

## Problems 1a&amp;b

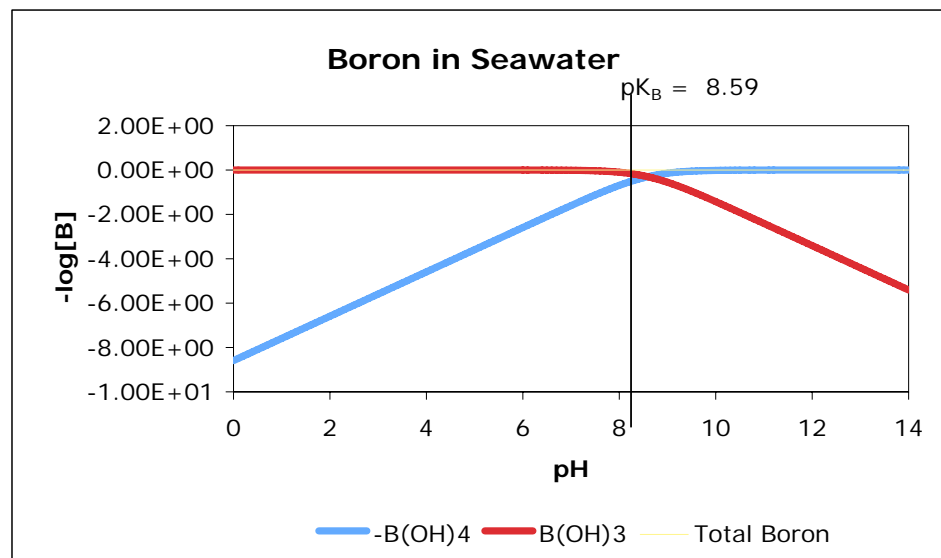
S	36	35.00	pKb	9.24
T	298.15	298.15	Kb (fw)	5.75E-10
ln (Kb/k)	-19.78	-19.80		
Kb/k	2.56E-09	2.53E-09		
Kb (molal/L)	2.56E-09	2.53E-09		
pKb (sw)	8.59	8.60		

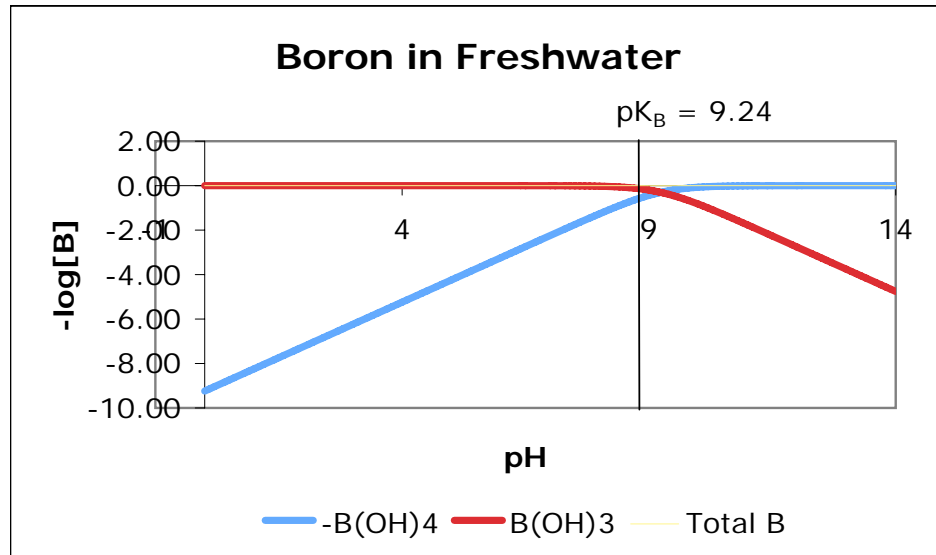
pH	[H <sup>+</sup> ]	seawater					freshwater			
		[B]t	[B(OH)4 <sup>-</sup> ]	log [B(OH)4 <sup>-</sup> ]	[B(OH)3]	log [B(OH)3]	[B]t	[B(OH)4 <sup>-</sup> ]	log [B(OH)4 <sup>-</sup> ]	[B(OH)3]
0	1	4.16E-04	2.56E-09	-8.59E+00	1.00E+00	4.16E-04	1.00E-06	5.75E-10	-9.24E+00	1.00E
0.1	0.79433	4.16E-04	3.22E-09	-8.49E+00	1.00E+00	4.16E-04	1.00E-06	7.24E-10	-9.14E+00	1.00E
0.2	0.63096	4.16E-04	4.06E-09	-8.39E+00	1.00E+00	4.16E-04	1.00E-06	9.12E-10	-9.04E+00	1.00E
0.3	0.50119	4.16E-04	5.11E-09	-8.29E+00	1.00E+00	4.16E-04	1.00E-06	1.15E-09	-8.94E+00	1.00E
0.4	0.39811	4.16E-04	6.43E-09	-8.19E+00	1.00E+00	4.16E-04	1.00E-06	1.45E-09	-8.84E+00	1.00E
0.5	0.31623	4.16E-04	8.10E-09	-8.09E+00	1.00E+00	4.16E-04	1.00E-06	1.82E-09	-8.74E+00	1.00E
0.6	0.25119	4.16E-04	1.02E-08	-7.99E+00	1.00E+00	4.16E-04	1.00E-06	2.29E-09	-8.64E+00	1.00E
0.7	0.19953	4.16E-04	1.28E-08	-7.89E+00	1.00E+00	4.16E-04	1.00E-06	2.88E-09	-8.54E+00	1.00E
0.8	0.15849	4.16E-04	1.62E-08	-7.79E+00	1.00E+00	4.16E-04	1.00E-06	3.63E-09	-8.44E+00	1.00E
0.9	0.12589	4.16E-04	2.03E-08	-7.69E+00	1.00E+00	4.16E-04	1.00E-06	4.57E-09	-8.34E+00	1.00E
1	0.1	4.16E-04	2.56E-08	-7.59E+00	1.00E+00	4.16E-04	1.00E-06	5.75E-09	-8.24E+00	1.00E
1.1	0.07943	4.16E-04	3.22E-08	-7.49E+00	1.00E+00	4.16E-04	1.00E-06	7.24E-09	-8.14E+00	1.00E
1.2	0.0631	4.16E-04	4.06E-08	-7.39E+00	1.00E+00	4.16E-04	1.00E-06	9.12E-09	-8.04E+00	1.00E
1.3	0.05012	4.16E-04	5.11E-08	-7.29E+00	1.00E+00	4.16E-04	1.00E-06	1.15E-08	-7.94E+00	1.00E
