Appendix V6-5K

Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

MAC RESOURCES

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites	8	11	13	14	16	18	21	22	23	29	CFW1	CFW2
Dust Deposition (g/m²/year)	3.47	2.19	1.66	1.64	5.00	2.34	1.52	1.42	2.76	1.79	4.65	1.36
Metal Dustfall Deposition												
Aluminum	1.01E-01	6.36E-02	4.81E-02	4.77E-02	1.45E-01	6.80E-02	4.40E-02	4.12E-02	7.99E-02	5.20E-02	1.35E-01	3.96E-02
Antimony	3.47E-07	2.19E-07	1.66E-07	1.64E-07	5.00E-07	2.34E-07	1.52E-07	1.42E-07	2.76E-07	1.79E-07	4.65E-07	1.36E-07
Arsenic	1.74E-06	1.10E-06	8.29E-07	8.22E-07	2.50E-06	1.17E-06	7.59E-07	7.10E-07	1.38E-06	8.97E-07	2.33E-06	6.82E-07
Barium	1.04E-05	6.58E-06	4.97E-06	4.93E-06	1.50E-05	7.03E-06	4.55E-06	4.26E-06	8.27E-06	5.38E-06	1.40E-05	4.09E-06
Beryllium	1.15E-06	7.24E-07	5.47E-07	5.43E-07	1.65E-06	7.73E-07	5.01E-07	4.69E-07	9.09E-07	5.92E-07	1.54E-06	4.50E-07
Bismuth	3.47E-07	2.19E-07	1.66E-07	1.64E-07	5.00E-07	2.34E-07	1.52E-07	1.42E-07	2.76E-07	1.79E-07	4.65E-07	1.36E-07
Cadmium	3.47E-07	2.19E-07	1.66E-07	1.64E-07	5.00E-07	2.34E-07	1.52E-07	1.42E-07	2.76E-07	1.79E-07	4.65E-07	1.36E-07
Calcium	1.11E-01	7.02E-02	5.30E-02	5.26E-02	1.60E-01	7.50E-02	4.86E-02	4.55E-02	8.82E-02	5.74E-02	1.49E-01	4.37E-02
Chromium	5.21E-04	3.29E-04	2.49E-04	2.47E-04	7.50E-04	3.51E-04	2.28E-04	2.13E-04	4.13E-04	2.69E-04	6.98E-04	2.05E-04
Cobalt	1.22E-04	7.68E-05	5.80E-05	5.75E-05	1.75E-04	8.20E-05	5.31E-05	4.97E-05	9.64E-05	6.28E-05	1.63E-04	4.78E-05
Copper	3.82E-04	2.41E-04	1.82E-04	1.81E-04	5.50E-04	2.58E-04	1.67E-04	1.56E-04	3.03E-04	1.97E-04	5.12E-04	1.50E-04
Iron	1.70E-01	1.08E-01	8.12E-02	8.06E-02	2.45E-01	1.15E-01	7.44E-02	6.96E-02	1.35E-01	8.79E-02	2.28E-01	6.69E-02
Lead	2.08E-06	1.32E-06	9.94E-07	9.86E-07	3.00E-06	1.41E-06	9.11E-07	8.53E-07	1.65E-06	1.08E-06	2.79E-06	8.19E-07
Magnesium	7.99E-02	5.05E-02	3.81E-02	3.78E-02	1.15E-01	5.39E-02	3.49E-02	3.27E-02	6.34E-02	4.13E-02	1.07E-01	3.14E-02
Manganese	3.23E-03	2.04E-03	1.54E-03	1.53E-03	4.65E-03	2.18E-03	1.41E-03	1.32E-03	2.56E-03	1.67E-03	4.33E-03	1.27E-03
Mercury	3.47E-08	2.19E-08	1.66E-08	1.64E-08	5.00E-08	2.34E-08	1.52E-08	1.42E-08	2.76E-08	1.79E-08	4.65E-08	1.36E-08
Molybdenum	1.74E-06	1.10E-06	8.29E-07	8.22E-07	2.50E-06	1.17E-06	7.59E-07	7.10E-07	1.38E-06	8.97E-07	2.33E-06	6.82E-07
Nickel	2.50E-04	1.58E-04	1.19E-04	1.18E-04	3.60E-04	1.69E-04	1.09E-04	1.02E-04	1.98E-04	1.29E-04	3.35E-04	9.82E-05
Phosphorus	7.64E-04	4.83E-04	3.65E-04	3.62E-04	1.10E-03	5.16E-04	3.34E-04	3.13E-04	6.06E-04	3.95E-04	1.02E-03	3.00E-04
Potassium	3.47E-04	2.19E-04	1.66E-04	1.64E-04	5.00E-04	2.34E-04	1.52E-04	1.42E-04	2.76E-04	1.79E-04	4.65E-04	1.36E-04
Selenium	1.74E-06	1.10E-06	8.29E-07	8.22E-07	2.50E-06	1.17E-06	7.59E-07	7.10E-07	1.38E-06	8.97E-07	2.33E-06	6.82E-07
Silver	3.47E-07	2.19E-07	1.66E-07	1.64E-07	5.00E-07	2.34E-07	1.52E-07	1.42E-07	2.76E-07	1.79E-07	4.65E-07	1.36E-07
Sodium	8.68E-04	5.49E-04	4.14E-04	4.11E-04	1.25E-03	5.86E-04	3.79E-04	3.55E-04	6.89E-04	4.48E-04	1.16E-03	3.41E-04
Strontium	4.86E-05	3.07E-05	2.32E-05	2.30E-05	7.00E-05	3.28E-05	2.12E-05	1.99E-05	3.86E-05	2.51E-05	6.52E-05	1.91E-05
Thallium	3.47E-07	2.19E-07	1.66E-07	1.64E-07	5.00E-07	2.34E-07	1.52E-07	1.42E-07	2.76E-07	1.79E-07	4.65E-07	1.36E-07
Tin	6.95E-06	4.39E-06	3.31E-06	3.29E-06	1.00E-05	4.69E-06	3.04E-06	2.84E-06	5.51E-06	3.59E-06	9.31E-06	2.73E-06
Titanium	7.64E-03	4.83E-03	3.65E-03	3.62E-03	1.10E-02	5.16E-03	3.34E-03	3.13E-03	6.06E-03	3.95E-03	1.02E-02	3.00E-03
Uranium	3.47E-07	2.19E-07	1.66E-07	1.64E-07	5.00E-07	2.34E-07	1.52E-07	1.42E-07	2.76E-07	1.79E-07	4.65E-07	1.36E-07
Vanadium	3.47E-04	2.19E-04	1.66E-04	1.64E-04	5.00E-04	2.34E-04	1.52E-04	1.42E-04	2.76E-04	1.79E-04	4.65E-04	1.36E-04
Zinc	2.05E-04	1.29E-04	9.78E-05	9.70E-05	2.95E-04	1.38E-04	8.95E-05	8.38E-05	1.63E-04	1.06E-04	2.75E-04	8.05E-05

