Table D2. Individual hydrocarbon and total petroleum hydrocarbon concentrations (in μg/g wet wt.) for sediment taken from Con Edison Tower marsh, an unplanted site.[1-3]

Sample ID	Core Section No[4]	Nonane (n-C_9)	Decane (n-C_{10})	Undecane (n-C_{11})	Dodecane (n-C_{12})	Tridecane (n-C_{13})	Tetradecane (n-C_{14})	Pentadecane (n-C_{15})	Hexadecane (n-C_{16})	Heptadecane (n-C_{17})	Pristane	Octadecane (n-C_{18})	Phytane	Nonadecane (n-C_{19})	Eicosane (n-C_{20})	Heneicosane (n-C_{21})	Docosane (n-C_{22})	Tricosane (n-C_{23})
Station A																		
First Collection Period - Sediment Cores																		
998021021	1	5.62	nd	nd	2.73	nd	2.75	3.09	2.15	28.9	6.13	2.76	9.26	11.4	nd	3.47	nd	7.57
998021022	2	6.64	3.19	4.27	5.56	2.94	3.87	6.08	11.2	61.8	7.18	19.9	43.0	29.7	20.9	32.4	19.6	46.6
998021023	3	2.69	nd	4.48	15.2	3.67	11.9	34.5	26.4	62.5	nd	14.4	41.0	17.6	23.6	29.5	31.8	7.08
998021024	4	nd	nd	3.59	31.7	30.1	7.77	11.8	50.7	101	47.1	6.43	8.03	26.8	35.9	6.98	38.8	21.4
998021025	5	nd	nd	7.15	26.0	47.3	15.2	19.4	39.1	119	67.7	nd	15.8	50.9	52.7	25.0	58.7	66.5
Whole Core: Average[5,6]		3.50	< MDL	4.11	16.2	17.0	8.28	15.0	25.9	74.6	25.8	8.83	23.4	27.3	26.8	19.5	30.1	29.8
Whole Core: Std. Dev.		2.49	-	2.18	12.6	20.7	5.25	12.6	19.8	35.6	29.9	8.10	17.2	15.1	19.3	13.3	21.5	26.0
Second Collection Period - Sediment Surface Skims																		
897081101		nd	nd	nd	nd	nd	3.57	nd	nd	3.27	12.8	4.66	8.64	2.70	5.99	nd	nd	nd
Station B																		
First Collection Period - Sediment Cores																		
998021026	1	5.43	nd	nd	4.24	2.52	11.3	20.7	32.5	97.4	53.2	35.9	75.7	26.7	9.99	21.9	8.15	20.5
998021027	2	12.6	8.70	12.3	8.12	nd	11.6	44.9	108	188	44.5	47.4	151	39.9	75.8	79.9	76.9	103
998021028	3	12.6	13.6	18.8	8.59	21.3	12.6	49.2	147	97.3	113	7.06	137	108	116	106	85.7	110
998021029	4	13.4	13.0	18.9	14.3	11.0	18.7	29.2	165	143	nd	29.6	238	21.2	134	139	84.1	142
1098032325	5	nd	nd	nd	nd	3.72	3.32	3.68	9.42	18.1	29.5	9.29	8.95	nd	2.92	3.22	7.50	3.98
Whole Core: Average[5,6]		9.06	7.47	10.4	7.26	7.90	11.5	29.5	92.5	109	48.1	25.9	122	39.3	67.7	70.0	52.5	75.9
Whole Core: Std. Dev.		5.42	6.20	8.96	5.02	8.42	5.47	18.5	69.0	63.2	41.3	17.4	85.7	41.0	59.8	56.8	40.9	60.3
Second Collection Period - Sediment Surface Skims																		
897081102		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MDL		2.57	1.99	2.09	2.03	1.97	1.98	1.73	1.53	1.48	1.35	1.37	1.29	1.30	1.34	1.44	2.52	1.84

Table D2. Continued.[1,2]

