

Table 1. Summary of stable isotope data measured in this study at ODP Site 982.

sample #	Sample ID	MBSF	(previous) MCD	new MCD	AGE (kyr)	Cib. $\delta^{18}\text{O}$	Corr. Cib. $\delta^{18}\text{O}$	Cib. $\delta^{13}\text{C}$
1	162-982-B-6H-6, 100	52.00	57.51	57.51	2591.981	3.13	3.77	0.74
2	162-982-B-6H-6, 110	52.10	57.61	57.61	2593.279	2.67	3.31	0.55
3	162-982-B-6H-6, 120	52.20	57.71	57.71	2594.577	2.66	3.30	0.84
4	162-982-B-6H-6, 130	52.30	57.81	57.81	2595.875	2.77	3.41	1.00
5	162-982-B-6H-6, 140	52.40	57.91	57.91	2597.172	2.69	3.33	0.88
6	162-982-B-6H-7, 0	52.50	58.01	58.01	2598.470	2.83	3.47	1.02
7	162-982-B-6H-7, 10	52.60	58.11	58.11	2599.768	3.07	3.71	1.07
8	162-982-B-6H-7, 20	52.70	58.21	58.21	2607.614	3.03	3.67	1.08
9	162-982-B-6H-7, 30	52.80	58.31	58.31	2612.606	2.76	3.40	1.02
10	162-982-B-6H-7, 40	52.90	58.41	58.41	2617.461	2.70	3.34	0.81
11	162-982-B-6H-CC, 0	53.00	58.51	58.51	2619.596	2.54	3.18	1.28
12	162-982-B-6H-CC, 10	53.10	58.61	58.61	2621.730	2.36	3.00	1.19
13	162-982-B-7H-1, 20	53.20	58.97	58.97	2627.370	2.55	3.19	1.05
14	162-982-B-7H-1, 30	53.30	59.07	59.07	2628.824	2.56	3.20	0.96
15	162-982-B-7H-1, 40	53.40	59.17	59.17	2630.505	2.51	3.15	1.05
16	162-982-B-7H-1, 50	53.50	59.27	59.27	2633.571	2.82	3.46	0.96
17	162-982-B-7H-1, 60	53.60	59.37	59.37	2636.636	2.64	3.28	0.88
18	162-982-B-7H-1, 70	53.70	59.47	59.47	2640.052	2.76	3.40	1.13
19	162-982-B-7H-1, 80	53.80	59.57	59.57	2643.598	3.12	3.76	0.91
20	162-982-B-7H-1, 90	53.90	59.67	59.67	2647.155	3.12	3.76	0.81
21	162-982-A-7H-1, 0,5	55.71	63.68	63.39	2850.550	2.81	3.45	0.86
22	162-982-A-7H-1, 20	55.90	63.87	63.87	2864.600	2.53	3.17	1.04
23	162-982-A-7H-1, 40	56.10	64.07	64.07	2870.694	2.42	3.06	0.96
24	162-982-A-7H-1, 60	56.30	64.27	64.27	2875.892	2.66	3.30	0.76
25	162-982-A-7H-1, 80	56.50	64.47	64.47	2881.018	2.80	3.44	1.04
26	162-982-A-7H-1, 100	56.70	64.67	64.67	2888.904	2.86	3.50	0.77

27	162-982-A-7H-1, 120	56.90	64.87	64.87	2905.377	2.57	3.21	0.96
28	162-982-A-7H-1, 140	57.10	65.07	65.07	2914.473	2.69	3.33	1.13
29	162-982-A-7H-2, 10	57.30	65.27	65.27	2924.801	2.91	3.55	0.75
30	162-982-A-7H-2, 30	57.50	65.47	65.47	2929.221	2.82	3.46	0.68
31	162-982-A-7H-2, 50	57.70	65.67	65.67	2946.355	2.84	3.48	0.96
32	162-982-A-7H-2, 70	57.90	65.87	65.87	2949.731	2.34	2.98	0.40
33	162-982-A-7H-2, 90,5	58.11	66.08	66.08	2954.355	2.65	3.29	0.66
34	162-982-B-7H-6, 0	60.50	66.27	66.27	2972.227	2.74	3.38	0.51
35	162-982-A-7H-2, 111	58.31	66.28	66.28	2972.399	2.68	3.32	0.34
36	162-982-B-7H-6, 10	60.60	66.37	66.37	2973.941	2.82	3.46	0.36
37	162-982-B-7H-6, 20	60.70	66.47	66.47	2975.857	2.89	3.53	0.94
38	162-982-C-8H-1, 3	60.83	66.62	66.62	2975.857	2.99	3.63	0.65
39	162-982-A-7H-2, 131	58.51	66.48	66.48	2976.194	2.56	3.20	0.76
40	162-982-B-7H-6, 32	60.82	66.59	66.57	2979.233	2.64	3.28	1.03
41	162-982-A-7H-3, 0	58.70	66.67	66.67	2981.484	2.44	3.08	0.86
42	162-982-B-7H-6, 40	60.90	66.67	66.67	2981.484	2.68	3.32	0.97
43	162-982-C-8H-1, 20	61.00	66.79	66.73	2983.310	2.35	2.99	0.96
44	162-982-B-7H-6, 50	61.00	66.77	66.77	2984.297	2.44	3.08	0.92
45	162-982-A-7H-3, 20	58.90	66.87	66.87	2986.684	2.43	3.07	0.82
46	162-982-B-7H-6, 60	61.10	66.87	66.87	2986.684	2.47	3.11	0.55
47	162-982-B-7H-6, 70	61.20	66.97	66.97	2988.817	2.47	3.11	0.83
48	162-982-C-8H-1, 40	61.20	66.99	67.05	2990.452	2.47	3.11	0.92
49	162-982-B-7H-6, 80	61.30	67.07	67.07	2990.951	2.53	3.17	0.78
50	162-982-A-7H-3, 41	59.11	67.08	67.08	2991.160	2.47	3.11	0.83
51	162-982-B-7H-6, 90	61.40	67.17	67.17	2993.035	2.55	3.19	0.87
52	162-982-B-7H-6, 100	61.50	67.27	67.27	2994.468	2.56	3.20	0.87
53	162-982-C-8H-1, 60	61.40	67.19	67.36	2995.734	2.51	3.15	0.73
54	162-982-B-7H-6, 111	61.61	67.38	67.38	2996.045	2.43	3.07	0.78
55	162-982-B-7H-6, 120	61.70	67.47	67.47	2997.606	2.46	3.10	0.91
56	162-982-B-7H-6, 130	61.80	67.57	67.57	2999.445	2.57	3.21	0.74

