SUPPLEMENTARY MATERIAL

PAHs and Trace Metals in marine surficial sediments from the Porcupine Bank (NE Atlantic): A contribution to establishing background concentrations.

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Table S1. Sampling stations coordinates and basic characteristics

Station	Latitude	Longitude	Depth (m)	OM (%)	%<63 µm	% Al	Li (mg/kg dw)
M1	51°41'03''N	14°02'54''W	405	3.20	49.6	2.28	20.8
M2	51°49'30''N	14°01'31''W	389	4.58	19.2	2.50	22.9
M3	52°13'60''N	14°39'50''W	407	3.28	31.4	1.87	18.3
M4	52°17'01''N	13°42'55''W	388	4.94	68.5	0.23	20.0
M5	52°44'20''N	14°47'50''W	631	3.79	42.7	1.86	20.7
M6	52°21'49''N	14°14'10''W	329	4.27	47.0	1.96	20.1
M7	52°59'40''N	13°54'47''W	193	1.25	2.60	1.45	8.61
M8	52°56'41''N	13°25'5''W	241	2.00	7.74	1.61	13.4
M9	53°52'12''N	13°07'40''W	370	N.A.	N.A.	2.12	16.6
M10	53°22'52''N	14°13'12''W	268	1.65	8.57	2.28	12.3
M11	53°21'31''N	13°03'05''W	265	1.75	4.65	2.41	8.67
M12	53°15'39''N	12°43'49''W	343	2.23	34.3	2.24	14.7
M13	53°16'09''N	12°03'38''W	260	2.20	24.9	2.02	13.2
M14	51°48'19''N	14°48'05''W	495	4.00	36.6	2.48	15.4
M15	52°13'34''N	14°14'48''W	340	3.04	53.6	1.97	12.4
M16	52°27'20''N	14°49'51''W	622	4.18	45.9	2.44	16.4
M17	52°37'25''N	14°33'30''W	398	3.58	35.5	1.85	11.4
M18	53°03'44''N	14°32'37''W	378	2.98	28.1	2.69	10.6
M19	52°25'24''N	13°11'48''W	499	5.66	85.1	3.13	19.9
M20	52°18'06''N	12°46'08''W	640	4.98	73.1	3.34	22.2
M21	52°40'37''N	12°50'29''W	513	5.49	78.1	2.87	21.2
M22	52°49'00''N	13°48'23''W	320	2.44	59.7	2.95	14.2
M23	52°39'05''N	12°12'59''W	348	1.90	29.0	2.04	11.9
M24	53°38'10''N	11°41'41''W	259	2.23	28.4	1.85	12.3
M25	53°55'15''N	11°47'43''W	332	1.95	26.3	1.79	11.3
M26	53°41'34''N	13°54'32''W	394	2.03	7.08	2.08	9.69
M27	52°52'42''N	13°54'08''W	201	1.06	4.70	1.42	2.78
M28	53°21'05''N	12°22'58''W	347	2.27	29.2	2.08	12.7
M30	53°01'18''N	12°59'10''W	303	2.13	14.3	1.89	11.0
M31	53°14'36''N	12°01'47''W	246	1.56	20.1	1.80	11.7
M32	51°20'21''N	13°52'40''W	570	5.42	72.1	3.06	22.6
M33	53°39'47''N	13°36'18''W	267	1.53	6.67	2.30	11.2
M34	53°58'01''N	12°52'19''W	600	2.25	11.0	1.44	14.0
M35	52°41'53''N	14°22'55''W	360	2.48	37.1	2.05	16.4
M36	53°35'17''N	12°14'10''W	324	2.45	15.1	2.39	19.9
M37	53°45'50''N	11°34'52''W	269	1.74	30.5	2.23	14.8
M38	52°42'58''N	12°46'08''W	498	3.13	68.9	3.15	23.1
M39	52°50'38''N	12°45'11''W	445	2.48	53.0	2.63	18.0
M40	51°47'17''N	13°46'55''W	474	3.71	68.3	2.95	22.8
M41	52°33'04''N	14°31'55''W	389	1.69	12.3	2.03	12.1
M42	52°15'25''N	12°02'31''W	517	1.58	19.4	2.88	14.9
M43	53°56'46''N	12°11'28''W	413	1.38	4.52	1.74	10.6
M44	53°34'34''N	11°32'06''W	219	1.12	2.95	1.65	12.1
M45	52°51'32''N	12°06'11''W	253	1.40	8.88	1.91	13.0
M46	52°53'06''N	12°21'18''W	347	1.73	16.5	2.37	16.6
M47	52°03'32''N	12°08'02''W	738	0.97	42.9	2.43	21.6
M48	51°42'18''N	13°41'13''W	589	4.20	70.1	2.65	29.2
M49	51°16'08''N	14°01'48''W	524	3.14	30.0	1.50	17.2
M50	53°49'34''N	11°54'32''W	331	0.67	13.4	1.35	13.5
M51	52°35'02''N	13°57'43''W	280	1.71	24.7	N.A.	N.A.
M52	51°57'07''N	13°51'50''W	402	1.99	37.3	3.69	22.8
M53	52°07'08''N	12°58'26''W	708	1.47	71.0	4.75	34.2
M54	52°28'12''N	12°17'31''W	461	1.71	17.4	2.56	18.3
M55	52°27'11''N	13°09'58''W	499	3.03	65.8	4.70	34.5
M56	53°27'34''N	12°50'46''W	276	1.48	5.07	1.79	12.5
M57	53°27'08''N	14°15'36''W	346	1.52	1.46	1.67	12.6
M58	52°17'55''N	13°54'11''W	326	2.47	35.4	2.73	19.8
M59	51°37'21''N	13°32'22''W	731	4.46	57.7	4.52	37.9
M60	52°53'34''N	13°04'07''W	391	1.86	27.0	2.37	20.7

N.A.: not available.

