Table 6-1a
Summary of Basin Blood Lead Level Observations by Year
(9 Month Through 9 Year Old Children)

Year	N	Minimum (mg/dl)	Maximum (µg/dl)	Arithmetic Mean (µg/dl)	Geometric Mean (µg/dl)	# ≥ 10 mg/dl	% ≥ 10 mg/dl	# ≥ 15 mg/dl	% ≥ 15 mg/dl	# ≥ 20 mg/dl	% ≥ 20 mg/dl	# ≥ 25 mg/dl	% ≥ 25 mg/dl	Number of Followups Completed
1996	98	1	18	5.2	4.0	15	15.3%	6	6.1%	0	0.0%	0	0.0%	12
1997	26	1	19	5.5	4.2	4	15.4%	2	7.7%	0	0.0%	0	0.0%	3
1998	128	1	21	5.1	4.2	11	8.7%	4	3.1%	2	1.6%	0	0.0%	10
1999	272	1	29	5.3	4.2	28	10.3%	13	4.8%	4	1.5%	1	0.4%	25

Table 6-1b
Summary of the Number of Blood Lead Observations and Repeat Children

Total No. of Blood Lead Observations	524
Total No. of Individual Child Observations	424
Total No. of Households	247
Total No. of Children Tested More Than Once	81
Total No. of Households for Repeated Children	57
Total No. of Children Tested Twice	65
Total No. of Children Tested Three Times	13
Total No. of Children Tested All Four Years	3
Total No. of Blood Lead Observations for Repeated Children with Blood Leads ≥ 10 µg/dl	11

Table 6-2
Annual Blood Lead Summary Data by Geographic Subarea for Children (mg/dl)
(9 Months Through 9 Years)

Year	Number of Observations				Arithmetic Mean	Standard Deviation	Geometric Mean	Minimum	Maximum
	Total	≥10mg/dl	≥15mg/dl	≥20mg/dl					
Mullan Area									
1996	11	0	0	0	3.7	1.6	3.4	2	7
1997	-	-	-	-	-	-	-	-	-
1998	5	1	0	0	7.6	2.1	7.4	6	11
1999	22	3	0	0	5.3	2.9	4.7	2	12
Total	38	4	0	0	5.2	2.7	4.6	2	12
Burke/Nine Mile Area									
1996	17	6	3	0	8.3	4.9	6.6	1	17
1997	8	3	2	0	8.2	7.4	5.6	2	19
1998	18	4	3	2	7.5	6.4	5.5	2	21
1999	33	3	2	1	6.6	4.0	5.6	1	20
Total	76	16	10	3	7.4	5.2	5.8	1	21
Wallace Area									
1996	14	1	0	0	4.2	2.8	3.6	2	11
1997	1	-	-	-	2.0	-	-	2	2
1998	28	4	1	0	5.9	3.6	4.9	1	16
1999	34	5	3	2	6.8	5.8	5.4	2	29
Total	77	10	4	2	6.0	4.6	4.8	1	29
Silverton Area									
1996	14	2	1	0	5.5	3.8	4.6	2	16
1997	5	0	0	0	4.4	2.6	3.8	2	8
1998	26	0	0	0	4.1	1.8	3.7	1	8
1999	28	4	2	1	5.4	4.9	4.0	1	23
Total	73	6	3	1	4.9	3.7	4.0	1	23
Osburn Area									
1996	15	1	0	0	4.0	2.9	3.4	1	13
1997	7	0	0	0	3.8	1.9	3.4	1	7
1998	22	0	0	0	4.0	1.9	3.6	1	8
1999	56	3	0	0	4.0	2.5	3.3	1	11
Total	100	4	0	0	4.1	2.4	3.4	1	13
Side Gulches Area									
1996	8	0	0	0	2.7	1.0	2.5	1	4
1997	-	-	-	-	-	-	-	-	-
1998	12	1	0	0	5.0	3.1	4.5	3	14
1999	31	1	1	0	4.3	2.9	3.6	1	16
Total	51	2	1	0	4.3	2.8	3.6	1	16

Table 6-2 (continued)
Annual Blood Lead Summary Data by Geographic Subarea for Children (mg/dl)
(9 Months Through 9 Years)

Year	Number of Observations				Arithmetic Mean	Standard Deviation	Geometric Mean	Minimum	Maximum
	Total	≥10mg/dl	≥15mg/dl	≥20mg/dl					
Kingston Area									
1996	7	1	1	0	6.4	4.7	5.2	2	16
1997	-	-	-	-	-	-	-	-	-
1998	8	0	0	0	2.8	1.9	2.4	1	7
1999	39	5	3	0	4.8	4.2	3.6	1	16
Total	54	6	4	0	4.8	4.0	3.6	1	16
Lower Basin/Cataldo Area									
1996	12	4	1	0	5.2	5.6	3.1	1	18
1997	5	1	0	0	5.4	4.0	4.4	2	12
1998	9	1	0	0	3.5	3.8	2.6	1	13
1999	29	4	2	0	6.2	4.2	5.0	1	18
Total	55	10	3	0	5.5	4.4	4.0	1	18

Table 6-3 Geographic Subarea Blood Lead Summary Data for All Children (1 year through 9 years old) For All Years (mg/dl)

Area	Total	# ≥10mg/dl	% ≥10mg/dl	# ≥15mg/dl	% ≥15mg/dl	# ≥20mg/dl	% ≥20mg/dl	Arithmetic Mean	Geometric Mean	Standard Deviation	Geometric Standard Deviation	Minimum	Maximum
Mullan	38	4	11%	-	-	-	-	5.2	4.6	2.7	1.7	2	12
Burke/Nine Mile	76	16	21%	10	13%	3	4%	7.4	5.8	5.2	2.1	1	21
Wallace	77	10	13%	4	5%	2	3%	6.0	4.8	4.6	1.9	1	29
Silverton	73	6	8%	3	4%	1	1%	4.9	4.0	3.7	1.9	1	23
Osburn	100	4	4%	-	-	-	-	4.1	3.4	2.4	1.8	1	13
Side Gulches	51	2	4%	1	2%	-	-	4.3	3.6	2.8	1.8	1	16
Kingston	54	6	11%	4	7%	-	-	4.8	3.6	4.0	2.2	1	16
Lower Basin/ Cataldo	55	10	18%	3	5%	-	-	5.5	4.0	4.4	2.3	1	18
Total	524	58	11%	25	5%	6	1%	-	-	-	-	-	-

Table 6-4a Basin Blood Lead Levels for 1-9 Year Old Children, All Years Combined (mg/dl)

Age (years)	N	Percent Participation	Cumulative Percent	Mininum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	# ≥ 10 mg/dl	% ≥ 10	# ≥ 15 mg/dl	% ≥ 15 mg/dl
1	40	7.6%	7.6%	2	16	7.0	3.6	6.2	8	20%	2	5%
2	46	8.8%	16.4%	2	29	8.0	6.3	6.3	12	26%	8	17%
3	52	9.9%	26.3%	1	21	6.5	4.5	5.2	10	19%	4	8%
4	57	10.9%	37.2%	1	21	5.5	4.2	4.4	7	12%	3	5%
5	62	11.8%	49.0%	1	16	5.4	3.0	4.7	5	8%	2	3%
6	46	8.8%	57.8%	1	20	4.8	3.3	4.0	3	7%	1	2%
7	58	11.1%	68.9%	1	15	4.3	2.8	3.5	3	5%	1	2%
8	72	13.7%	82.6%	1	17	3.9	3.1	3.0	4	6%	1	1%
9	91	17.4%	100.0%	1	19	4.1	3.4	3.2	6	7%	3	3%
All	524	100%		1	29	5.3	4.0	4.2	58	11%	25	5%

Table 6-4b Basin Blood Lead Levels for 1-6 Year Old Children, All Years Combined (mg/dl)

Age (years)	N	Percent Participation	Cumulative Percent	Mininum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	# ≥ 10 mg/dl	% ≥ 10	Age-Adjusted % ≥ 10	# ≥ 15 mg/dl	% ≥ 15 mg/dl	Age-Adjusted % > 15
1	40	13.2%	13.2%	2	16	7.0	3.6	6.2	8	20.0%	25.3%	2	5.0%	6.3%
2	46	15.2%	28.4%	2	29	8.0	6.3	6.3	12	26.1%	28.6%	8	17.4%	19.1%
3	52	17.2%	45.5%	1	21	6.5	4.5	5.2	10	19.2%	18.7%	4	7.7%	7.5%
4	57	18.8%	64.4%	1	21	5.5	4.2	4.4	7	12.3%	10.9%	3	5.3%	4.7%
5	62	20.5%	84.8%	1	16	5.4	3.0	4.7	5	8.1%	6.6%	2	3.2%	2.6%
6	46	15.2%	100.0%	1	20	4.8	3.3	4.0	3	6.5%	7.2%	1	2.2%	2.4%
All	303	100%		1	29	5.3	4.0	4.2	45	14.9%	16.2%	20	6.6%	7.1%

Table 6-4c Basin Blood Lead Levels for 1-7 Year Old Children, All Years Combined (mg/dl)

Age (years)	N	Percent Participation	Cumulative Percent	Mininum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	# ≥ 10 mg/dl	% ≥ 10	Age-Adjusted % ≥ 10	# ≥ 15 mg/dl	% ≥ 15 mg/dl	Age-Adjusted % > 15
1	40	11.1%	11.1%	2	16	7.0	3.6	6.2	8	20.0%	25.8%	2	5.0%	6.4%
2	46	12.7%	23.8%	2	29	8.0	6.3	6.3	12	26.1%	29.2%	8	17.4%	19.5%
3	52	14.4%	38.2%	1	21	6.5	4.5	5.2	10	19.2%	19.1%	4	7.7%	7.6%
4	57	15.8%	54.0%	1	21	5.5	4.2	4.4	7	12.3%	11.1%	3	5.3%	4.8%
5	62	17.2%	71.2%	1	16	5.4	3.0	4.7	5	8.1%	6.7%	2	3.2%	2.7%
6	46	12.7%	83.9%	1	20	4.8	3.3	4.0	3	6.5%	7.3%	1	2.2%	2.4%
7	58	16.1%	100.0%	1	15	4.3	2.8	3.5	3	5.2%	4.6%	1	2.0%	1.8%
All	361	100.0%		1	29	5.3	4.0	4.2	45	12.5%	14.8%	20	5.5%	6.5%

Table 6-5 Basin Blood Lead Levels by Geographic Area and Age (mg/dl)

	Kingston	Lower Basin	Mullan	Burke/ Nine Mile	Osburn	Side Gulches	Silverton	Wallace	Basin wide
Age 1									
N	3	5	4	4	9	3	6	6	40
Minimum	2	4	5	2	4	2	4	8	2
Maximum	5	14	9	9	11	7	16	16	16
Arithmetic Mean	3.7	7.0	6.5	5.3	6.6	4.3	7.7	11.7	7.0
Standard Deviation	1.53	4.12	1.73	2.87	2.19	2.52	4.41	2.66	3.6
Geometric Mean	3.4	6.2	6.3	4.6	6.2	3.8	6.8	11.4	6.2
GSD	1.61	1.67	1.28	1.86	1.39	1.87	1.65	1.26	1.7
# ≥ 10	0	1	0	0	1	0	1	5	8.0
% ≥ 10	0%	20%	0%	0%	11%	0%	17%	83%	20%
# ≥ 15	0	0	0	0	0	0	1	1	2.0
% ≥ 15	0%	0%	0%	0%	0%	0%	17%	17%	5%
Age 2									
N	5	4	2	6	5	7	10	7	46
Minimum	2	3	5	2	2	4	3	2	2
Maximum	15	18	11	20	10	9	23	29	29
Arithmetic Mean	9.0	9.8	8.0	11.7	6.4	5.9	7.4	7.6	8.0
Standard Deviation	5.43	6.65	4.24	8.50	3.05	1.86	6.55	9.52	6.3
Geometric Mean	7.3	7.9	7.4	8.4	5.6	5.6	5.7	5.1	6.3
GSD	2.25	2.20	1.75	2.67	1.88	1.36	2.01	2.32	2.0
# ≥ 10	2	2	1	3	1	0	2	1	12.0
% ≥ 10	40%	50%	50%	50%	20%	0%	20%	14%	26%
# ≥ 15	1	1	0	3	0	0	2	1	8.0
% ≥ 15	20%	25%	0%	50%	0%	0%	20%	14%	17%
Age 3									
N	9	10	1	4	4	7	9	8	52
Minimum	1	1	5	6	2	1	2	3	1
Maximum	16	18	5	21	6	7	10	19	21
Arithmetic Mean	6.4	7.1	5.0	12.3	3.8	3.9	5.7	7.9	6.5
Standard Deviation	4.50	5.00	0.00	6.50	2.06	1.77	2.96	4.97	4.5
Geometric Mean	5.1	5.5	5.0	11.0	3.3	3.4	4.9	6.8	5.2
GSD	2.20	2.32	1.00	1.70	1.80	1.82	1.81	1.73	2.0
# ≥ 10	2	2	0	2	0	0	2	2	10.0
% ≥ 10	22%	20%	0%	50%	0%	0%	22%	25%	19%
# ≥ 15	1	1	0	1	0	0	0	1	4.0
% ≥ 15	11%	10%	0%	25%	0%	0%	0%	13%	8%
Age 4									
N	11	5	1	5	12	4	12	7	57
Minimum	1	2	12	3	1	3	2	2	1
Maximum	16	13	12	18	11	5	8	21	21
Arithmetic Mean	4.4	6.2	12.0	8.0	3.6	3.8	5.0	9.1	5.5
Standard Deviation	4.15	4.32	0.00	6.12	2.54	0.96	1.71	6.15	4.2
Geometric Mean	3.3	5.0	12.0	6.4	3.0	3.7	4.7	7.5	4.4
GSD	2.04	2.09	1.00	2.14	1.79	1.28	1.54	2.07	2.0
# ≥ 10	1	1	1	1	1	0	0	2	7.0
% ≥ 10	9%	20%	100%	20%	8%	0%	0%	29%	12%
# ≥ 15	1	0	0	1	0	0	0	1	3.0
% ≥ 15	9%	0%	0%	20%	0%	0%	0%	14%	5%
Age 5									
N	3	4	4	13	13	4	10	11	62
Minimum	4	3	2	2	1	2	2	2	1
Maximum	16	16	6	10	8	3	12	9	16
Arithmetic Mean	9.3	9.5	4.3	5.7	4.9	2.8	4.6	5.1	5.4
Standard Deviation	6.11	5.32	2.06	2.25	1.98	0.50	3.10	1.97	3.0
Geometric Mean	8.0	8.1	3.8	5.3	4.4	2.7	3.9	4.7	4.7
GSD	2.00	2.03	1.72	1.54	1.78	1.22	1.83	1.52	1.7
# ≥ 10	1	2	0	1	0	0	1	0	5.0
% ≥ 10	33%	50%	0%	8%	0%	0%	10%	0%	8%
# ≥ 15	1	1	0	0	0	0	0	0	2.0
% ≥ 15	33%	25%	0%	0%	0%	0%	0%	0%	3%

Table 6-5 Basin Blood Levels by Geographic Area and Age mg/dl (continued)

	Kingston	Lower Basin	Mullan	Burke/ Nine Mile	Osburn	Side Gulches	Silverton	Wallace	Basin wide
Age 6									
N	3	7	5	7	9	7	4	4	46
Minimum	1	3	2	4	2	1	2	2	1
Maximum	5	11	6	20	6	6	8	8	20
Arithmetic Mean	2.7	4.7	3.8	8.6	3.9	3.9	4.0	6.0	4.8
Standard Deviation	2.08	2.98	1.64	5.86	1.36	1.86	2.71	2.83	3.3
Geometric Mean	2.2	4.2	3.5	7.3	3.7	3.4	3.5	5.3	4.0
GSD	2.24	1.65	1.55	1.79	1.44	1.87	1.80	1.93	1.8
# ≥ 10	0	1	0	2	0	0	0	0	3.0
% ≥ 10	0%	14%	0%	29%	0%	0%	0%	0%	7%
# ≥ 15	0	0	0	1	0	0	0	0	1.0
% ≥ 15	0%	0%	0%	14%	0%	0%	0%	0.00	2%
Age 7									
N	9	5	4	11	10	3	5	11	58
Minimum	1	1	4	1	1	2	2	1	1
Maximum	5	10	7	15	9	4	4	7	15
Arithmetic Mean	2.3	3.8	5.5	7.2	3.9	3.3	2.6	4.3	4.3
Standard Deviation	1.41	3.83	1.73	3.82	2.28	1.15	0.89	1.62	2.8
Geometric Mean	2.0	2.5	5.3	6.0	3.3	3.2	2.5	3.9	3.5
GSD	1.83	2.76	1.38	2.06	1.87	1.49	1.37	1.68	2.0
# ≥ 10	0	1	0	2	0	0	0	0	3.0
% ≥ 10	0%	20%	0%	18%	0%	0%	0%	0%	5%
# ≥ 15	0	0	0	1	0	0	0	0	1.0
% ≥ 15	0%	0%	0.00	9%	0%	0%	0%	0%	2%
Age 8									
N	5	7	10	9	17	6	8	10	72
Minimum	1	1	2	1	1	1	1	1	1
Maximum	8	5	11	17	13	14	8	9	17
Arithmetic Mean	3.6	2.1	4.5	4.9	3.8	4.7	3.0	4.0	3.9
Standard Deviation	2.70	1.46	2.72	5.01	2.74	4.68	2.27	2.45	3.1
Geometric Mean	2.9	1.8	3.9	3.4	3.2	3.4	2.4	3.3	3.0
GSD	2.17	1.87	1.70	2.35	1.88	2.33	2.01	1.96	2.0
# ≥ 10	0	0	1	1	1	1	0	0	4.0
% ≥ 10	0%	0%	10%	11%	6%	17%	0%	0%	6%
# ≥ 15	0	0	0	1	0	0	0	0	1.0
% ≥ 15	0%	0%	0%	11%	0%	0%	0%	0%	1%
Age 9									
N	6	8	7	17	21	10	9	13	91
Minimum	2	1	2	2	1	1	1	2	1
Maximum	6	4	10	19	5	16	8	7	19
Arithmetic Mean	3.5	2.6	5.0	7.3	2.5	4.6	3.4	3.3	4.1
Standard Deviation	1.38	1.19	3.06	5.06	1.21	4.35	2.30	1.32	3.4
Geometric Mean	3.3	2.4	4.3	5.7	2.2	3.4	2.8	3.1	3.2
GSD	1.44	1.63	1.83	2.11	1.71	2.18	2.04	1.41	2.0
# ≥ 10	0	0	1	4	0	1	0	0	6.0
% ≥ 10	0%	0%	14%	24%	0%	10%	0%	0%	7%
# ≥ 15	0	0	0	2	0	1	0	0	3.0
% ≥ 15	0%	0%	0%	12%	0%	10%	0%	0%	3%

Table 6-6a Basin-wide Blood Lead Level Summary for 1 Through 6 Year Old Children by Area (Survey Results-All Years)

Area	N	Minimum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	Geometric Standard Deviation	# ≥10 mg/dl	% ≥10 mg/dl	# ≥15 mg/dl	% ≥15 mg/dl
Mullan	17	2	12	5.6	2.9	4.9	1.7	2	12%	0	0%
Burke/Nine Mile	39	2	21	8.1	5.6	6.5	1.9	9	23%	6	15%
Wallace	43	2	29	7.7	5.4	6.3	1.9	10	23%	4	9%
Silverton	51	2	23	5.7	3.9	4.8	1.8	6	12%	3	6%
Osburn	52	1	11	4.8	2.4	4.2	1.7	3	6%	0	0%
Side Gulches	32	1	9	4.2	1.9	3.8	1.7	0	0%	0	0%
Kingston	34	1	16	5.8	4.6	4.4	2.2	6	18%	4	12%
Lower Basin	35	1	18	7.1	4.6	5.7	2.0	9	26%	3	9%
Total	303	1	29	6.1	4.3	5.0	1.9	45	15%	20	7%

Table 6-6b Basin-wide Blood Lead Level Summary for 1-7 Year Old Children by Area (Survey Results-All Years)

Area	N	Minimum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	Geometric Standard Deviation	# ≥10 mg/dl	% ≥10 mg/dl	# ≥15 mg/dl	% ≥15 mg/dl
Mullan	21	2	12	5.6	2.6	5.0	1.6	2	10%	0	0%
Burke/Nine Mile	50	1	21	7.9	5.2	6.4	1.9	11	22%	7	14%
Wallace	54	1	29	7.0	5.1	5.7	1.9	10	19%	4	7%
Silverton	56	2	23	5.5	3.9	5.4	1.8	6	11%	3	5%
Osburn	62	1	11	4.6	2.4	4.0	1.8	3	5%	0	0%
Side Gulches	35	1	9	4.1	1.8	3.7	1.6	0	0%	0	0%
Kingston	43	1	16	5.1	4.4	3.7	2.3	6	14%	4	9%
Lower Basin	40	1	18	6.7	4.6	5.1	2.2	10	25%	3	8%
Total	361	1	29	5.8	4.2	4.7	1.9	48	13%	21	6%

