

APPENDIX C:
NUMERICAL SOURCE PROFILES

Appendix C: Numerical Source Profiles

The tables in this appendix give the mean species mass at the receptor apportioned to the source in $\mu\text{g}/\text{m}^3$. These are sometimes referred to as source profiles, although the term is also frequently used to describe the values shown here divided by the total mass apportioned to the source. Both representations are used to identify the sources.

	Birmingham, AL						
	1	2	3	4	5	6	7
	Ammonium Nitrate	Crustal	Mobile sources	Vegetative Burning and Fireworks	Lead Source	Zinc Source	Coal Combustion (Ni)
FRM mass	1.36E+00	1.22E+00	6.42E+00	1.15E+00	3.99E-01	8.08E-01	7.12E+00
Speciation Mass	2.32E+00	1.33E+00	6.61E+00	1.16E+00	1.03E+00	7.65E-01	7.41E+00
Mean Mass	1.84E+00	1.27E+00	6.51E+00	1.15E+00	7.14E-01	7.86E-01	7.27E+00
ALUMINUM	8.39E-06	4.25E-02	5.88E-06	1.75E-05	2.52E-06	2.57E-06	2.98E-03
AMMONIUM	3.77E-01	1.77E-03	6.22E-02	7.27E-02	6.67E-02	8.87E-03	1.09E+00
ARSENIC	4.80E-04	2.21E-04	1.46E-03	2.61E-04	3.20E-04	2.85E-04	2.45E-04
BARIUM	1.03E-02	1.53E-03	1.45E-02	4.79E-03	2.46E-05	5.62E-03	1.35E-02
BROMINE	9.51E-04	4.84E-04	3.23E-03	3.16E-04	3.19E-04	4.96E-05	6.28E-06
CALCIUM	1.77E-04	5.57E-02	5.54E-02	1.42E-05	5.83E-03	1.20E-02	1.03E-02
CHLORINE	1.50E-05	1.94E-02	9.45E-06	1.11E-03	2.39E-02	4.70E-03	1.06E-06
CHROMIUM	2.95E-04	1.04E-03	1.42E-04	2.23E-06	3.02E-04	5.06E-05	9.95E-04
COPPER	8.93E-05	1.51E-03	4.64E-04	6.33E-04	1.79E-03	1.42E-03	2.03E-03
ELEMENTAL CARBON	5.84E-04	5.83E-02	1.09E+00	4.98E-02	1.31E-02	6.13E-02	3.62E-03
IRON	4.23E-03	8.13E-02	3.55E-02	4.60E-03	1.83E-02	1.78E-02	2.45E-02
LEAD	3.34E-06	2.52E-06	4.15E-06	5.30E-06	2.40E-02	6.79E-06	2.76E-03
MANGANESE	5.84E-04	7.99E-03	5.88E-06	4.32E-04	4.52E-03	1.26E-03	1.03E-03
NICKEL	4.23E-05	8.45E-04	1.32E-05	2.26E-05	1.08E-05	3.92E-04	7.91E-04
NITRATE	9.34E-01	7.70E-02	1.00E-03	2.93E-03	8.14E-02	6.76E-03	2.61E-02
ORGANIC CARBON	7.31E-01	2.57E-03	4.21E+00	3.26E-01	2.22E-01	2.45E-01	1.11E+00
POTASSIUM	3.31E-03	2.41E-02	1.32E-02	8.75E-02	4.02E-03	7.86E-05	3.49E-03
POTASSIUM ION	1.42E-03	2.44E-05	8.55E-05	8.94E-02	3.01E-03	7.70E-03	1.19E-02
SELENIUM	3.92E-04	2.01E-04	2.32E-04	1.72E-04	9.46E-05	7.40E-05	4.94E-04
SILICON	1.45E-05	1.64E-01	3.48E-02	1.21E-02	5.48E-03	1.20E-05	2.24E-02
SODIUM	7.89E-02	3.02E-02	2.89E-02	1.38E-02	2.93E-02	4.18E-03	4.62E-02
SULFATE	4.58E-01	1.99E-01	2.02E-03	3.41E-01	1.30E-01	1.29E-01	3.51E+00
SULFUR	1.14E-01	7.66E-02	2.67E-02	1.07E-01	4.25E-02	5.32E-02	1.18E+00
TANTALUM	4.26E-03	1.99E-03	5.23E-03	7.18E-05	2.20E-05	7.28E-06	7.77E-03