Table S2: Organic pollutants (PAHs) concentrations in µg/kg d.w.

Sample	Phen	Ant	Fla	Pyr	BaA	Chrys	BeP	BbF	BkF	BaP	BghiP	dBahA	IP	Sum 13 PAHs
M1	2.25	0.48	1.56	2.35	0.48	1.11	4.22	2.53	1.01	0.53	1.38	0.38	2.10	20,4
M2	1.75	0.37	1.61	1.82	0.43	0.52	1.72	2.55	0.95	0.46	1.67	0.44	2.80	17,1
M3	2.05	0.65	1.60	2.23	0.44	0.61	1.28	1.92	0.73	0.36	1.14	0.37	1.47	14,9
M4	1.70	0.19	1.52	1.33	0.55	0.41	1.92	3.07	1.22	0.64	2.26	0.52	3.21	18,5
M5	2.73	1.18	2.18	3.20	0.70	0.93	1.87	2.87	1.03	0.42	1.36	0.59	2.20	21,3
M6	1.35	0.28	1.10	1.33	0.30	0.46	1.24	2.02	0.77	0.33	1.36	0.37	2.19	13,1
M7	0.62	0.30	0.51	0.83	0.12	<LOQ	0.43	0.46	0.20	0.10	0.54	<LOQ	0.87	4,98
M8	0.48	0.09	0.56	0.53	0.14	0.24	0.63	0.86	0.37	0.17	0.85	0.23	1.31	6,46
M9	1.16	0.46	0.99	1.25	0.27	0.42	0.70	1.16	0.41	0.20	0.83	0.24	1.31	9,40
M10	0.73	0.27	0.81	1.03	0.25	0.31	0.68	0.81	0.36	0.18	0.72	<LOQ	1.13	7,28
M11	1.49	0.52	1.13	1.83	0.20	0.22	0.76	0.91	0.37	0.17	0.81	0.24	1.22	9,87
M12	1.21	0.28	1.19	1.26	0.38	0.43	1.18	1.94	0.77	0.40	1.41	0.39	1.79	12,6
M13	1.55	0.28	1.09	1.18	0.39	0.59	1.08	1.64	0.68	0.36	1.18	0.23	1.80	12,1
M14	3.81	0.18	1.88	3.11	<LOQ	0.83	2.21	4.29	1.43	0.48	2.19	0.25	4.32	25,0
M15	1.58	0.32	1.04	1.38	<LOQ	0.44	1.13	2.28	0.82	0.34	1.41	0.20	2.47	13,4
M16	1.41	0.06	0.94	1.09	0.25	0.44	1.22	2.71	0.97	0.42	1.43	0.35	2.89	14,2
M17	0.80	<LOQ	0.62	0.62	<LOQ	0.26	0.77	1.60	0.59	0.27	1.05	0.22	1.79	8,59
M18	0.94	<LOQ	0.74	0.62	<LOQ	0.36	0.82	1.65	0.58	0.30	1.25	0.21	2.00	9,47
M19	1.68	<LOQ	1.43	1.23	0.46	1.08	1.82	3.91	1.42	0.70	2.44	0.47	3.96	20,6
M20	2.47	0.53	1.68	2.06	0.75	1.49	1.69	4.00	1.50	0.83	2.31	0.61	4.36	24,3
M21	2.84	0.22	2.27	2.38	1.12	1.92	2.81	6.02	2.28	1.32	3.38	0.83	6.19	33,6
M22	1.28	<LOQ	1.26	0.96	0.22	0.66	1.45	2.88	1.05	0.53	2.23	0.29	3.51	16,3
M23	1.59	0.10	1.55	1.56	0.38	0.91	1.23	2.73	1.09	0.76	1.76	<LOQ	3.07	16,7
M24	1.93	0.29	1.32	1.85	0.43	0.52	1.11	1.79	0.66	0.42	1.20	<LOQ	1.92	13,4

