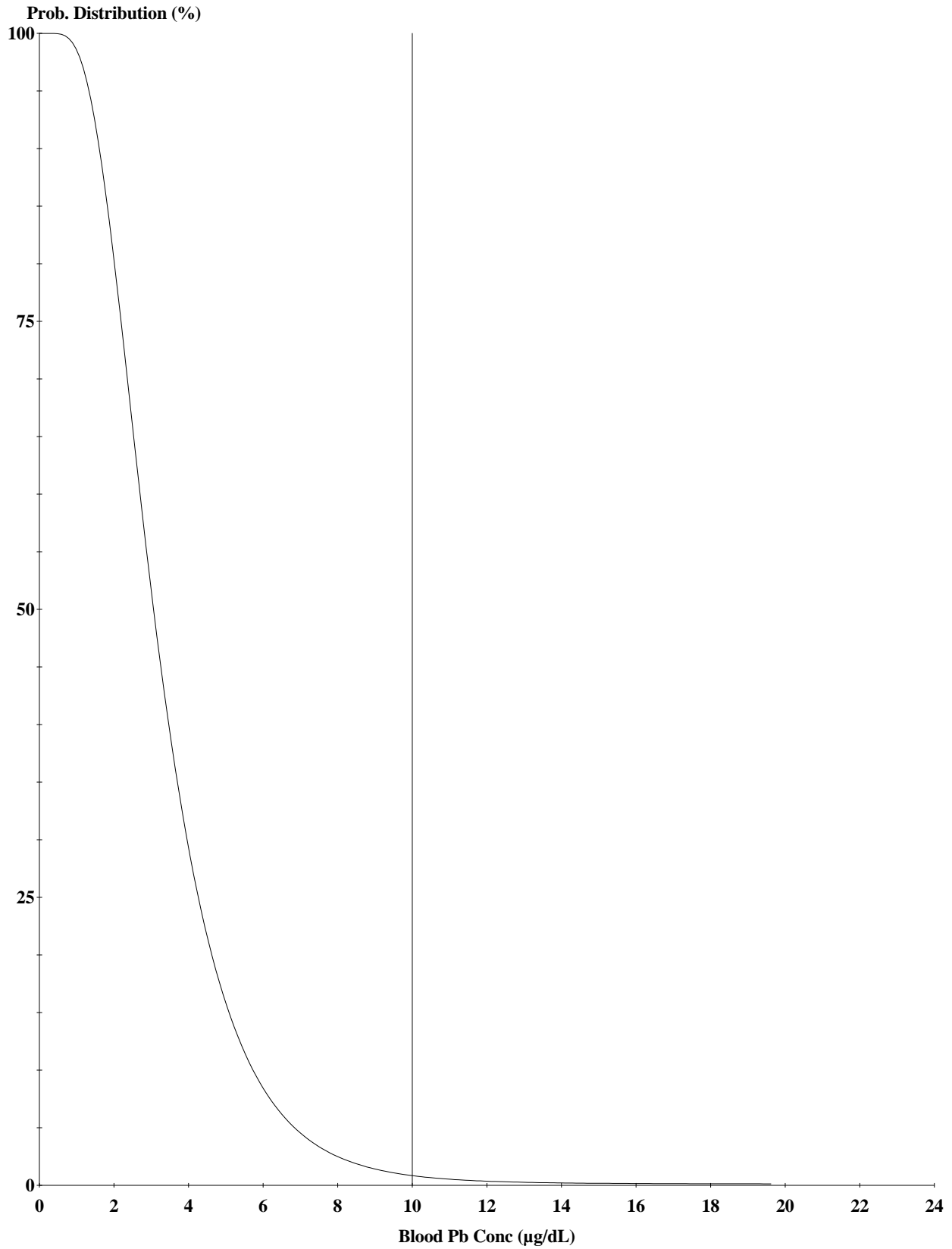
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.048	0.000	0.371
1-2	0.034	0.898	0.000	0.916
2-3	0.062	0.987	0.000	0.964
3-4	0.067	0.956	0.000	0.993
4-5	0.067	0.932	0.000	1.051
5-6	0.093	0.987	0.000	1.117
6-7	0.093	1.073	0.000	1.141

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	5.166	6.607	3.6
1-2	8.106	9.955	4.1
2-3	8.200	10.213	3.8
3-4	8.288	10.303	3.6
4-5	6.263	8.313	3.0
5-6	5.679	7.876	2.5
6-7	5.385	7.692	2.2



Cutoff = 10.000 µg/dl
Geo Mean = 3.209
GSD = 1.600
% Above = 0.779

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11

User Name:

Date:

Site Name: Background

Operable Unit: Surface Soil

Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 267.600 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	368.000	267.600
1-2	368.000	267.600
2-3	368.000	267.600
3-4	368.000	267.600
4-5	368.000	267.600
5-6	368.000	267.600
6-7	368.000	267.600