Notes:
All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	CFW3 2.37	CFW4 1.58	CFW5 2.43	CFW6 1.29	D06 4.41	D10 4.52	D12 3.97	D16 3.13	D20 3.32	D21 0.823	D22 2.24	D26 0.881
Metal Dustfall Deposition												
Aluminum	6.87E-02	4.58E-02	7.06E-02	3.74E-02	1.28E-01	1.31E-01	1.15E-01	9.08E-02	9.63E-02	2.39E-02	6.49E-02	2.55E-02
Antimony	2.37E-07	1.58E-07	2.43E-07	1.29E-07	4.41E-07	4.52E-07	3.97E-07	3.13E-07	3.32E-07	8.23E-08	2.24E-07	8.81E-08
Arsenic	1.18E-06	7.90E-07	1.22E-06	6.46E-07	2.21E-06	2.26E-06	1.99E-06	1.56E-06	1.66E-06	4.12E-07	1.12E-06	4.40E-07
Barium	7.10E-06	4.74E-06	7.30E-06	3.87E-06	1.32E-05	1.36E-05	1.19E-05	9.39E-06	9.96E-06	2.47E-06	6.71E-06	2.64E-06
Beryllium	7.81E-07	5.21E-07	8.03E-07	4.26E-07	1.46E-06	1.49E-06	1.31E-06	1.03E-06	1.10E-06	2.72E-07	7.39E-07	2.91E-07
Bismuth	2.37E-07	1.58E-07	2.43E-07	1.29E-07	4.41E-07	4.52E-07	3.97E-07	3.13E-07	3.32E-07	8.23E-08	2.24E-07	8.81E-08
Cadmium	2.37E-07	1.58E-07	2.43E-07	1.29E-07	4.41E-07	4.52E-07	3.97E-07	3.13E-07	3.32E-07	8.23E-08	2.24E-07	8.81E-08
Calcium	7.58E-02	5.05E-02	7.79E-02	4.13E-02	1.41E-01	1.45E-01	1.27E-01	1.00E-01	1.06E-01	2.63E-02	7.16E-02	2.82E-02
Chromium	3.55E-04	2.37E-04	3.65E-04	1.94E-04	6.62E-04	6.78E-04	5.96E-04	4.69E-04	4.98E-04	1.24E-04	3.36E-04	1.32E-04
Cobalt	8.29E-05	5.53E-05	8.52E-05	4.52E-05	1.54E-04	1.58E-04	1.39E-04	1.10E-04	1.16E-04	2.88E-05	7.83E-05	3.08E-05
Copper	2.60E-04	1.74E-04	2.68E-04	1.42E-04	4.85E-04	4.97E-04	4.37E-04	3.44E-04	3.65E-04	9.06E-05	2.46E-04	9.69E-05
Iron	1.16E-01	7.74E-02	1.19E-01	6.33E-02	2.16E-01	2.21E-01	1.95E-01	1.53E-01	1.63E-01	4.03E-02	1.10E-01	4.32E-02
Lead	1.42E-06	9.48E-07	1.46E-06	7.75E-07	2.65E-06	2.71E-06	2.38E-06	1.88E-06	1.99E-06	4.94E-07	1.34E-06	5.29E-07
Magnesium	5.45E-02	3.63E-02	5.60E-02	2.97E-02	1.01E-01	1.04E-01	9.14E-02	7.20E-02	7.64E-02	1.89E-02	5.15E-02	2.03E-02
Manganese	2.20E-03	1.47E-03	2.26E-03	1.20E-03	4.10E-03	4.20E-03	3.69E-03	2.91E-03	3.09E-03	7.66E-04	2.08E-03	8.19E-04
Mercury	2.37E-08	1.58E-08	2.43E-08	1.29E-08	4.41E-08	4.52E-08	3.97E-08	3.13E-08	3.32E-08	8.23E-09	2.24E-08	8.81E-09
Molybdenum	1.18E-06	7.90E-07	1.22E-06	6.46E-07	2.21E-06	2.26E-06	1.99E-06	1.56E-06	1.66E-06	4.12E-07	1.12E-06	4.40E-07
Nickel	1.70E-04	1.14E-04	1.75E-04	9.30E-05	3.18E-04	3.25E-04	2.86E-04	2.25E-04	2.39E-04	5.93E-05	1.61E-04	6.34E-05
Phosphorus	5.21E-04	3.47E-04	5.35E-04	2.84E-04	9.71E-04	9.94E-04	8.74E-04	6.89E-04	7.31E-04	1.81E-04	4.92E-04	1.94E-04
Potassium	2.37E-04	1.58E-04	2.43E-04	1.29E-04	4.41E-04	4.52E-04	3.97E-04	3.13E-04	3.32E-04	8.23E-05	2.24E-04	8.81E-05
Selenium	1.18E-06	7.90E-07	1.22E-06	6.46E-07	2.21E-06	2.26E-06	1.99E-06	1.56E-06	1.66E-06	4.12E-07	1.12E-06	4.40E-07
Silver	2.37E-07	1.58E-07	2.43E-07	1.29E-07	4.41E-07	4.52E-07	3.97E-07	3.13E-07	3.32E-07	8.23E-08	2.24E-07	8.81E-08
Sodium	5.92E-04	3.95E-04	6.08E-04	3.23E-04	1.10E-03	1.13E-03	9.93E-04	7.82E-04	8.30E-04	2.06E-04	5.60E-04	2.20E-04
Strontium	3.32E-05	2.21E-05	3.41E-05	1.81E-05	6.18E-05	6.33E-05	5.56E-05	4.38E-05	4.65E-05	1.15E-05	3.13E-05	1.23E-05
Thallium	2.37E-07	1.58E-07	2.43E-07	1.29E-07	4.41E-07	4.52E-07	3.97E-07	3.13E-07	3.32E-07	8.23E-08	2.24E-07	8.81E-08
Tin	4.74E-06	3.16E-06	4.87E-06	2.58E-06	8.83E-06	9.04E-06	7.94E-06	6.26E-06	6.64E-06	1.65E-06	4.48E-06	1.76E-06
Titanium	5.21E-03	3.47E-03	5.35E-03	2.84E-03	9.71E-03	9.94E-03	8.74E-03	6.89E-03	7.31E-03	1.81E-03	4.92E-03	1.94E-03
Uranium	2.37E-07	1.58E-07	2.43E-07	1.29E-07	4.41E-07	4.52E-07	3.97E-07	3.13E-07	3.32E-07	8.23E-08	2.24E-07	8.81E-08
Vanadium	2.37E-04	1.58E-04	2.43E-04	1.29E-04	4.41E-04	4.52E-04	3.97E-04	3.13E-04	3.32E-04	8.23E-05	2.24E-04	8.81E-05
Zinc	1.40E-04	9.32E-05	1.44E-04	7.62E-05	2.60E-04	2.67E-04	2.34E-04	1.85E-04	1.96E-04	4.86E-05	1.32E-04	5.20E-05

Notes:

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Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	D29 0.878	D32 0.874	D38 0.797	D39 0.798	D40 0.813	D42 2.35	D43 5.05	D50 0.779	D51 13.7	D52 52.0	D54 1.01	D55 1.20
Metal Dustfall Deposition												
Aluminum	2.55E-02	2.53E-02	2.31E-02	2.31E-02	2.36E-02	6.82E-02	1.46E-01	2.26E-02	3.97E-01	1.51E+00	2.92E-02	3.49E-02
Antimony	8.78E-08	8.74E-08	7.97E-08	7.98E-08	8.13E-08	2.35E-07	5.05E-07	7.79E-08	1.37E-06	5.20E-06	1.01E-07	1.20E-07
Arsenic	4.39E-07	4.37E-07	3.98E-07	3.99E-07	4.07E-07	1.18E-06	2.53E-06	3.89E-07	6.84E-06	2.60E-05	5.03E-07	6.02E-07
Barium	2.63E-06	2.62E-06	2.39E-06	2.39E-06	2.44E-06	7.06E-06	1.52E-05	2.34E-06	4.11E-05	1.56E-04	3.02E-06	3.61E-06
Beryllium	2.90E-07	2.88E-07	2.63E-07	2.63E-07	2.68E-07	7.77E-07	1.67E-06	2.57E-07	4.52E-06	1.72E-05	3.32E-07	3.97E-07
Bismuth	8.78E-08	8.74E-08	7.97E-08	7.98E-08	8.13E-08	2.35E-07	5.05E-07	7.79E-08	1.37E-06	5.20E-06	1.01E-07	1.20E-07
Cadmium	8.78E-08	8.74E-08	7.97E-08	7.98E-08	8.13E-08	2.35E-07	5.05E-07	7.79E-08	1.37E-06	5.20E-06	1.01E-07	1.20E-07
Calcium	2.81E-02	2.80E-02	2.55E-02	2.55E-02	2.60E-02	7.53E-02	1.62E-01	2.49E-02	4.38E-01	1.66E+00	3.22E-02	3.85E-02
Chromium	1.32E-04	1.31E-04	1.20E-04	1.20E-04	1.22E-04	3.53E-04	7.58E-04	1.17E-04	2.05E-03	7.80E-03	1.51E-04	1.81E-04
Cobalt	3.07E-05	3.06E-05	2.79E-05	2.79E-05	2.85E-05	8.24E-05	1.77E-04	2.72E-05	4.79E-04	1.82E-03	3.52E-05	4.22E-05
Copper	9.66E-05	9.61E-05	8.76E-05	8.78E-05	8.94E-05	2.59E-04	5.56E-04	8.56E-05	1.51E-03	5.72E-03	1.11E-04	1.32E-04
Iron	4.30E-02	4.28E-02	3.90E-02	3.91E-02	3.98E-02	1.15E-01	2.47E-01	3.81E-02	6.71E-01	2.55E+00	4.93E-02	5.90E-02
Lead	5.27E-07	5.24E-07	4.78E-07	4.79E-07	4.88E-07	1.41E-06	3.03E-06	4.67E-07	8.21E-06	3.12E-05	6.04E-07	7.23E-07
Magnesium	2.02E-02	2.01E-02	1.83E-02	1.84E-02	1.87E-02	5.41E-02	1.16E-01	1.79E-02	3.15E-01	1.20E+00	2.32E-02	2.77E-02
Manganese	8.17E-04	8.13E-04	7.41E-04	7.42E-04	7.56E-04	2.19E-03	4.70E-03	7.24E-04	1.27E-02	4.83E-02	9.36E-04	1.12E-03
Mercury	8.78E-09	8.74E-09	7.97E-09	7.98E-09	8.13E-09	2.35E-08	5.05E-08	7.79E-09	1.37E-07	5.20E-07	1.01E-08	1.20E-08
Molybdenum	4.39E-07	4.37E-07	3.98E-07	3.99E-07	4.07E-07	1.18E-06	2.53E-06	3.89E-07	6.84E-06	2.60E-05	5.03E-07	6.02E-07
Nickel	6.32E-05	6.29E-05	5.74E-05	5.75E-05	5.85E-05	1.69E-04	3.64E-04	5.61E-05	9.85E-04	3.74E-03	7.25E-05	8.67E-05
Phosphorus	1.93E-04	1.92E-04	1.75E-04	1.76E-04	1.79E-04	5.18E-04	1.11E-03	1.71E-04	3.01E-03	1.14E-02	2.22E-04	2.65E-04
Potassium	8.78E-05	8.74E-05	7.97E-05	7.98E-05	8.13E-05	2.35E-04	5.05E-04	7.79E-05	1.37E-03	5.20E-03	1.01E-04	1.20E-04
Selenium	4.39E-07	4.37E-07	3.98E-07	3.99E-07	4.07E-07	1.18E-06	2.53E-06	3.89E-07	6.84E-06	2.60E-05	5.03E-07	6.02E-07
Silver	8.78E-08	8.74E-08	7.97E-08	7.98E-08	8.13E-08	2.35E-07	5.05E-07	7.79E-08	1.37E-06	5.20E-06	1.01E-07	1.20E-07
Sodium	2.20E-04	2.18E-04	1.99E-04	2.00E-04	2.03E-04	5.88E-04	1.26E-03	1.95E-04	3.42E-03	1.30E-02	2.52E-04	3.01E-04
Strontium	1.23E-05	1.22E-05	1.12E-05	1.12E-05	1.14E-05	3.29E-05	7.07E-05	1.09E-05	1.92E-04	7.28E-04	1.41E-05	1.69E-05
Thallium	8.78E-08	8.74E-08	7.97E-08	7.98E-08	8.13E-08	2.35E-07	5.05E-07	7.79E-08	1.37E-06	5.20E-06	1.01E-07	1.20E-07
Tin	1.76E-06	1.75E-06	1.59E-06	1.60E-06	1.63E-06	4.71E-06	1.01E-05	1.56E-06	2.74E-05	1.04E-04	2.01E-06	2.41E-06
Titanium	1.93E-03	1.92E-03	1.75E-03	1.76E-03	1.79E-03	5.18E-03	1.11E-02	1.71E-03	3.01E-02	1.14E-01	2.22E-03	2.65E-03
Uranium	8.78E-08	8.74E-08	7.97E-08	7.98E-08	8.13E-08	2.35E-07	5.05E-07	7.79E-08	1.37E-06	5.20E-06	1.01E-07	1.20E-07
Vanadium	8.78E-05	8.74E-05	7.97E-05	7.98E-05	8.13E-05	2.35E-04	5.05E-04	7.79E-05	1.37E-03	5.20E-03	1.01E-04	1.20E-04
Zinc	5.18E-05	5.15E-05	4.70E-05	4.71E-05	4.80E-05	1.39E-04	2.98E-04	4.59E-05	8.07E-04	3.07E-03	5.94E-05	7.11E-05

Notes:
All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	D57 4.65	D59 1.36	D61 0.819	D62 1.01	D63 1.01	D65 1.10	D70 1.10	D71 6.60	D72 6.60	D75 5.51	D76 2.46	D82 2.46
Metal Dustfall Deposition												
Aluminum	1.35E-01	3.96E-02	2.38E-02	2.92E-02	2.92E-02	3.18E-02	3.18E-02	1.91E-01	1.91E-01	1.60E-01	7.15E-02	7.15E-02
Antimony	4.65E-07	1.36E-07	8.19E-08	1.01E-07	1.01E-07	1.10E-07	1.10E-07	6.60E-07	6.60E-07	5.51E-07	2.46E-07	2.46E-07
Arsenic	2.33E-06	6.82E-07	4.10E-07	5.04E-07	5.04E-07	5.49E-07	5.49E-07	3.30E-06	3.30E-06	2.76E-06	1.23E-06	1.23E-06
Barium	1.40E-05	4.09E-06	2.46E-06	3.03E-06	3.03E-06	3.29E-06	3.29E-06	1.98E-05	1.98E-05	1.65E-05	7.39E-06	7.39E-06
Beryllium	1.54E-06	4.50E-07	2.70E-07	3.33E-07	3.33E-07	3.62E-07	3.62E-07	2.18E-06	2.18E-06	1.82E-06	8.13E-07	8.13E-07
Bismuth	4.65E-07	1.36E-07	8.19E-08	1.01E-07	1.01E-07	1.10E-07	1.10E-07	6.60E-07	6.60E-07	5.51E-07	2.46E-07	2.46E-07
Cadmium	4.65E-07	1.36E-07	8.19E-08	1.01E-07	1.01E-07	1.10E-07	1.10E-07	6.60E-07	6.60E-07	5.51E-07	2.46E-07	2.46E-07
Calcium	1.49E-01	4.37E-02	2.62E-02	3.23E-02	3.23E-02	3.51E-02	3.51E-02	2.11E-01	2.11E-01	1.76E-01	7.89E-02	7.89E-02
Chromium	6.98E-04	2.05E-04	1.23E-04	1.51E-04	1.51E-04	1.65E-04	1.65E-04	9.90E-04	9.90E-04	8.27E-04	3.70E-04	3.70E-04
Cobalt	1.63E-04	4.78E-05	2.87E-05	3.53E-05	3.53E-05	3.84E-05	3.84E-05	2.31E-04	2.31E-04	1.93E-04	8.63E-05	8.63E-05
Copper	5.12E-04	1.50E-04	9.01E-05	1.11E-04	1.11E-04	1.21E-04	1.21E-04	7.26E-04	7.26E-04	6.06E-04	2.71E-04	2.71E-04
Iron	2.28E-01	6.69E-02	4.01E-02	4.94E-02	4.94E-02	5.38E-02	5.38E-02	3.23E-01	3.23E-01	2.70E-01	1.21E-01	1.21E-01
Lead	2.79E-06	8.19E-07	4.91E-07	6.05E-07	6.05E-07	6.59E-07	6.59E-07	3.96E-06	3.96E-06	3.31E-06	1.48E-06	1.48E-06
Magnesium	1.07E-01	3.14E-02	1.88E-02	2.32E-02	2.32E-02	2.53E-02	2.53E-02	1.52E-01	1.52E-01	1.27E-01	5.67E-02	5.67E-02
Manganese	4.33E-03	1.27E-03	7.62E-04	9.38E-04	9.38E-04	1.02E-03	1.02E-03	6.14E-03	6.14E-03	5.13E-03	2.29E-03	2.29E-03
Mercury	4.65E-08	1.36E-08	8.19E-09	1.01E-08	1.01E-08	1.10E-08	1.10E-08	6.60E-08	6.60E-08	5.51E-08	2.46E-08	2.46E-08
Molybdenum	2.33E-06	6.82E-07	4.10E-07	5.04E-07	5.04E-07	5.49E-07	5.49E-07	3.30E-06	3.30E-06	2.76E-06	1.23E-06	1.23E-06
Nickel	3.35E-04	9.82E-05	5.90E-05	7.26E-05	7.26E-05	7.91E-05	7.91E-05	4.75E-04	4.75E-04	3.97E-04	1.77E-04	1.77E-04
Phosphorus	1.02E-03	3.00E-04	1.80E-04	2.22E-04	2.22E-04	2.42E-04	2.42E-04	1.45E-03	1.45E-03	1.21E-03	5.42E-04	5.42E-04
Potassium	4.65E-04	1.36E-04	8.19E-05	1.01E-04	1.01E-04	1.10E-04	1.10E-04	6.60E-04	6.60E-04	5.51E-04	2.46E-04	2.46E-04
Selenium	2.33E-06	6.82E-07	4.10E-07	5.04E-07	5.04E-07	5.49E-07	5.49E-07	3.30E-06	3.30E-06	2.76E-06	1.23E-06	1.23E-06
Silver	4.65E-07	1.36E-07	8.19E-08	1.01E-07	1.01E-07	1.10E-07	1.10E-07	6.60E-07	6.60E-07	5.51E-07	2.46E-07	2.46E-07
Sodium	1.16E-03	3.41E-04	2.05E-04	2.52E-04	2.52E-04	2.75E-04	2.75E-04	1.65E-03	1.65E-03	1.38E-03	6.16E-04	6.16E-04
Strontium	6.52E-05	1.91E-05	1.15E-05	1.41E-05	1.41E-05	1.54E-05	1.54E-05	9.24E-05	9.24E-05	7.72E-05	3.45E-05	3.45E-05
Thallium	4.65E-07	1.36E-07	8.19E-08	1.01E-07	1.01E-07	1.10E-07	1.10E-07	6.60E-07	6.60E-07	5.51E-07	2.46E-07	2.46E-07
Tin	9.31E-06	2.73E-06	1.64E-06	2.02E-06	2.02E-06	2.20E-06	2.20E-06	1.32E-05	1.32E-05	1.10E-05	4.93E-06	4.93E-06
Titanium	1.02E-02	3.00E-03	1.80E-03	2.22E-03	2.22E-03	2.42E-03	2.42E-03	1.45E-02	1.45E-02	1.21E-02	5.42E-03	5.42E-03
Uranium	4.65E-07	1.36E-07	8.19E-08	1.01E-07	1.01E-07	1.10E-07	1.10E-07	6.60E-07	6.60E-07	5.51E-07	2.46E-07	2.46E-07
Vanadium	4.65E-04	1.36E-04	8.19E-05	1.01E-04	1.01E-04	1.10E-04	1.10E-04	6.60E-04	6.60E-04	5.51E-04	2.46E-04	2.46E-04
Zinc	2.75E-04	8.05E-05	4.83E-05	5.95E-05	5.95E-05	6.48E-05	6.48E-05	3.89E-04	3.89E-04	3.25E-04	1.45E-04	1.45E-04