TIN	3.58E-03	2.36E-03	3.06E-03	8.51E-04	9.33E-05	1.03E-03	4.46E-03
TITANIUM	6.20E-04	3.36E-03	8.74E-04	9.40E-04	5.26E-07	1.38E-04	1.92E-03
VANADIUM	3.77E-04	2.81E-04	1.47E-04	2.11E-04	4.05E-07	9.60E-05	6.79E-04
ZINC	3.17E-04	4.61E-04	1.47E-04	9.31E-04	1.38E-02	9.15E-02	1.49E-03

	Bronx, NY						
	1	2	3	4	5	6	7
	Coal Combustion	Oil Combustion	Marine and Industrial Salts	Mobile Sources with Tire Wear	Industrial	Ammonium Nitrate	Crustal
FRM mass	5.32E+00	1.78E+00	4.54E-01	1.08E+00	1.67E+00	3.90E+00	6.49E-01
Speciation Mass	5.26E+00	6.65E-01	1.54E-03	3.74E+00	1.98E+00	4.28E+00	1.29E+00
Mean Mass	5.29E+00	1.22E+00	3.02E-01	2.49E+00	1.82E+00	4.09E+00	9.71E-01
ALUMINUM	1.08E-05	2.02E-05	2.15E-05	2.48E-05	9.27E-06	1.44E-05	1.93E-02
AMMONIUM	1.01E+00	8.15E-02	5.69E-05	1.11E-04	5.82E-05	9.16E-01	2.24E-04
ARSENIC	1.87E-04	1.31E-04	5.81E-04	2.05E-04	3.55E-04	1.94E-04	1.74E-06
BARIUM	2.70E-03	1.26E-02	1.21E-02	1.32E-02	1.56E-03	2.47E-05	8.57E-04
BROMINE	5.91E-04	7.05E-04	3.08E-04	3.21E-06	7.40E-04	4.86E-04	7.21E-04
CALCIUM	1.28E-03	9.31E-03	2.48E-03	6.76E-03	1.30E-02	6.62E-05	1.81E-02
CHLORINE	3.98E-06	4.95E-03	3.12E-03	3.51E-03	9.98E-06	2.30E-03	5.71E-06
CHROMIUM	2.04E-04	1.34E-04	4.01E-04	3.95E-04	1.21E-04	9.47E-05	3.10E-05
COPPER	4.20E-04	1.00E-03	1.65E-04	8.86E-07	1.01E-03	1.16E-03	5.13E-04
ELEMENTAL CARBON	1.09E-01	6.42E-01	4.09E-04	8.20E-02	4.23E-01	4.05E-03	2.23E-02
IRON	8.04E-03	3.30E-02	9.17E-06	1.45E-02	1.82E-02	6.82E-03	3.27E-02
LEAD	6.77E-04	1.45E-03	4.60E-05	4.96E-04	3.10E-03	7.84E-04	6.76E-04
MANGANESE	3.50E-04	2.81E-04	2.11E-04	2.68E-04	5.95E-04	2.56E-05	7.53E-04
NICKEL	1.67E-05	6.66E-03	8.96E-03	1.19E-03	1.05E-02	1.63E-03	2.15E-06
NITRATE	7.27E-02	2.61E-04	2.33E-01	3.06E-03	3.39E-02	2.03E+00	1.80E-02
ORGANIC CARBON	1.05E+00	1.27E+00	2.47E-01	6.45E-01	9.59E-01	4.46E-01	4.51E-01
POTASSIUM	5.22E-03	1.19E-05	2.67E-03	7.17E-06	8.07E-03	6.52E-03	1.96E-02
POTASSIUM ION	4.95E-03	5.16E-06	2.36E-02	4.86E-03	1.64E-05	1.94E-05	1.01E-02
SELENIUM	3.24E-04	2.78E-04	2.86E-04	3.56E-07	5.63E-04	2.50E-04	1.32E-04
SILICON	6.67E-05	1.35E-02	5.95E-05	1.19E-02	1.98E-05	2.85E-04	6.71E-02
SODIUM	9.36E-06	2.30E-05	9.13E-02	4.91E-02	1.55E-05	1.69E-05	7.95E-06
SULFATE	2.88E+00	1.92E-01	4.12E-01	2.59E-02	2.19E-02	7.02E-01	1.71E-01
SULFUR	9.21E-01	5.06E-02	1.44E-01	2.21E-02	3.92E-02	1.93E-01	7.25E-02
TANTALUM	8.60E-04	3.83E-03	5.55E-03	6.04E-03	2.12E-03	4.02E-06	2.47E-04
TIN	1.26E-03	2.91E-03	4.63E-03	4.23E-03	2.41E-03	6.56E-06	7.01E-04
TITANIUM	1.81E-04	1.96E-03	2.37E-04	1.47E-03	4.69E-06	9.10E-05	2.69E-03