Sample ID	Core Section No[4]	Tetracosane (n-C_{24})	Pentacosane (n-C_{25})	Hexacosane (n-C_{26})	Heptacosane (n-C_{27})	Octacosane (n-C_{28})	Nonacosane (n-C_{29})	Triacontane (n-C_{30})	n-Hentriacontane (n-C_{31})	Dotriacontane (n-C_{32})	Tritriacontane (n-C_{33})	Tetratriacontane (n-C_{34})	Pentatriacontane (n-C_{35})	Hexatriacontane (n-C_{36})	Heptatriacontane (n-C_{37})	Octatriacontane (n-C_{38})	Nonatriacontane (n-C_{39})	Tetracontane (n-C_{40})
Station A																		
First Collection Period - Sediment Cores																		
998021021	1	nd	3.21	2.33	5.45	5.40	8.78	5.13	6.77	3.54	nd	58.5	4.00	nd	3.54	4.48	5.73	nd
998021022	2	7.98	23.2	8.54	35.8	nd	5.55	41.7	10.6	13.9	nd	69.6	nd	nd	3.54	4.62	nd	9.37
998021023	3	nd	5.48	4.45	18.7	2.53	5.61	23.4	nd	13.2	nd	13.9	nd	nd	3.28	4.26	5.46	8.77
998021024	4	29.1	26.8	51.8	12.8	15.3	55.2	45.8	27.0	11.8	21.3	9.83	4.18	nd	3.29	4.02	4.59	7.31
998021025	5	13.3	52.8	61.3	24.6	nd	75.3	60.7	32.1	nd	nd	nd	nd	nd	2.92	4.01	4.99	nd
Whole Core: Average[5,6]		10.4	22.3	25.7	19.5	4.95	30.1	35.4	15.5	8.65	< MDL	30.4	2.01	nd	3.32	4.28	4.21	5.20
Whole Core: Std. Dev.		11.7	20.0	28.5	11.6	6.09	32.9	21.5	13.4	6.04	-	31.3	1.90	-	0.25	0.27	2.25	4.55
Second Collection Period - Sediment Surface Skims																		
897081101		nd	3.35	nd	nd	nd	nd	nd	3.62	nd	nd	nd	nd	nd	nd	nd	nd	nd
Station B																		
First Collection Period - Sediment Cores																		
998021026	1	2.75	9.16	nd	8.45	4.40	7.82	7.57	15.1	4.14	21.2	114	5.91	nd	3.23	3.97	nd	8.35
998021027	2	9.12	11.6	nd	33.5	19.8	15.7	51.7	18.3	14.0	26.7	84.3	nd	nd	5.21	5.27	6.44	nd
998021028	3	35.6	36.6	40.4	59.8	4.39	27.6	34.4	nd	7.49	14.0	7.88	nd	nd	2.70	nd	nd	7.48
998021029	4	57.1	28.5	13.8	15.6	nd	18.2	53.3	nd	nd	nd	nd	nd	nd	3.97	5.22	6.24	nd
1098032325	5	nd	3.12	3.29	4.70	nd	3.30	nd	16.9	7.38	nd	nd	nd	nd	nd	nd	nd	nd
Whole Core: Average[5,6]		21.1	17.8	11.8	24.4	6.03	14.5	29.5	10.5	6.77	14.0	41.4	1.68	nd	3.09	3.01	2.69	3.33
Whole Core: Std. Dev.		24.5	14.1	16.9	22.7	7.93	9.43	24.5	8.70	4.90	10.1	53.9	2.36	-	1.80	2.53	3.33	4.19
Second Collection Period - Sediment Surface Skims																		
897081102		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MDL		1.47	1.69	1.39	1.96	1.51	3.13	1.05	2.03	1.60	8.25	0.71	1.25	0.73	0.68	0.61	0.53	0.56

Table D2. Continued.[1,2]