1.4	0.03981	4.16E-04	6.43E-08	-7.19E+00	1.00E+00	4.16E-04	1.00E-06	1.45E-08	-7.84E+00	1.00E
1.5	0.03162	4.16E-04	8.10E-08	-7.09E+00	1.00E+00	4.16E-04	1.00E-06	1.82E-08	-7.74E+00	1.00E
1.6	0.02512	4.16E-04	1.02E-07	-6.99E+00	1.00E+00	4.16E-04	1.00E-06	2.29E-08	-7.64E+00	1.00E
1.7	0.01995	4.16E-04	1.28E-07	-6.89E+00	1.00E+00	4.16E-04	1.00E-06	2.88E-08	-7.54E+00	1.00E
1.8	0.01585	4.16E-04	1.62E-07	-6.79E+00	1.00E+00	4.16E-04	1.00E-06	3.63E-08	-7.44E+00	1.00E
1.9	0.01259	4.16E-04	2.03E-07	-6.69E+00	1.00E+00	4.16E-04	1.00E-06	4.57E-08	-7.34E+00	1.00E
2	0.01	4.16E-04	2.56E-07	-6.59E+00	1.00E+00	4.16E-04	1.00E-06	5.75E-08	-7.24E+00	1.00E
2.1	0.00794	4.16E-04	3.22E-07	-6.49E+00	1.00E+00	4.16E-04	1.00E-06	7.24E-08	-7.14E+00	1.00E
2.2	0.00631	4.16E-04	4.06E-07	-6.39E+00	1.00E+00	4.16E-04	1.00E-06	9.12E-08	-7.04E+00	1.00E
2.3	0.00501	4.16E-04	5.11E-07	-6.29E+00	1.00E+00	4.16E-04	1.00E-06	1.15E-07	-6.94E+00	1.00E
2.4	0.00398	4.16E-04	6.43E-07	-6.19E+00	1.00E+00	4.16E-04	1.00E-06	1.45E-07	-6.84E+00	1.00E
2.5	0.00316	4.16E-04	8.10E-07	-6.09E+00	1.00E+00	4.16E-04	1.00E-06	1.82E-07	-6.74E+00	1.00E
2.6	0.00251	4.16E-04	1.02E-06	-5.99E+00	1.00E+00	4.16E-04	1.00E-06	2.29E-07	-6.64E+00	1.00E
2.7	0.002	4.16E-04	1.28E-06	-5.89E+00	1.00E+00	4.15E-04	1.00E-06	2.88E-07	-6.54E+00	1.00E
2.8	0.00158	4.16E-04	1.62E-06	-5.79E+00	1.00E+00	4.15E-04	1.00E-06	3.63E-07	-6.44E+00	1.00E
2.9	0.00126	4.16E-04	2.03E-06	-5.69E+00	1.00E+00	4.15E-04	1.00E-06	4.57E-07	-6.34E+00	1.00E

3	0.001	4.16E-04	2.56E-06	-5.59E+00	1.00E+00	4.15E-04	1.00E-06	5.75E-07	-6.24E+00	1.00E
3.1	0.00079	4.16E-04	3.22E-06	-5.49E+00	1.00E+00	4.15E-04	1.00E-06	7.24E-07	-6.14E+00	1.00E
3.2	0.00063	4.16E-04	4.06E-06	-5.39E+00	1.00E+00	4.14E-04	1.00E-06	9.12E-07	-6.04E+00	1.00E