Notes:
All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	D88 4.54	D96 4.54	D99 2.01	D108 1.22	D109 0.962	D119 1.22	D122 1.27	D132 0.868	LSA-01 3.14	LSA-02 0.887	LSA-03 1.48	LSA-04 3.74
Metal Dustfall Deposition												
Aluminum	1.32E-01	1.32E-01	5.84E-02	3.55E-02	2.79E-02	3.55E-02	3.68E-02	2.52E-02	9.09E-02	2.57E-02	4.30E-02	1.08E-01
Antimony	4.54E-07	4.54E-07	2.01E-07	1.22E-07	9.62E-08	1.22E-07	1.27E-07	8.68E-08	3.14E-07	8.87E-08	1.48E-07	3.74E-07
Arsenic	2.27E-06	2.27E-06	1.01E-06	6.12E-07	4.81E-07	6.12E-07	6.35E-07	4.34E-07	1.57E-06	4.43E-07	7.42E-07	1.87E-06
Barium	1.36E-05	1.36E-05	6.04E-06	3.67E-06	2.89E-06	3.67E-06	3.81E-06	2.60E-06	9.41E-06	2.66E-06	4.45E-06	1.12E-05
Beryllium	1.50E-06	1.50E-06	6.64E-07	4.04E-07	3.18E-07	4.04E-07	4.19E-07	2.86E-07	1.03E-06	2.93E-07	4.90E-07	1.23E-06
Bismuth	4.54E-07	4.54E-07	2.01E-07	1.22E-07	9.62E-08	1.22E-07	1.27E-07	8.68E-08	3.14E-07	8.87E-08	1.48E-07	3.74E-07
Cadmium	4.54E-07	4.54E-07	2.01E-07	1.22E-07	9.62E-08	1.22E-07	1.27E-07	8.68E-08	3.14E-07	8.87E-08	1.48E-07	3.74E-07
Calcium	1.45E-01	1.45E-01	6.44E-02	3.92E-02	3.08E-02	3.92E-02	4.06E-02	2.78E-02	1.00E-01	2.84E-02	4.75E-02	1.20E-01
Chromium	6.81E-04	6.81E-04	3.02E-04	1.84E-04	1.44E-04	1.84E-04	1.90E-04	1.30E-04	4.70E-04	1.33E-04	2.23E-04	5.61E-04
Cobalt	1.59E-04	1.59E-04	7.05E-05	4.28E-05	3.37E-05	4.28E-05	4.44E-05	3.04E-05	1.10E-04	3.10E-05	5.19E-05	1.31E-04
Copper	5.00E-04	5.00E-04	2.21E-04	1.35E-04	1.06E-04	1.35E-04	1.40E-04	9.55E-05	3.45E-04	9.75E-05	1.63E-04	4.11E-04
Iron	2.23E-01	2.23E-01	9.87E-02	6.00E-02	4.71E-02	6.00E-02	6.22E-02	4.25E-02	1.54E-01	4.34E-02	7.27E-02	1.83E-01
Lead	2.72E-06	2.72E-06	1.21E-06	7.34E-07	5.77E-07	7.34E-07	7.62E-07	5.21E-07	1.88E-06	5.32E-07	8.90E-07	2.24E-06
Magnesium	1.04E-01	1.04E-01	4.63E-02	2.81E-02	2.21E-02	2.81E-02	2.92E-02	2.00E-02	7.21E-02	2.04E-02	3.41E-02	8.60E-02
Manganese	4.22E-03	4.22E-03	1.87E-03	1.14E-03	8.95E-04	1.14E-03	1.18E-03	8.07E-04	2.92E-03	8.25E-04	1.38E-03	3.48E-03
Mercury	4.54E-08	4.54E-08	2.01E-08	1.22E-08	9.62E-09	1.22E-08	1.27E-08	8.68E-09	3.14E-08	8.87E-09	1.48E-08	3.74E-08
Molybdenum	2.27E-06	2.27E-06	1.01E-06	6.12E-07	4.81E-07	6.12E-07	6.35E-07	4.34E-07	1.57E-06	4.43E-07	7.42E-07	1.87E-06
Nickel	3.27E-04	3.27E-04	1.45E-04	8.81E-05	6.93E-05	8.81E-05	9.14E-05	6.25E-05	2.26E-04	6.38E-05	1.07E-04	2.69E-04
Phosphorus	9.99E-04	9.99E-04	4.43E-04	2.69E-04	2.12E-04	2.69E-04	2.79E-04	1.91E-04	6.90E-04	1.95E-04	3.26E-04	8.23E-04
Potassium	4.54E-04	4.54E-04	2.01E-04	1.22E-04	9.62E-05	1.22E-04	1.27E-04	8.68E-05	3.14E-04	8.87E-05	1.48E-04	3.74E-04
Selenium	2.27E-06	2.27E-06	1.01E-06	6.12E-07	4.81E-07	6.12E-07	6.35E-07	4.34E-07	1.57E-06	4.43E-07	7.42E-07	1.87E-06
Silver	4.54E-07	4.54E-07	2.01E-07	1.22E-07	9.62E-08	1.22E-07	1.27E-07	8.68E-08	3.14E-07	8.87E-08	1.48E-07	3.74E-07
Sodium	1.14E-03	1.14E-03	5.03E-04	3.06E-04	2.41E-04	3.06E-04	3.17E-04	2.17E-04	7.84E-04	2.22E-04	3.71E-04	9.35E-04
Strontium	6.36E-05	6.36E-05	2.82E-05	1.71E-05	1.35E-05	1.71E-05	1.78E-05	1.21E-05	4.39E-05	1.24E-05	2.08E-05	5.24E-05
Thallium	4.54E-07	4.54E-07	2.01E-07	1.22E-07	9.62E-08	1.22E-07	1.27E-07	8.68E-08	3.14E-07	8.87E-08	1.48E-07	3.74E-07
Tin	9.08E-06	9.08E-06	4.03E-06	2.45E-06	1.92E-06	2.45E-06	2.54E-06	1.74E-06	6.27E-06	1.77E-06	2.97E-06	7.48E-06
Titanium	9.99E-03	9.99E-03	4.43E-03	2.69E-03	2.12E-03	2.69E-03	2.79E-03	1.91E-03	6.90E-03	1.95E-03	3.26E-03	8.23E-03
Uranium	4.54E-07	4.54E-07	2.01E-07	1.22E-07	9.62E-08	1.22E-07	1.27E-07	8.68E-08	3.14E-07	8.87E-08	1.48E-07	3.74E-07
Vanadium	4.54E-04	4.54E-04	2.01E-04	1.22E-04	9.62E-05	1.22E-04	1.27E-04	8.68E-05	3.14E-04	8.87E-05	1.48E-04	3.74E-04
Zinc	2.68E-04	2.68E-04	1.19E-04	7.22E-05	5.68E-05	7.22E-05	7.49E-05	5.12E-05	1.85E-04	5.23E-05	8.75E-05	2.21E-04