M25	1.33	<LOQ	0.60	0.80	<LOQ	0.20	0.59	1.17	0.37	0.18	0.84	<LOQ	1.22	7,40
M26	0.75	<LOQ	0.49	0.66	<LOQ	0.18	0.56	0.98	0.34	0.14	0.68	<LOQ	1.12	5,90
M27	0.69	<LOQ	0.51	0.79	<LOQ	<LOQ	0.43	0.81	0.26	0.10	0.72	<LOQ	1.24	5,55
M28	1.23	0.08	0.87	0.70	0.31	0.70	0.70	1.78	0.65	0.34	1.21	0.22	1.94	10,7
M30	1.55	<LOQ	0.85	1.25	<LOQ	0.37	0.82	1.41	0.53	0.23	1.13	<LOQ	1.74	9,88
M31	1.56	<LOQ	0.69	1.16	<LOQ	0.26	0.68	1.14	0.44	0.26	0.81	0.20	1.39	8,59
M32	3.01	<LOQ	1.66	2.27	0.18	0.91	1.87	4.08	1.33	0.61	2.08	0.25	3.78	22,0
M33	1.10	<LOQ	1.58	2.63	0.42	0.94	0.91	0.69	0.27	0.13	0.54	<LOQ	0.73	9,94
M34	3.60	2.37	2.86	4.99	0.26	0.90	1.22	1.66	0.59	0.18	0.72	0.28	1.65	21,3
M35	2.46	0.96	2.18	3.22	0.46	0.76	1.25	1.81	0.68	0.33	1.14	0.27	1.75	17,3
M36	2.93	0.71	2.05	3.16	0.51	1.15	1.34	1.94	0.78	0.43	1.37	0.31	1.97	18,7
M37	1.83	0.57	<LOQ	1.99	0.18	0.82	0.76	1.30	0.36	0.20	0.78	<LOQ	1.12	9,91
M38	4.18	1.83	2.71	3.92	0.63	1.44	2.22	3.63	1.26	0.75	2.17	0.50	3.42	28,7
M39	2.02	0.49	1.78	2.09	0.41	0.96	1.54	2.61	0.94	0.48	1.64	0.40	2.78	18,1
M40	2.94	0.97	2.84	3.19	0.82	1.54	2.33	3.68	1.46	0.92	2.12	0.52	3.72	27,1
M41	2.40	1.52	3.08	4.93	1.10	2.20	0.98	1.27	1.68	0.32	0.80	<LOQ	1.32	21,6
M42	5.10	2.32	3.37	4.92	1.19	2.38	1.82	1.91	0.81	0.78	1.36	0.20	2.05	28,2
M43	5.21	3.91	4.81	8.27	1.98	3.41	1.66	1.30	0.68	0.47	0.87	<LOQ	1.22	33,8
M44	3.21	1.31	2.24	3.22	0.74	1.33	1.04	1.32	0.66	0.60	0.97	<LOQ	1.35	18,0
M45	3.26	1.87	2.99	3.95	0.85	2.00	1.24	1.82	0.63	0.70	1.21	0.61	1.95	23,1
M46	3.74	1.88	3.10	4.03	1.17	1.56	2.02	2.67	1.08	0.87	1.99	0.32	3.06	27,5
M47	4.73	1.26	4.51	7.04	2.24	2.64	3.70	4.46	1.71	1.48	3.40	0.62	5.38	43,2
M48	7.88	3.84	5.38	9.25	1.80	2.52	2.13	2.93	0.94	0.86	1.79	0.42	2.59	42,3
M49	6.47	3.06	3.78	6.09	0.99	2.55	1.15	1.74	0.56	0.71	1.17	0.25	1.55	30,1
M50	2.75	1.15	2.07	2.92	0.85	1.58	1.01	1.31	0.38	0.49	0.81	<LOQ	1.19	16,5
M52	3.29	1.25	3.19	4.23	1.61	2.13	1.97	2.90	0.98	0.99	1.72	<LOQ	2.64	26,9
M53	5.84	3.01	5.23	7.29	2.47	3.57	3.30	4.47	1.56	1.46	2.25	<LOQ	4.58	45,0
M54	5.46	2.95	5.02	7.60	2.60	3.56	3.64	4.60	1.48	1.16	2.18	0.63	4.86	45,7

M55	7.90	2.17	5.61	7.92	1.99	2.83	4.20	5.15	1.69	1.76	3.70	0.61	5.55	51,1
M56	1.79	0.09	0.86	0.68	0.22	<LOQ	0.64	0.93	0.25	0.16	1.11	<LOQ	0.36	7,09
M57	1.52	0.10	0.47	0.61	0.17	0.26	0.45	0.46	<LOQ	<LOQ	0.47	<LOQ	0.77	5,28
M58	1.68	0.06	0.94	0.74	0.37	0.43	1.12	1.49	0.43	0.35	1.47	0.19	0.85	10,1
M59	2.88	0.38	2.05	2.00	0.77	1.70	2.33	4.07	1.10	0.81	2.58	0.82	2.22	23,7
M60	1.67	0.14	1.30	1.17	0.40	0.88	1.00	1.57	0.46	0.34	1.43	0.26	1.85	12,5
LOQ	0.08	0.03	0.22	0.12	0.10	0.14	0.28	0.18	0.13	0.09	0.15	0.19	0.29	

Table S3: Trace metals concentrations**.** Units for Al & Fe % rest of the metal in mg/kg d.w