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

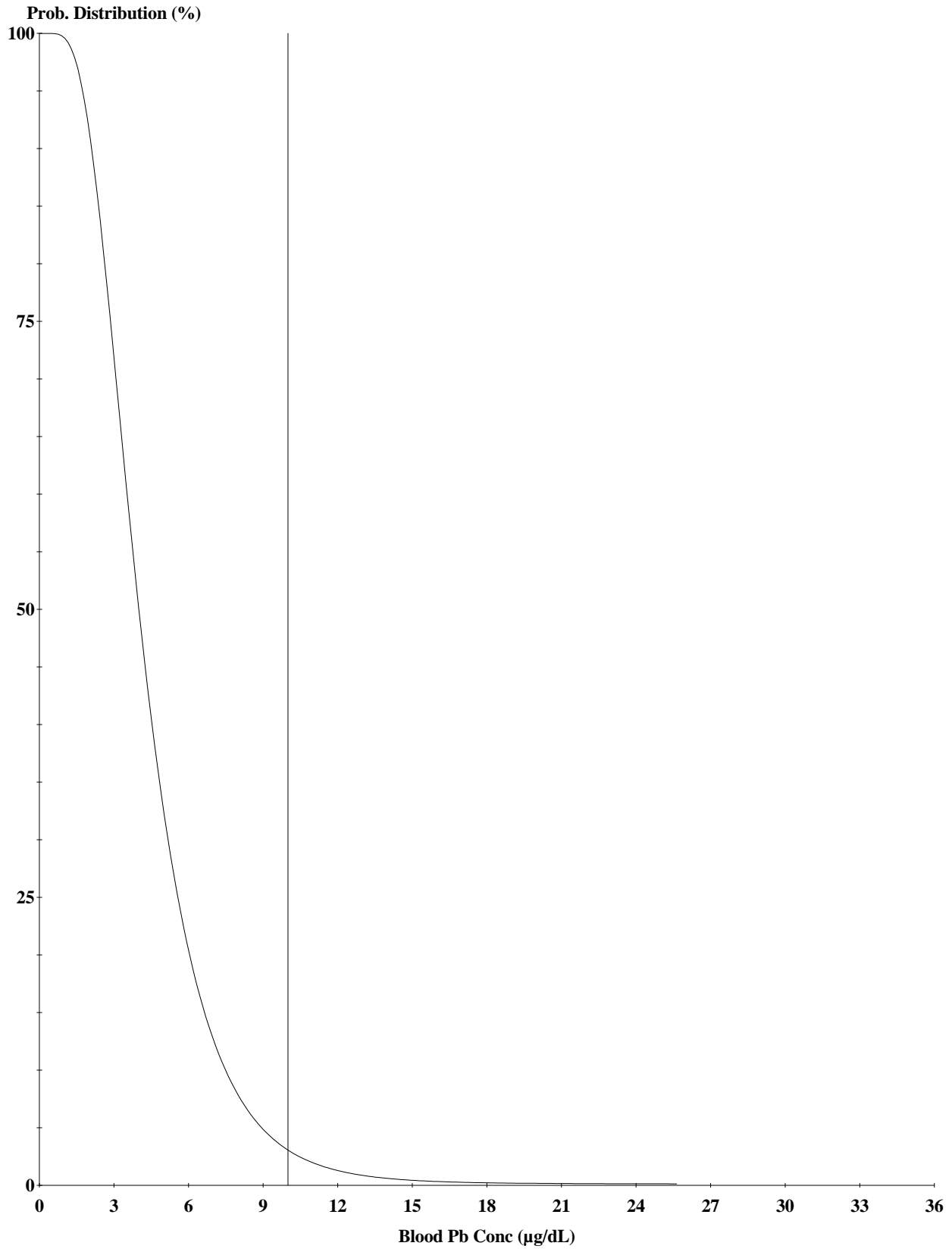
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.024	0.000	0.362
1-2	0.034	0.873	0.000	0.891
2-3	0.062	0.963	0.000	0.941
3-4	0.067	0.935	0.000	0.972
4-5	0.067	0.919	0.000	1.037
5-6	0.093	0.976	0.000	1.104
6-7	0.093	1.062	0.000	1.129

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	7.225	8.633	4.7
1-2	11.284	13.083	5.4
2-3	11.458	13.424	5.0
3-4	11.617	13.591	4.7
4-5	8.843	10.865	3.9
5-6	8.039	10.213	3.3
6-7	7.634	9.919	2.9



Cutoff = 10.000 µg/dl
Geo Mean = 4.194
GSD = 1.600
% Above = 3.223

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

=====
Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 1

Operable Unit: Subsurface Soil

Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 390.100 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	543.000	390.100
1-2	543.000	390.100
2-3	543.000	390.100
3-4	543.000	390.100
4-5	543.000	390.100
5-6	543.000	390.100
6-7	543.000	390.100