3.3	0.0005	4.16E-04	5.11E-06	-5.29E+00	1.00E+00	4.14E-04	1.00E-06	1.15E-06	-5.94E+00	1.00E
3.4	0.0004	4.16E-04	6.43E-06	-5.19E+00	1.00E+00	4.13E-04	1.00E-06	1.45E-06	-5.84E+00	1.00E
3.5	0.00032	4.16E-04	8.10E-06	-5.09E+00	1.00E+00	4.12E-04	1.00E-06	1.82E-06	-5.74E+00	1.00E
3.6	0.00025	4.16E-04	1.02E-05	-4.99E+00	1.00E+00	4.12E-04	1.00E-06	2.29E-06	-5.64E+00	1.00E
3.7	0.0002	4.16E-04	1.28E-05	-4.89E+00	1.00E+00	4.10E-04	1.00E-06	2.88E-06	-5.54E+00	1.00E
3.8	0.00016	4.16E-04	1.62E-05	-4.79E+00	1.00E+00	4.09E-04	1.00E-06	3.63E-06	-5.44E+00	1.00E
3.9	0.00013	4.16E-04	2.03E-05	-4.69E+00	1.00E+00	4.07E-04	1.00E-06	4.57E-06	-5.34E+00	1.00E
4	0.0001	4.16E-04	2.56E-05	-4.59E+00	1.00E+00	4.05E-04	1.00E-06	5.75E-06	-5.24E+00	1.00E
4.1	7.9E-05	4.16E-04	3.22E-05	-4.49E+00	1.00E+00	4.02E-04	1.00E-06	7.24E-06	-5.14E+00	1.00E
4.2	6.3E-05	4.16E-04	4.06E-05	-4.39E+00	1.00E+00	3.98E-04	1.00E-06	9.12E-06	-5.04E+00	1.00E
4.3	5E-05	4.16E-04	5.11E-05	-4.29E+00	1.00E+00	3.94E-04	1.00E-06	1.15E-05	-4.94E+00	1.00E
4.4	4E-05	4.16E-04	6.43E-05	-4.19E+00	1.00E+00	3.88E-04	1.00E-06	1.45E-05	-4.84E+00	1.00E
4.5	3.2E-05	4.16E-04	8.10E-05	-4.09E+00	1.00E+00	3.81E-04	1.00E-06	1.82E-05	-4.74E+00	1.00E
4.6	2.5E-05	4.16E-04	1.02E-04	-3.99E+00	1.00E+00	3.72E-04	1.00E-06	2.29E-05	-4.64E+00	1.00E
4.7	2E-05	4.16E-04	1.28E-04	-3.89E+00	1.00E+00	3.60E-04	1.00E-06	2.88E-05	-4.54E+00	1.00E
4.8	1.6E-05	4.16E-04	1.62E-04	-3.79E+00	1.00E+00	3.46E-04	1.00E-06	3.63E-05	-4.44E+00	1.00E
4.9	1.3E-05	4.16E-04	2.03E-04	-3.69E+00	1.00E+00	3.28E-04	1.00E-06	4.57E-05	-4.34E+00	1.00E
5	0.00001	4.16E-04	2.56E-04	-3.59E+00	1.00E+00	3.05E-04	1.00E-06	5.75E-05	-4.24E+00	1.00E
5.1	7.9E-06	4.16E-04	3.22E-04	-3.49E+00	1.00E+00	2.76E-04	1.00E-06	7.24E-05	-4.14E+00	1.00E