VANADIUM	3.15E-07	3.48E-03	2.42E-03	5.20E-07	8.91E-04	8.99E-04	9.48E-07
ZINC	6.60E-04	1.74E-03	8.28E-04	9.70E-04	2.43E-02	3.49E-03	1.36E-03

	Charlotte, NC							
	1	2	3	4	5	6	7	8
	Vegetative Burning and Fireworks	Coal Combustion	Crustal	Oil Combustion	Marine and Industrial Salts	Ammonium Nitrate	Smelting	Mobile sources
FRM mass	4.82E-01	5.71E+00	5.65E-01	1.87E+00	8.12E-02	1.21E+00	6.73E-01	3.87E+00
Speciation Mass	6.99E-01	1.20E+00	7.71E-01	7.70E+00	4.90E-02	1.73E+00	1.24E+00	3.03E+00
Mean Mass	5.91E-01	3.81E+00	6.68E-01	5.13E+00	6.51E-02	1.47E+00	9.54E-01	3.45E+00
ALUMINUM	8.01E-05	1.47E-05	3.74E-02	1.23E-05	9.74E-06	2.24E-03	1.18E-05	1.55E-05
AMMONIUM	4.03E-02	1.06E+00	5.60E-05	1.35E-01	1.55E-04	2.85E-01	1.37E-04	5.78E-02
ARSENIC	1.12E-04	1.14E-04	1.21E-04	5.91E-06	4.05E-05	7.05E-04	3.18E-04	6.94E-04
BARIUM	2.28E-03	1.00E-03	4.21E-03	1.45E-02	8.87E-03	6.03E-03	4.79E-03	8.31E-03
BROMINE	9.72E-05	2.13E-04	1.24E-04	6.28E-04	5.69E-04	1.31E-03	3.01E-04	3.33E-04
CALCIUM	6.51E-03	9.03E-05	1.70E-02	1.81E-03	3.77E-03	6.10E-06	6.69E-03	5.66E-04
CHLORINE	1.03E-04	2.27E-05	7.70E-04	3.14E-05	3.07E-03	2.53E-03	7.86E-04	9.73E-04
CHROMIUM	6.64E-05	5.27E-04	2.25E-05	5.31E-06	6.68E-04	5.45E-04	6.92E-07	4.51E-04
COPPER	7.79E-04	9.10E-05	2.18E-04	1.69E-06	2.39E-04	3.66E-04	1.49E-03	5.35E-06
ELEMENTAL CARBON	2.51E-04	2.69E-04	2.13E-02	2.65E-04	8.77E-02	6.87E-02	2.29E-01	1.91E-01
IRON	9.74E-04	5.04E-05	3.36E-02	8.62E-05	9.30E-03	1.75E-05	2.38E-02	1.09E-02
LEAD	4.97E-04	3.09E-04	1.99E-04	8.39E-04	7.65E-04	1.06E-03	1.20E-03	6.13E-05
MANGANESE	5.21E-05	4.32E-04	6.12E-04	1.74E-05	5.63E-04	1.84E-04	5.04E-04	2.66E-04
NICKEL	4.25E-05	5.17E-05	1.09E-04	4.87E-04	3.10E-04	5.96E-04	7.94E-05	6.11E-05
NITRATE	2.82E-02	5.07E-04	2.00E-02	7.25E-04	5.64E-02	7.42E-01	2.52E-02	3.84E-04
ORGANIC CARBON	1.09E-01	1.09E+00	3.14E-01	2.27E-01	9.77E-02	4.78E-01	3.84E-01	2.57E+00
POTASSIUM	4.02E-02	1.40E-05	1.31E-02	2.20E-05	1.07E-04	5.54E-03	5.69E-03	5.92E-03
POTASSIUM ION	4.21E-02	3.49E-03	1.67E-05	6.82E-03	1.24E-02	2.76E-05	1.48E-05	1.30E-04
SELENIUM	1.61E-06	5.47E-04	3.28E-05	3.81E-04	2.76E-04	6.53E-04	2.75E-05	3.41E-04
SILICON	1.03E-02	1.32E-02	8.44E-02	6.19E-03	4.21E-04	3.31E-04	1.01E-04	3.00E-04
SODIUM	4.32E-03	1.61E-03	2.67E-03	3.82E-04	9.77E-02	7.26E-03	1.23E-02	2.87E-03
SULFATE	1.35E-01	3.69E+00	2.36E-02	5.74E-01	9.77E-02	1.13E-01	8.54E-02	4.54E-04
SULFUR	7.46E-02	1.16E+00	1.44E-02	1.71E-01	8.79E-02	8.73E-04	5.52E-02	2.85E-02
TANTALUM	4.10E-04	4.18E-03	1.19E-03	3.40E-03	5.92E-03	3.78E-03	5.30E-05	3.74E-03