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

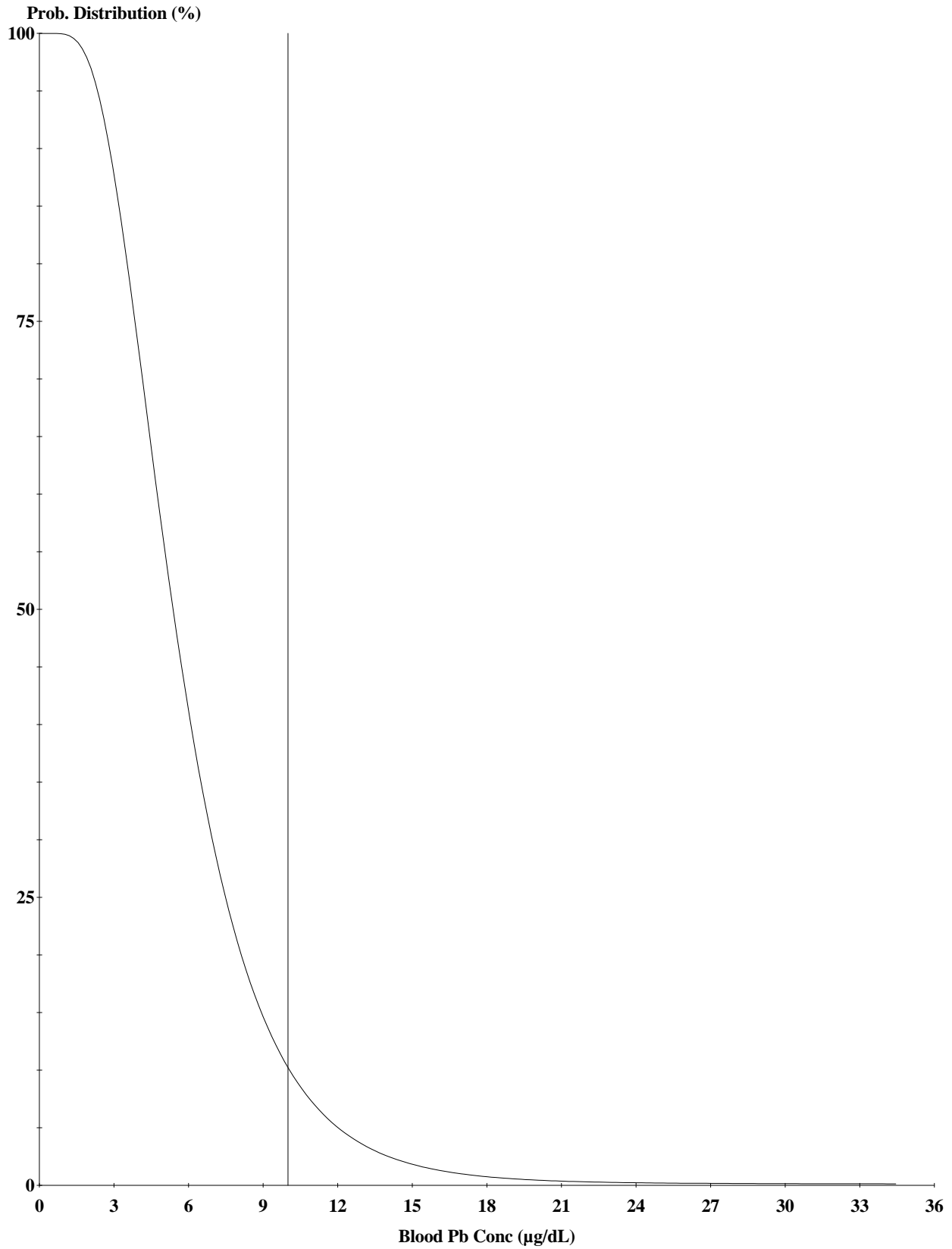
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	0.989	0.000	0.350
1-2	0.034	0.838	0.000	0.855
2-3	0.062	0.929	0.000	0.907
3-4	0.067	0.906	0.000	0.942
4-5	0.067	0.899	0.000	1.015
5-6	0.093	0.959	0.000	1.085
6-7	0.093	1.046	0.000	1.112

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	10.237	11.597	6.2
1-2	15.886	17.612	7.2
2-3	16.214	18.112	6.7
3-4	16.512	18.427	6.4
4-5	12.700	14.681	5.3
5-6	11.592	13.730	4.4
6-7	11.031	13.284	3.9



Cutoff = 10.000 µg/dl
Geo Mean = 5.636
GSD = 1.600
% Above = 11.122

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

=====
Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 2

Operable Unit: Subsurface Soil

Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 70.200 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	86.000	70.200
1-2	86.000	70.200
2-3	86.000	70.200
3-4	86.000	70.200
4-5	86.000	70.200
5-6	86.000	70.200
6-7	86.000	70.200