Table 6-7 Comparison of Coeur d'Alene Basin and BHSS Results to National and State-Wide Blood Lead Levels*

		Blood Lead Concentrations		Percent
		Arithmetic Mean (mg/dl)	Geometric Mean (mg/dl)	≥ 10 mg/dl
Basin 1999	**(1-6 year olds)**	6.4	5.2	16.0%
BHSS 1999	**(1-6 year olds)**	5.0	4.2	7.8%
State-wide (1997)	**(1-6 year olds in high risk housing)**	3.7	NR	4.2%
National (1991-1994)				
Low Income	**Pre-1946 Housing**	NR	5.5	16.4%
	1946-1973 Housing	NR	3.6	7.3%
	Post 1973 Housing	NR	3.0	4.3%
Middle Income	**Pre-1946 Housing**	NR	2.9	4.1%
	1946-1973 Housing	NR	2.4	2.0%
	Post 1973 Housing	NR	1.9	0.4%
White (Non-Hispanic)	**Pre-1946 Housing**	NR	3.3	5.6%
	1946-1973 Housing	NR	2.4	1.4%
	Post 1973 Housing	NR	1.8	1.5%

*Source: Morbidity and Mortality, *Weekly Reports*, February 21, 1999; Pirkle et al. 1998; IDHW 1998
NR = not reported

Table 6-8a Summary of Adult Blood Lead Levels by Age and Geographic Subarea (mg/dl)

	BOTH MALES AND FEMALES			
	10 to 25	26-40	41-49	Age >50
Mullan				
N	12	16	9	31
Minimum	1	1	2	1
Maximum	9	13	9	14
Arithmetic Mean	2.8	3.6	3.6	4.6
Standard Deviation	2.08	3.07	2.46	3.56
Geometric Mean	2.4	2.7	3.0	3.4
Geometric Standard Deviation	1.70	2.18	1.77	2.25
# ≥10 mg/dl	0	1	0	4
% ≥10 mg/dl	0%	6%	0%	13%
# ≥15 mg/dl	0	0	0	0
% ≥15 mg/dl	0%	0%	0%	0%
Burke/Nine Mile				
N	13	17	8	28
Minimum	1	1	1	1
Maximum	10	11	4	33
Arithmetic Mean	3.7	4.7	2.4	6.0
Standard Deviation	2.25	3.31	1.19	6.30
Geometric Mean	3.2	3.5	2.1	4.2
Geometric Standard Deviation	1.77	2.29	1.72	2.32
# ≥10 mg/dl	1	3	0	3
% ≥10 mg/dl	8%	18%	0%	11%
# ≥15 mg/dl	0	0	0	2
% ≥15 mg/dl	0%	0%	0%	7%
Wallace				
N	19	18	7	24
Minimum	1	1	1	1
Maximum	5	16	33	14
Arithmetic Mean	2.2	4.1	14.4	3.7
Standard Deviation	1.08	3.99	13.45	2.61
Geometric Mean	2.0	2.9	8.1	3.1
Geometric Standard Deviation	1.68	2.24	3.71	1.79
# ≥10 mg/dl	0	2	3	1
% ≥10 mg/dl	0%	11%	43%	4%
# ≥15 mg/dl	0	1	3	0
% ≥15 mg/dl	0%	6%	43%	0%
Silverton				
N	4	17	6	11
Minimum	1	1	1	1
Maximum	3	7	5	10
Arithmetic Mean	2.0	2.4	1.8	3.1
Standard Deviation	0.82	1.62	1.60	2.43
Geometric Mean	1.9	2.0	1.5	2.6
Geometric Standard Deviation	1.58	1.85	1.94	1.78
# ≥10 mg/dl	0	0	0	1
% ≥10 mg/dl	0%	0%	0%	9%
# ≥15 mg/dl	0	0	0	0
% ≥15 mg/dl	0%	0%	0%	0%

Table 6-8a Summary of Adult Blood Lead Levels by Age and Geographic Subarea (mg/dl) (continued)

	BOTH MALES AND FEMALES			
	10 to 25	26-40	41-49	Age >50
Osburn				
N	25	22	24	72
Minimum	1	1	1	1
Maximum	6	20	14	20
Arithmetic Mean	2.4	3.9	3.8	4.1
Standard Deviation	1.32	4.19	3.49	3.72
Geometric Mean	2.1	2.8	2.7	2.9
Geometric Standard Deviation	1.78	2.17	2.31	2.27
# ≥10 mg/dl	0	1	2	6
% ≥10 mg/dl	0%	5%	8%	8%
# ≥15 mg/dl	0	1	0	2
% ≥15 mg/dl	0%	5%	0%	3%
Side Gulches				
N	10	13	8	32
Minimum	1.0	1.0	2.0	1.0
Maximum	9.0	6.0	8.0	22.0
Arithmetic Mean	3.6	2.6	3.9	4.9
Standard Deviation	2.37	1.89	2.17	3.97
Geometric Mean	3.0	2.0	3.4	3.9
Geometric Standard Deviation	1.98	2.11	1.70	1.91
# ≥10 mg/dl	0	0	0	2
% ≥10 mg/dl	0%	0%	0%	6%
# ≥15 mg/dl	0	0	0	1
% ≥15 mg/dl	0%	0%	0%	3%
Kingston				
N	7	12	9	22
Minimum	1	1	2	3
Maximum	8	5	7	10
Arithmetic Mean	2.9	2.8	3.7	4.3
Standard Deviation	2.54	1.59	1.73	2.19
Geometric Mean	2.1	2.4	3.3	3.9
Geometric Standard Deviation	2.26	1.88	1.59	1.50
# ≥10 mg/dl	0	0	0	1
% ≥10 mg/dl	0%	0%	0%	5%
# ≥15 mg/dl	0	0	0	0
% ≥15 mg/dl	0%	0%	0%	0%
Lower Basin				
N	40	23	50	58
Minimum	1	1	1	1
Maximum	8	10	7	14
Arithmetic Mean	2.4	3.3	2.8	4.1
Standard Deviation	1.58	2.01	1.66	2.86
Geometric Mean	2.0	2.9	2.4	3.3
Geometric Standard Deviation	1.81	1.78	1.77	1.91
# ≥10 mg/dl	0	1	0	3
% ≥10 mg/dl	0%	4%	0%	5%
# ≥15 mg/dl	0	0	0	0
% ≥15 mg/dl	0%	0%	0%	0%

Table 6-8b Observed Blood Lead Levels for Reproductive Aged Females (mg/dl) by Geographic Subarea

	Kingston	Lower Basin	Mullan	Burke/Nine Mile	Osburn	Side Gulches	Silverton	Wallace
N	16	41	13	19	23	13	12	14
Minimum	1	1	1	1	1	1	1	1
Maximum	5	7	5	6	12	6	4	16
Arithmetic Mean	2.4	2.3	2.3	2.8	2.3	2.5	1.8	3.6
Standard Deviation	1.45	1.31	1.44	1.69	2.28	1.66	0.94	4.09
Geometric Mean	2.0	2.0	2.0	2.4	1.8	2.0	1.6	2.6
Geometric Standard Deviation	1.81	1.76	1.79	1.82	1.84	1.94	1.62	2.21
# ≥10 mg/dl	0	0	0	0	1	0	0	1
% ≥10 mg/dl	0%	0%	0%	0%	4%	0%	0%	7%
# ≥15 mg/dl	0	0	0	0	0	0	0	1
% ≥15 mg/dl	0%	0%	0%	0%	0%	0%	0%	7%

Table 6-9 Dietary Lead Summary from IEUBK Model for Children

Age Range (years)	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7
Dietary Intake (mg/day)	5.53	5.78	6.49	6.24	6.01	6.34	7.00

Table 6-10 Summary of Garden, Fish, and Riparian Vegetation Lead Levels

Area (Home Grown Vegetables)	**N**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Arithmetic Mean (mg/kg)**	**Standard Deviation (mg/kg)**	**Geometric Mean (mg/kg)**	**GSD (mg/kg)**
Mullan	1	10.90	10.90	10.90	0.00	N/A	N/A
Burke/Nine Mile	4	2.79	12.76	7.72	4.08	N/A	N/A
Wallace	1	2.00	2.00	2.00	0.00	N/A	N/A
Silverton	2	1.00	18.82	9.91	12.60	N/A	N/A
Osburn	12	0.48	48.60	9.68	14.20	N/A	N/A
Side Gulches	2	2.64	3.44	3.04	0.56	N/A	N/A
Kingston	2	1.15	1.18	1.16	0.21	N/A	N/A
Lower Basin	0	-	-	-	-	N/A	N/A
All Areas	24	0.48	48.60	7.84	10.74	N/A	N/A
Water Potatoes							
Water Potatoes without Skin	93	0.25	1.98	0.37	0.21	0.35	1.32
Water Potatoes with Skin	95	0.33	126.79	29.34	29.18	14.92	4.02
Fish Fillet Lead Data							
Bullhead (Lateral Lakes)	126	0.03	0.69	0.14	0.121	0.10	2.097
Northern Pike (Lateral Lakes)	63	0.03	0.15	0.04	0.032	0.03	1.777
Perch (Lateral Lakes)	123	0.09	2.41	0.45	0.410	0.34	2.091
Wild Rainbow Trout (Spokane River)	19	0.03	0.48	0.15	0.117	0.12	2.128
Hatchery Rainbow Trout (Spokane R.)	5	0.02	0.23	0.14	0.090	0.11	2.784
Large Scale Sucker (Spokane River)	20	0.02	0.28	0.09	0.063	0.07	1.877
Mountain Whitefish (Spokane River)	10	0.02	0.07	0.03	0.015	0.03	1.514
Whole Fish Lead Data - Spokane River							
Wild Rainbow Trout	3	0.60	1.14	0.82	0.282	0.79	1.389
Hatchery Rainbow Trout	1	1.59	1.59	1.59	N/A	N/A	N/A
Large Scale Sucker	4	1.77	4.34	2.76	1.229	2.56	1.551
Mountain Whitefish	2	0.56	0.65	0.61	0.064	0.60	1.111
Crayfish	3	0.37	1.34	0.87	0.485	0.76	1.930

N/A Geometric means not calculated due to sparse data

Mullan

Table 6-11a Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	105	41	20218	1187	2230	628	2.91
Vacuum	32	429	4060	1146	754	985	1.70
Dust Mat	47	278	4460	1459	880	1242	1.78
ROW	12	336	8110	2887	2554	1841	2.93
Driveway	12	352	50700	8676	15254	2893	4.36
Play Area	4	81	6210	1698	3009	419	6.54
Garden	3	210	1370	887	604	677	2.78
Water (FD)*	17	0.28	16.00	5.01	5.08	2.74	3.53
Water (P)*	16	0.04	9.50	1.58	2.27	0.65	4.82
Well Water*	9	2.50	7.00	3.39	1.78	3.09	1.52

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	44%	23%	10%	11%	4%	1%	7%
Vacuum	6%	56%	13%	19%	0%	3%	3%
Dust Mat	6%	32%	26%	13%	13%	2%	9%
ROW	17%	17%	8%	8%	8%	0%	42%
Driveway	8%	17%	17%	8%	8%	0%	42%
Play Area	75%	0%	0%	0%	0%	0%	25%
Garden	33%	0%	67%	0%	0%	0%	0%

Burke/Nine Mile

Table 6-11b Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	88	32	5410	1105	973	679	3.25
Vacuum	35	83	5800	1318	1263	879	2.63
Dust Mat	54	173	59500	4048	9232	1781	2.86
ROW	10	800	6200	2974	1937	2362	2.12
Driveway	27	46	36000	3524	6684	1690	3.74
Play Area	14	83	12100	1331	3107	543	3.07
Garden	10	146	11800	2127	3755	720	4.24
Water (FD)*	34	0.50	78.50	6.32	14.67	2.31	3.31
Water (P)*	34	0.04	2.50	0.85	0.70	0.57	2.67
Well Water*	18	2.50	6.00	2.69	0.83	2.62	1.23

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	28%	28%	15%	13%	7%	5%	5%
Vacuum	31%	20%	17%	11%	6%	9%	6%
Dust Mat	4%	24%	26%	11%	7%	7%	20%
ROW	0%	20%	20%	0%	10%	10%	40%
Driveway	11%	11%	7%	11%	22%	7%	30%
Play Area	14%	79%	0%	0%	0%	0%	7%
Garden	50%	20%	10%	0%	0%	0%	20%

Wallace

Table 6-11c Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	110	54	16026	1154	1628	771	2.47
Vacuum	35	259	29725	1951	4944	1004	2.33
Dust Mat	42	604	47626	3616	7987	1774	2.54
ROW	9	706	10400	2364	3063	1585	2.25
Driveway	4	70	2140	1070	1001	556	4.86
Play Area	3	613	1260	998	340	953	1.47
Garden	4	257	1200	899	434	770	2.09
Water (FD)*	19	0.67	30.10	6.53	8.70	3.19	3.33
Water (P)*	19	0.12	2.00	0.89	0.65	0.65	2.43
Well Water*	8	2.50	25.00	5.31	7.96	3.33	2.26

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	27%	35%	16%	10%	5%	3%	5%
Vacuum	11%	51%	23%	3%	3%	0%	9%
Dust Mat	0%	26%	31%	14%	2%	2%	24%
ROW	0%	44%	11%	11%	22%	0%	11%
Driveway	50%	0%	0%	25%	25%	0%	0%
Play Area	0%	33%	67%	0%	0%	0%	0%
Garden	25%	0%	75%	0%	0%	0%	0%

Silverton

Table 6-11d Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	70	94	6098	524	763	352	2.25
Vacuum	26	75	3390	837	869	557	2.52
Dust Mat	22	326	3658	1064	765	863	1.93
ROW	6	321	1650	899	515	759	1.97
Driveway	9	329	4500	1331	1292	955	2.32
Play Area	3	155	576	416	228	358	2.07
Garden	5	56	1000	329	384	204	2.91
Water (FD)*	17	0.47	45.90	5.51	10.51	3.03	2.54
Water (P)*	17	0.04	2.00	1.34	0.65	1.05	2.66
Well Water*	7	2.50	16.00	4.43	5.10	3.26	2.02

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	70%	20%	6%	3%	0%	0%	1%
Vacuum	38%	46%	4%	0%	0%	8%	4%
Dust Mat	27%	32%	23%	9%	5%	0%	5%
ROW	33%	17%	33%	17%	0%	0%	0%
Driveway	22%	22%	33%	11%	0%	0%	11%
Play Area	33%	67%	0%	0%	0%	0%	0%
Garden	80%	20%	0%	0%	0%	0%	0%

Osburn

Table 6-11e Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	262	33	12884	682	1195	419	2.45
Vacuum	84	23	2192	616	366	493	2.17
Dust Mat	98	202	42044	1423	4219	882	1.94
ROW	10	427	10200	3276	3210	2150	2.68
Driveway	40	33	59400	3261	9368	1069	4
Play Area	6	58	5090	990	2011	255	4.96
Garden	24	76	6605	729	1350	368	2.82
Water (FD)*	49	0.16	56.10	7.88	12.18	3.72	3.30
Water (P)*	51	0.04	2.20	0.93	0.69	0.62	2.91
Well Water*	29	2.50	310.00	13.10	57.10	2.95	2.45

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	61%	28%	5%	2%	2%	0.4%	3%
Vacuum	40%	49%	8%	1%	1%	0%	0%
Dust Mat	12%	58%	14%	8%	2%	2%	3%
ROW	10%	10%	10%	30%	0%	10%	30%
Driveway	25%	15%	10%	20%	10%	5%	15%
Play Area	83%	0%	0%	0%	0%	0%	17%
Garden	75%	8%	8%	0%	4%	0%	4%

Side Gulches

Table 6-11f Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	100	25	3356	505	437	368	2.38
Vacuum	26	116	3929	952	890	695	2.21
Dust Mat	53	167	8840	1196	1504	842	2.11
ROW	3	40	2300	1016	1161	402	8.07
Driveway	13	43	117000	11021	32242	855	8.44
Play Area	4	39	316	164	126	123	2.56
Garden	4	37	1010	374	448	184	4.39
Water (FD)*	14	0.28	7.20	2.23	2.19	1.44	2.77
Water (P)*	14	0.04	4.60	1.39	1.35	0.64	5.24
Well Water*	37	2.50	2.50	2.50	0.00	2.50	1.00

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	59%	33%	6%	1%	0%	0%	1%
Vacuum	31%	42%	8%	8%	4%	4%	4%
Dust Mat	19%	47%	15%	8%	4%	0%	8%
ROW	33%	33%	0%	0%	33%	0%	0%
Driveway	31%	31%	15%	8%	0%	0%	15%
Play Area	100%	0%	0%	0%	0%	0%	0%
Garden	75%	0%	25%	0%	0%	0%	0%

Kingston

Table 6-11g Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	99	22	9228	711	1622	257	3.34
Vacuum	30	102	1750	592	409	466	2.07
Dust Mat	48	63	15500	1151	2296	610	2.69
ROW	11	36	1960	618	624	330	3.73
Driveway	21	12	13200	1420	2866	412	5.57
Play Area	5	49	1120	360	456	178	3.81
Garden	11	64	1010	219	279	142	2.36
Water (FD)*	22	0.18	13.10	3.29	3.44	2.18	2.60
Water (P)*	23	0.04	4.50	1.26	0.95	0.87	2.90
Well Water*	10	2.50	31.00	6.90	9.77	3.92	2.60

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	81%	6%	5%	1%	1%	0%	6%
Vacuum	50%	33%	13%	3%	0%	0%	0%
Dust Mat	46%	29%	8%	4%	4%	2%	6%
ROW	55%	18%	18%	9%	0%	0%	0%
Driveway	57%	14%	0%	0%	19%	0%	10%
Play Area	80%	0%	20%	0%	0%	0%	0%
Garden	91%	0%	9%	0%	0%	0%	0%

Lower Basin

Table 6-11h Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	160	15	7350	487	1251	110	4.29
Vacuum	31	49	3140	512	646	301	2.81
Dust Mat	110	22	4805	623	866	318	3.26
ROW	10	15	1430	230	449	71	4.11
Driveway	8	21	1280	263	466	66	5.19
Play Area	3	26	11300	5985	5665	1242	29.16
Garden	2	15	24	19	6	19	1.38
Water (FD)*	8	1.10	7.30	3.36	2.07	2.87	1.82
Water (P)*	8	0.44	2.00	1.33	0.65	1.16	1.84
Well Water*	104	2.50	66.00	7.21	11.89	4.05	2.39

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	86%	2%	3%	2%	1%	1%	6%
Vacuum	65%	23%	6%	0%	3%	0%	3%
Dust Mat	65%	18%	5%	5%	2%	0%	4%
ROW	80%	10%	10%	0%	0%	0%	0%
Driveway	75%	13%	13%	0%	0%	0%	0%
Play Area	33%	0%	0%	0%	0%	0%	67%
Garden	100%	0%	0%	0%	0%	0%	0%

Harrison

Table 6-11i Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	18	17	249	103	77	79	2.15
Vacuum	18	47	1830	317	458	165	3.01
Dust Mat	17	53	2390	278	555	143	2.53
ROW	17	17	689	103	163	56	2.70
Driveway	14	15	152	65	42	53	2.00
Play Area	0	N/A	N/A	N/A	N/A	N/A	N/A
Garden	8	19	516	154	164	96	2.90
Water (FD)*	18	1.10	62.40	11.79	18.36	4.43	3.98
Water (P)*	19	1.10	4.60	1.57	0.90	1.42	1.52
Well Water*	0	0.00	0.00	--	--	--	--

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	100%	0%	0%	0%	0%	0%	0%
Vacuum	83%	11%	0%	6%	0%	0%	0%
Dust Mat	94%	0%	0%	0%	6%	0%	0%
ROW	94%	6%	0%	0%	0%	0%	0%
Driveway	100%	0%	0%	0%	0%	0%	0%
Play Area	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garden	88%	13%	0%	0%	0%	0%	0%

Rocky Point

Table 6-11j Summary Lead Concentration Data for Environmental Media (mg/kg)

	N	Min	Max	Arith. Mean	St. Dev.	Geo Mean	Geo Stdev
Yard Soil	7	12	66	33	21	27	1.95
Vacuum	6	28	126	85	38	76	1.77
Dust Mat	6	34	123	81	33	75	1.62
ROW	5	18	50	30	13	28	1.50
Driveway	4	13	222	75	100	38	3.81
Play Area	0	N/A	N/A	N/A	N/A	N/A	N/A
Garden	1	24	24	24	N/A	24	N/A
Water (FD)*	5	1.80	158.00	35.66	68.51	8.11	6.08
Water (P)*	7	1.10	3.40	1.80	0.93	1.63	1.60
Well Water*	0	0.00	0.00	--	--	--	--

