

Soil pollution status of urban soils in St. Petersburg city, North-west of Russia

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Table S1. The content of heavy metals, benzo(a)pyrene (B[a]P), petroleum products (PP) and pH

Sample	Location		Texture class	pH	B[a]P	PP	Cu	Zn	Pb	Cd	Ni	Hg	As
	latitude	longitude											
(mg/kg)													
Site 1	59.94365	30.428	sandy loam	7.0	0.01	72	19	31	0.1	0.09	6.4	0.02	0.09
Site 2	60.0069	30.38557	sandy loam	7.2	0.65	364	54	90	79.7	0.26	12.1	1.05	3.21
Site 3	59.97711	30.46611	sandy loam	7.3	0.04	304	17	49	22.2	0.25	9	0.11	2.19
Site 4	59.93519	30.2619	sandy loam	6.0	0.03	60	25	89	69.9	0.47	10.9	0.66	3.91
Site 5	59.98114	30.32048	sandy loam	7.0	0.02	20	14	44	44.4	0.21	7	0.67	2.23
Site 6	59.93765	30.22103	sandy loam	7.1	0.46	202	53	183	194.3	0.36	15.6	1.68	5.98
Site 7	59.93765	30.22103	sandy loam	7.4	0.08	239	65	265	356.2	0.51	14.4	1.61	7.99
Site 8	59.86866	30.24692	sandy loam	8.6	2.33	5 900	3 425	1 790	625	1.3	72	2.12	4.28
Site 9	59.99494	30.1381	sandy loam	7.4	0.01	150	10	95	21.5	0.12	4.7	0.02	1.92
Site 10	60.01049	30.3296	sandy loam	7.3	0.005	8	7	21	6.5	0.1	11	0.03	0.09
Site 11	60.01049	30.3296	sandy loam	7.3	0.006	10	7	26	5.1	0.11	4.9	0.03	0.09
Site 12	60.01049	30.3296	sandy loam	7.3	0.005	6	7	20	5.1	0.1	4.9	0.03	0.09
Site 13	59.88055	29.9402	sandy loam	4.4	0.04	12	29	73	229	0.16	8	0.33	15
Site 14	60.00214	30.4498	sandy loam	4.4	0.005	5	13	21	8.4	0.09	11	0.01	1.75
Site 15	60.00214	30.44981	sandy loam	4.8	0.005	4.9	9	17	8.2	0.09	6.6	0.01	1.76
Site 16	60.00214	30.44981	sandy loam	4.1	0.005	6	11	19	9.2	0.09	6.9	0.01	1.66
Site 17	60.03695	30.20982	sandy loam	5.1	0.06	132	19	7	5.6	0.59	4.5	–	1.05
Site 18	59.92815	30.31239	loam	8.4	0.04	8 100	122	556	167.8	0.37	12.2	0.7	2.18
Site 19	59.85579	30.39942	sandy loam	7.7	0.08	540	55	111	70	0.23	12.6	0.22	2.48
Site 20	59.8919	30.32169	sandy loam	7.1	5.47	2 115	79	308	142.1	0.51	15.9	0.64	5.24
Site 21	59.8919	30.32169	sandy loam	6.2	2.404	2 500	237	2164	130.1	2.14	30.5	0.21	3.94
Site 22	59.8919	30.32169	loam	4.7	0.545	265	207	449	115.3	0.72	20.7	0.49	2.29
Site 23	59.84615	30.28608	loam	7.1	0.035	109	19	92	18.6	0.5	8.8	0.08	1.40
Site 24	60.09866	30.09058	sandy loam	5.4	0.180	72	4	19	27.7	0.09	1.8	0.18	0.09
Site 25	59.97397	30.28414	loam	7.1	0.135	330	23	196	616.7	0.36	14.0	0.35	–
Site 26	59.89159	30.32101	loam	7.7	2.1	1 644	72	569	216.9	0.69	41.5	0.30	–
Site 27	59.93133	30.45449	loam	8.3	0.055	3418	19	70	17.1	0.09	5.7	0.04	–
Site 28	59.93133	30.45449	sandy loam	8.0	0.012	432	11	35	9.0	0.09	5.1	0.04	–
Site 29	59.91408	30.29331	sandy loam	7.5	0.281	213	38	224	113.4	0.34	8.3	0.68	–
Site 30	59.96012	30.38586	sandy loam	7.8	0.104	632	89	92	32.6	0.89	17.5	0.23	–
Site 31	59.96012	30.38586	loam	7.7	0.578	149	66	67	53.5	0.09	7.0	2.19	–
Site 32	59.96012	30.38586	sandy loam	7.9	0.628	247	363	623	196.9	0.57	6.0	0.73	–
Site 33	59.96012	30.38586	sandy loam	7.7	2.1	1 036	1553	641	364.9	0.54	98	1.17	–
Site 34	59.96012	30.38586	sandy loam	4.8	0.137	291	143	96	46.7	0.22	20.8	0.19	–
Site 35	59.93324	30.33881	sandy loam	4.6	0.046	21	57	98	36.4	0.52	7.9	0.43	–
Site 36	59.93324	30.33881	sandy loam	5.9	0.022	10	20	75	34	0.11	11.1	0.23	–
Site 37	59.93324	30.33881	loam	5.8	0.015	20	15	46	13.6	0.09	10.3	0.09	–
Site 38	59.93324	30.33882	loam	4.7	0.051	43	20	43	17.3	0.51	4.9	0.27	–
Site 39	59.94276	30.26039	loam	6.1	0.392	70	7	28	11.3	0.09	3.8	–	–
Site 40	59.93392	30.36236	loam	7.4	0.503	82	68	92	164.8	0.12	12.7	2.4	–
Site 41	59.88468	30.42583	loam	7.6	0.143	163	51	123	44.6	0.27	10.6	0.19	–

