



Appendix B: 2014 Fine Particulate Speciation Summary

New Jersey Department of Environmental Protection

Table 1
2014 Fine Particulate Speciation Data
CAMDEN SPRUCE STREET NJ
Concentrations in Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2 nd -Highest Concentration
Aluminum	0.034	0.363	0.273
Ammonium	0.864	3.690	3.380
Antimony	0.019	0.067	0.058
Arsenic	0.0009	0.009	0.007
Barium	0.006	0.030	0.030
Bromine	0.004	0.020	0.010
Cadmium	0.002	0.020	0.017
Calcium	0.038	0.193	0.189
Cerium	0.005	0.043	0.043
Cesium	0.008	0.023	0.023
Chlorine	0.178	2.420	2.150
Chromium	0.006	0.113	0.089
Cobalt	0.001	0.005	0.003
Copper	0.007	0.052	0.035
Elemental carbon	0.555	1.930	1.790
Indium	0.009	0.038	0.029
Iron	0.181	1.150	0.973
Lead	0.005	0.044	0.032
Magnesium	0.011	0.096	0.040
Manganese	0.003	0.014	0.013
Nickel	0.003	0.028	0.027
Nitrate	1.444	7.830	7.550
Organic carbon	2.591	6.520	5.220
Phosphorus	0.005	0.008	0.008
Potassium	0.112	1.030	0.537
Rubidium	0.001	0.002	0.002
Selenium	0.001	0.006	0.003
Silicon	0.067	0.597	0.183
Silver	0.006	0.019	0.019
Sodium	0.145	0.946	0.715
Strontium	0.001	0.010	0.006
Sulfate	1.698	5.100	4.910
Sulfur	0.590	1.780	1.690
Tin	0.011	0.033	0.029
Titanium	0.003	0.017	0.009
Total mass *	10.800	27.800	23.100
Vanadium	0.002	0.017	0.009
Zinc	0.029	0.328	0.154
Zirconium	0.003	0.015	0.012

* Total mass analysis discontinued as of October 2014.

Table 2
2014 Fine Particulate Speciation Data
CHESTER NJ
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	0.028	0.661	0.287
Ammonium	0.554	2.380	2.320
Antimony	0.017	0.045	0.040
Arsenic	0.0004	0.002	0.002
Barium	0.005	0.030	0.030
Bromine	0.002	0.007	0.007
Cadmium	0.001	0.019	0.012
Calcium	0.009	0.056	0.049
Cerium	0.005	0.043	0.043
Cesium	0.008	0.023	0.023
Chlorine	0.006	0.075	0.033
Chromium	0.004	0.143	0.047
Cobalt	0.001	0.002	0.002
Copper	0.002	0.023	0.016
Elemental carbon	0.166	0.736	0.500
Indium	0.008	0.025	0.019
Iron	0.040	0.485	0.166
Lead	0.001	0.007	0.005
Magnesium	0.008	0.053	0.039
Manganese	0.001	0.005	0.004
Nickel	0.001	0.039	0.016
Nitrate	1.027	5.720	5.460
Organic carbon	1.657	3.850	3.780
Phosphorus	0.005	0.009	0.008
Potassium	0.035	0.093	0.092
Rubidium	0.001	0.002	0.002
Selenium	0.001	0.003	0.003
Silicon	0.037	0.385	0.240
Silver	0.006	0.019	0.019
Sodium	0.058	0.288	0.242
Strontium	0.001	0.010	0.002
Sulfate	1.374	4.120	3.790
Sulfur	0.461	1.270	1.230
Tin	0.011	0.046	0.033
Titanium	0.003	0.012	0.011
Total mass *	7.700	17.400	16.300
Vanadium	0.001	0.003	0.002
Zinc	0.004	0.021	0.019
Zirconium	0.002	0.012	0.012

* Total mass analysis discontinued as of October 2014.

