



# 2013 Appendix B

## Fine Particulate Speciation Summary- 2013

New Jersey Department of Environmental Protection

**Table 1**  
**Fine Particulate Speciation Data – 2013**  
**Camden Spruce Street, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Aluminum	0.030	0.213	0.173
Ammonium	0.775	4.140	3.290
Antimony	0.018	0.026	0.026
Arsenic	0.001	0.010	0.005
Barium	0.008	0.030	0.030
Bromine	0.004	0.030	0.012
Cadmium	0.002	0.024	0.016
Calcium	0.031	0.153	0.111
Cerium	0.008	0.043	0.043
Cesium	0.010	0.023	0.023
Chlorine	0.184	2.010	1.740
Chromium	0.004	0.051	0.039
Cobalt	0.001	0.004	0.004
Copper	0.006	0.062	0.033
Elemental carbon	0.482	1.870	1.680
Indium	0.010	0.028	0.022
Iron	0.197	2.280	1.150
Lead	0.009	0.375	0.055
Magnesium	0.011	0.060	0.054
Manganese	0.004	0.025	0.013
Nickel	0.003	0.014	0.013
Nitrate	1.159	8.160	6.930
Organic carbon	2.325	9.340	5.040
Phosphorus	0.005	0.008	0.008
Potassium	0.104	0.594	0.485
Rubidium	0.001	0.001	0.001
Selenium	0.001	0.003	0.003
Silicon	0.063	0.393	0.354
Silver	0.008	0.019	0.019
Sodium	0.174	0.700	0.692
Strontium	0.001	0.004	0.003
Sulfate	1.790	5.980	5.430

**Table 1 (Continued)**  
**Fine Particulate Speciation Data – 2013**  
**Camden Spruce Street, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Sulfur	0.700	2.450	2.150
Tin	0.014	0.037	0.033
Titanium	0.003	0.014	0.011
Total mass	10.500	33.700	28.500
Vanadium	0.002	0.007	0.007
Zinc	0.024	0.261	0.210
Zirconium	0.003	0.012	0.012

**Table 2**  
**Fine Particulate Speciation Data – 2013**  
**Chester, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Aluminum	0.020	0.183	0.155
Ammonium	0.564	2.890	2.230
Antimony	0.022	0.072	0.072
Arsenic	0.000	0.004	0.003
Barium	0.007	0.030	0.030
Bromine	0.003	0.008	0.007
Cadmium	0.002	0.019	0.019
Calcium	0.009	0.063	0.040
Cerium	0.007	0.044	0.044
Cesium	0.010	0.023	0.023
Chlorine	0.007	0.065	0.059
Chromium	0.007	0.092	0.068
Cobalt	0.001	0.002	0.001
Copper	0.002	0.010	0.007
Elemental carbon	0.158	0.861	0.506
Indium	0.010	0.022	0.017
Iron	0.034	0.117	0.113
Lead	0.001	0.016	0.006
Magnesium	0.011	0.047	0.046
Manganese	0.001	0.004	0.003
Nickel	0.001	0.008	0.007
Nitrate	1.034	18.500	6.680
Organic carbon	1.605	6.140	4.230
Phosphorus	0.006	0.008	0.008
Potassium	0.035	0.156	0.111
Rubidium	0.001	0.001	0.001
Selenium	0.001	0.002	0.001
Silicon	0.037	0.345	0.344
Silver	0.008	0.019	0.019
Sodium	0.088	2.730	0.346
Strontium	0.001	0.008	0.005
Sulfate	1.634	5.250	4.700

**Table 2 (Continued)**  
**Fine Particulate Speciation Data – 2013**  
**Chester, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Sulfur	0.608	2.100	1.810
Tin	0.013	0.021	0.018
Titanium	0.003	0.015	0.008
Total mass	7.600	26.700	19.800
Vanadium	0.002	0.002	0.002
Zinc	0.005	0.038	0.030
Zirconium	0.004	0.015	0.013

**Table 3**  
**Fine Particulate Speciation Data – 2013**  
**Elizabeth Lab, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Aluminum	0.035	0.223	0.208
Ammonium	0.802	3.650	3.070
Antimony	0.020	0.062	0.058
Arsenic	0.001	0.003	0.003
Barium	0.008	0.030	0.030
Bromine	0.003	0.009	0.009
Cadmium	0.001	0.020	0.019
Calcium	0.027	0.101	0.086
Cerium	0.008	0.043	0.043
Cesium	0.010	0.023	0.023
Chlorine	0.024	0.478	0.315
Chromium	0.008	0.105	0.068
Cobalt	0.001	0.003	0.003
Copper	0.005	0.021	0.018
Elemental carbon	0.989	3.090	2.980
Indium	0.010	0.029	0.019
Iron	0.125	0.345	0.293
Lead	0.001	0.008	0.006
Magnesium	0.010	0.104	0.063
Manganese	0.002	0.006	0.006
Nickel	0.002	0.017	0.011
Nitrate	1.364	7.490	7.180
Organic carbon	2.503	7.400	6.560
Phosphorus	0.006	0.013	0.008
Potassium	0.043	0.186	0.152
Rubidium	0.001	0.002	0.001
Selenium	0.001	0.003	0.001
Silicon	0.067	0.395	0.394
Silver	0.008	0.019	0.019
Sodium	0.117	0.809	0.681
Strontium	0.001	0.013	0.004
Sulfate	1.813	5.110	4.780