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Table S1 to be continued

Sample	Location		Texture class	pH	B[a]P	PP	Cu	Zn	Pb	Cd	Ni	Hg	As
	latitude	longitude											
(mg/kg)													
Site 42	59.87204	30.47476	loam	7.8	0.639	113	30	630	50.7	0.23	8	0.17	3.05
Site 43	59.94921	30.29756	sandy loam	–	0.046	322	45	211	16.7	0.09	2.7	–	0.09
Site 44	59.9493	30.2976	loam	–	0.061	192	53	137	13.6	1.46	1.5	–	0.09
Site 45	59.96909	30.48411	loam	–	0.062	11	6	44	8.4	0.15	2.8	0.04	0.09
Site 46	59.96909	30.48411	loam	–	0.071	9	5	44	9.2	0.13	2.8	0.03	0.09
Site 47	59.96909	30.48411	loam	–	0.093	23	3	37	14.5	0.18	3.3	0.02	1.07
Site 48	59.96909	30.48411	loam	–	0.042	8	3	41	12.5	0.15	3.1	0.01	0.09
Site 49	59.96909	30.48411	loam	–	0.021	6	11	40	8.4	0.09	4.5	0.01	1.09
Site 50	59.96909	30.48411	loam	–	0.01	5	16	49	9.1	0.09	9	0.01	1.59
Site 51	59.91422	30.43858	loam	–	0.173	67	16	40	32.2	0.11	3.5	0.03	1.59
Site 52	59.85862	30.40812	loam	7.9	1.079	1 364	18	88	27	0.15	7.5	0.08	2.4
Site 53	59.83951	30.18152	loam	6.4	0.338	270	37	124	42.4	0.64	13.8	0.42	2.8
Site 54	59.92202	30.35552	sandy loam	5.7	0.004	4.5	20	73	11.2	0.11	18.7	0.01	–
Site 55	59.95671	30.24663	sandy loam	8.1	0.219	9 901	531	857	94.8	0.61	53.5	–	10.3
Site 56	60.05016	30.29396	loam	4.5	0.007	14	3	6	5.6	0.09	0.09	0.03	1.18
Site 57	60.05016	30.29396	sandy loam	4.6	0.004	10	4	5	6.6	0.09	1.1	0.02	1.3
Site 58	59.92286	30.41456	sandy loam	8.4	0.004	890	40	43	10.5	0.09	6.5	0.04	1.34
Site 59	59.93727	30.41731	loam	7.0	0.539	224	27	180	1 247.4	0.40	52.6	0.77	8.48
Site 60	59.99152	30.15919	sand	6.0	0.095	27	18	46	21.8	0.14	3.7	0.15	1.2
Site 61	59.99152	30.15919	loam	5.6	0.081	23	27	67	30.7	0.27	4.0	0.18	1.32
Site 62	59.99152	30.1592	loam	6.7	0.087	726	64	257	99	0.68	10.7	0.54	2.71
Site 63	59.96335	30.49051	loam	7.6	0.160	173	26	39	31.6	0.09	10.1	0.36	3.58
Site 64	59.96085	30.28812	loam	6.9	0.358	198	10 095	3 808	45 507	4.00	86.4	0.42	7.19
Site 65	59.88897	30.45559	loam	6.9	2.1	6 426	160	251	354.9	0.77	20.4	1.04	12.42
Site 66	59.88897	30.45559	sandy loam	7.1	2.1	5 084	234	220	224.4	<0.10	19.3	0.93	11.43
Site 67	59.88897	30.45559	sandy loam	6.5	0.962	212	170	183	182.6	0.34	21.3	0.38	19.77
Site 68	59.89832	30.28835	sandy loam	6.5	0.129	125	27	90	263	0.33	11.2	0.09	2.22
Site 69	59.94095	30.50328	sandy loam	6.3	0.011	258	22	126	29.8	0.30	5.2	0.03	9.86
Site 70	59.86472	30.47596	sandy loam	6.0	0.012	27	65	60	168	0.12	10.5	0.01	3.07
Site 71	59.93766	30.41923	sandy loam	7.9	0.259	1 754	152	116	39.3	0.22	342	0.19	5.09
Site 72	59.88325	30.44237	sandy loam	5.6	0.009	13	14	48	29.6	0.19	3.4	0.14	2.07
Site 73	60.00053	30.37373	sandy loam	8.0	0.051	52	22	65	30.3	0.18	7.0	0.17	1.58
Site 74	60.06453	30.33837	sandy loam	6.4	0.020	256	12	39	15.1	0.13	6.4	0.06	1.94
Site 75	60.06453	30.33837	sandy loam	6.6	0.022	449	32	73	28.7	0.43	13.9	0.07	6.67
Site 76	60.06453	30.33837	sandy loam	7.1	0.009	1 194	41	99	31.4	0.17	9.0	0.03	1.30
Site 77	60.06453	30.33837	sandy loam	6.8	0.022	67	20	60	179	0.14	7.4	0.09	1.70
Site 78	59.86786	30.43862	sandy loam	7.1	0.441	109	29	64	31.9	0.18	20.6	0.35	6.92
Site 79	59.8678	30.44149	sandy loam	6.2	0.112	193	26	145	26	0.41	17.7	0.15	7.97
Site 80	59.86734	30.44213	sandy loam	5.6	1.567	297	42	134	60.3	0.26	20.7	0.24	4.78
Site 81	59.92161	30.47004	sandy loam	4.5	0.007	200	23	55	12.5	0.23	5.9	–	1.39
Site 82	60.0061	30.44444	sandy loam	5.8	0.008	29	8	35	12.1	0.09	5.4	0.09	1.72