Table 3
2014 Fine Particulate Speciation Data
ELIZABETH LAB NJ
 Concentrations in Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2 nd -Highest Concentration
Aluminum	0.029	0.365	0.231
Ammonium	0.852	4.360	3.140
Antimony	0.016	0.052	0.051
Arsenic	0.0004	0.003	0.003
Barium	0.007	0.030	0.030
Bromine	0.003	0.009	0.008
Cadmium	0.002	0.020	0.017
Calcium	0.028	0.144	0.120
Cerium	0.005	0.043	0.043
Cesium	0.008	0.023	0.023
Chlorine	0.038	0.560	0.547
Chromium	0.003	0.041	0.025
Cobalt	0.001	0.003	0.002
Copper	0.005	0.019	0.019
Elemental carbon	0.986	4.260	3.070
Indium	0.009	0.030	0.017
Iron	0.133	0.411	0.400
Lead	0.001	0.010	0.005
Magnesium	0.011	0.110	0.080
Manganese	0.002	0.008	0.007
Nickel	0.002	0.019	0.017
Nitrate	1.658	8.410	8.130
Organic carbon	2.482	6.610	6.130
Phosphorus	0.005	0.008	0.008
Potassium	0.044	0.236	0.135
Rubidium	0.001	0.002	0.002
Selenium	0.001	0.002	0.002
Silicon	0.070	0.798	0.289
Silver	0.006	0.019	0.019
Sodium	0.100	0.476	0.433
Strontium	0.001	0.012	0.006
Sulfate	1.642	5.330	4.200
Sulfur	0.566	1.740	1.390
Tin	0.012	0.043	0.038
Titanium	0.003	0.024	0.015
Total mass *	11.500	33.500	27.900
Vanadium	0.002	0.011	0.010
Zinc	0.010	0.049	0.037
Zirconium	0.002	0.012	0.012

* Total mass analysis discontinued as of October 2014.

Table 4
2014 Fine Particulate Speciation Data
NEW BRUNSWICK NJ
 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	0.021	0.169	0.160
Ammonium	0.583	3.070	2.770
Antimony	0.018	0.069	0.059
Arsenic	0.0005	0.005	0.004
Barium	0.005	0.030	0.030
Bromine	0.003	0.008	0.008
Cadmium	0.002	0.021	0.019
Calcium	0.015	0.133	0.068
Cerium	0.004	0.043	0.043
Cesium	0.009	0.023	0.023
Chlorine	0.014	0.469	0.121
Chromium	0.003	0.040	0.026
Cobalt	0.001	0.002	0.002
Copper	0.003	0.021	0.012
Elemental carbon	0.292	0.931	0.778
Indium	0.009	0.041	0.017
Iron	0.063	0.212	0.197
Lead	0.001	0.012	0.011
Magnesium	0.010	0.063	0.049
Manganese	0.001	0.012	0.009
Nickel	0.001	0.010	0.008
Nitrate	1.259	6.410	5.930
Organic carbon	1.835	4.460	3.670
Phosphorus	0.005	0.013	0.008
Potassium	0.043	0.362	0.133
Rubidium	0.001	0.002	0.001
Selenium	0.001	0.002	0.001
Silicon	0.049	0.366	0.266
Silver	0.006	0.020	0.019
Sodium	0.076	0.539	0.466
Strontium	0.001	0.006	0.006
Sulfate	1.378	4.110	4.090
Sulfur	0.485	1.370	1.360
Tin	0.011	0.037	0.021
Titanium	0.003	0.014	0.010
Total mass *	8.700	20.500	20.500
Vanadium	0.001	0.005	0.003
Zinc	0.008	0.058	0.045
Zirconium	0.003	0.020	0.017

* Total mass analysis discontinued as of October 2014.

Table 5
2014 Fine Particulate Speciation Data
NEWARK NJ
 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	0.028	0.261	0.185
Ammonium	0.801	4.560	3.220
Antimony	0.018	0.077	0.050
Arsenic	0.0005	0.003	0.003
Barium	0.006	0.030	0.030
Bromine	0.003	0.011	0.010
Cadmium	0.002	0.030	0.027
Calcium	0.023	0.135	0.112
Cerium	0.005	0.044	0.044
Cesium	0.008	0.023	0.023
Chlorine	0.027	0.426	0.374
Chromium	0.004	0.100	0.069
Cobalt	0.001	0.004	0.002
Copper	0.005	0.024	0.021
Elemental carbon	0.482	2.450	2.080
Indium	0.009	0.035	0.035
Iron	0.089	0.397	0.349
Lead	0.001	0.012	0.008
Magnesium	0.009	0.043	0.036
Manganese	0.001	0.007	0.006
Nickel	0.002	0.028	0.021
Nitrate	1.642	9.290	8.240
Organic carbon	2.284	6.040	6.040
Phosphorus	0.005	0.013	0.008
Potassium	0.046	0.466	0.132
Rubidium	0.001	0.002	0.002
Selenium	0.001	0.003	0.001
Silicon	0.056	0.362	0.334
Silver	0.007	0.019	0.019
Sodium	0.096	0.628	0.588
Strontium	0.001	0.008	0.007
Sulfate	1.522	5.430	4.150
Sulfur	0.527	1.860	1.340
Tin	0.011	0.019	0.019
Titanium	0.003	0.013	0.009
Total mass *	10.600	32.400	28.300
Vanadium	0.002	0.006	0.005
Zinc	0.011	0.064	0.053
Zirconium	0.003	0.013	0.012

* Total mass analysis discontinued as of October 2014.