Sample	Al (%)	As	Cd	Cr	Cu	Fe (%)	Hg	Li	Mn	Ni	Pb	Zn
M1	2.28	5.30	0.125	45.8	8.35	1.48	0.016	20.8	245	18.0	5.72	37.7
M2	2.50	1.84	0.108	40.4	5.72	1.59	0.014	22.9	245	12.6	4.69	41.2
M3	1.87	5.07	0.144	35.8	4.38	1.59	0.016	18.3	182	9.30	4.00	63.7
M4	0.23	2.06	0.108	13.4	4.26	0.94	0.013	20.0	183	7.36	3.32	42.9
M5	1.86	5.34	0.136	29.0	6.72	1.34	0.021	20.7	180	8.58	4.11	36.6
M6	1.96	6.27	0.123	33.3	4.12	1.49	0.012	20.1	201	7.13	4.67	42.0
M7	1.45	1.85	0.083	18.5	1.79	0.84	0.006	8.61	95.1	6.25	5.36	14.3
M8	1.61	3.44	0.137	41.7	2.69	1.20	0.008	13.4	158	7.41	6.07	19.7
M9	2.12	3.17	0.177	33.4	4.72	1.37	0.013	16.6	227	8.13	9.50	40.4
M10	2.28	1.61	0.120	20.9	4.77	1.15	0.009	12.3	182	3.59	7.14	21.8
M11	2.41	2.25	0.099	31.2	3.60	1.21	0.010	8.67	171	6.25	6.41	25.7
M12	2.24	4.23	0.111	37.9	4.69	1.81	0.009	14.7	204	8.63	8.42	24.7
M13	2.02	3.71	0.076	25.5	3.48	0.88	0.010	13.2	218	6.18	5.74	19.3
M14	2.48	5.62	0.133	39.1	7.32	1.49	0.068	15.4	168	14.0	7.58	42.0
M15	1.97	3.47	0.113	40.2	5.63	1.47	0.079	12.4	171	10.0	8.06	25.3
M16	2.44	5.79	0.144	42.6	9.64	1.51	0.032	16.4	175	15.6	8.08	52.1
M17	1.85	3.58	0.134	37.6	5.70	1.42	0.028	11.4	147	11.0	6.98	54.7
M18	2.69	2.30	0.112	36.9	6.20	1.44	0.013	10.6	167	10.7	6.97	37.6
M19	3.13	3.93	0.111	46.1	4.98	1.57	0.038	19.9	260	14.5	10.6	36.5
M20	3.34	4.66	0.114	50.7	9.61	1.67	0.129	22.2	220	16.1	9.80	48.0
M21	2.87	3.94	0.103	48.2	8.60	1.60	0.034	21.2	233	13.5	11.4	35.0
M22	2.95	2.89	0.107	39.9	5.61	1.47	0.044	14.2	188	11.6	8.38	38.8
M23	2.04	4.07	0.079	30.8	<LOQ	0.92	0.014	11.9	234	8.64	8.99	21.5
M24	1.85	4.33	0.062	30.6	3.88	1.02	0.035	12.3	183	10.9	8.49	17.0

M25	1.79	3.82	0.077	34.9	4.06	1.12	0.024	11.3	184	8.54	8.21	11.7
M26	2.08	3.18	0.175	53.0	5.02	1.98	0.045	9.69	180	18.3	8.81	34.8
M27	1.42	3.02	0.104	22.3	2.68	0.66	0.019	2.78	86.3	6.83	6.77	5.43
M28	2.08	4.46	0.075	38.5	<LOQ	1.27	0.048	12.7	180	7.76	8.72	22.3
M30	1.89	2.73	0.089	41.2	4.46	1.70	0.021	11.0	147	9.48	8.40	30.2
M31	1.80	5.39	0.060	26.6	3.74	0.83	0.018	11.7	165	9.73	7.67	25.5
M32	3.06	4.01	0.132	49.9	10.1	1.72	0.025	22.6	207	19.6	9.71	49.0
M33	2.30	6.57	0.035	23.6	3.35	1.08	0.013	11.2	122	9.97	10.5	22.3
M34	1.44	14.2	0.133	20.5	5.50	1.26	0.011	14.0	188	14.8	11.9	29.8
M35	2.05	9.84	0.055	25.6	5.35	1.26	0.015	16.4	171	13.5	7.53	25.2
M36	2.39	7.93	0.011	56.1	<LOQ	2.66	0.011	19.9	164	10.2	7.35	37.7
M37	2.23	8.15	0.022	21.7	<LOQ	0.88	0.007	14.8	185	7.40	7.71	24.5
M38	3.15	8.69	0.056	43.0	3.97	1.32	0.020	23.1	253	12.9	9.49	42.6
M39	2.63	8.07	0.046	29.7	<LOQ	1.05	0.013	18.0	225	10.4	8.78	32.5
M40	2.95	8.09	0.088	40.5	4.55	1.30	0.015	22.8	220	13.4	8.88	46.9
M41	2.03	6.16	0.106	31.4	<LOQ	1.13	0.012	12.1	156	8.10	6.73	34.5
M42	2.88	6.62	0.044	26.4	<LOQ	0.83	0.010	14.9	200	7.43	7.90	21.1
M43	1.74	7.32	0.092	21.6	<LOQ	0.85	0.009	10.6	140	6.69	8.37	26.2
M44	1.65	3.65	0.021	9.36	<LOQ	0.53	0.006	12.1	136	5.36	7.22	19.9
M45	1.91	5.27	<LOQ	12.8	<LOQ	0.57	0.006	13.0	171	6.59	6.69	21.3
M46	2.37	7.30	<LOQ	23.5	<LOQ	0.89	0.010	16.6	218	8.75	7.74	29.0
M47	2.43	7.27	<LOQ	37.4	4.96	1.18	0.022	21.6	228	12.7	8.40	39.6
M48	2.65	11.8	<LOQ	45.9	8.03	1.63	0.017	29.2	264	18.0	7.98	54.5
M49	1.50	8.66	<LOQ	29.9	3.63	1.03	0.020	17.2	188	11.2	6.82	40.7
M50	1.35	6.51	<LOQ	16.1	<LOQ	0.87	0.007	13.5	198	7.89	7.02	27.1
M52	3.69	9.18	0.061	45.0	8.06	1.45	0.012	22.8	244	9.76	8.54	30.6
M53	4.75	9.41	0.106	56.9	12.8	1.84	0.070	34.2	278	14.7	10.4	46.3
M54	2.56	9.15	0.054	26.4	6.24	0.88	0.009	18.3	203	6.90	8.73	19.6

