

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

# data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5612

24 November - 21 December 1956

SIO Reference 61-22

24 April 1961

UNIVERSITY OF CALIFORNIA  
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5612

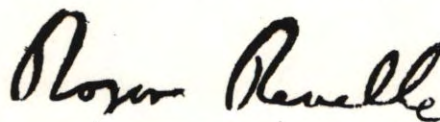
24 November - 21 December 1956

Sponsored by

Marine Research Committee

SIO Reference 61-22  
24 April 1961

Approved for distribution:



Roger Revelle, Director

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*[Faint signature]*

## INTRODUCTION

The data presented in this report were collected on the ninety-first consecutive cruise of the California Cooperative Oceanic Fisheries Investigations program. The R/V Horizon and R/V Orca of the Scripps Institution of Oceanography participated in this cruise.

The data are tabulated at observed depths; the interpolated and computed values are tabulated at standard depths and are accompanied by charts of horizontal distribution. The presentation of data in this report does not constitute publication; however, the data contained in this report have been carefully edited and no modifications should be necessary before final publication.

The stations occupied in the Gulf of California are based on a special grid; therefore, they appear following the data obtained in the standard station pattern. In each group stations are listed in numerical order. The designation "G" in the station number is used to denote Gulf of California stations.

## STANDARD PROCEDURES

Processing of the data was carried out using the method described by Klein.<sup>1/</sup> Certain approximations have been introduced for the determination of the integrated pressure terms which may result in errors whose maximum values are less than 0.5 dynamic centimeter at 0 over 200 decibars, 1.0 dynamic centimeter at 0 over 500 decibars, and 2.0 dynamic centimeters at 0 over 1000 decibars. The 125-meter level was introduced into the integration to obtain greater accuracy in the determination of  $\Delta D$ . The interpolated values at 125 meters are not tabulated.

To indicate degree of accuracy, temperatures are recorded in tenths of a degree when obtained by bucket thermometer, thermograph, or bathythermograph, while temperatures from reversing thermometers are recorded in hundredths of a degree. Extrapolated values and values interpolated between remote observations are entered within parentheses. A hyphen is used to indicate a missing observed value. The time is the time of messenger release. When more than one cast was made on a station, messenger times and wire angles are given in the order of increasing depth. A line is left blank between the observed data of each cast.

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<sup>1/</sup> Klein, Hans T. A new technique for processing physical oceanographic data. MS.