Notes:

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Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	LSA-05 0.793	LSA-06 0.813	LSA-07 0.785	LSA-08 0.783	LSA-09 1.27	LSA-10 0.799	LSA-11 0.798	LSA-12 0.850	LSA-13 3.31	LSA-14 2.46	LSA-15 0.934	LSA-16 2.48
Metal Dustfall Deposition												
Aluminum	2.30E-02	2.36E-02	2.28E-02	2.27E-02	3.68E-02	2.32E-02	2.31E-02	2.46E-02	9.59E-02	7.14E-02	2.71E-02	7.19E-02
Antimony	7.93E-08	8.13E-08	7.85E-08	7.83E-08	1.27E-07	7.99E-08	7.98E-08	8.50E-08	3.31E-07	2.46E-07	9.34E-08	2.48E-07
Arsenic	3.96E-07	4.07E-07	3.92E-07	3.92E-07	6.35E-07	3.99E-07	3.99E-07	4.25E-07	1.65E-06	1.23E-06	4.67E-07	1.24E-06
Barium	2.38E-06	2.44E-06	2.35E-06	2.35E-06	3.81E-06	2.40E-06	2.39E-06	2.55E-06	9.93E-06	7.39E-06	2.80E-06	7.44E-06
Beryllium	2.62E-07	2.68E-07	2.59E-07	2.58E-07	4.19E-07	2.64E-07	2.63E-07	2.80E-07	1.09E-06	8.13E-07	3.08E-07	8.19E-07
Bismuth	7.93E-08	8.13E-08	7.85E-08	7.83E-08	1.27E-07	7.99E-08	7.98E-08	8.50E-08	3.31E-07	2.46E-07	9.34E-08	2.48E-07
Cadmium	7.93E-08	8.13E-08	7.85E-08	7.83E-08	1.27E-07	7.99E-08	7.98E-08	8.50E-08	3.31E-07	2.46E-07	9.34E-08	2.48E-07
Calcium	2.54E-02	2.60E-02	2.51E-02	2.51E-02	4.06E-02	2.56E-02	2.55E-02	2.72E-02	1.06E-01	7.88E-02	2.99E-02	7.94E-02
Chromium	1.19E-04	1.22E-04	1.18E-04	1.17E-04	1.90E-04	1.20E-04	1.20E-04	1.27E-04	4.96E-04	3.69E-04	1.40E-04	3.72E-04
Cobalt	2.78E-05	2.85E-05	2.75E-05	2.74E-05	4.44E-05	2.80E-05	2.79E-05	2.97E-05	1.16E-04	8.62E-05	3.27E-05	8.68E-05
Copper	8.72E-05	8.94E-05	8.63E-05	8.61E-05	1.40E-04	8.78E-05	8.78E-05	9.35E-05	3.64E-04	2.71E-04	1.03E-04	2.73E-04
Iron	3.89E-02	3.98E-02	3.85E-02	3.84E-02	6.22E-02	3.91E-02	3.91E-02	4.16E-02	1.62E-01	1.21E-01	4.58E-02	1.22E-01
Lead	4.76E-07	4.88E-07	4.71E-07	4.70E-07	7.62E-07	4.79E-07	4.79E-07	5.10E-07	1.99E-06	1.48E-06	5.60E-07	1.49E-06
Magnesium	1.82E-02	1.87E-02	1.80E-02	1.80E-02	2.92E-02	1.84E-02	1.84E-02	1.95E-02	7.61E-02	5.66E-02	2.15E-02	5.71E-02
Manganese	7.37E-04	7.56E-04	7.30E-04	7.28E-04	1.18E-03	7.43E-04	7.42E-04	7.90E-04	3.08E-03	2.29E-03	8.68E-04	2.31E-03
Mercury	7.93E-09	8.13E-09	7.85E-09	7.83E-09	1.27E-08	7.99E-09	7.98E-09	8.50E-09	3.31E-08	2.46E-08	9.34E-09	2.48E-08
Molybdenum	3.96E-07	4.07E-07	3.92E-07	3.92E-07	6.35E-07	3.99E-07	3.99E-07	4.25E-07	1.65E-06	1.23E-06	4.67E-07	1.24E-06
Nickel	5.71E-05	5.85E-05	5.65E-05	5.64E-05	9.14E-05	5.75E-05	5.75E-05	6.12E-05	2.38E-04	1.77E-04	6.72E-05	1.79E-04
Phosphorus	1.74E-04	1.79E-04	1.73E-04	1.72E-04	2.79E-04	1.76E-04	1.76E-04	1.87E-04	7.28E-04	5.42E-04	2.05E-04	5.46E-04
Potassium	7.93E-05	8.13E-05	7.85E-05	7.83E-05	1.27E-04	7.99E-05	7.98E-05	8.50E-05	3.31E-04	2.46E-04	9.34E-05	2.48E-04
Selenium	3.96E-07	4.07E-07	3.92E-07	3.92E-07	6.35E-07	3.99E-07	3.99E-07	4.25E-07	1.65E-06	1.23E-06	4.67E-07	1.24E-06
Silver	7.93E-08	8.13E-08	7.85E-08	7.83E-08	1.27E-07	7.99E-08	7.98E-08	8.50E-08	3.31E-07	2.46E-07	9.34E-08	2.48E-07
Sodium	1.98E-04	2.03E-04	1.96E-04	1.96E-04	3.17E-04	2.00E-04	1.99E-04	2.12E-04	8.27E-04	6.16E-04	2.33E-04	6.20E-04
Strontium	1.11E-05	1.14E-05	1.10E-05	1.10E-05	1.78E-05	1.12E-05	1.12E-05	1.19E-05	4.63E-05	3.45E-05	1.31E-05	3.47E-05
Thallium	7.93E-08	8.13E-08	7.85E-08	7.83E-08	1.27E-07	7.99E-08	7.98E-08	8.50E-08	3.31E-07	2.46E-07	9.34E-08	2.48E-07
Tin	1.59E-06	1.63E-06	1.57E-06	1.57E-06	2.54E-06	1.60E-06	1.60E-06	1.70E-06	6.62E-06	4.92E-06	1.87E-06	4.96E-06
Titanium	1.74E-03	1.79E-03	1.73E-03	1.72E-03	2.79E-03	1.76E-03	1.76E-03	1.87E-03	7.28E-03	5.42E-03	2.05E-03	5.46E-03
Uranium	7.93E-08	8.13E-08	7.85E-08	7.83E-08	1.27E-07	7.99E-08	7.98E-08	8.50E-08	3.31E-07	2.46E-07	9.34E-08	2.48E-07
Vanadium	7.93E-05	8.13E-05	7.85E-05	7.83E-05	1.27E-04	7.99E-05	7.98E-05	8.50E-05	3.31E-04	2.46E-04	9.34E-05	2.48E-04
Zinc	4.68E-05	4.80E-05	4.63E-05	4.62E-05	7.49E-05	4.71E-05	4.71E-05	5.01E-05	1.95E-04	1.45E-04	5.51E-05	1.46E-04