M55	4.70	9.24	0.114	57.3	12.5	1.75	0.016	34.5	286	15.5	10.6	46.5
M56	1.79	7.47	0.068	27.5	4.46	0.96	0.007	12.5	157	4.56	9.10	21.6
M57	1.67	7.12	0.146	33.5	4.31	1.21	0.012	12.6	135	6.49	8.66	27.2
M58	2.73	8.10	0.091	38.2	6.35	1.31	0.008	19.8	198	7.69	8.27	26.5
M59	4.52	9.45	0.138	60.5	14.9	1.92	0.026	37.9	304	17.9	11.4	56.9
M60	2.37	8.57	0.044	30.7	5.21	1.22	0.007	20.7	219	6.09	9.24	25.8
LOQ	0.031%	0.189	0.009	0.178	1.09	0.007%	0.006	1.26	0.471	0.211	0.103	0.682

Table S4 Statistics figures from the Kruskal-Wallis study.

Kruskal-Wallis	H (*df*)	p-values	Significance	Conclusion
Al	115.4 (2)	0.000	S	very strong evidence to suggest a difference between at least one pair of groups
As	135.4 (2)	0.000	S	
Cd	153.8 (2)	0.000	S	
Cr	153.8 (2)	0.000	S	
Cu	122.4 (2)	0.000	S	
Fe	137.3 (2)	0.000	S	
Hg	153.8 (2)	0.000	S	
Li	152.8 (2)	0.000	S	
Mn	148.9 (2)	0.000	S	
Ni	152.8 (2)	0.000	S	
Pb	151.6 (2)	0.000	S	
Zn	153.7(2)	0.000	S	
Σ 13 PAHs	153.6 (2)	0.000	S	

Table S5. Kruskal-Wallis multiple correlation coefficient of studied pollutants against samples characteristics: grain fraction and organic matter.

R^2	Depth	O.M.	Grain fraction
Al	0.539	0.260	0.544
As	0.467	-0.084	0.151
Cd	0.148	0.400	0.159
Cr	0.523	0.499	0.569
Cu	0.625	0.541	0.593
Fe	0.428	0.508	0.441
Hg	0.390	0.375	0.463
Li	0.707	0.497	0.701
Mn	0.608	0.425	0.681
Ni	0.676	0.590	0.631
Pb	0.380	0.034	0.276
Zn	0.670	0.672	0.629
Phen	0.560	0.048	0.288
Ant	0.392	-0.169	0.030
Fla	0.552	-0.028	0.252
Pyr	0.501	-0.101	0.150
BaA	0.501	-0.107	0.226
Chrys	0.538	-0.059	0.245
BeP	0.621	0.293	0.568
BbF	0.712	0.580	0.785
BkF	0.647	0.517	0.705
BaP	0.607	0.220	0.577
BghiP	0.621	0.506	0.753
dBahA	0.510	0.577	0.541
IP	0.614	0.485	0.715
Σ 13 PAHs	0.668	0.178	0.472

Table S6. a) Comparison of proposed BC values with different BC values of PAHs compounds previously published. b) . Comparison of proposed BC with different BC values previously published for metals.

a)

Study					Concentration (µg/kg)													Reference
Place	Analytical method	Analytical technique	Background estimation	Value determination	Phe	Ant	Fla	Pyr	BaA	Chrys	BeP	BbF	BkF	BaP	BghiP	DBahA	IP	
Norwegian Sea and Barents Sea	n-hexane: CH2Cl2	GC-MS	Long sediment core	Mean (±SD) Norm. 2.5% TOC	5.4± 2.8	0.50± 0.03	1.8± 1.1	2.0± 1.2	1.5± 1.0	1.5± 0.89				0.92± 0.34	2.5± 1.2		2.6± 1.9	(Boitsov et al., 2020)
Faroe-Shetland Channel (Scotland)	etanol:CH2Cl2	GC-MS		Norm. 2.5% TOC	3.0± 0.71	0.16± 0.13	0.56± 0.35	1.14± 0.39	0.46± 0.38	1.4± 0.46				0.35± 0.25	2.4± 1.9		1.3±1.5	(Webster et al., 2018)
Galician Rias (Spain)	acetone: hexane	GC-MS	Deepest core sample		4.55	1.2	4.62	4.23	2.01	3.02	2.95	5.44	2.76	2.47	2.61	1.04	2.26	(Pérez-Fernández et al., 2019)
Porcupine Bank	Acetone :hexane	GC-MS			0.90	<0.03	0.59	0.69	<0.10	0.23	0.64	0.90	0.35	0.17	0.72	<0.19	1.12	This Study
OSPAR Area				Norm. 2.5% TOC	17	3	20	13	9	11				15	45		50	OSPAR,2009

b)