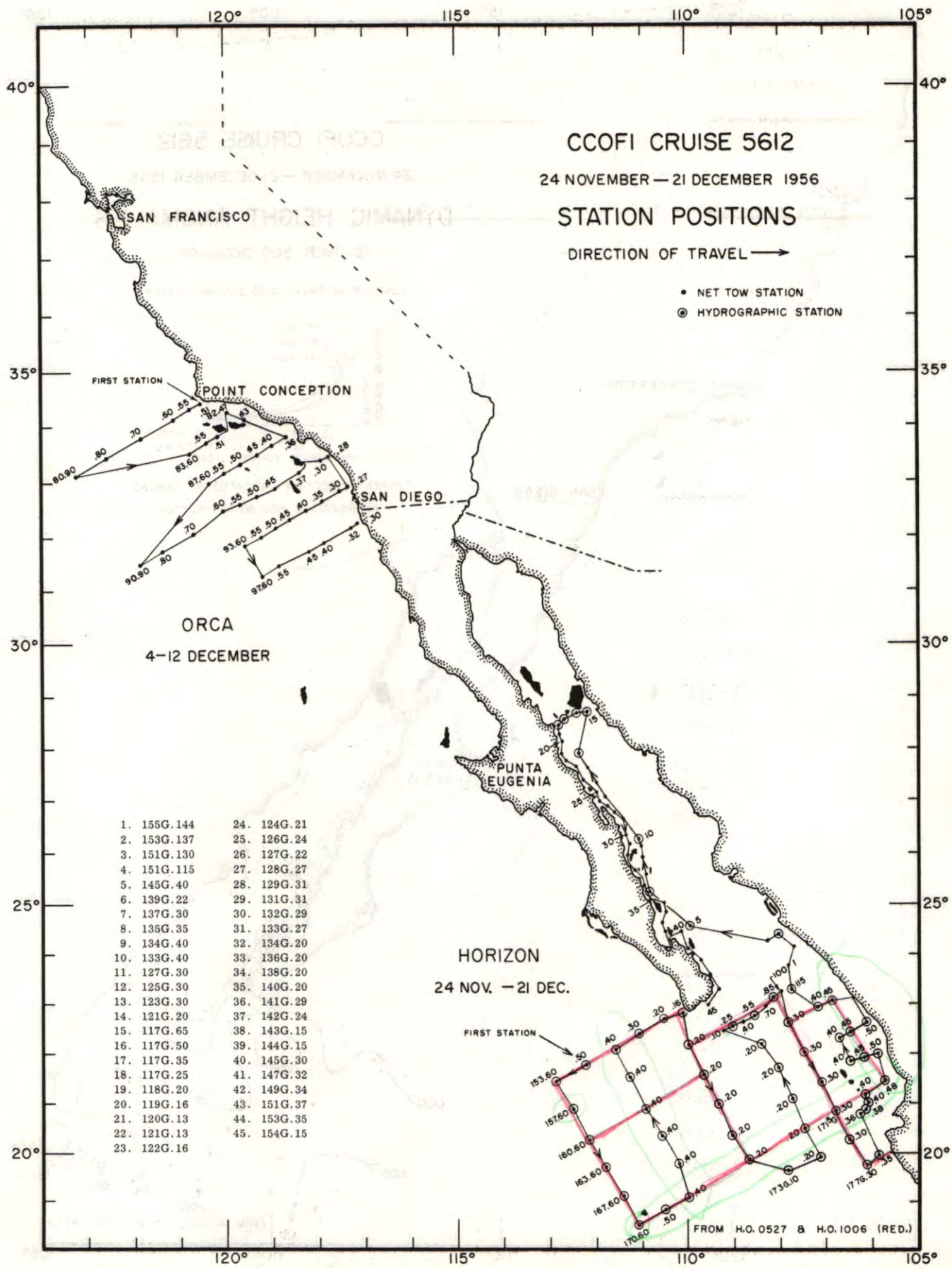


FIGURE 1

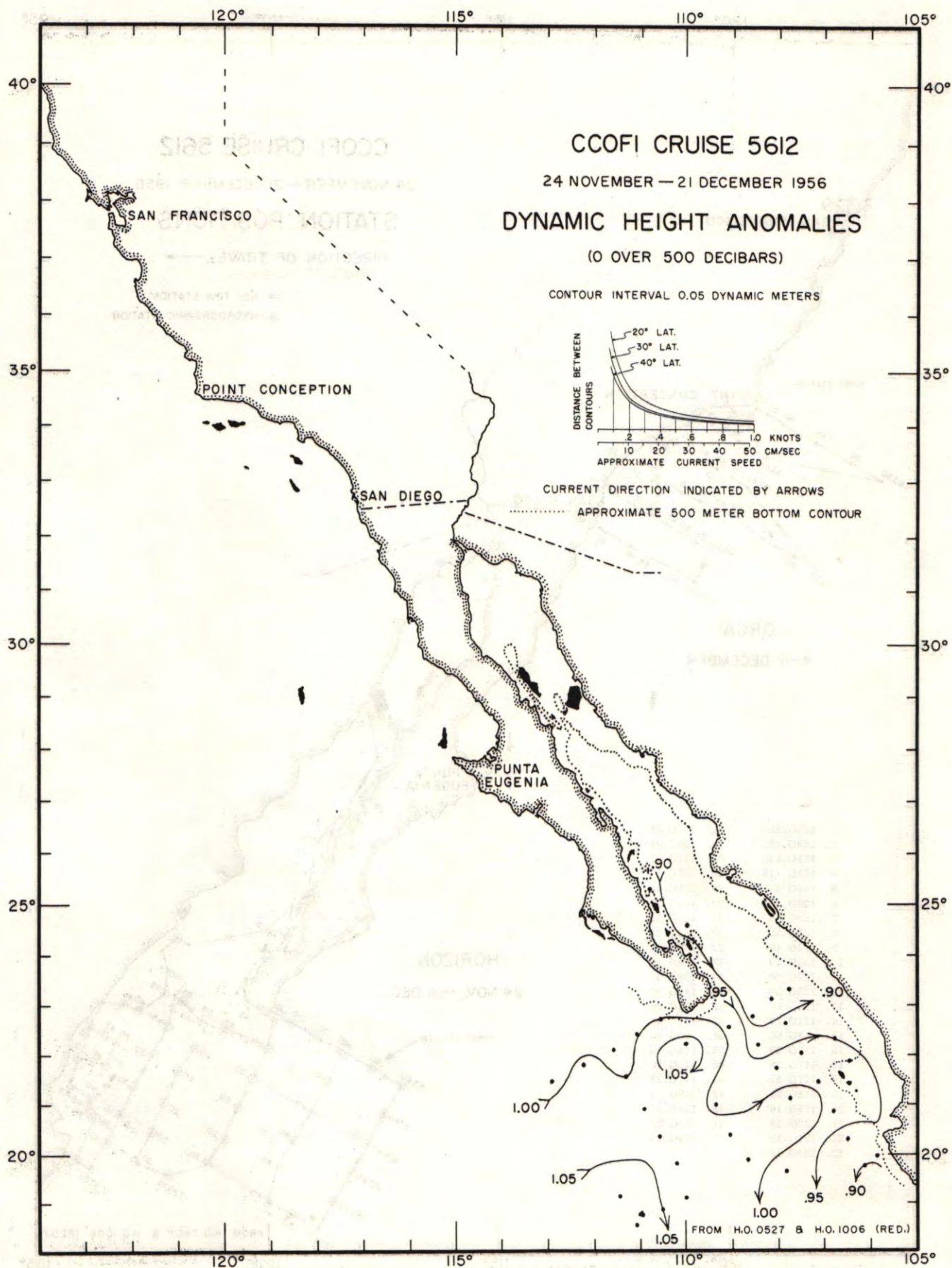


FIGURE 2

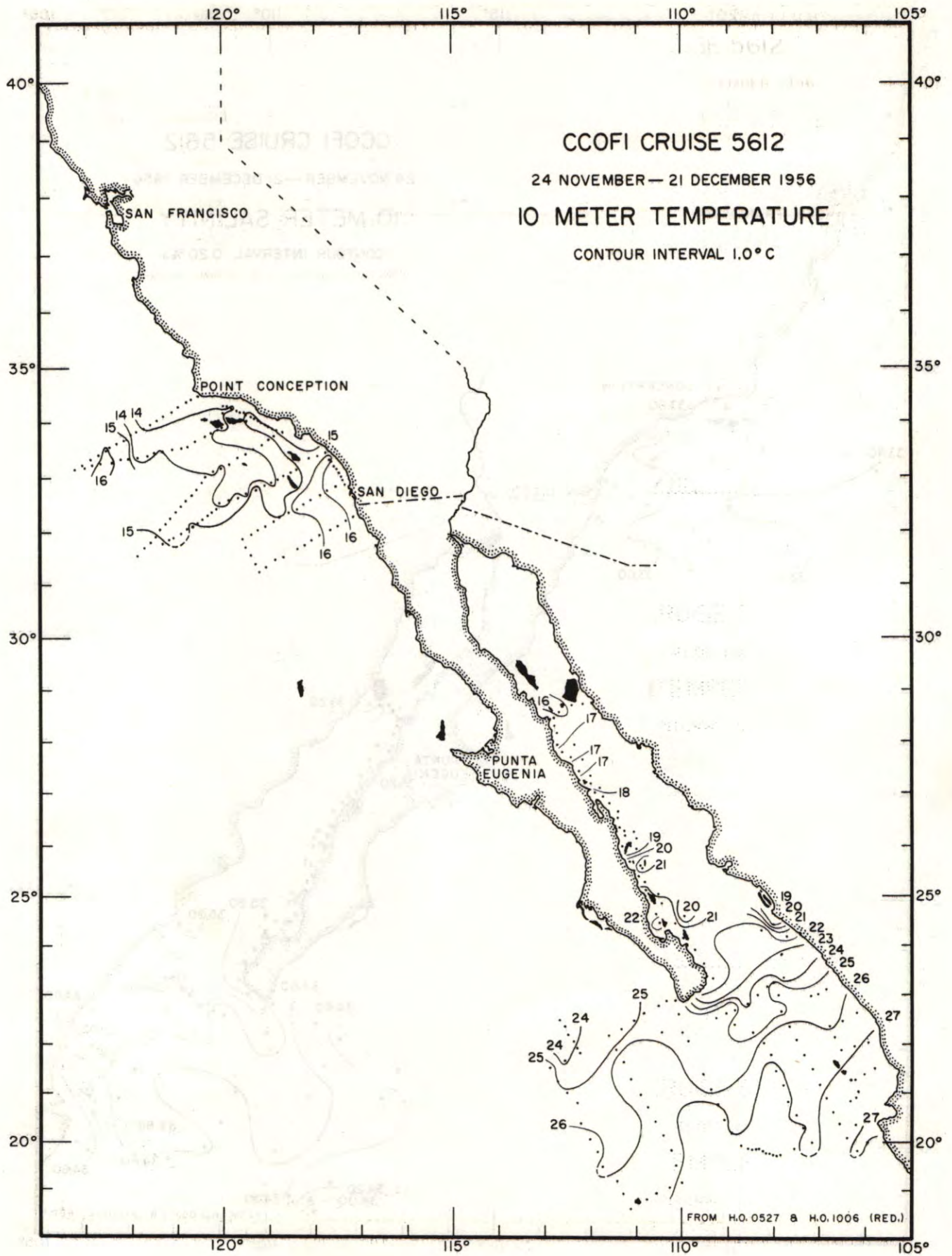


FIGURE 3

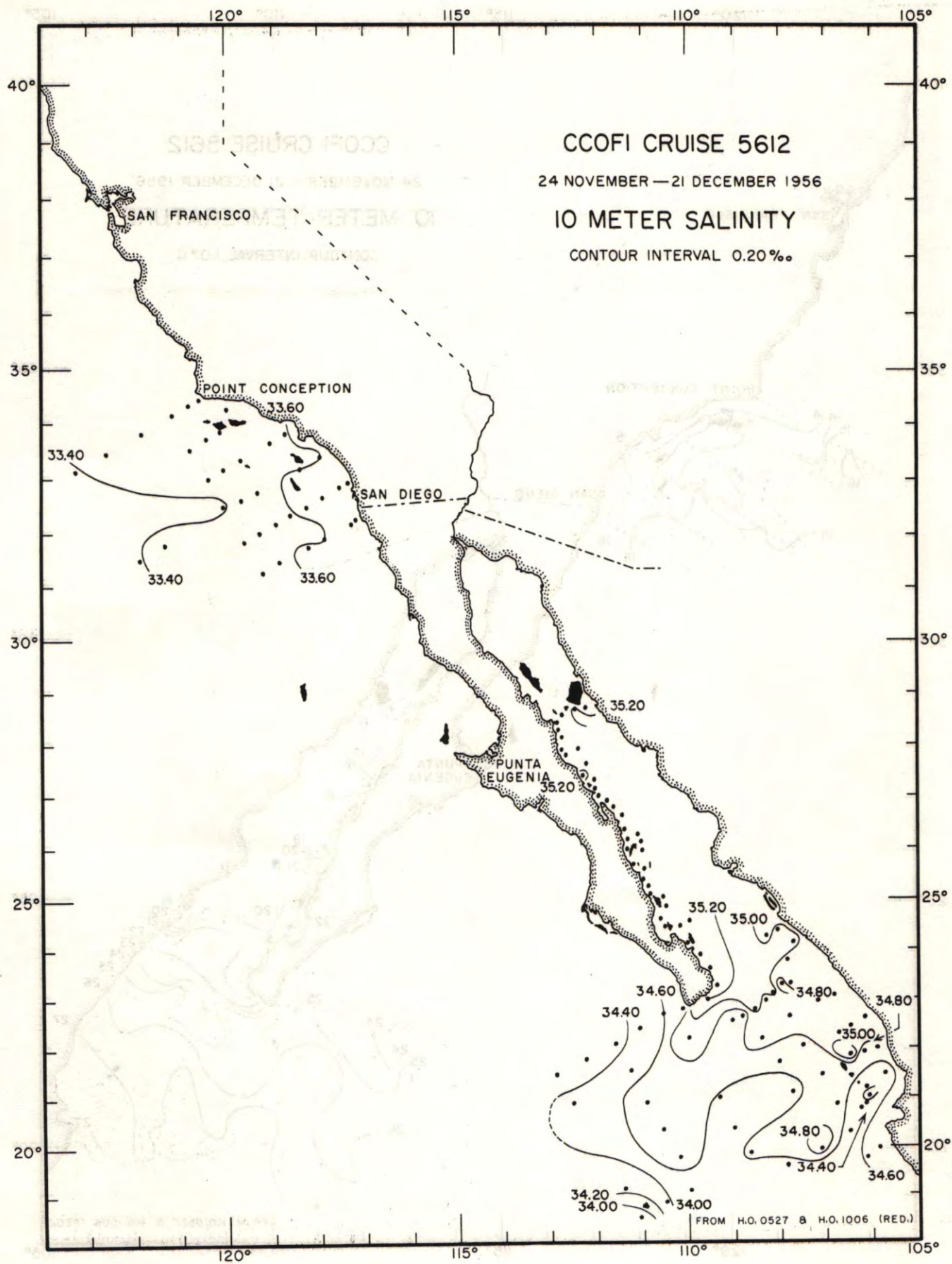


FIGURE 4



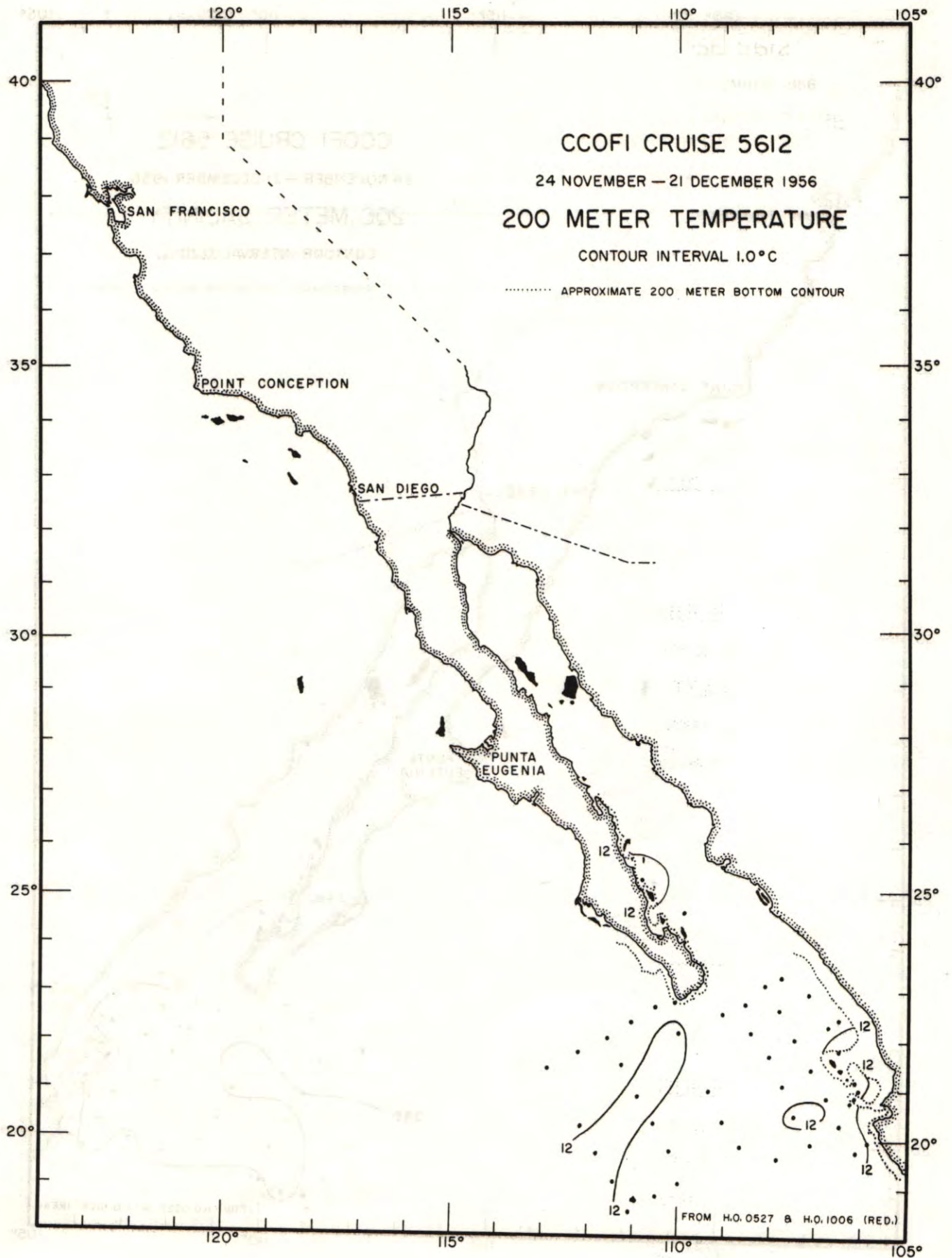


FIGURE 5

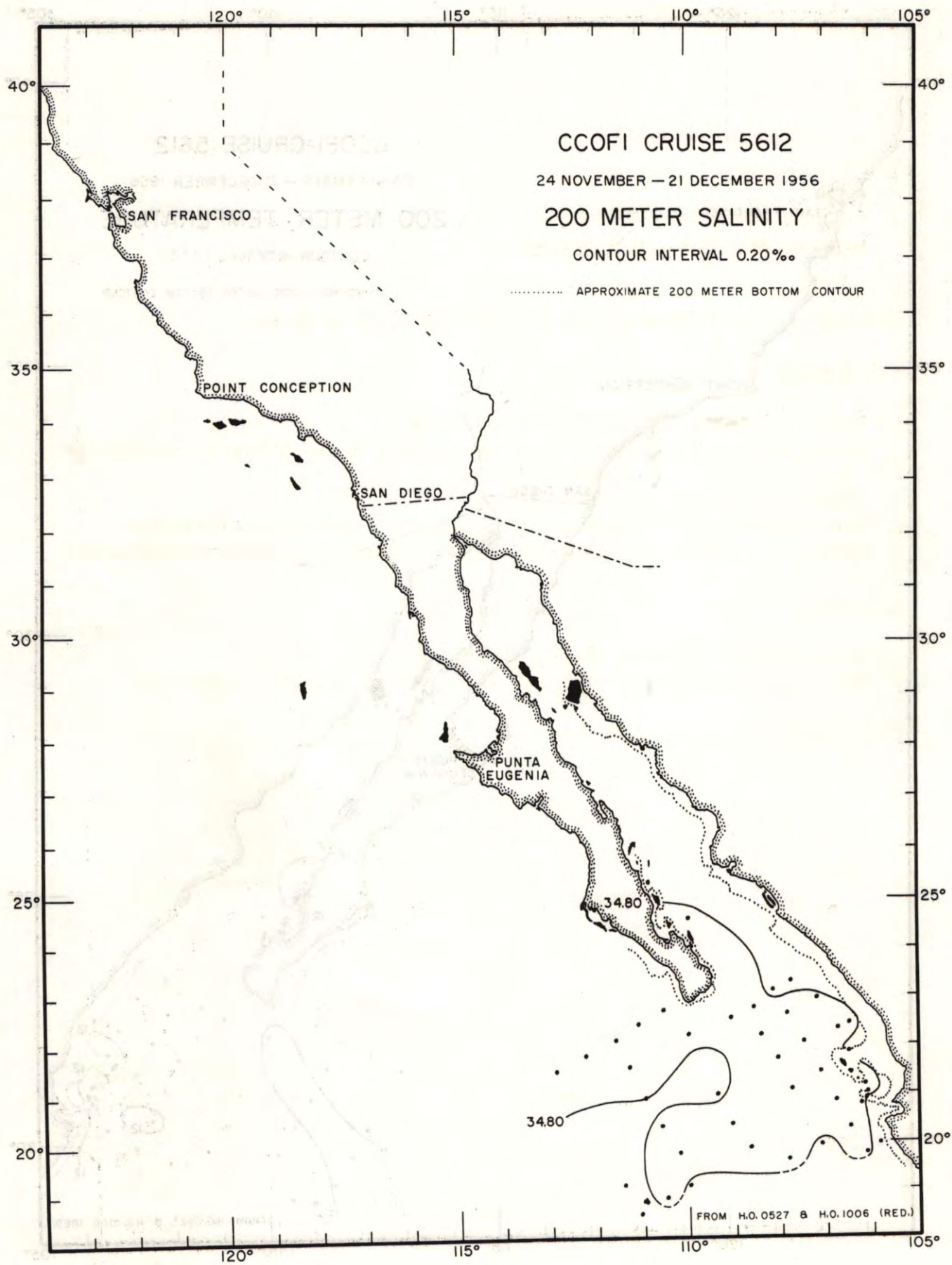


FIGURE 6

PERSONNEL		PERSONNEL		PERSONNEL	
NAME	POSITION	NAME	POSITION	NAME	POSITION

**SHIPS' CAPTAINS**

- Colbeth, Clifford W., R/V Orca
- Hopkins, Marvin F., R/V Horizon

**PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA**

R/V Horizon

- Reith, A. Dougall, Senior Marine Technician
- Counts, Robert C., Fishery Research Biologist, U. S. Bureau of Commercial Fisheries
- Cunnison, Earle G., Marine Technician
- Justice, David K., Fishery Aid, U. S. Bureau of Commercial Fisheries
- Vorobiov, Alexander V., Fishery Aid, U. S. Bureau of Commercial Fisheries

R/V Orca

- Bryer, Bruce A., Senior Marine Technician
- Reid, Charles F., Fishery Aid, U. S. Bureau of Commercial Fisheries

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

153.16 HORIZON; November 30, 1956; 1558 GCT; 22°51'N, 110°07.5'W; sounding, 140 fm; wind, calm; weather, partly cloudy; sea, slight; wire angle, 00°.

0	25.30	34.67	4.75	485	0	25.30	34.67	4.75	23.02	485	0.00
10	25.34	34.74	4.69	481	10	25.34	34.74	4.69	23.06	481	0.05
29	25.44	34.81	4.87	480	20	25.39	34.77	4.86	23.07	480	0.10
48	25.50	34.85	4.70	478	30	25.45	34.81	4.86	23.08	479	0.14
71	19.40	34.22	4.79	359	50	25.48	34.85	4.70	23.10	477	0.24
94	14.40	34.14	2.66	253	75	18.00	34.17	4.46	24.66	329	0.34
117	13.85	34.59	1.32	209	100	14.24	34.15	2.34	25.50	249	0.42
155	12.36	34.63	1.41	178	150	12.52	34.63	1.41	26.22	181	0.52
192	11.80	34.70	0.32	162	200	11.67	34.70	0.27	26.44	160	0.61
238	11.02	34.70	0.19	149							

153.20 HORIZON; November 30, 1956; 1248 GCT; 22°43.5'N, 110°31'W; sounding, 1050 fm; wind, calm; weather, clear; sea, slight; wire angle, 00°.

