



2012 Appendix B

Fine Particulate Speciation Summary- 2012

New Jersey Department of Environmental Protection

Table 1
Fine Particulate Speciation Data – 2012
Chester, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Aluminum	0.022	0.169	0.133
Ammonium	0.535	2.640	2.130
Antimony	0.022	0.072	0.071
Arsenic	0.001	0.004	0.003
Barium	0.006	0.030	0.030
Bromine	0.002	0.008	0.006
Cadmium	0.001	0.013	0.013
Calcium	0.015	0.064	0.062
Cerium	0.005	0.044	0.043
Cesium	0.007	0.023	0.023
Chlorine	0.007	0.063	0.043
Chromium	0.003	0.022	0.020
Cobalt	0.001	0.002	0.001
Copper	0.002	0.010	0.005
Elemental carbon	0.175	0.572	0.514
Indium	0.012	0.034	0.022
Iron	0.037	0.099	0.083
Lead	0.001	0.007	0.005
Magnesium	0.008	0.027	0.025
Manganese	0.001	0.003	0.003
Nickel	0.001	0.004	0.004
Nitrate	0.967	6.860	5.530
Organic carbon	1.799	4.320	4.070
Phosphorus	0.006	0.008	0.008
Potassium	0.034	0.183	0.088
Rubidium	0.001	0.002	0.001
Selenium	0.001	0.003	0.001
Silicon	0.040	0.252	0.202
Silver	0.009	0.019	0.019
Sodium	0.074	2.580	0.316
Strontium	0.001	0.009	0.005
Sulfate	1.536	4.760	4.510

Table 1 (Continued)
Fine Particulate Speciation Data – 2012
Chester, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Sulfur	0.555	1.770	1.760
Tin	0.013	0.032	0.018
Titanium	0.002	0.007	0.006
Total mass	7.900	18.300	17.500
Vanadium	0.002	0.004	0.002
Zinc	0.005	0.026	0.019
Zirconium	0.005	0.012	0.012

Table 2
Fine Particulate Speciation Data – 2012
Elizabeth Lab, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Aluminum	0.033	0.147	0.112
Ammonium	0.899	3.260	3.030
Antimony	0.021	0.071	0.044
Arsenic	0.000	0.003	0.002
Barium	0.008	0.030	0.030
Bromine	0.004	0.011	0.010
Cadmium	0.002	0.026	0.022
Calcium	0.034	0.073	0.069
Cerium	0.006	0.043	0.043
Cesium	0.007	0.023	0.023
Chlorine	0.027	0.489	0.318
Chromium	0.004	0.042	0.034
Cobalt	0.001	0.003	0.003
Copper	0.007	0.025	0.018
Elemental carbon	0.992	3.610	2.880
Indium	0.010	0.027	0.022
Iron	0.134	0.346	0.316
Lead	0.002	0.008	0.007
Magnesium	0.010	0.044	0.040
Manganese	0.002	0.008	0.006
Nickel	0.003	0.017	0.014
Nitrate	1.643	7.810	7.070
Organic carbon	2.572	6.790	6.150
Phosphorus	0.006	0.008	0.008
Potassium	0.048	0.241	0.168
Rubidium	0.001	0.002	0.002
Selenium	0.001	0.002	0.002
Silicon	0.068	0.235	0.201
Silver	0.009	0.019	0.019
Sodium	0.076	0.430	0.309
Strontium	0.001	0.006	0.005
Sulfate	1.963	5.470	5.120

Table 2 (Continued)
Fine Particulate Speciation Data – 2012
Elizabeth Lab, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Sulfur	0.696	1.870	1.840
Tin	0.013	0.035	0.035
Titanium	0.003	0.008	0.007
Total mass	12.100	29.000	25.100
Vanadium	0.005	0.033	0.023
Zinc	0.019	0.514	0.059
Zirconium	0.004	0.017	0.012

**Table 3
Fine Particulate Speciation Data – 2012
New Brunswick, New Jersey**

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Aluminum	0.031	0.228	0.180
Ammonium	0.560	2.600	2.420
Antimony	0.021	0.062	0.054
Arsenic	0.001	0.003	0.003
Barium	0.006	0.030	0.030
Bromine	0.003	0.008	0.007
Cadmium	0.002	0.015	0.015
Calcium	0.033	0.151	0.128
Cerium	0.006	0.044	0.044
Cesium	0.007	0.023	0.023
Chlorine	0.012	0.131	0.054
Chromium	0.004	0.055	0.046
Cobalt	0.001	0.002	0.002
Copper	0.004	0.024	0.010
Elemental carbon	0.340	1.080	1.060
Indium	0.011	0.031	0.019
Iron	0.084	0.243	0.233
Lead	0.002	0.010	0.010
Magnesium	0.009	0.063	0.044
Manganese	0.002	0.017	0.010
Nickel	0.002	0.013	0.011
Nitrate	1.145	6.920	5.940
Organic carbon	2.031	4.910	4.530
Phosphorus	0.006	0.014	0.008
Potassium	0.049	0.178	0.161
Rubidium	0.001	0.003	0.002
Selenium	0.001	0.001	0.001
Silicon	0.076	0.456	0.431
Silver	0.008	0.019	0.019
Sodium	0.074	0.440	0.379
Strontium	0.001	0.003	0.003
Sulfate	1.578	4.150	3.960

Table 3 (Continued)
Fine Particulate Speciation Data – 2012
New Brunswick, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Sulfur	0.564	1.570	1.380
Tin	0.013	0.027	0.018
Titanium	0.004	0.018	0.014
Total mass	9.200	19.100	18.900
Vanadium	0.002	0.009	0.006
Zinc	0.009	0.037	0.036
Zirconium	0.004	0.012	0.012

Table 4
Fine Particulate Speciation Data – 2012
Newark, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Aluminum	0.035	0.674	0.265
Ammonium	0.790	2.780	2.770
Antimony	0.021	0.063	0.056
Arsenic	0.001	0.004	0.003
Barium	0.006	0.030	0.030
Bromine	0.003	0.010	0.009
Cadmium	0.001	0.019	0.018
Calcium	0.028	0.097	0.075
Cerium	0.005	0.044	0.044
Cesium	0.008	0.023	0.023
Chlorine	0.015	0.145	0.116
Chromium	0.010	0.606	0.037
Cobalt	0.001	0.009	0.003
Copper	0.006	0.079	0.027
Elemental carbon	0.440	1.260	1.100
Indium	0.011	0.034	0.018
Iron	0.104	1.940	0.263
Lead	0.002	0.035	0.008
Magnesium	0.008	0.030	0.029
Manganese	0.001	0.023	0.007
Nickel	0.004	0.185	0.011
Nitrate	1.456	7.000	5.960
Organic carbon	2.419	5.680	5.410
Phosphorus	0.006	0.008	0.008
Potassium	0.046	0.294	0.118
Rubidium	0.001	0.001	0.001
Selenium	0.001	0.002	0.001
Silicon	0.057	0.390	0.252
Silver	0.010	0.019	0.019
Sodium	0.070	0.686	0.312
Strontium	0.002	0.007	0.006
Sulfate	1.802	5.100	4.150

Table 4 (Continued)
Fine Particulate Speciation Data – 2012
Newark, New Jersey

Concentrations in Micrograms Per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd Highest Concentration
Sulfur	0.628	1.730	1.550
Tin	0.014	0.051	0.050
Titanium	0.003	0.018	0.015
Total mass	10.800	27.300	24.500
Vanadium	0.003	0.016	0.014
Zinc	0.012	0.039	0.038
Zirconium	0.005	0.012	0.012