Study							Concentration (mg/kg; except Al and Fe in %)												Reference
Area	Place	Sample	Analytical method	Analytical technique	Background estimation	Value determination	Al%	As	Cd	Cr	Cu	Fe %	Hg	Li	Mn	Ni	Pb	Zn	
World	Global	Shale				Average	8.40	13		90	250	6.50			275	225	80.00	165	(Turekian and Wedepohl, 1961)
Spanish Coast	Galicia (coast)	Sediment	HF + HNO_3		Surface samples	Upper limit; Al normalized				32	28	2.60			244.33	32	53.00	122	(Carral et al., 1995)
	Galician Estuaries (Spain)	Marine sediment. FF Gr (Non Gr)	HF + HNO_3	AAS		Modal analysis; Al normalized				30 (54)	20 (35)	2.9 (3.3)				31 (38)	78 (50)	136 (120)	(Carballeira et al., 2000)

	Ferrol (Galicia. Spain)	Marine sediment.FF	HF + HNO_3	AAS	Long sediment core	Average; Fe normalized				63	12	2.4				26	27	55	(Cobelo-García and Prego, 2003)
	Rias Baixas (Galicia. Spain)	Sediment surface samples	HF + $HClO_4$ + HNO_3			Mean; Al normalized				34.04	29.41	3.51			216.11	30.32	51.29	105.34	(Rubio et al., 2000)
	San Simon Bay (Galicia. Spain)	Marine Sediment	–	X-ray Fluorescence	Deepest core samples	Mean; Al normalized	9.82	16.28		64.90	21.05	3.53				33.13	51.16	109.67	(Álvarez-Iglesias et al., 2006)
	Gulf of Cadiz (Spain)	Deep core	_	ICP-MS	Regional reference sample			23.00	-	65.00	15.00	1.85	0.10	-	310	27.00	35.00	83.00	(Sánchez-García et al., 2010)
	Gulf of Cadiz (Spain)	Marine Sediment	–	X-ray Fluorescence	Long sediment core			-	-		-		-			-	10-22	45-60	(Hanebuth et al.,,2018)
	Valencia (Spain)	Lake Sediment	HCl + HNO_3	FAAS	Sediment core	Upper limit			0.38		28.80	2.20			345.7	25.90	25.50	88.60	(Hernández-Crespo and Martín, 2015)
	Basque country (Spain)	Coast surface sediment	HCl + HNO_3		Surface samples	Upper limit; <63mm fraction			0.45	71	64	5.4			447	57	66	248	(Rodríguez et al., 2006)
Western Europe	Lublin Upland (Eastern Poland)	River sediment	HCl + HNO_3	AAS	Loess and sediment	Mean			0.70		9.00						19.00	35.00	(Zgłobicki et al., 2011)
Asia	Tehran (Iran)	Soil	HF + $HClO_4$ + HCl + HNO_3	AAS	Bottom soil (100cm)	Average			0.34	10.36	9.62					11.28	5.17	11.56	(Sayadi and Sayyed,, 2011)
North-East Atlantic	OSPAR Area	Marine Sediment. FF			Sediment cores	Normalised (5% Al)		15.00	0.20	60.00	20.00		0.05			30.00	25.00	90.00	(OSPAR, 2014)
	Porcupine Basin	Marine Sediment						2.60	0.01	20.8	<1.09	0.85	0.01	10.9	145	6.25	5.61	19.7	This Study

