

Supporting Information

“Has submarine groundwater discharge been overlooked as a source of mercury to coastal waters?” by S.E. Bone, M.A. Charette, C.H. Lamborg, and M.E. Gonnea contains three pieces of supplementary information. The first is a table (two pages) providing Hg, Fe, and DOC concentrations, as well as salinity and dissolved oxygen measurements for all water samples. The second is a figure (one page) that shows mercury versus organic carbon content in sediments. Lastly, a table (1 page) showing the results of a comparison between Hg concentrations for the two different water sample treatments is provided in the supplementary information.

Sample Site	ID	Depth (m)	Salinity	Hg (pM)	Fe (µM)	DO (mg/L)	DOC (µM)
PZ10	WB5-305	0.91	0.11	10.7	0.28	8.10	206
	WB5-306	1.52	0.11	11.9	0.56	2.64	285
	WB5-307	2.13	0.44	9.9	1.35	1.18	616
	WB5-308	2.74	0.35	4.4	25.19	1.18	411
	WB5-309	3.05	0.28	6.9	143.31	1.13	396
	WB5-310	3.96	0.09	9.9	64.02	2.31	185
	WB5-311	4.57	0.09	7.3	15.20	0.84	90
	WB5-312	5.18	0.08	5.4	17.14	2.58	45
	WB5-313	5.79	0.07	3.2	3.46	4.85	26
	WB5-314	6.40	0.50	6.1	10.08	1.05	20
PZ7	WB5-315	0.91	0.12	3.2	0.14	3.73	173
	WB5-316	1.52	0.13	3.2	2.25	1.22	208
	WB5-317	2.13	0.32	3.2	2.14	0.77	699
	WB5-318	2.74	0.31	3.2	10.74	0.87	490
	WB5-319	3.35	0.21	7.7	104.23	0.86	156
	WB5-320	3.96	0.15	11.3	96.44	0.79	64
	WB5-321	4.57	0.06	7.7	11.30	0.65	60
	WB5-322	5.18	0.05	1.8	7.69	7.03	30
	WB5-323	5.79	0.18	3.2	3.89	2.09	23
	WB5-324	6.40	0.31	3.2	2.91	0.85	28
	WB5-325	7.01	6.53	12.0	5.45	3.56	28
	WB5-326	7.16	7.48	17.2	0.72	3.05	26
	WB5-327	7.32	11.43	9.7	0.35	1.65	33
	WB5-328	7.47	13.19	11.5	0.29	2.06	40
	WB5-329	7.62	16.28	14.7	0.25	4.36	46
	WB5-330	7.92	16.30	42.0	0.13	1.84	47
PZ6	WB5-245	0.91	0.13	3.2	0.55	0.83	325
	WB5-246	1.52	0.34	3.6	2.85	1.24	720
	WB5-247	2.13	0.25	12.5	61.97	1.53	531
	WB5-248	3.35	0.06	3.2	3.29	1.27	80
	WB5-249	3.96	0.09	3.2	2.68	2.23	51
	WB5-250	4.27	0.10	3.2	1.27	4.98	38
	WB5-251	4.57	0.10	3.2	0.85	5.02	36
	WB5-252	4.88	0.18	16.7	0.92	2.63	22
	WB5-254	5.49	0.52	4.4	0.73	0.96	28
	WB5-255	5.64	6.07	10.0	0.69	1.98	37
	WB5-256	5.79	12.08	9.6	0.84	1.95	20
	WB5-257	5.94	16.39	11.7	0.59	1.40	24
	WB5-258	6.10	17.87	15.0	1.28	1.19	40
	WB5-259	6.25	18.92	13.0	1.27	4.26	39
	WB5-260	6.40	21.23	14.6	0.75	3.31	63
	WB5-261	6.71	23.86	18.7	0.18	1.20	119
	WB5-262	7.32	25.17	203.6	19.99	2.05	135
	WB5-263	7.92	25.84	29.4	20.36	0.84	116
	WB5-264	8.38	24.74	19.4	21.89	4.58	62
PZ11	WB5-203	0.30	0.54	47.1	0.20	3.24	242
	WB5-204	0.61	0.33	20.6	1.07	1.10	223
	WB5-205	1.22	0.23	99.0	3.47	1.10	840
	WB5-206	1.83	0.20	78.8	83.64	1.10	198
	WB5-207	2.44	0.08	111.4	4.67	0.97	80
	WB5-208	3.05	0.09	180.7	0.85	1.90	39
	WB5-209	3.66	0.08	180.1	0.40	5.11	27
	WB5-210	4.27	0.27	95.1	0.41	1.54	26
	WB5-211	4.88	1.16	112.4	0.54	1.96	20
	WB5-212	5.03	4.24	-	-	7.55	19
	WB5-213	5.18	9.29	89.9	0.72	4.10	33
	WB5-214	5.33	14.51	117.6	0.44	2.80	40
	WB5-215	5.49	17.47	124.3	0.40	2.45	36
	WB5-216	5.64	19.59	109.3	0.23	2.15	39
	WB5-217	5.79	20.46	93.3	0.38	1.93	68
	WB5-218	6.10	23.30	139.4	0.34	1.61	53
	WB5-219	6.40	24.88	128.1	0.58	1.56	37
	WB5-220	6.71	25.69	-	0.15	1.45	94
	WB5-221	7.32	26.36	-	17.85	3.16	82
	WB5-222	7.92	26.91	-	27.43	4.45	71

