



Heavy metal characterisation in surface sediments off southeast coast of India: Implication on marine pollution

K Sanjaigandhi*^a, D Pradhap^b & G Nanthakumar^a

^aDepartment of Geology, Periyar University, PG-Extension Centre, Dharmapuri, Tamil Nadu – 636 701, India

^bDepartment of Geology, University of Madras, Guindy Campus, Chennai, Tamil Nadu – 600 025, India

*[E-mail: sanjai81kj@gmail.com]

Sr. No	Contents	Page No.
1	Table S1 — Estimated values of Contamination factor of surface sediments off Karaikal –Velankanni (Pre-monsoon)	ii
2	Table S2 — Estimated values of Contamination factor of surface sediments off Karaikal –Velankanni (Post-monsoon)	ii
3	Table S3 — Number of samples with different degree of CF in Karaikal-Velankanni offshore sediments	ii
4	Figure S1 — Schematic representation of the methodology followed for sediment analysis	iii
5	Figure S2 — Relationship between sand and CaCO ₃ in the sediments off Karaikal-Velankanni (Pre-monsoon)	iv
6	Figure S3 — Relationship between Clay and OM in the sediments off Karaikal-Velankanni (Post-monsoon)	iv
7	Figure S4 — Relationship between sand and CaCO ₃ in the sediments off Karaikal-Velankanni (Post-monsoon)	iv

Table S1 — Estimated values of Contamination factor of surface sediments off Karaikal –Velankanni (Pre-monsoon)

Sl. No	Mn	Cr	Ni	Zn	Cu	Pb
K1	1.12	1.16	1.45	2.44	2.81	2.86
K2	1.05	1.12	1.58	2.27	2.41	3.32
K3	1.06	1.17	1.27	2.35	2.61	2.66
K4	0.93	1.02	1.27	2.04	2.37	2.61
K5	0.91	0.94	1.22	2.15	2.16	2.53
K6	1.14	1.37	1.70	2.45	2.87	3.36
K7	1.17	1.28	1.55	2.44	2.76	3.01
K8	1.00	1.07	1.26	2.17	2.28	2.74
K9	1.28	1.43	1.71	2.66	3.06	3.55
K10	1.18	1.05	1.39	2.32	2.90	2.78
K11	1.02	1.10	1.17	2.06	2.15	2.72
K12	0.77	0.80	1.05	2.05	2.10	2.12
K13	1.05	1.09	1.57	2.42	2.49	3.43
K14	0.98	1.13	1.41	2.25	2.36	2.67
K15	0.85	1.06	1.13	2.00	2.09	2.34
K16	0.84	0.79	1.34	1.80	2.41	2.20
K17	0.91	0.96	1.23	2.28	2.14	2.53
K18	0.91	0.95	1.07	2.10	2.10	2.64
K19	0.83	0.86	1.08	2.05	1.68	2.64
K20	0.83	0.74	1.32	2.08	1.92	2.67
Min	0.77	0.74	1.05	1.8	1.68	2.12
Max	1.28	1.43	1.71	2.66	3.06	3.55
Mean	0.99	1.06	1.34	2.22	2.38	2.77

Table S2 — Estimated values of Contamination factor of surface sediments off Karaikal –Velankanni (Post-monsoon)

Sl. No	Mn	Cr	Ni	Zn	Cu	Pb
K1	1.22	4.83	2.74	1.11	2.06	3.00
K2	1.13	5.92	2.34	0.92	2.18	2.94
K3	1.08	4.71	2.10	0.94	2.08	2.95
K4	1.10	4.49	1.79	0.85	2.03	2.90
K5	1.08	4.83	2.01	0.88	1.90	2.91
K6	1.26	6.17	2.99	1.13	2.38	2.98
K7	1.16	5.57	2.47	1.14	2.08	2.96
K8	1.15	4.94	2.09	0.86	2.06	2.92
K9	1.15	5.95	2.41	0.97	2.17	2.95
K10	1.10	5.27	2.21	0.89	2.01	2.93
K11	1.11	5.17	1.84	0.93	2.08	2.95
K12	0.99	4.20	1.64	0.87	1.92	2.87
K13	1.18	4.91	2.58	1.02	2.14	2.99
K14	1.08	4.83	2.07	0.73	2.06	2.90
K15	1.05	4.61	1.74	0.97	1.86	2.88
K16	0.98	4.75	1.54	0.66	1.78	2.89
K17	1.13	4.68	1.94	0.85	2.00	2.90
K18	1.02	4.88	1.99	0.74	1.90	2.85
K19	1.03	4.57	1.99	0.61	1.80	2.85
K20	1.02	4.23	2.29	0.92	1.84	2.91
Min	0.98	4.20	1.54	0.61	1.78	2.85
Max	1.26	6.17	2.99	1.14	2.38	3.00
Mean	1.10	4.98	2.14	0.90	2.02	2.92

Table S3 — Number of samples with different degree of CF in Karaikal-Velankanni offshore sediments

Season	Pre-monsoon						Post-monsoon					
	Mn	Cr	Ni	Zn	Cu	Pb	Mn	Cr	Ni	Zn	Cu	Pb
CF Value < 1.0 (Low)	10	7	0	0	0	0	10	0	0	16	0	0
1 to 3 (Moderate)	10	13	20	20	19	15	10	0	20	4	20	20
3 to 6 (Considerable)	0	0	0	0	1	5	0	19	0	0	0	0
> 6 (Very High)	0	0	0	0	0	0	0	1	0	0	0	0