0	25.28	34.60	4.67	490	0	25.28	34.60	4.67	22.97	490	0.00
10	25.28	34.60	4.78	490	10	25.28	34.60	4.78	22.97	490	0.05
30	25.30	34.60	4.82	490	20	25.29	34.60	4.80	22.97	490	0.10
38	25.37	34.65	4.72	489	30	25.30	34.60	4.82	22.97	490	0.15
49	22.36	34.26	4.96	432	50	22.10	34.23	5.00	23.62	428	0.24
58	19.65	33.91	5.56	388	75	17.20	34.16	4.95	24.84	312	0.33
67	18.50	34.15	3.69u	343	100	13.72	34.20	1.84	25.65	235	0.40
77	16.93	34.16	4.84	306	150	11.99	34.52	0.78	26.24	179	0.50
86	15.20	34.05	3.29	276	200	11.26	34.63	0.58	26.46	158	0.59
95	13.91	34.11	2.28	245	250	10.78	34.70	0.76	26.60	145	0.67
110	13.40	34.42	0.93	213	300	10.05	34.66	0.33	26.70	135	0.74
129	12.23	34.40	0.97	192	400	8.65	34.57	0.18	26.86	120	0.88
142	12.07	34.52	0.87	180	500	7.50	34.52	0.18	27.00	107	1.00
156	11.94	34.52	0.74	178	600	6.48	34.50	0.20	27.12	96	1.11
174	11.65	34.59	0.65	168	700	5.60	34.49	0.23	27.23	85	1.20
193	11.30	34.61	0.62	160	800	5.01	34.50	0.31	27.30	79	1.30
216	11.20	34.67	0.26	154	1000	4.24	34.54	0.53	27.42	67	1.46
251	10.77	34.70	0.78	144							
362	9.15	34.60	0.18	126							
506	7.42	34.52	0.18	107							
746	5.30	34.49	0.26	82							
1015	4.18	34.55	0.55	65							

153.30 HORIZON; November 30, 1956; 0757, 0815 GCT; 22°26.5'N, 111°02'W; sounding, 1750 fm; wind, calm; weather, clear; sea, slight; wire angle, 00°, missing.

0	24.61	34.49	4.56	479	0	24.61	34.49	4.56	23.09	479	0.00
9	24.60	34.46	5.39	480	10	24.59	34.46	5.38	23.08	480	0.05
29	24.49	34.51	4.94	473	20	24.55	34.47	5.16	23.09	479	0.10
39	24.38	34.47	4.81	472	30	24.48	34.51	4.92	23.15	473	0.14
48	22.16	34.23	5.07	429	50	21.90	34.21	5.08	23.67	424	0.23
59	19.32	34.04	5.25	370	75	16.65	33.97	4.73	24.83	313	0.33
68	17.86	33.95	5.30	342	100	13.20	34.03	2.69	25.62	238	0.40
77	16.26	33.98	4.55	304	150	12.32	34.56	0.64	26.21	182	0.50
86	15.03	33.96	4.24	280	200	11.70	34.69	0.23	26.43	161	0.59
					250	10.89	34.68	0.20	26.57	148	0.67
95	13.80	34.00	3.20	251	300	10.10	34.63	0.19	26.67	138	0.74
110	12.58	34.07	2.19	223	400	8.61	34.57	0.16	26.87	119	0.88
129	12.28	34.25	1.69	204	500	7.22	34.55	0.15	27.06	101	1.00
141	12.66	34.57	0.68	188	600	6.27	34.54	0.15	27.18	90	1.10
156	12.14	34.55	0.61	179	700	5.54	34.54	0.19	27.27	81	1.20
176	11.92	34.67	0.41	167	800	4.98	34.55	0.27	27.34	75	1.28
194	11.78	34.69	0.27	162	1000	4.17	34.58	0.40	27.45	64	1.44
218	11.46	34.69	0.19	157							
248	10.92	34.68	0.20	148							
361	9.14	34.58	0.18	127							
506	7.14	34.55	0.15	100							
744	5.25	34.54	0.23	78							
1015	4.11	34.58	0.42	63							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{-5}^3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{-5}^3$	$\Delta D$
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

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HORIZON; November 30, 1956; 0317 GCT; 22°07.5'N, 111°35.5'W; sounding, 1750 fm; wind, 340°, force 1; weather, partly cloudy; sea, moderate; wire angle, 04°.

153.40

0	24.66	34.36a)	4.76	489	0	24.66	34.36	4.76	22.98	489	0.00
10	24.26b)	34.33	4.94	479	10	24.26	34.33	4.94	23.08	479	0.05
29	24.10	34.47	5.22	465	20	24.18	34.37	5.08	23.13	475	0.10
38	23.66	34.52	5.07	449	30	24.09	34.47	5.22	23.23	465	0.14
49	20.42	34.20	5.52	386	50	20.37	34.19	5.52	24.07	385	0.23
58	19.12	34.05	5.29	364	75	16.10	33.81	6.08	24.84	312	0.32
68	17.53	33.95	6.08	335	100	13.35	33.93	3.34	25.52	248	0.39
77	15.72	33.79	6.00	306	150	12.61	34.65	0.66	26.22	181	0.49
86	14.68	33.80	4.99	284	200	11.40	34.65	0.39	26.45	159	0.58
95	13.69	33.87	3.53	259	250	10.72	34.70	0.16	26.62	143	0.66
110	12.68	34.06	3.01	226	300	10.04	34.66	0.16	26.70	135	0.73
128	12.86	34.45	1.15	200	400	8.66	34.59	0.18	26.87	119	0.86
143	12.74	34.61	0.84	186	500	7.23	34.55	0.20	27.06	101	0.98
157	12.42	34.68	0.48	176	600	6.16	34.52	0.20	27.18	90	1.09
175	12.04	34.70	0.37	167	700	5.43	34.51	0.20	27.25	83	1.18
193	11.50	34.64	0.42	161	800	4.94	34.51	0.29	27.32	76	1.27
216	11.21	34.67	0.24	154							
247	10.78	34.70	0.16	145							
358	9.20	34.61	0.18	126							
502	7.19	34.55	0.20	101							
700p	5.43	34.51	0.20	83							
939p	4.41	34.51	0.41	71							

HORIZON; November 27, 1956; 0006 GCT; 21°47'N, 112°13'W; sounding, 1800 fm; wind, 360°, force 2; weather, partly cloudy; sea, moderate; wire angle, 02°.

153.50

0	25.54	34.22	4.54	525	0	25.54	34.22	4.54	22.60	525	0.00
10	25.16	34.22	4.85	513	10	25.16	34.22	4.85	22.73	513	0.05
29	24.47	34.27	5.02	490	20	24.81	34.24	4.97	22.85	502	0.10
37	23.93	34.36	5.01	468	30	24.40	34.28	5.02	23.00	487	0.15
49	23.12	34.30	4.86	450	50	23.01	34.29	4.86	23.42	448	0.25
58	20.76	34.12	5.10	400	75	17.17	33.98	4.41	24.71	324	0.34
68	17.98	34.04	4.59	338	100	13.74	33.94	3.13	25.44	255	0.42
76	17.06	33.97	4.40	322	150	11.72	34.50	0.88	26.28	175	0.52
84	15.71	33.90	4.49	298	200	11.06	34.61	0.42	26.48	156	0.61
94	14.09	33.88	3.55	266	250	10.27	34.61	0.38	26.62	143	0.68
109	13.20	34.11	2.34	232	300	9.70	34.60	0.28	26.71	134	0.76
128	12.14	34.33	1.27	195	400	8.55	34.58	0.18	26.88	118	0.89
141	11.82	34.43	0.91	183	500	7.28	34.53	0.21	27.04	104	1.01
156	11.68	34.52	0.87	173	600	6.47	34.52	0.20	27.14	94	1.11
175	11.52	34.60	0.67	165	700	5.84	34.52	0.17	27.22	86	1.21
194	11.19	34.60	0.45	158	800	5.32	34.53	0.19	27.29	79	1.30
218	10.70	34.65	0.39	147	1000	4.45	34.58	0.33	27.43	66	1.47
251	10.26	34.61	0.38	143							
362	9.00	34.60	0.17	123							
509	7.18	34.53	0.22	102							
746	5.58	34.52	0.17	83							
1017	4.38	34.59	0.34	64							

- a) Salinity bottle numbers were not recorded on the data sheet. Since standard handling and titrating procedures were used, these salinity values are assumed to be in the order listed.  
b) Alternate value, 24.50°C, not used in interpolation.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_{-5}^{+3}$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{-5}^{+3}$	$\Delta D$	
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m	

153.60

HORIZON; November 27, 1956; 0516 GCT; 21°27'N, 112°52'W; sounding, 2000 fm; wind, 360°, force 1; weather, clear; sea, moderate; wire angle, 00°.

0	25.23	-	4.60	-	0	25.23	(34.29)	4.60	(22.76)	(511)	(0.00)
10	25.18	34.29	4.74	509	10	25.18	34.29	4.74	22.77	509	0.05
29	24.92	-	4.87	-	20	25.07	34.28	4.81	22.80	506	0.10
38	23.72	34.26	4.37	470	30	24.87	34.28	4.87	22.86	501	0.15
49	20.68	34.11	4.93	399	50	20.50	34.10	4.98	23.96	396	0.24
59	18.20	33.93	5.43	352	75	15.71	34.11	3.15	25.14	283	0.33
67	16.01	33.78	5.34	313	100	13.74	34.46	0.46	25.84	217	0.39
76	15.68	34.11	3.05	282	150	12.41	34.75	0.16	26.34	170	0.49
85	13.61	34.00	2.51	248	200	11.48	34.73	0.12	26.49	155	0.57
95	13.84	34.38	0.75	225	250	10.90	34.69	0.00	26.58	147	0.65
110	13.42	34.58	0.26	202	300	10.31	34.67	0.00	26.66	139	0.72
128	12.98	34.72	0.26	182	400	9.01	34.62	0.02	26.84	122	0.86
142	12.62	34.76	0.12	173	500	7.65	34.53	0.09	26.98	109	0.98
156	12.28	34.75	0.19	167	600	6.66	34.53	0.22	27.12	95	1.10
173	11.90	34.73	0.15	162	700	5.92	34.54	0.30	27.22	86	1.20
191	11.58	34.73	0.13	156	800	5.35	34.54	0.30	27.29	79	1.29
217	11.30	34.72	0.10	152	1000	4.43	34.54	0.22	27.40	69	1.45
249	10.92	34.69	0.00	148							
360	9.54	34.65	0.00	128							
507	7.56	34.53	0.10	108							
747	5.64	34.54	0.31	83							
1015	4.36	34.54	0.20	68							

157.20

HORIZON; November 30, 1956; 2236, 2254 GCT; 22°13'N, 109°59'W; sounding, 1750 fm; wind, 030°, force 3; weather, partly cloudy; sea, moderate; wire angle, 25°, 30°.

0	25.25	34.92	5.97	466	0	25.25	34.92	5.97	23.22	466	0.00
9	25.22	34.96	6.17	462	10	25.22	34.96	6.17	23.26	462	0.05
27	24.71	35.02	5.90	443	20	24.87	35.00	5.96	23.40	449	0.09
36	24.58	35.10	5.90	-	30	24.65	35.04	5.90	23.50	439	0.14
45	24.56	35.07	5.14	435	50	24.57	35.07	5.02	23.55	435	0.22
53	24.57	35.07	4.97	435	75	24.43	35.13	4.72	23.63	427	0.33
62	24.53	35.07	4.82	434	100	20.30	34.99	3.06	24.69	326	0.43
					150	13.60	34.78	0.55	26.12	190	0.55
65	24.54	35.08	4.80	433	200	12.13	34.78	0.10	26.42	162	0.64
74	24.44	35.13	4.72	427	250	11.59	34.80	0.10	26.54	151	0.72
80	24.34	35.14	4.87	424	300	11.00	34.80	0.10	26.64	141	0.80
92	22.86	35.20	4.35	378	400	9.67	34.62	0.17	26.73	132	0.94
106	18.33	34.83	2.02	289	500	8.46	34.56	0.18	26.88	119	1.07
116	16.70	34.87	1.43	249	600	7.27	34.52	0.16	27.03	104	1.19
125	14.87	34.85	0.71	211							
140	14.19	34.80	0.84	200							
155	13.38	34.77	0.43	186							
174	12.72	34.84	0.23	169							
199	12.14	34.78	0.10	162							
289	11.13	34.81	0.09	143							
407	9.58	34.61	0.18	131							
604	7.20	34.52	0.15	103							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

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HORIZON; November 29, 1956; 2253 GCT; 21°34'N, 111°15'W; sounding, 1750 fm; wind, 340°, force 3; weather, partly cloudy; sea, moderate; wire angle, 14°.