57	162-982-B-7H-6, 140	61.90	67.67			2.68	3.32	1.04
58	162-982-C-8H-1, 80	61.60	67.39	67.67	3001.283	2.72	3.36	0.69
59	162-982-B-7H-7, 0	62.00	67.77	67.77	3003.122	2.69	3.33	1.05
60	162-982-B-7H-7, 10	62.10	67.87			2.71	3.35	0.95
61	162-982-C-8H-1, 100	61.80	67.59	67.87	3004.961	2.77	3.41	0.76
62	162-982-B-7H-7, 20	62.20	67.97	67.97	3007.630	2.88	3.52	0.89
63	162-982-C-8H-1, 120	62.00	67.79	68.00	3008.444	2.85	3.49	1.08
64	162-982-B-7H-7, 30	62.30	68.07	68.07	3010.343	2.77	3.41	0.43
65	162-982-C-8H-1, 140	62.20	67.99	68.13	3011.970	2.92	3.56	0.67
66	162-982-B-7H-7, 40	62.40	68.17	68.17	3013.055	2.87	3.51	0.76
67	162-982-B-7H-CC, 0	62.49	68.26			2.90	3.54	0.78
68	162-982-C-8H-2, 10	62.40	68.19	68.26	3020.410	2.96	3.60	0.6
69	162-982-B-7H-CC, 10	62.59	68.36	68.36	3023.056	2.81	3.45	0.74
70	162-982-C-8H-2, 30	62.60	68.39	68.47	3025.264	2.50	3.14	0.69
71	162-982-A-7H-4, 26	60.46	68.43	68.58	3026.000	2.51	3.15	0.60
72	162-982-C-8H-2, 50	62.80	68.59	68.68	3028.098	2.52	3.16	0.8
73	162-982-A-7H-4, 38	60.58	68.55	68.70	3028.427	2.46	3.10	0.90
74	162-982-A-7H-4, 54	60.74	68.71	68.86	3032.321	2.53	3.17	0.94
75	162-982-C-8H-2, 70	63.00	68.79	68.89	3033.466	2.39	3.03	0.64
76	162-982-A-7H-4, 68	60.88	68.85	69.00	3036.759	2.55	3.19	0.76
77	162-982-C-8H-2, 90	63.20	68.99	69.10	3039.039	2.45	3.09	0.68
78	162-982-A-7H-4, 85	61.05	69.02	69.17	3041.189	2.40	3.04	0.68
79	162-982-A-7H-4, 98	61.18	69.15			2.59	3.23	0.86
80	162-982-C-8H-2, 110	63.40	69.19	69.30	3045.676	2.42	3.06	0.72
81	162-982-A-7H-4, 114	61.34	69.31			2.56	3.20	0.56
82	162-982-C-8H-2, 130	63.60	69.39	69.51	3049.459	2.59	3.23	0.6
83	162-982-C-8H-3, 1	63.81	69.60	69.73	3050.800	2.57	3.21	0.68
84	162-982-A-7H-4, 128	61.48	69.45			2.53	3.17	0.65
85	162-982-C-8H-3, 20	64.00	69.79	69.93	3052.524	2.49	3.13	0.51
86	162-982-C-8H-3, 40	64.20	69.99	70.14	3056.537	2.45	3.09	0.79

87	162-982-C-8H-3, 60	64.40	70.19	70.35	3189.643	2.23	2.87	0.8
88	162-982-A-7H-4, 145	61.65	69.62	70.36	3191.094	2.51	3.15	0.78
89	162-982-A-7H-5, 2,5	61.73	69.70	70.4	3191.680	2.46	3.10	0.78
90	162-982-A-7H-5, 10	61.80	69.77	70.372	3192.266	2.49	3.13	0.86
91	162-982-C-8H-3, 80	64.60	70.39	70.56	3201.269	2.28	2.92	0.71
92	162-982-A-7H-5, 20	61.90	69.87	70.39	3193.750	2.53	3.17	0.88
93	162-982-A-7H-5, 30	62.00	69.97	70.41	3195.450	2.28	2.92	0.91
94	162-982-A-7H-5, 40	62.10	70.07	70.44	3196.950	2.50	3.14	0.89
95	162-982-A-7H-5, 50	62.20	70.17	70.47	3198.150	2.53	3.17	0.63
96	162-982-A-7H-5, 60	62.30	70.27	70.481	3198.65	2.40	3.04	0.68
97	162-982-C-8H-3, 100	64.80	70.59	70.76	3210.180	2.25	2.89	0.48
98	162-982-A-7H-5, 70	62.40	70.37	70.50	3199.450	2.56	3.20	0.82
99	162-982-B-8H-2, 20	64.20	71.03	70.80	3211.714	2.48	3.12	0.76
100	162-982-A-7H-5, 80	62.50	70.47	70.54	3200.950	2.47	3.11	0.84
101	162-982-B-8H-2, 32	64.32	71.15	70.89	3215.789	2.46	3.10	0.84
102	162-982-B-8H-2, 40	64.40	71.23	70.95	3218.381	2.54	3.18	0.77
103	162-982-C-8H-3, 120	65.00	70.79	70.97	3219.311	2.37	3.01	0.69
104	162-982-A-7H-5, 90	62.60	70.57	70.60	3202.450	2.46	3.10	0.88
105	162-982-A-7H-5, 100	62.70	70.67	70.661	3203.950	2.35	2.99	0.68
106	162-982-B-8H-2, 50	64.50	71.33	71.03	3221.300	2.35	2.99	0.58
107	162-982-B-8H-2, 62	64.62	71.45	71.12	3224.395	2.49	3.13	0.76
108	162-982-A-7H-5, 110	62.80	70.77	70.71	3205.750	2.50	3.14	0.78
109	162-982-A-7H-5, 120	62.90	70.87	70.74	3208.250	2.55	3.19	0.77
110	162-982-B-8H-2, 70	64.70	71.53	71.18	3226.161	2.68	3.32	1.10
111	162-982-C-8H-3, 140	65.20	70.99	71.181	3226.252	2.50	3.14	0.66
112	162-982-B-8H-2, 80	64.80	71.63	71.21	3228.080	2.47	3.11	0.85
113	162-982-B-8H-2, 92	64.92	71.75	71.246	3230.738	2.66	3.30	0.63
114	162-982-A-7H-5, 130	63.00	70.97	70.78	3211.000	2.52	3.16	0.85
115	162-982-B-8H-2, 100	65.00	71.83	71.27	3233.692	2.59	3.23	0.65
116	162-982-B-8H-2, 110	65.10	71.93	71.30	3237.476	2.52	3.16	0.89