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

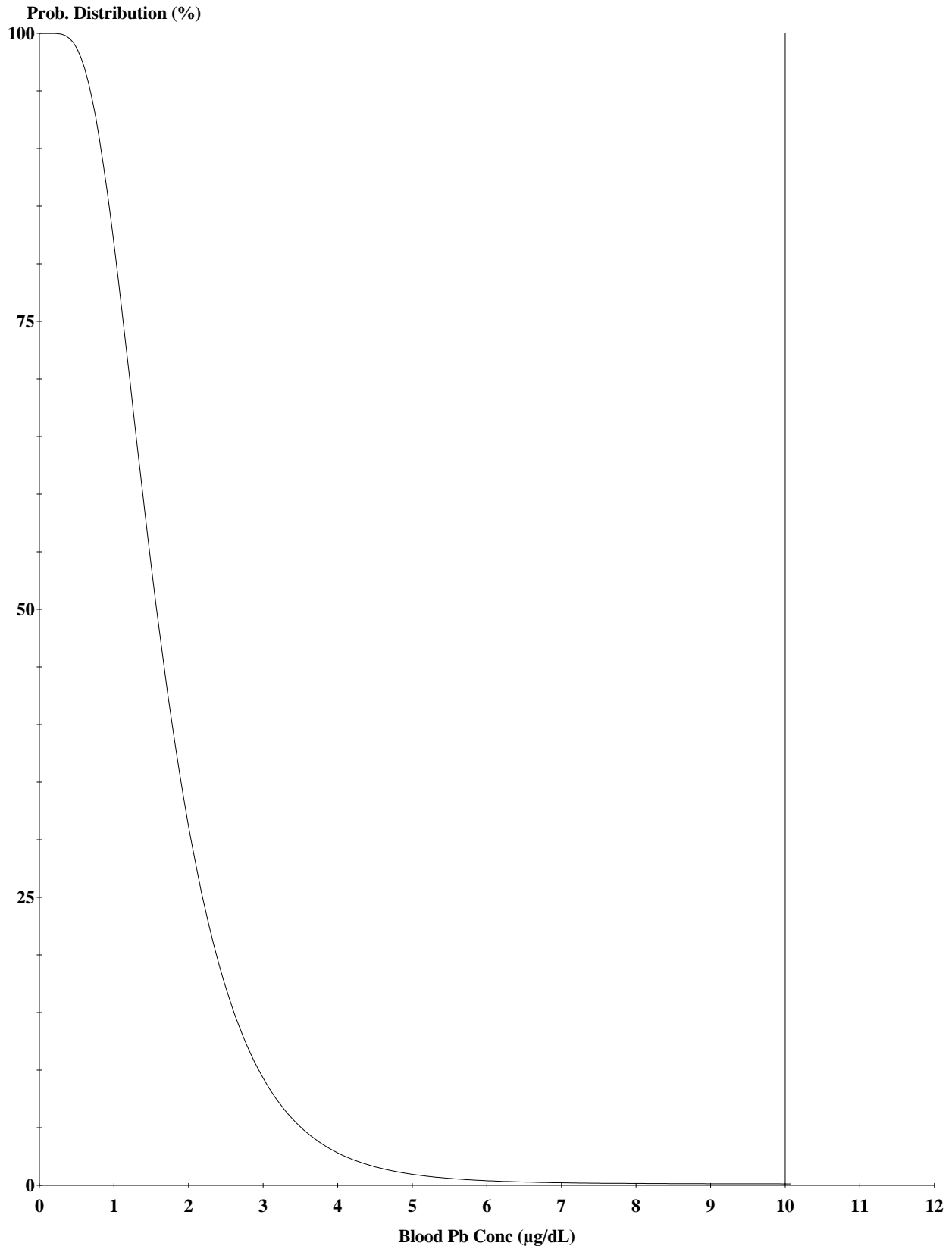
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.088	0.000	0.385
1-2	0.034	0.939	0.000	0.958
2-3	0.062	1.026	0.000	1.002
3-4	0.067	0.988	0.000	1.027
4-5	0.067	0.952	0.000	1.075
5-6	0.093	1.004	0.000	1.137
6-7	0.093	1.090	0.000	1.158

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	1.898	3.391	1.9
1-2	3.000	4.932	2.1
2-3	3.016	5.106	1.9
3-4	3.033	5.114	1.8
4-5	2.266	4.359	1.5
5-6	2.046	4.280	1.3
6-7	1.935	4.276	1.2



Cutoff = 10.000 µg/dl
Geo Mean = 1.647
GSD = 1.600
% Above = 0.006

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

=====
Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 3

Operable Unit: Subsurface Soil

Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 77.200 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	96.000	77.200
1-2	96.000	77.200
2-3	96.000	77.200
3-4	96.000	77.200
4-5	96.000	77.200
5-6	96.000	77.200
6-7	96.000	77.200