FF: fine fraction. the one lower than 63 mm

MS: medium sand

FS: fine sand

SC: Silt and Clay

Gr: granitic bedrock

Non Gr: non granitic bedrock

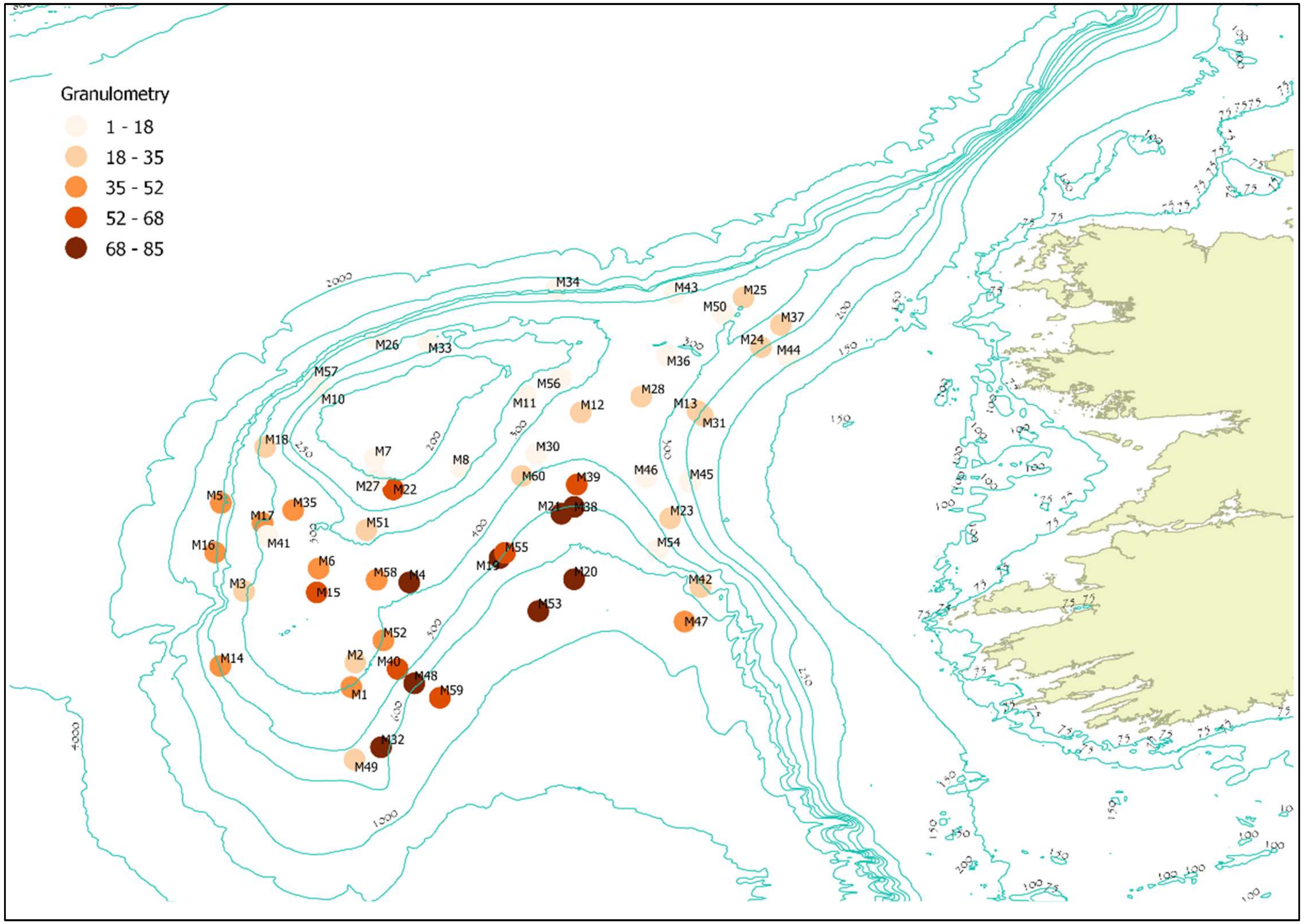

Fig.S1. Sediment granulometry distribution (% of fraction <63μm) of the sediments sampled on Porcupine Bank.