Sample ID	Core Section No[4]	Total Petroleum Hydrocarbons[7]	Total Concentrations of Individual Hydrocarbons[8,9,17]	Total: Pristane + Phytane[8,17]	Pristane/n-C_{17}[18]	Phytane/n-C_{18}[18]	Pristane/Phytane[18]	Total: Odd No Carbons[8,10,17]	Total: Even No Carbons[8,11,17]	Carbon Preference Index (CPI)[12,18]	Sum:C_{10}-C_{12}-C_{14}[8,13,17]	Sum: C_{22}-C_{24}-C_{26}-C_{28}[8,14,17]	Weathering Index (WI)[15,18]
Station A													
First Collection Period - Sediment Cores													
998021021	1	1360	213	15.4	0.21	3.35	0.66	104	94.1	1.10	6.47	9.73	0.67
998021022	2	4910	565	50.2	0.12	2.16	0.17	274	241	1.14	12.6	36.9	0.34
998021023	3	5270	444	41.6	-	2.85	-	206	196	1.05	28.1	39.6	0.71
998021024	4	10100	761	55.1	0.47	1.25	5.86	358	348	1.03	40.4	135	0.30
998021025	5	12900	953	83.5	0.57	-	4.29	534	335	1.59	42.1	134	0.31
Whole Core: Average[5,6]		6903.23	587	49.2	0.34 [19]	2.65 [19]	1.10 [19]	295	243	1.22 [19]	25.9	71.0	0.37 [19]
Whole Core: Std. Dev.		4562.09	285	24.5	-	-	-	163	105	-	16.1	59.1	-
Second Collection Period - Sediment Surface Skims													
897081101		1100	71.2	21.5	3.92	1.85	1.48	-	23.1	-	-	-	-
Station B													
First Collection Period - Sediment Cores													
998021026	1	3840	646	129	0.55	2.11	0.70	267	249	1.07	16.6	16.0	1.04
998021027	2	12000	1320	195	0.24	3.19	0.29	599	522	1.15	28.4	107	0.27
998021028	3	12900	1440	249	1.16	19.4	0.82	666	529	1.26	34.8	166	0.21
998021029	4	17300	1430	238	-	8.03	-	597	591	1.01	46.1	156	0.30
1098032325	5	8570	156	38.5	1.63	0.96	3.30	69.0	48.5	1.42	-	12.3	-
Whole Core: Average[5,6]		10900	998	170	0.44 [19]	4.72 [19]	0.39 [19]	440	388	1.13 [19]	25.8	91.3	0.28 [19]
Whole Core: Std. Dev.		5040	574	87.5	-	-	-	259	231	-	16.6	74.0	-
Second Collection Period - Sediment Surface Skims													
897081102		193.58	nd	-	0.00	-	-	-	-	-	-	-	-
MDL		181	59.0 [16]	2.63 [16]				33.9 [16]	22.4 [16]		5.99 [16]	6.89 [16]	

Table D2. Continued.[1-3]