*water units are in µg/L, FD=First Draw, P=Purged, Well Water from 1996 survey

Percent of Soil/Dust Samples by Concentration Category (mg/kg)

	Percent						
	< 500 mg/kg	500-1000 mg/kg	1000-1500 mg/kg	1500-2000 mg/kg	2000-2500 mg/kg	2500-3000 mg/kg	> 3000 mg/kg
Yard Soil	100%	0%	0%	0%	0%	0%	0%
Vacuum	100%	0%	0%	0%	0%	0%	0%
Dust Mat	100%	0%	0%	0%	0%	0%	0%
ROW	100%	0%	0%	0%	0%	0%	0%
Driveway	100%	0%	0%	0%	0%	0%	0%
Play Area	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garden	100%	0%	0%	0%	0%	0%	0%

Table 6-12a Summary of CUA Surface Water Lead Concentration (Disturbed Samples) (mg/L)

Site	Minimum Detected Value	Maximum Detected Value	Average Exposure Concentration*	95% Upper Confidence Limit	Reasonable Maximum Exposure
CUA018 - Harrison Beach	117	469	267	**N/A**	**N/A**
CUA035 - Springston Beach Site	661	2810	1670	2480	2480
CUA036 - Across river from Springston	6310	56500	18300	38700	38700
CUA038 - Thompson Lake	166	876	373	660	660
CUA039 - Long Beach RM135/Springston	7190	38800	22900	36900	36900
CUA041 - West of Blue Lake	2710	15600	9390	13900	13900
CUA045 - Medimont Boat Ramp	776	6520	3010	5690	5690
CUA047 - Rainy Hill picnic area	452	3280	1580	2750	2750
CUA048 - RM 145	16600	81500	41300	64900	64900
CUA049 - Beach near canal to Killarney Lake	8090	23100	14700	19800	19800
CUA051 - Lane Beach	21300	52300	31700	43100	43100
CUA052 - Near East end of Killarney Lake	11300	39600	25300	35800	35800
CUA053 - Beach below Ward Ridge	24600	46300	30800	39300	39300
CUA054 - Black Rock Gulch Beach	6300	29300	16300	25800	25800
CUA055 - Quarry Beach	7520	31000	18800	27500	27500
CUA056 - RV Park across from Black Rock Gulch	3240	25800	9690	18700	18700
CUA057 - Beach upstream from Quarry	13700	38800	28900	37900	37900
CUA058 - East end of Blackrock Gulch Marsh	7640	59400	29100	47600	47600
CUA059 - East of Rose Creek	2940	72500	25300	52300	52300
CUA060 - West of Rose Lake	3790	40300	21500	36000	36000
CUA063 - Bull Run Peak Beach	2310	11800	5280	8900	8900
CUA065 - Just South of Mission Falls	1980	8430	4250	6740	6740
CUA068 - South of Old Mission Park	251	1690	1180	1730	1690
CUA069 - Skeel Gulch Beach	141	1370	658	1110	1110
Total Lower Basin	117	81500	7530	N/A	N/A
CUA077 - Confluence with Coeur D'Alene River (Kingston)	85	12500	3270	8300	8300
CUA081 - Elk Creek Pond (Side Gulches)	35	7180	1630	4600	4600

* This is the arithmetic average by CUA, but for all CUAs in the Lower Basin, this value is the geometric mean.

Table 6-12b Summary of CUA Surface Water Lead Concentration (Undisturbed Samples) (mg/L)

Site	N	Minimum Detected Value	Maximum Detected Value	Mean	Geometric Mean	Standard Deviation	Geometric Standard Deviation
Lower Basin	93	2	430	38.0	3.13	64.0	0.89

Table 6-13 Paint Lead Loadings by Geographic Area

	Arithmetic Mean Interior Paint Lead Loadings (mg/cm^2)	Geometric Mean Interior Paint Lead Loadings (mg/cm^2)	Maximum Interior Paint Lead Loadings (mg/cm^2)	Median Interior Paint Lead Loadings (mg/cm^2)	Arithmetic Mean Interior Paint Condition Code*	Maximum Interior Paint Condition Code*	Minimum Interior Paint Condition Code*	Median Interior Paint Condition Code*
Mullan								
N	43	43	43	43	41	41	41	41
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	3.039	0.724	9.900	1.500	1.8	3.0	1.0	2.0
Mean	0.563	0.031	2.912	0.166	1.3	1.8	1.0	1.2
Stdev	0.721	6.688	3.597	0.258	0.2	0.6	0.0	0.4
Burke/Nine Mile								
N	38	38	38	38	35	35	35	35
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	5.504	2.141	9.900	6.975	3.0	3.0	3.0	3.0
Mean	0.882	0.023	3.099	0.535	1.6	2.1	1.4	1.6
Stdev	1.448	10.151	3.852	1.509	0.6	0.8	0.6	0.7
Wallace								
N	37	37	37	37	37	37	37	37
Min	0.009	0.001	0.100	0.001	1.0	1.0	1.0	1.0
Max	5.546	1.229	9.900	8.600	2.6	3.0	2.0	3.0
Mean	1.311	0.077	4.420	0.940	1.6	2.2	1.3	1.6
Stdev	1.705	5.256	4.175	1.944	0.5	0.7	0.5	0.5
Silverton								
N	23	23	23	23	21	21	21	21
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	1.129	0.572	9.900	0.850	1.6	3.0	1.0	2.0
Mean	0.336	0.053	1.696	0.201	1.2	1.8	1.0	1.3
Stdev	0.294	6.559	2.474	0.192	0.3	0.7	0.0	0.4
Osburn								
N	81	81	81	81	70	70	70	70
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	2.656	0.351	9.850	0.800	2.5	3.0	2.0	2.5
Mean	0.243	0.020	1.113	0.115	1.4	1.9	1.2	1.4
Stdev	0.361	6.375	1.899	0.137	0.4	0.7	0.4	0.5
Side Gulches								
N	52	52	52	52	47	47	47	47
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	1.091	0.340	6.400	0.400	3.0	3.0	3.0	3.0
Mean	0.200	0.022	0.905	0.117	1.4	1.9	1.2	1.4
Stdev	0.219	7.828	1.288	0.122	0.4	0.7	0.5	0.5
Kingston								
N	37	37	37	37	36	36	36	36
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	1.981	0.571	9.900	1.325	3.0	3.0	3.0	3.0
Mean	0.313	0.016	1.312	0.124	1.6	1.9	1.4	1.6
Stdev	0.525	7.233	2.324	0.240	0.5	0.7	0.5	0.6
Lower Basin								
N	104	104	104	104	96	96	96	96
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	7.850	7.850	9.900	7.850	3.0	3.0	3.0	3.0
Mean	0.298	0.010	0.863	0.231	1.5	1.8	1.3	1.4
Stdev	0.997	6.283	1.830	1.099	0.5	0.7	0.5	0.6

* 1- New Paint and/or excellent condition
2- Worn, chipped, or scraped paint
3- Peeling, cracked, flaking paint, and/or chalking

Table 6-13 Paint Lead Loadings by Geographic Area (continued)

	Arithmetic Mean Exterior Paint Lead Loadings (mg/cm^2)	Geometric Mean Interior Paint Lead Loadings (mg/cm^2)	Maximum Exterior Paint Lead Loadings (mg/cm^2)	Median Exterior Paint Lead Loadings (mg/cm^2)	Arithmetic Mean Exterior Paint Condition Code*	Maximum Exterior Paint Condition Code*	Minimum Exterior Paint Condition Code*	Median Exterior Paint Condition Code*
Mullan								
N	43	43	43	43	43	43	43	43
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	4.901	2.828	9.900	4.851	3.0	3.0	3.0	3.0
Mean	1.359	0.102	3.613	0.746	1.7	2.2	1.2	1.7
Stdev	1.510	7.028	3.852	1.350	0.6	0.8	0.5	0.7
Burke/Nine Mile								
N	39	39	39	39	38	38	38	38
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	8.258	4.700	9.900	9.900	3.0	3.0	3.0	3.0
Mean	1.598	0.050	3.617	1.216	2.2	2.5	1.9	2.2
Stdev	2.248	12.916	4.441	2.606	0.8	0.8	0.8	0.8
Wallace								
N	37	37	37	37	37	37	37	37
Min	0.076	0.006	0.150	0.001	1.0	1.0	1.0	1.0
Max	9.900	9.900	9.900	9.900	3.0	3.0	3.0	3.0
Mean	3.114	0.222	6.815	2.459	2.3	2.7	1.9	2.4
Stdev	2.618	7.887	3.994	3.456	0.5	0.5	0.7	0.6
Silverton								
N	24	24	24	24	23	23	23	23
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	2.600	1.835	8.200	2.800	3.0	3.0	3.0	3.0
Mean	0.691	0.084	1.646	0.429	1.7	2.1	1.4	1.6
Stdev	0.749	8.240	1.905	0.614	0.7	0.8	0.7	0.8
Osburn								
N	79	79	79	79	72	72	72	72
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	7.950	4.283	9.900	9.900	3.0	3.0	3.0	3.0
Mean	0.907	0.058	2.304	0.597	1.9	2.3	1.6	1.8
Stdev	1.411	8.873	3.341	1.429	0.6	0.7	0.7	0.7
Side Gulches								
N	53	53	53	53	48	48	48	48
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	2.200	1.668	4.450	2.350	3.0	3.0	3.0	3.0
Mean	0.285	0.035	0.671	0.213	1.7	2.1	1.4	1.7
Stdev	0.435	7.192	1.042	0.395	0.5	0.7	0.5	0.6
Kingston								
N	40	40	40	40	39	39	39	39
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	8.600	8.600	9.900	8.650	3.0	3.0	3.0	3.0
Mean	0.834	0.032	1.482	0.730	2.1	2.3	1.8	2.1
Stdev	1.797	15.649	2.854	1.921	0.7	0.7	0.7	0.8
Lower Basin								
N	102	102	102	102	97	97	97	97
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	3.200	0.930	9.900	2.776	3.0	3.0	3.0	3.0
Mean	0.358	0.037	0.981	0.212	1.9	2.3	1.6	1.9
Stdev	0.627	5.120	2.005	0.412	0.7	0.8	0.7	0.7

* 1- New Paint and/or excellent condition
2- Worn, chipped, or scraped paint
3- Peeling, cracked, flaking paint, and/or chalking

Table 6-13 Paint Lead Loadings by Geographic Area (continued)

	Arithmetic Mean Mat Location Paint Lead Loadings (mg/cm^2)	Geometric Mean Mat Location Paint Lead Loadings (mg/cm^2)	Maximum Mat Location Paint Lead Loadings (mg/cm^2)	Median Mat Location Paint Lead Loadings (mg/cm^2)	Arithmetic Mean Mat Location Paint Condition Code*	Maximum Mat Location Paint Condition Code*	Minimum Mat Location Paint Condition Code*	Median Mat Location Paint Condition Code*
Mullan								
N	40	40	40	40	34	34	34	34
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	3.600	3.600	6.100	3.600	3.0	3.0	3.0	3.0
Mean	0.355	0.028	0.500	0.293	1.4	1.5	1.4	1.4
Stdev	0.729	16.150	1.153	0.664	0.7	0.7	0.7	0.6
Burke/Nine Mile								
N	32	32	32	32	19	19	19	19
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	8.850	8.850	9.900	8.850	3.0	3.0	3.0	3.0
Mean	0.635	0.011	0.999	0.569	2.2	2.3	2.2	2.3
Stdev	1.877	19.830	2.806	1.882	0.8	0.7	0.8	0.8
Wallace								
N	30	30	30	30	22	22	22	22
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	9.900	9.900	9.900	9.900	3.0	3.0	3.0	3.0
Mean	1.226	0.050	1.277	1.219	1.8	2.0	1.7	1.8
Stdev	2.975	20.922	2.958	2.977	0.6	0.7	0.6	0.7
Silverton								
N	22	22	22	22	20	20	20	20
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	3.150	3.150	9.900	3.150	3.0	3.0	3.0	3.0
Mean	0.471	0.087	0.955	0.328	1.3	1.5	1.3	1.3
Stdev	0.845	8.017	2.140	0.655	0.6	0.7	0.6	0.5
Osburn								
N	68	68	68	68	54	54	54	54
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	2.475	1.250	7.250	1.476	3.0	3.0	3.0	3.0
Mean	0.237	0.025	0.421	0.210	1.5	1.6	1.4	1.5
Stdev	0.395	11.140	0.992	0.318	0.5	0.6	0.6	0.6
Side Gulches								
N	47	47	47	47	36	36	36	36
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	1.750	1.750	1.750	1.750	3.0	3.0	3.0	3.0
Mean	0.192	0.024	0.248	0.187	1.5	1.6	1.4	1.5
Stdev	0.300	12.960	0.342	0.300	0.5	0.6	0.6	0.5
Kingston								
N	31	31	31	31	24	24	24	24
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	2.200	2.200	3.550	2.200	3.0	3.0	3.0	3.0
Mean	0.298	0.015	0.391	0.276	1.7	1.7	1.6	1.6
Stdev	0.565	16.789	0.794	0.544	0.7	0.8	0.7	0.7
Lower Basin								
N	99	99	99	99	81	81	81	81
Min	0.001	0.001	0.001	0.001	1.0	1.0	1.0	1.0
Max	3.525	2.900	6.800	3.525	3.0	3.0	3.0	3.0
Mean	0.283	0.026	0.385	0.262	1.6	1.7	1.6	1.6
Stdev	0.576	14.743	0.942	0.562	0.6	0.7	0.7	0.7

* 1- New Paint and/or excellent condition
2- Worn, chipped, or scraped paint
3- Peeling, cracked, flaking paint, and/or chalking

Table 6-14 Summary of Neighborhood Stream Sediment Lead Levels by Geographic Subarea

Area	N	Minimum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	Geometric Standard Deviation
	Sediment (mg/kg)						
Mullan	14	31	13800	2204	3710	771	4.9
Burke/Nine Mile	17	88	67100	8756	16025	2803	5.6
Kingston	12	25	249	155	67	135	1.9
Osburn, Wallace, Silverton	22	738	6160	2889	1756	2395	1.9
All Areas	65	25	67100	3771	8824	1150	5.2
	Surface Water (mg/L)						
Mullan	65	0	44	4.3	7.7	1.2	5.8
Burke/Nine Mile	79	0	1650	87.1	236.8	20.6	6.7
Kingston	12	0	38	4.7	10.9	1.0	5.0
Osburn, Wallace, Silverton	66	0	49	11.4	13.6	3.0	6.8
All Areas	222	0	1650	35.9	146.0	4.3	9.1

Table 6-15a Summary of Surface Soil Lead Levels for Common Use Areas (mg/kg)

Site	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Mean Soil Concentration	95% Upper Confidence Limit	Reasonable Maximum Exposure
CUA033 - Trestle area next to Route	1500	2470	2060	2440	2440
CUA035 - Springston Beach Site	2140	2710	2440	2670	2670
CUA036 - across river from Springston	2840	7250	4390	6110	6110
CUA038 - Thompson Lake	250	2420	818	1690	1690
CUA039 - Long Beach RM135/Springston	2830	3580	3290	3600	3580
CUA041 - West of Blue lake	382	2150	1070	1800	1800
CUA043 - West beach near Medimont	3540	4210	3930	4190	4190
CUA044 - Medimont Hill Camping Area	2160	3730	2660	3260	3260
CUA045 - Medimont Boat Ramp	2840	4690	3510	4210	4210
CUA046 - Rainy Hill Fishing Area	3770	4540	4150	4420	4420
CUA047 - Rainy Hill picnic area	1060	3290	1930	2750	2750
CUA048 - RM 145	3000	3680	3500	3770	3680
CUA049 - Beach near canal to Killarney Lake	3740	4900	4240	4750	4750
CUA050 - Killarney	15.3	271	73	179	179
CUA051 - Lane Beach	3910	4850	4340	4710	4710
CUA052 - Near East end of Killarney Lake	4040	4560	4250	4460	4460
CUA053 - Beach below Ward Ridge	4270	5330	4710	5110	5110
CUA054 - Black Rock Gulch Beach	3580	5120	4500	5040	5040
CUA055 - Quarry Beach	4100	4910	4370	4680	4680
CUA056 - RV Park across from Black Rock Gulch	3690	4850	4370	4820	4820
CUA057 - Beach upstream from Quarry	3190	5140	4350	5070	5070
CUA058 - East end of Blackrock Gulch Marsh	3910	6080	5180	6090	6080
CUA059 - East of Rose Creek	2970	6010	4610	5770	5770
CUA060 - West of Rose Lake	4420	5580	4900	5370	5370
CUA063 - Bull Run Peak Beach	4040	6390	4790	5700	5700
CUA064 - Mouth of 4th of July Marsh	3360	3920	3610	3820	3820
CUA065 - Just South of Mission Falls	3060	3530	3350	3530	3530
CUA066 - Beach in Mission Flats	2670	3520	3130	3470	3470
CUA067 - Old Mission State Park Boat Launch	123	1270	521	944	944
CUA068 - South of Old Mission Park	2190	3740	2910	3540	3540
CUA069 - Skeel Gulch Beach	2430	3690	3180	3710	3690
Canyon Elementary - Play Areas[1]			63		
Canyon Elementary - Ballfields[1]			56		
Canyon Elementary - Basketball Court[1]			25		
Total Lower Basin[2]	15	7250	1939		
CUA077 - Confluence with Coeur D'Alene River	2660	4020	3480	3950	3950
Silver Meadow Adventist School - Play Areas[1]			17		
Silver Meadow Adventist School - Ballfield[1]			136		
Silver Meadow Adventist School - Gravel Drive[1]			61		
Total Kingston[2]			149		
CUA080 - Elk Dreek Frontage roak/county Road	7870	15400	12100	15100	15100
CUA089 - Silverton T-ball/Wellman ballfield	179	726	309	360	360
CUA090 - Silverton T-ball/surrounding park at Wellman Ballfield	151	522	293	334	334
CUA091 - Silverton T-ball /Wellman & HS parking lot	362	3130	1330	1680	1680
CUA092 - Silverton School/Huggy Bear Day Care	66	4930	665	918	918
CUA094 - Silverton ballfield next to Huggy Bear Day Care	2604	6550	689	1290	1290
CUA095 - Silverton School District Satner Field	105	11600	1570	2310	2310
Total Silverton[2]	66	11600	665		
CUA096 - Wallace City Park (Monument)	1450	7222	3170	4630	4630
CUA097 - Wallace Library	1140	4710	2160	2940	2940
CUA098 - Wallace Depot	179	685	464	608	608
CUA099 - Small Wallace City Park mear schools	51.7	596	181	327	327
CUA100 - Wallace High School	64.6	6900	1430	2050	2050
CUA101 - Canyon Avenue Park	76.8	673	198	355	355
CUA102 - Wallace Visitor's Center	29.8	2670	927	1420	1420
Total Wallace[2]	29.8	7222	763		
Mullan Elementary[1]			3270		
Mullan High School - Play Area[1]			588		
Mullan High School - Public Area[1]			1790		
Mullan High School - Athletic Pavilion Public Area[1]			359		
Total Mullan[2]			1054		

[1]Data was taken from "Candidates for Early Removal Actions and/or Intervention Strategies among Schools and Daycares of Shoshone Kootenai Counties, Idaho." Raw data was not given.

[2]Totals for Lower Basin, Kingston, Silverton, Wallace, and Mullan are the geometric mean of the CUA's and schools in those geographic areas

Table 6-15b Summary of Sediment Lead Levels for Common Use Areas (mg/kg)

Site	Minimum Detected Value	Maximum Detected Value	Average Exposure Concentration*	95% Upper Confidence Limit	Reasonable Maximum Exposure
CUA18 - Harrison Beach	21	12100	1253	**N/A**	**N/A**
CUA033 - Trestle area next to Route	2290	2800	2610	2810	2800
CUA035 - Springston Beach Site	1460	2600	2210	2390	2390
CUA036 - across river from Springston	2560	3580	3020	3220	3220
CUA038 - Thompson Lake	18	117	55.6	99	99
CUA039 - Long Beach RM135/Springston	2520	7480	3540	4410	4410
CUA041 - West of Blue lake	39	3420	980	2320	2320
CUA045 - Medimont Boat Ramp	2620	3790	3110	3560	3560
CUA047 - Rainy Hill picnic area	2180	3590	2890	7340	3590
CUA048 - RM 145	3010	5000	3990	4340	4340
CUA049 - Beach near canal to Killarney Lake	2960	4670	3610	3910	3910
CUA051 - Lane Beach	3410	4450	3830	4030	4030
CUA052 - Near East end of Killarney Lake	3900	5960	4370	4740	4740
CUA053 - Beach below Ward Ridge	3900	15000	5750	7670	7670
CUA054 - Black Rock Gulch Beach	3580	7120	4840	5490	5490
CUA055 - Quarry Beach	4330	5410	4810	5000	5000
CUA056 - RV Park across from Black Rock Gulch	1750	5000	4070	5330	5000
CUA057 - Beach upstream from Quarry	4010	6080	5000	5380	5380
CUA058 - East end of Blackrock Gulch Marsh	4010	5300	4650	4920	4920
CUA059 - East of Rose Creek	282	6120	3780	4860	4860
CUA060 - West of Rose Lake	34	5910	3430	4530	4530
CUA063 - Bull Run Peak Beach	2830	29200	9560	14100	14100
CUA065 - Just South of Mission Falls	2420	4810	3770	4230	4230
CUA068 - South of Old Mission Park	1950	2660	2430	2550	2550
CUA069 - Skeel Gulch Beach	2060	3600	2720	2980	2980
Total Lower Basin	18	29200	2898	N/A	N/A
CUA077 - Confluence with Coeur D'Alene River (Kingston)	3010	6360	4410	4900	4900
CUA081 - Elk Creek Pond (Side Gulches)	45	14800	3630	6370	6370

* This is the arithmetic average by CUA, except in the Lower Basin, this value is the geometric mean.