15740

0	25.02	34.43	4.88	495	0	25.02	34.43	4.88	22.92	495	0.00
10	24.84	34.43	5.11	490	10	24.84	34.43	5.11	22.97	490	0.05
28	24.80	34.45	5.19	487	20	24.81	34.45	5.18	23.00	487	0.10
37	24.78	34.45	5.01	486	30	24.80	34.45	5.19	23.01	486	0.15
46	23.94	34.45	4.80	462	50	23.10	34.36	4.70	23.44	445	0.24
55	21.83	34.20	4.55	423	75	16.40	33.95	4.23	24.87	309	0.34
64	19.96	34.09	4.80	382	100	14.00	34.27	2.16	25.65	235	0.40
69	18.06	34.04	4.49	340	150	12.56	34.69	0.30	26.26	177	0.50
82	14.68	33.87	3.94	279	200	11.53	34.67	0.34	26.44	160	0.59
91	14.10	34.11	3.01	249	250	10.51	34.67	0.64	26.63	142	0.67
109	13.90	34.43	1.42	222	300	9.89	34.60	0.46	26.68	137	0.74
123	13.10	34.68	0.41	188	400	8.73	34.54	0.34	26.83	123	0.88
137	12.83	34.69	0.23	182	500	(7.64)	(34.54)	(0.36)	(26.99)	(108)	(1.00)
151	12.54	34.69	0.31	177	600	(6.75)	(34.53)	(0.27)	(27.11)	(96)	(1.11)
172	11.96	34.64	0.48	169	700	(5.98)	(34.53)	(0.20)	(27.21)	(87)	(1.21)
190	11.80	34.70	0.38	162	800	5.33	34.54	0.26	27.29	79	(1.30)
209	11.24	34.63	0.32	158	1000	(4.37)	(34.55)	(0.58)	(27.42)	(67)	(1.47)
240	10.62	34.68	0.65	144							
349	9.31	34.55	0.34	132							
492	7.70	34.54	0.36	109							
731	5.76	34.53	0.20	84							
993	4.40	34.55	0.58	68							

HORIZON; November 27, 1956; 1253 GCT; 20°55.5'N, 112°30'W; sounding, 1925 fm; wind, 020°, force 1; weather, clear; sea, moderate; wire angle, 10°.

15760

0	25.03	-	5.17	-	0	25.03	(34.52)	5.17	(22.98)	(489)	(0.00)
10	25.06	34.52	4.52	489	10	25.06	34.52	4.52	22.98	489	0.05
29	24.97	34.50	4.62	488	20	25.01	34.51	4.56	22.98	489	0.10
38	24.88	34.51	4.84	485	30	24.96	34.50	4.63	23.00	487	0.15
48	23.14	34.28	4.75	452	50	22.67	34.24	4.76	23.47	442	0.24
58	19.63	34.04	4.87	378	75	16.73	33.93	5.15	24.77	319	0.34
68	17.76	33.95	5.50	339							
77	16.41	-	5.00	-							
86	15.03	33.92	4.41	282							
96	13.75	-	3.75	-							
110	13.24	-	3.75	-							
128	13.52	-	0.99	-							
143	12.81	-	0.52	-							
165	12.47	-	0.38	-							
173	12.34	-	0.55	-							
192	12.00	-	0.53	-							
217	11.72	-	0.49	-							
246	11.27	-	0.12	-							
357	9.66	34.60	0.14	134							

S10

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5612

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

160.20

HORIZON; November 31, 1956; 0415 GCT;<sup>a)</sup> 21°37'N, 109°40'W; sounding, 1700 fm; wind, 360°, force 3; weather, partly cloudy; sea, moderate; wire angle, 19°.

63	20.93	35.14	4.52	331							
66	20.50	35.04	3.83	327							
68	19.48	34.88	3.92	314							
71	18.17	34.52	3.57	308							
73	17.09	34.29	3.64	300							
76	16.44	34.16	3.59	295							
78	15.69	34.03	3.81	288							
81	15.24	34.13	3.40	271							
83	15.17	34.14	3.33	269							
86	15.34	34.23	2.57	266							
88	15.54	34.34	2.44	262							
91	16.47	34.79	1.60	250							
93	16.60	34.87	1.59	246							
96	16.42	34.86	1.40	243							
154	13.50	34.84	0.98	184							

160.40

HORIZON; November 29, 1956; 1746 GCT; 20°55.5'N, 110°54'W; sounding, 1825 fm; wind, 340°, force 2; weather, partly cloudy; sea, moderate; wire angle, 07°.

0	26.47	34.83u	4.52	-	0	26.47	(34.67)	4.52	(22.65)	(521)	(0.00)
10	26.46	34.67	4.66	520	10	26.46	34.67	4.66	22.66	520	0.05
28	26.40	34.65	4.62	519	20	26.43	34.66	4.64	22.66	520	0.10
38	26.32	34.67	4.66	515	30	26.40	34.65	4.63	22.67	519	0.16
47	22.98	34.36	4.59	442	50	21.27	34.24	4.69	23.86	406	0.25
57	18.84	34.13	4.84	353	75	15.88	34.54	1.76	25.44	255	0.33
65	16.92	-	3.69	-	100	14.70	34.78	0.41	25.90	212	0.39
75	15.88	34.54	1.76	255	150	13.24	34.80	0.13	26.21	182	0.49
85	15.54	34.70	0.86	236	200	12.47	34.80	0.16	26.36	167	0.58
94	15.16	34.72	0.27	226	250	11.93	34.82	0.15	26.48	156	0.66
106	14.26	34.82	0.56	201	300	11.44	34.82	0.14	26.58	147	0.74
125	13.68	-	0.26	-	400	10.09	34.75	0.13	26.76	129	0.89
140	13.34	34.80	0.33	184	500	8.19	34.59	0.13	26.94	113	1.02
152	13.22	34.80	0.09	182	600	6.89	34.53	0.13	27.08	99	1.13
171	12.92	34.81	0.17	175	700	6.02	34.51	0.14	27.19	89	1.23
189	12.62	34.79	0.15	171	800	5.40	34.51	0.18	27.26	82	1.33
212	12.29	34.81	0.34	163	1000	4.48	34.52	0.42	27.38	71	1.50
244	11.98	34.82	0.15	156							
356	10.84	34.81	0.14	138							
503	8.12	34.58	0.13	112							
739	5.76	34.51	0.15	86							
1005	4.46	34.52	0.43	71							

a) Special cast.



OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{-5}^3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{-5}^3$	$\Delta D$
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

S10  
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5612

HORIZON; November 27, 1956; 1835 GCT; 20°17'N, 112°10'W; sounding, 1800 fm; wind, 040°, force 1; weather, partly cloudy; sea, moderate; wire angle, 04°.

160.60

0	25.97		3.44		0	25.97					
10	25.86		4.96		10	25.86		4.96			
29	24.74		4.97		20	25.97		4.96			
38	23.80		4.84		30	24.73		4.97			
47	22.91		4.83		50	22.42		4.49			
56	21.39		3.38		75	18.43		3.22			
65	20.24		3.21		100	14.78		1.66			
75	18.43		3.22		150	12.81		1.10			
84	17.57		2.29		200	11.85		1.13			
93	15.73		1.29		250	11.09		1.08			
107	14.24		0.40		300	10.59		0.09			
125	13.42		0.32								
140	12.97		0.09								
153	12.76		0.12								
171	12.38		0.09								
190	12.05		0.09								
213	11.56		0.15								
245	11.14		0.08								
358	9.95		0.11								

HORIZON; December 1, 1956; 0857 GCT; 21°01.5'N, 109°21'W; sounding, 1550 fm; wind, 040°, force 2; weather, clear; sea, moderate; wire angle, 02°.

163.20

0	25.51	34.52	4.61	502	0	25.51	34.52	4.61	22.84	502	0.00
10	25.54	34.59	4.90	498	10	25.54	34.59	4.90	22.89	498	0.05
29	25.48	34.61	5.08	495	20	25.51	34.60	5.01	22.91	496	0.10
38	25.70	34.91	4.63	479	30	25.49	34.62	5.07	22.92	495	0.15
49	23.40	34.69	4.98	430	50	23.30	34.69	4.94	23.63	427	0.24
58	21.11	34.98	2.21	347	75	16.54	34.57	1.79	25.31	268	0.33
66	18.86	34.80	2.23	304	100	13.87	34.68	0.33	25.99	203	0.39
76	16.17	34.54	1.67	261	150	12.32	34.82	0.10	26.41	163	0.48
84	15.00	34.67	1.07	227	200	11.80	34.82	0.15	26.51	153	0.56
94	14.05	34.66	0.42	208	250	11.13	34.76	0.10	26.59	146	0.64
109	13.60	34.72	0.21	194	300	10.26	34.70	0.10	26.69	136	0.71
127	12.89	34.81	0.11	174	400	8.70	34.62	0.10	26.89	117	0.84
140	12.54	34.81	0.14	168	500	7.57	34.56	0.12	27.02	105	0.96
154	12.23	34.83	0.09	161	600	6.58	34.53	0.13	27.13	94	1.07
173	11.99	34.83	0.10	156	700	5.80	34.52	0.14	27.22	85	1.17
192	11.82	34.82	0.14	154	800	5.20	34.52	0.19	27.30	78	1.26
216	11.74	34.83	0.16	151	1000	4.30	34.54	0.42	27.41	68	1.43
244	11.23	34.77	0.11	147							
359	9.24	34.65	0.10	124							
505	7.50	34.56	0.12	105							
746	5.50	34.52	0.14	82							
1013	4.24	34.54	0.43	67							

S10

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5612

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	$\frac{-5}{10} \text{ cm/g}$	m	°C	‰	ml/L	g/L	$\frac{-5}{10} \text{ cm/g}$	dyn. m

163.40

HORIZON; November 29, 1956; 1301 GCT; 20°22.5'N, 110°33'W; sounding, 1600 fm; wind, 340°, force 2;  
weather, clear; sea, slight; wire angle, 00°.

0	26.68	34.70	4.70	524	0	26.68	34.70	4.70	22.61	524	0.00
10	26.64	34.65	4.46	527	10	26.64	34.65	4.46	22.58	527	0.05
29	26.63	34.67	4.71	525	20	26.64	34.66	4.59	22.59	526	0.11
39	26.31	34.61	4.75	519	30	26.63	34.67	4.71	22.61	525	0.16
48	25.67	34.57	4.64	503	50	25.34	34.55	4.56	22.92	495	0.26
57	22.60	34.36	3.53	432	75	16.25	34.04	3.96	24.98	299	0.36
66	19.86	34.27	4.07	367	100	14.32	34.25	1.80	25.56	243	0.43
75	16.25	34.04	3.96	299	150	12.80	34.72	0.31	26.24	179	0.53
85	14.71	34.17	2.56	257	200	11.94	34.73	0.17	26.41	163	0.62
94	14.49	-	2.28	-	250	11.32	34.76	0.18	26.56	149	0.70
109	14.04	34.34	1.07	232	300	10.67	34.75	0.17	26.66	139	0.78
127	13.88	34.71	0.26	201	400	9.28	34.66	0.14	26.82	124	0.92
141	13.28	34.78	0.49	184	500	7.83	34.50	0.16	26.92	114	1.04
154	12.62	34.70	0.27	177	600	6.74	34.47	0.15	27.06	101	1.16
173	12.30	34.68	0.29	173	700	5.91	34.47	0.15	27.17	91	1.26
192	12.03	34.70	0.20	167	800	5.28	34.48	0.20	27.25	83	1.36
215	11.76	34.76	0.13	157	1000	4.39	34.55	0.38	27.41	68	1.53
248	11.34	34.67u	0.18	-							
359	9.83	34.72	0.14	128							
504	7.76	34.49	0.16	113							
742	5.62	34.47	0.15	88							
1029	4.29	34.56	0.41	66							

163.60

HORIZON; November 27, 1956; 2345 GCT; 19°43'N, 111°47.5'W; sounding, 1850 fm; wind, 020°, force 3;  
weather, partly cloudy; sea, moderate; wire angle, 15°.

0	26.48	-	-	0	26.48						
9	26.36		4.57	10	26.35			4.57			
28	26.13		4.66	20	26.24			4.62			
37	23.72		4.79	30	26.10			4.67			
47	21.68		4.02	50	21.28			3.78			
56	20.58		3.52	75	19.06			3.88			
64	19.82		3.76	100	16.24			4.01			
73	19.19		3.91	150	13.14			0.09			
83	18.49		3.63	200	12.02			0.11			
92	17.35		3.46	250	11.38			0.10			
104	15.60		4.37	300	10.79			0.12			
123	14.66		0.50	400	9.46			0.13			
137	13.87		0.09	500	7.90			0.11			
150	13.14		0.09	600	6.85			0.11			
166	12.63		0.08	700	6.08			0.13			
186	12.22		0.09	800	5.48			0.16			
208	11.93		0.14	1000	(4.47)			(0.25)			
239	11.51		0.10								
346	10.24		0.13								
487	8.06		0.11								
720	5.94		0.14								
982	4.58		0.25								

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

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5612

HORIZON; December 1, 1956; 1343 GCT; 20°24'N, 109°03'W; sounding, 1600 fm; wind, 030°, force 3; weather, partly cloudy; sea, moderate; wire angle, 03°.

16720

0	27.22	34.49		556	0	27.22	34.49		22.28	556	0.00
10	27.22	34.50		555	10	27.22	34.50		22.29	555	0.06
29	27.21	34.51		554	20	27.22	34.51		22.29	555	0.11
38	27.21	34.46		557	30	27.21	34.50		22.29	555	0.17
49	26.15	34.43		528	50	25.65	34.42		22.73	513	0.27
58	20.63	34.25		388	75	16.80	34.11		24.90	306	0.38
68	17.96	34.16		329	100	14.08	34.46		25.77	223	0.44
78	16.31	34.10		296	150	12.61	34.77		26.31	172	0.54
86	14.94	34.18		261	200	11.66	34.78		26.50	154	0.62
95	14.32	34.40		232	250	10.98	34.72		26.58	146	0.70
110	13.57	34.55		206	300	10.34	34.69		26.67	138	0.78
129	12.70	34.63		184	400	9.05	34.65		26.86	120	0.91
142	12.70	34.77		174	500	7.67	34.60		27.03	104	1.03
157	12.48	34.77		170	600	6.71	34.56		27.13	94	1.14
175	12.08	34.78		162	700	5.98	34.53		27.20	87	1.24
195	11.75	34.78		156							
217	11.35	34.78		148							
250	10.98	34.72		146							
362	9.54	34.67		126							
507	7.59	34.60		103							
746	5.69	34.52		84							

HORIZON; November 29, 1956; 0813 GCT; 19°48'N, 110°12'W; sounding, 1700 fm; wind, 360°, force 2; weather, missing; sea, slight; wire angle, 05°.