117	162-982-A-7H-5, 140	63.10	71.07	70.86	3214.333	2.46	3.10	0.64
118	162-982-B-8H-2, 122	65.22	72.05	71.34	3242.166	2.43	3.07	0.80
119	162-982-B-8H-2, 130	65.30	72.13	71.36	3245.525	2.42	3.06	0.89
120	162-982-A-7H-6, 0	63.20	71.17	70.93	3217.6	2.39	3.03	0.67
121	162-982-B-8H-2, 140	65.40	72.23	71.39	3250.000	2.35	2.99	0.67
122	162-982-C-8H-4, 10	65.40	71.19			2.30	2.94	0.86
123	162-982-A-7H-6, 10	63.30	71.27	71.00	3220.400	2.49	3.13	0.85
124	162-982-A-7H-6, 20	63.40	71.37	71.05	3222.100	2.45	3.09	0.40
125	162-982-C-8H-4, 30	65.60	71.39	71.54	3253.787	2.30	2.94	0.78
126	162-982-A-7H-6, 30	63.50	71.47	71.07	3222.600	2.54	3.18	0.64
127	162-982-A-7H-6, 40	63.60	71.57	71.08	3223.150	2.46	3.10	0.95
128	162-982-C-8H-4, 50	65.80	71.59	71.72	3258.431	2.33	2.97	0.71
129	162-982-B-8H-3, 2	65.52	72.35	71.73	3258.595	2.53	3.17	0.81
130	162-982-A-7H-6, 50	63.70	71.67	71.10	3223.900	2.56	3.20	0.58
131	162-982-A-7H-6, 60	63.80	71.77	71.15	3225.3	2.66	3.30	0.88
132	162-982-C-8H-4, 70	66.00	71.79	71.92	3263.877	2.49	3.13	0.9
133	162-982-B-8H-3, 10	65.60	72.43	71.95	3264.694	2.55	3.19	0.78
134	162-982-A-7H-6, 70	63.90	71.87	71.23	3229.300	2.36	3.00	0.85
135	162-982-C-8H-4, 90	66.20	71.99	72.118	3269.272	2.46	3.10	0.82
136	162-982-A-7H-6, 80	64.00	71.97	71.27	3233.100	2.62	3.26	0.92
137	162-982-A-7H-6, 90	64.10	72.07	71.29	3236.100	2.60	3.24	0.84
138	162-982-B-8H-3, 20	65.70	72.53	72.23	3272.337	2.79	3.43	0.54
139	162-982-C-8H-4, 110	66.40	72.19	72.316	3274.691	2.50	3.14	0.86
140	162-982-A-7H-6, 100	64.20	72.17	71.309	3238.600	2.59	3.23	0.97
141	162-982-A-7H-6, 110	64.30	72.27	71.312	3239.100	2.59	3.23	0.82
142	162-982-C-8H-4, 130	66.60	72.39	72.51	3280.021	2.52	3.16	0.88
143	162-982-A-7H-6, 120	64.40	72.37	71.32	3239.530	2.56	3.20	0.83
144	162-982-A-7H-6, 130	64.50	72.47	71.32	3239.680	2.63	3.27	0.84
145	162-982-C-8H-5, 2	66.82	72.61	72.73	3281.163	2.61	3.25	0.72
146	162-982-A-7H-6, 140	64.60	72.57	71.32	3239.922	2.63	3.27	0.41

147	162-982-C-8H-5, 20	67.00	72.79	72.91	3282.097	2.71	3.35	0.6
148	162-982-C-8H-5, 40	67.20	72.99	73.06	3282.883	2.71	3.35	0.57
149	162-982-B-8H-3, 32	65.82	72.65			2.91	3.55	0.64
150	162-982-C-8H-5, 60	67.40	73.19	73.21	3283.670	2.81	3.45	0.55
151	162-982-B-8H-3, 40	65.90	72.73	73.29	3289.135	2.71	3.35	0.57
152	162-982-C-8H-5, 80	67.60	73.39	73.36	3291.464	2.84	3.48	0.75
153	162-982-B-8H-3, 50	66.00	72.83	73.39	3292.462	2.73	3.37	0.52
154	162-982-B-8H-3, 62	66.12	72.95			3.07	3.71	0.52
155	162-982-C-8H-5, 100	67.80	73.59	73.51	3296.295	2.86	3.50	0.56
156	162-982-B-8H-3, 70	66.20	73.03	73.59	3297.162	2.73	3.37	0.37
157	162-982-B-8H-3, 80	66.30	73.13	73.69	3298.246	2.84	3.48	0.59
158	162-982-B-8H-3, 92	66.42	73.25	73.81	3299.546	2.83	3.47	0.71
159	162-982-C-8H-5, 120	68.00	73.79	73.82	3299.654	2.71	3.35	0.71
160	162-982-B-8H-3, 100	66.50	73.33	73.89	3300.413	2.68	3.32	0.63
161	162-982-B-8H-3, 110	66.60	73.43	73.99	3301.496	2.70	3.34	0.64
162	162-982-B-8H-3, 122	66.72	73.55	74.11	3304.210	2.48	3.12	0.91
163	162-982-C-8H-5, 140	68.20	73.99	74.13	3304.910	2.64	3.28	0.88
164	162-982-B-8H-3, 130	66.80	73.63	74.19	3307.012	2.81	3.45	0.57
165	162-982-B-8H-3, 140	66.90	73.73	74.29	3310.514	2.34	2.98	0.78
166	162-982-B-8H-4, 2	67.02	73.85	74.41	3315.803	2.42	3.06	0.66
167	162-982-C-8H-6, 10	68.40	74.19	74.44	3317.342	2.43	3.07	0.74
168	162-982-B-8H-4, 10	67.10	73.93	74.49	3319.907	2.21	2.85	0.60
169	162-982-B-8H-4, 20	67.20	74.03			2.28	2.92	0.58
170	162-982-C-8H-6, 30	68.60	74.39	74.59	3325.039	2.46	3.10	0.51
171	162-982-B-8H-4, 32	67.32	74.15	74.71	3331.197	2.48	3.12	0.65
172	162-982-B-8H-4, 40	67.40	74.23	74.79	3334.076	2.51	3.15	0.54
173	162-982-B-8H-4, 50	67.50	74.33	74.89	3337.302	2.52	3.16	0.43
174	162-982-B-8H-4, 62	67.62	74.45	75.01	3340.125	2.64	3.28	0.68
175	162-982-B-8H-4, 70	67.70	74.53	75.09	3341.012	2.59	3.23	0.76
176	162-982-B-8H-4, 80	67.80	74.63	75.19	3342.120	2.55	3.19	0.64