Notes:

All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	LSA-17 3.14	LSA-18 0.887	LSA-19 1.48	LSA-20 0.777	LSA-21 1.49	REFA-01 0.799	REFA-02 0.798	REFA-03 0.844	REFB-01 0.781	REFB-02 0.779	REFB-03 0.779	REFC-01 0.793
Metal Dustfall Deposition												
Aluminum	9.09E-02	2.57E-02	4.30E-02	2.25E-02	4.33E-02	2.32E-02	2.31E-02	2.45E-02	2.27E-02	2.26E-02	2.26E-02	2.30E-02
Antimony	3.14E-07	8.87E-08	1.48E-07	7.77E-08	1.49E-07	7.99E-08	7.98E-08	8.44E-08	7.81E-08	7.79E-08	7.79E-08	7.93E-08
Arsenic	1.57E-06	4.43E-07	7.42E-07	3.88E-07	7.46E-07	3.99E-07	3.99E-07	4.22E-07	3.91E-07	3.90E-07	3.90E-07	3.96E-07
Barium	9.41E-06	2.66E-06	4.45E-06	2.33E-06	4.48E-06	2.40E-06	2.39E-06	2.53E-06	2.34E-06	2.34E-06	2.34E-06	2.38E-06
Beryllium	1.03E-06	2.93E-07	4.90E-07	2.56E-07	4.92E-07	2.64E-07	2.63E-07	2.79E-07	2.58E-07	2.57E-07	2.57E-07	2.62E-07
Bismuth	3.14E-07	8.87E-08	1.48E-07	7.77E-08	1.49E-07	7.99E-08	7.98E-08	8.44E-08	7.81E-08	7.79E-08	7.79E-08	7.93E-08
Cadmium	3.14E-07	8.87E-08	1.48E-07	7.77E-08	1.49E-07	7.99E-08	7.98E-08	8.44E-08	7.81E-08	7.79E-08	7.79E-08	7.93E-08
Calcium	1.00E-01	2.84E-02	4.75E-02	2.49E-02	4.78E-02	2.56E-02	2.55E-02	2.70E-02	2.50E-02	2.49E-02	2.49E-02	2.54E-02
Chromium	4.70E-04	1.33E-04	2.23E-04	1.17E-04	2.24E-04	1.20E-04	1.20E-04	1.27E-04	1.17E-04	1.17E-04	1.17E-04	1.19E-04
Cobalt	1.10E-04	3.10E-05	5.19E-05	2.72E-05	5.22E-05	2.80E-05	2.79E-05	2.95E-05	2.73E-05	2.73E-05	2.73E-05	2.77E-05
Copper	3.45E-04	9.75E-05	1.63E-04	8.55E-05	1.64E-04	8.78E-05	8.78E-05	9.28E-05	8.59E-05	8.57E-05	8.57E-05	8.72E-05
Iron	1.54E-01	4.34E-02	7.27E-02	3.81E-02	7.31E-02	3.91E-02	3.91E-02	4.14E-02	3.83E-02	3.82E-02	3.82E-02	3.88E-02
Lead	1.88E-06	5.32E-07	8.90E-07	4.66E-07	8.95E-07	4.79E-07	4.79E-07	5.06E-07	4.69E-07	4.68E-07	4.68E-07	4.76E-07
Magnesium	7.21E-02	2.04E-02	3.41E-02	1.79E-02	3.43E-02	1.84E-02	1.84E-02	1.94E-02	1.80E-02	1.79E-02	1.79E-02	1.82E-02
Manganese	2.92E-03	8.25E-04	1.38E-03	7.22E-04	1.39E-03	7.43E-04	7.42E-04	7.85E-04	7.26E-04	7.25E-04	7.25E-04	7.37E-04
Mercury	3.14E-08	8.87E-09	1.48E-08	7.77E-09	1.49E-08	7.99E-09	7.98E-09	8.44E-09	7.81E-09	7.79E-09	7.79E-09	7.93E-09
Molybdenum	1.57E-06	4.43E-07	7.42E-07	3.88E-07	7.46E-07	3.99E-07	3.99E-07	4.22E-07	3.91E-07	3.90E-07	3.90E-07	3.96E-07
Nickel	2.26E-04	6.38E-05	1.07E-04	5.59E-05	1.07E-04	5.75E-05	5.75E-05	6.08E-05	5.62E-05	5.61E-05	5.61E-05	5.71E-05
Phosphorus	6.90E-04	1.95E-04	3.26E-04	1.71E-04	3.28E-04	1.76E-04	1.76E-04	1.86E-04	1.72E-04	1.71E-04	1.71E-04	1.74E-04
Potassium	3.14E-04	8.87E-05	1.48E-04	7.77E-05	1.49E-04	7.99E-05	7.98E-05	8.44E-05	7.81E-05	7.79E-05	7.79E-05	7.93E-05
Selenium	1.57E-06	4.43E-07	7.42E-07	3.88E-07	7.46E-07	3.99E-07	3.99E-07	4.22E-07	3.91E-07	3.90E-07	3.90E-07	3.96E-07
Silver	3.14E-07	8.87E-08	1.48E-07	7.77E-08	1.49E-07	7.99E-08	7.98E-08	8.44E-08	7.81E-08	7.79E-08	7.79E-08	7.93E-08
Sodium	7.84E-04	2.22E-04	3.71E-04	1.94E-04	3.73E-04	2.00E-04	1.99E-04	2.11E-04	1.95E-04	1.95E-04	1.95E-04	1.98E-04
Strontium	4.39E-05	1.24E-05	2.08E-05	1.09E-05	2.09E-05	1.12E-05	1.12E-05	1.18E-05	1.09E-05	1.09E-05	1.09E-05	1.11E-05
Thallium	3.14E-07	8.87E-08	1.48E-07	7.77E-08	1.49E-07	7.99E-08	7.98E-08	8.44E-08	7.81E-08	7.79E-08	7.79E-08	7.93E-08
Tin	6.27E-06	1.77E-06	2.97E-06	1.55E-06	2.98E-06	1.60E-06	1.60E-06	1.69E-06	1.56E-06	1.56E-06	1.56E-06	1.59E-06
Titanium	6.90E-03	1.95E-03	3.26E-03	1.71E-03	3.28E-03	1.76E-03	1.76E-03	1.86E-03	1.72E-03	1.71E-03	1.71E-03	1.74E-03
Uranium	3.14E-07	8.87E-08	1.48E-07	7.77E-08	1.49E-07	7.99E-08	7.98E-08	8.44E-08	7.81E-08	7.79E-08	7.79E-08	7.93E-08
Vanadium	3.14E-04	8.87E-05	1.48E-04	7.77E-05	1.49E-04	7.99E-05	7.98E-05	8.44E-05	7.81E-05	7.79E-05	7.79E-05	7.93E-05
Zinc	1.85E-04	5.23E-05	8.75E-05	4.58E-05	8.80E-05	4.71E-05	4.71E-05	4.98E-05	4.61E-05	4.60E-05	4.60E-05	4.68E-05