16740

0	26.18	34.78	5.34	503	0	26.18	34.78	5.34	22.84	503	0.00
10	26.20	34.76	4.47u	505	10	26.20	34.76	5.15	22.81	505	0.05
30	26.16	34.95	4.87	490	20	26.17	34.82	4.93	22.87	500	0.10
38	26.13	34.93	4.66	491	30	26.16	34.95	4.87	22.97	490	0.15
49	26.10	35.00	4.42	485	50	26.09	35.00	4.41	23.02	485	0.25
57	23.65	35.06	3.89	410	75	19.45	34.75	2.30	24.74	322	0.35
66	22.11	35.03	3.15	370	100	14.72	34.57	1.01	25.73	227	0.42
76	19.03	34.70	2.22	316	150	12.78	34.79	0.15	26.29	174	0.52
85	16.64	34.42	1.95	280	200	11.75	34.75	0.14	26.47	157	0.60
94	15.15	34.58	1.16	236	250	11.01	34.71	0.13	26.57	148	0.68
109	14.17	34.57	0.81	217	300	10.24	34.66	0.11	26.66	139	0.76
127	13.30	34.67	0.53	192	400	8.83	34.59	0.16	26.85	121	0.90
141	12.96	34.78	0.18	177	500	7.75	34.57	0.32	27.00	107	1.02
155	12.68	34.79	0.15	172	600	6.72	34.57	0.26	27.14	93	1.13
173	12.32	34.81	0.10	164	700	5.80	34.57	0.20	27.26	82	1.22
191	11.88	34.74	0.09	161	800	5.11	34.57	0.26	27.34	74	1.31
216	11.54	34.77	0.23	153	1000	4.21	34.57	0.43	27.45	64	1.47
247	11.08	34.72	0.14	149							
360	9.33	34.61	0.10	127							
502	7.72	34.57	0.32	107							
739	5.48	34.57	0.20	78							
1002	4.19	34.57	0.43	64							

S10

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5612

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$	
m	°C	‰	ml/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	dyn. m	

167.60

HORIZON; November 28, 1956; 0457 GCT; 19°08'N, 111°24.5'W; sounding, 1750 fm; wind, 020°, force 3; weather, clear; sea, moderate; wire angle, 00°.

0	26.40	34.23	4.55	549	0	26.40	34.23	4.55	22.35	549	0.00
10	26.41	34.21	4.79	551	10	26.41	34.21	4.79	22.33	551	0.06
30	26.40	34.23	4.65	549	20	26.40	34.22	4.72	22.34	550	0.11
38	26.36	34.22	4.69	548	30	26.40	34.23	4.65	22.35	549	0.17
48	24.98	34.35	4.79	499	50	24.72	34.35	4.81	22.96	491	0.27
57	23.47	34.34	5.02	457	75	19.99	34.36	3.00	24.56	339	0.37
66	21.51	34.30	4.04	407	100	16.00	34.47	1.43	25.36	263	0.45
75	19.99	34.36	3.00	339	150	12.83	34.82	0.32	26.30	173	0.55
84	18.44	34.38	2.01	325	200	12.01	34.83	0.28	26.47	157	0.64
94	16.85	34.40	1.88	286	250	11.40	34.78	0.19	26.55	150	0.72
108	14.61	34.62	0.43	222	300	10.87	34.75	0.18	26.62	143	0.79
127	13.56	34.78	0.14	189	400	9.74	34.70	0.16	26.78	128	0.94
141	13.12	34.80	0.21	179	500	8.33	34.63	0.15	26.96	111	1.06
155	12.69	34.83	0.38	169	600	7.13	34.59	0.14	27.10	97	1.18
173	12.26	34.86	0.19	159	700	6.19	34.56	0.14	27.21	87	1.28
191	12.12	34.84	0.29	158	800	5.52	34.56	0.18	27.29	79	1.37
214	11.84	34.81	0.15	155	1000	4.58	34.59	0.36	27.42	67	1.54
247	11.44	34.78	0.19	150							
360	10.26	34.72	0.17	134							
504	8.24	34.63	0.15	110							
745	5.84	34.56	0.14	84							
1012	4.53	34.59	0.37	66							

170.20

HORIZON; December 1, 1956; 1820 GCT; 19°54.5'N, 108°39.5'W; sounding, 1675 fm; wind, 040°, force 3; weather, partly cloudy; sea, moderate; wire angle, 23°.

0	27.25	34.61	4.57	548	0	27.25	34.61	4.57	22.36	548	0.00
9	27.22	34.61	4.72	547	10	27.22	34.61	4.72	22.37	547	0.05
27	27.21	34.62	4.70	546	20	27.21	34.61	4.71	22.37	547	0.11
36	27.19	34.63	5.08	545	30	27.20	34.63	4.81	22.39	545	0.16
45	24.04	34.42	4.87	468	50	23.20	34.41	4.71	23.45	444	0.26
54	22.03	34.41	4.52	418	75	17.29	34.49	1.78	25.07	290	0.36
62	19.49	34.31	4.03	355	100	14.40	34.70	0.16	25.89	212	0.42
70	17.97	34.41	2.81	311	150	12.59	34.77	0.15	26.32	171	0.51
79	16.77	34.54	1.07	274	200	11.86	34.77	0.13	26.46	158	0.60
88	15.42	34.62	0.43	239	250	11.26	34.73	0.10	26.54	150	0.68
101	14.32	34.70	0.14	200	300	10.53	34.70	0.12	26.65	140	0.75
117	13.32	34.74	0.19	188	400	8.92	34.59	0.12	26.83	123	0.89
129	12.97	34.74	0.15	181	500	7.49	34.53	0.11	27.00	107	1.02
142	12.70	34.78	0.17	173	600	6.46	34.53	0.11	27.14	93	1.12
160	12.43	34.76	0.14	170	700	5.71	34.53	0.15	27.24	84	1.22
176	12.23	34.79	0.16	163	800	5.13	34.53	0.21	27.31	77	1.31
197	11.91	34.78	0.15	158	1000	(4.27)	(34.53)		(27.41)	(68)	(1.47)
225	11.58	34.75	0.10	155							
328	10.08	34.68	0.14	135							
462	7.96	34.53	0.11	113							
684	5.80	34.53	0.14	85							
935	4.52	34.53	0.37	71							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{3-5}$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{3-5}$	$\Delta D$
m	°C	‰	ml/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	dyn. m

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HORIZON; November 29, 1956; 0306 GCT; 19°07'N, 109°58.5'W; sounding, 1725 fm; wind, 040°, force 3; weather, partly cloudy; sea, moderate; wire angle, 12°.

170.40

0	27.35	34.56	4.38	555	0	27.35	34.56	4.38	22.29	555	0.00
10	27.36	34.57	4.54	554	10	27.36	34.57	4.54	22.30	554	0.06
28	27.27	34.57	4.74	552	20	27.33	34.57	4.63	22.31	553	0.11
37	23.55	34.09	4.08	477	30	27.22	34.57	4.74	22.34	550	0.17
46	22.64	34.06	3.62	455	50	22.42	34.10	3.62	23.43	446	0.27
56	22.01	34.25	3.62	424	75	17.47	34.23	2.97	24.83	313	0.36
65	20.30a)	34.20	4.04	383	100	14.42	34.47	1.56	25.71	229	0.43
74	17.58	34.23	2.98	315	150	12.56	34.69	0.39	26.26	177	0.53
82	15.86	34.20	3.01	279	200	11.63	34.81	0.35	26.53	151	0.62
90	-	34.23	3.04	-	250	10.78	34.72	0.18	26.62	143	0.69
103	14.24	34.53	1.07	221	300	9.97	34.64	0.23	26.70	135	0.76
120	13.61	34.62	0.70	202	400	8.42	34.55	0.22	26.87	119	0.90
132	12.93	34.65	0.69	187	500	7.08	34.52	0.21	27.05	102	1.02
145	12.68	34.67	0.38	181	600	6.21	34.53	0.20	27.17	90	1.12
162	12.24	34.71	0.44	170	700	5.55	34.53	0.22	27.26	82	1.21
179	11.94	34.71	0.35	164	800	5.03	34.53	0.31	27.32	77	1.30
200	11.63	34.81	0.35	151	1000	(4.23)	(34.53)		(27.41)	(68)	(1.46)
229	11.12	34.76	0.18	146							
332	9.43	34.60	0.23	130							
465	7.46	34.52	0.22	107							
683	5.64	34.53	0.20	83							
926	4.48	34.52	0.45	71							

HORIZON; November 28, 1956; 2125 GCT; 18°52.5'N, 110°29.5'W; sounding, 1820 fm; wind, 040°, force 3; weather, clear; sea, moderate; wire angle, 14°.

170.50

0	26.54	34.33	4.62	546	0	26.54	34.33	4.62	22.38	546	0.00
10	26.34	34.33	4.56	540	10	26.34	34.33	4.56	22.45	540	0.05
28	26.28	34.31	4.85	540	20	26.30	34.32	4.80	22.45	540	0.11
38	26.27	34.28	4.62	542	30	26.28	34.30	4.84	22.44	541	0.16
48	24.28	34.22	4.18	488	50	24.14	34.23	4.11	23.04	483	0.26
57	23.67	34.29	3.67	466	75	19.85	34.13	3.20	24.16	377	0.37
66	21.76	34.21	3.34	420	100	14.46	34.57	0.50	25.78	223	0.45
75	19.85	34.13	3.20	377	150	12.72	34.75	0.18	26.28	175	0.55
83	18.66	34.29	2.78	336	200	11.78	34.78	0.21	26.48	156	0.63
92	16.29	34.45	1.50	270	250	11.24	34.78	0.12	26.58	146	0.71
105	14.00	34.60	0.32	211	300	10.78	34.73	0.12	26.63	142	0.79
121	13.43	34.65	0.20	197	400	9.42	34.64	0.15	26.79	127	0.93
135	13.15	34.74	0.16	184	500	7.85	34.59	0.15	27.00	107	1.05
148	12.76	34.75	0.20	176	600	6.65	34.55	0.15	27.13	94	1.16
165	12.52	34.78	0.08	170	700	5.76	34.53	0.16	27.24	84	1.26
183	12.08	34.72	0.13	166	800	5.12	34.54	0.20	27.32	77	1.35
204	11.72	34.79	0.22	154	1000	(4.21)	(34.56)		(27.44)	(65)	(1.51)
234	11.39	34.79	0.12	148							
338	10.40	34.69	0.12	139							
473	8.20	34.60	0.15	111							
697	5.78	34.53	0.16	85							
946	4.42	34.55	0.25	68							

a) Alternate value, 19.89°C, not used in interpolation.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

170.60

HORIZON; November 28, 1956; 1009 GCT; 18°33'N, 111°04'W; sounding, 1700 fm; wind, 070°, force 2; weather, clear; sea, slight; wire angle, 06°.

0	26.87	33.89	4.42	588	0	26.87	33.89	4.42	21.94	588	0.00
11	26.88	33.86	4.61	591	10	26.88	33.86	4.60	21.92	591	0.06
28	26.71	34.01	4.49	575	20	26.82	33.93	4.57	22.00	583	0.12
38	24.93	34.17	4.15	511	30	26.66	34.02	4.47	22.12	572	0.18
48	24.66	34.21	4.16	500	50	24.52	34.22	4.16	22.91	496	0.28
56	22.94	34.34	4.30	442	75	19.21	34.40	2.03	24.52	342	0.39
65	21.08	34.28	3.98	397	100	15.19	34.60	0.41	25.64	235	0.46
75	19.21	34.40	2.03	342	150	12.35	34.82	0.17	26.40	164	0.56
85	17.52	34.40	1.40	302	200	11.81	34.82	0.12	26.51	153	0.64
93	15.84	34.53	0.73	255	250	11.38	34.82	0.17	26.58	146	0.72
108	14.39	34.67	0.12	214	300	10.83	34.77	0.15	26.64	140	0.79
121	13.40	34.72	0.15	191	400	9.56	34.67	0.14	26.79	127	0.93
141	12.64	34.79	0.18	171	500	8.12	34.60	0.15	26.97	109	1.06
155	12.24	34.83	0.16	161	600	7.06	34.57	0.15	27.10	97	1.17
173	12.07	34.84a)	0.15	157	700	6.26	34.55	0.15	27.18	89	1.28
190	11.90	34.83b)	0.10	155	800	5.62	34.57	0.19	27.28	80	1.37
214	11.68	34.81	0.15	152	1000	4.58	34.58	0.31	27.42	67	1.54
246	11.40	34.82	0.17	146							
358	10.09	34.70	0.14	133							
503	8.06	34.60	0.15	109							
738	6.00	34.55	0.17	86							
1007	4.56	34.58	0.31	67							

117G.25

HORIZON; December 13, 1956; 0820 GCT; 28°25'N, 112°47'W; sounding, 90 fm; wind, 300°, force 4; weather, clear; sea, moderate; wire angle, 10°.

0	16.86	35.39		215	0	16.86	35.39		25.86	215	0.00
10	16.75	35.38		213	10	16.75	35.38		25.88	213	0.02
29	16.68	35.37		212	20	16.72	35.38		25.89	212	0.04
48	16.24	35.34		204	30	16.66	35.37		25.90	211	0.06
70	15.93	35.28		201	50	16.20	35.33		25.98	204	0.11
93	15.82	35.23u		-	75	15.91	35.28		26.01	201	0.16
115	14.50	35.09		186							

117G.35

HORIZON; December 13, 1956; 0655 GCT; 28°32.5'N, 112°40'W; sounding, 145 fm; wind, 300°, force 4; weather, clear; sea, moderate; wire angle, 03°.