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

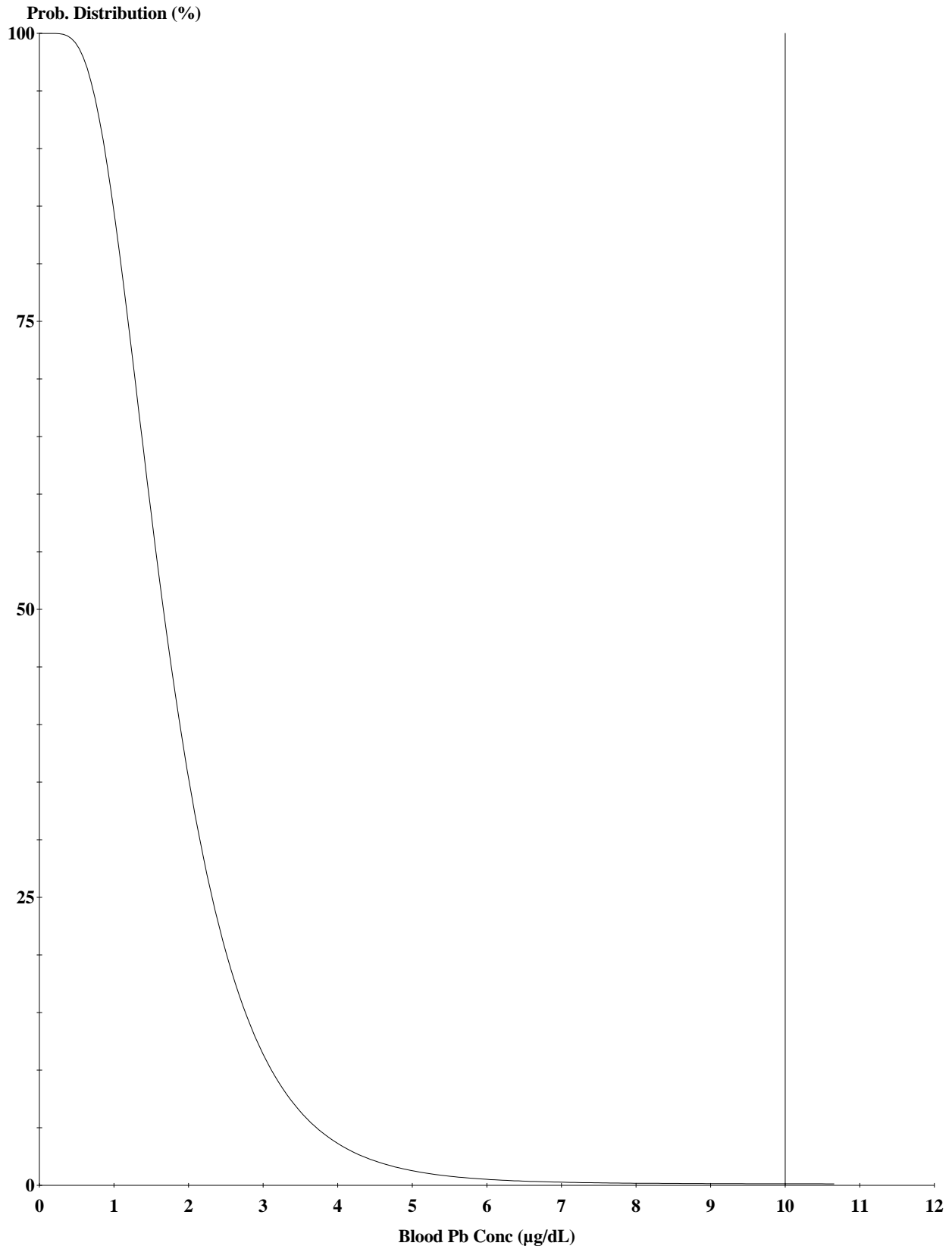
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.085	0.000	0.384
1-2	0.034	0.936	0.000	0.956
2-3	0.062	1.024	0.000	1.000
3-4	0.067	0.986	0.000	1.025
4-5	0.067	0.951	0.000	1.073
5-6	0.093	1.003	0.000	1.136
6-7	0.093	1.089	0.000	1.157

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	2.098	3.588	2.0
1-2	3.315	5.241	2.2
2-3	3.334	5.419	2.0
3-4	3.353	5.431	1.9
4-5	2.507	4.598	1.6
5-6	2.264	4.496	1.4
6-7	2.142	4.481	1.3



Cutoff = 10.000 µg/dl
Geo Mean = 1.743
GSD = 1.600
% Above = 0.010

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

=====
Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 4

Operable Unit: Subsurface Soil

Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 92.600 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	118.000	92.600
1-2	118.000	92.600
2-3	118.000	92.600
3-4	118.000	92.600
4-5	118.000	92.600
5-6	118.000	92.600
6-7	118.000	92.600

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

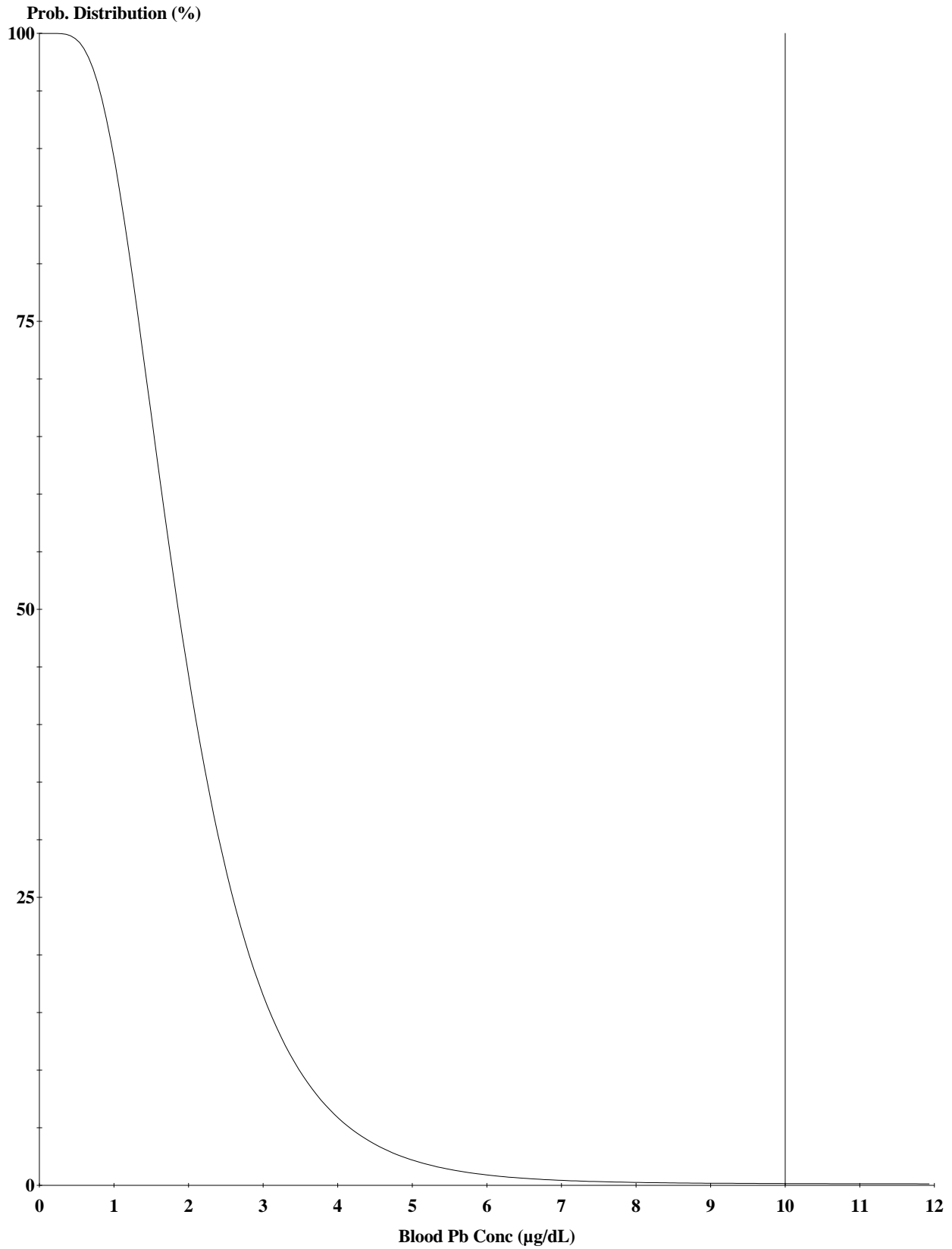
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.080	0.000	0.382
1-2	0.034	0.931	0.000	0.950
2-3	0.062	1.018	0.000	0.994
3-4	0.067	0.982	0.000	1.020
4-5	0.067	0.948	0.000	1.070
5-6	0.093	1.001	0.000	1.133
6-7	0.093	1.086	0.000	1.155