**Table 3 (Continued)**  
**Fine Particulate Speciation Data – 2013**  
**Elizabeth Lab, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Sulfur	0.681	1.870	1.780
Tin	0.013	0.026	0.025
Titanium	0.004	0.016	0.013
Total mass	11.200	32.700	29.700
Vanadium	0.002	0.008	0.007
Zinc	0.012	0.216	0.049
Zirconium	0.003	0.014	0.012

**Table 4**  
**Fine Particulate Speciation Data – 2013**  
**New Brunswick, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Aluminum	0.032	0.448	0.237
Ammonium	0.557	2.940	2.580
Antimony	0.019	0.032	0.030
Arsenic	0.000	0.004	0.002
Barium	0.007	0.030	0.030
Bromine	0.003	0.011	0.009
Cadmium	0.002	0.021	0.019
Calcium	0.013	0.059	0.052
Cerium	0.007	0.044	0.043
Cesium	0.009	0.023	0.023
Chlorine	0.015	0.257	0.220
Chromium	0.012	0.165	0.127
Cobalt	0.001	0.002	0.002
Copper	0.004	0.036	0.028
Elemental carbon	0.285	1.120	0.756
Indium	0.010	0.029	0.023
Iron	0.071	0.509	0.418
Lead	0.001	0.013	0.007
Magnesium	0.010	0.074	0.064
Manganese	0.002	0.012	0.008
Nickel	0.003	0.043	0.033
Nitrate	1.017	6.560	6.250
Organic carbon	1.965	6.160	5.020
Phosphorus	0.006	0.010	0.008
Potassium	0.040	0.150	0.142
Rubidium	0.001	0.001	0.001
Selenium	0.001	0.004	0.002
Silicon	0.040	0.363	0.146
Silver	0.007	0.019	0.019
Sodium	0.078	0.585	0.488
Strontium	0.001	0.003	0.003
Sulfate	1.503	4.790	4.320

**Table 4 (Continued)**  
**Fine Particulate Speciation Data – 2013**  
**New Brunswick, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Sulfur	0.603	1.920	1.630
Tin	0.013	0.030	0.029
Titanium	0.003	0.018	0.008
Total mass	9.200	27.000	26.300
Vanadium	0.002	0.004	0.002
Zinc	0.007	0.044	0.042
Zirconium	0.003	0.016	0.012



**Table 5**  
**Fine Particulate Speciation Data – 2013**  
**Newark Firehouse, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Aluminum	0.032	0.264	0.261
Ammonium	0.742	3.230	3.060
Antimony	0.019	0.041	0.033
Arsenic	0.000	0.003	0.003
Barium	0.007	0.030	0.030
Bromine	0.003	0.011	0.008
Cadmium	0.002	0.020	0.018
Calcium	0.020	0.085	0.074
Cerium	0.006	0.044	0.044
Cesium	0.009	0.023	0.023
Chlorine	0.017	0.389	0.191
Chromium	0.006	0.085	0.065
Cobalt	0.001	0.002	0.002
Copper	0.005	0.025	0.022
Elemental carbon	0.447	1.670	1.460
Indium	0.009	0.019	0.018
Iron	0.081	0.271	0.238
Lead	0.001	0.009	0.007
Magnesium	0.010	0.087	0.060
Manganese	0.001	0.006	0.006
Nickel	0.002	0.015	0.013
Nitrate	1.343	7.050	6.850
Organic carbon	2.283	5.830	5.420
Phosphorus	0.006	0.008	0.008
Potassium	0.043	0.193	0.161
Rubidium	0.001	0.001	0.001
Selenium	0.001	0.001	0.001
Silicon	0.060	0.572	0.561
Silver	0.007	0.019	0.019
Sodium	0.105	0.731	0.719
Strontium	0.002	0.026	0.015
Sulfate	1.670	4.990	4.660

**Table 5 (Continued)**  
**Fine Particulate Speciation Data – 2013**  
**Newark Firehouse, New Jersey**

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

<b>Pollutant</b>	<b>Annual Average Concentration</b>	<b>Daily Average Maximum Concentration</b>	<b>Daily Average 2nd Highest Concentration</b>
Sulfur	0.649	1.890	1.740
Tin	0.013	0.036	0.036
Titanium	0.003	0.019	0.017
Total mass	9.800	29.200	25.800
Vanadium	0.002	0.013	0.008
Zinc	0.010	0.041	0.036
Zirconium	0.003	0.012	0.012