0	15.92	35.19		208	0	15.92	35.19		25.93	208	0.00
10	15.72	35.21		203	10	15.72	35.21		25.99	203	0.02
30	15.08	35.12		196	20	15.39	35.18		26.04	198	0.04
48	14.90	35.07		195	30	15.08	35.12		26.06	196	0.06
71	14.85	35.08		194	50	14.89	35.07		26.07	195	0.10
95	14.67	35.08		190	75	14.84	35.08		26.09	193	0.15
117	14.34	35.05		185	100	14.60	35.07		26.13	189	0.20
153	13.74	34.99		177	150	13.80	34.99		26.24	178	0.29
189	13.01	34.96		166							

117G.50

HORIZON; December 13, 1956; 0440 GCT; 28°39'N, 112°24'W; sounding, 130 fm; wind, 280°, force 4; weather, clear; sea, moderate; wire angle, 05°.

0	16.01	35.16		213	0	16.01	35.16		25.88	213	0.00
10	16.24	35.20		214	10	16.24	35.20		25.87	214	0.02
29	15.99	35.17		211	20	16.10	35.19		25.89	212	0.04
48	15.98	35.17		211	30	15.99	35.17		25.90	211	0.06
72	14.82	35.07		194	50	15.94	35.16		25.91	210	0.11
95	13.76	34.92		183	75	14.60	35.04		26.11	191	0.16
117	13.33	34.90		176	100	13.65	34.91		26.21	181	0.20
154	12.25	34.85		160	150	12.36	34.85		26.43	161	0.29
190	11.65	34.85		149	200	(11.51)	(34.85)		(26.58)	(146)	(0.37)

- a). Alternate value, 34.77‰, not used in interpolation.  
b). Alternate value, 34.74‰, not used in interpolation.

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_{-5}^3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{-5}^3$	$\Delta D$	
m	°C	‰	ml/L	10 <sup>-5</sup> cm <sup>3</sup> /g	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm <sup>3</sup> /g	dyn. m	

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HORIZON; December 13, 1956; 0257 GCT; 28°41'N, 112°10'W; sounding, 16 fm; wind, 310°, force 4; weather, clear; sea, moderate; wire angle, 00°.

117G.65

0	16.33	35.23		214	0	16.33	35.23		25.87	214	0.00
10	16.30	35.22		214	10	16.30	35.22		25.87	214	0.02
19	15.38	35.07		205							

HORIZON; December 12, 1956; 1914, 1937 GCT; 27°55'N, 112°20'W; sounding, 600 fm; wind, 300°, force 4; weather, clear; sea, moderate; wire angle, 35°, 40°.

121G.20

0	17.69	35.35		236	0	17.69	35.35		25.64	236	0.00
7	17.60	35.33		236	10	17.58	35.33		25.65	235	0.02
24	17.48	35.34		232	20	17.50	35.34		25.67	233	0.05
31	16.23	35.22		213	30	16.55	35.26		25.82	219	0.07
40	15.79	35.18		206	50	15.52	35.15		26.00	202	0.11
48	15.57	35.16		203	75	14.76	35.06		26.09	193	0.16
56	15.29	35.12		200	100	13.96	34.99		26.21	182	0.21
62p	15.06	35.09		198							
74p	14.78	35.06		193							
90p	14.34	35.03		187							
100p	13.96	34.99		182							
112p	13.65	34.97		178							
126p	13.35	34.94		174							
143p	12.90	34.92		167							

HORIZON; December 12, 1956; 0459 GCT; 26°15'N, 111°04'W; sounding, 250 fm; wind, 320°, force 4; weather, clear; sea, moderate; wire angle, 14°.

133G.40

0	18.74	35.28		266	0	18.74	35.28		25.32	266	0.00
10	18.72	35.29		265	10	18.72	35.29		25.33	265	0.03
28	18.72	35.29		265	20	18.72	35.29		25.33	265	0.05
47	17.08	35.18		235	30	18.72	35.29		25.33	265	0.08
69	15.54	35.10		207	50	16.80	35.17		25.70	230	0.13
89	14.68	34.99		197	75	15.28	35.07		25.99	203	0.18
113	13.67	34.94		180	100	14.22	34.96		26.13	189	0.23
148	12.99	34.88		171	150	12.96	34.88		26.33	170	0.32
184	12.35	34.86		161							

HORIZON; December 11, 1956; 2050 GCT; 25°15'N, 110°49'W; sounding, 450 fm; wind, 340°, force 4; weather, clear; sea, rough; wire angle, 18°.

139G.22

0	21.14	35.32		324	0	21.14	35.32		24.72	324	0.00
8	21.00	35.33		319	10	20.99	35.33		24.77	319	0.03
27	20.74	35.32		313	20	20.78	35.32		24.82	314	0.06
35	-	35.32		-	30	20.72	35.32		24.84	312	0.10
45	20.58	35.34		307	50	20.57	35.34		24.89	307	0.16
53	20.53	35.35		305	75	19.14	35.26		25.20	278	0.23
62	20.42	35.32		305	100	16.39	35.02		25.69	231	0.30
75	19.14	35.26		278	150	13.61	34.94		26.24	179	0.40
87	17.09	35.07		243	200	12.62	34.88		26.40	164	0.49
101	16.36	35.02		230	250	11.78	34.84		26.53	151	0.57
123	15.04	35.03		202	300	(10.87)	34.76		(26.63)	(142)	(0.64)
150	13.61	34.94		179	400	(9.45)	34.72		(26.85)	(121)	(0.78)
182	12.96	34.89		169	500	(8.20)	34.65		(27.00)	(107)	(0.91)
227	12.18	34.87		156							
297	10.92	34.76		143							
387	-	34.73		-							
505	8.12	34.65		107							

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta_T$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta_T$	$\Delta D$	
m	°C	‰	ml/L	$\frac{-5}{10} \frac{cm}{g}$	m	°C	‰	ml/L	g/L	$\frac{-5}{10} \frac{cm}{g}$	dyn. m	

145G.40

HORIZON; December 10, 1956; 1412 GCT; 24°34'N, 109°57'W; sounding, 450 fm; wind, 310°, force 6; weather, overcast; sea, high; wire angle, 25°.

0	19.18	35.27		277	0	19.18	35.27		25.21	277	0.00
9	19.18	35.28		277	10	19.18	35.28		25.21	277	0.03
31	19.20	35.27		278	20	19.20	35.28		25.21	277	0.06
39	-	35.28		-	30	19.20	35.27		25.20	278	0.08
53	19.14	35.28		275	50	19.17	35.28		25.22	276	0.14
62	18.37	35.26		259	75	18.11	35.26		25.46	253	0.21
71	18.21	35.26		255	100	15.60	34.89		25.78	223	0.27
88	17.60	35.23		243	150	12.95	34.74		26.22	181	0.37
106	14.72	34.77		213	200	11.61	34.70		26.45	159	0.46
119	14.28	34.77		205	250	10.78	34.70		26.60	145	0.53
141	13.28	34.74		187	300	10.12	34.68		26.70	135	0.61
177	12.14	34.73		166	400	8.90	34.64		26.88	118	0.74
213	11.35	34.69		155	500	7.76	34.61		27.03	104	0.86
268	10.52	34.70		140	600	(7.00)	(34.58)		(27.11)	(97)	(0.97)
347	9.56	34.66		128							
452	8.25	34.63		110							
590	7.06	34.58		97							

151G.130

HORIZON; December 9, 1956; 2007 GCT; 24°25'N, 108°01.5'W; sounding, 18 fm; wind, 340°, force 6; weather, cloudy; sea, very rough; wire angle, 05°.

0	18.63	35.01		283	0	18.63	35.01		25.14	283	0.00
10	18.24	35.01		274	10	18.24	35.01		25.24	274	0.03
29	15.48	34.92		218	20	17.02	34.98		25.51	248	0.05

157G.25

HORIZON; December 3, 1956; 1148, 1205 GCT; 22°35.5'N, 109°03'W; sounding, 1700 fm; wind, 120°, force 2; weather, partly cloudy; sea, slight; wire angle, 15°, 15°.

0	25.20	34.72	4.76	479	0	25.20	34.72	4.67	23.09	479	0.00
9	25.18	34.73	4.61	478	10	25.18	34.74	4.61	23.11	477	0.05
28	25.24	34.96	4.88	463	20	25.22	34.87	4.80	23.19	469	0.10
37	25.22	34.96	4.51	462	30	25.24	34.96	4.86	23.25	463	0.14
47	25.19	34.99	4.61	459	50	25.10	35.01	4.63	23.34	455	0.23
57	24.40	35.10	4.67	428	75	16.80	34.02	4.13	24.83	313	0.33
66	19.04	34.09	5.09	360	100	13.97	34.28	1.58	25.66	234	0.40
74	17.16	34.04	4.17	320	150	11.73	34.49	0.93	26.26	177	0.50
84	14.82	33.93	4.01	277	200	11.34	34.74	0.26	26.53	151	0.59
					250	10.70	34.67	0.23	26.60	145	0.66
88	14.51	33.96	3.56	269	300	9.81	34.62	0.23	26.71	134	0.74
102	13.88	34.29	1.57	232	400	8.33	34.55	0.18	26.89	117	0.87
118	12.46	34.23	1.68	209	500	7.21	34.51	0.15	27.03	104	0.99
131	12.20	34.38	1.52	193	600	6.26	34.51	0.15	27.16	92	1.09
144	11.84	34.47	0.99	180	700	5.56	34.53	0.18	27.26	82	1.19
159	11.56	34.51	0.81	172	800	5.05	34.55	0.24	27.33	75	1.27
176	11.72	34.68	0.53	162	1000	(4.26)	(34.61)		(27.47)	(62)	(1.43)
199	11.36	34.74	0.27	152							
227	11.06	34.70	0.23	149							
328	9.32	34.60	0.23	128							
460	7.61	34.52	0.15	109							
676	5.68	34.52	0.17	84							
926	4.52	34.59	0.37	66							



OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$	
m	°C	‰	ml/L	$10^{-5}$ cm/g	m	°C	‰	ml/L	g/L	$10^{-5}$ cm/g	dyn. m	

S10  
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5612

HORIZON; December 3, 1956; 1626, 1708 GCT; 22°47'N, 108°33'W; sounding, 1600 fm; wind, 320°, force 2; weather, partly cloudy; sea, slight; wire angle, 14°, 16°.

157G.55

0	24.17	34.86	5.23	439	0	24.17	34.86	5.23	23.50	439	0.00
9	23.82	35.05	4.99	415	10	23.77	35.07	4.96	23.78	413	0.04
28	21.72	35.37	4.93	335	20	22.85	35.25	4.93	24.18	374	0.08
38	21.13	35.32	3.94	323	30	21.65	35.37	4.90	24.62	333	0.12
48	19.86	35.10	3.50	306	50	19.32	35.00	3.26	24.96	300	0.18
56	18.13	34.81	2.68	285	75	15.90	34.92	1.42	25.72	228	0.25
67	16.40	34.66	1.79	257	100	13.52	34.58	0.96	25.98	203	0.30
76	15.92	34.92	1.41	228	150	12.14	34.70	0.29	26.35	168	0.40
85	15.28	34.87	1.25	218	200	11.17	34.67	0.29	26.51	153	0.48
					250	10.50	34.64	0.30	26.60	144	0.56
100	13.52	34.58	0.96	203	300	9.79	34.61	0.25	26.71	134	0.63
117	12.91	34.66	0.42	185	400	8.40	34.56	0.17	26.89	118	0.76
130	12.54	34.66	0.40	179	500	7.21	34.52	0.14	27.04	104	0.88
142	12.30	34.70	0.32	171	600	6.30	34.54	0.15	27.18	90	0.98
160	11.92	34.70	0.27	164	700	5.56	34.56	0.16	27.28	80	1.08
176	11.51	34.67	0.27	159	800	5.00	34.58	0.23	27.36	72	1.16
199	11.19	34.67	0.29	154	1000	(4.08)	(34.61)	(0.40)	(27.48)	(61)	(1.31)
229	10.76	34.65	0.32	148							
335	9.30	34.60	0.22	128							
471	7.50	34.52	0.14	108							
697	5.58	34.56	0.16	80							
951	4.28	34.60	0.37	63							

HORIZON; December 3, 1956; 2225, 2242, 2115 GCT; 23°09'N, 108°08'W; sounding, 1425 fm; wind, 350°, force 3; weather, overcast; sea, moderate; wire angle, 29°, 30°, 29°.

157G.85

0	24.18	- a)	5.16	-	0	24.18	(35.09)	5.16	(23.68)	(422)	(0.00)
9	24.23	35.09	4.97	424	10	24.23	35.09	4.97	23.66	424	0.04
27	22.96	35.09	5.14	389	20	23.68	35.09	5.03	23.81	409	0.08
35	21.93	35.14	4.45	357	30	22.58	35.11	4.95	24.15	377	0.12
43	20.50	35.21	4.01	315	50	19.25	35.18	3.23	25.12	285	0.19
52	18.89	35.16	2.97	279	75	14.94	34.74	1.03	25.80	221	0.25
59	16.99	34.96a)	1.65	249	100	13.61	34.86	0.68	26.18	185	0.30
68	16.01	34.78	1.24	240	150	12.41	34.85	0.51	26.41	163	0.39
					200	11.82	34.83	0.34	26.51	153	0.47
62	16.62	34.86	1.50	248	250	10.97	34.75	0.17	26.61	144	0.55
70	15.24	34.74	1.08	227	300	10.12	34.68	0.16	26.70	135	0.62
82	14.56	34.75	0.95	212	400	8.52	34.60	0.15	26.90	116	0.76
96	13.70	34.78	0.69	192	500	7.15	34.58	0.15	27.09	98	0.87
107	13.48	34.88	0.67	181	600	6.25	34.56	0.19	27.20	88	0.97
115	13.04	34.84	0.56	175	700	5.62	34.54	0.20	27.26	82	1.06
129	12.67	34.88	0.50	165	800	5.07	34.54	0.25	27.31	77	1.15
144	12.47	34.85	0.50	164	1000	4.23	34.58	0.51	27.44	64	1.31
161	12.32	34.86	0.53	160	1200	3.68	34.60	0.75	27.52	57	1.45
184	12.04	34.85	0.42	156	1500	3.00	34.63	1.21	27.61	49	1.64
268	10.67	34.72	0.15	141							
377	8.84	34.61	0.19	120							
555	6.59	34.57	0.19	92							
752	5.30	34.53	0.20	79							
454b)	7.75	34.58	0.10	106							
906	4.56	34.56	0.38	69							
1364	3.26	34.62	0.98	52							
1817	2.47	34.65	1.93	43							

a) One salinity sample was missing from the first cast; it is not certain if it was the surface or 59-meter sample. Each value listed between 0 and 59 meters may actually belong to the preceding depth. The difference in  $\Delta D$  caused by such a displacement is negligible.

b) Overlapping casts; reconciliation of property curves when necessary.