177	162-982-B-8H-4, 92	67.92	74.75			2.64	3.28	0.58
178	162-982-C-8H-6, 50	68.80	74.59	75.31	3343.881	2.78	3.42	0.43
179	162-982-B-8H-4, 100	68.00	74.83	75.39	3345.675	2.50	3.14	0.19
180	162-982-B-8H-4, 110	68.10	74.93			2.49	3.13	0.43
181	162-982-C-8H-6, 70	69.00	74.79	75.49	3347.918	2.68	3.32	0.70
182	162-982-B-8H-4, 122	68.22	75.05	75.61	3350.659	2.40	3.04	0.62
183	162-982-B-8H-4, 130	68.30	75.13	75.69	3353.031	2.41	3.05	0.51
184	162-982-B-8H-4, 140	68.40	75.23	75.79	3355.997	2.44	3.08	0.59
185	162-982-C-8H-6, 90	69.20	74.99	75.83	3357.176	2.61	3.25	0.96
186	162-982-B-8H-5, 20	68.70	75.53			2.24	2.88	0.71
187	162-982-C-8H-6, 110	69.40	75.19	76.09	3364.838	2.40	3.04	0.64
188	162-982-C-8H-6, 130	69.60	75.39	76.19	3366.969	2.37	3.01	0.49
189	162-982-B-8H-5, 50	69.00	75.83			2.25	2.89	0.58
190	162-982-C-8H-7, 0	69.80	75.59	76.39	3371.233	2.33	2.97	0.59
191	162-982-B-8H-5, 60	69.10	75.93	76.49	3372.785	2.38	3.02	0.68
192	162-982-B-8H-5, 70	69.20	76.03			2.28	2.92	0.63
193	162-982-C-8H-7, 20	70.00	75.79	76.59	3374.337	2.39	3.03	0.65
194	162-982-B-8H-5, 80	69.30	76.13			2.43	3.07	0.58
195	162-982-C-8H-7, 40	70.20	75.99	76.69	3375.889	2.51	3.15	0.66
196	162-982-B-8H-5, 90	69.40	76.23	76.79	3377.441	2.35	2.99	0.51
197	162-982-B-8H-5, 100	69.50	76.33			2.54	3.18	0.46
198	162-982-C-8H-8, 0	70.34	76.13	76.89	3378.993	2.72	3.36	0.48
199	162-982-B-8H-5, 110	69.60	76.43			2.36	3.00	0.54
200	162-982-C-9H-1, 10	70.40	76.22	76.99	3385.777	2.49	3.13	0.59
201	162-982-B-8H-5, 120	69.70	76.53			2.28	2.92	0.54
202	162-982-C-8H-8, 18	70.52	76.31	77.09	3392.562	2.37	3.01	0.50
203	162-982-B-8H-5, 130	69.80	76.63	77.19	3395.104	2.28	2.92	0.71
204	162-982-C-9H-1, 30	70.60	76.42	77.23	3396.589	2.34	2.98	0.67
205	162-982-B-8H-5, 140	69.90	76.73	77.29	3398.645	2.29	2.93	0.47
206	162-982-B-8H-6, 0	70.00	76.83	77.39	3403.370	2.32	2.96	0.59

207	162-982-B-8H-6, 10	70.10	76.93			2.29	2.93	0.29
208	162-982-C-9H-1, 50	70.80	76.62	77.49	3415.875	2.32	2.96	0.47
209	162-982-B-8H-6, 20	70.20	77.03	77.59	3419.402	2.37	3.01	0.17
210	162-982-B-8H-6, 30	70.30	77.13			2.43	3.07	0.24
211	162-982-C-9H-1, 90	71.20	76.82	77.69	3422.930	2.49	3.13	0.35
212	162-982-B-8H-6, 40	70.40	77.23	77.79	3426.143	2.41	3.05	0.32
213	162-982-B-8H-6, 50	70.50	77.33	77.89	3428.140	2.40	3.04	0.22
214	162-982-B-8H-6, 60	70.60	77.43			2.27	2.91	0.37
215	162-982-C-9H-1, 110	71.40	77.02	77.99	3430.137	2.36	3.00	0.64
216	162-982-B-8H-6, 70	70.70	77.53			2.28	2.92	0.51
217	162-982-C-9H-1, 130	71.60	77.22	78.09	3432.133	2.38	3.02	0.57
218	162-982-B-8H-6, 80	70.80	77.63			2.15	2.79	0.46
219	162-982-C-9H-2, 0	71.80	77.62	78.19	3434.130	2.29	2.93	0.69
220	162-982-B-8H-6, 90	70.90	77.73			2.27	2.91	0.67
221	162-982-C-9H-2, 20	72.00	77.82	78.29	3436.127	2.23	2.87	0.56
222	162-982-B-8H-6, 100	71.00	77.83			2.07	2.71	0.64
223	162-982-C-9H-2, 40	72.20	78.02	78.39	3438.124	2.09	2.73	0.60
224	162-982-B-8H-6, 110	71.10	77.93	78.49	3442.212	2.22	2.86	0.67
225	162-982-B-8H-6, 120	71.20	78.03	78.59	3446.699	2.13	2.77	0.75
226	162-982-B-8H-6, 130	71.30	78.13			2.32	2.96	0.59
227	162-982-C-9H-2, 60	72.40	78.22	78.69	3450.802	2.37	3.01	0.58
228	162-982-B-8H-6, 140	71.40	78.23			2.18	2.82	0.50
229	162-982-C-9H-2, 80	72.60	78.42	78.79	3452.069	2.39	3.03	0.61
230	162-982-A-8H-4, 22	69.92	78.70			2.41	3.05	0.62
231	162-982-B-8H-7, 0	71.50	78.33	78.89	3453.336	2.29	2.93	0.42
232	162-982-C-9H-2, 100	72.80	78.62			2.39	3.03	0.27
233	162-982-B-8H-7, 10	71.60	78.43	78.99	3454.604	2.25	2.89	0.66
234	162-982-C-9H-2, 120	73.00	78.82	79.04	3456.063	2.22	2.86	0.88
235	162-982-B-8H-7, 30	71.80	78.63			2.17	2.81	0.59
236	162-982-C-9H-2, 140	73.20	79.02	79.19	3460.440	2.16	2.80	0.86