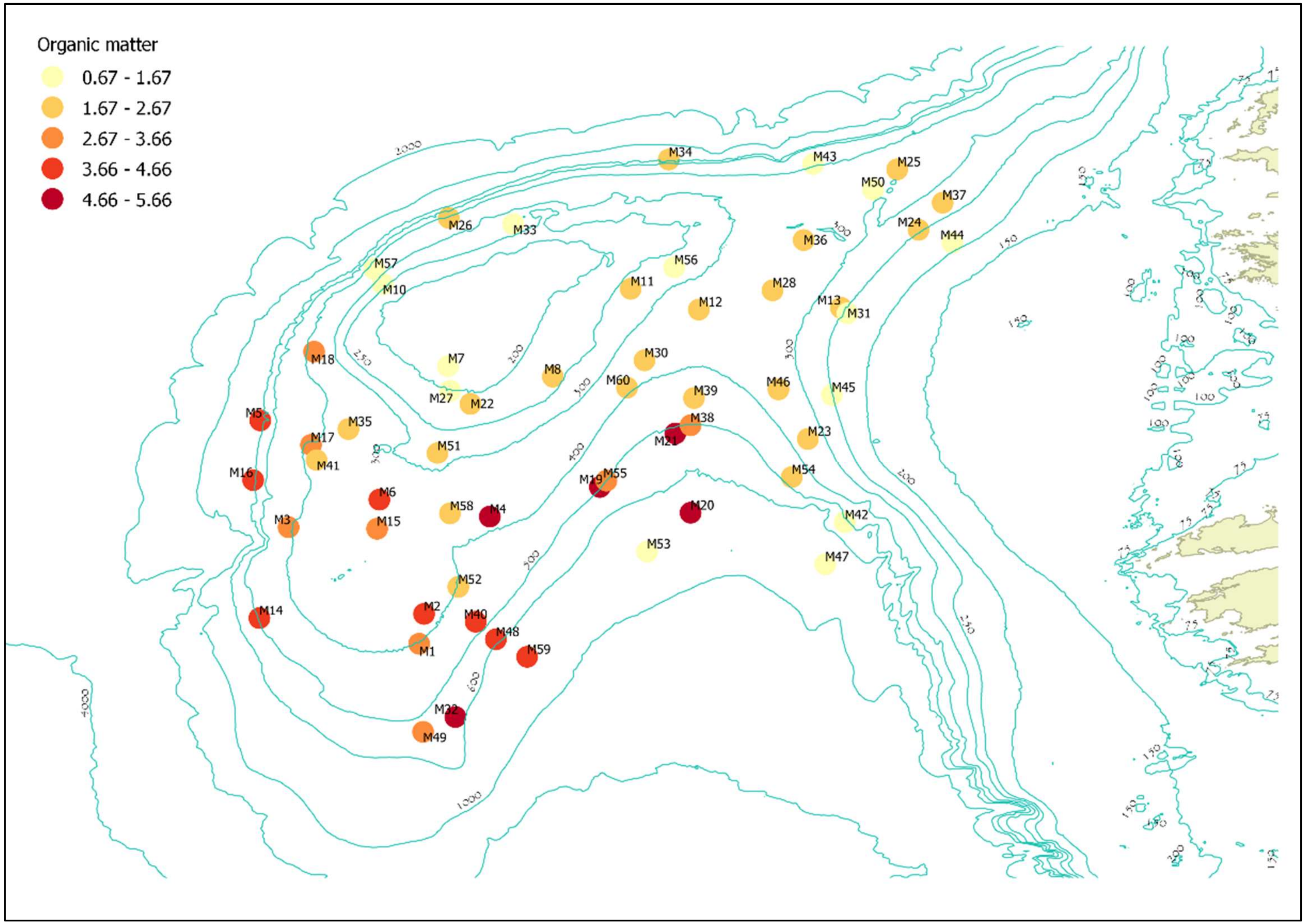

Fig. S2 Organic matter levels in the sediments sampled on the Porcupine Bank. Expressed as percentage.

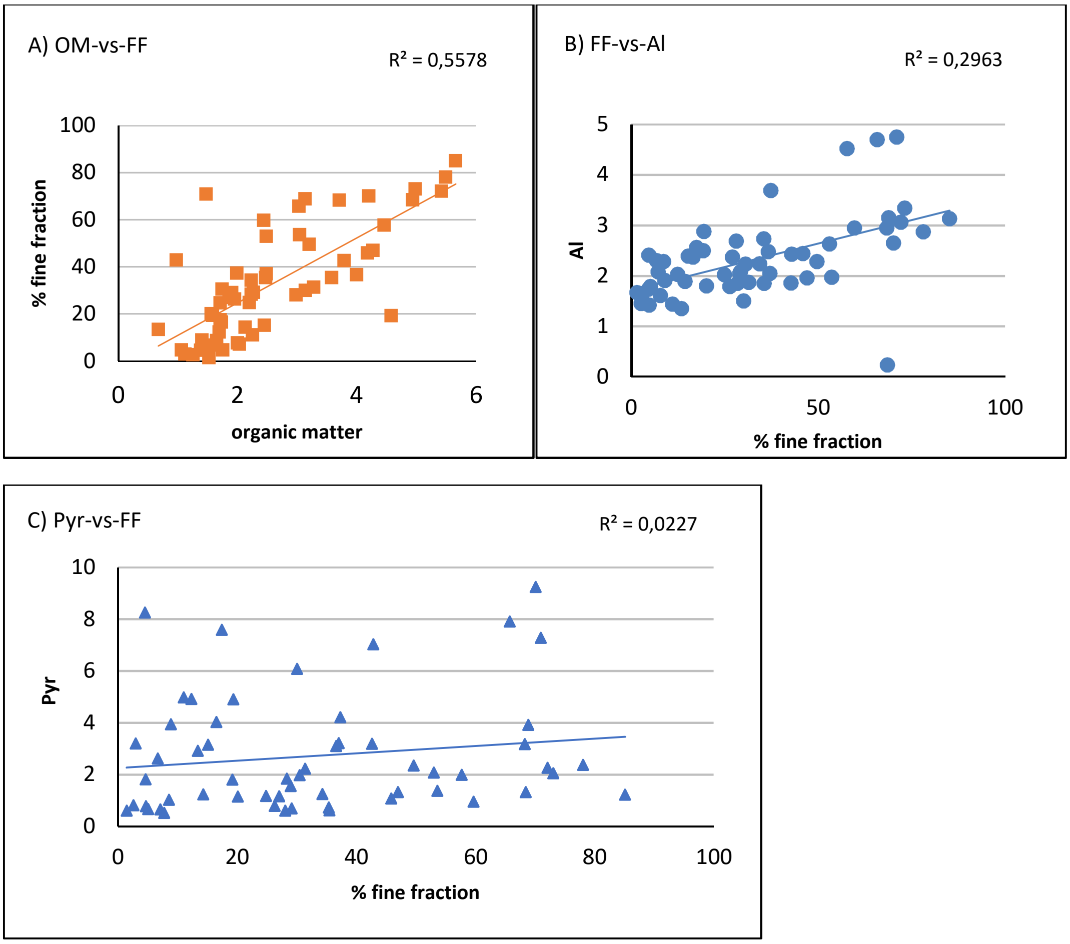

Fig. S3 Graphical representation of the A) O.M. Content –vs – % fine fraction (FF) ; B) % fine fraction –vs – Al concentrations and C) Pyrene concentration -vs- % fine fraction in the sediments sampled on the Porcupine Bank.

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