S10

CCOF1  
5612

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{-5}^3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{-5}^3$	$\Delta D$
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

157G.115

HORIZON; December 9, 1956; 0815 GCT; 23°20'N, 107°45'W; sounding, 730 fm; wind, 310°, force 7; weather, partly cloudy; sea, high; wire angle, 31°.

0	23.72	35.00		416	0	23.72	35.00		23.75	416	0.00
8	23.72	34.99		417	10	23.72	34.99		23.74	417	0.04
29	19.22	34.56		330	20	23.68	34.98		23.75	416	0.08
37	17.97	34.70		290	30	19.00	34.57		24.71	324	0.12
51	17.13	34.83		261	50	17.18	34.83		25.36	262	0.18
58	16.86	34.81		257	75	15.14	34.76		25.78	223	0.24
71	15.57	34.78		231	100	13.82	34.79		26.08	194	0.29
84	14.39	34.73		210	150	12.39	34.79		26.37	166	0.38
92	14.16	34.81		199	200	11.80	34.81		26.50	154	0.47
98	13.89	34.79		195	250	11.23	34.77		26.58	147	0.54
113	13.10	34.74		184	300	10.54	34.72		26.66	139	0.62
133	12.77	34.82a)		-	400	8.99	34.62		26.85	121	0.76
146	12.48	34.78		169	500	7.46	34.55		27.03	104	0.88
157	12.28	34.81		163	600	6.55	34.53		27.13	94	0.98
182	12.04	34.82		158	700	5.87	34.51		27.21	87	1.08
199	11.80	34.79a)		-	800	5.32	34.51		27.27	81	1.18
221	11.58	34.80		151	1000	4.41	34.57		27.42	67	1.34
257	11.14	34.76		146							
368	9.48	34.65		127							
517	7.26	34.55b)		102							
763	5.50	34.51		83							
1043	4.24	34.59		63							

160G.20

HORIZON; December 3, 1956; 0347 GCT; 22°13'N, 108°25.5'W; sounding, 1600 fm; wind, 350°, force 1; weather, partly cloudy; sea, moderate; wire angle, 10°.

0	24.92	34.96	5.91	453	0	24.92	34.96	5.91	23.36	453	0.00
9	24.77	34.98	5.87	448	10	24.74	34.99	5.86	23.44	445	0.04
28	23.60	35.16	5.85	401	20	24.20	35.07	5.84	23.65	425	0.09
37	23.28	35.19	4.82	391	30	23.52	35.17	5.78	23.94	398	0.13
46	23.14	35.20	4.78	386	50	22.90	35.19	4.64	24.12	380	0.21
55	19.83	34.89	2.54	321	75	15.55	34.57	2.32	25.53	246	0.29
64	16.18	34.32	5.22	277	100	14.62	34.91	1.33	26.00	202	0.34
75	15.55	34.57	2.32	246	150	12.66	34.74	0.50	26.28	175	0.44
84	15.37	34.88	2.26	219	200	11.70	34.77	0.29	26.49	155	0.52
93	14.97	34.94	1.97	206	250	10.93	34.74	0.18	26.62	143	0.60
105	14.38	34.88	0.93	198	300	10.20	34.71	0.19	26.71	134	0.67
124	13.60	34.86	0.69	184	400	8.79	34.62	0.20	26.87	119	0.80
137	13.26	34.86	0.62	178	500	7.53	34.54	0.26	27.00	107	0.93
151	12.65	34.74	0.49	175	600	6.42	34.51	0.23	27.14	94	1.03
169	12.41	34.84	0.39	163	700	5.56	34.52	0.21	27.25	83	1.13
187	11.87	34.78	0.38	158	800	5.04	34.53	0.23	27.32	76	1.22
210	11.60	34.77	0.27	154	1000	(4.34)	(34.56)	(0.33)	(27.42)	(67)	(1.38)
242	11.06	34.75	0.18	146							
351	9.49	34.67	0.19	126							
492	7.60	34.54	0.27	108							
725	5.40	34.52	0.21	81							
986	4.38	34.56	0.32	67							

a) Loose bottle cap; value does not fall on property curve.

b) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T$	$\Delta D$	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

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5612

HORIZON; December 4, 1956; 0521, 0617 GCT; 22°39'N, 107°49'W; sounding, 1500 fm; wind, 320°, force 2; weather, partly cloudy; sea, moderate; wire angle, 12°, 12°.

160G30

0	24.43	34.79	4.66	451	0	24.43	34.79	4.66	23.38	451	0.00
10	24.43	34.86	4.88	446	10	24.43	34.86	4.88	23.43	446	0.04
29	23.67	35.19	5.02	401	20	24.40	34.89	4.90	23.46	443	0.09
38	21.28	34.97	3.24	353	30	23.45	35.18	4.94	23.96	396	0.13
52	17.58	34.51	3.36	295	50	17.92	34.55	3.36	24.97	300	0.20
62	16.92	34.44	1.86	285	75	15.92	34.69	1.57	25.55	244	0.27
71	16.11	34.70	1.63	248	100	14.62	34.85	0.98	25.97	205	0.33
85	15.34	34.65	1.36	235	150	12.58	34.85	0.52	26.39	165	0.42
					200	11.83	34.79	0.42	26.48	156	0.50
88	14.76	34.70	0.86	219	250	11.08	34.73	0.27	26.58	147	0.58
96	14.68	34.84	0.97	208	300	10.39	34.69	0.18	26.66	139	0.66
111	14.27	34.88	1.00	196	400	9.00	34.64	0.16	26.86	120	0.79
128	13.42	34.88	0.69	180	500	7.58	34.61	0.15	27.05	102	0.91
142	12.82	34.84	0.48	171	600	6.52	34.58	0.15	27.18	90	1.02
156	12.46	34.85	0.53	164	700	5.76	34.56	0.15	27.26	82	1.11
178	12.14	34.81	0.44	160	800	5.17	34.55	0.17	27.32	76	1.20
196	11.90	34.79	0.41	158	1000	4.35	34.57	0.33	27.43	66	1.36
220	11.52	34.78	0.44	151							
252	11.04	34.73	0.21	147							
374	9.35	34.65	0.17	125							
519	7.30	34.60	0.15	99							
767	5.34	34.55	0.16	78							
1054	4.15	34.57	0.40	64							

HORIZON; December 9, 1956; 0100 GCT; 22°57.5'N, 107°11'W; sounding, 850 fm; wind, 300°, force 7; weather, partly cloudy; sea, very rough; wire angle, 25°.

160G40

8	25.54	34.85a)	4.60	479	0	(25.6)	(34.85)		(23.07)	(481)	(0.00)
22	25.54	34.83	4.68	480	10	25.54	34.85	4.61	23.08	479	0.05
37	25.54	34.85	4.80	479	20	25.54	34.83	4.65	23.07	480	0.10
45	-	34.49	4.29	-	30	25.54	34.84	4.73	23.08	480	0.14
53	18.76	34.36	3.40	334	50	19.60	34.37	3.63	24.40	353	0.23
65	17.19	34.43	2.22	292	75	16.30	34.66	1.53	25.44	255	0.30
75	16.30	34.66	1.53	255	100	13.51	34.78	0.32	26.14	189	0.36
88	14.08	34.72	0.53	204	150	12.56	34.81	0.27	26.35	168	0.45
107	13.32	34.79	0.24	184	200	11.79	34.79	0.11	26.49	155	0.53
131	12.88	34.81	0.31	174							
157	12.42	-	-	-							
213	11.57	34.78	0.08	152							

HORIZON; December 8, 1956; 2147 GCT; 23°06'N, 106°52'W; sounding, 400 fm; wind, 320°, force 6; weather, partly cloudy; sea, very rough; wire angle, 28°.

160G45

0	25.24	34.90	4.91	467	0	25.24	34.90	4.91	23.21	467	0.00
9	25.25	34.88	4.66	468	10	25.25	34.88	4.66	23.20	468	0.05
30	25.18	34.88	4.57	467	20	25.23	34.88	4.62	23.20	468	0.09
38	20.54	34.70	2.78	353	30	25.18	34.88	4.57	23.22	467	0.14
52	17.97	34.67	1.77	292	50	18.28	34.67	1.82	24.97	300	0.22
60	16.86	34.74	1.83	261	75	15.59	34.77	1.12	25.69	231	0.28
70	16.12	34.80	1.14	241	100	13.78	34.78	0.46	26.08	194	0.34
87	14.16	34.67	1.11	209	150	12.51	34.83	0.21	26.38	166	0.43
104	13.66	34.81	0.36	189							
116	13.33	34.83	0.50	181							
136	12.72	34.82	0.25	170							
167	12.27	34.83	0.20	162							

a) Loose bottle cap; value falls on property curve.

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5612

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{-5}^3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{-5}^3$	$\Delta D$
m	°C	‰	ml/L	10 <sup>-5</sup> cm <sup>3</sup> /g	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm <sup>3</sup> /g	dyn. m

163G.20

HORIZON; December 2, 1956; 2301, 2146 GCT; 21°45'N, 108°01'W; sounding, 1700 fm; wind, 340°, force 1; weather, partly cloudy; sea, moderate; wire angle, 00°, 00°.

0	26.98	34.72	4.94	532	0	26.98	34.72	4.94	22.53	532	0.00
10	26.82	34.74	5.26	526	10	26.82	34.74	5.26	22.59	526	0.05
29	26.73	34.81	5.05	517	20	26.78	34.75	5.25	22.62	523	0.11
38	26.60	34.85	5.00	511	30	26.72	34.82	5.04	22.70	516	0.16
47	23.64	34.52	4.62	449	50	22.70	34.44	4.49	23.62	428	0.25
59	19.67	34.33	3.98	358	75	15.34	34.50	1.48	25.52	247	0.34
66	17.42	34.38	2.59	301	100	14.38	34.74	0.56	25.92	209	0.40
77	15.26	34.51	1.41	244	150	12.33	34.77	0.15	26.37	166	0.49
83	15.08	34.63	0.86	231	200	11.46	34.76	0.15	26.52	152	0.57
94	14.70	34.71	0.72	217	250	10.81	34.70	0.22	26.60	145	0.65
109	13.88	34.77	0.32	197	300	10.08	34.68	0.23	26.71	134	0.72
126	13.16	34.80	0.19	180	400	8.59	34.62	0.22	26.91	115	0.85
142	12.64	34.80	0.15	170	500	7.23	34.55	0.20	27.06	101	0.97
155	12.14	34.76	0.16	164							
172	11.78	34.76	0.15	157							
196	11.52	34.76	0.15	153							
216	11.22	34.74	0.11	149							
247	10.84	34.70	0.21	146							
359	9.17	34.65	0.23	122							
504	7.18	34.55	0.19	100							
744	5.54	-	0.21	-							
1013	4.26	34.54	0.65	67							
510	7.10	34.55	0.20	100							
1022	4.18	34.60	0.85	62							
1528	2.96	34.66	-	46							
2037	2.14	34.67	-	39							
2546	1.85	34.68	2.85	36							

163G.30

HORIZON; December 4, 1956; 1115 GCT; 22°04'N, 107°30'W; sounding, 1400 fm; wind, 330°, force 3; weather, cloudy; sea, slight; wire angle, 06°.

0	26.25	34.74	4.59	508	0	26.25	34.74	4.59	22.78	508	0.00
10	26.26	34.70	4.62	511	10	26.26	34.70	4.62	22.75	511	0.05
29	26.32	34.82	4.62	504	20	26.28	34.79	4.62	22.80	506	0.10
38	26.32	34.90	4.68	499	30	26.32	34.83	4.63	22.83	504	0.15
52	19.57	34.42	3.74	349	50	20.70	34.51	3.90	24.22	371	0.24
61	17.77	34.28	3.53	316	75	15.48	34.21	2.06	25.28	270	0.32
71	15.78	34.20	2.37	277	100	13.63	34.51	0.76	25.90	211	0.38
86	14.46	34.34	1.28	240	150	12.50	34.68	0.32	26.26	177	0.48
94	13.76	34.49	1.11	215	200	11.46	34.68	0.23	26.46	158	0.56
105	13.54	34.52	0.64	208	250	10.52	34.66	0.32	26.62	143	0.64
118	13.07	34.56	0.76	196	300	9.86	34.62	0.26	26.70	135	0.72
136	12.84	34.65	0.36	185	400	8.76	34.58	0.23	26.85	121	0.85
150	12.50	34.68	0.32	177	500	7.61	34.54	0.15	26.99	108	0.97
166	12.16	34.67	0.19	171	600	6.62	34.52	0.15	27.12	95	1.08
188	11.66	34.70	0.27	160	700	5.90	34.53	0.18	27.22	86	1.18
207	11.34	34.67	0.22	156	800	5.32	34.53	0.27	27.29	79	1.28
230	10.88	34.69	0.50	147	1000	4.41	34.55	0.44	27.41	68	1.44
262	10.30	34.64	0.26	141							
387	8.91	34.58	0.23	123							
537	7.18	34.53	0.13	103							
788	5.38	34.53	0.26	80							
1079	4.07	34.56	0.52	64							

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T$	$\Delta D$	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

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HORIZON; December 6, 1956; 1343 GCT; 22°21'N, 106°45'W; sounding, 550 fm; wind, 310°, force 2; weather, partly cloudy; sea, moderate; wire angle, 23°.