5.2	6.3E-06	4.16E-04	4.06E-04	-3.39E+00	1.00E+00	2.40E-04	1.00E-06	9.12E-05	-4.04E+00	1.00E
5.3	5E-06	4.16E-04	5.11E-04	-3.29E+00	1.00E+00	1.94E-04	1.00E-06	1.15E-04	-3.94E+00	1.00E
5.4	4E-06	4.16E-04	6.43E-04	-3.19E+00	1.00E+00	1.37E-04	1.00E-06	1.45E-04	-3.84E+00	1.00E
5.5	3.2E-06	4.16E-04	8.09E-04	-3.09E+00	1.00E+00	6.47E-05	1.00E-06	1.82E-04	-3.74E+00	1.00E
5.6	2.5E-06	4.16E-04	1.02E-03	-2.99E+00	1.00E+00	-2.62E-05	1.00E-06	2.29E-04	-3.64E+00	1.00E
5.7	2E-06	4.16E-04	1.28E-03	-2.89E+00	1.00E+00	-1.41E-04	1.00E-06	2.88E-04	-3.54E+00	1.00E
5.8	1.6E-06	4.16E-04	1.61E-03	-2.79E+00	9.99E-01	-2.85E-04	1.00E-06	3.63E-04	-3.44E+00	1.00E
5.9	1.3E-06	4.16E-04	2.03E-03	-2.69E+00	9.99E-01	-4.66E-04	1.00E-06	4.57E-04	-3.34E+00	1.00E
6	1E-06	4.16E-04	2.55E-03	-2.59E+00	9.98E-01	-6.94E-04	1.00E-06	5.75E-04	-3.24E+00	9.99E
6.1	7.9E-07	4.16E-04	3.21E-03	-2.49E+00	9.98E-01	-9.81E-04	1.00E-06	7.24E-04	-3.14E+00	9.99E
6.2	6.3E-07	4.16E-04	4.04E-03	-2.39E+00	9.97E-01	-1.34E-03	1.00E-06	9.11E-04	-3.04E+00	9.99E
6.3	5E-07	4.16E-04	5.08E-03	-2.29E+00	9.96E-01	-1.80E-03	1.00E-06	1.15E-03	-2.94E+00	9.99E
6.4	4E-07	4.16E-04	6.39E-03	-2.19E+00	9.95E-01	-2.37E-03	1.00E-06	1.44E-03	-2.84E+00	9.99E
6.5	3.2E-07	4.16E-04	8.04E-03	-2.10E+00	9.93E-01	-3.08E-03	1.00E-06	1.82E-03	-2.74E+00	9.98E
6.6	2.5E-07	4.16E-04	1.01E-02	-2.00E+00	9.91E-01	-3.99E-03	1.00E-06	2.29E-03	-2.64E+00	9.98E
6.7	2E-07	4.16E-04	1.27E-02	-1.90E+00	9.88E-01	-5.12E-03	1.00E-06	2.88E-03	-2.54E+00	9.97E
6.8	1.6E-07	4.16E-04	1.59E-02	-1.80E+00	9.85E-01	-6.54E-03	1.00E-06	3.62E-03	-2.44E+00	9.96E

6.9	1.3E-07	4.16E-04	1.99E-02	-1.70E+00	9.81E-01	-8.32E-03	1.00E-06	4.55E-03	-2.34E+00	9.95E
7	1E-07	4.16E-04	2.50E-02	-1.60E+00	9.76E-01	-1.06E-02	1.00E-06	5.72E-03	-2.24E+00	9.94E