Table 6-16 Summary of Lead Concentration for Waste Pile Soils (mg/kg)

	Burke/Nine Mile					Mullan	All Areas
	Tiger Poorman	Tamarack #7	Rex #2	Success	Rex	Mullan L.F.	All Waste Piles
N	5	5	5	5	2	5	27
Minimum	1510	104	2050	83.4	4610	228	83
Maximum	49800	63700	4500	6210	16100	4570	63700
Arithmetic Mean	12500	13838	3394	3625	10355	1871	7291
Standard Deviation	20884	27943	1118	2258	8125	2247	14726
Geometric Mean	5159	1246	3231	1985	8615	754	2217

Table 6-17 Mat Dust Lead Concentration, Dust Loading, and Lead Loading for the Coeur d'Alene Basin

Area	Total Number of Observations	Minimum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	Geometric Standard Deviation
	Dust Mat Lead Concentration (mg/kg)						
Mullan	47	278	4460	1459	880	1242	1.78
Burke/Nine Mile	54	173	59500	4048	9232	1781	2.86
Wallace	42	604	47626	3616	7987	1774	2.54
Silverton	22	326	3658	1064	765	863	1.93
Osburn	98	202	42044	1423	4219	882	1.94
Side Gulches	53	167	8840	1196	1504	842	2.11
Kingston	48	63	15500	1151	2296	610	2.69
Lower Basin/Cataldo	110	22	4805	623	866	318	3.26
	Dust Loading ($g/m^2/day$)						
Mullan	40	0.7	7.4	1.6	1.2	1.38	1.73
Burke/Nine Mile	37	0.5	23.5	4.0	5.1	2.31	2.79
Wallace	33	0.3	6.9	1.9	1.6	1.45	2.08
Silverton	19	0.5	17.5	2.2	3.8	1.31	2.31
Osburn	73	0.5	6.9	1.2	0.9	1.04	1.69
Side Gulches	47	0.5	6.8	1.8	1.3	1.44	1.83
Kingston	42	0.4	7.6	1.7	1.7	1.21	2.21
Lower Basin/Cataldo	109	0.3	17.0	2.5	3.0	1.54	2.61
	Lead Loading ($mg/m^2/day$)						
Mullan	40	0.4	10.5	2.0	2.0	1.52	2.04
Burke/Nine Mile	37	0.3	87.2	11.5	17.4	4.28	4.43
Wallace	33	0.3	158.3	8.4	27.5	2.63	3.13
Silverton	19	0.3	9.5	1.7	2.0	1.10	2.42
Osburn	73	0.2	66.2	2.0	7.7	0.87	2.49
Side Gulches	47	0.2	21.4	1.9	3.3	1.13	2.55
Kingston	42	0.1	6.3	1.4	1.4	0.74	3.25
Lower Basin/Cataldo	109	0.0	29.7	1.6	4.1	0.48	4.41

*loading data are for 1996 only; concentration data also include some mats corrected by EPA in 1997-1999, loading data for these were not available at this time.

Table 6-18 Summary of Lead Concentrations for Sediment and Surface Soil in the Lower Basin

Media	Minimum (mg/kg)	Maximum (mg/kg)	Arithmetic Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	Geometric Mean Concentration (mg/kg)	GSD (mg/kg)
Sediment	56	9560	3642	1778	2945	2.53
Surface Soil	17	5180	2868	1741	1480	5.55

Table 6-19 Correlation Matrix for Blood Lead Levels and Environmental Source Variables

VARIABLE	BLPB	
	N	r
AGE	524	-0.305**
MATPB	169	0.314**
LEADLD	140	0.634**
VACPB	205	0.098
SOILPB	444	0.158**
GCOMMEAN	524	0.116*
INTMEAN	216	0.304**
INTMAX	216	0.177*
INTMED	216	0.341**
INCCMEAN	205	0.478**
INTCCMAX	205	0.324**
INTCCMIN	205	0.426**
INTCCMED	205	0.421**
EXTMEAN	217	0.327**
EXTMAX	217	0.185*
EXTMED	217	0.407**
EXCCMEAN	208	0.355**
EXTCCMAX	208	0.267**
EXTCCMIN	208	0.237**
EXTCCMED	208	0.395**

** $P \leq 0.001$

* $P \leq 0.05$

BLPB	Blood lead levels (µg/dl)
AGE	Child age (years)
MATPB	Mat dust lead concentration (mg/kg)
LEADLD	Lead loading rate ($mg/m^2/day$)
VACPB	Vacuum cleaner dust lead concentration (mg/kg)
SOILPB	Yard soil lead concentration (mg/kg)
GCOMMEAN	Community geometric mean soil lead concentration (mg/kg)
INTMEAN	Arithmetic mean interior paint lead loading(mg/cm^2)
INTMAX	Maximum interior paint lead loading (mg/cm^2)
INTMED	Median interior paint lead loading (unitless)
INCCMEAN	Arithmetic mean interior paint condition (unitless)
INTCCMAX	Maximum interior paint condition (unitless)
INTCCMIN	Minimum interior paint condition (unitless)
INTCCMED	Median interior paint condition (unitless)
EXTMEAN	Arithmetic mean exterior paint lead loading (mg/cm^2)
EXTMAX	Maximum exterior paint lead loading (mg/cm^2)
EXTMED	Median exterior paint lead loading (mg/cm^2)
EXCCMEAN	Arithmetic mean exterior paint condition (unitless)
EXTCCMAX	Maximum exterior paint condition (unitless)
EXTCCMIN	Minimum exterior paint condition (unitless)
EXTCCMED	Median exterior paint condition (unitless)

Table 6-20 Correlation Matrix for House Dust Lead Levels and Environmental Source Variables

VARIABLE	LNMATPB		LNPBLD		LNVACPB	
	N	r	N	r	N	r
LNMATPB	498	1	400	0.804**	163	0.721**
LNPBLD	400	0.804**	400	1	73	0.510**
LNVACPB	163	0.721**	73	0.510**	324	1
LNSOILPB	490	0.646**	392	0.534**	318	0.515**
GCOMMEAN	491	0.556**	400	0.439**	317	0.453**
INTMEAN	374	0.233**	374	0.226**	74	0.219
INTMAX	374	0.301**	374	0.285**	74	0.298*
INTMED	374	0.130*	374	0.153*	74	0.083
INCCMEAN	346	0.129*	346	0.252**	70	0.012
INTCCMAX	346	0.132*	346	0.222**	70	0.107
INTCCMIN	346	0.084	346	0.187**	70	0.041
INTCCMED	346	0.089	346	0.211**	70	-0.116
EXTMEAN	377	0.294**	377	0.264**	73	0.245*
EXTMAX	377	0.289**	377	0.241**	73	0.215
EXTMED	377	0.257**	377	0.243**	73	0.204
EXCCMEAN	359	0.198**	359	0.252**	70	0.153
EXTCCMAX	359	0.174**	359	0.199**	70	0.096
EXTCCMIN	359	0.132*	359	0.211**	70	0.125
EXTCCMED	359	0.199**	359	0.248**	70	0.197
MLMEAN	335	0.112*	335	0.115*	69	0.098
MLMAX	335	0.152*	335	0.131*	69	0.183
MLMED	335	0.089	335	0.095	69	0.020
MLCCMEAN	264	0.099	264	0.190*	57	0.156
MLCCMAX	264	0.119	264	0.199*	57	0.115
MLCCMIN	264	0.072	264	0.168*	57	0.165
MLCCMED	264	0.099	264	0.187*	57	0.175

** $P \leq 0.001$

* $P \leq 0.05$

LNMATPB	Log mat dust lead concentration (mg/kg)
LNPBLD	Log lead loading rate (mg/m^2/day)
LNVACPB	Log vacuum cleaner dust lead concentration (mg/kg)
LNSOILPB	Yard soil lead concentration (mg/kg)
GCOMMEAN	Community geomean soil lead concentration (mg/kg)
INTMEAN	Arithmetic mean interior paint lead loading (mg/cm^2)
INTMAX	Maximum interior paint lead loading (mg/cm^2)
INTMED	Median interior paint lead loading (mg/cm^2)
INCCMEAN	Arithmetic mean interior paint condition (unitless)
INTCCMAX	Maximum interior paint condition (unitless)
INTCCMIN	Minimum interior paint condition (unitless)
INTCCMED	Median interior paint condition (unitless)
EXTMEAN	Arithmetic mean exterior paint lead loading (mg/cm^2)
EXTMAX	Maximum exterior paint lead loading (mg/cm^2)
EXTMED	Median exterior paint lead loading (mg/cm^2)
EXCCMEAN	Arithmetic mean exterior paint condition (unitless)
EXTCCMAX	Maximum exterior paint condition (unitless)
EXTCCMIN	Minimum exterior paint condition (unitless)
EXTCCMED	Median exterior paint condition (unitless)
MLMEAN	Arithmetic mean mat location paint lead loading (mg/cm^2)
MLMAX	Maximum mat location paint lead loading (mg/cm^2)
MLMED	Median mat location paint lead loading (mg/cm^2)
MLCCMEAN	Arithmetic mean mat location paint condition (unitless)
MLCCMAX	Maximum mat location paint condition (unitless)
MLCCMIN	Minimum mat location paint condition (unitless)
MLCCMED	Median mat location paint condition (unitless)

Table 6-21 General Linear Model and Regression Coefficients for Blood Lead and Environmental Sources

Dependent Variable: BLPB
R-Square=0.597 (P<0.0001)
N=126

Variable	Estimate	Pr>F	Standardized Estimate
Intercept	2.8644	0.0032	0.0000
AGE	-0.3351	0.0007	-0.2056
SOILPB	0.0007	0.0012	0.2249
LEADLD	0.1638	0.0006	0.3212
EXTMED	0.5176	0.0005	0.2742
INTCCMIN	1.9230	0.0008	0.2313

Table 6-22a General Linear Model and Regression Coefficients for Entryway Mat Lead Concentration and Environmental Sources

Dependent Variable: LNMATPB
R-Square=0.444 (P<0.0001)
N=332

Variable	Estimate	Pr>F	Standardized Estimate
Intercept	3.5549	0.0001	0.0000
LNSOILPB	0.4664	0.0001	0.5868
INTMAX	0.0416	0.0174	0.1089
INTCCMIN	0.1960	0.0489	0.0818
EXTMED	0.0572	0.0269	0.0996

BLPB	Blood lead levels (µg/dl)
SOILPB	Yard soil lead concentration (mg/kg)
LEADLD	Lead loading rate ($mg/m^2/day$)
EXTMED	Median exterior paint lead loading (mg/cm^2)
INTCCMIN	Minimum interior paint condition (unitless)
LNMATPB	Log transformed mat dust lead concentration (mg/kg)
LNSOILPB	Log transformed yard soil lead concentration (mg/kg)
INTMAX	Maximum interior paint lead loading (mg/cm^2)

Table 6-22b General Linear Model and Regression Coefficients for Entryway Mat Lead Concentration and Environmental Sources

Dependent Variable: LNMATPB
R-Square=0.484 (P<0.0001)
N=332

Variable	Estimate	Pr>F	Standardized Estimate
Intercept	3.6096	0.0001	0.0000
LNSOILPB	0.3764	0.0001	0.4735
INTMAX	0.0264	0.1218	0.0692
INTCCMIN	0.2260	0.0189	0.0944
EXTMED	0.0347	0.1697	0.0605
GCOMMEAN	0.0013	0.0001	0.2488

Table 6-22c General Linear Model and Regression Coefficients for Entryway Mat Lead Concentration and Environmental Sources (Final Model)

Dependent Variable: LNMATPB
R-Square=0.466 (P<0.0001)
N=339

Variable	Estimate	Pr>F	Standardized Estimate
Intercept	3.5641	0.0001	0.0000
LNSOILPB	0.3838	0.0001	0.4818
INTCCMIN	0.2321	0.0168	0.0961
GCOMMEAN	0.0015	0.0001	0.2855

LNMATPB	Log transformed mat dust lead concentration (mg/kg)
LNSOILPB	Log transformed yard soil lead concentration (mg/kg)
INTMAX	Maximum interior paint lead loading (mg/cm^2)
INTCCMIN	Minimum interior paint condition (unitless)
EXTMED	Median exterior paint lead loading (mg/cm^2)
GCOMMEAN	Community geometric mean soil lead concentration (mg/kg)

Table 6-22d General Linear Model and Regression Coefficients for Dust Mat Lead Loading and Environmental Sources

Dependent Variable: LNPBLD
R-Square=0.361 (P<0.0001)
N=339

Variable	Estimate	Pr>F	Standardized Estimate
Intercept	-3.5216	0.0001	0.0000
LNSOILPB	0.4062	0.0001	0.4042
INTCCMIN	0.5489	0.0001	0.1801
INTMAX	0.0532	0.0203	0.1103
GCOMMEAN	0.0012	0.0005	0.1879

Table 6-23 General Linear Model and Regression Coefficients for Vacuum Bag Lead Concentration and Environmental Sources

Dependent Variable: LNVACPB
R-Square=0.546 (P<0.0001)
N=68

Variable	Estimate	Pr>F	Standardized Estimate
Intercept	3.2686	0.0001	0.0000
LNSOILPB	0.1438	0.0104	0.2702
LNMATPB	0.3380	0.0001	0.4568
INTMAX	0.0697	0.0296	0.2012

LNPBLD	Log transformed lead loading rate ($mg/m^2/day$)
LNSOILPB	Log transformed yard soil lead concentration (mg/kg)
INTCCMIN	Minimum interior paint condition (unitless)
INTMAX	Maximum interior paint lead loading (mg/cm^2)
GCOMMEAN	Community geometric mean soil lead concentration
LNMATPB	Log transformed mat dust lead concentration

Table 6-24a IEUBK Default Inhalation and Ingestion Parameters

Age (years)	Inhalation			Ingestion		
	Hours spent outdoors (hr/day)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Total Dust and Soil Intake (g/day)	Diet Intake (mg/day)	Water (L/day)
0-1	1	2	32	0.085	5.53	0.20
1-2	2	3	32	0.135	5.78	0.50
2-3	3	5	32	0.135	6.49	0.52
3-4	4	5	32	0.135	6.24	0.53
4-5	4	5	32	0.100	6.01	0.55
5-6	4	7	32	0.090	6.34	0.58
6-7	4	7	32	0.085	7.00	0.59

Table 6-24b EPA Adult Model Default Ingestion Parameters

Parameter	Value	Unit	Definition
$PbB_{fetal,\ 0.95,\ goal}$	10	µg/dl	Goal for the 95th percentile blood lead concentration (µg/dl) in fetuses born to women having exposures to the specified site soil concentrations.
$GSD_{i,adult}$	1.8	-	Individual standard deviation among adults. A value of 1.8 is recommended for a homogeneous population and 2.1 is recommended for a more heterogeneous population
	2.1	-	
$R_{fetal/maternal}$	0.9	-	Fetal/maternal PbB ratio
$PbB_{adult,\ 0}$	1.7-2.2	µg/dl	Typical blood lead concentration in adults in the absence of exposures to the site that is being assessed
BKSF	0.4	µg/dl per µg/day	Biokenetic slope factor relating increase in typical adult blood lead concentration to average daily lead uptake
IR_s	0.05	g/day	Intake rate of soil, including both outdoor soil and indoor soil-derived dust
EF_s	219	day/yr	Exposure frequency for contact with assessed soils and/or dust derived in part from these soils.
AF_s	0.12	-	Absolute gastrointestinal absorption fraction for ingested lead in soil and lead in dust derived from soil

Table 6-25a Four Year Old Children's Baseline Lead Intake Rates for Ingestion of Soil and Dust - EPA Default

Area	Community Average Soil Conc. (mg/kg)	Soil Lead Intake (mg/day)	Community Average Dust Conc. (mg/kg)	Dust Lead Intake (mg/day)	Air Lead Intake (mg/day)	Water Lead Intake (mg/day)	Market Basket Lead Intake (mg/day)	Total Lead Intake (mg/day)
Mullan	628	28	985	54	0.5	2	6	91
Burke/Nine Mile	679	31	879	48	0.5	2	6	88
Wallace	771	35	1004	55	0.5	2	6	99
Silverton	352	16	557	31	0.5	2	6	55
Osburn	418	19	493	27	0.5	2	6	55
Side Gulches	373	17	695	38	0.5	2	6	64
Kingston	257	12	466	26	0.5	2	6	46
Lower Basin	110	5	301	17	0.5	2	6	30

Table 6-25b Four Year Old Children's Baseline Lead Intake Rates for Ingestion of Soil and Dust - Box Model

Area	Community Average Soil Conc. (mg/kg)	Soil Lead Intake (mg/day)	Community Average Dust Conc. (mg/kg)	Dust Lead Intake (mg/day)	Air Lead Intake (mg/day)	Water Lead Intake (mg/day)	Market Basket Lead Intake (mg/day)	Total Lead Intake (mg/day)
Mullan	628	38	985	39	0.5	2	6	86
Burke/Nine Mile	679	41	879	35	0.5	2	6	85
Wallace	771	46	1004	40	0.5	2	6	95
Silverton	352	21	557	22	0.5	2	6	52
Osburn	418	25	493	20	0.5	2	6	54
Side Gulches	373	22	695	28	0.5	2	6	59
Kingston	257	15	466	19	0.5	2	6	43
Lower Basin	110	7	301	12	0.5	2	6	27

Table 6-26 Adult Baseline Lead Intake Rates for Ingestion of Soil and Dust

	Soil Concentration (mg/kg)	Soil Intake (mg/day)	Dust Concentration (mg/kg)	Dust Intake (mg/day)	Total Intake (mg/day)
Mullan	628	14	985	27	40
Burke/Nine Mile	679	15	879	24	39
Wallace	771	17	1004	28	44
Silverton	352	8	557	15	23
Osburn	418	9	493	14	23
Side Gulches	373	8	695	19	27
Kingston	257	6	466	13	18
Lower Basin	110	2	301	8	10

Table 6-27a Adult Occupational Exposure Factors for Non-lead Soil Related Activities Ingestion

CT Values			RME Values		
Ingestion Rate (mg/day)	Exposure Frequency (days/year)	Averaging Time (days/year)	Ingestion Rate (mg/day)	Exposure Frequency (days/year)	Averaging Time (days/year)
200	43[a]	365	300	195[b]	365

[a]Equal to 8.7 weeks/year x 5 days/week; assumes a two month construction project.

[b]Equal to 39 weeks/year x 5 days/week; assumes a nine month construction season.

Table 6-27b Adult Occupational Exposure Factors for Lead Soil Related Activities Ingestion

CT Values			RME Values		
Ingestion Rate (mg/day)	Exposure Frequency (days/year)	Averaging Time (days/year)	Ingestion Rate (mg/day)	Exposure Frequency (days/year)	Averaging Time (days/year)
100	43[a]	365	200	195[b]	365

[a]Equal to 8.7 weeks/year x 5 days/week; assumes a two month construction project.

[b]Equal to 39 weeks/year x 5 days/week; assumes a nine month construction season.

Table 6-27c EPA Adult Lead Default Values for Non-soil Related Activities

EPA Adult Model Default Values		
Ingestion Rate (mg/day)	Exposure Frequency (days/year)	Averaging Time (days/year)
50	219	365

Intake (ug/day) = C_{soil} x IR_{soil} x EF x CF x 1/AT

C_{soil} = soil lead concentration (mg/kg)

IR_{soil} = soil ingestion rate (mg/day)

EF = exposure frequency (days/year)

CF = unit correction factor

AT = averaging time (days/year)

Table 6-28a Estimated Occupational Intake Rates Associated with Community Soils for Geographic Subareas Using Non-Lead Ingestion Rates

	Community Average Soil Concentration (mg/kg)	Baseline Intake (mg/day)	Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
			Soil Intake Averaged Over the Year (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline	Soil Intake Averaged Over the Year (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline
Mullan	628	40	15	55	37%	101	141	250%
Burke/Nine Mile	679	39	16	55	41%	109	148	276%
Wallace	771	44	18	63	41%	124	168	279%
Silverton	352	23	8	31	36%	56	79	248%
Osburn	418	23	10	33	43%	67	90	294%
Side Gulches	373	27	9	36	33%	60	87	224%
Kingston	257	18	6	24	33%	41	59	228%
Lower Basin	110	10	3	13	25%	18	28	171%

Table 6-28b Estimated Occupational Intake Rates Associated with Community Soils for Geographic Subareas Using EPA Adult Model Ingestion Rates

	Community Average Soil Concentration (mg/kg)	Baseline Intake (mg/day)	Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
			Soil Intake Averaged Over the Year (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline	Soil Intake Averaged Over the Year (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline
Mullan	628	40	7	48	18%	67	107	166%
Burke/Nine Mile	679	39	8	47	20%	73	112	184%
Wallace	771	44	9	53	20%	82	127	186%
Silverton	352	23	4	27	18%	38	60	165%
Osburn	418	23	5	28	22%	45	67	196%
Side Gulches	373	27	4	31	16%	40	67	149%
Kingston	257	18	3	21	17%	27	46	152%
Lower Basin	110	10	1	12	13%	12	22	114%

Table 6-29a Estimated Occupational Incremental Lead Intake Rates for Potential Soil Lead Concentration Levels using Non-lead Ingestion Rates

Soil Concentration (mg/kg)	Central Tendency (CT)		Reasonable Maximum Exposure (RME)	
	Soil Intake (mg/day)	Soil Intake Averaged Over the Year (mg/day)	Soil Intake (mg/day)	Soil Intake Averaged Over the Year (mg/day)
500	61	12	105	80
1000	123	24	210	160
1500	184	35	315	240
2000	246	47	419	321
2500	307	59	524	401
3000	369	71	629	481
3500	430	82	734	561
4000	491	94	839	641
4500	553	106	944	721
5000	614	118	1048	801
5500	676	130	1153	882
6000	737	141	1258	962

Table 6-29b Estimated Occupational Incremental Lead Intake Rates for Potential Soil Lead Concentration Levels using Lead Soil Related Ingestion Rates

Soil Concentration (mg/kg)	Central Tendency (CT)		Reasonable Maximum Exposure (RME)	
	Soil Intake (mg/day)	Soil Intake Averaged Over the Year (mg/day)	Soil Intake (mg/day)	Soil Intake Averaged Over the Year (mg/day)
500	31	6	70	53
1000	61	12	140	107
1500	92	18	210	160
2000	123	24	280	214
2500	154	29	349	267
3000	184	35	419	321
3500	215	41	489	374
4000	246	47	559	427
4500	276	53	629	481
5000	307	59	699	534
5500	338	65	769	588
6000	369	71	839	641

Table 6-30 Occupational Lead Intake Rates for Adult Occupational Scenarios

6-30a Percentile Lead Concentrations for Occupational Soils

Area	10% Surface Soil Concentration (mg/kg)	25% Surface Soil Concentration (mg/kg)	50% Surface Soil Concentration (mg/kg)	75% Surface Soil Concentration (mg/kg)	90% Surface Soil Concentration (mg/kg)	95% Surface Soil Concentration (mg/kg)
Mullan	176	320	678	1516	2804	3860
Burke/Nine Mile	121	500	833	1609	2558	3520
Wallace	271	527	876	1525	2829	3803
Silverton	124	193	378	636	1003	1724
Osburn	134	264	406	692	1338	2163
Side Gulches	143	256	463	649	930	1441
Kingston	76	131	208	468	1392	5427
Lower Basin	26	46	94	940	3930	4783
Lower Basin floodplain sediment	0	980	3110	4070	4840	5750

6-30b Percentile Lead Intake Rates for Occupational Soils

Area	Baseline Intake (mg/day)	10% Intake Value (mg/day)	25% Intake Value (mg/day)	50% Intake Value (mg/day)	75% Intake Value (mg/day)	90% Intake Value (mg/day)	95% Intake Value (mg/day)
Mullan	40	2	4	8	18	33	45
Burke/Nine Mile	39	1	6	10	19	30	41
Wallace	44	3	6	10	18	33	45
Silverton	23	1	2	4	7	12	20
Osburn	23	2	3	5	8	16	25
Side Gulches	27	2	3	5	8	11	17
Kingston	18	1	2	2	6	16	64
Lower Basin	10	0	1	1	11	46	56
Lower Basin floodplain sediment	10	0	12	37	48	57	68

6-30c Central Tendency and Reasonable Maximum Exposure Lead Intakes Compared to Baseline

Area	Baseline Intake (mg/day)	Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
		50% Soil Intake Value (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline	95% Soil Intake Value (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline
Mullan	40	8	48	20%	45	86	113%
Burke/Nine Mile	39	10	49	25%	41	81	105%
Wallace	44	10	55	23%	45	89	101%
Silverton	23	4	27	20%	20	43	89%
Osburn	23	5	28	21%	25	48	112%
Side Gulches	27	5	32	20%	17	44	64%
Kingston	18	2	21	14%	64	82	354%
Lower Basin	10	1	11	11%	56	67	549%
Lower Basin floodplain sediment	10	37	47	366%	68	78	677%

Table 6-31 Recreational Exposure Factors

Scenario	Population	CT Values			RME Values		
		Ingestion Rate (mg/day)	Exposure Frequency[a] (days/year)	Averaging Time[b] (days/year)	Ingestion Rate (mg/day)	Exposure Frequency[a] (days/year)	Averaging Time[b] (days/year)
Upland Parks Soil	Adults	50	15	238[c]	100	30	238[c]
	Children (0-6)	120	17	238[c]	300	34	238[c]
Beach Sediment	Adults	50	16	224[d]	100	32	224[d]
(Public Beaches)	Children (0-6)	120	16	224[d]	300	32	224[d]
Waste Pile Soil	Children (4-11)	120	9	238[c]	300	17	238[c]
Neighborhood Sediment	Children (4-11)	120	10	168[e]	300	21	168[e]

[a]Exposure Frequency = $\frac{\text{\# weeks per year x \# waking hours at scenario per day x \# days per week}}{\text{\# waking hours per day}}$

Number of waking hours per day for adults is 16 hours; for children it is 14 hours.

Examples:

17 days/year = $\frac{\text{34 weeks/year x 7 hours/day x 1 day/week}}{\text{14 hours/day}}$

16 events/year = 16 weeks/year x 1 full day event/week

8.5 days/year = $\frac{\text{34 weeks/year x 7 hours/day x 0.5 day/week}}{\text{14 hours/day}}$

10 days/year = $\frac{\text{24 weeks/year x 3 hours/day x 2 days/week}}{\text{14 hours/day}}$

[b]Effective exposure duration is 365 days/year in the IEUBK model, whereas expected exposure is seasonal (as shown in the CT and RME values).

[c]Averaging time is equal to 34 weeks/year x 7 days/week = 238 days/year.

[d]Averaging time is equal to 32 weeks/year x 7 days/week = 224 days/year.

[e]Averaging time is equal to 24 weeks/year x 7 days/week = 168 days/year.

Intake (ug/day) = C_{soil} x IR_{soil} x EF x CF x 1/AT

C_{soil} = soil lead concentration (mg/kg)

IR_{soil} = soil ingestion rate (mg/day)

EF = exposure frequency (days/year)

CF = unit correction factor

AT = averaging time (days/year)

* Reference Tables 3-24 for rationale behind recreational exposure factors

Table 6-32a Incremental Sediment/Soil Ingestion Lead Intake for Children - Central Tendency (CT)

Concentration (mg/kg)	Upland Parks		Beach Sediment		Waste Piles		Neighborhood Sediment	
	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)
50	0	0	0	0	0	0	0	0
100	1	1	1	1	0	0	1	0
200	2	1	2	1	1	1	1	1
400	3	2	3	2	2	1	3	1
500	4	3	4	3	2	1	4	2
1000	9	6	9	5	4	3	7	3
1500	13	8	13	8	6	4	11	5
2000	17	11	17	11	9	6	14	7
2500	21	14	21	13	11	7	18	8
3000	26	17	26	16	13	8	21	10
3500	30	20	30	18	15	10	25	12
4000	34	22	34	21	17	11	29	13
4500	39	25	39	24	19	13	32	15
5000	43	28	43	26	21	14	36	16
5500	47	31	47	29	24	15	39	18
6000	51	34	51	32	26	17	43	20

Table 6-32b Incremental Sediment/Soil Ingestion Lead Intake for Children - Reasonable Maximum Exposure (RME)

Concentration (mg/kg)	Upland Parks		Beach Sediment		Waste Piles		Neighborhood Sediment	
	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)
50	2	1	2	1	1	1	2	1
100	4	3	4	3	2	1	4	2
200	9	6	9	5	4	3	8	3
400	17	11	17	11	9	6	15	7
500	21	14	21	13	11	7	19	9
1000	43	28	43	26	21	14	38	17
1500	64	42	64	39	32	21	56	26
2000	86	56	86	53	43	28	75	35
2500	107	70	107	66	54	35	94	43
3000	129	84	129	79	64	42	113	52
3500	150	98	150	92	75	49	131	60
4000	171	112	171	105	86	56	150	69
4500	193	126	193	118	96	63	169	78
5000	214	140	214	132	107	70	188	86
5500	236	154	236	145	118	77	206	95
6000	257	168	257	158	129	84	225	104

Table 6-32c Incremental Sediment/Soil Ingestion Intake for Adults - Central Tendency (CT) and Reasonable Maximum Exposure (RME)

Concentration (mg/kg)	Central Tendency (CT)				Reasonable Maximum Exposure (RME)			
	Upland Parks		Beach Sediment		Upland Parks		Beach Sediment	
	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)
50	0	0	0	0	1	0	1	0
100	0	0	0	0	1	1	1	1
500	2	1	2	1	6	4	7	4
1000	3	2	4	2	13	8	14	9
1500	5	3	5	3	19	12	21	13
2000	6	4	7	4	25	16	29	18
2500	8	5	9	5	32	21	36	22
3000	9	6	11	7	38	25	43	26
3500	11	7	13	8	44	29	50	31
4000	13	8	14	9	50	33	57	35
4500	14	9	16	10	57	37	64	39
5000	16	10	18	11	63	41	71	44
5500	17	11	20	12	69	45	79	48
6000	19	12	21	13	76	49	86	53

Table 6-33 Recreational Surface Water Exposure Factors

Scenario	Population	CT Values			RME Values		
		Ingestion Rate (ml/hour)	Exposure Frequency (events/year)	Averaging Time (days/year)	Ingestion Rate (ml/hour)	Exposure Frequency[a] (events/year)	Averaging Time[b] (days/year)
Recreational (Public Beaches)	Adults	30	16	112[c]	30	32	112[c]
	Children	30	16	112[c]	30	32	112[c]
Neighborhood Sediment	Children	30	48	168[d]	30	96	168[d]

[a]Exposure Frequency = # events per week x # weeks per year, where one event is a full day at the beach.

Examples:
32 events/year = 2 events/week x 16 weeks/year
96 events/year = 4 events/week x 24 weeks/year
16 events/year = 1 event/week x 16 weeks/year
48 events/year = 2 events/week x 24 weeks/year

[b]Effective exposure duration is 365 days/year in the IEUBK model, whereas expected exposure is seasonal (as shown in the CT and RME values).

[c]Averaging time is equal to 16 weeks/year x 7 days/week = 112 days/year.

[d]Averaging time is equal to 24 weeks/year x 7 days/week = 168 days/year.

Intake (ug/day) = C_{water} x IR_{water} x EF x CF x 1/AT

C_{water} = water lead concentration (ug/L)

IR_{water} = water ingestion rate (ml/hour)

EF = exposure frequency (hourly events/year)

CF = unit correction factor

AT = averaging time (days/year)

Table 6-34a Incremental Recreational Surface Water Ingestion Lead Intake Rates for Children

Concentration (mg/L)	Central Tendency (CT)				Reasonable Maximum Exposure (RME)			
	Recreational		Neighborhood		Recreational		Neighborhood	
	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)
50	0	0	0	0	0	0	1	0
200	1	0	2	1	2	1	3	2
500	2	1	4	2	4	1	9	4
1000	4	1	9	4	9	3	17	8
5000	21	7	43	20	43	13	86	39
10000	43	13	86	39	86	26	171	79
15000	64	20	129	59	129	39	257	118
20000	86	26	171	79	171	53	343	158
25000	107	33	214	99	214	66	429	197
50000	214	66	429	197	429	131	857	395
55000	236	72	471	217	471	145	943	434
60000	257	79	514	237	514	158	1029	473
65000	279	85	557	256	557	171	1114	513

Table 6-34b Incremental Recreational Surface Water Ingestion Lead Intake Rates for Adults

Concentration (mg/L)	Central Tendency (CT)		Reasonable Maximum Exposure (RME)	
	Intake (mg/day)	Intake Averaged over the Year (mg/day)	Intake (mg/day)	Intake Averaged over the Year (mg/day)
50	0	0	0	0
200	1	0	2	1
500	2	1	4	1
1000	4	1	9	3
5000	21	7	43	13
10000	43	13	86	26
15000	64	20	129	39
20000	86	26	171	53
25000	107	33	214	66
50000	214	66	429	131
55000	236	72	471	145
60000	257	79	514	158
65000	279	85	557	171

Table 6-35 Upland Parks Incremental Intakes for Children

6-35a Percentile Surface Soil Lead Concentrations

Upland Park Area	10% Surface Soil Concentration (mg/kg)	25% Surface Soil Concentration (mg/kg)	50% Surface Soil Concentration (mg/kg)	75% Surface Soil Concentration (mg/kg)	90% Surface Soil Concentration (mg/kg)	95% Surface Soil Concentration (mg/kg)
Mullan	359	474	1189	2530	3270	3270
Mid Reach[a]	198	309	808	1570	3170	12100
Lower Basin[b]	61	1070	3415	4350	4710	4900

[a] Mid Reach includes Silverton, Osburn, Wallace, and the Side Gulches.

[b] Lower Basin includes Kingston.

6-35b Lead Intakes Associated with Concentration Percentiles

	Baseline Intake (mg/day)	10% Intake Value (mg/day)	25% Intake Value (mg/day)	50% Intake Value (mg/day)	75% Intake Value (mg/day)	90% Intake Value (mg/day)	95% Intake Value (mg/day)
Mullan	91	2	3	7	14	18	18
Wallace	99	1	2	5	9	18	68
Silverton	55	1	2	5	9	18	68
Osburn	55	1	2	5	9	18	68
Side Gulches	64	1	2	5	9	18	68
Kingston	46	0	6	19	24	26	27
Lower Basin	30	0	6	19	24	26	27

6-35c Incremental Central Tendency and Reasonable Maximum Exposure Intake Rates Compared to Baseline

		Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
	Baseline Intake (mg/day)	50% Intake Value (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline	95% Intake Value (mg/day)	Total Intake (mg/day)	% Intake Increase from Baseline
Mullan	91	7	98	7%	18	109	20%
Wallace	99	5	103	5%	68	166	69%
Silverton	55	5	60	8%	68	123	123%
Osburn	55	5	59	8%	68	122	124%
Side Gulches	64	5	68	7%	68	131	106%
Kingston	46	19	65	42%	27	73	59%
Lower Basin	30	19	49	63%	27	58	91%

Table 6-36 Neighborhood Stream Incremental Intakes for Children 4 Years Through 11 Years Old

6-36a Percentile Lead Concentration for Sediment and Surface Water

Area	10% Sediment Concentration (mg/kg)	10% Surface Water Concentration (µg/L)	25% Sediment Concentration (mg/kg)	25% Surface Water Concentration (µg/L)	50% Sediment Soil Concentration (mg/kg)	50% Surface Water Concentration (µg/L)	75% Sediment Concentration (mg/kg)	75% Surface Water Concentration (µg/L)	90% Sediment Concentration (mg/kg)	90% Surface Water Concentration (µg/L)	95% Sediment Concentration (mg/kg)	95% Surface Water Concentration (µg/L)
Mullan	114	0.13	361	0.3	696	1.3	1850	5.0	5270	11	13800	19
Burke/Nine Mile	160	1.0	858	6.4	4030	36	6930	74	20100	129	67100	296
Kingston*	83.9	0.2	110	0.4	153	0.65	218	1.7	228	12	249	38
Osburn, Wallace, Silverton, Side Gulches	1010	0.3	1490	0.5	2305	1.65	4450	21.9	5720	31.2	5880	36.8

*The Lower Basin subarea is included with Kingston.

6-36b Percentile Lead Intake Rates for Sediment and Surface Water

	Baseline Intake (µg/day)	10% Sediment Intake Value (µg/day)	10% Surface Water Intake Value (µg/day)	25% Sediment Intake Value (µg/day)	25% Surface Water Intake Value (mg/day)	50% Sediment Intake Value (mg/day)	50% Surface Water Intake Value (mg/day)	75% Sediment Intake Value (µg/day)	75% Surface Water Intake Value (mg/day)	90% Sediment Intake Value (µg/day)	90% Surface Water Intake Value (µg/day)	95% Sediment Intake Value (µg/day)	95% Surface Water Intake Value (mg/day)
Mullan	91	0	0	1	0	2	0	6	0	17	0	45	0
Burke/Nine Mile	88	1	0	3	0	13	0	23	0	66	1	221	1
Wallace	99	3	0	5	0	8	0	15	0	19	0	19	0
Silverton	55	3	0	5	0	8	0	15	0	19	0	19	0
Osburn	55	3	0	5	0	8	0	15	0	19	0	19	0
Side Gulches	64	3	0	5	0	8	0	15	0	19	0	19	0
Kingston	46	0	0	0	0	1	0	1	0	1	0	1	0
Lower Basin	30	0	0	0	0	1	0	1	0	1	0	1	0

6-36c Central Tendency and Reasonable Maximum Exposure Intake Estimates Compared to Baseline

		Central Tendency (CT)				Reasonable Maximum Exposure (RME)			
	Baseline Intake (µg/day)	50% Sediment Intake Value (µg/day)	50% Surface Water Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Sediment Intake Value (µg/day)	95% Surface Water Intake Value (mg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	91	2	0	93	3%	45	0	137	50%
Burke/Nine Mile	88	13	0	101	15%	221	1	309	253%
Wallace	99	8	0	106	8%	19	0	118	20%
Silverton	55	8	0	63	14%	19	0	75	35%
Osburn	55	8	0	62	14%	19	0	74	36%
Side Gulches	64	8	0	71	12%	19	0	83	31%
Kingston	46	1	0	46	1%	1	0	47	2%
Lower Basin	30	1	0	31	2%	1	0	31	3%

Table 6-37 CUA Public Beach Incremental Intakes for Children 0 Through 6 Years Old

6-37a Percentile Lead Concentrations for Sediments and Surface Water

Area	10% Sediment Concentration (mg/kg)	10% Surface Water Concentration (µg/L)	25% Sediment Concentration (mg/kg)	25% Surface Water Concentration (µg/L)	50% Sediment Soil Concentration (mg/kg)	50% Surface Water Concentration (µg/L)	75% Sediment Concentration (mg/kg)	75% Surface Water Concentration (µg/L)	90% Sediment Concentration (mg/kg)	90% Surface Water Concentration (µg/L)	95% Sediment Concentration (mg/kg)	95% Surface Water Concentration (µg/L)
Lower Basin[a]	1250	658	2720	3010	3690	14700	4410	25300	5000	30800	5750	31700

[a] Lower Basin includes Kingston.

6-37b Percentile Lead Intake Rates by Media

	Baseline Intake (µg/day)	10% Sediment Intake Value (µg/day)	10% Surface Water Intake Value (µg/day)	25% Sediment Intake Value (µg/day)	25% Surface Water Intake Value (µg/day)	50% Sediment Intake Value (µg/day)	50% Surface Water Intake Value (µg/day)	75% Sediment Intake Value (µg/day)	75% Surface Water Intake Value (µg/day)	90% Sediment Intake Value (µg/day)	90% Surface Water Intake Value (µg/day)	95% Sediment Intake Value (µg/day)	95% Surface Water Intake Value (µg/day)
Mullan	91	7	1	14	4	19	19	23	33	26	41	30	42
Burke/Nine Mile	88	7	1	14	4	19	19	23	33	26	41	30	42
Wallace	99	7	1	14	4	19	19	23	33	26	41	30	42
Silverton	55	7	1	14	4	19	19	23	33	26	41	30	42
Osburn	55	7	1	14	4	19	19	23	33	26	41	30	42
Side Gulches	64	7	1	14	4	19	19	23	33	26	41	30	42
Kingston	46	7	1	14	4	19	19	23	33	26	41	30	42
Lower Basin	30	7	1	14	4	19	19	23	33	26	41	30	42

6-37c Central Tendency and Reasonable Maximum Exposure Lead Intake Rates Compared to Baseline

		Central Tendency (CT)				Reasonable Maximum Exposure (RME)			
	Baseline Intake (µg/day)	50% Sediment Intake Value (µg/day)	50% Surface Water Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Sediment Intake Value (µg/day)	95% Surface Water Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	91	19	19	130	43%	30	42	163	79%
Burke/Nine Mile	88	19	19	126	44%	30	42	160	82%
Wallace	99	19	19	137	39%	30	42	171	73%
Silverton	55	19	19	94	70%	30	42	127	130%
Osburn	55	19	19	93	71%	30	42	127	132%
Side Gulches	64	19	19	102	61%	30	42	136	113%
Kingston	46	19	19	85	84%	30	42	118	157%
Lower Basin	30	19	19	69	128%	30	42	102	238%

Table 6-38 Incremental Lead Intake Rates for Waste Piles for Children 4 Through 11 Years Old

6-38a Percentile Lead Concentrations for Waste Pile Soils

Area	10% Surface Soil Concentration (mg/kg)	25% Surface Soil Concentration (mg/kg)	50% Surface Soil Concentration (mg/kg)	75% Surface Soil Concentration (mg/kg)	90% Surface Soil Concentration (mg/kg)	95% Surface Soil Concentration (mg/kg)
Mullan	228	234	245	4080	4570	4570
Burke/Nine Mile	306	2050	3970	4750	16100	49800

6-38b Percentile Lead Intake Rates for Waste Piles

	Baseline Intake (µg/day)	10% Intake Value (µg/day)	25% Intake Value (µg/day)	50% Intake Value (µg/day)	75%Intake Value (µg/day)	90% Intake Value (µg/day)	95% Intake Value (µg/day)
Mullan	91	1	1	1	11	13	13
Burke/Nine Mile	88	1	6	11	13	45	139

6-38c Central Tendency and Reasonable Maximum Exposure Incremental Lead Intakes Compared to Baseline

		Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	91	1	92	1%	13	104	14%
Burke/Nine Mile	88	11	99	13%	139	227	159%

Table 6-39 Local Foodstuff Exposure Factors for the Resident Populations

Scenario	Population	CT Values			RME Values		
		Ingestion Rate	Exposure Frequency (days/year)	Averaging Time (days/year)	Ingestion Rate	Exposure Frequency (days/year)	Averaging Time (days/year)
Recreational fishermen	Adults/Children	0.357 g/kg-day[a]	365	365	0.657 g/kg-day[a]	365	365
Home grown vegetables	Adults/Children	0.492 g/kg-day[b]	365	365	5.04 g/kg-day[b,c]	365	365

[a]Fish ingestion rate is calculated using the EPA suggested CT value of 25 g/day for adults and the ATSDR RME value of 46 g/day for adults. The ingestion rate becomes 0.357 g/kg-day when the adult body weight, 70 kg, is factored out. Ingestion rates become g/day when 0.357 g/kg-day is multiplied by body weight (70 kg for adults and 15 kg for children).

Examples: 5.4 g/day = 0.357 g/kg-day x 15 kg child
25 g/day = 0.357 g/kg-day x 70 kg adult

[b]Ingestion rate is seasonally adjusted and incorporates the body weights of all participants in the study (children and adults).

[c]Ingestion rate units become g/day when 0.492 g/kg-day is multiplied by body weight (70 kg for adults and 15 kg for children).

Examples: 7.4 g/day = 0.492 g/kg-day x 15 kg child
34 g/day = 0.492 g/kg-day x 70 kg adult

Fish intake (ug/day) = C_{fish} x IR_{fish} x EF x CF x 1/AT
C_{fish} = fish tissue lead concentration (mg/kg)
IR_{fish} = food ingestion rate for fish (g/day)
EF = exposure frequency (days/year)
CF = unit correction factor
AT = averaging time (days/year)

Vegetable intake (ug/day) = C_{veg} x IR_{veg} x EF x CF x BW x 1/AT
C_{veg} = wet weight vegetable lead concentration (mg/kg)
IR_{veg} = food ingestion rate for vegetables (g/kg-day)
EF = exposure frequency (days/year)
CF = unit correction factor
BW = body weight (kg)
AT = averaging time (days/year)

Table 6-40a Children's Incremental Lead Intake Rate from Home Grown Produce

Area	10% Wet Weight Vegetable Concentration (mg/kg)	25% Wet Weight Vegetable Concentration (mg/kg)	50% Wet Weight Vegetable Concentration (mg/kg)	75% Wet Weight Vegetable Concentration (mg/kg)	90% Wet Weight Vegetable Concentration (mg/kg)	95% Wet Weight Vegetable Concentration (mg/kg)
Total Basin	0.6	1.2	3.2	12	19	24

Area	10% Intake Value (µg/day)	25% Intake Value (µg/day)	50% Intake Value (µg/day)	75% Intake Value (µg/day)	90% Intake Value (µg/day)	95% Intake Value (µg/day)
Total Basin	4	9	24	85	139	178

		Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	91	24	115	26%	178	269	195%
Burke/Nine Mile	88	24	111	27%	178	265	203%
Wallace	99	24	122	24%	178	277	180%
Silverton	55	24	79	43%	178	233	322%
Osburn	55	24	78	44%	178	233	325%
Side Gulches	64	24	88	37%	178	242	279%
Kingston	46	24	70	52%	178	224	388%
Lower Basin	30	24	54	79%	178	208	589%

Table 6-40b Adults' Incremental Lead Intake Rate from Home Grown Foodstuff

Area	10% Wet Weight Vegetable Concentration (mg/kg)	25% Wet Weight Vegetable Concentration (mg/kg)	50% Wet Weight Vegetable Concentration (mg/kg)	75% Wet Weight Vegetable Concentration (mg/kg)	90% Wet Weight Vegetable Concentration (mg/kg)	95% Wet Weight Vegetable Concentration (mg/kg)
Total Basin	0.6	1.2	3.2	12	19	24

Area	10% Intake Value (µg/day)	25% Intake Value (µg/day)	50% Intake Value (µg/day)	75% Intake Value (µg/day)	90% Intake Value (µg/day)	95% Intake Value (µg/day)
Total Basin	20	40	111	399	648	830

		Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	40	111	151	276%	830	870	2058%
Burke/Nine Mile	39	111	150	285%	830	869	2131%
Wallace	44	111	156	250%	830	874	1870%
Silverton	23	111	134	489%	830	853	3653%
Osburn	23	111	134	488%	830	853	3644%
Side Gulches	27	111	138	416%	830	857	3108%
Kingston	18	111	129	615%	830	848	4593%
Lower Basin	10	111	121	1083%	830	840	8087%

Table 6-41a Recreational Fish Incremental Intakes for Children

Area	10% Fish Fillet Concentration (mg/kg)	25% Fish Fillet Concentration (mg/kg)	50% Fish Fillet Concentration (mg/kg)	75% Fish Fillet Concentration (mg/kg)	90% Fish Fillet Concentration (mg/kg)	95% Fish Fillet Concentration (mg/kg)
Total Basin	0.03	0.06	0.12	0.27	0.51	0.68

Area	10% Intake Value (µg/day)	25% Intake Value (µg/day)	50% Intake Value (µg/day)	75% Intake Value (µg/day)	90% Intake Value (µg/day)	95% Intake Value (µg/day)
Total Basin	0	0	1	1	3	4

		Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	91	1	92	1%	4	95	4%
Burke/Nine Mile	88	1	88	1%	4	91	4%
Wallace	99	1	99	1%	4	102	4%
Silverton	55	1	56	1%	4	59	7%
Osburn	55	1	55	1%	4	58	7%
Side Gulches	64	1	64	1%	4	67	6%
Kingston	46	1	47	1%	4	50	8%
Lower Basin	30	1	31	2%	4	34	12%

Table 6-41b Recreational Fish Incremental Intakes for Adults

Area	10% Fish Fillet Concentration (mg/kg)	25% Fish Fillet Concentration (mg/kg)	50% Fish Fillet Concentration (mg/kg)	75% Fish Fillet Concentration (mg/kg)	90% Fish Fillet Concentration (mg/kg)	95% Fish Fillet Concentration (mg/kg)
Total Basin	0.03	0.06	0.12	0.27	0.51	0.68

Area	10% Intake Value (µg/day)	25% Intake Value (µg/day)	50% Intake Value (µg/day)	75% Intake Value (µg/day)	90% Intake Value (µg/day)	95% Intake Value (µg/day)
Total Basin	1	2	3	7	13	17

		Central Tendency (CT)			Reasonable Maximum Exposure (RME)		
	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline
Mullan	40	3	43	7%	17	57	42%
Burke/Nine Mile	39	3	42	8%	17	56	43%
Wallace	44	3	47	7%	17	61	38%
Silverton	23	3	26	13%	17	40	75%
Osburn	23	3	26	13%	17	40	75%
Side Gulches	27	3	30	11%	17	44	64%
Kingston	18	3	21	17%	17	35	94%
Lower Basin	10	3	13	29%	17	27	166%

Table 6-42a Summary of Children's Potential Incremental Intakes (CT)

		Upland Parks	Neighborhood Streams		Public Beaches		Waste Piles	Produce	Fish	Total
	Baseline Intake (mg/day)	50% Intake Value (mg/day)	50% Sediment Intake Value (mg/day)	50% Surface Water Intake Value (mg/day)	50% Sediment Intake Value (mg/day)	50% Surface Water Intake Value (mg/day)	50% Intake Value (mg/day)	50% Intake Value (mg/day)	50% Intake Value (mg/day)	50% Intake Value (mg/day)
Mullan	91	7	2	0	19	19	1	24	1	164
Burke/Nine Mile	88	-	13	0	19	19	11	24	1	175
Wallace	99	5	8	0	19	19	-	24	1	174
Silverton	55	5	8	0	19	19	-	24	1	130
Osburn	55	5	8	0	19	19	-	24	1	130
Side Gulches	64	5	8	0	19	19	-	24	1	139
Kingston	46	19	1	0	19	19	-	24	1	129
Lower Basin	30	19	1	0	19	19	-	24	1	113

Table 6-42b Summary of Children's Potential Incremental Intakes (RME)

		Upland Parks	Neighborhood Streams		Public Beaches		Waste Piles	Produce	Fish	Total
	Baseline Intake (mg/day)	95% Intake Value (mg/day)	95% Sediment Intake Value (mg/day)	95% Surface Water Intake Value (mg/day)	95% Sediment Intake Value (mg/day)	95% Surface Water Intake Value (mg/day)	95% Intake Value (mg/day)	95% Intake Value (mg/day)	95% Intake Value (mg/day)	95% Intake Value (mg/day)
Mullan	91	18	45	0	30	42	13	178	4	421
Burke/Nine Mile	88	-	221	1	30	42	139	178	4	702
Wallace	99	68	19	0	30	42	-	178	4	439
Silverton	55	68	19	0	30	42	-	178	4	396
Osburn	55	68	19	0	30	42	-	178	4	395
Side Gulches	64	68	19	0	30	42	-	178	4	404
Kingston	46	19	1	0	30	42	-	178	4	320
Lower Basin	30	27	1	0	30	42	-	178	4	312

Table 6-43a Summary of Adult's Potential Incremental Intakes (CT)

		Upland Parks	Public Beaches		Produce	Fish	Total
	Baseline Intake (mg/day)	50% Intake Value (mg/day)	50% Sediment Intake Value (mg/day)	50% Surface Water Intake Value (mg/day)	50% Intake Value (mg/day)	50% Intake Value (mg/day)	Intake Value (mg/day)
Mullan	40	2	8	19	111	3	184
Burke/Nine Mile	39	2	8	19	111	3	183
Wallace	44	2	8	19	111	3	188
Silverton	23	2	8	19	111	3	166
Osburn	23	2	8	19	111	3	166
Side Gulches	27	2	8	19	111	3	170
Kingston	18	7	8	19	111	3	167
Lower Basin	10	7	8	19	111	3	159

Table 6-43b Summary of Adult's Potential Incremental Intakes (RME)

		Upland Parks	Public Beaches		Produce	Fish	Total
	Baseline Intake (mg/day)	95% Intake Value (mg/day)	95% Sediment Intake Value (mg/day)	95% Surface Water Intake Value (mg/day)	95% Intake Value (mg/day)	95% Intake Value (mg/day)	Intake Value (mg/day)
Mullan	40	7	13	42	830	17	948
Burke/Nine Mile	39	25	13	42	830	17	966
Wallace	44	25	13	42	830	17	971
Silverton	23	25	13	42	830	17	949
Osburn	23	25	13	42	830	17	949
Side Gulches	27	25	13	42	830	17	953
Kingston	18	10	13	42	830	17	929
Lower Basin	10	10	13	42	830	17	922

Table 6-44a Traditional Tribal Lead Intake Rate Estimates for Children by Quantile Percentages

Intake Rate Estimates With Whole Fish and Unpeeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Whole Fish Concentration[1] (mg/kg)	Whole Fish Intake (µg/day)	Wet Weight Water Potato Concentration[2] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	39	12	9	13.5	0.56	65	2	236	658	11	338
25%	1070	980	1037	311	12	18	0.65	75	6	786	2340	40	1231
50%	3350	3110	3262	979	24	36	1.14	132	19	2310	15500	268	3724
75%	4350	4070	4248	1274	32	48	1.77	205	46	5610	25300	437	7574
90%	4710	4840	4757	1427	56	84	3.12	362	74	9092	30800	532	11497
95%	4900	5750	5210	1563	110	165	4.34	503	94	11599	31700	547	14377

[1]The fish ingestion pathway evaluation is based on whole fish metals data collected from the Spokane River; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.

[2]The wet weight data are for unpeeled water potatoes.

Intake Rate Estimates With Fish Fillet and Peeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Fish Fillet Concentration[3] (mg/kg)	Fish Fillet Intake (µg/day)	Peeled Wet Weight Water Potato Concentration[4] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	39	12	9	13.5	0.03	3	0.29	36	658	11	75
25%	1070	980	1037	311	12	18	0.07	8	0.31	38	2340	40	416
50%	3350	3110	3262	979	24	36	0.13	15	0.34	41	15500	268	1339
75%	4350	4070	4248	1274	32	48	0.32	37	0.37	45	25300	437	1841
90%	4710	4840	4757	1427	56	84	0.56	65	0.41	50	30800	532	2158
95%	4900	5750	5210	1563	110	165	0.74	86	0.53	65	31700	547	2426

[3]The fish ingestion pathway evaluation is based on filleted fish metals data collected from the Lateral Lakes; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.

[4]The wet weight data are for peeled water potatoes.

Table 6-44b Traditional Tribal Lead Intake Rate Estimates for Adults by Quantile Percentages

Intake Rate Estimates With Whole Fish and Unpeeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Whole Fish Concentration[1] (mg/kg)	Fish Intake (µg/day)	Wet Weight Water Potato Concentration[2] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	39	12	9	27	0.56	302	2	1102	658	11	1454
25%	1070	980	1037	311	12	36	0.65	351	6	3667	2340	40	4405
50%	3350	3110	3262	979	24	72	1.14	616	19	10780	15500	268	12714
75%	4350	4070	4248	1274	32	96	1.77	956	46	26180	25300	437	28943
90%	4710	4840	4757	1427	56	168	3.12	1685	74	42430	30800	532	46242
95%	4900	5750	5210	1563	110	330	4.34	2344	94	54127	31700	547	58910

[1]The fish ingestion pathway evaluation is based on whole fish metals data collected from the Spokane River; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.

[2]The wet weight data are for unpeeled water potatoes.

Intake Rate Estimates With Fish Fillet and Peeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Fish Fillet Concentration[3] (mg/kg)	Fish Intake (µg/day)	Peeled Wet Weight Water Potato Concentration[4] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	39	12	9	27	0.03	14	0.29	167	658	11	231
25%	1070	980	1037	311	12	36	0.07	38	0.31	178	2340	40	603
50%	3350	3110	3262	979	24	72	0.13	70	0.34	193	15500	268	1582
75%	4350	4070	4248	1274	32	96	0.32	170	0.37	211	25300	437	2188
90%	4710	4840	4757	1427	56	168	0.56	302	0.41	234	30800	532	2663
95%	4900	5750	5210	1563	110	330	0.74	400	0.53	304	31700	547	3144

[3]The fish ingestion pathway evaluation is based on filleted fish metals data collected from the Lateral Lakes; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.

[4]The wet weight data are for peeled water potatoes.

Table 6-45 Modern Tribal Lead Intake Rate Estimates for Children by Quantile Percentages

Intake Rate Estimates With Whole Fish and Unpeeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Whole Fish Concentration[1] (mg/kg)	Whole Fish Intake (µg/day)	Wet Weight Water Potato Concentration[2] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	31	2	9	2	0.56	20	2	46	658	3	73
25%	1070	980	1025	51	12	3	0.65	23	6	153	2340	12	243
50%	3350	3110	3230	162	24	6	1.14	41	19	451	15500	78	737
75%	4350	4070	4210	211	32	8	1.77	64	46	1095	25300	127	1504
90%	4710	4840	4775	239	56	14	3.12	112	74	1774	30800	154	2294
95%	4900	5750	5325	267	110	28	4.34	156	94	2263	31700	159	2873

[1]The fish ingestion pathway evaluation is based on whole fish metals data collected from the Spokane River; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.

[2]The wet weight data are for unpeeled water potatoes.

Intake Rate Estimates With Fish Fillet and Peeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Fish Fillet Concentration[3] (mg/kg)	Fish Fillet Intake (µg/day)	Peeled Wet Weight Water Potato Concentration[4] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	31	2	9	2	0.03	1	0.29	7	658	3	15
25%	1070	980	1025	51	12	3	0.07	3	0.31	7	2340	12	76
50%	3350	3110	3230	162	24	6	0.13	5	0.34	8	15500	78	258
75%	4350	4070	4210	211	32	8	0.32	11	0.37	9	25300	127	366
90%	4710	4840	4775	239	56	14	0.56	20	0.41	10	30800	154	438
95%	4900	5750	5325	267	110	28	0.74	27	0.53	13	31700	159	493

[3]The fish ingestion pathway evaluation is based on filleted fish metals data collected from the Lateral Lakes; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.

[4]The wet weight data are for peeled water potatoes.

Table 6-46 Modern Tribal Lead Intake Rate Estimates for Adults by Quantile Percentages

Intake Rate Estimates With Whole Fish and Unpeeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Whole Fish Concentration[1] (mg/kg)	Whole Fish Intake (µg/day)	Wet Weight Water Potato Concentration[2] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	31	2	9	5	0.56	95	2	215	658	3	320
25%	1070	980	1025	51	12	6	0.65	111	6	715	2340	12	895
50%	3350	3110	3230	162	24	12	1.14	194	19	2103	15500	78	2549
75%	4350	4070	4210	211	32	16	1.77	301	46	5108	25300	127	5763
90%	4710	4840	4775	239	56	28	3.12	530	74	8279	30800	154	9231
95%	4900	5750	5325	267	110	55	4.34	738	94	10561	31700	159	11780

[1]The fish ingestion pathway evaluation is based on whole fish metals data collected from the Spokane River; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.
[2]The wet weight data are for unpeeled water potatoes.

Intake Rate Estimates With Fish Fillet and Peeled Water Potato

Quantile Percent Concentration	Soil Concentration (mg/kg)	Sediment Concentration (mg/kg)	Soil/Sediment Weighted Concentration (mg/kg)	Soil/Sediment Intake (µg/day)	Undisturbed Surface Water Concentration (µg/L)	Water Intake as Drinking Water (µg/day)	Fish Fillet Concentration[3] (mg/kg)	Fish Fillet Intake (µg/day)	Peeled Wet Weight Water Potato Concentration[4] (mg/kg)	Water Potato Intake (µg/day)	Surface Water Concentration (µg/L)	Incidental Ingestion of Surface Water (µg/day)	Total Intake (µg/day)
10%	61	0	31	2	9	5	0.03	4	0.29	33	658	3	46
25%	1070	980	1025	51	12	6	0.07	12	0.31	35	2340	12	116
50%	3350	3110	3230	162	24	12	0.13	22	0.34	38	15500	78	311
75%	4350	4070	4210	211	32	16	0.32	54	0.37	41	25300	127	449
90%	4710	4840	4775	239	56	28	0.56	95	0.41	46	30800	154	563
95%	4900	5750	5325	267	110	55	0.74	126	0.53	59	31700	159	666

[3]The fish ingestion pathway evaluation is based on filleted fish metals data collected from the Lateral Lakes; interpolation of hazards and risks associated with Lake Coeur d'Alene fish from these data is not recommended.
[4]The wet weight data are for peeled water potatoes.

Table 6-47a Predicted and Observed Baseline Blood Lead Levels
Community Mode IEUBK- 9-84 Months

Area	9-84 Months					
	Observed* Geometric Mean (µg/dl)	Observed* % to exceed 10 µg/dl	Default Predicted Geometric Mean (µg/dl)	Default Predicted % to exceed 10 µg/dl	40:30:30 Predicted Geometric Mean (µg/dl)	40:30:30 Predicted % to exceed 10 µg/dl
Mullan	5.0	10	9.3	43	6.3	15
Burke/Nine Mile	6.4	22	9	40	6.2	15
Wallace	5.7	19	9.9	48	6.8	19
Silverton	4.5	11	6.3	15	4.3	3
Osburn	4.0	5	6.2	15	4.4	4
Side Gulches	3.7	0	7	21	4.7	5
Kingston	3.7	14	5.4	9	3.7	2
Lower Basin	5.1	25	3.9	2	2.8	0

* observed levels correspond to children 9 months through 9 years of age

Table 6-47b Predicted and Observed Baseline Blood Lead Levels
Community Mode IEUBK- 9-24 Months

Area	9-24 Months					
	Observed* Geometric Mean (µg/dl)	Observed* % to exceed 10 µg/dl	Default Predicted Geometric Mean (µg/dl)	Default Predicted % to exceed 10 µg/dl	40:30:30 Predicted Geometric Mean (µg/dl)	40:30:30 Predicted % to exceed 10 µg/dl
Mullan	6.7	17	11.3	58	7.6	27
Burke/Nine Mile	6.6	30	11.0	56	7.5	25
Wallace	7.4	46	12.0	61	8.2	32
Silverton	6.1	19	7.6	27	5.2	8
Osburn	6.0	14	7.6	26	5.3	8
Side Gulches	5.0	0	8.6	34	5.7	11
Kingston	5.5	25	6.6	18	4.5	4
Lower Basin	6.9	33	4.6	5	3.2	1

* observed levels only correspond to 9-24 months

Table 6-47c Predicted and Observed Baseline Blood Lead Levels
Community Mode IEUBK- 9-60 Months

Area	9-60 Months					
	Observed* Geometric Mean (µg/dl)	Observed* % to exceed 10 µg/dl	Default Predicted Geometric Mean (µg/dl)	Default Predicted % to exceed 10 µg/dl	40:30:30 Predicted Geometric Mean (µg/dl)	40:30:30 Predicted % to exceed 10 µg/dl
Mullan	5.7	17	10.2	50	6.9	20
Burke/Nine Mile	6.4	22	9.9	48	6.8	20
Wallace	6.4	26	10.8	53	7.4	25
Silverton	5.0	13	6.9	20	4.7	5
Osburn	4.3	7	6.9	20	4.8	6
Side Gulches	3.9	0	7.7	27	5.2	8
Kingston	4.7	19	5.9	13	4.1	3
Lower Basin	6.1	29	4.2	3	3	0

* observed levels only correspond to 9-60 months

Note: 40:30:30 refers to the "Box Model" or 40% house dust: 30% yard soil: 30% community soil

Table 6-48 Summary of Blood Lead, Yard Soil, and Vacuum Dust for IEUBK Batch Mode Input

Area	Total Number of Observations	Minimum	Maximum	Arithmetic Mean	Standard Deviation	Geometric Mean	Geometric Standard Deviation
	Blood Lead (mg/dl)						
Mullan	27	2	12	5.1	3.0	4.4	1.8
Burke/Nine Mile	70	1	21	7.4	5.4	5.7	2.1
Wallace	56	1	19	5.3	3.6	4.4	1.9
Silverton	69	1	23	5.0	3.7	4.1	1.9
Osburn	95	1	13	4.1	2.4	3.4	1.9
Side Gulches	45	1	16	4.3	2.9	3.6	1.8
Kingston	45	1	16	5.2	4.2	3.9	2.1
Lower Basin/Cataldo	38	1	18	5.7	5.0	3.9	2.5
	Yard Soil (mg/kg)						
Mullan	105	41	20218	1187	2230	628	2.91
Burke/Nine Mile	88	32	5410	1105	973	679	3.25
Wallace	110	54	16026	1154	1628	771	2.47
Silverton	70	94	6098	524	763	352	2.25
Osburn	262	33	12884	682	1195	419	2.45
Side Gulches	100	25	3356	505	437	368	2.38
Kingston	99	22	9228	711	1622	257	3.34
Lower Basin/Cataldo	160	15	7350	487	1251	110	4.29
	Vacuum Dust (mg/kg)						
Mullan	32	429	4060	1146	754	985	1.70
Burke/Nine Mile	35	83	5800	1318	1263	879	2.63
Wallace	35	259	29725	1951	4944	1004	2.33
Silverton	26	75	3390	837	869	557	2.52
Osburn	84	23	2192	616	366	493	2.17
Side Gulches	26	116	3929	952	890	695	2.21
Kingston	30	102	1750	592	409	466	2.07
Lower Basin/Cataldo	31	49	3140	512	646	301	2.81

Table 6-49 IEUBK Batch Mode Overall Observed v. Predicted Blood Lead by Age

	9-24 Months			9-60 Months			9-84 Months		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	75	75	75	222	222	222	311	311	311
Minimum (µg/dl)	2	2	2	1	2	2	1	2	2
Maximum (µg/dl)	23	27	17	23	28	17	23	28	17
Arithmetic Mean (µg/dl)	7.5	9.2	6.1	6.3	8.2	5.4	5.7	7.6	5.0
Geometric Mean (µg/dl)	6.2	7.9	5.5	5.1	7.2	4.9	4.6	6.6	4.5
Geometric Standard Deviation	1.82	2.08	1.91	1.90	1.96	1.86	1.93	2.02	1.90
% $\geq$ 10 µg/dl	23%	37%	17%	16%	31%	13%	13%	28%	11%
% $\geq$ 15 µg/dl	12%	19%	6%	8%	14%	4%	7%	12%	3%

Note: observed levels are for children 9-84 months or 0-7 years old as opposed to community mode showing observed levels for 0-9 year olds.

Table 6-50a IEUBK Batch Mode Overall Observed v. Predicted Blood Lead by Geographic Area, Ages 9-84 Months: Default and 40:30:30

	Mullan			Burke/Nine Mile			Wallace			Silverton		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	15	15	15	46	46	46	39	39	39	55	55	55
Minimum (µg/dl)	2	5	4	1	4	3	1	6	4	2	2	2
Maximum (µg/dl)	12	16	9	21	27	17	19	21	13	23	19	11
Arithmetic Mean (µg/dl)	5.5	10.2	6.4	7.8	10.2	6.6	6.1	10.0	6.5	5.5	7.3	4.7
Geometric Mean (µg/dl)	4.7	9.7	6.1	6.3	9.2	6.1	5.2	9.6	6.3	4.6	6.7	4.5
Geometric Standard Deviation	1.75	2.08	1.73	1.98	1.76	1.78	1.82	1.64	1.70	1.81	1.86	1.79
% ≥ 10 µg/dl	13%	48%	19%	22%	44%	20%	13%	47%	19%	11%	26%	8%
% ≥ 15 µg/dl	0%	22%	5%	15%	22%	7%	5%	20%	5%	5%	10%	2%

IEUBK Batch Mode Overall Observed v. Predicted Blood Lead by Geographic Area, Ages 9-84 Months: Default and 40:30:30 (continued)

	Osburn			Side Gulches			Kingston			Lower Basin			Total		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	62	62	62	30	30	30	36	36	36	28	28	28	311	311	311
Minimum (µg/dl)	1	3	2	1	2	2	1	2	2	1	2	2	1	2	2
Maximum (µg/dl)	11	14	8	9	14	8	16	9	5	18	28	16	23	28	17
Arithmetic Mean (µg/dl)	4.6	6.2	4.2	4.0	6.1	4.2	5.7	5.0	3.4	6.9	7.0	4.5	5.7	7.6	5.0
Geometric Mean (µg/dl)	4.0	5.7	4.0	3.6	5.7	4.0	4.3	4.7	3.3	4.9	4.5	3.2	4.6	6.6	4.5
Geometric Standard Deviation	1.77	1.86	1.74	1.64	1.79	1.73	2.17	1.83	1.72	2.40	2.68	2.81	1.93	2.02	1.90
% ≥ 10 µg/dl	5%	19%	5%	0%	17%	5%	17%	11%	2%	32%	21%	14%	13%	28%	11%
% ≥ 15 µg/dl	0%	6%	1%	0%	5%	1%	17%	2%	0%	11%	16%	7%	7%	12%	3%

Note: observed levels are for children 9-84 months or 0-7 years old as opposed to community mode showing observed levels for 0-9 year olds.

Table 6-50b IEUBK Batch Mode Observed v. Predicted Blood Lead by Geographic Area, Age 9-60 Months: Default and 40:30:30

	Mullan			Burke/Nine Mile			Wallace			Silverton		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	8	8	8	31	31	31	26	26	26	46	46	46
Minimum (µg/dl)	2	8	5	2	4	4	2	7	5	2	3	2
Maximum (µg/dl)	12	13	8	21	27	17	19	21	13	23	19	11
Arithmetic Mean (µg/dl)	6.8	10.9	6.9	7.9	11.1	7.2	7.0	10.9	7.2	6.0	7.8	5.0
Geometric Mean (µg/dl)	5.8	10.7	6.8	6.3	10.0	6.7	6.0	10.6	7.1	5.0	7.2	4.8
Geometric Standard Deviation	1.87	1.64	1.65	1.98	0.98	1.77	1.79	1.79	1.66	1.78	1.81	1.75
% ≥ 10 µg/dl	25%	56%	22%	23%	48%	24%	19%	54%	25%	13%	29%	10%
% ≥ 15 µg/dl	0%	25%	6%	16%	26%	9%	8%	25%	7%	7%	12%	2%

IEUBK Batch Mode Observed v. Predicted Blood Lead by Geographic Area, Age 9-60 Months: Default and 40:30:30 (continued)

	Osburn			Side Gulches			Kingston			Lower Basin			Total		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	43	43	43	23	23	23	27	27	27	18	18	18	222	222	222
Minimum (µg/dl)	1	3	3	1	3	2	1	3	2	1	2	2	1	2	2
Maximum (µg/dl)	11	14	8	9	14	8	16	9	5	18	28	16	23	28	17
Arithmetic Mean (µg/dl)	5.0	6.5	4.4	4.2	6.6	4.5	6.7	5.6	3.8	8.2	9.3	5.7	6.3	8.2	5.4
Geometric Mean (µg/dl)	4.3	6.1	4.3	3.8	6.3	4.4	5.4	5.3	3.7	6.2	5.7	4.1	5.1	7.2	4.9
Geometric Standard Deviation	1.80	1.83	1.71	1.61	1.75	1.69	2.03	1.79	1.68	2.31	3.27	3.11	1.90	1.96	1.86
% ≥ 10 µg/dl	7%	20%	6%	0%	20%	6%	22%	14%	3%	39%	32%	21%	16%	31%	13%
% ≥ 15 µg/dl	0%	7%	1%	0%	6%	1%	15%	3%	0%	17%	25%	11%	8%	14%	4%

Note: observed levels are for children 9-60 months or 0-5 years old.

Table 6-50c IEUBK Batch Mode Observed v. Predicted Blood Lead by Geographic Area, Age 9-24 Months: Default and 40:30:30

	Mullan			Burke/Nine Mile			Wallace			Silverton		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	4	4	4	10	10	10	8	8	8	16	16	16
Minimum (µg/dl)	5	10	7	2	8	6	3	8	6	3	4	3
Maximum (µg/dl)	11	13	8	20	27	17	16	15	9	23	17	10
Arithmetic Mean (µg/dl)	7.8	12.1	7.8	9.1	15.0	9.6	8.1	11.4	7.7	7.5	8.5	5.5
Geometric Mean (µg/dl)	7.4	12.1	7.8	6.6	13.7	9.0	7.0	11.2	7.6	6.1	7.9	5.3
Geometric Standard Deviation	1.44	1.61	1.61	2.39	2.00	1.70	1.83	1.64	1.64	1.86	1.85	1.74
% ≥ 10 µg/dl	25%	65%	30%	30%	67%	42%	38%	59%	29%	19%	35%	13%
% ≥ 15 µg/dl	0%	33%	8%	30%	44%	20%	13%	28%	8%	19%	15%	3%

IEUBK Batch Mode Observed v. Predicted Blood Lead by Geographic Area, Age 9-24 Months: Default and 40:30:30 (continued)

	Osburn			Side Gulches			Kingston			Lower Basin			Total		
	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)	Observed	Predicted (Default)	Predicted (40:30:30)
N	14	14	14	9	9	9	7	7	7	7	7	7	75	75	75
Minimum (µg/dl)	2	3	3	2	5	4	2	3	2	3	2	2	2	2	2
Maximum (µg/dl)	11	12	8	9	14	8	15	9	5	18	25	15	23	27	17
Arithmetic Mean (µg/dl)	6.5	6.2	4.5	5.2	7.4	5.0	7.7	6.5	4.3	8.7	8.9	5.6	7.5	9.2	6.1
Geometric Mean (µg/dl)	6.0	5.7	4.3	4.8	7.0	4.9	6.3	6.1	4.2	7.1	5.5	4.0	6.2	7.9	5.5
Geometric Standard Deviation	1.55	1.87	1.73	1.55	1.72	1.69	2.03	1.82	1.67	2.04	2.88	3.07	1.82	2.08	1.91
% ≥ 10 µg/dl	14%	18%	6%	0%	26%	9%	29%	20%	4%	43%	29%	21%	23%	37%	17%
% ≥ 15 µg/dl	0%	6%	1%	0%	9%	2%	14%	5%	1%	14%	23%	12%	12%	19%	6%

Note: observed levels are for children 9-24 months or 0-2 years old.

Table 6-51a Upland Parks Estimated Recreational Blood Lead Increments for 0-84 Month Old Children (CT)

Area	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
							Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)	Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)
Mullan	91	7	98	7%	9.3	6.3	9.8	45%	6.6	18%
Wallace	99	5	103	5%	9.9	6.8	10.3	50%	7.0	21%
Silverton	55	5	60	8%	6.3	4.3	6.7	19%	4.6	5%
Osburn	55	5	59	8%	6.2	4.4	6.6	18%	4.7	5%
Side Gulches	64	5	68	7%	7.0	4.7	7.4	25%	5.0	6%
Kingston	46	19	65	42%	5.4	3.7	7.0	21%	4.8	5%
Lower Basin	30	19	49	63%	3.9	2.8	5.6	10%	3.9	2%

Table 6-51b Upland Parks Estimated Recreational Blood Lead Increments for 0-84 Month Old Children (RME)

Area	Baseline Intake (µg/day)	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Defalt		Box Model	
							Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)	Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)
Mullan	91	18	109	20%	9.3	6.3	10.6	53%	7.1	22%
Wallace	99	68	166	69%	9.9	6.8	14.2	76%	9.8	45%
Silverton	55	68	123	123%	6.3	4.3	11.3	58%	7.7	27%
Osburn	55	68	122	124%	6.2	4.4	11.3	58%	7.8	29%
Side Gulches	64	68	131	106%	7.0	4.7	11.9	61%	8.1	30%
Kingston	46	19	65	42%	5.4	3.7	7.0	21%	4.8	5%
Lower Basin	30	27	58	91%	3.9	2.8	6.2	15%	4.3	3%

Table 6-52a Neighborhood Stream Recreational Blood Lead Increment for 0-84 Month Old children (CT)

	Baseline Intake (µg/day)	50% Sediment Intake Value (µg/day)	50% Surface Water Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
								Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)	Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)
Mullan	91	2	0	93	3%	9.3	6.3	9.5	43%	6.4	15%
Burke/Nine Mile	88	13	0	101	15%	9.0	6.2	10.0	48%	6.8	20%
Wallace	99	8	0	106	8%	9.9	6.8	10.5	50%	7.1	22%
Silverton	55	8	0	63	14%	6.3	4.3	6.9	21%	4.7	5%
Osburn	55	8	0	62	14%	6.2	4.4	6.9	20%	4.8	6%
Side Gulches	64	8	0	71	12%	7.0	4.7	7.7	27%	5.1	7%
Kingston	46	1	0	46	1%	5.4	3.7	5.5	9%	3.8	2%
Lower Basin	30	1	0	31	2%	3.9	2.8	3.9	2%	2.8	0%

Table 6-52b Neighborhood Stream Recreational Blood Lead Increment for 0-84 Month Old Children (RME)

	Baseline Intake (µg/day)	95% Sediment Intake Value (µg/day)	95% Surface Water Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
								Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)	Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)
Mullan	91	45	0	137	50%	9.3	6.3	12.4	64%	8.4	34%
Burke/Nine Mile	88	221	1	303	271%	9.0	6.2	21.2	93%	15.2	78%
Wallace	99	19	0	118	20%	9.9	6.8	11.2	56%	7.7	27%
Silverton	55	19	0	75	35%	6.3	4.3	7.8	29%	5.3	8%
Osburn	55	19	0	74	36%	6.2	4.4	7.8	29%	5.4	9%
Side Gulches	64	19	0	83	31%	7.0	4.7	8.5	34%	5.7	11%
Kingston	46	1	0	47	2%	5.4	3.7	5.5	9%	3.8	2%
Lower Basin	30	1	0	31	3%	3.9	2.8	3.9	2%	2.8	0%

Table 6-53a Public Beach Recreational Blood Lead Increment for Children 0-84 Month Old (CT)

	Baseline Intake (µg/day)	50% Sediment Intake Value (µg/day)	50% Surface Water Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood Lead (mg/dl)	IEUBK Box Model Baseline Geometric Mean Blood Lead (mg/dl)	EPA Default		Box Model	
								Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)	Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)
Mullan	91	19	19	130	43	9.3	6.3	12.7	67	9.6	43
Burke/Nine Mile	88	19	19	120	47	9.0	6.2	12.5	64	9.4	43
Wallace	99	19	19	137	39	9.9	6.8	13.2	70	10	48
Silverton	55	19	19	94	70	6.3	4.3	10.1	48	7.9	29
Osburn	55	19	19	93	71	6.2	4.4	10.1	48	8	30
Side Gulches	64	19	19	102	61	7.0	4.7	10.7	53	8.2	32
Kingston	46	19	19	85	84	5.4	3.7	9.4	43	7.4	25
Lower Basin	30	19	19	69	128	3.9	2.8	8.1	30	6.6	18

Table 6-53b Public Beach Recreational Blood Lead Increment for Children 0-84 Month Old (RME)

	Baseline Intake (µg/day)	95% Sediment Intake Value (µg/day)	95% Surface Water Intake Value	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood Lead (mg/dl)	IEUBK Box Model Baseline Geometric Mean Blood Lead (mg/dl)	EPA Default		Box Model	
								Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)	Geometric Mean (mg/dl)	% to Exceed 10 (mg/dl)
Mullan	91	30	42	163	79	9.3	6.3	15.6	81	12.6	67
Burke/Nine Mile	88	30	42	154	88	9.0	6.2	13.4	70	12.5	64
Wallace	99	30	42	171	73	9.9	6.8	16	81	13	67
Silverton	55	30	42	127	130	6.3	4.3	13.3	70	11.2	56
Osburn	55	30	42	127	132	6.2	4.4	13.3	70	11.2	56
Side Gulches	64	30	42	136	113	7.0	4.7	13.9	73	11.5	58
Kingston	46	30	42	118	157	5.4	3.7	12.7	67	10.8	53
Lower Basin	30	30	42	102	238	3.9	2.8	11.6	58	10.1	48

Table 6-54a Waste Pile Recreational Blood Lead Increment for 0-84 Month Old Children (CT)

	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood Lead (mg/dl)	IEUBK Box Model Baseline Geometric Mean Blood Lead (mg/dl)	EPA Default		Box Model	
							Geometric Mean (µg/dl)	% to Exceed 10 µg/dl	Geometric Mean (µg/dl)	% to Exceed 10 µg/dl
Mullan	91	1	92	1%	9.3	6.3	9.4	43	6.3	15
Burke/Nine Mile	88	11	99	13%	9.0	6.2	9.8	45	6.7	19

Table 6-54b Waste Pile Recreational Blood Lead Increment for 0-84 Month Old Children (RME)

	Baseline Intake (µg/day)	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood Lead (mg/dl)	IEUBK Box Model Baseline Geometric Mean Blood Lead (mg/dl)	EPA Default		Box Model	
							Geometric Mean (µg/dl)	% to Exceed 10 µg/dl	Geometric Mean (µg/dl)	% to Exceed 10 µg/dl
Mullan	91	13	104	14%	9.3	6.3	10.2	50	6.9	20
Burke/Nine Mile	88	139	221	170%	9.0	6.2	17.4	86	12.2	64

Table 6-55a Home Grown Vegetable Central Tendency (CT) Intakes for Children (0-84 mos.)

Area	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
							Geometric Mean (µg/dl)	% to Exceed 10 µg/dl	Geometric Mean (µg/dl)	% to Exceed 10 µg/dl
Mullan	91	24	115	26%	9.3	6.3	12.0	61%	9.3	43%
Burke/Nine Mile	88	24	106	29%	9.0	6.2	11.8	61%	9.3	40%
Wallace	99	24	122	24%	9.9	6.8	12.6	67%	9.8	45%
Silverton	55	24	79	43%	6.3	4.3	9.4	43%	7.7	27%
Osburn	55	24	78	44%	6.2	4.4	9.3	43%	7.8	29%
Side Gulches	64	24	88	37%	7.0	4.7	10.0	48%	8.0	30%
Kingston	46	24	70	52%	5.4	3.7	8.6	36%	7.2	22%
Lower Basin	30	24	54	79%	3.9	2.8	7.3	24%	6.4	15%

Table 6-55b Home Grown Vegetable Reasonable Maximum Exposure (RME) Intakes for Children (0-84 mos.)

Area	Baseline Intake (µg/day)	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
							Geometric Mean (µg/dl)	% to Exceed 10 µg/dl	Geometric Mean (µg/dl)	% to Exceed 10 µg/dl
Mullan	91	178	269	195%	9.3	6.3	24.4	96%	22.9	94%
Burke/Nine Mile	88	178	260	218%	9.0	6.2	24.3	96%	22.8	94%
Wallace	99	178	277	180%	9.9	6.8	24.7	96%	23.1	94%
Silverton	55	178	233	322%	6.3	4.3	22.9	94%	21.9	94%
Osburn	55	178	233	325%	6.2	4.4	22.8	94%	22.0	94%
Side Gulches	64	178	242	279%	7.0	4.7	23.2	94%	22.1	94%
Kingston	46	178	224	388%	5.4	3.7	22.5	94%	21.7	93%
Lower Basin	30	178	208	589%	3.9	2.8	21.7	94%	21.2	93%

Table 6-56a Recreational Fish Ingestion Central Tendency (CT) Intakes for Children (0-84 mos.)

Area	Baseline Intake (µg/day)	50% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
							Geometric Mean (µg/dl)	% to Exceed 10 µg/dl	Geometric Mean (µg/dl)	% to Exceed 10 µg/dl
Mullan	91	1	92	1%	9.3	6.3	9.4	43%	6.4	16%
Burke/Nine Mile	88	1	89	1%	9.0	6.2	9.2	40%	6.3	15%
Wallace	99	1	100	1%	9.9	6.8	10.0	48%	6.9	20%
Silverton	55	1	56	2%	6.3	4.3	6.4	16%	4.5	4%
Osburn	55	1	56	2%	6.2	4.4	6.4	15%	4.5	4%
Side Gulches	64	1	65	2%	7.0	4.7	7.2	27%	4.9	6%
Kingston	46	1	47	2%	5.4	3.7	5.6	10%	3.9	2%
Lower Basin	30	1	31	3%	3.9	2.8	4.0	2%	2.9	0%

Table 6-56b Recreational Fish Ingestion Reasonable Maximum Exposure (RME) Intakes for Children (0-84 mos.)

Area	Baseline Intake (µg/day)	95% Intake Value (µg/day)	Total Intake (µg/day)	% Intake Increase from Baseline	IEUBK EPA Default Baseline Geometric Mean Blood	IEUBK Box Model Baseline Geometric Mean Blood	EPA Default		Box Model	
							Geometric Mean (µg/dl)	% to Exceed 10 µg/dl	Geometric Mean (µg/dl)	% to Exceed 10 µg/dl
Mullan	91	4	95	4%	9.3	6.3	9.8	45%	6.8	20%
Burke/Nine Mile	88	4	92	5%	9.0	6.2	9.5	43%	6.7	19%
Wallace	99	4	103	4%	9.9	6.8	10.4	50%	7.3	24%
Silverton	55	4	59	7%	6.3	4.3	6.8	20%	4.9	6%
Osburn	55	4	59	7%	6.2	4.4	6.8	19%	5.0	6%
Side Gulches	64	4	68	6%	7.0	4.7	7.6	25%	5.3	8%
Kingston	46	4	50	9%	5.4	3.7	6.0	13%	4.4	4%
Lower Basin	30	4	34	13%	3.9	2.8	4.5	4%	3.4	1%

Table 6-57 Calculations of Preliminary Remediation Goals (PRGs) using the Occupational CT Values

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

Exposure Variable	PRG Equation[1]	Description of Exposure Variable	Units	Values for Nonresidential Exposure Scenario	
				Using Equation 1	
	1*			GSDi = 1.8	GSDi = 2.1
$PbB_{fetal, 0.95}$	X	95th percentile PbB in fetus	ug/dL	10	10
$R_{fetal/maternal}$	X	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	X	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	X	Baseline PbB	ug/dL	1.7	1.7
IR_S	X	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100
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	--	--	--
$AF_{S, D}$	X	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S, D}$[2]	X	Exposure frequency (same for soil and dust)	days/yr	43	43
PRG		**Preliminary Remediation Goal**	**ppm**	**4,465**	**2,792**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same PRG.

[2] The averaging time (AT) is a fixed value of 365 days/yr.

***Equation 1, based on Eq. 4 in USEPA (1996).**

$$PRG = \frac{([PbB_{95}fetal/(R*(GSD_i^{1.645})])-PbB_0)*AT}{BKSF*(IR_S*AF_S*EF_S)}$$

Source: 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

Table 6-58 Calculations of Preliminary Remediation Goals (PRGs) using the Occupational RME Values

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

Exposure Variable	PRG Equation[1]	Description of Exposure Variable	Units	Values for Nonresidential Exposure Scenario Using Equation 1	
	1*			GSDi = 1.8	GSDi = 2.1
$PbB_{fetal, 0.95}$	X	95th percentile PbB in fetus	ug/dL	10	10
$R_{fetal/maternal}$	X	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	X	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	X	Baseline PbB	ug/dL	1.7	1.7
IR_S	X	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.200	0.200
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	--	--	--
$AF_{S, D}$	X	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S, D}$[2]	X	Exposure frequency (same for soil and dust)	days/yr	195	195
PRG		**Preliminary Remediation Goal**	**ppm**	**492**	**308**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same PRG.

[2] The averaging time (AT) is a fixed value of 365 days/yr.

***Equation 1, based on Eq. 4 in USEPA (1996).**

$$\textbf{PRG} = \frac{([PbB_{95}fetal/(R*(GSD_i^{1.645})])-PbB_0)*AT}{BKSF*(IR_S*AF_S*EF_S)}$$

Source: 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

Table 6-59a Calculations of Preliminary Remediation Goals (PRGs) using the Upland Parks CT Values

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

Exposure Variable	PRG Equation[1]	Description of Exposure Variable	Units	Values for Nonresidential Exposure Scenario Using Equation 1	
	1*			GSDi = 1.8	GSDi = 2.2
$PbB_{fetal, 0.95}$	X	95th percentile PbB in fetus	ug/dL	10	10
$R_{fetal/maternal}$	X	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	X	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	X	Baseline PbB	ug/dL	1.7	1.7
IR_S	X	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	--	--	--
$AF_{S, D}$	X	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S, D}$[2]	X	Exposure frequency (same for soil and dust)	days/yr	15	15
PRG		**Preliminary Remediation Goal**	**ppm**	**25,601**	**16,007**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same PRG.

[2] The averaging time (AT) is a fixed value of 365 days/yr.

***Equation 1, based on Eq. 4 in USEPA (1996).**

$$\textbf{PRG} = \frac{([PbB_{95}fetal/(R*(GSD_i^{1.645})])-PbB_0)*AT}{BKSF*(IR_S*AF_S*EF_S)}$$

Source: 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

Table 6-59b Calculations of Preliminary Remediation Goals (PRGs) using the CUAs CT Values

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

Exposure Variable	PRG Equation[1]	Description of Exposure Variable	Units	Values for Nonresidential Exposure Scenario Using Equation 1	
	1*			GSDi = 1.8	GSDi = 2.1
$PbB_{fetal, 0.95}$	X	95th percentile PbB in fetus	ug/dL	10	10
$R_{fetal/maternal}$	X	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	X	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	X	Baseline PbB	ug/dL	1.7	1.7
IR_S	X	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	--	--	--
$AF_{S, D}$	X	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S, D}$[2]	X	Exposure frequency (same for soil and dust)	days/yr	16	16
PRG		**Preliminary Remediation Goal**	**ppm**	**24,001**	**15,006**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same PRG.

[2] The averaging time (AT) is a fixed value of 365 days/yr.

***Equation 1, based on Eq. 4 in USEPA (1996).**

$$\textbf{PRG} = \frac{([PbB_{95}fetal/(R*(GSD_i^{1.645})])-PbB_0)*AT}{BKSF*(IR_S*AF_S*EF_S)}$$

Source: 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

Table 6-60a Calculations of Preliminary Remediation Goals (PRGs) using the Upland Parks RME Values

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

Exposure Variable	PRG Equation[1]	Description of Exposure Variable	Units	Values for Nonresidential Exposure Scenario	
				Using Equation 1	
	1*			GSDi = 1.8	GSDi = 2.2
$PbB_{fetal, 0.95}$	X	95th percentile PbB in fetus	ug/dL	10	10
$R_{fetal/maternal}$	X	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	X	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	X	Baseline PbB	ug/dL	1.7	1.7
IR_S	X	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100
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	--	--	--
$AF_{S, D}$	X	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S, D}$[2]	X	Exposure frequency (same for soil and dust)	days/yr	30	30
PRG		**Preliminary Remediation Goal**	**ppm**	**6,400**	**4,002**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same PRG.

[2] The averaging time (AT) is a fixed value of 365 days/yr.

***Equation 1, based on Eq. 4 in USEPA (1996).**

$$\textbf{PRG} = \frac{([PbB_{95}fetal/(R*(GSD_i^{1.645})])-PbB_0)*AT}{BKSF*(IR_S*AF_S*EF_S)}$$

Source: 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

Table 6-60b Calculations of Preliminary Remediation Goals (PRGs) using the CUA RME Values

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

Exposure Variable	PRG Equation[1]	Description of Exposure Variable	Units	Values for Nonresidential Exposure Scenario	
				Using Equation 1	
	1*			GSDi = 1.8	GSDi = 2.2
$PbB_{fetal, 0.95}$	X	95th percentile PbB in fetus	ug/dL	10	10
$R_{fetal/maternal}$	X	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	X	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	X	Geometric standard deviation PbB	--	1.8	2.1
PbB_0	X	Baseline PbB	ug/dL	1.7	1.7
IR_S	X	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100
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	--	--	--
$AF_{S, D}$	X	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S, D}$[2]	X	Exposure frequency (same for soil and dust)	days/yr	32	32
PRG		**Preliminary Remediation Goal**	**ppm**	**6,000**	**3,752**

[1] Equation 1 does not apportion exposure between soil and dust ingestion (excludes W_S, K_{SD}).
When $IR_S = IR_{S+D}$ and $W_S = 1.0$, the equations yield the same PRG.

[2] The averaging time (AT) is a fixed value of 365 days/yr.

***Equation 1, based on Eq. 4 in USEPA (1996).**

$$\text{PRG} = \frac{([PbB_{95}fetal/(R*(GSD_i^{1.645})])-PbB_0)*AT}{BKSF*(IR_S*AF_S*EF_S)}$$

Source: 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

Table 6-61a Estimated Post-Remedial Blood Lead Levels and Probability to Exceed Health Criteria by Community and Individuals for a 2000 mg/kg Soil Action Level - EPA Default Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 1500-2000 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	7.1	105	12	11%	30%	12%	12	11%	67%	36%
Burke/Nine Mile	7.2	88	14	16%	32%	13%	11	13%	67%	37%
Wallace	8.3	110	13	12%	39%	17%	11	10%	70%	40%
Silverton	6.1	70	1	1%	20%	6%	2	3%	65%	35%
Osburn	6.1	262	13	5%	20%	6%	4	2%	64%	34%
Side Gulches	6.2	100	1	1%	21%	7%	1	1%	66%	35%
Kingston	4.9	99	7	7%	12%	3%	1	1%	68%	38%
Lower Basin	3.7	160	11	7%	6%	2%	3	2%	59%	29%

Table 6-61b Estimated Post-Remedial Blood Lead Level and Probability to Exceed Health Criteria by Community and Individuals for a 1500 mg/kg Soil Action Level - EPA Default Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 1000-1500 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	6.2	105	24	23%	22%	7%	11	10%	55%	25%
Burke/Nine Mile	6.1	88	25	28%	23%	8%	13	15%	54%	25%
Wallace	7.3	110	24	22%	31%	12%	18	16%	58%	28%
Silverton	5.9	70	3	4%	18%	5%	4	6%	50%	22%
Osburn	6.0	262	17	6%	19%	6%	13	5%	51%	22%
Side Gulches	6.1	100	2	2%	20%	6%	6	6%	51%	23%
Kingston	4.8	99	8	8%	11%	3%	5	5%	53%	24%
Lower Basin	3.6	160	14	9%	5%	1%	5	3%	48%	20%

Table 6-61c Estimated Post-Remedial Blood Lead Level and Probability to Exceed Health Criteria by Community and Individuals for a 1000 mg/kg Soil Action Level - EPA Default Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 800-1000 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	5.5	105	35	33%	16%	4%	7	10%	42%	16%
Burke/Nine Mile	5.3	88	38	43%	15%	4%	7	15%	41%	15%
Wallace	6.1	110	42	38%	21%	7%	18	16%	46%	19%
Silverton	5.6	70	7	10%	15%	4%	2	6%	41%	16%
Osburn	5.7	262	30	11%	17%	4%	14	5%	39%	14%
Side Gulches	5.7	100	8	8%	17%	5%	5	6%	39%	14%
Kingston	4.6	99	13	13%	8%	2%	1	5%	36%	13%
Lower Basin	3.5	160	19	12%	3%	1%	1	3%	38%	14%

Table 6-61d Estimated Post-Remedial Blood Lead Level and Probability to Exceed Health Criteria by Community and Individuals for a 800 mg/kg Soil Action Level - EPA Default Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 600-800 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	5.2	105	42	40%	13%	3%	13	10%	34%	12%
Burke/Nine Mile	4.9	88	45	51%	12%	3%	15	15%	33%	11%
Wallace	5.3	110	60	55%	14%	4%	14	16%	36%	12%
Silverton	5.4	70	9	13%	14%	3%	9	6%	32%	11%
Osburn	5.4	262	44	17%	14%	4%	34	5%	31%	10%
Side Gulches	5.4	100	13	13%	15%	4%	16	6%	30%	10%
Kingston	4.5	99	14	14%	8%	2%	3	5%	32%	10%
Lower Basin	3.5	160	20	13%	3%	0%	1	3%	31%	10%

Table 6-61e Estimated Post-Remedial Blood Lead Levels and Probability to Exceed Health Criteria by Community and Individuals for a 600 mg/kg Soil Action Level - EPA Default Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 400-600 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	4.7	105	55	52%	9%	2%	14	10%	22%	6%
Burke/Nine Mile	4.3	88	60	68%	6%	1%	8	15%	24%	7%
Wallace	4.8	110	74	67%	10%	2%	17	16%	26%	8%
Silverton	4.9	70	18	26%	10%	2%	16	6%	21%	5%
Osburn	4.9	262	78	30%	10%	2%	60	5%	21%	6%
Side Gulches	4.8	100	29	29%	10%	2%	29	6%	20%	5%
Kingston	4.4	99	17	17%	7%	1%	7	5%	20%	5%
Lower Basin	3.4	160	21	13%	3%	0%	6	3%	17%	4%

Table 6-61f Estimated Post-Remedial Blood Lead Levels and Probability to Exceed Health Criteria by Community and Individuals for a 400 mg/kg Soil Action Level - EPA Default Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide	
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	4.4	105	69	66%	6%	1%
Burke/Nine Mile	4.1	88	68	77%	5%	1%
Wallace	4.4	110	91	83%	6%	1%
Silverton	4.3	70	34	49%	6%	1%
Osburn	4.3	262	138	53%	6%	1%
Side Gulches	4.0	100	58	58%	4%	1%
Kingston	4.2	99	24	24%	6%	1%
Lower Basin	3.4	160	27	17%	2%	0%

Table 6-62a Estimated Post-Remedial Blood Lead and Risk by Community and Individuals for a 2000 mg/kg Soil Action Level - Box Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 1500-2000 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	4.7	105	12	11%	9%	2%	12	11%	26%	8%
Burke/Nine Mile	4.7	88	14	16%	10%	2%	11	13%	27%	8%
Wallace	5.4	110	13	12%	14%	3%	11	10%	31%	10%
Silverton	4.0	70	1	1%	5%	1%	2	3%	24%	7%
Osburn	4.1	262	13	5%	5%	1%	4	2%	24%	6%
Side Gulches	4.1	100	1	1%	5%	1%	1	1%	25%	7%
Kingston	3.2	99	7	7%	2%	0%	1	1%	25%	7%
Lower Basin	2.4	160	11	7%	1%	0%	3	2%	16%	4%

Table 6-62b Estimated Post-Remedial Blood Lead and Risk by Community and Individuals for a 1500 mg/kg Soil Action Level - Box Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 1000-1500 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	4.0	105	24	23%	5%	1%	11	10%	17%	4%
Burke/Nine Mile	4.0	88	25	28%	6%	1%	13	15%	16%	4%
Wallace	4.7	110	24	22%	9%	2%	18	16%	20%	5%
Silverton	3.9	70	3	4%	4%	1%	4	6%	14%	3%
Osburn	4.0	262	17	6%	5%	1%	13	5%	15%	3%
Side Gulches	4.0	100	2	2%	5%	1%	6	6%	16%	4%
Kingston	3.2	99	8	8%	2%	0%	5	5%	15%	3%
Lower Basin	2.4	160	14	9%	1%	0%	5	3%	11%	2%

Table 6-62c Estimated Post-Remedial Blood Lead and Risk by Community and Individuals for a 1000 mg/kg Soil Action Level - Box Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 800-1000 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	3.6	105	35	33%	3%	0%	7	7%	10%	2%
Burke/Nine Mile	3.4	88	38	43%	3%	0%	7	8%	9%	2%
Wallace	3.9	110	42	38%	5%	1%	18	16%	12%	2%
Silverton	3.6	70	7	10%	3%	0%	2	3%	10%	2%
Osburn	3.8	262	30	11%	3%	0%	15	6%	9%	2%
Side Gulches	3.7	100	8	8%	4%	0%	5	5%	10%	2%
Kingston	3.0	99	13	13%	1%	0%	1	1%	7%	1%
Lower Basin	2.3	160	19	12%	0%	0%	1	1%	7%	1%

Table 6-62d Estimated Post-Remedial Blood Lead and Risk by Community and Individuals for a 800 mg/kg Soil Action Level - Box Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 600-800 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	3.3	105	42	40%	2%	0%	13	12%	7%	1%
Burke/Nine Mile	3.2	88	45	51%	2%	0%	15	17%	6%	1%
Wallace	3.4	110	60	55%	2%	0%	14	13%	7%	1%
Silverton	3.5	70	9	13%	3%	0%	9	13%	7%	1%
Osburn	3.6	262	45	17%	3%	0%	33	13%	7%	1%
Side Gulches	3.6	100	13	13%	3%	0%	16	16%	6%	1%
Kingston	3.0	99	14	14%	1%	0%	3	3%	6%	1%
Lower Basin	2.3	160	20	13%	0%	0%	1	1%	5%	1%

Table 6-62e Estimated Post-Remedial Blood Lead and Risk by Community and Individuals for a 600 mg/kg Soil Action Level - Box Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide		Homes 400-600 mg/kg			
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl	Number of Homes	% of Homes	Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	3.1	105	55	52%	1%	0%	14	13%	4%	0%
Burke/Nine Mile	2.8	88	60	68%	1%	0%	9	10%	3%	0%
Wallace	3.1	110	74	67%	1%	0%	17	15%	4%	1%
Silverton	3.2	70	18	26%	2%	0%	16	23%	3%	0%
Osburn	3.2	262	78	30%	2%	0%	61	23%	4%	0%
Side Gulches	3.1	100	29	29%	2%	0%	29	29%	3%	0%
Kingston	2.9	99	17	17%	1%	0%	7	7%	3%	0%
Lower Basin	2.3	160	21	13%	0%	0%	6	4%	2%	0%

Table 6-62f Estimated Post-Remedial Blood Lead and Risk by Community and Individuals for a 400 mg/kg Soil Action Level - Box Model

Area	Predicted Geometric Mean Blood Lead (mg/dl)	Total Number of Homes	Number of Homes Remediated	% of Homes Remediated	Community Wide	
					Probability ≥ 10 mg/dl	Probability ≥ 15 mg/dl
Mullan	2.8	105	69	66%	1%	0%
Burke/Nine Mile	2.7	88	69	78%	0%	0%
Wallace	2.8	110	91	83%	1%	0%
Silverton	2.8	70	34	49%	1%	0%
Osburn	2.8	262	139	53%	1%	0%
Side Gulches	2.7	100	58	58%	1%	0%
Kingston	2.8	99	24	24%	1%	0%
Lower Basin	2.2	160	27	17%	0%	0%