237	162-982-C-9H-3, 10	73.40	79.22	79.22	3461.855	2.19	2.83	0.78
238	162-982-A-8H-4, 32	70.02	78.80			2.40	3.04	0.89
239	162-982-B-8H-CC, 0	71.86	78.69	79.25	3463.269	2.50	3.14	0.45
240	162-982-C-9H-3, 30	73.60	79.42			2.26	2.90	0.93
241	162-982-A-8H-4, 42	70.12	78.90			2.31	2.95	0.96
242	162-982-B-8H-CC, 10	71.96	78.79	79.35	3467.566	2.53	3.17	0.62
243	162-982-C-9H-3, 50	73.80	79.62			2.30	2.94	0.82
244	162-982-B-8H-CC, 18	72.04	78.87	79.43	3470.859	2.34	2.98	0.55
245	162-982-C-9H-3, 70	74.00	79.82			2.28	2.92	0.79
246	162-982-A-8H-4, 52	70.22	79.00	79.56	3478.266	2.21	2.85	0.82
247	162-982-A-8H-4, 62	70.32	79.10	79.66	3483.964	2.10	2.74	0.80
248	162-982-A-8H-4, 72	70.42	79.20	79.76	3489.662	2.24	2.88	0.92
249	162-982-A-8H-4, 82	70.52	79.30	79.86	3495.360	2.20	2.84	0.90
250	162-982-A-8H-4, 92	70.62	79.40	79.96	3501.057	2.24	2.88	0.83
251	162-982-A-8H-4, 102	70.72	79.50	80.06	3506.755	2.26	2.90	0.79
252	162-982-C-9H-3, 90	74.20	80.02	80.09	3508.464	2.43	3.07	0.77
253	162-982-A-8H-4, 112	70.82	79.60	80.16	3512.453	2.34	2.98	0.85
254	162-982-A-8H-4, 122	70.92	79.70			2.38	3.02	0.79
255	162-982-C-9H-3, 110	74.40	80.22	80.26	3518.151	2.36	3.00	0.84
256	162-982-A-8H-4, 132	71.02	79.80	80.36	3523.848	2.35	2.99	0.75
257	162-982-A-8H-4, 142	71.12	79.90			2.37	3.01	0.93
258	162-982-B-9H-1, 0	72.00	79.94	80.50	3531.825	2.36	3.00	0.89
259	162-982-B-9H-1, 10	72.10	80.04	80.60	3532.763	2.34	2.98	0.82
260	162-982-B-9H-1, 20	72.20	80.14			2.18	2.82	0.87
261	162-982-C-9H-3, 130	74.60	80.42	80.70	3533.735	2.18	2.82	0.89
262	162-982-B-9H-1, 30	72.30	80.24	80.80	3534.706	2.34	2.98	0.83
263	162-982-C-9H-4, 0	74.80	80.62	80.85	3543.342	2.28	2.92	0.78
264	162-982-B-9H-1, 40	72.40	80.34	80.90	3535.677	2.31	2.95	0.82
265	162-982-B-9H-1, 50	72.50	80.44			2.35	2.99	0.83
266	162-982-C-9H-4, 20	75.00	80.82	81.00	3536.649	2.33	2.97	0.70

267	162-982-B-9H-1, 60	72.60	80.54	81.10	3538.040	2.21	2.85	0.84
268	162-982-B-9H-1, 70	72.70	80.64	81.20	3540.240	2.12	2.76	0.76
269	162-982-B-9H-1, 80	72.80	80.74	81.30	3542.987	2.21	2.85	0.91
270	162-982-B-9H-1, 90	72.90	80.84	81.40	3545.903	2.31	2.95	0.62
271	162-982-C-9H-4, 40	75.20	81.02			2.49	3.13	0.39
272	162-982-B-9H-1, 100	73.00	80.94	81.50	3548.818	2.29	2.93	0.47
273	162-982-B-9H-1, 110	73.10	81.04	81.60	3551.733	2.49	3.13	0.60
274	162-982-C-9H-4, 60	75.40	81.22			2.62	3.26	0.99
275	162-982-B-9H-1, 120	73.20	81.14	81.70	3559.404	2.51	3.15	1.06
276	162-982-C-9H-4, 80	75.60	81.42			2.56	3.20	0.92
277	162-982-B-9H-1, 130	73.30	81.24	81.80	3562.237	2.42	3.06	0.91
278	162-982-B-9H-1, 140	73.40	81.34	81.90	3565.070	2.36	3.00	1.01
279	162-982-B-9H-2, 0	73.50	81.44	82.00	3567.120	2.36	3.00	1.02
280	162-982-B-9H-2, 10	73.60	81.54	82.10	3568.560	2.38	3.02	0.99
281	162-982-B-9H-2, 20	73.70	81.64	82.20	3570.001	2.33	2.97	0.75
282	162-982-B-9H-2, 30	73.80	81.74	82.30	3571.441	2.26	2.90	0.84
283	162-982-B-9H-2, 40	73.90	81.84	82.40	3572.882	2.18	2.82	0.92
284	162-982-C-9H-4, 100	75.80	81.62			2.39	3.03	0.86
285	162-982-C-9H-4, 120	76.00	81.82	82.55	3575.107	2.33	2.97	0.76
286	162-982-B-9H-2, 60	74.10	82.04	82.60	3576.004	2.29	2.93	0.95
287	162-982-C-9H-4, 140	76.20	82.02			2.36	3.00	0.93
288	162-982-B-9H-2, 70	74.20	82.14	82.70	3577.798	2.42	3.06	1.05
289	162-982-C-9H-5, 0	76.30	82.12	82.73	3578.246	2.48	3.12	0.94
290	162-982-B-9H-2, 80	74.30	82.24	82.80	3579.592	2.41	3.05	1.04
291	162-982-C-9H-5, 10	76.40	82.22	82.85	3580.488	2.50	3.14	0.92
292	162-982-B-9H-2, 90	74.40	82.34	82.90	3581.954	2.44	3.08	0.92
293	162-982-B-9H-2, 100	74.50	82.44	83.00	3588.424	2.51	3.15	0.94
294	162-982-C-9H-5, 30	76.60	82.42			2.49	3.13	1.01
295	162-982-C-9H-5, 50	76.80	82.62	83.05	3590.610	2.45	3.09	0.84

