

Table S2. Geochemical parameters in sediment layers (based on one core sample) and bottom water oxygen concentration (BWO) at each station in the southeastern Bering Sea sampled during *R/V Mirai* MR17-04 cruise Leg2 (JAMSTEC) from August 5 to 21, 2017.

Station	Sediment layer	TOC%	TN%	C/N molar	$\delta^{15}\text{N}$	$\delta^{13}\text{C}$	VLP ¹⁾ [no./ml]	Prokaryotes [no. /ml]	V/P ²⁾	Md [mm]	Mud%	Chlorophyll <i>a</i> [nmol/g]	Total pigments ³⁾ [nmol/g]	Pigment/TOC ⁴⁾ [nmol/μg TOC]	BWO [μmol/kg]
G	0-1 cm	3.979	0.491	9.45	4.71	-22.1	3.00E+07	1.12E+09	0.03	0.017	89.5	0.37	1.63	40.9	28
	1-2 cm	3.827	0.471	9.48	4.69	-22.1	2.66E+06	8.40E+08	0.00	0.016	92.3	N.D. ⁵⁾	N.D.	N.D.	
	2-3 cm	3.953	0.483	9.55	4.39	-22.0	3.73E+06	1.22E+09	0.00	0.017	89.5	N.D.	N.D.	N.D.	
B	0-1 cm	4.062	0.541	8.77	5.40	-21.8	5.52E+08	1.01E+09	0.55	0.031	72.7	0.14	2.37	58.4	24
	1-2 cm	1.345	0.155	10.13	5.38	-21.9	4.89E+08	9.26E+08	0.53	0.028	75.3	N.D.	N.D.	N.D.	
	2-3 cm	1.533	0.207	8.66	5.25	-21.8	5.35E+08	7.12E+08	0.75	0.029	74.8	N.D.	N.D.	N.D.	
M	0-1 cm	0.148	0.020	8.74	6.45	-21.3	5.94E+06	2.47E+08	0.02	0.488	0.7	0.00	0.03	19.0	218
	1-2 cm	0.100	0.014	8.09	6.94	-21.3	5.16E+06	2.01E+08	0.03	0.696	0.0	N.D.	N.D.	N.D.	
	2-3 cm	0.123	0.016	8.88	6.57	-21.1	8.98E+06	2.57E+08	0.03	0.759	0.0	N.D.	N.D.	N.D.	
C	0-1 cm	0.160	0.023	7.97	7.45	-20.5	5.76E+07	2.36E+08	0.24	1.180	0.0	0.00	0.12	75.8	225
	1-2 cm	0.115	0.021	6.31	7.31	-20.5	5.51E+08	2.38E+08	2.31	0.509	1.8	N.D.	N.D.	N.D.	
	2-3 cm	0.143	0.020	8.37	7.02	-21.3	6.10E+07	1.01E+08	0.60	0.634	0.4	N.D.	N.D.	N.D.	
E2	0-1 cm	0.254	0.037	8.10	5.77	-21.2	1.73E+07	4.46E+08	0.04	1.059	0.0	0.02	0.34	136.5	224
	1-2 cm	0.240	0.032	8.62	5.60	-21.7	5.59E+06	2.72E+08	0.02	1.479	0.0	N.D.	N.D.	N.D.	
	2-3 cm	0.176	0.020	10.29	5.69	-22.0	7.94E+06	3.55E+08	0.02	1.399	0.0	N.D.	N.D.	N.D.	

1) Virus-like particle, 2) Ratio of numbers of VLP/ Prokaryotes, 3) Chlorophyll *a* + pheopigments , 4) Total pigments per μg of TOC, 5) No available data.