7.1	7.9E-08	4.16E-04	3.12E-02	-1.51E+00	9.70E-01	-1.34E-02	1.00E-06	7.19E-03	-2.14E+00	9.93E
7.2	6.3E-08	4.16E-04	3.90E-02	-1.41E+00	9.62E-01	-1.69E-02	1.00E-06	9.04E-03	-2.04E+00	9.91E
7.3	5E-08	4.16E-04	4.86E-02	-1.31E+00	9.52E-01	-2.12E-02	1.00E-06	1.14E-02	-1.94E+00	9.89E
7.4	4E-08	4.16E-04	6.05E-02	-1.22E+00	9.41E-01	-2.66E-02	1.00E-06	1.42E-02	-1.85E+00	9.86E
7.5	3.2E-08	4.16E-04	7.49E-02	-1.13E+00	9.26E-01	-3.34E-02	1.00E-06	1.79E-02	-1.75E+00	9.82E
7.6	2.5E-08	4.16E-04	9.25E-02	-1.03E+00	9.08E-01	-4.17E-02	1.00E-06	2.24E-02	-1.65E+00	9.78E
7.7	2E-08	4.16E-04	1.14E-01	-9.44E-01	8.87E-01	-5.20E-02	1.00E-06	2.80E-02	-1.55E+00	9.72E
7.8	1.6E-08	4.16E-04	1.39E-01	-8.57E-01	8.62E-01	-6.46E-02	1.00E-06	3.50E-02	-1.46E+00	9.65E
7.9	1.3E-08	4.16E-04	1.69E-01	-7.72E-01	8.32E-01	-7.99E-02	1.00E-06	4.37E-02	-1.36E+00	9.56E
8	1E-08	4.16E-04	2.04E-01	-6.90E-01	7.97E-01	-9.85E-02	1.00E-06	5.44E-02	-1.26E+00	9.46E
8.1	7.9E-09	4.16E-04	2.44E-01	-6.13E-01	7.57E-01	-1.21E-01	1.00E-06	6.76E-02	-1.17E+00	9.32E
8.2	6.3E-09	4.16E-04	2.89E-01	-5.39E-01	7.12E-01	-1.47E-01	1.00E-06	8.36E-02	-1.08E+00	9.16E
8.3	5E-09	4.16E-04	3.38E-01	-4.71E-01	6.63E-01	-1.79E-01	1.00E-06	1.03E-01	-9.87E-01	8.97E
8.4	4E-09	4.16E-04	3.92E-01	-4.07E-01	6.09E-01	-2.15E-01	1.00E-06	1.26E-01	-8.99E-01	8.74E
8.5	3.2E-09	4.16E-04	4.48E-01	-3.49E-01	5.53E-01	-2.57E-01	1.00E-06	1.54E-01	-8.13E-01	8.46E
8.6	2.5E-09	4.16E-04	5.05E-01	-2.97E-01	4.96E-01	-3.05E-01	1.00E-06	1.86E-01	-7.30E-01	8.14E
8.7	2E-09	4.16E-04	5.62E-01	-2.50E-01	4.39E-01	-3.58E-01	1.00E-06	2.24E-01	-6.50E-01	7.76E
8.8	1.6E-09	4.16E-04	6.18E-01	-2.09E-01	3.83E-01	-4.17E-01	1.00E-06	2.66E-01	-5.75E-01	7.34E
8.9	1.3E-09	4.16E-04	6.71E-01	-1.73E-01	3.30E-01	-4.81E-01	1.00E-06	3.14E-01	-5.03E-01	6.86E