Notes:
All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	REFC-02 0.842	REFC-03 0.846	D73 2.98	D114 0.945	10 0.956	24 2.56	D89 0.799	D97 1.05	D93 0.934	D116 0.972	D86 2.00	D125 0.825
Metal Dustfall Deposition												
Aluminum	2.44E-02	2.45E-02	8.64E-02	2.74E-02	2.77E-02	7.43E-02	2.32E-02	3.06E-02	2.71E-02	2.82E-02	5.81E-02	2.39E-02
Antimony	8.42E-08	8.46E-08	2.98E-07	9.45E-08	9.56E-08	2.56E-07	7.99E-08	1.05E-07	9.34E-08	9.72E-08	2.00E-07	8.25E-08
Arsenic	4.21E-07	4.23E-07	1.49E-06	4.73E-07	4.78E-07	1.28E-06	3.99E-07	5.27E-07	4.67E-07	4.86E-07	1.00E-06	4.13E-07
Barium	2.53E-06	2.54E-06	8.94E-06	2.84E-06	2.87E-06	7.68E-06	2.40E-06	3.16E-06	2.80E-06	2.92E-06	6.01E-06	2.48E-06
Beryllium	2.78E-07	2.79E-07	9.83E-07	3.12E-07	3.15E-07	8.45E-07	2.64E-07	3.48E-07	3.08E-07	3.21E-07	6.61E-07	2.72E-07
Bismuth	8.42E-08	8.46E-08	2.98E-07	9.45E-08	9.56E-08	2.56E-07	7.99E-08	1.05E-07	9.34E-08	9.72E-08	2.00E-07	8.25E-08
Cadmium	8.42E-08	8.46E-08	2.98E-07	9.45E-08	9.56E-08	2.56E-07	7.99E-08	1.05E-07	9.34E-08	9.72E-08	2.00E-07	8.25E-08
Calcium	2.69E-02	2.71E-02	9.54E-02	3.03E-02	3.06E-02	8.20E-02	2.56E-02	3.38E-02	2.99E-02	3.11E-02	6.41E-02	2.64E-02
Chromium	1.26E-04	1.27E-04	4.47E-04	1.42E-04	1.43E-04	3.84E-04	1.20E-04	1.58E-04	1.40E-04	1.46E-04	3.00E-04	1.24E-04
Cobalt	2.95E-05	2.96E-05	1.04E-04	3.31E-05	3.35E-05	8.97E-05	2.80E-05	3.69E-05	3.27E-05	3.40E-05	7.01E-05	2.89E-05
Copper	9.26E-05	9.30E-05	3.28E-04	1.04E-04	1.05E-04	2.82E-04	8.78E-05	1.16E-04	1.03E-04	1.07E-04	2.20E-04	9.08E-05
Iron	4.13E-02	4.14E-02	1.46E-01	4.63E-02	4.68E-02	1.26E-01	3.91E-02	5.17E-02	4.58E-02	4.76E-02	9.81E-02	4.04E-02
Lead	5.05E-07	5.07E-07	1.79E-06	5.67E-07	5.74E-07	1.54E-06	4.79E-07	6.33E-07	5.60E-07	5.83E-07	1.20E-06	4.95E-07
Magnesium	1.94E-02	1.95E-02	6.85E-02	2.17E-02	2.20E-02	5.89E-02	1.84E-02	2.43E-02	2.15E-02	2.24E-02	4.61E-02	1.90E-02
Manganese	7.83E-04	7.86E-04	2.77E-03	8.79E-04	8.89E-04	2.38E-03	7.43E-04	9.81E-04	8.68E-04	9.04E-04	1.86E-03	7.67E-04
Mercury	8.42E-09	8.46E-09	2.98E-08	9.45E-09	9.56E-09	2.56E-08	7.99E-09	1.05E-08	9.34E-09	9.72E-09	2.00E-08	8.25E-09
Molybdenum	4.21E-07	4.23E-07	1.49E-06	4.73E-07	4.78E-07	1.28E-06	3.99E-07	5.27E-07	4.67E-07	4.86E-07	1.00E-06	4.13E-07
Nickel	6.06E-05	6.09E-05	2.15E-04	6.81E-05	6.88E-05	1.84E-04	5.75E-05	7.59E-05	6.72E-05	7.00E-05	1.44E-04	5.94E-05
Phosphorus	1.85E-04	1.86E-04	6.56E-04	2.08E-04	2.10E-04	5.64E-04	1.76E-04	2.32E-04	2.05E-04	2.14E-04	4.41E-04	1.82E-04
Potassium	8.42E-05	8.46E-05	2.98E-04	9.45E-05	9.56E-05	2.56E-04	7.99E-05	1.05E-04	9.34E-05	9.72E-05	2.00E-04	8.25E-05
Selenium	4.21E-07	4.23E-07	1.49E-06	4.73E-07	4.78E-07	1.28E-06	3.99E-07	5.27E-07	4.67E-07	4.86E-07	1.00E-06	4.13E-07
Silver	8.42E-08	8.46E-08	2.98E-07	9.45E-08	9.56E-08	2.56E-07	7.99E-08	1.05E-07	9.34E-08	9.72E-08	2.00E-07	8.25E-08
Sodium	2.11E-04	2.11E-04	7.45E-04	2.36E-04	2.39E-04	6.40E-04	2.00E-04	2.64E-04	2.33E-04	2.43E-04	5.01E-04	2.06E-04
Strontium	1.18E-05	1.18E-05	4.17E-05	1.32E-05	1.34E-05	3.59E-05	1.12E-05	1.48E-05	1.31E-05	1.36E-05	2.80E-05	1.16E-05
Thallium	8.42E-08	8.46E-08	2.98E-07	9.45E-08	9.56E-08	2.56E-07	7.99E-08	1.05E-07	9.34E-08	9.72E-08	2.00E-07	8.25E-08
Tin	1.68E-06	1.69E-06	5.96E-06	1.89E-06	1.91E-06	5.12E-06	1.60E-06	2.11E-06	1.87E-06	1.94E-06	4.00E-06	1.65E-06
Titanium	1.85E-03	1.86E-03	6.56E-03	2.08E-03	2.10E-03	5.64E-03	1.76E-03	2.32E-03	2.05E-03	2.14E-03	4.41E-03	1.82E-03
Uranium	8.42E-08	8.46E-08	2.98E-07	9.45E-08	9.56E-08	2.56E-07	7.99E-08	1.05E-07	9.34E-08	9.72E-08	2.00E-07	8.25E-08
Vanadium	8.42E-05	8.46E-05	2.98E-04	9.45E-05	9.56E-05	2.56E-04	7.99E-05	1.05E-04	9.34E-05	9.72E-05	2.00E-04	8.25E-05
Zinc	4.97E-05	4.99E-05	1.76E-04	5.58E-05	5.64E-05	1.51E-04	4.71E-05	6.22E-05	5.51E-05	5.74E-05	1.18E-04	4.87E-05

Notes:

All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	Lichen1 0.797	Lichen2 0.797	Lichen3 0.798	Lichen4 0.797	Lichen5 0.800	Lichen6 0.800	Lichen7 0.895	Lichen8 0.892	Lichen9 0.892	Lichen10 12.8	Lichen11 0.790	Lichen12 0.788
Metal Dustfall Deposition												
Aluminum	2.31E-02	2.31E-02	2.32E-02	2.31E-02	2.32E-02	2.32E-02	2.60E-02	2.59E-02	2.59E-02	3.70E-01	2.29E-02	2.28E-02
Antimony	7.97E-08	7.97E-08	7.98E-08	7.97E-08	8.00E-08	8.00E-08	8.95E-08	8.92E-08	8.92E-08	1.28E-06	7.90E-08	7.88E-08
Arsenic	3.98E-07	3.98E-07	3.99E-07	3.98E-07	4.00E-07	4.00E-07	4.48E-07	4.46E-07	4.46E-07	6.38E-06	3.95E-07	3.94E-07
Barium	2.39E-06	2.39E-06	2.40E-06	2.39E-06	2.40E-06	2.40E-06	2.69E-06	2.67E-06	2.67E-06	3.83E-05	2.37E-06	2.36E-06
Beryllium	2.63E-07	2.63E-07	2.63E-07	2.63E-07	2.64E-07	2.64E-07	2.95E-07	2.94E-07	2.94E-07	4.21E-06	2.61E-07	2.60E-07
Bismuth	7.97E-08	7.97E-08	7.98E-08	7.97E-08	8.00E-08	8.00E-08	8.95E-08	8.92E-08	8.92E-08	1.28E-06	7.90E-08	7.88E-08
Cadmium	7.97E-08	7.97E-08	7.98E-08	7.97E-08	8.00E-08	8.00E-08	8.95E-08	8.92E-08	8.92E-08	1.28E-06	7.90E-08	7.88E-08
Calcium	2.55E-02	2.55E-02	2.56E-02	2.55E-02	2.56E-02	2.56E-02	2.87E-02	2.85E-02	2.85E-02	4.08E-01	2.53E-02	2.52E-02
Chromium	1.19E-04	1.19E-04	1.20E-04	1.19E-04	1.20E-04	1.20E-04	1.34E-04	1.34E-04	1.34E-04	1.91E-03	1.18E-04	1.18E-04
Cobalt	2.79E-05	2.79E-05	2.79E-05	2.79E-05	2.80E-05	2.80E-05	3.13E-05	3.12E-05	3.12E-05	4.46E-04	2.76E-05	2.76E-05
Copper	8.76E-05	8.76E-05	8.78E-05	8.76E-05	8.80E-05	8.80E-05	9.85E-05	9.81E-05	9.81E-05	1.40E-03	8.69E-05	8.66E-05
Iron	3.90E-02	3.90E-02	3.91E-02	3.90E-02	3.92E-02	3.92E-02	4.39E-02	4.37E-02	4.37E-02	6.25E-01	3.87E-02	3.86E-02
Lead	4.78E-07	4.78E-07	4.79E-07	4.78E-07	4.80E-07	4.80E-07	5.37E-07	5.35E-07	5.35E-07	7.65E-06	4.74E-07	4.73E-07
Magnesium	1.83E-02	1.83E-02	1.84E-02	1.83E-02	1.84E-02	1.84E-02	2.06E-02	2.05E-02	2.05E-02	2.93E-01	1.82E-02	1.81E-02
Manganese	7.41E-04	7.41E-04	7.43E-04	7.41E-04	7.44E-04	7.44E-04	8.33E-04	8.29E-04	8.29E-04	1.19E-02	7.35E-04	7.33E-04
Mercury	7.97E-09	7.97E-09	7.98E-09	7.97E-09	8.00E-09	8.00E-09	8.95E-09	8.92E-09	8.92E-09	1.28E-07	7.90E-09	7.88E-09
Molybdenum	3.98E-07	3.98E-07	3.99E-07	3.98E-07	4.00E-07	4.00E-07	4.48E-07	4.46E-07	4.46E-07	6.38E-06	3.95E-07	3.94E-07
Nickel	5.74E-05	5.74E-05	5.75E-05	5.74E-05	5.76E-05	5.76E-05	6.45E-05	6.42E-05	6.42E-05	9.18E-04	5.69E-05	5.67E-05
Phosphorus	1.75E-04	1.75E-04	1.76E-04	1.75E-04	1.76E-04	1.76E-04	1.97E-04	1.96E-04	1.96E-04	2.81E-03	1.74E-04	1.73E-04
Potassium	7.97E-05	7.97E-05	7.98E-05	7.97E-05	8.00E-05	8.00E-05	8.95E-05	8.92E-05	8.92E-05	1.28E-03	7.90E-05	7.88E-05
Selenium	3.98E-07	3.98E-07	3.99E-07	3.98E-07	4.00E-07	4.00E-07	4.48E-07	4.46E-07	4.46E-07	6.38E-06	3.95E-07	3.94E-07
Silver	7.97E-08	7.97E-08	7.98E-08	7.97E-08	8.00E-08	8.00E-08	8.95E-08	8.92E-08	8.92E-08	1.28E-06	7.90E-08	7.88E-08
Sodium	1.99E-04	1.99E-04	2.00E-04	1.99E-04	2.00E-04	2.00E-04	2.24E-04	2.23E-04	2.23E-04	3.19E-03	1.97E-04	1.97E-04
Strontium	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.25E-05	1.25E-05	1.25E-05	1.79E-04	1.11E-05	1.10E-05
Thallium	7.97E-08	7.97E-08	7.98E-08	7.97E-08	8.00E-08	8.00E-08	8.95E-08	8.92E-08	8.92E-08	1.28E-06	7.90E-08	7.88E-08
Tin	1.59E-06	1.59E-06	1.60E-06	1.59E-06	1.60E-06	1.60E-06	1.79E-06	1.78E-06	1.78E-06	2.55E-05	1.58E-06	1.58E-06
Titanium	1.75E-03	1.75E-03	1.76E-03	1.75E-03	1.76E-03	1.76E-03	1.97E-03	1.96E-03	1.96E-03	2.81E-02	1.74E-03	1.73E-03
Uranium	7.97E-08	7.97E-08	7.98E-08	7.97E-08	8.00E-08	8.00E-08	8.95E-08	8.92E-08	8.92E-08	1.28E-06	7.90E-08	7.88E-08
Vanadium	7.97E-05	7.97E-05	7.98E-05	7.97E-05	8.00E-05	8.00E-05	8.95E-05	8.92E-05	8.92E-05	1.28E-03	7.90E-05	7.88E-05
Zinc	4.70E-05	4.70E-05	4.71E-05	4.70E-05	4.72E-05	4.72E-05	5.28E-05	5.26E-05	5.26E-05	7.52E-04	4.66E-05	4.65E-05

Notes:
All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.

Appendix V6-5K. Predicted Metal Concentrations Associated with Fugitive Dust during the Operational Phase at Vegetation Sites within the Human Health Local Study Area

Vegetation Sample Sites Dust Deposition (g/m²/year)	Lichen13 0.820	Lichen14 0.807	Lichen15 0.795
Metal Dustfall Deposition			
Aluminum	2.38E-02	2.34E-02	2.30E-02
Antimony	8.20E-08	8.07E-08	7.95E-08
Arsenic	4.10E-07	4.04E-07	3.97E-07
Barium	2.46E-06	2.42E-06	2.38E-06
Beryllium	2.71E-07	2.66E-07	2.62E-07
Bismuth	8.20E-08	8.07E-08	7.95E-08
Cadmium	8.20E-08	8.07E-08	7.95E-08
Calcium	2.63E-02	2.58E-02	2.54E-02
Chromium	1.23E-04	1.21E-04	1.19E-04
Cobalt	2.87E-05	2.83E-05	2.78E-05
Copper	9.02E-05	8.88E-05	8.74E-05
Iron	4.02E-02	3.96E-02	3.89E-02
Lead	4.92E-07	4.84E-07	4.77E-07
Magnesium	1.89E-02	1.86E-02	1.83E-02
Manganese	7.63E-04	7.51E-04	7.39E-04
Mercury	8.20E-09	8.07E-09	7.95E-09
Molybdenum	4.10E-07	4.04E-07	3.97E-07
Nickel	5.91E-05	5.81E-05	5.72E-05
Phosphorus	1.80E-04	1.78E-04	1.75E-04
Potassium	8.20E-05	8.07E-05	7.95E-05
Selenium	4.10E-07	4.04E-07	3.97E-07
Silver	8.20E-08	8.07E-08	7.95E-08
Sodium	2.05E-04	2.02E-04	1.99E-04
Strontium	1.15E-05	1.13E-05	1.11E-05
Thallium	8.20E-08	8.07E-08	7.95E-08
Tin	1.64E-06	1.61E-06	1.59E-06
Titanium	1.80E-03	1.78E-03	1.75E-03
Uranium	8.20E-08	8.07E-08	7.95E-08
Vanadium	8.20E-05	8.07E-05	7.95E-05
Zinc	4.84E-05	4.76E-05	4.69E-05

Notes:
All metal concentrations in dustfall are in units of g/m² /year.

Roads will be constructed from quarry rock, thus the metal proportion in quarry rock was applied to dustfall values to obtain the metal concentration in dustfall as the source of dustfall for all vegetation sites is road dust.