TIN	4.54E-04	1.90E-03	7.00E-04	2.65E-03	3.11E-03	3.51E-03	7.04E-04	2.72E-03
TITANIUM	8.19E-07	5.93E-04	3.51E-03	6.09E-04	7.30E-04	1.19E-04	9.32E-04	1.14E-03
VANADIUM	6.49E-06	8.14E-06	1.02E-04	3.98E-04	3.30E-04	3.85E-04	2.16E-04	2.66E-04
ZINC	2.47E-04	1.19E-05	2.53E-06	3.02E-05	2.40E-06	1.36E-03	6.06E-03	4.23E-06

	Houston, TX						
	1	2	3	4	5	6	7
	Crustal	Vegetative Burning and Fireworks	Industrial	Mobile Sources	Marine Ammonium Nitrate	Mobile Mn Source or Grain Dust	Coal Combustion (Ni)
FRM mass	7.69E-01	4.91E-01	8.67E-01	5.19E+00	2.88E-01	1.04E+00	5.54E+00
Speciation Mass	7.69E-01	4.91E-01	8.67E-01	5.19E+00	2.88E-01	1.04E+00	5.54E+00
Mean Mass	7.69E-01	4.91E-01	8.67E-01	5.19E+00	2.88E-01	1.04E+00	5.54E+00
ALUMINUM	5.49E-02	1.06E-03	4.47E-06	4.83E-06	4.31E-06	3.72E-06	3.99E-06
AMMONIUM	1.34E-04	1.06E-02	2.98E-05	2.68E-01	2.47E-05	2.33E-05	7.09E-01
ARSENIC	2.63E-04	8.20E-05	2.65E-04	6.13E-04	8.80E-05	7.37E-05	2.20E-04
BARIUM	1.51E-03	5.97E-03	3.00E-03	4.92E-03	1.46E-03	1.39E-03	4.43E-03
BROMINE	4.12E-07	3.05E-05	2.74E-04	8.48E-04	2.71E-04	7.90E-04	1.72E-03
CALCIUM	1.55E-02	4.77E-06	3.32E-03	1.42E-02	4.13E-03	2.90E-03	9.83E-03
CHLORINE	8.80E-06	1.22E-03	8.16E-03	2.16E-06	8.58E-03	1.22E-05	5.27E-06
CHROMIUM	1.90E-04	5.05E-07	3.03E-04	1.07E-04	2.46E-06	2.84E-04	4.06E-05
COPPER	1.69E-04	1.09E-03	4.94E-04	1.25E-03	1.23E-04	1.30E-03	2.77E-07
ELEMENTAL CARBON	3.78E-02	1.74E-02	4.10E-02	2.54E-01	5.48E-02	4.10E-02	3.37E-02
IRON	3.50E-02	9.21E-05	7.74E-03	1.25E-02	3.00E-03	3.20E-02	9.28E-03
LEAD	3.18E-05	1.98E-03	6.56E-04	1.39E-03	2.54E-04	6.36E-04	2.86E-06
MANGANESE	5.48E-04	1.63E-05	5.91E-06	3.56E-06	1.13E-05	7.48E-03	2.66E-04
NICKEL	1.73E-04	1.08E-05	3.46E-04	3.47E-05	9.54E-05	3.38E-04	4.10E-04
NITRATE	3.27E-04	1.59E-04	2.47E-05	6.60E-02	4.32E-01	1.59E-05	5.24E-05
ORGANIC CARBON	2.25E-01	1.98E-01	1.24E-01	2.74E+00	2.80E-01	2.60E-01	6.20E-01
POTASSIUM	8.25E-03	8.03E-02	8.31E-04	1.74E-02	1.19E-05	5.02E-03	1.41E-03
POTASSIUM ION	7.33E-05	8.12E-02	1.24E-05	4.68E-05	1.99E-02	9.74E-06	1.43E-02
SELENIUM	3.83E-05	2.42E-06	6.74E-05	1.89E-04	7.18E-05	7.35E-05	2.72E-04
SILICON	1.08E-01	1.57E-05	5.03E-03	2.75E-03	2.08E-03	5.18E-03	3.07E-02
SODIUM	1.16E-04	1.49E-05	1.82E-02	3.94E-06	4.13E-02	6.10E-03	4.32E-02
SULFATE	9.07E-02	7.49E-02	2.02E-01	1.28E-03	4.32E-01	7.43E-02	3.52E+00
SULFUR	1.65E-02	2.92E-02	8.92E-02	1.46E-01	2.77E-04	3.64E-02	9.82E-01
TANTALUM	3.19E-04	1.64E-04	4.05E-04	2.07E-03	3.89E-04	3.61E-04	1.93E-03
TIN	5.50E-04	1.76E-04	9.15E-04	2.14E-03	5.61E-04	5.55E-04	1.59E-03