9	1E-09	4.16E-04	7.20E-01	-1.43E-01	2.81E-01	-5.51E-01	1.00E-06	3.65E-01	-4.37E-01	6.35E
9.1	7.9E-10	4.16E-04	7.64E-01	-1.17E-01	2.37E-01	-6.25E-01	1.00E-06	4.20E-01	-3.77E-01	5.80E
9.2	6.3E-10	4.16E-04	8.03E-01	-9.53E-02	1.98E-01	-7.03E-01	1.00E-06	4.77E-01	-3.21E-01	5.23E
9.3	5E-10	4.16E-04	8.37E-01	-7.73E-02	1.64E-01	-7.85E-01	1.00E-06	5.34E-01	-2.72E-01	4.66E
9.4	4E-10	4.16E-04	8.66E-01	-6.24E-02	1.35E-01	-8.70E-01	1.00E-06	5.91E-01	-2.28E-01	4.09E
9.5	3.2E-10	4.16E-04	8.91E-01	-5.02E-02	1.10E-01	-9.58E-01	1.00E-06	6.45E-01	-1.90E-01	3.55E
9.6	2.5E-10	4.16E-04	9.11E-01	-4.02E-02	8.95E-02	-1.05E+00	1.00E-06	6.96E-01	-1.57E-01	3.04E
9.7	2E-10	4.16E-04	9.29E-01	-3.22E-02	7.24E-02	-1.14E+00	1.00E-06	7.43E-01	-1.29E-01	2.57E
9.8	1.6E-10	4.16E-04	9.43E-01	-2.57E-02	5.84E-02	-1.23E+00	1.00E-06	7.84E-01	-1.06E-01	2.16E
9.9	1.3E-10	4.16E-04	9.54E-01	-2.04E-02	4.69E-02	-1.33E+00	1.00E-06	8.20E-01	-8.59E-02	1.80E
10	1E-10	4.16E-04	9.63E-01	-1.62E-02	3.76E-02	-1.42E+00	1.00E-06	8.52E-01	-6.96E-02	1.48E
10.1	7.9E-11	4.16E-04	9.71E-01	-1.29E-02	3.01E-02	-1.52E+00	1.00E-06	8.79E-01	-5.62E-02	1.21E
10.2	6.3E-11	4.16E-04	9.77E-01	-1.02E-02	2.41E-02	-1.62E+00	1.00E-06	9.01E-01	-4.52E-02	9.88E
10.3	5E-11	4.16E-04	9.82E-01	-8.01E-03	1.92E-02	-1.72E+00	1.00E-06	9.20E-01	-3.63E-02	8.01E
10.4	4E-11	4.16E-04	9.86E-01	-6.29E-03	1.53E-02	-1.81E+00	1.00E-06	9.35E-01	-2.91E-02	6.47E
10.5	3.2E-11	4.16E-04	9.89E-01	-4.92E-03	1.22E-02	-1.91E+00	1.00E-06	9.48E-01	-2.32E-02	5.21E
10.6	2.5E-11	4.16E-04	9.91E-01	-3.83E-03	9.73E-03	-2.01E+00	1.00E-06	9.58E-01	-1.86E-02	4.18E
10.7	2E-11	4.16E-04	9.93E-01	-2.96E-03	7.74E-03	-2.11E+00	1.00E-06	9.66E-01	-1.48E-02	3.35E

10.8	1.6E-11	4.16E-04	9.95E-01	-2.27E-03	6.16E-03	-2.21E+00	1.00E-06	9.73E-01	-1.18E-02	2.68E