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	2.535	4.018	2.2
1-2	4.002	5.917	2.5
2-3	4.029	6.103	2.3
3-4	4.055	6.123	2.2
4-5	3.036	5.121	1.8
5-6	2.743	4.971	1.6
6-7	2.596	4.931	1.4



Cutoff = 10.000 µg/dl
Geo Mean = 1.952
GSD = 1.600
% Above = 0.025

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

=====
Model Version: 1.1 Build11

User Name:

Date:

Site Name: Area 5

Operable Unit: Subsurface Soil

Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age Diet Intake(ug/day)

.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age Water (L/day)

.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 40.100 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	43.000	40.100
1-2	43.000	40.100
2-3	43.000	40.100
3-4	43.000	40.100
4-5	43.000	40.100
5-6	43.000	40.100
6-7	43.000	40.100

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

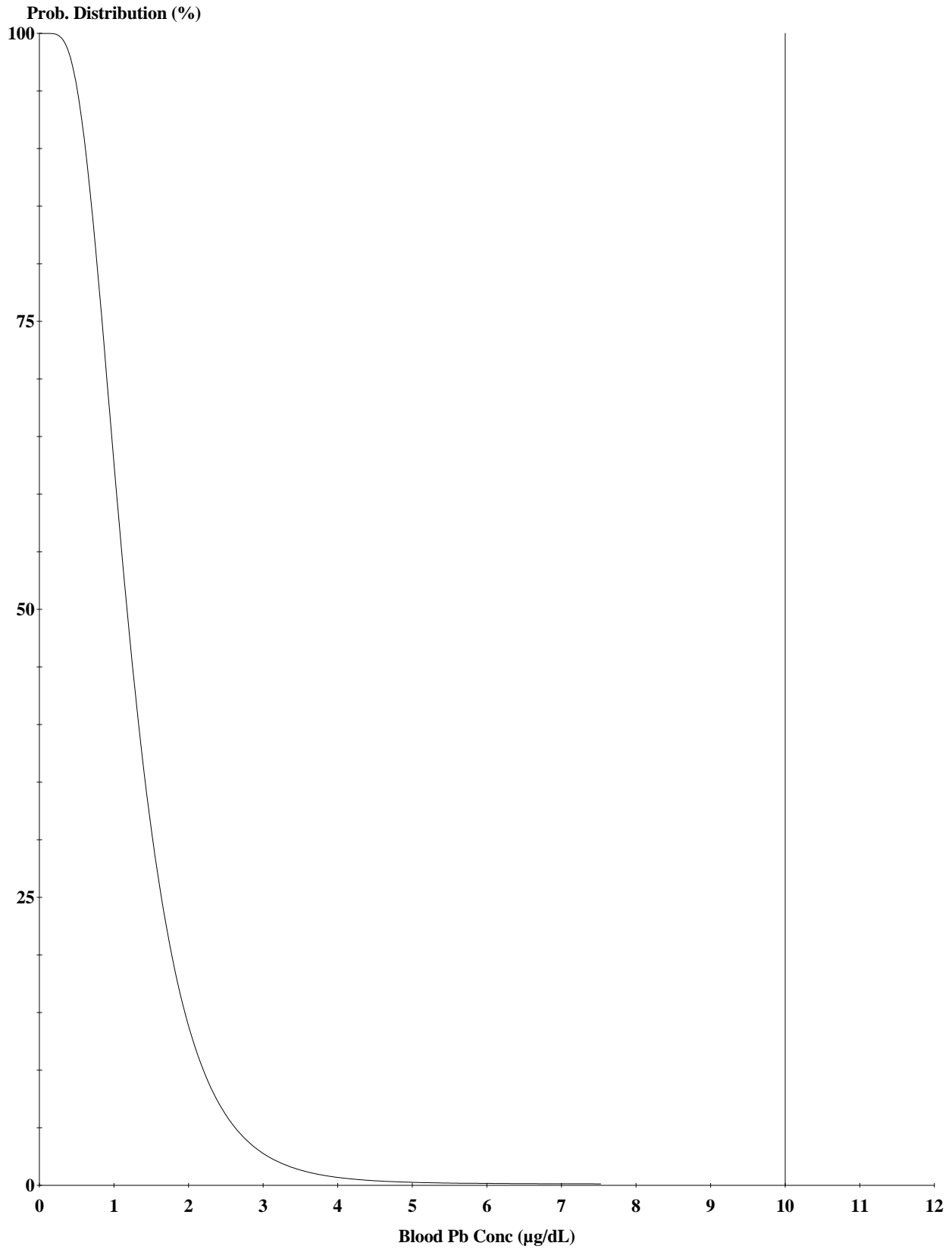
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.098	0.000	0.389
1-2	0.034	0.950	0.000	0.970
2-3	0.062	1.036	0.000	1.012
3-4	0.067	0.997	0.000	1.036
4-5	0.067	0.958	0.000	1.081
5-6	0.093	1.009	0.000	1.142
6-7	0.093	1.094	0.000	1.163

