



Appendix B: 2015 Fine Particulate Speciation Summary

New Jersey Department of Environmental Protection

Table 1
2015 Fine Particulate Speciation Data
CAMDEN SPRUCE STREET NJ
Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

	Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd-Highest Concentration	Percent Above Minimum Detection Limit
1	Aluminum	0.037	0.268	0.189	93
2	Ammonium	0.751	2.670	2.360	100
3	Antimony	0.018	0.076	0.028	90
4	Arsenic	0.001	0.005	0.003	38
5	Barium	0.007	0.069	0.026	86
6	Bromine	0.004	0.015	0.014	98
7	Cadmium	0.002	0.019	0.014	22
8	Calcium	0.049	0.211	0.197	100
9	Cerium	0.006	0.092	0.039	88
10	Cesium	0.005	0.015	0.015	83
11	Chlorine	0.215	2.400	1.800	100
12	Chromium	0.003	0.034	0.017	59
13	Cobalt	0.001	0.004	0.002	90
14	Copper	0.005	0.039	0.018	100
15	Elemental carbon	0.634	2.160	1.808	100
16	Indium	0.011	0.030	0.027	91
17	Iron	0.140	1.130	0.552	100
18	Lead	0.003	0.019	0.012	78
19	Magnesium	0.017	0.157	0.069	97
20	Manganese	0.003	0.010	0.010	67
21	Nickel	0.001	0.008	0.006	64
22	Nitrate	1.450	6.860	5.010	100
23	Organic carbon	3.034	14.200	8.530	100
24	Phosphorus	0.005	0.008	0.008	88
25	Potassium	0.119	1.300	0.458	100
26	Rubidium	0.001	0.002	0.002	88
27	Selenium	0.001	0.005	0.003	98
28	Silicon	0.079	0.520	0.412	100
29	Silver	0.007	0.019	0.019	79
30	Sodium	0.142	0.522	0.428	100
31	Strontium	0.002	0.028	0.007	90
32	Sulfate	1.542	5.560	4.170	100
33	Sulfur	0.554	2.050	1.630	100
34	Tin	0.010	0.026	0.018	84
35	Titanium	0.004	0.021	0.016	98
36	Vanadium	0.001	0.002	0.002	86
37	Zinc	0.049	1.870	0.066	100
38	Zirconium	0.004	0.015	0.012	88

Table 2
2015 Fine Particulate Speciation Data
CHESTER NJ
 Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

	Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd-Highest Concentration	Percent Above Minimum Detection Limit
1	Aluminum	0.026	0.252	0.122	88
2	Ammonium	0.505	2.120	2.000	98
3	Antimony	0.016	0.032	0.026	88
4	Arsenic	0.0004	0.004	0.002	23
5	Barium	0.006	0.045	0.027	88
6	Bromine	0.003	0.011	0.007	97
7	Cadmium	0.002	0.019	0.014	30
8	Calcium	0.015	0.136	0.048	95
9	Cerium	0.006	0.067	0.060	87
10	Cesium	0.004	0.013	0.008	82
11	Chlorine	0.007	0.038	0.031	91
12	Chromium	0.002	0.018	0.017	47
13	Cobalt	0.001	0.002	0.002	92
14	Copper	0.001	0.009	0.007	90
15	Elemental carbon	0.176	0.377	0.360	100
16	Indium	0.009	0.030	0.029	90
17	Iron	0.035	0.165	0.094	100
18	Lead	0.001	0.013	0.006	30
19	Magnesium	0.008	0.021	0.021	88
20	Manganese	0.001	0.004	0.003	43
21	Nickel	0.001	0.006	0.005	47
22	Nitrate	0.913	5.050	4.780	100
23	Organic carbon	1.936	10.200	6.310	100
24	Phosphorus	0.005	0.008	0.008	88
25	Potassium	0.043	0.377	0.132	100
26	Rubidium	0.001	0.003	0.002	83
27	Selenium	0.001	0.001	0.001	88
28	Silicon	0.046	0.486	0.275	97
29	Silver	0.007	0.019	0.019	83
30	Sodium	0.071	0.315	0.206	100
31	Strontium	0.001	0.007	0.003	80
32	Sulfate	1.326	5.110	3.400	100
33	Sulfur	0.475	1.910	1.320	100
34	Tin	0.010	0.018	0.018	83
35	Titanium	0.004	0.045	0.015	95
36	Vanadium	0.001	0.002	0.002	78
37	Zinc	0.005	0.013	0.013	98
38	Zirconium	0.004	0.012	0.012	85

Table 3
2015 Fine Particulate Speciation Data
ELIZABETH LAB NJ
 Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

	Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd-Highest Concentration	Percent Above Minimum Detection Limit
1	Aluminum	0.058	0.334	0.314	99
2	Ammonium	0.713	4.210	3.860	100
3	Antimony	0.018	0.063	0.059	88
4	Arsenic	0.0004	0.006	0.002	25
5	Barium	0.016	0.101	0.075	97
6	Bromine	0.003	0.021	0.018	97
7	Cadmium	0.003	0.028	0.024	35
8	Calcium	0.064	0.281	0.262	100
9	Cerium	0.004	0.026	0.022	84
10	Cesium	0.006	0.027	0.025	90
11	Chlorine	0.077	1.040	0.347	100
12	Chromium	0.002	0.038	0.019	59
13	Cobalt	0.001	0.003	0.003	89
14	Copper	0.009	0.051	0.031	100
15	Elemental carbon	1.088	3.720	3.242	100
16	Indium	0.009	0.043	0.036	86
17	Iron	0.194	0.519	0.498	100
18	Lead	0.003	0.028	0.021	61
19	Magnesium	0.016	0.066	0.051	94
20	Manganese	0.002	0.007	0.007	76
21	Nickel	0.001	0.013	0.008	66
22	Nitrate	1.578	8.190	7.810	100
23	Organic carbon	2.785	10.100	9.960	100
24	Phosphorus	0.005	0.008	0.008	89
25	Potassium	0.058	0.444	0.184	100
26	Rubidium	0.001	0.004	0.002	88
27	Selenium	0.001	0.003	0.003	88
28	Silicon	0.149	0.839	0.679	100
29	Silver	0.007	0.019	0.019	87
30	Sodium	0.146	0.555	0.482	100
31	Strontium	0.001	0.012	0.010	91
32	Sulfate	1.448	5.230	4.650	100
33	Sulfur	0.511	1.900	1.590	100
34	Tin	0.010	0.039	0.024	84
35	Titanium	0.007	0.030	0.027	99
36	Vanadium	0.002	0.009	0.005	85
37	Zinc	0.014	0.053	0.048	100
38	Zirconium	0.004	0.021	0.014	83

Table 4
2015 Fine Particulate Speciation Data
NEW BRUNSWICK NJ
Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

	Pollutant	Annual Average Concentration	Daily Average Maximum Concentration	Daily Average 2nd-Highest Concentration	Percent Above Minimum Detection Limit
1	Aluminum	0.026	0.281	0.222	86
2	Ammonium	0.493	2.960	2.910	99
3	Antimony	0.017	0.054	0.046	85
4	Arsenic	0.001	0.005	0.003	37
5	Barium	0.007	0.055	0.033	92
6	Bromine	0.003	0.011	0.007	95
7	Cadmium	0.002	0.027	0.019	26
8	Calcium	0.019	0.124	0.066	99
9	Cerium	0.005	0.057	0.042	87
10	Cesium	0.005	0.024	0.021	88
11	Chlorine	0.034	0.501	0.460	97
12	Chromium	0.003	0.096	0.021	53
13	Cobalt	0.001	0.002	0.002	94
14	Copper	0.003	0.020	0.017	97
15	Elemental carbon	0.375	1.068	0.955	100
16	Indium	0.009	0.027	0.023	87
17	Iron	0.068	0.381	0.256	100
18	Lead	0.002	0.034	0.013	58
19	Magnesium	0.011	0.062	0.044	90
20	Manganese	0.001	0.006	0.006	55
21	Nickel	0.001	0.030	0.006	54
22	Nitrate	1.180	6.820	6.340	100
23	Organic carbon	2.188	8.860	8.240	100
24	Phosphorus	0.005	0.008	0.008	89
25	Potassium	0.047	0.689	0.132	100
26	Rubidium	0.001	0.010	0.005	91
27	Selenium	0.001	0.003	0.003	87
28	Silicon	0.057	0.541	0.523	98
29	Silver	0.007	0.019	0.019	86
30	Sodium	0.099	0.451	0.447	100
31	Strontium	0.001	0.012	0.006	88
32	Sulfate	1.251	4.800	3.640	100
33	Sulfur	0.438	1.690	1.280	100
34	Tin	0.011	0.031	0.018	87
35	Titanium	0.004	0.025	0.022	96
36	Vanadium	0.001	0.004	0.002	86
37	Zinc	0.008	0.039	0.034	100
38	Zirconium	0.004	0.022	0.012	83

Table 5
2015 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	Percent Above Minimum Detection Limit
1	Aluminum	0.052	0.591	0.402	93
2	Ammonium	0.632	3.990	3.040	100
3	Antimony	0.019	0.064	0.054	86
4	Arsenic	0.0003	0.003	0.002	24
5	Barium	0.009	0.062	0.050	90
6	Bromine	0.003	0.010	0.010	97
7	Cadmium	0.001	0.022	0.013	26
8	Calcium	0.046	0.243	0.198	98
9	Cerium	0.005	0.075	0.035	88
10	Cesium	0.005	0.033	0.023	87
11	Chlorine	0.064	0.557	0.394	98
12	Chromium	0.005	0.100	0.043	57
13	Cobalt	0.001	0.002	0.002	88
14	Copper	0.007	0.046	0.034	98
15	Elemental carbon	0.537	2.190	2.047	100
16	Indium	0.010	0.042	0.034	89
17	Iron	0.126	0.689	0.550	100
18	Lead	0.002	0.015	0.011	61
19	Magnesium	0.015	0.101	0.076	92
20	Manganese	0.002	0.011	0.009	63
21	Nickel	0.002	0.029	0.011	59
22	Nitrate	1.493	8.480	7.710	100
23	Organic carbon	2.624	9.780	9.740	100
24	Phosphorus	0.005	0.008	0.008	91
25	Potassium	0.064	1.450	0.158	100
26	Rubidium	0.001	0.002	0.002	87
27	Selenium	0.001	0.003	0.002	89
28	Silicon	0.108	1.280	1.060	100
29	Silver	0.007	0.019	0.019	84
30	Sodium	0.142	0.705	0.516	100
31	Strontium	0.001	0.028	0.005	90
32	Sulfate	1.343	5.110	4.060	100
33	Sulfur	0.466	1.840	1.350	100
34	Tin	0.012	0.055	0.054	87
35	Titanium	0.005	0.050	0.038	96
36	Vanadium	0.001	0.005	0.002	89
37	Zinc	0.013	0.060	0.052	99
38	Zirconium	0.004	0.020	0.015	82