296	162-982-B-9H-2, 110	74.60	82.54			2.28	2.92	0.71
297	162-982-C-9H-5, 70	77.00	82.82	83.10	3592.796	2.31	2.95	0.75
298	162-982-B-9H-2, 120	74.70	82.64			2.31	2.95	0.73
299	162-982-C-9H-5, 90	77.20	83.02	83.20	3595.045	2.38	3.02	0.83
300	162-982-B-9H-2, 130	74.80	82.74	83.30	3596.507	2.30	2.94	0.96
301	162-982-B-9H-2, 140	74.90	82.84	83.40	3597.970	2.27	2.91	0.85
302	162-982-B-9H-3, 0	75.00	82.94	83.50	3600.331	2.21	2.85	0.66
303	162-982-B-9H-3, 10	75.10	83.04			2.21	2.85	0.58
304	162-982-C-9H-5, 110	77.40	83.22	83.60	3607.065	2.25	2.89	0.80
305	162-982-B-9H-3, 20	75.20	83.14	83.70	3612.142	2.21	2.85	0.80
306	162-982-B-9H-3, 30	75.30	83.24	83.80	3617.374	2.37	3.01	0.56
307	162-982-B-9H-3, 40	75.40	83.34	83.90	3622.607	2.53	3.17	0.57
308	162-982-B-9H-3, 50	75.50	83.44	84.00	3624.624	2.51	3.15	0.64
309	162-982-C-9H-5, 130	77.60	83.42	84.05	3625.364	2.43	3.07	0.52
310	162-982-B-9H-3, 60	75.60	83.54	84.10	3626.105	2.56	3.20	0.78
311	162-982-B-9H-3, 70	75.70	83.64	84.20	3627.586	2.32	2.96	0.73
312	162-982-B-9H-3, 80	75.80	83.74			2.67	3.31	0.75
313	162-982-C-9H-6, 0	77.80	83.62	84.30	3629.067	2.69	3.33	0.62
314	162-982-B-9H-3, 90	75.90	83.84	84.40	3631.737	2.65	3.29	0.91
315	162-982-B-9H-3, 100	76.00	83.94	84.50	3635.042	2.44	3.08	0.59
316	162-982-B-9H-3, 110	76.10	84.04			2.25	2.89	0.78
317	162-982-C-9H-6, 20	78.00	83.82	84.60	3638.347	2.38	3.02	0.73
318	162-982-B-9H-3, 120	76.20	84.14			2.36	3.00	0.64
319	162-982-C-9H-6, 40	78.20	84.02	84.70	3641.272	2.42	3.06	0.67
320	162-982-C-9H-6, 60	78.40	84.22	84.75	3642.574	2.36	3.00	0.73
321	162-982-B-9H-3, 130	76.30	84.24			2.13	2.77	0.73
322	162-982-C-9H-6, 80	78.60	84.42	84.80	3643.875	2.24	2.88	0.84
323	162-982-B-9H-3, 140	76.40	84.34	84.90	3646.141	2.24	2.88	0.93
324	162-982-B-9H-4, 0	76.50	84.44			2.28	2.92	0.03
325	162-982-C-9H-6, 100	78.80	84.62	85.00	3648.407	2.30	2.94	0.90

326	162-982-B-9H-4, 10	76.60	84.54	85.10	3650.673	2.19	2.83	0.63
327	162-982-B-9H-4, 20	76.70	84.64	85.20	3655.705	2.41	3.05	0.82
328	162-982-B-9H-4, 30	76.80	84.74	85.30	3660.330	2.33	2.97	0.15
329	162-982-B-9H-4, 40	76.90	84.84	85.40	3662.907	2.46	3.10	0.72
330	162-982-B-9H-4, 50	77.00	84.94	85.50	3665.484	2.58	3.22	0.63
331	162-982-B-9H-4, 60	77.10	85.04	85.60	3667.479	2.61	3.25	0.42
332	162-982-B-9H-4, 70	77.20	85.14	85.70	3668.808	2.53	3.17	0.45
333	162-982-B-9H-4, 80	77.30	85.24	85.80	3670.137	2.77	3.41	0.48
334	162-982-B-9H-4, 90	77.40	85.34	85.90	3671.321	2.65	3.29	0.43
335	162-982-B-9H-4, 100	77.50	85.44	86.00	3672.460	2.62	3.26	0.28
336	162-982-B-9H-4, 110	77.60	85.54	86.10	3673.600	2.52	3.16	0.50
337	162-982-B-9H-4, 120	77.70	85.64	86.20	3675.839	2.53	3.17	0.46
338	162-982-B-9H-4, 130	77.80	85.74	86.30	3683.710	2.26	2.90	0.36
339	162-982-B-9H-4, 140	77.90	85.84	86.40	3685.220	2.23	2.87	0.65
340	162-982-B-9H-5, 0	78.00	85.94	86.50	3688.330	2.35	2.99	0.66
341	162-982-B-9H-5, 10	78.10	86.04	86.60	3691.487	2.62	3.26	0.65
342	162-982-B-9H-5, 20	78.20	86.14	86.70	3694.557	2.36	3.00	0.32
343	162-982-B-9H-5, 30	78.30	86.24	86.80	3697.273	2.30	2.94	0.36
344	162-982-B-9H-5, 40	78.40	86.34	86.90	3699.678	2.29	2.93	0.30
345	162-982-B-9H-5, 50	78.50	86.44	87.00	3702.027	2.17	2.81	0.31

Table 2. Listing of stratigraphic tie points between holes 982-A, -B, and -C and revised composite depths (mcd) at 59–85 mcd deduced on the basis of joint marine isotope $\delta^{18}\text{O}$ oscillations. Previous composite depths are from the Shipboard Scientific Party (1996).