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	1.026	2.534	1.4
1-2	1.626	3.580	1.5
2-3	1.632	3.742	1.4
3-4	1.639	3.738	1.3
4-5	1.220	3.326	1.2
5-6	1.101	3.345	1.0
6-7	1.041	3.391	1.0



Cutoff = 10.000 µg/dl
Geo Mean = 1.231
GSD = 1.600
% Above = 0.000

Age Range = 12 to 84 months
Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

=====
Model Version: 1.1 Build11
User Name:
Date:
Site Name: Background
Operable Unit: Subsurface Soil
Run Mode: Research
=====

***** Air *****

Indoor Air Pb Concentration: 30.000 percent of outdoor.

Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

***** Diet *****

Age	Diet Intake(ug/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

***** Drinking Water *****

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500

2-3 0.520
3-4 0.530
4-5 0.550
5-6 0.580
6-7 0.590

Drinking Water Concentration: 4.000 ug Pb/L

***** Soil & Dust *****

Multiple Source Analysis Used

Average multiple source concentration: 65.300 ug/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700

Outdoor airborne lead to indoor household dust lead concentration: 100.000

Use alternate indoor dust Pb sources? No

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	79.000	65.300
1-2	79.000	65.300
2-3	79.000	65.300
3-4	79.000	65.300
4-5	79.000	65.300
5-6	79.000	65.300
6-7	79.000	65.300

***** Alternate Intake *****

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

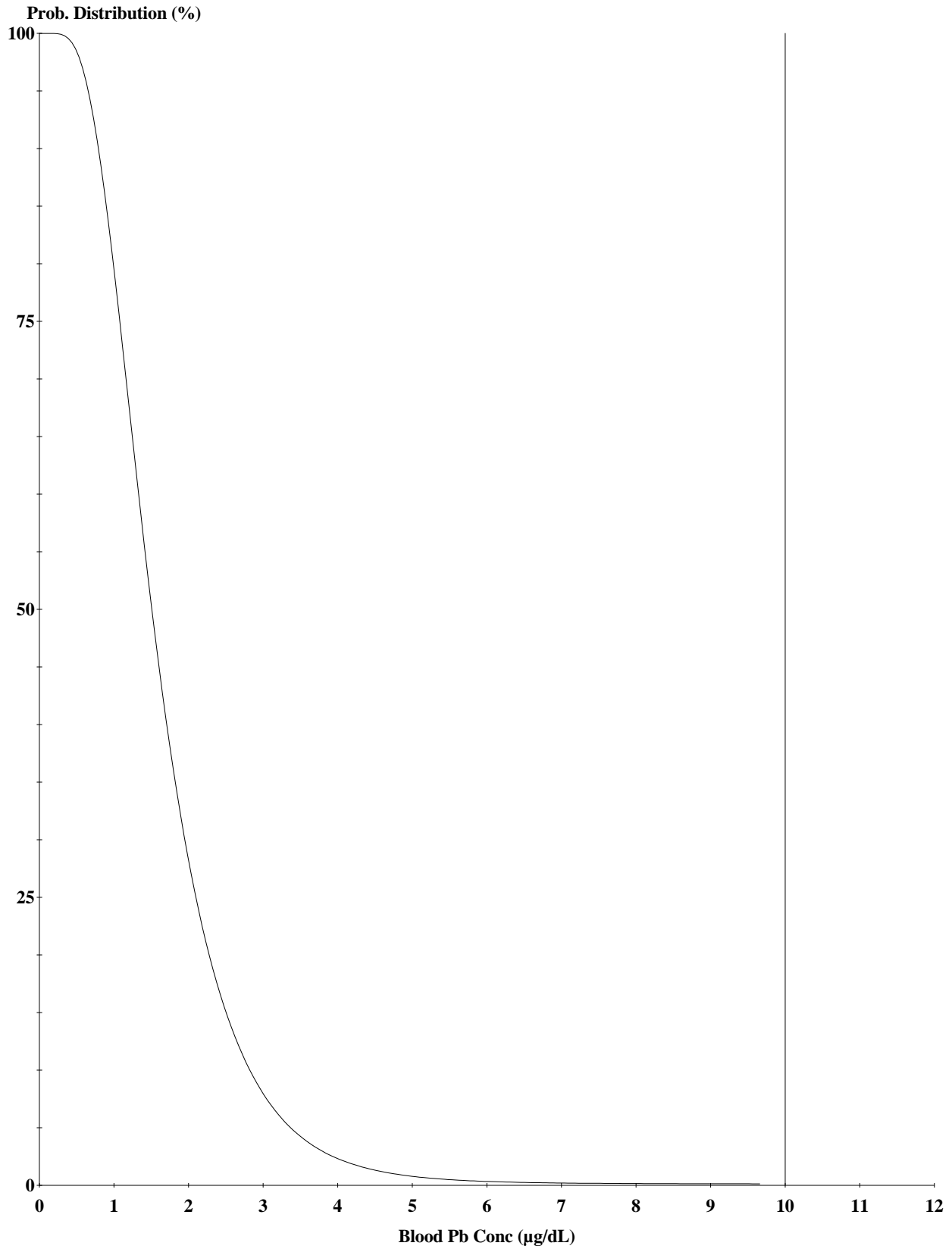
***** Maternal Contribution: Infant Model *****