10.9	1.3E-11	4.16E-04	9.96E-01	-1.72E-03	4.90E-03	-2.31E+00	1.00E-06	9.79E-01	-9.40E-03	2.14E
11	1E-11	4.16E-04	9.97E-01	-1.28E-03	3.90E-03	-2.41E+00	1.00E-06	9.83E-01	-7.48E-03	1.71E
11.1	7.9E-12	4.16E-04	9.98E-01	-9.30E-04	3.10E-03	-2.51E+00	1.00E-06	9.86E-01	-5.95E-03	1.36E
11.2	6.3E-12	4.16E-04	9.98E-01	-6.53E-04	2.46E-03	-2.61E+00	1.00E-06	9.89E-01	-4.74E-03	1.08E
11.3	5E-12	4.16E-04	9.99E-01	-4.34E-04	1.96E-03	-2.71E+00	1.00E-06	9.91E-01	-3.77E-03	8.63E
11.4	4E-12	4.16E-04	9.99E-01	-2.59E-04	1.55E-03	-2.81E+00	1.00E-06	9.93E-01	-2.99E-03	6.87E
11.5	3.2E-12	4.16E-04	1.00E+00	-1.20E-04	1.24E-03	-2.91E+00	1.00E-06	9.95E-01	-2.38E-03	5.47E
11.6	2.5E-12	4.16E-04	1.00E+00	-1.01E-05	9.82E-04	-3.01E+00	1.00E-06	9.96E-01	-1.89E-03	4.35E
11.7	2E-12	4.16E-04	1.00E+00	7.75E-05	7.80E-04	-3.11E+00	1.00E-06	9.97E-01	-1.50E-03	3.46E
11.8	1.6E-12	4.16E-04	1.00E+00	1.47E-04	6.20E-04	-3.21E+00	1.00E-06	9.97E-01	-1.19E-03	2.75E
11.9	1.3E-12	4.16E-04	1.00E+00	2.02E-04	4.92E-04	-3.31E+00	1.00E-06	9.98E-01	-9.48E-04	2.18E
12	1E-12	4.16E-04	1.00E+00	2.46E-04	3.91E-04	-3.41E+00	1.00E-06	9.98E-01	-7.53E-04	1.73E
12.1	7.9E-13	4.16E-04	1.00E+00	2.81E-04	3.11E-04	-3.51E+00	1.00E-06	9.99E-01	-5.98E-04	1.38E
12.2	6.3E-13	4.16E-04	1.00E+00	3.09E-04	2.47E-04	-3.61E+00	1.00E-06	9.99E-01	-4.75E-04	1.10E
12.3	5E-13	4.16E-04	1.00E+00	3.31E-04	1.96E-04	-3.71E+00	1.00E-06	9.99E-01	-3.77E-04	8.70E
12.4	4E-13	4.16E-04	1.00E+00	3.48E-04	1.56E-04	-3.81E+00	1.00E-06	9.99E-01	-2.99E-04	6.91E
12.5	3.2E-13	4.16E-04	1.00E+00	3.62E-04	1.24E-04	-3.91E+00	1.00E-06	9.99E-01	-2.38E-04	5.49E
12.6	2.5E-13	4.16E-04	1.00E+00	3.73E-04	9.82E-05	-4.01E+00	1.00E-06	1.00E+00	-1.89E-04	4.36E
12.7	2E-13	4.16E-04	1.00E+00	3.82E-04	7.80E-05	-4.11E+00	1.00E-06	1.00E+00	-1.50E-04	3.47E