tie point #	sample ID	mbsf	(previous) mcd	new mcd
1	162-982-A-6H-5, 37	52.57	59.10	59.17
2	162-982-B-7H-1, 40	53.40	59.17	
3	162-982-B-7H-1, 50	53.50	59.27	59.27
4	162-982-A-6H-5, 47	52.67	59.20	
5	162-982-B-7H-1, 60	53.60	59.37	59.37
6	162-982-A-6H-5, 57	52.77	59.30	
7	162-982-B-7H-1, 70	53.70	59.47	59.47
8	162-982-A-6H-5, 67	52.87	59.40	
9	162-982-B-7H-1, 90	53.90	59.67	59.67
10	162-982-A-6H-5, 87	53.07	59.60	
11	162-982-B-7H-1, 97	53.97	59.74	59.74
12	162-982-A-6H-5, 97	53.17	59.69	
13	162-982-B-7H-4, 12	57.62	63.39	63.39
14	162-982-A-7H-1, 0,5	55.75	63.68	
15	162-982-B-7H-6, 10	60.60	66.37	66.37
16	162-982-A-7H-2, 107	58.27	66.24	
17	162-982-C-8H-1, 3	60.83	66.62	66.47
18	162-982-B-7H-6, 20	60.70	66.47	
19	162-982-A-7H-2, 112	58.32	66.29	
20	162-982-B-7H-6, 40	60.90	66.67	66.67
21	162-982-A-7H-3, 0	58.70	66.67	
22	162-982-B-7H-6, 50	61.00	66.77	66.77
23	162-982-A-7H-3, 7	58.77	66.74	
24	162-982-B-7H-6, 60	61.10	66.87	66.87
25	162-982-A-7H-3, 17	58.87	66.84	
26	162-982-B-7H-6, 70	61.20	66.97	66.97
27	162-982-A-7H-3, 27	58.97	66.94	
28	162-982-B-7H-6, 80	61.30	67.07	67.07
29	162-982-A-7H-3, 37	59.07	67.04	
30	162-982-B-7H-6, 90	61.40	67.17	67.17
31	162-982-A-7H-3, 47	59.17	67.14	
32	162-982-B-7H-6, 100	61.50	67.27	67.27
33	162-982-A-7H-3, 52	59.22	67.19	

34	162-982-C-8H-1, 80	61.60	67.39	
35	162-982-B-7H-6, 140	61.90	67.67	67.67
36	162-982-A-7H-3, 72	59.42	67.39	
37	162-982-B-7H-7, 0	62.00	67.77	
38	162-982-A-7H-3, 82	59.52	67.49	67.77
39	162-982-C-8H-1, 100	61.80	67.59	
40	162-982-B-7H-7, 10	62.10	67.87	67.87
41	162-982-A-7H-3, 92	59.62	67.59	
42	162-982-B-7H-7, 20	62.20	67.97	
43	162-982-A-7H-3, 102	59.72	67.69	67.97
44	162-982-B-7H-7, 30	62.30	68.07	
45	162-982-A-7H-3, 112	59.82	67.79	68.07
46	162-982-A-7H-3, 117	59.87	67.84	
47	162-982-B-7H-7, 40	62.40	68.17	68.17
48	162-982-C-8H-2, 10	62.40	68.19	
49	162-982-B-7H-CC, 0	62.49	68.26	68.26
50	162-982-A-7H-3, 122	59.92	67.89	
51	162-982-B-7H-CC, 10	62.59	68.36	
52	162-982-A-7H-3, 137	60.07	68.04	68.36
53	162-982-C-8H-2, 30	62.60	68.39	
54	162-982-A-7H-4, 15	60.35	68.32	68.47
55	162-982-A-7H-4, 98	61.18	69.15	
56	162-982-C-8H-2, 110	63.40	69.19	69.30
57	162-982-A-7H-4, 114	61.34	69.31	
58	162-982-C-8H-2, 130	63.60	69.39	69.51
59	162-982-A-7H-4, 120	61.40	69.37	
60	162-982-C-8H-3, 1	63.81	69.60	69.73
61	162-982-C-8H-3, 20	64.00	69.79	
62	162-982-A-7H-4, 128	61.48	69.45	69.93
63	162-982-C-8H-3, 60	64.40	70.19	
64	162-982-B-8H-1, 45	62.95	69.78	70.35
65	162-982-A-7H-4, 135	61.55	69.52	
66	162-982-C-8H-3, 80	64.60	70.39	
67	162-982-B-8H-1, 110	63.60	70.43	70.56
68	162-982-B-8H-2, 15	64.15	70.98	
69	162-982-C-8H-3, 100	64.80	70.59	70.76

70	162-982-B-8H-2, 70	64.70	71.53	71.18
71	162-982-C-8H-3, 140	65.20	70.99	
72	162-982-C-8H-4, 10	65.40	71.19	71.39
73	162-982-B-8H-2, 140	65.40	72.23	
74	162-982-B-8H-3, 30	65.80	72.63	72.51
75	162-982-C-8H-4, 130	66.60	72.39	
76	162-982-C-8H-5, 60	67.40	73.19	73.21
77	162-982-B-8H-3, 32	65.82	72.65	
78	162-982-C-8H-5, 100	67.80	73.59	73.51
79	162-982-B-8H-3, 62	66.12	72.95	
80	162-982-C-8H-6, 10	68.40	74.19	74.44
81	162-982-B-8H-4, 5	67.05	73.88	
82	162-982-C-8H-6, 30	68.60	74.39	74.59
83	162-982-B-8H-4, 20	67.20	74.03	
84	162-982-C-8H-6, 50	68.80	74.59	75.31
85	162-982-B-8H-4, 92	67.92	74.75	
86	162-982-C-8H-6, 70	69.00	74.79	75.49
87	162-982-B-8H-4, 110	68.10	74.93	
88	162-982-C-8H-6, 110	69.40	75.19	76.09
89	162-982-B-8H-5, 20	68.70	75.53	
90	162-982-C-8H-7, 0	69.80	75.59	76.39
91	162-982-B-8H-5, 50	69.00	75.83	
92	162-982-C-8H-7, 20	70.00	75.79	76.59
93	162-982-B-8H-5, 70	69.20	76.03	
94	162-982-C-8H-7, 40	70.20	75.99	76.69
95	162-982-B-8H-5, 80	69.30	76.13	
96	162-982-B-8H-5, 90	69.40	76.23	76.79
97	162-982-A-8H-1, 145	66.65	75.43	
98	162-982-C-8H-8, 0	70.34	76.13	76.89
99	162-982-B-8H-5, 100	69.50	76.33	
100	162-982-A-8H-2, 10	66.80	75.58	
101	162-982-C-9H-1, 10	70.40	76.22	76.99
102	162-982-B-8H-5, 110	69.60	76.43	
103	162-982-A-8H-2, 25	66.95	75.73	
104	162-982-C-8H-8, 18	70.52	76.31	77.09
105	162-982-B-8H-5, 122	69.72	76.53	
106	162-982-A-8H-2, 70	67.40	76.18	