Table S1 to be continued

Sample	Location		Texture class	pH	B[a]P	PP	Cu	Zn	Pb	Cd	Ni	Hg	As
	latitude	longitude											
										(mg/kg)			
Site 83	59.87	30.25366	sandy loam	8.1	0.004	1 568	5	22	5.4	0.09	3.9	0.01	1.47
Site 84	59.87524	30.21959	sandy loam	8.1	0.094	193	71	101	46.1	0.85	7.0	0.15	2.40
Site 85	59.98097	30.33559	sandy loam	–	–	–	305	170	80.4	0.58	67.6	0.17	2.64
Site 86	59.98097	30.33559	sandy loam	–	–	–	423	229	42.3	0.80	66.0	0.56	1.69
Site 87	59.94931	30.29714	sandy loam	–	–	–	184	138	67.6	0.47	13.7	1.32	7.16
Site 88	59.94931	30.29714	sandy loam	–	–	–	46	87	29.6	0.55	17.5	0.3	4.17
Site 89	59.99087	30.2727	sandy loam	–	–	–	48	81	11.2	0.09	22.4	0.04	1.99
Site 90	59.94701	30.20504	sandy loam	–	–	–	53	236	63.8	0.43	9.9	0.33	2.11
Site 91	59.94701	30.20504	sandy loam	–	–	–	32	60	32.5	0.16	8.8	0.19	2.35
Site 92	59.94339	30.2722	sandy loam	–	–	–	11	43	57.9	0.09	3.1	0.23	1.26
Site 93	60.10864	29.94653	sandy loam	–	–	–	1	5	1	0.09	0.1	0.01	0.09
Site 94	60.094	29.93866	sandy loam	–	–	–	1	4	2.2	0.09	0.1	0.01	0.09
Site 95	60.11859	29.9435	sandy loam	–	–	–	1	8	5.6	0.09	0.1	0.01	1.02
Site 96	59.86384	30.19985	sandy loam	–	–	–	114	328	95.2	0.97	24.4	0.15	2.58
MPC				–	0.005	–	55	100	30	0.5	85	2.1	2
Geochemical background				4.5–5.5	–	–	1	15	19.1	0.1	1.4	0.03	1.4
<i>n</i>				75	84	84	96	96	96	96	96	90	78
Mean				6.7	0.4	751	215	207	561	0.4	17.7	0.34	3.3
SD				1.18	0.81	1 760	1 089	483	4 638	0.5	37.9	0.49	3.63
CV				18	213	234	507	233	825	137	214	151	110

MPC – maximum permissible concentrations; SD – standard deviation; CV – coefficient of variance