

**Table S.4.** Chemical composition of solution samples recovered from contrast leaching experiment 2 on Lakeview, Nanticoke and Atikokan fly ashes after 10 days' reaction (in mg·L<sup>-1</sup>). Note the amount of PCD or TCD added to fly ash is one-fifth of that used in the primary leaching experiments.

	SO <sub>4</sub> <sup>2-</sup>	B	Cr	Se	Mo	F	As	Zn	Cd	Si	Cl	Fe	Al	Na	K	Ca	Mg
6LAP	742.4	8.57	0.065	0.044	0.062	0.80	0.020	0.148	0.000	4.17	29.6	0.126	1.87	21.5	53.0	398.0	2.89
12LAP	345.8	7.03	0.050	0.044	0.054	0.52	0.014	0.031	0.001	4.69	24.3	0.145	2.15	10.0	29.8	248.2	2.91
6LAT	17.4	0.17	0.007	0.013	0.031	0.40	0.007	0.032	0.000	1.01	22.2	0.100	5.34	21.6	96.3	368.8	0.19
12LAT	17.0	0.14	0.006	0.028	0.028	0.18	0.007	0.166	0.000	0.84	23.5	0.047	4.47	12.8	43.2	400.8	0.10
6NAP	183.0	10.18	0.036	0.036	0.040	1.03	0.014	0.149	0.000	6.59	30.3	0.098	3.24	4.3	22.3	120.9	0.72
12NAP	110.9	7.65	0.029	0.028	0.034	0.08	0.010	0.036	0.000	6.58	25.1	0.104	3.96	4.7	10.4	91.2	0.76
6NAT	16.8	0.16	0.005	0.014	0.014	2.45	0.003	0.133	0.000	0.68	22.7	0.054	2.19	15.1	56.7	405.2	0.11
12NAT	17.5	0.13	0.004	0.019	0.015	0.18	0.004	0.034	0.000	0.76	23.0	0.044	2.44	6.1	21.3	420.0	0.09
6AAP	68.8	4.91	0.228	0.297	0.306	0.67	0.018	0.108	0.000	23.9	29.0	1.803	97.4	255.0	8.2	43.1	1.47
12AAP	84.9	5.84	0.145	0.178	0.166	0.80	0.006	0.125	0.000	22.3	28.1	1.647	76.2	125.8	5.0	60.0	1.29
6AAT	27.9	2.12	0.006	0.016	0.010	0.52	0.002	0.060	0.000	9.55	24.4	1.228	27.4	228.6	7.3	304.8	1.54
12AAT	19.5	0.53	0.005	0.020	0.011	0.00	0.007	0.084	0.000	1.74	22.5	0.250	10.5	158.0	4.4	428.8	0.39