12.8	1.6E-13	4.16E-04	1.00E+00	3.89E-04	6.20E-05	-4.21E+00	1.00E-06	1.00E+00	-1.19E-04	2.75E
12.9	1.3E-13	4.16E-04	1.00E+00	3.95E-04	4.92E-05	-4.31E+00	1.00E-06	1.00E+00	-9.40E-05	2.19E
13	1E-13	4.16E-04	1.00E+00	3.99E-04	3.91E-05	-4.41E+00	1.00E-06	1.00E+00	-7.45E-05	1.74E
13.1	7.9E-14	4.16E-04	1.00E+00	4.03E-04	3.11E-05	-4.51E+00	1.00E-06	1.00E+00	-5.89E-05	1.38E
13.2	6.3E-14	4.16E-04	1.00E+00	4.05E-04	2.47E-05	-4.61E+00	1.00E-06	1.00E+00	-4.66E-05	1.10E
13.3	5E-14	4.16E-04	1.00E+00	4.07E-04	1.96E-05	-4.71E+00	1.00E-06	1.00E+00	-3.68E-05	8.71E
13.4	4E-14	4.16E-04	1.00E+00	4.09E-04	1.56E-05	-4.81E+00	1.00E-06	1.00E+00	-2.90E-05	6.92E
13.5	3.2E-14	4.16E-04	1.00E+00	4.11E-04	1.24E-05	-4.91E+00	1.00E-06	1.00E+00	-2.29E-05	5.50E
13.6	2.5E-14	4.16E-04	1.00E+00	4.12E-04	9.83E-06	-5.01E+00	1.00E-06	1.00E+00	-1.80E-05	4.36E
13.7	2E-14	4.16E-04	1.00E+00	4.13E-04	7.80E-06	-5.11E+00	1.00E-06	1.00E+00	-1.41E-05	3.47E
13.8	1.6E-14	4.16E-04	1.00E+00	4.13E-04	6.20E-06	-5.21E+00	1.00E-06	1.00E+00	-1.10E-05	2.75E
13.9	1.3E-14	4.16E-04	1.00E+00	4.14E-04	4.92E-06	-5.31E+00	1.00E-06	1.00E+00	-8.50E-06	2.19E
14	1E-14	4.16E-04	1.00E+00	4.14E-04	3.91E-06	-5.41E+00	1.00E-06	1.00E+00	-6.55E-06	1.74E





**Problem 1c**

	surface	deep
DIC ( $\mu\text{mol}$ )	2000	2200
[H <sup>+</sup> ]	7.94E-09	1.26E-08
S	35	35
T (deg. C)	16	2
Ka1	1.26E-06	8.32E-07
Ka2	8.51E-10	4.47E-10
Kb	2.14E-09	1.32E-09
Kw	3.24E-14	6.31E-15
Bt ( $\mu\text{mol/k}$ )	416	416
B(OH) <sup>4-</sup> ( $\mu$ )	88	39
alpha	#####	6.94E+01
[H <sub>2</sub> CO <sub>3</sub> *]	11	32
[HCO <sub>3</sub> <sup>-</sup> ]	1796	2094
[CO <sub>3</sub> <sup>2-</sup> ]	192	74
[OH <sup>-</sup> ] ( $\mu\text{m}$ )	4.07E-06	5.01E-07
Alk ( $\mu\text{eq/k}$ )	2269	2282
CA ( $\mu\text{eq/k}$ )	2181	2243
% error	3.89%	1.73%