Sample ID	Core Section No[4]	Nonane (n-C_9)	Decane (n-C_{10})	Undecane (n-C_{11})	Dodecane (n-C_{12})	Tridecane (n-C_{13})	Tetradecane (n-C_{14})	Pentadecane (n-C_{15})	Hexadecane (n-C_{16})	Heptadecane (n-C_{17})	Pristane	Octadecane (n-C_{18})	Phytane	Nonadecane (n-C_{19})	Eicosane (n-C_{20})	Heneicosane (n-C_{21})	Docosane (n-C_{22})	Tricosane (n-C_{23})
Station C																		
First Collection Period - Sediment Cores																		
1198082510	1	nd	nd	nd	nd	nd	nd	nd	nd	5.30	nd	nd	nd	nd	nd	nd	nd	nd
1198082511	2	nd	nd	nd	nd	nd	nd	nd	nd	2.11	nd	nd	nd	nd	nd	nd	nd	nd
1198082512	3	nd	nd	nd	nd	nd	nd	nd	2.26	8.18	nd	nd	7.43	1.55	5.71	6.80	5.66	2.03
1198082513	4	nd	nd	nd	nd	nd	nd	2.05	39.2	51.2	nd	7.27	63.2	25.8	52.5	36.4	31.5	22.5
1198082514	5	nd	nd	3.35	nd	nd	12.6	6.96	15.2	71.6	nd	13.0	100	44.7	118	60.4	56.8	25.9
Whole Core: Average[5,6]		nd	nd	< MDL	nd	nd	3.31	2.32	11.6	27.7	nd	4.47	34.4	14.7	35.5	21.0	19.3	10.5
Whole Core: Std. Dev.		-	-	-	-	-	5.20	2.65	16.6	31.7	-	5.57	45.1	19.9	50.9	26.5	24.5	12.6
Second Collection Period - Sediment Surface Skims																		
897081103		nd	nd	nd	nd	nd	nd	2.77	nd	7.08	nd	nd	nd	nd	nd	nd	nd	nd
Station D																		
First Collection Period - Sediment Cores																		
1198082505	1	nd	nd	nd	nd	nd	nd	nd	3.35	2.56	18.9	nd	nd	nd	nd	nd	nd	nd
1198082506	2	nd	nd	nd	8.33	nd	2.76	37.7	15.3	52.8	8.69	28.6	44.2	nd	24.0	22.9	24.4	nd
1198082507	3	nd	2.70	6.80	nd	7.78	10.0	9.85	6.97	52.8	nd	nd	50.3	1.95	28.8	5.07	37.6	7.22
1198082508	4	3.18	12.7	9.58	nd	8.75	11.8	15.2	56.5	73.9	nd	nd	96.0	3.65	nd	62.4	33.1	9.09
1198082509	5	4.34	5.13	10.4	nd	11.3	14.9	17.2	62.3	102	117	4.17	182	15.3	43.6	54.8	10.2	2.94
Whole Core: Average[5,6]		< MDL	4.51	5.77	2.48	5.97	8.10	16.2	28.9	56.8	29.2	6.96	74.7	4.44	19.5	29.2	21.3	4.22
Whole Core: Std. Dev.		-	4.90	4.51	3.27	4.73	5.98	13.6	28.3	36.5	49.7	12.2	69.0	6.20	18.7	28.2	15.3	3.75
Second Collection Period - Sediment Surface Skims																		
897081104		nd	nd	nd	nd	nd	nd	nd	nd	nd	4.01	nd	nd	nd	1.62	nd	nd	nd
MDL		2.57	1.99	2.09	2.03	1.97	1.98	1.73	1.53	1.48	1.35	1.37	1.29	1.30	1.34	1.44	2.52	1.84

Table D2. Continued.[1,2]