TITANIUM	3.27E-03	1.27E-03	2.52E-04	5.39E-04	8.66E-05	9.41E-04	4.88E-04
VANADIUM	1.19E-04	2.01E-04	3.24E-04	2.61E-07	3.26E-04	5.73E-04	1.05E-03
ZINC	7.70E-06	6.27E-04	1.84E-02	2.65E-03	1.08E-05	1.49E-03	4.00E-06

	Indianapolis, IN							
	1	2	3	4	5	6	7	8
	Vegetative Burning and Fireworks	Ammonium Nitrate	Canadian Fires	Marine and Industrial Salts	Crustal	Mobile Sources	Coal Combustion 1	Coal Combustion 2 (Ni)
FRM mass	6.93E-01	3.43E+00	2.50E-01	9.85E-02	5.18E-01	3.15E+00	1.72E+00	6.80E+00
Speciation Mass	6.85E-01	3.74E+00	2.56E-01	6.99E-01	5.05E-01	3.26E+00	1.56E+00	7.26E+00
Mean Mass	6.89E-01	3.58E+00	2.53E-01	4.66E-01	5.12E-01	3.21E+00	1.64E+00	7.03E+00
ALUMINUM	1.37E-02	9.39E-06	6.98E-04	4.16E-06	3.19E-02	4.75E-06	4.64E-06	7.18E-06
AMMONIUM	2.28E-02	8.46E-01	2.43E-02	3.29E-04	9.89E-03	2.60E-02	5.24E-03	1.25E+00
ARSENIC	1.16E-04	5.19E-04	2.48E-05	2.72E-05	7.59E-05	6.70E-04	4.88E-06	4.74E-04
BARIUM	7.29E-03	8.61E-03	1.11E-03	3.18E-03	2.71E-03	1.87E-02	3.38E-03	7.83E-03
BROMINE	1.02E-05	6.64E-04	6.83E-05	1.79E-04	1.97E-04	1.23E-03	4.30E-04	4.56E-04
CALCIUM	7.43E-06	7.46E-06	1.19E-03	2.90E-03	1.45E-02	1.43E-02	5.00E-03	1.48E-02
CHLORINE	9.24E-03	1.48E-03	3.61E-06	3.97E-06	4.86E-06	3.11E-03	9.92E-03	4.85E-06
CHROMIUM	6.94E-06	3.31E-06	3.17E-03	3.92E-05	1.21E-05	2.79E-06	1.86E-06	6.35E-06
COPPER	2.19E-03	8.35E-04	2.82E-04	5.22E-07	4.23E-04	3.93E-04	3.03E-04	7.61E-04
ELEMENTAL CARBON	1.34E-02	2.33E-02	1.11E-02	1.13E-02	4.40E-02	2.59E-01	1.69E-01	9.29E-02
IRON	6.71E-03	2.36E-03	1.06E-02	2.96E-03	2.25E-02	1.40E-02	8.48E-03	1.44E-02
LEAD	8.62E-04	1.87E-03	2.53E-04	9.12E-06	5.57E-04	3.34E-03	3.89E-04	3.64E-04
MANGANESE	2.20E-04	2.17E-04	1.54E-04	1.56E-04	4.89E-04	9.46E-04	6.69E-04	4.28E-04
NICKEL	1.35E-05	2.20E-04	8.74E-04	3.68E-05	1.20E-04	1.57E-04	5.60E-05	5.30E-04
NITRATE	2.91E-02	2.40E+00	1.00E-02	2.57E-01	2.52E-02	8.11E-04	4.69E-02	1.18E-02
ORGANIC CARBON	9.19E-02	4.76E-01	1.20E-01	1.50E-03	1.17E-01	2.70E+00	6.02E-01	5.93E-01
POTASSIUM	1.19E-01	5.24E-04	7.33E-04	1.97E-05	1.52E-02	5.13E-03	5.67E-03	8.44E-03
POTASSIUM ION	1.20E-01	1.05E-03	8.00E-05	1.04E-02	4.13E-03	1.60E-03	1.99E-03	1.15E-02
SELENIUM	8.98E-06	5.41E-04	4.83E-06	6.08E-05	3.17E-05	6.27E-04	6.66E-04	3.10E-04
SILICON	1.67E-02	1.07E-04	6.98E-05	3.46E-03	7.44E-02	6.23E-03	2.70E-04	1.88E-02
SODIUM	3.84E-03	2.54E-03	1.31E-03	1.89E-01	2.33E-04	7.77E-03	6.36E-04	3.55E-04
SULFATE	2.04E-01	2.51E-01	5.77E-02	2.31E-01	1.13E-02	4.35E-03	8.39E-02	3.97E+00
SULFUR	6.03E-02	5.88E-02	1.92E-02	4.15E-02	1.95E-02	1.51E-02	8.28E-02	1.25E+00
TANTALUM	1.05E-04	3.62E-03	1.25E-04	9.83E-04	9.74E-04	7.94E-03	3.67E-05	6.92E-03
TIN	1.05E-04	3.03E-03	2.01E-04	8.02E-04	1.09E-03	6.87E-03	8.18E-05	3.30E-03
TITANIUM	2.88E-03	3.63E-04	6.59E-05	1.44E-04	2.65E-03	6.19E-04	1.79E-06	1.10E-03
VANADIUM	4.14E-04	2.70E-04	3.03E-05	8.37E-05	8.74E-05	3.74E-04	7.43E-06	9.93E-05
ZINC	6.50E-04	3.37E-05	3.08E-04	4.02E-04	2.35E-04	7.28E-06	1.04E-02	1.27E-03

	Milwaukee, WI							
	1	2	3	4	5	6	7	8
	Coal Combustion	Mobile Sources	Crustal	Chlorine Sources	Ammonium Nitrate	Crustal Related Events	Vegetative Burning and Fireworks	Industrial Diesel and Sulfate Mix
FRM mass	4.39E+00	2.07E+00	1.77E-01	7.56E-01	3.83E+00	2.01E-01	5.32E-01	1.11E+00
Speciation Mass	4.69E+00	1.00E+00	4.61E-02	3.99E+00	4.31E+00	1.82E-01	1.05E-02	7.42E-01
Mean Mass	4.54E+00	1.53E+00	1.18E-01	2.66E+00	4.07E+00	1.91E-01	3.55E-01	9.28E-01
ALUMINUM	8.21E-06	4.65E-05	1.26E-02	1.09E-03	4.63E-06	1.06E-02	9.52E-03	4.22E-06
AMMONIUM	9.33E-01	1.96E-04	1.09E-04	3.77E-04	8.74E-01	1.26E-02	2.74E-04	1.30E-04
ARSENIC	3.61E-05	9.42E-04	2.25E-04	3.12E-05	3.07E-04	7.49E-05	2.15E-04	2.75E-04
BARIUM	3.19E-04	2.11E-02	6.09E-03	5.18E-03	8.20E-03	1.59E-03	3.31E-04	4.64E-03
BROMINE	4.64E-04	1.58E-03	1.11E-06	1.00E-04	4.48E-04	2.03E-04	4.77E-05	8.16E-04
CALCIUM	3.32E-03	1.48E-02	2.11E-02	2.20E-03	7.72E-06	2.61E-03	7.00E-03	2.50E-03
CHLORINE	6.00E-06	7.70E-05	7.86E-04	8.78E-03	1.89E-03	1.01E-05	5.21E-04	3.59E-03
CHROMIUM	1.14E-05	2.77E-06	5.45E-07	2.47E-06	1.88E-04	2.85E-03	1.07E-06	5.94E-06
COPPER	3.29E-04	1.00E-03	5.41E-04	1.47E-06	6.34E-04	8.24E-04	6.07E-04	2.88E-05
ELEMENTAL CARBON	3.35E-04	2.40E-01	6.81E-02	3.73E-04	7.77E-02	2.05E-02	9.78E-03	1.53E-01
IRON	6.76E-03	3.95E-03	4.38E-02	6.46E-03	2.48E-03	9.45E-03	7.24E-03	1.13E-02
LEAD	8.73E-04	1.99E-03	7.19E-04	1.63E-04	1.39E-03	5.97E-06	6.51E-04	1.66E-03
MANGANESE	4.22E-06	1.58E-06	6.25E-03	9.72E-07	5.57E-04	4.65E-06	1.33E-06	9.83E-04
NICKEL	4.90E-04	2.11E-05	1.46E-05	5.30E-04	8.35E-06	1.21E-03	2.23E-05	4.03E-04
NITRATE	1.34E-03	3.64E-02	7.97E-02	1.65E-02	2.96E+00	3.04E-02	3.03E-02	6.55E-02
ORGANIC CARBON	4.52E-01	2.30E+00	8.44E-02	3.72E-01	9.60E-01	2.09E-01	4.38E-01	4.26E-01
POTASSIUM	9.54E-05	4.05E-03	2.46E-03	3.81E-03	5.14E-03	2.30E-05	4.03E-02	3.86E-03
POTASSIUM ION	2.57E-03	3.93E-03	5.68E-05	8.22E-03	2.31E-03	5.56E-04	3.98E-02	1.43E-03
SELENIUM	1.71E-04	5.40E-04	5.72E-06	1.22E-04	3.00E-04	7.02E-05	8.94E-05	4.95E-04
SILICON	4.07E-03	4.79E-05	5.50E-02	1.02E-02	2.00E-05	2.12E-03	2.41E-02	1.57E-05
SODIUM	4.21E-03	6.71E-02	2.61E-02	7.84E-05	1.43E-02	1.68E-04	5.68E-03	7.08E-03
SULFATE	2.73E+00	1.81E-01	1.31E-03	3.24E-02	1.35E-02	4.60E-02	4.96E-02	1.26E-01
SULFUR	8.96E-01	7.42E-02	2.59E-03	1.57E-03	7.59E-04	7.22E-03	1.66E-02	4.75E-02
TANTALUM	9.43E-04	1.45E-02	5.67E-04	1.03E-03	2.73E-03	1.05E-03	3.17E-05	8.74E-06
TIN	4.16E-04	9.71E-03	1.77E-03	3.60E-04	2.57E-03	8.42E-04	4.37E-04	9.21E-05
TITANIUM	2.62E-04	8.34E-04	2.04E-03	8.76E-04	1.20E-04	3.75E-04	1.11E-03	5.76E-07
VANADIUM	4.87E-05	4.62E-04	3.00E-04	3.28E-05	1.23E-04	4.39E-05	1.15E-04	2.17E-06
ZINC	8.97E-04	1.33E-05	4.63E-04	6.24E-04	1.00E-03	3.78E-04	1.03E-04	1.17E-02

	St. Louis, MO						
	1	2	3	4	5	6	7
	Zinc Refinery	Smelting (Copper)	Coal Combustion	Steel Production	Ammonium Nitrate	Crustal	Mobile Sources
FRM mass	8.00E-01	6.59E-01	5.85E+00	7.52E-01	5.02E+00	1.09E+00	2.90E+00
Speciation Mass	8.95E-01	5.26E-01	5.64E+00	7.70E-01	5.02E+00	1.77E+00	2.95E+00
Mean Mass	8.47E-01	5.92E-01	5.74E+00	7.61E-01	5.02E+00	1.43E+00	2.92E+00
ALUMINIUM	5.95E-06	5.53E-06	5.91E-06	5.90E-06	6.21E-06	3.04E-02	4.61E-06
AMMONIUM	1.11E-01	2.64E-02	9.25E-01	6.88E-02	1.06E+00	7.28E-04	7.81E-03
ARSENIC	2.94E-04	6.57E-05	4.80E-04	5.87E-05	1.88E-04	1.93E-04	5.23E-04
BARIUM	1.27E-03	3.61E-04	3.67E-03	5.20E-03	2.76E-03	4.15E-03	4.40E-03
BROMINE	5.71E-04	5.43E-07	5.11E-04	6.77E-07	4.98E-04	1.67E-04	2.42E-03
CALCIUM	1.20E-02	8.52E-03	1.15E-02	1.17E-02	8.09E-06	6.53E-02	1.24E-02
CHLORINE	1.08E-02	5.03E-03	2.41E-06	1.51E-06	1.53E-02	2.25E-06	3.36E-03
CHROMIUM	1.81E-07	9.26E-05	1.42E-05	1.66E-03	6.14E-04	1.27E-04	4.29E-07
COPPER	1.67E-03	1.10E-02	2.28E-04	1.33E-03	1.88E-04	7.10E-05	1.25E-05
ELEMENTAL CARBON	7.81E-02	3.50E-02	1.56E-01	7.01E-02	5.07E-05	1.01E-02	4.12E-01
IRON	1.09E-02	1.04E-02	1.82E-02	1.26E-01	5.48E-03	3.60E-02	1.30E-02
LEAD	2.28E-03	5.13E-04	1.23E-06	2.60E-04	1.61E-03	1.07E-03	9.17E-03
MANGANESE	2.55E-04	5.32E-06	6.09E-06	1.55E-02	9.90E-07	2.15E-06	7.33E-06
NICKEL	7.15E-06	1.25E-05	9.25E-06	1.65E-03	4.63E-04	3.41E-05	5.27E-05
NITRATE	5.90E-02	8.14E-03	5.97E-02	1.69E-01	2.78E+00	5.35E-02	4.66E-03
ORGANIC CARBON	1.81E-03	2.46E-01	1.06E+00	6.80E-02	5.52E-01	4.21E-01	2.67E+00
POTASSIUM	1.46E-05	4.32E-03	6.98E-03	8.81E-03	4.66E-03	4.07E-02	2.04E-02
POTASSIUM ION	1.32E-05	3.55E-03	4.46E-03	2.66E-03	7.06E-03	2.99E-02	1.04E-02
SELENIUM	3.24E-04	1.38E-07	4.04E-04	1.30E-04	2.52E-04	4.09E-05	1.89E-04
SILICON	3.87E-03	1.73E-03	1.44E-02	1.19E-02	6.36E-04	1.08E-01	9.22E-04
SODIUM	1.54E-05	6.01E-03	3.46E-03	2.93E-05	1.35E-02	1.64E-02	1.21E-02
SULFATE	2.79E-01	8.13E-02	2.84E+00	1.56E-01	6.04E-01	1.64E-01	2.64E-03