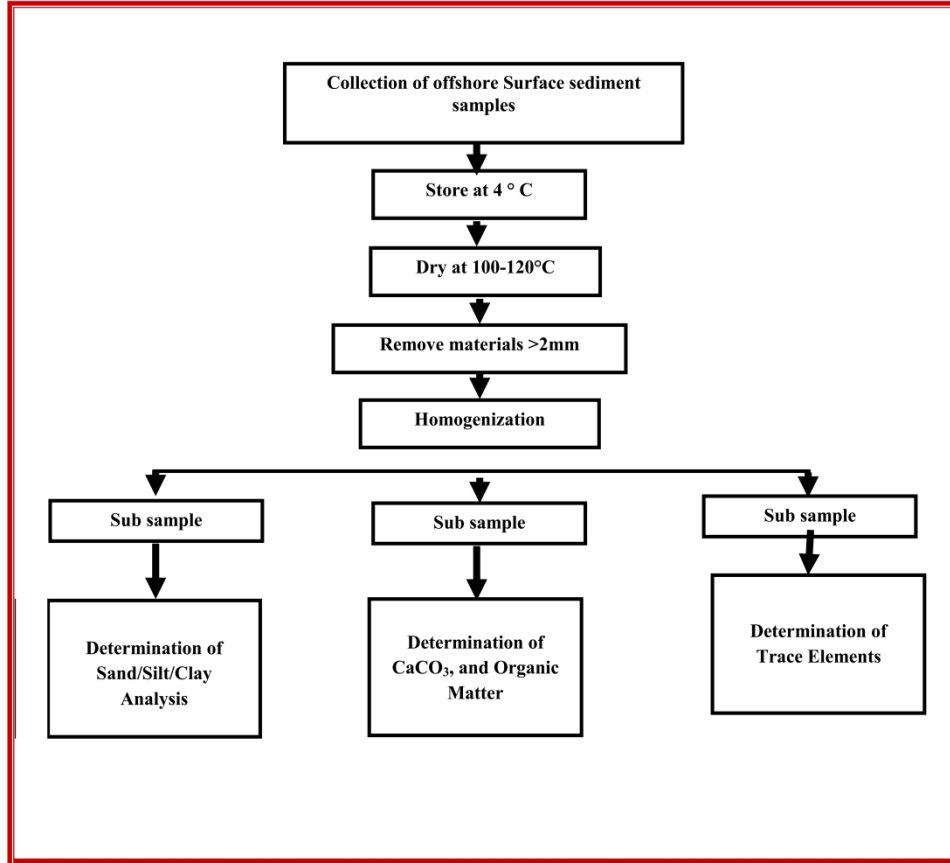
List of Supplementary Figures:

Fig. S1 — Relationship between sand and CaCO₃ in the sediments off Karaikal-Velankanni (Pre-monsoon)

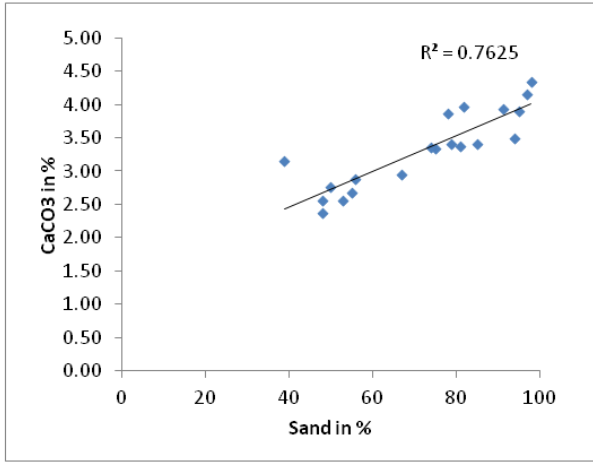


Fig. S2 — Relationship between Clay and OM in the sediments off Karaikal-Velankanni (Post-monsoon)

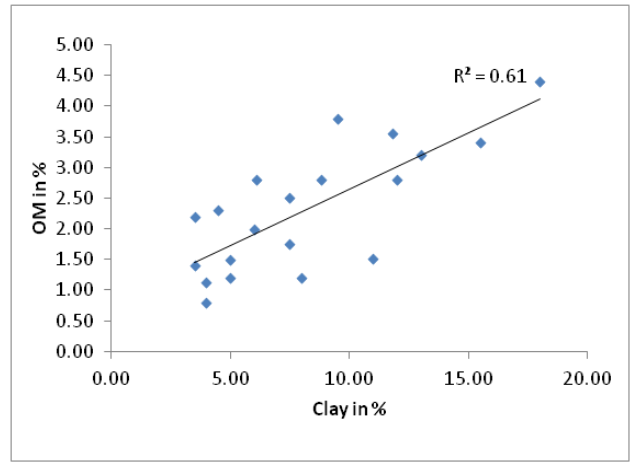


Fig. S3 — Relationship between sand and CaCO₃ in the sediments off Karaikal-Velankanni (Post-monsoon)

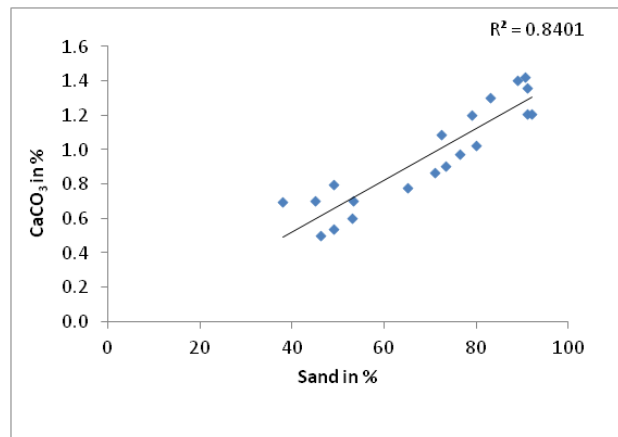


Fig. S4 — Schematic representation of the methodology followed for sediment analysis