Maternal Blood Concentration: 1.000 ug Pb/dL

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

Year	Air (ug/day)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	1.089	0.000	0.386
1-2	0.034	0.941	0.000	0.960
2-3	0.062	1.028	0.000	1.004
3-4	0.067	0.989	0.000	1.028
4-5	0.067	0.953	0.000	1.076
5-6	0.093	1.005	0.000	1.138
6-7	0.093	1.090	0.000	1.159

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	1.757	3.253	1.8
1-2	2.779	4.714	2.0
2-3	2.793	4.886	1.8
3-4	2.807	4.892	1.7
4-5	2.096	4.192	1.5
5-6	1.892	4.128	1.3
6-7	1.790	4.133	1.2



Cutoff = 10.000 µg/dl
Geo Mean = 1.580
GSD = 1.600
% Above = 0.004

Age Range = 12 to 84 months

Run Mode = Research

**Adult Lead Model - Area 1 Surface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	578	578
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	Baseline PbB	ug/dL	1.0	1.5
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR_{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W_S	Weighting factor; fraction of IR_{S+D} ingested as outdoor soil	--	--	--
K_{SD}	Mass fraction of soil in dust	--	--	--
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	219	219
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.8	2.3
$PbB_{\text{fetal}, 0.95}$	95th percentile PbB among fetuses of adult workers	ug/dL	4.3	7.1
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.11%	1.8%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

Checked By/Date: BJR 11/1/11

U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 2 Surface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	279	279
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.4	1.9
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	3.3	5.8
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.021%	0.87%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

Checked By/Date: BJR 11/1/11

U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

Adult Lead Model - Area 3 Surface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	213	213
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.3	1.8
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	3.1	5.5
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.014%	0.72%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

Checked By/Date: BJR 11/1/11

U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 4 Surface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	163	163
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.2	1.7
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	2.9	5.3
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0093%	0.62%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

Checked By/Date: BJR 11/1/11

U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 5 Surface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	255	255
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.4	1.9
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	3.2	5.7
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0182%	0.81%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

Checked By/Date: BJR 11/1/11

U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Background Surface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	368	368
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.5	2.0
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	3.6	6.2
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.037%	1.1%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

Checked By/Date: BJR 11/1/11

U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 1 Subsurface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	543	543
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.8	2.3
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	4.2	7.0
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.092%	1.6%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

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U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 2 Subsurface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	86	86
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.1	1.6
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	2.7	5.0
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0048%	0.48%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

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U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 3 Subsurface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	96	96
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.1	1.6
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	2.7	5.0
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0053%	0.49%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

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U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 4 Subsurface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	118	118
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.2	1.7
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	2.8	5.1
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0064%	0.53%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

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U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Area 5 Subsurface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	43	43
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.1	1.6
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	2.5	4.8
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0032%	0.41%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

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U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil

**Adult Lead Model - Background Subsurface Soil
Second Supplemental Remedial Investigation
Fort Totten Coast Guard Station Formerly Used Defense Site**

Calculations of Blood Lead Concentrations (PbBs)

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

Version date 6/21/09

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 1999-2004	GSDi and PbBo from Analysis of NHANES III (Phases 1&2)
PbS	Soil lead concentration	ug/g or ppm	79	79
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	2.1
PbB ₀	Baseline PbB	ug/dL	1.0	1.5
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	0.050
IR _{S+D}	Total ingestion rate of outdoor soil and indoor dust	g/day	--	--
W _S	Weighting factor; fraction of IR _{S+D} ingested as outdoor soil	--	--	--
K _{SD}	Mass fraction of soil in dust	--	--	--
AF _{S,D}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{S,D}	Exposure frequency (same for soil and dust)	days/yr	219	219
AT _{S,D}	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	1.1	1.6
PbB _{fetal, 0.95}	95th percentile PbB among fetuses of adult workers	ug/dL	2.6	4.9
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	10.0	10.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0.0046%	0.47%

Notes:

ug - microgram

g - gram

ppm - parts per million

d/L - deciliter

Prepared By/Date: EYM 10/24/11

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U.S. EPA (1996). Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil