Appendix 18-E

Predicted Metal Concentrations in Soil from Dust Deposition

Appendix 18-E. Predicted Metal Concentrations in Soil from Dust Deposition

Metals	Detection Limit (mg/kg)	E-1			E-2			E-3		
		Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)
Aluminum	50.0	3590	23.85	3614	6910	31.66	6942	4175	31.18	4206
Antimony	0.10- 10	0.270	0.002457	0.272	0.400	0.003263	0.403	0.185	0.003213	0.188
Arsenic	0.050-5.0	3.64	0.03300	3.67	5.5	0.0438	5.54	3.13	0.0432	3.17
Barium	0.50-1.0	36.4	11.77	48.2	83.1	15.62	98.7	74.4	15.38	89.7
Beryllium	0.20-0.50	0.100	-	-	0.430	-	-	0.155	-	-
Bismuth	0.20	0.100	0.001382	0.101	0.100	0.001835	0.102	0.100	0.001807	0.102
Cadmium	0.05-0.50	0.0800	0.00456	0.0846	0.372	0.00606	0.378	0.351	0.00596	0.356
Calcium	50.0	308	71.3	379	3420	94.7	3515	591	93.3	684
Chromium	0.50-2.0	5.30	0.1111	5.41	12.6	0.1475	12.7	7.53	0.1453	7.68
Cobalt	0.10-2.0	1.54	0.03563	1.58	5.53	0.0473	5.58	1.45	0.0466	1.50
Copper	0.50-1.0	3.86	0.1957	4.06	11.9	0.2598	12.2	4.68	0.2559	4.94
Iron	50.0	8330	24.13	8354	15800	32.04	15832	9715	31.55	9747
Lead	0.50-30	4.29	0.1266	4.42	7.62	0.1681	7.79	5.37	0.1655	5.53
Lithium	5.0	2.50	-	-	8.30	-	-	2.50	-	-
Magnesium	20.0	591	20.61	612	2220	27.37	2247	635	26.95	662
Manganese	1.0	38.2	0.575	38.8	206	0.763	207	39.1	0.751	39.8
Mercury	0.0050	0.0264	0.000708	0.0271	0.0316	0.000941	0.0325	0.0147	0.000926	0.0156
Molybdenum	0.50-4.0	1.09	0.01749	1.11	1.01	0.02323	1.03	0.645	0.02287	0.668
Nickel	0.50-5.0	5.72	0.1330	5.85	18.2	0.1766	18.4	5.29	0.1739	5.46
Phosphorus	50.0	209	2.909	212	510	3.862	514	357	3.803	360
Potassium	100.0	360	7.21	367	780	9.57	790	740	9.42	749
Selenium	0.20-0.50	0.100	0.01094	0.111	0.210	0.01452	0.225	0.100	0.01430	0.114
Silver	0.10-2.0	0.0500	0.001512	0.0515	0.120	0.002008	0.122	0.0500	0.001977	0.0520
Sodium	100.0	50.0	4.17	54.2	50.0	5.53	55.5	50.0	5.45	55.4
Strontium	0.50	2.61	1.534	4.14	9.31	2.037	11.35	4.74	2.006	6.74
Thallium	0.050-1.0	0.0760	0.0001125	0.0761	0.131	0.0001493	0.131	0.0775	0.0001471	0.0776
Tin	2.0-5.0	1.00	-	-	1.00	-	-	1.00	-	-
Titanium	1.0	26.9	0.0558	27.0	54.6	0.0742	54.7	33.7	0.0730	33.8
Uranium	0.050	0.228	0.00653	0.235	0.508	0.00867	0.517	0.227	0.00854	0.235
Vanadium	0.20-2.0	20.9	0.0910	21.0	29.3	0.1209	29.4	25.2	0.1190	25.3
Zinc	1.0	21.3	0.640	21.9	48.1	0.850	48.9	34.0	0.837	34.8

Notes:

[1] Soil baseline concentrations are from samples collected in 2010, 2011, and 2012.

[2] Equation used to calculate incremental soil concentration is from the US EPA (2005): Cs =100((DEPOSITION/(Zs*BD)))*tD*

[3] Total soil concentration is the sum of the baseline concentration and the incremental concentration.

Samples where the concentration was below the detection limit were replaced with values of half the detection limit for calculation purposes.

Cs = Average soil concentration over exposure duration (mg COPC/kg soil)

100 = Units conversion factor ($mg\text{-}m^2/kg\text{-}cm^2$)

DEPOSITION = Yearly deposition rate of COPC from model (g/m^2 year)

tD = Time period over which deposition occurs (25 years)

Zs = Soil mixing zone depth (2 cm)

BD = Soil bulk density (1.5 g soil/cm^3 soil)

(-) = no value

All soil concentrations are in dry weight.

Appendix 18-E. Predicted Metal Concentrations in Soil from Dust Deposition

Metals	Detection Limit (mg/kg)	S-1			S-2			S-3		
		Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)
Aluminum	50.0	7030	0.0737	7030	8585	0.0730	8585	6410	0.0771	6410
Antimony	0.10- 10	0.330	0.00000760	0.330	0.840	0.00000752	0.840	0.520	0.00000795	0.520
Arsenic	0.050-5.0	3.56	0.0001020	3.56	7.23	0.0001010	7.23	3.11	0.0001067	3.11
Barium	0.50-1.0	124	0.03637	124	188	0.03601	188	65.3	0.03805	65.3
Beryllium	0.20-0.50	0.220	-	-	0.600	-	-	0.270	-	-
Bismuth	0.20	0.100	0.00000427	0.100	0.100	0.00000423	0.100	0.100	0.00000447	0.100
Cadmium	0.05-0.50	0.456	0.00001410	0.456	0.464	0.00001396	0.464	0.413	0.00001475	0.413
Calcium	50.0	2700	0.2205	2700	12000	0.2184	12000	2230	0.2307	2230
Chromium	0.50-2.0	10.8	0.0003435	10.8	15.2	0.0003401	15.2	10.5	0.0003593	10.5
Cobalt	0.10-2.0	6.54	0.0001101	6.54	7.76	0.0001090	7.76	3.75	0.0001152	3.75
Copper	0.50-1.0	6.20	0.000605	6.20	21.4	0.000599	21.4	5.49	0.000633	5.49
Iron	50.0	14300	0.0746	14300	21200	0.0739	21200	13500	0.0780	13500
Lead	0.50-30	6.81	0.0003913	6.81	11.8	0.0003875	11.8	8.01	0.000409	8.01
Lithium	5.0	8.80	-	-	11.7	-	-	8.70	-	-
Magnesium	20.0	1890	0.0637	1890	5825	0.0631	5825	2420	0.0667	2420
Manganese	1.0	735	0.001776	735	348	0.001759	348	181	0.001858	181
Mercury	0.0050	0.0247	0.000002190	0.0247	0.0722	0.000002168	0.0722	0.0178	0.000002291	0.0178
Molybdenum	0.50-4.0	0.910	0.0000541	0.910	1.46	0.0000535	1.46	1.67	0.0000566	1.67
Nickel	0.50-5.0	10.8	0.000411	10.8	29.6	0.000407	29.6	12.1	0.000430	12.1
Phosphorus	50.0	379	0.00899	379	709	0.00890	709	384	0.00941	384
Potassium	100.0	850	0.02228	850	1300	0.02206	1300	630	0.02331	630
Selenium	0.20-0.50	0.100	0.00003381	0.100	0.555	0.00003348	0.555	0.100	0.00003537	0.100
Silver	0.10-2.0	0.0500	0.00000467	0.0500	0.230	0.00000463	0.230	0.0500	0.00000489	0.0500
Sodium	100.0	50.0	0.01288	50.0	50.0	0.01276	50.0	50.0	0.01348	50.0
Strontium	0.50	10.2	0.00474	10.2	27.1	0.00470	27.1	6.59	0.00496	6.59
Thallium	0.050-1.0	0.105	0.0000003477	0.105	0.158	0.0000003443	0.158	0.144	0.0000003637	0.144
Tin	2.0-5.0	1.00	-	-	1.00	-	-	1.00	-	-
Titanium	1.0	48.7	0.0001726	48.7	45.7	0.0001709	45.7	59.3	0.0001806	59.3
Uranium	0.050	0.379	0.00002018	0.379	0.660	0.00001998	0.660	0.338	0.00002111	0.338
Vanadium	0.20-2.0	27.0	0.0002814	27.0	30.2	0.0002787	30.2	32.7	0.0002944	32.7
Zinc	1.0	41.4	0.001978	41.4	80.8	0.001959	80.8	65.9	0.002069	65.9

Notes:

[1] *Soil baseline concentrations are from samples collected in 2010, 2011, and 2012.*

[2] *Equation used to calculate incremental soil concentration is from the US EPA (2005): Cs =100*((DEPOSITION/(Zs*BD)))*tD*

[3] *Total soil concentration is the sum of the baseline concentration and the incremental concentration.*

Samples where the concentration was below the detection limit were replaced with values of half the detection limit for calculation purposes.

Cs = Average soil concentration over exposure duration (mg COPC/kg soil)

100 = Units conversion factor ($mg\text{-}m^2/kg\text{-}cm^2$)

DEPOSITION = Yearly deposition rate of COPC from model (g/m^2 year)

tD = Time period over which deposition occurs (25 years)

Zs = Soil mixing zone depth (2 cm)

BD = Soil bulk density (1.5 g soil/cm^3 soil)

(-) = no value

All soil concentrations are in dry weight.

Appendix 18-E. Predicted Metal Concentrations in Soil from Dust Deposition

Metals	Detection Limit (mg/kg)	W-1			W-2			W-3		
		Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)
Aluminum	50.0	9930	0.827	9931	6950	0.957	6951	9370	0.929	9371
Antimony	0.10- 10	0.240	0.0000853	0.240	0.180	0.0000987	0.180	0.180	0.0000958	0.180
Arsenic	0.050-5.0	5.09	0.001145	5.09	1.55	0.001325	1.55	6.04	0.001286	6.04
Barium	0.50-1.0	323	0.408	323	1010	0.472	1010	108	0.459	108
Beryllium	0.20-0.50	0.440	-	-	0.330	-	-	0.240	-	-
Bismuth	0.20	0.100	0.0000480	0.100	0.100	0.0000555	0.100	0.100	0.0000539	0.100
Cadmium	0.05-0.50	0.958	0.0001583	0.958	2.16	0.0001832	2.16	0.289	0.0001778	0.289
Calcium	50.0	6880	2.475	6882	14800	2.864	14803	1060	2.780	1063
Chromium	0.50-2.0	15.7	0.003855	15.7	13.4	0.00446	13.4	14.5	0.00433	14.5
Cobalt	0.10-2.0	5.13	0.001236	5.13	1.18	0.001430	1.18	4.03	0.001388	4.03
Copper	0.50-1.0	6.91	0.00679	6.92	30.5	0.00786	30.5	4.38	0.00763	4.39
Iron	50.0	17200	0.837	17201	5780	0.969	5781	17500	0.940	17501
Lead	0.50-30	9.29	0.00439	9.29	6.56	0.00508	6.57	12.0	0.00493	12.0
Lithium	5.0	12.4	-	-	2.50	-	-	13.5	-	-
Magnesium	20.0	2850	0.715	2851	1490	0.828	1491	1930	0.803	1931
Manganese	1.0	259	0.01994	259	31.6	0.02307	31.6	162	0.02239	162
Mercury	0.0050	0.0570	0.00002458	0.0570	0.0712	0.00002844	0.0712	0.0336	0.00002761	0.0336
Molybdenum	0.50-4.0	0.800	0.000607	0.801	0.520	0.000702	0.521	0.840	0.000682	0.841
Nickel	0.50-5.0	13.6	0.00462	13.6	21.6	0.00534	21.6	9.49	0.00518	9.50
Phosphorus	50.0	546	0.1009	546	299	0.1168	299	558	0.1133	558
Potassium	100.0	800	0.2501	800	810	0.2894	810	710	0.2809	710
Selenium	0.20-0.50	0.280	0.0003795	0.280	0.380	0.000439	0.380	0.100	0.000426	0.100
Silver	0.10-2.0	0.480	0.0000525	0.480	1.14	0.0000607	1.14	0.170	0.0000589	0.170
Sodium	100.0	50.0	0.1446	50.1	50.0	0.1673	50.2	50.0	0.1624	50.2
Strontium	0.50	17.5	0.0532	17.6	33.7	0.0616	33.8	8.08	0.0598	8.14
Thallium	0.050-1.0	0.115	0.000003902	0.115	0.134	0.00000452	0.134	0.134	0.00000438	0.134
Tin	2.0-5.0	1.00	-	-	1.00	-	-	1.00	-	-
Titanium	1.0	28.6	0.001938	28.6	17.0	0.002242	17.0	62.8	0.002176	62.8
Uranium	0.050	1.27	0.0002265	1.27	1.05	0.0002621	1.05	0.429	0.0002544	0.429
Vanadium	0.20-2.0	34.8	0.003159	34.8	24.9	0.003656	24.9	46.8	0.003548	46.8
Zinc	1.0	55.3	0.02220	55.3	28.1	0.02569	28.1	61.0	0.02494	61.0

Notes:

[1] *Soil baseline concentrations are from samples collected in 2010, 2011, and 2012.*

[2] *Equation used to calculate incremental soil concentration is from the US EPA (2005): Cs =100*((DEPOSITION/(Zs*BD)))*tD*

[3] *Total soil concentration is the sum of the baseline concentration and the incremental concentration.*

Samples where the concentration was below the detection limit were replaced with values of half the detection limit for calculation purposes.

Cs = Average soil concentration over exposure duration (mg COPC/kg soil)

100 = Units conversion factor ($mg\text{-}m^2/kg\text{-}cm^2$)

DEPOSITION = Yearly deposition rate of COPC from model (g/m^2 year)

tD = Time period over which deposition occurs (25 years)

Zs = Soil mixing zone depth (2 cm)

BD = Soil bulk density (1.5 g soil/cm^3 soil)

(-) = no value

All soil concentrations are in dry weight.

Appendix 18-E. Predicted Metal Concentrations in Soil from Dust Deposition

Metals	Detection Limit (mg/kg)	NE-1			NE-2			NE-3		
		Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)
Aluminum	50.0	10400	0.410	10400	2200	0.504	2201	8610	0.600	8611
Antimony	0.10- 10	0.630	0.0000422	0.630	0.260	0.0000520	0.260	0.240	0.0000618	0.240
Arsenic	0.050-5.0	9.07	0.000567	9.07	1.85	0.000698	1.85	4.04	0.000830	4.04
Barium	0.50-1.0	107	0.2021	107	275	0.2489	275	46.9	0.2960	47.2
Beryllium	0.20-0.50	0.610	-	-	0.100	-	-	0.340	-	-
Bismuth	0.20	0.100	0.00002374	0.100	0.100	0.00002924	0.100	0.100	0.00003478	0.100
Cadmium	0.05-0.50	0.164	0.0000784	0.164	0.497	0.0000965	0.497	0.0710	0.0001148	0.0711
Calcium	50.0	2010	1.225	2011	54700	1.509	54702	1360	1.795	1362
Chromium	0.50-2.0	20.8	0.001909	20.8	4.41	0.002350	4.41	15.4	0.002795	15.4
Cobalt	0.10-2.0	6.96	0.000612	6.96	2.51	0.000754	2.51	7.15	0.000896	7.15
Copper	0.50-1.0	18.5	0.003361	18.5	4.83	0.00414	4.83	5.93	0.00492	5.93
Iron	50.0	22200	0.414	22200	6050	0.510	6051	17100	0.607	17101
Lead	0.50-30	9.61	0.002174	9.61	3.38	0.002678	3.38	6.60	0.003185	6.60
Lithium	5.0	12.1	-	-	2.50	-	-	10.8	-	-
Magnesium	20.0	2600	0.3541	2600	13400	0.436	13400	2250	0.519	2251
Manganese	1.0	234	0.00987	234	271	0.01215	271	256	0.01445	256
Mercury	0.0050	0.0716	0.00001217	0.0716	0.0302	0.00001498	0.0302	0.0147	0.00001782	0.0147
Molybdenum	0.50-4.0	1.23	0.0003005	1.23	0.250	0.0003700	0.250	0.830	0.000440	0.830
Nickel	0.50-5.0	30.2	0.002285	30.2	7.28	0.002814	7.28	15.1	0.003346	15.1
Phosphorus	50.0	576	0.0500	576	641	0.0615	641	757	0.0732	757
Potassium	100.0	1260	0.1238	1260	350	0.1525	350	700	0.1813	700
Selenium	0.20-0.50	0.350	0.0001879	0.350	0.840	0.0002313	0.840	0.100	0.0002751	0.100
Silver	0.10-2.0	0.200	0.00002597	0.200	0.0500	0.00003199	0.0500	0.0500	0.00003804	0.0500
Sodium	100.0	50.0	0.0716	50.1	50.0	0.0881	50.1	50.0	0.1048	50.1
Strontium	0.50	9.11	0.02635	9.14	51.2	0.03244	51.2	6.42	0.03859	6.46
Thallium	0.050-1.0	0.225	0.000001932	0.225	0.0250	0.000002379	0.0250	0.0730	0.000002830	0.0730
Tin	2.0-5.0	1.00	-	-	1.00	-	-	1.00	-	-
Titanium	1.0	55.7	0.000959	55.7	34.0	0.001181	34.0	114	0.001405	114
Uranium	0.050	0.703	0.0001121	0.703	0.612	0.0001381	0.612	0.427	0.0001642	0.427
Vanadium	0.20-2.0	42.3	0.001564	42.3	12.3	0.001926	12.3	29.1	0.002290	29.1
Zinc	1.0	67.5	0.01099	67.5	17.8	0.01354	17.8	34.5	0.01610	34.5

Notes:

[1] Soil baseline concentrations are from samples collected in 2010, 2011, and 2012.

[2] Equation used to calculate incremental soil concentration is from the US EPA (2005): Cs =100((DEPOSITION/(Zs*BD)))*tD*

[3] Total soil concentration is the sum of the baseline concentration and the incremental concentration.

Samples where the concentration was below the detection limit were replaced with values of half the detection limit for calculation purposes.

Cs = Average soil concentration over exposure duration (mg COPC/kg soil)

100 = Units conversion factor ($mg\text{-}m^2/kg\text{-}cm^2$)

DEPOSITION = Yearly deposition rate of COPC from model (g/m^2 year)

tD = Time period over which deposition occurs (25 years)

Zs = Soil mixing zone depth (2 cm)

BD = Soil bulk density (1.5 g soil/cm^3 soil)

(-) = no value

All soil concentrations are in dry weight.

Appendix 18-E. Predicted Metal Concentrations in Soil from Dust Deposition

Metals	Detection Limit (mg/kg)	NW-1			NW-2			NW-3		
		Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)	Baseline Soil Concentration[1] (mg/kg)	Predicted Incremental Soil Concentration[2] (mg/kg)	Predicted Total Soil Concentration[3] (mg/kg)
Aluminum	50.0	7200	0.424	7200	7510	0.451	7510	11600	0.461	11600
Antimony	0.10- 10	0.550	0.0000437	0.550	0.350	0.0000465	0.350	0.390	0.0000475	0.390
Arsenic	0.050-5.0	17.6	0.000587	17.6	4.12	0.000624	4.12	5.53	0.000638	5.53
Barium	0.50-1.0	570	0.2093	570	381	0.2224	381	871	0.2275	871
Beryllium	0.20-0.50	0.480	-	-	0.410	-	-	0.650	-	-
Bismuth	0.20	0.100	0.00002458	0.100	0.100	0.00002613	0.100	0.100	0.00002673	0.100
Cadmium	0.05-0.50	1.30	0.0000811	1.30	1.88	0.0000862	1.88	1.33	0.0000882	1.33
Calcium	50.0	16200	1.269	16201	2600	1.349	2601	6060	1.379	6061
Chromium	0.50-2.0	13.0	0.001976	13.0	13.5	0.002101	13.5	19.0	0.002149	19.0
Cobalt	0.10-2.0	7.23	0.000634	7.23	10.2	0.000674	10.2	6.32	0.000689	6.32
Copper	0.50-1.0	16.8	0.003480	16.8	16.6	0.003699	16.6	17.3	0.003784	17.3
Iron	50.0	36800	0.429	36800	18000	0.456	18000	19000	0.467	19000
Lead	0.50-30	7.90	0.002251	7.90	13.4	0.002393	13.4	12.4	0.002448	12.4
Lithium	5.0	10.1	-	-	7.90	-	-	13.4	-	-
Magnesium	20.0	2310	0.3666	2310	1320	0.3897	1320	2370	0.399	2370
Manganese	1.0	779	0.01022	779	525	0.01086	525	358	0.01111	358
Mercury	0.0050	0.101	0.00001260	0.101	0.0179	0.00001339	0.0179	0.0563	0.00001370	0.0563
Molybdenum	0.50-4.0	2.91	0.0003111	2.91	1.08	0.0003307	1.08	0.770	0.0003383	0.770
Nickel	0.50-5.0	23.7	0.002366	23.7	19.4	0.002515	19.4	32.7	0.002572	32.7
Phosphorus	50.0	1190	0.0517	1190	483	0.0550	483	724	0.0562	724
Potassium	100.0	1160	0.1282	1160	1650	0.1363	1650	1490	0.1394	1490
Selenium	0.20-0.50	1.66	0.0001945	1.66	0.100	0.0002068	0.100	0.520	0.0002115	0.520
Silver	0.10-2.0	0.225	0.00002690	0.225	0.300	0.00002859	0.300	0.400	0.00002924	0.4000
Sodium	100.0	50.0	0.0741	50.1	50.0	0.0788	50.1	50.0	0.0806	50.1
Strontium	0.50	51.2	0.02728	51.2	23.8	0.02900	23.8	24.1	0.02966	24.1
Thallium	0.050-1.0	0.146	0.000002000	0.146	0.133	0.000002126	0.133	0.172	0.000002175	0.172
Tin	2.0-5.0	1.00	-	-	1.00	-	-	1.00	-	-
Titanium	1.0	12.5	0.000993	12.5	18.5	0.001056	18.5	21.3	0.001080	21.3
Uranium	0.050	1.35	0.0001161	1.35	0.409	0.0001234	0.409	1.01	0.0001262	1.01
Vanadium	0.20-2.0	30.7	0.001619	30.7	37.3	0.001721	37.3	42.1	0.001760	42.1
Zinc	1.0	81.8	0.01138	81.8	81.6	0.01210	81.6	86.6	0.01237	86.6

Notes:

[1] Soil baseline concentrations are from samples collected in 2010, 2011, and 2012.

[2] Equation used to calculate incremental soil concentration is from the US EPA (2005): Cs =100((DEPOSITION/(Zs*BD)))*tD*

[3] Total soil concentration is the sum of the baseline concentration and the incremental concentration.

Samples where the concentration was below the detection limit were replaced with values of half the detection limit for calculation purposes.

Cs = Average soil concentration over exposure duration (mg COPC/kg soil)

100 = Units conversion factor ($mg\text{-}m^2/kg\text{-}cm^2$)

DEPOSITION = Yearly deposition rate of COPC from model (g/m^2 year)

tD = Time period over which deposition occurs (25 years)

Zs = Soil mixing zone depth (2 cm)

BD = Soil bulk density (1.5 g soil/cm^3 soil)

(-) = no value

All soil concentrations are in dry weight.

Appendix 18-E. Predicted Metal Concentrations in Soil from Dust Deposition

Metals	Detection Limit (mg/kg)	Summary Statistics			
		Mean of Baseline Concentrations (mg/kg)	95th Percentile of Baseline Concentrations (mg/kg)	Mean of Predicted Total Concentrations (mg/kg)	95th Percentile Predicted Total Concentrations (mg/kg)
Aluminum	50.0	7365	10760	7371	10760
Antimony	0.10- 10	0.371	0.693	0.372	0.693
Arsenic	0.050-5.0	5.40	11.6	5.41	11.6
Barium	0.50-1.0	284	913	287	913
Beryllium	0.20-0.50	0.358	0.622	-	-
Bismuth	0.20	0.100	0.100	0.100	0.102
Cadmium	0.05-0.50	0.719	1.96	0.720	1.96
Calcium	50.0	8461	27750	8480	27751
Chromium	0.50-2.0	12.8	19.5	12.8	19.5
Cobalt	0.10-2.0	5.15	8.49	5.16	8.49
Copper	0.50-1.0	11.7	24.1	11.7	24.1
Iron	50.0	16165	26580	16171	26580
Lead	0.50-30	8.34	12.7	8.37	12.7
Lithium	5.0	8.51	13.4	-	-
Magnesium	20.0	2940	8097	2945	8098
Manganese	1.0	295	748	295	748
Mercury	0.0050	0.0427	0.0808	0.0429	0.0808
Molybdenum	0.50-4.0	1.07	2.04	1.07	2.04
Nickel	0.50-5.0	17.0	31.0	17.0	31.0
Phosphorus	50.0	555	887	556	887
Potassium	100.0	906	1538	908	1538
Selenium	0.20-0.50	0.366	1.09	0.369	1.09
Silver	0.10-2.0	0.238	0.678	0.238	0.678
Sodium	100.0	50.0	50.0	51.1	55.5
Strontium	0.50	19.0	51.2	19.4	51.2
Thallium	0.050-1.0	0.123	0.188	0.123	0.188
Tin	2.0-5.0	1.00	1.00	-	-
Titanium	1.0	42.2	78.2	42.2	78.2
Uranium	0.050	0.640	1.29	0.642	1.29
Vanadium	0.20-2.0	31.0	43.7	31.1	43.7
Zinc	1.0	53.7	83.2	53.9	83.3

Notes:

[1] Soil baseline concentrations are from samples collected in 2010, 2011, and 2012.

[2] Equation used to calculate incremental soil concentration is from the US EPA (2005): Cs =100((DEPOSITION/(Zs*BD)))*tD*

[3] Total soil concentration is the sum of the baseline concentration and the incremental concentration.

Samples where the concentration was below the detection limit were replaced with values of half the detection limit for calculation purposes.

Cs = Average soil concentration over exposure duration (mg COPC/kg soil)

100 = Units conversion factor ($mg\text{-}m^2/kg\text{-}cm^2$)

DEPOSITION = Yearly deposition rate of COPC from model (g/m^2 year)

tD = Time period over which deposition occurs (25 years)

Zs = Soil mixing zone depth (2 cm)

BD = Soil bulk density (1.5 g soil/cm^3 soil)

(-) = no value

All soil concentrations are in dry weight.