Sample Site	ID	Depth (m)	Salinity	Hg (pM)	Fe (µM)	DO (mg/L)	DOC (mM)
PZ3	WB5-223	0.30	0.24	3.2	3.38	1.09	816
	WB5-224	0.91	0.09	3.2	6.22	1.09	228
	WB5-225	1.52	0.05	3.2	8.03	1.12	65
	WB5-226	2.13	0.06	24.3	3.15	1.02	60
	WB5-227	2.44	0.07	3.2	1.23	1.46	43
	WB5-228	2.74	0.07	5.7	0.38	5.23	29
	WB5-229	3.05	0.10	12.4	0.21	3.73	25
	WB5-230	3.35	0.12	33.8	0.27	1.12	25
	WB5-231	3.66	0.86	86.4	0.46	0.85	24
	WB5-232	3.96	10.28	107.6	1.12	3.11	29
	WB5-233	3.96	5.88	89.6	0.86	1.66	13
	WB5-234	4.11	16.47	87.8	0.67	2.01	43
	WB5-235	4.27	18.16	74.6	0.31	1.50	55
	WB5-236	4.42	19.54	61.7	1.31	1.32	67
	WB5-237	4.57	22.10	25.9	0.26	0.92	54
	WB5-238	4.88	24.74	35.4	0.35	0.78	101
	WB5-239	5.18	25.75	41.0	0.19	0.84	95
	WB5-240	5.79	26.34	36.8	14.71	0.85	91
	WB5-241	6.40	26.46	16.9	23.82	0.78	120
	WB5-242	7.01	26.88	15.7	28.32	0.77	91
	WB5-243	7.62	27.18	20.7	31.88	0.72	129
	WB5-244	8.23	27.38	33.7	35.06	0.80	92
PZ12	WB5-287	0.30	25.91	62.2	1.09	1.55	237
	WB5-289	0.61	26.13	63.8	1.00	1.91	275
	WB5-290	0.91	24.63	195.1	1.64	1.68	
	WB5-291	1.22	24.78	168.9	2.46	1.33	264
	WB5-292	1.52	23.52	190.3	3.29	1.24	295
	WB5-293	1.83	24.76	194.2	1.69	5.72	346
	WB5-294	2.13	25.86	71.0	0.37	1.03	393
	WB5-295	2.74	26.74	70.4	4.16	1.04	434
	WB5-296	3.35	26.12	228.1	0.74	0.90	498
	WB5-297	3.96	26.28	262.1	1.26	0.93	699
	WB5-298	4.57	26.39	102.9	26.56	1.06	761
	WB5-299	5.18	26.52	225.0	32.79	1.26	819
	WB5-300	5.79	26.78	67.8	25.58	1.10	803
	WB5-301	6.40	27.14	67.2	32.67	0.85	869
	WB5-302	7.01	27.88	65.2	34.89	0.68	1161
	WB5-303	7.62	27.71	61.1	29.33	1.22	1555
	WB5-304	8.23	28.04	64.8	22.95	1.13	1764
surface water	WBS-1	-	20.54	188.7	0.47	-	201
	WBS-2	-	27.24	256.2	0.43	-	222
	WBS-5	-	29.10	80.3	0.15	-	201
	WBS-7	-	24.48	67.0	0.30	-	206
	WBS-8	-	26.61	50.4	0.27	-	199
	WBS-10	-	28.76	66.1	0.25	-	215
	WBS-11	-	29.67	76.2	0.84	-	201
	WBS-14	-	30.23	4.4	0.10	-	186
	WBS-16	-	29.57	16.2	0.22	-	184
	WBS-17	-	27.74	17.7	0.18	-	202
	WBS-18	-	29.38	44.3	-	-	188
	WBS-19	-	28.07	56.4	0.16	-	192
	WBS-20	-	29.13	50.5	0.18	-	232
	WBS-21	-	26.86	68.0	0.24	-	206
	WBS-24	-	28.76	61.1	0.27	-	196
	WBS-26	-	1.28	3.2	0.04	-	209
	WBS-27	-	28.48	51.4	0.97	-	183
	WBS-28	-	21.41	75.0	0.31	-	269

Sedimentary Hg vs. sedimentary organic carbon content; $r^2=0.82$, $n=9$.