SULFUR	9.96E-02	3.75E-02	9.16E-01	5.87E-02	1.75E-01	5.55E-02	1.65E-02
TANTALUM	2.21E-05	1.74E-05	1.45E-03	2.44E-05	1.97E-03	1.08E-03	1.33E-03
TIN	5.27E-04	5.12E-04	1.78E-03	9.03E-04	1.27E-03	6.76E-04	2.21E-03
TITANIUM	9.82E-04	4.93E-05	3.53E-04	2.25E-03	1.77E-04	3.59E-03	1.79E-05
VANADIUM	2.33E-04	1.46E-04	3.69E-04	1.42E-05	4.71E-05	3.51E-04	8.97E-07
ZINC	2.18E-02	1.67E-03	5.60E-05	6.26E-03	9.81E-04	2.07E-04	1.82E-03

	Washington DC					
	1	2	3	4	5	6
	Vegetative Burning and Fireworks	Coal Combustion	Ammonium Nitrate and Salt	Mobile Sources	Canadian Fires	Road Construction
FRM mass	5.16E-01	7.49E+00	1.31E+00	4.99E+00	1.11E+00	1.32E+00
Speciation Mass	5.51E-01	7.92E+00	1.14E+00	4.46E+00	1.12E+00	1.62E+00
Mean Mass	5.33E-01	7.70E+00	1.23E+00	4.72E+00	1.11E+00	1.47E+00
ALUMINUM	1.46E-02	2.65E-05	4.08E-03	1.89E-05	1.08E-03	8.52E-03
AMMONIUM	2.48E-02	1.31E+00	3.86E-01	1.75E-01	1.86E-03	5.17E-03
ARSENIC	1.55E-05	3.10E-04	2.11E-04	4.54E-04	3.42E-05	2.85E-04
BARIUM	4.03E-03	4.12E-03	3.79E-03	7.84E-03	1.48E-03	4.70E-03
BROMINE	4.21E-05	6.10E-04	6.43E-04	1.39E-03	1.44E-04	9.95E-04
CALCIUM	2.94E-03	7.40E-03	9.37E-04	5.51E-03	4.47E-03	2.61E-02
CHLORINE	1.07E-04	2.87E-05	4.11E-03	1.21E-03	2.52E-04	1.02E-03
CHROMIUM	1.66E-05	9.21E-05	8.47E-05	2.12E-04	5.63E-05	2.73E-04
COPPER	1.68E-03	2.81E-04	3.00E-04	3.17E-04	5.14E-04	8.49E-04
ELEMENTAL CARBON	2.57E-03	2.97E-02	4.49E-02	2.56E-01	2.59E-02	2.88E-01
IRON	9.98E-03	7.71E-03	4.78E-03	1.78E-02	2.85E-03	5.19E-02
LEAD	6.18E-04	2.53E-04	6.10E-04	5.07E-04	1.72E-04	1.06E-03
MANGANESE	2.36E-04	3.93E-04	1.56E-04	2.43E-04	1.05E-05	1.08E-03
NICKEL	2.69E-05	1.70E-04	1.57E-04	4.25E-04	3.88E-05	4.18E-04
NITRATE	2.09E-02	7.47E-04	9.36E-01	8.23E-03	2.16E-01	5.59E-03
ORGANIC CARBON	9.32E-02	7.76E-01	5.17E-02	2.33E+00	5.60E-01	9.35E-01
POTASSIUM	5.57E-02	5.31E-05	1.66E-03	6.09E-03	1.70E-02	5.43E-05
POTASSIUM ION	5.22E-02	1.61E-05	3.73E-04	6.47E-03	1.12E-02	1.23E-03
SELENIUM	7.01E-06	5.35E-04	2.69E-04	7.86E-04	2.75E-05	3.82E-04
SILICON	2.33E-02	4.13E-02	9.79E-04	1.09E-04	2.11E-03	4.30E-02
SODIUM	2.12E-04	1.72E-02	2.13E-02	2.22E-02	7.26E-04	9.67E-03
SULFATE	1.41E-01	4.50E+00	4.55E-01	6.14E-01	9.49E-04	2.17E-02
SULFUR	3.03E-03	1.33E+00	5.19E-03	3.04E-03	6.25E-01	1.52E-01
TANTALUM	1.94E-04	7.52E-04	1.33E-04	4.35E-03	6.28E-04	4.06E-03
TIN	1.65E-04	1.32E-03	1.23E-03	2.60E-03	2.64E-04	1.75E-03
TITANIUM	2.13E-03	1.04E-03	4.99E-04	1.25E-03	7.26E-07	1.95E-03
VANADIUM	2.17E-04	2.13E-04	3.12E-04	6.81E-04	1.16E-05	5.98E-04
ZINC	2.86E-04	9.60E-04	9.87E-04	1.23E-03	4.91E-04	6.36E-03