Sample ID	Core Section No[4]	Tetracosane (n-C_{24})	Pentacosane (n-C_{25})	Hexacosane (n-C_{26})	Heptacosane (n-C_{27})	Octacosane (n-C_{28})	Nonacosane (n-C_{29})	Triacontane (n-C_{30})	n-Hentriacontane (n-C_{31})	Dotriacontane (n-C_{32})	Tritriacontane (n-C_{33})	Tetratriacontane (n-C_{34})	Pentatriacontane (n-C_{35})	Hexatriacontane (n-C_{36})	Heptatriacontane (n-C_{37})	Octatriacontane (n-C_{38})	Nonatriacontane (n-C_{39})	Tetracontane (n-C_{40})
Station C																		
First Collection Period - Sediment Cores																		
1198082510	1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.89	nd	nd	nd	nd	nd	nd
1198082511	2	nd	nd	nd	nd	nd	nd	nd	3.78	nd	nd	9.49	nd	nd	nd	nd	nd	nd
1198082512	3	4.38	nd	nd	4.08	nd	nd	4.60	nd	nd	nd	3.35	nd	nd	nd	nd	nd	nd
1198082513	4	4.82	11.8	nd	19.4	nd	nd	22.0	2.06	5.03	nd	2.34	nd	nd	1.12	nd	1.73	3.32
1198082514	5	10.9	6.83	7.59	14.6	nd	17.5	31.1	nd	nd	nd	nd	nd	nd	1.38	nd	2.26	3.77
Whole Core: Average[5,6]		4.32	4.23	2.07	8.00	nd	4.76	11.8	< MDL	1.65	nd	3.69	nd	nd	0.70	nd	0.96	1.59
Whole Core: Std. Dev.		4.18	4.96	3.08	8.46	-	7.14	14.0	-	1.89	-	3.44	-	-	0.51	-	0.96	1.79
Second Collection Period - Sediment Surface Skims																		
897081103		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Station D																		
First Collection Period - Sediment Cores																		
1198082505	1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.35	nd	1.56	1.83	nd	nd
1198082506	2	nd	nd	nd	6.56	nd	nd	23.5	nd	nd	nd	8.22	nd	nd	1.71	2.22	2.57	3.75
1198082507	3	nd	nd	5.32	4.30	nd	nd	24.7	nd	6.36	nd	nd	nd	nd	1.51	2.06	2.39	3.29
1198082508	4	5.48	2.62	3.60	nd	2.43	4.09	33.0	nd	nd	nd	nd	nd	nd	1.93	2.40	3.32	3.98
1198082509	5	nd	17.3	9.80	3.39	nd	nd	20.1	nd	1.78	nd	nd	nd	nd	1.17	1.16	1.71	3.24
Whole Core: Average[5,6]		1.69	4.49	4.02	3.24	< MDL	< MDL	20.4	nd	2.11	nd	1.93	1.97	nd	1.57	1.94	2.05	2.91
Whole Core: Std. Dev.		2.12	7.21	3.79	2.36	-	-	12.1	-	2.41	-	3.52	3.01	-	0.28	0.48	1.15	1.50
Second Collection Period - Sediment Surface Skims																		
897081104		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MDL		1.47	1.69	1.39	1.96	1.51	3.13	1.05	2.03	1.60	8.25	0.71	1.25	0.73	0.68	0.61	0.53	0.56

Table D2. Continued.[1,2]

Sample ID	Core Section No[3]	Total Petroleum Hydrocarbons[7]	Total Concentrations of Individual Hydrocarbons[8,9,17]	Total: Pristane + Phytane[8,17]	Pristane/n-C_{17}[18]	Phytane/n-C_{18}[18]	Pristane/Phytane[18]	Total: Odd No Carbons[8,10,17]	Total: Even No Carbons[8,11,17]	Carbon Preference Index (CPI)[12,18]	Sum: C_{10}-C_{12}-C_{14}[8,13,17]	Sum: C_{22}-C_{24}-C_{26}-C_{28}[8,14,17]	Weathering Index (WI)[15,18]
Station C													
First Collection Period - Sediment Cores													
1198082510	1	198	nd	-	-	-	-	-	-	-	-	-	-
1198082511	2	233	nd	-	-	-	-	-	-	-	-	-	-
1198082512	3	852	76.5	8.10	-	-	-	35.6	32.9	1.08	-	11.5	-
1198082513	4	5660	421	63.9	-	8.69	-	184	173	1.06	-	37.8	-
1198082514	5	8830	638	101	-	7.68	-	264	273	0.96	14.6	76.1	0.19
Whole Core: Average[5,6]		3150	239	35.1	-	7.69 [19]	-	103	100	1.03 [19]	< MDL	26.5	-
Whole Core: Std. Dev.		3910	277	45.1	-	-	-	114	118	-	-	31.1	-
Second Collection Period - Sediment Surface Skims													
897081103		225	nd	-	-	-	-	-	-	-	6.19	-	-
Station D													
First Collection Period - Sediment Cores													
1198082505	1	677	61.6	19.5	7.39	-	-	-	-	-	-	-	-
1198082506	2	3670	336	52.9	0.16	1.55	0.20	137	145	0.94	12.1	26.6	0.45
1198082507	3	4790	292	50.9	-	-	-	109	132	0.83	13.7	44.5	0.31
1198082508	4	7260	470	96.7	-	-	-	204	169	1.21	25.6	44.6	0.57
1198082509	5	8510	728	300	1.15	43.8	0.64	249	180	1.39	21.1	21.5	0.98
Whole Core: Average[5,6]		4980	377	104	0.51 [19]	10.7 [19]	0.39 [19]	143	127	1.13 [19]	15.1	28.1	0.54 [19]
Whole Core: Std. Dev.		3080	245	113	-	-	-	89.6	67.6	-	8.70	17.3	-
Second Collection Period - Sediment Surface Skims													
897081104		357	nd	4.65	-	-	-	nd	nd	-	nd	nd	-
MDL		181	59.0 [16]	2.63 [16]				33.9 [16]	22.4 [16]		5.99 [16]	6.89 [16]	