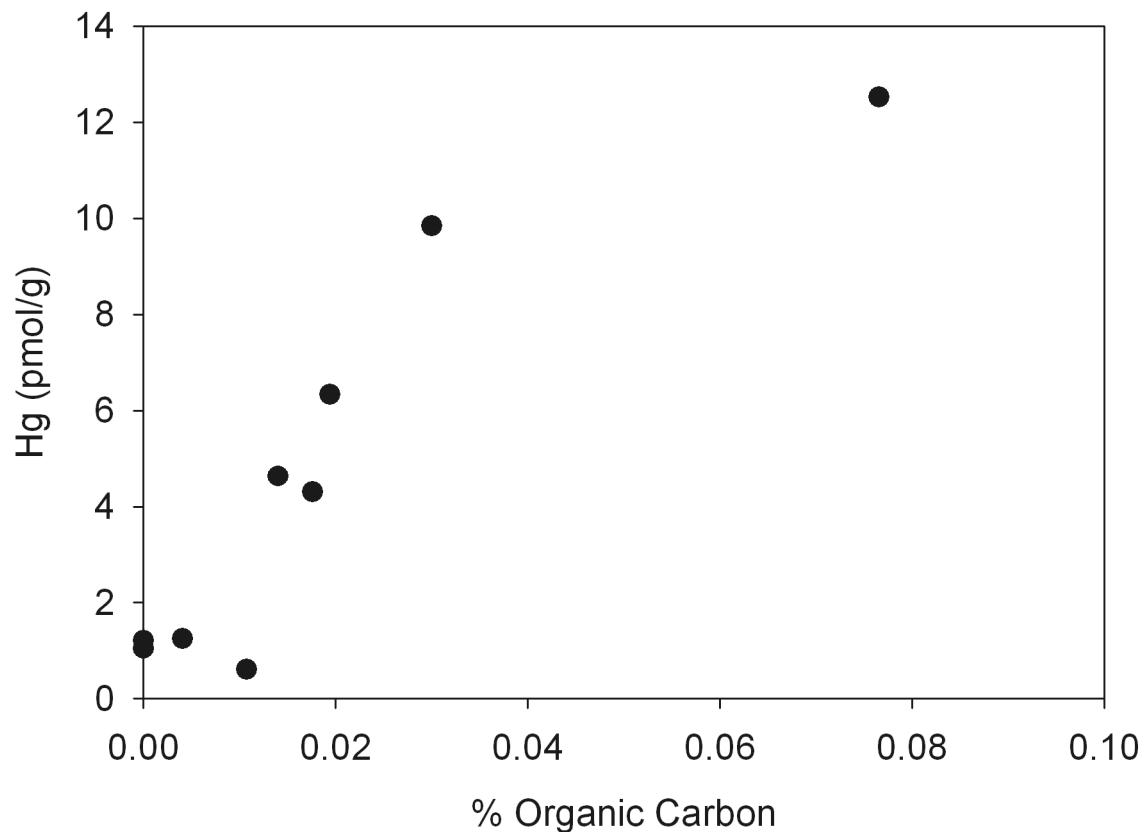


Table 1. Comparison of total dissolved Hg samples treated with hydrogen peroxide or bromine chloride. Values are total dissolved Hg in pM.

Treatment:		% peroxide/bromine chloride	Average %	Standard deviation
hydrogen peroxide	Bromine Chloride			
17.5	7.6	*229.4	108.6	10.9
11.1	11.6	95.5		
9.9	7.9	124.8		
8.6	6.2	*139.0		
10.9	11.2	97.0		
14.5	11.5	125.6		
15.1	12.2	122.9		
4.1	5.1	*79.4		
64.8	66.3	97.8		
61.1	60.3	101.3		
65.2	60.5	107.7		
67.2	58.1	115.6		
67.8	69.3	97.9		
62.2	49.3	126.0		
63.8	53.8	118.6		
195.1	176.4	110.6		
168.9	161.7	104.5		
190.3	164.9	115.4		
194.2	187.3	103.7		
71.0	72.0	98.5		
70.4	69.4	101.5		
228.1	230.9	98.8		

*These values were left out of the average because the total dissolved Hg concentrations were near the detection limit, which accounts for the discrepancy between the concentrations determined with peroxide and bromine.