107	162-982-C-9H-1, 50	70.80	76.62	
108	162-982-B-8H-6, 10	70.10	76.93	77.49
109	162-982-A-8H-2, 100	67.70	76.48	
110	162-982-C-9H-1, 90	71.20	76.82	
111	162-982-B-8H-6, 30	70.30	77.13	77.69
112	162-982-A-8H-2, 130	68.00	76.78	
113	162-982-C-9H-1, 110	71.40	77.02	
114	162-982-B-8H-6, 60	70.60	77.43	77.99
115	162-982-A-8H-3, 10	68.30	77.08	
116	162-982-C-9H-1, 130	71.60	77.22	
117	162-982-B-8H-6, 70	70.70	77.53	78.09
118	162-982-C-9H-2, 0	71.80	77.62	
119	162-982-B-8H-6, 80	70.80	77.63	78.19
120	162-982-A-8H-3, 40	68.60	77.38	
121	162-982-C-9H-2, 20	72.00	77.82	
122	162-982-B-8H-6, 90	70.90	77.73	78.29
123	162-982-C-9H-2, 40	72.20	78.02	
124	162-982-B-8H-6, 100	71.00	77.83	78.39
125	162-982-A-8H-3, 70	68.90	77.68	
126	162-982-B-8H-6, 122	71.22	78.03	
127	162-982-A-8H-3, 100	69.20	77.98	78.59
128	162-982-C-9H-2, 60	72.40	78.22	
129	162-982-B-8H-6, 130	71.30	78.13	78.69
130	162-982-A-8H-3, 130	69.50	78.28	
131	162-982-C-9H-2, 80	72.60	78.42	
132	162-982-B-8H-6, 140	71.40	78.23	78.79
133	162-982-A-4H-4, 0	69.70	78.48	
134	162-982-C-9H-2, 100	72.80	78.62	
135	162-982-B-8H-7, 0	71.50	78.33	78.89
136	162-982-A-8H-4, 22	69.92	78.70	
137	162-982-C-9H-2, 140	73.20	79.02	
138	162-982-B-8H-7, 30	71.80	78.63	79.19
139	162-982-A-8H-4, 30	70.00	78.78	
140	162-982-C-9H-3, 30	73.60	79.42	
141	162-982-B-8H-CC, 0	71.86	78.69	79.25
142	162-982-A-8H-4, 32	70.02	78.80	
143	162-982-C-9H-3, 50	73.80	79.62	
144	162-982-B-8H-CC, 10	71.96	78.79	79.35
145	162-982-A-8H-4, 42	70.12	78.90	

146	162-982-C-9H-3, 70	74.00	79.82	79.43
147	162-982-B-8H-CC, 18	72.04	78.87	
148	162-982-C-9H-3, 90	74.20	80.02	80.09
149	162-982-A-8H-4, 105	70.75	79.53	
150	162-982-C-9H-3, 110	74.40	80.22	80.26
151	162-982-A-8H-4, 122	70.92	79.70	
152	162-982-B-9H-1, 0	72.00	79.94	80.50
153	162-982-A-8H-4, 142	71.12	79.90	
154	162-982-C-9H-3, 130	74.60	80.42	80.70
155	162-982-B-9H-1, 20	72.20	80.14	
156	162-982-A-8H-5, 15	71.35	80.13	
157	162-982-B-9H-1, 30	72.30	80.24	80.80
158	162-982-A-8H-5, 30	71.50	80.28	
159	162-982-C-9H-4, 20	75.00	80.82	81.00
160	162-982-B-9H-1, 50	72.50	80.44	
161	162-982-A-8H-5, 45	71.65	80.43	
162	162-982-B-9H-1, 80	72.80	80.74	81.30
163	162-982-A-8H-5, 90	72.10	80.88	
164	162-982-C-9H-4, 40	75.20	81.02	81.40
165	162-982-B-9H-1, 90	72.90	80.84	
166	162-982-C-9H-4, 60	75.40	81.22	81.60
167	162-982-B-9H-1, 110	73.10	81.04	
168	162-982-C-9H-4, 80	75.60	81.42	81.70
169	162-982-B-9H-1, 122	73.22	81.14	
170	162-982-C-9H-4, 100	75.80	81.62	82.40
171	162-982-B-9H-2, 40	73.90	81.84	
172	162-982-C-9H-4, 120	76.00	81.82	82.55
173	162-982-B-9H-2, 55	74.05	81.99	
174	162-982-C-9H-4, 140	76.20	82.02	82.60
175	162-982-B-9H-2, 60	74.10	82.04	
176	162-982-C-9H-5, 10	76.40	82.22	82.85
177	162-982-B-9H-2, 85	74.35	82.29	
178	162-982-C-9H-5, 30	76.60	82.42	83.00
179	162-982-B-9H-2, 100	74.50	82.44	
180	162-982-C-9H-5, 70	77.00	82.82	83.10
181	162-982-B-9H-2, 110	74.60	82.54	

182	162-982-C-9H-5, 90	77.20	83.02	
183	162-982-B-9H-2, 120	74.70	82.64	83.20
184	162-982-C-9H-5, 110	77.40	83.22	
185	162-982-B-9H-3, 10	75.10	83.04	83.60
186	162-982-C-9H-5, 130	77.60	83.42	
187	162-982-B-9H-3, 55	75.55	83.49	84.05
188	162-982-C-9H-6, 0	77.80	83.62	
189	162-982-B-9H-3, 80	75.80	83.74	84.30
190	162-982-C-9H-6, 20	78.00	83.82	
191	162-982-B-9H-3, 110	76.10	84.04	84.60
192	162-982-C-9H-6, 40	78.20	84.02	
193	162-982-B-9H-3, 120	76.20	84.14	84.70
194	162-982-C-9H-6, 80	78.60	84.42	
195	162-982-B-9H-3, 130	76.30	84.24	84.80
196	162-982-C-9H-6, 100	78.80	84.62	
197	162-982-B-9H-4, 0	76.50	84.44	85.00