Table D2. Continued.

Footnotes:

[1] The concentrations of the individual aliphatic hydrocarbons and the total petroleum hydrocarbons were determined using external standard calculations.

[2] When an individual aliphatic hydrocarbon was not detected, its concentration was replaced by nd.

[3] The concentrations for n-C_8 will be not reported, since it was difficult to identify this peak in samples and to determine MDL for n-C_8. A value of 0 was used for each nondetected analyte in summation formulae.

[4] For the sediment cores, these numbers represent the depths into each core: 1 - depth 0 to 1 cm; 2 - depth 1 to 2 cm; 3 - depth 2 to 3 cm; 4 - depth 3 to 4 cm; and, 5 - depth 4 to 5 cm. For surface skims, the topmost 1 cm layer is removed from the sediment surface.

[5] The Whole Core Average and Standard Deviation is calculated using the concentrations for each analyte over all core sections.

[6] If all concentrations are nd, the average is replaced with nd. When there is at least one number in the data set to be averaged, each nd is replaced with 1/2*MDL, and an average is calculated. If this numeric value is less than the MDL, the average is replaced by < MDL; otherwise, the average is the calculated value. When a numeric value is found for the average, the standard deviation is then determined using the same number set used to calculate the average.

[7] Determined from the total peak areas in the chromatogram from n-C_8 to n-C_{40} minus any contributions from the internal standard areas.

[8] These formulae use 1/2MDL values for each analyte not detected.

[9] Sum of the concentrations of the individual aliphatic hydrocarbons n-C_9 through n-C_{40} plus the concentrations of pristane and phytane.

[10] The total of the concentrations of the aliphatic hydrocarbons with an odd number of carbon atoms.

[11] The total of the concentrations of the aliphatic hydrocarbons with an even number of carbon atoms. The contribution of n-C_8 is not included in the total.

[12] Carbon Preference Index (CPI) defined as the ratio of the total of the concentrations of the aliphatic hydrocarbons with an odd number of carbons to the total concentration of the alphatic hydrocarbons with an even carbon number.

[13] The total of the concentrations of n-C_{10}, n-C_{12}, and n-C_{14}.

[14] The total of the concentrations of n-C_{22}, n-C_{24}, n-C_{26}, and n-C_{28}.

[15] Weathering Index (WI) is defined as the ratio of the total concentration of n-C_{10}, n-C_{12}, and n-C_{14} to the total concentration of n-C_{22}, n-C_{24}, n-C_{26}, and n-C_{28}.

[16] These MDL values are calculated with the same summation formulae as the samples using the individual hydrocarbon MDL values.

[17] The summation totals for the samples are compared with calculated MDL values obtained using the same summation formulae as the samples. When these sample totals were less than the total MDL, its value was replaced by nd. The averages and standard deviations for the totals were treated in the same way as the individual hydrocarbons; see footnote 6.

[18] Numerical values of the CPI, WI, and the ratios: pristane/n-C_{17}, phytane/n-C_{18}, and pristane/phytane, will be calculated only when the defined quantity for each index or ratio has a numeric value.

[19] These results are not true averages, instead they are the ratios of the averages of the defined quantities, if these averages exist.