163G.40

0	25.90	34.99	4.99	480	0	25.90	34.99	4.99	23.08	480	0.00
9	25.90	34.97	4.47	481	10	25.89	34.97	4.47	23.07	481	0.05
27	25.78	34.99	4.62	476	20	25.83	34.99	4.58	23.10	478	0.10
44	22.14	34.65	4.22	398	30	25.76	34.99	4.62	23.13	475	0.14
52	18.40	34.52	2.81	313	50	19.20	34.53	3.16	24.63	332	0.22
60	16.78	34.61	1.65	270	75	15.46	34.60	0.98	25.58	241	0.30
73	15.57	34.60	1.02	244	100	14.02	34.71	0.36	25.98	204	0.35
85	14.92	34.64	0.75	227	150	12.48	34.72	0.26	26.30	173	0.45
97	14.14	34.70	0.39	207	200	11.94	34.76	0.20	26.43	161	0.53
117	13.58	34.73	0.29	193	250	11.38	34.75	0.20	26.54	151	0.62
142	12.66	34.71	0.32	178	300	10.65	34.72	0.16	26.64	141	0.69
170	12.20	34.75	0.19	166	400	9.07	34.62	0.20	26.83	123	0.83
231	11.62	34.76	0.21	155	500	7.67	34.56	0.19	27.00	107	0.95
321	10.34	34.70	0.15	137	600	6.57	34.54	0.18	27.14	93	1.06
433	8.54	34.59	0.20	117	700	5.76	34.54	0.18	27.25	83	1.16
568	6.88	34.54	0.18	98							
706	5.71	34.54	0.18	83							

HORIZON; December 6, 1956; 1701 GCT; 22°28.5'N, 106°30'W; sounding, 280 fm; wind, 310°, force 3; weather, partly cloudy; sea, moderate; wire angle, 06°.

163G.45

0	26.10	34.91	4.68	491	0	26.10	34.91	4.68	22.96	491	0.00
10	26.10	34.92	4.68	491	10	26.10	34.92	4.68	22.96	491	0.05
29	25.16	34.96	4.62	460	20	25.99	34.93	4.67	23.00	487	0.10
49	18.58	34.64	2.19	309	30	24.85	34.96	4.57	23.38	451	0.14
73	15.36	34.60	0.86	239	50	18.42	34.63	2.11	24.91	305	0.22
96	14.03	34.73	0.60	203	75	15.27	34.61	0.84	25.63	237	0.29
121	12.84	34.76	0.47	177	100	13.82	34.74	0.58	26.04	198	0.34
157	12.14	34.78	0.26	163	150	12.23	34.78	0.26	26.39	164	0.44
194	11.77	34.76	0.29	157	200	11.66	34.75	0.28	26.48	156	0.52
239	11.06	34.70	0.18	149							

HORIZON; December 6, 1956; 1805 GCT; 22°39'N, 106°11'W; sounding, 63 fm; wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 00°.

163G.50

0	26.60	34.92	4.63	506	0	26.60	34.92	4.63	22.81	506	0.00
10	26.53	34.92	4.87	504	10	26.53	34.92	4.87	22.83	504	0.05
30	23.73	34.72	4.36	436	20	26.50	34.92	4.85	22.84	503	0.10
48	17.43	34.49	2.08	293	30	23.73	34.72	4.36	23.53	436	0.15
73	14.97	34.67	0.63	226	50	17.26	34.49	1.98	25.08	289	0.22
94	13.62	34.72	0.53	195	75	14.85	34.68	0.61	25.78	223	0.28
					100	(13.25)	(34.73)	(0.53)	(26.16)	(187)	(0.34)

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	$\frac{-5}{10} \frac{cm}{g}$	m	°C	‰	ml/L	g/L	$\frac{-5}{10} \frac{cm}{g}$	dyn. m

167G.20

HORIZON; December 2, 1956; 1712 GCT; 21°07'N, 107°45'W; sounding, 1600 fm; wind, 320°, force 1; weather, partly cloudy; sea, moderate; wire angle, 00°.

0	27.15	34.54	4.72	550	0	27.15	34.54	4.72	22.34	550	0.00
10	27.11	34.53	4.66	549	10	27.11	34.53	4.66	22.35	549	0.06
29	27.09	34.56	5.12	546	20	27.10	34.54	4.82	22.36	548	0.11
38	27.09	34.58	4.67	545	30	27.09	34.56	5.11	22.39	546	0.16
48	25.89	34.54	5.48	512	50	25.30	34.52	4.44	22.91	496	0.27
57	22.00	34.41	4.35	412	75	16.86	34.38	3.01	25.09	288	0.37
66	18.62	34.34	3.19	332	100	14.03	34.53	0.99	25.83	217	0.43
76	16.75	34.38	3.01	286	150	12.60	34.71	0.10	26.27	176	0.53
85	15.18	34.40	1.88	250	200	11.50	34.67	0.16	26.45	159	0.62
93	14.51	34.56	1.00	225	250	10.84	34.68	0.15	26.58	147	0.70
108	13.60	34.49	0.99	212	300	10.26	34.68	0.15	26.68	137	0.77
127	13.15	34.69	0.26	188	400	8.87	34.63	0.14	26.87	119	0.90
141	12.69	34.67	0.15	181	500	7.29	34.52	0.14	27.03	104	1.02
153	12.54	34.73	0.09	174	600	6.44	34.51	0.14	27.13	95	1.13
172	12.22	34.73	0.10	168	700	5.83	34.52	0.15	27.21	87	1.23
191	11.66	34.67	0.15	162	800	5.30	34.53	0.20	27.29	79	1.32
214	11.32	34.68	0.16	155	1000	4.39	34.57	0.36	27.42	66	1.49
246	10.90	34.68	0.15	148							
357	9.52	34.67	0.14	126							
501	7.26	34.52	0.14	104							
739	5.62	34.52	0.15	84							
1009	4.36	34.57	0.38	66							

167G.30

HORIZON; December 4, 1956; 1600, 1608 GCT; 21°27.5'N, 107°07'W; sounding, 1500 fm; wind, 350°, force 2; weather, cloudy; sea, moderate; wire angle, 09°, 11°.

0	26.47	34.71	4.72	517	0	26.47	34.71	4.72	22.69	517	0.00
9	26.47	34.72	4.62	516	10	26.47	34.72	4.62	22.70	516	0.05
29	26.38	34.70	4.69	515	20	26.45	34.71	4.64	22.70	516	0.10
38	25.29	34.74	4.79	480	30	26.35	34.70	4.69	22.71	515	0.15
47	20.72	34.37	4.29	381	50	20.21	34.37	3.92	24.24	369	0.24
57	19.45	34.37	3.32	350	75	17.16	34.49	1.96	25.10	287	0.33
					100	14.26	34.62	0.74	25.86	215	0.39
63	18.84	34.37	2.87	335	150	12.61	34.82	0.23	26.35	168	0.48
72	17.70	34.47	2.23	300	200	11.95	34.79	0.28	26.46	158	0.57
81	15.98	34.53	1.39	257	250	11.32	34.77	0.18	26.57	148	0.65
90	15.20	34.65	1.06	232	300	10.65	34.72	0.18	26.64	141	0.72
104	13.94	34.61	0.61	209	400	9.10	34.62	0.18	26.83	123	0.86
122	13.10	34.79	0.26	180	500	(7.52)	(34.58)	(0.17)	(27.03)	(104)	(0.98)
136	12.80	34.89u	0.21	-	600	(6.49)	(34.55)	(0.17)	(27.16)	(92)	(1.09)
149	12.62	34.82	0.23	168	700	(5.73)	(34.54)	(0.18)	(27.25)	(83)	(1.18)
168	12.33	34.86	0.17	160	800	5.17	34.55	0.22	27.32	76	(1.27)
185	12.17	34.81	0.35	161	1000	(4.33)	(34.59)	(0.43)	(27.45)	(64)	(1.43)
208	11.84	34.79	0.24	156							
240	11.44	34.78	0.18	150							
349	9.94	34.66	0.18	133							
491	7.60	34.58	0.17	105							
725	5.57	34.54	0.18	81							
988	4.37	34.59	0.42	65							

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_{3-5}$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{3-5}$	$\Delta D$	
m	°C	‰	ml/L	10 <sup>-5</sup> cm/g	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm/g	dyn. m	

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HORIZON; December 6, 1956; 0920, 0940 GCT; 21°53'N, 106°30'W; sounding, 400 fm; wind, 350°, force 2; weather, partly cloudy; sea, slight; wire angle, 13°, 16°.

167G.40

0	26.51	35.00	4.54	497	0	26.51	35.00	4.54	22.90	497	0.00
10	26.50	35.08	4.50	491	10	26.50	35.08	4.50	22.96	491	0.05
29	26.42	35.01	4.59	494	20	26.48	35.07	4.52	22.95	492	0.10
38	26.12	35.07	4.59	481	30	26.41	35.01	4.59	22.94	493	0.15
47	25.16	35.08	4.60	452	50	24.35	34.98	4.46	23.54	436	0.24
					75	16.00	34.46	1.65	25.36	263	0.33
53	23.05	34.77	4.15	414	100	13.93	34.76	0.15	26.03	199	0.39
61	18.57	34.38	3.30	327	150	12.98	34.79	0.10	26.26	177	0.48
74	16.09	34.45	1.76	266	200	12.23	34.81	0.13	26.42	162	0.57
88	14.26	34.69	0.31	210	250	11.38	34.79	0.10	26.56	148	0.65
101	13.92	34.76	0.14	198	300	10.62	34.71	0.10	26.64	141	0.73
124	13.52	34.78	0.11	188	400	8.99	34.65	0.10	26.87	119	0.86
151	12.97	34.79	0.10	177	500	(7.44)	(34.57)	(0.14)	(27.04)	(103)	(0.98)
181	12.56	34.80	0.16	169							
225	11.81	34.82	0.10	153							
295	10.70	34.72	0.11	142							
382	9.28	34.66	0.08	123							
497	7.51	34.57	0.13	104							

HORIZON; December 6, 1956; 0707 GCT; 21°57'N, 106°12'W; sounding, 24 fm; wind, 030°, force 1; weather, partly cloudy; sea, moderate; wire angle, 00°.

167G.45

0	27.06	34.79	4.55	529	0	27.06	34.79	4.55	22.56	529	0.00
10	26.98	34.79	4.87	527	10	26.98	34.79	4.87	22.58	527	0.05
29	25.98	35.06	4.79	477	20	26.58	34.90	4.82	22.80	507	0.10

HORIZON; December 6, 1956; 0515 GCT; 22°02'N, 105°55'W; sounding, 25 fm; wind, 030°, force 1; weather, partly cloudy; sea, moderate; wire angle, 00°.

167G.50

0	27.11	34.74	4.70	534	0	27.11	34.74	4.70	22.51	534	0.00
10	27.10	34.74	4.78	534	10	27.10	34.74	4.78	22.51	534	0.05
29	26.71	34.69	4.43	525	20	27.07	34.74	4.73	22.52	533	0.11

HORIZON; December 2, 1956; 1203 GCT; 20°32'N, 107°28.5'W; sounding, 1750 fm; wind, 340°, force 3; weather, partly cloudy; sea, moderate; wire angle, 20°.

170G.20

0	26.61		4.53		0	26.61		4.53			
9	26.60		4.66		10	26.60		4.66			
28	26.61		4.67		20	26.60		4.66			
37	26.54		4.74		30	26.60		4.67			
45	26.44		4.62		50	26.20		4.62			
54	23.62		4.87		75	16.82		3.26			
63	19.51		3.82		100	14.56		0.46			
72	17.37		3.58		150	12.84		0.14			
80	16.30		2.69		200	12.05		0.14			
90	15.64		1.11		250	11.03		0.16			
102	14.43		0.41		300	10.55		0.15			
120	13.76		0.15		400	9.14		0.14			
132	13.20		0.20		500	7.78		0.14			
144	12.95		0.14		600	6.66		0.16			
162	12.62		0.14		700	5.84		0.20			
178	12.25		0.14		800	5.20		0.26			
200	12.05		0.14		1000	(4.22)					
228	11.54		0.18								
328	10.16		0.14								
458	8.28		0.14								
673	6.02		0.19								
914	4.58		0.35								

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{3,5}$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{3,5}$	$\Delta D$
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

170G.30

HORIZON; December 4, 1956; 2017 GCT; 20°53'N, 106°48'W; sounding, 1550 fm; wind, 350°, force 1; weather, partly cloudy; sea, moderate; wire angle, 03°.

0	27.56	34.75	4.64	547	0	27.56	34.75	4.64	22.37	547	0.00
10	27.34	34.74	4.71	542	10	27.34	34.74	4.71	22.43	542	0.05
29	27.16	34.83	4.68	529	20	27.26	34.80	4.70	22.50	535	0.11
38	25.75	34.66	4.75	499	30	27.15	34.83	4.68	22.56	529	0.16
48	22.06	34.37	4.98	417	50	21.35	34.35	4.87	23.93	399	0.25
57	18.51	34.34	3.68	329	75	16.39	34.45	2.07	25.26	272	0.34
67	17.55	34.42	3.24	301	100	14.50	34.69	0.26	25.86	215	0.40
74	16.44	34.45	2.14	273	150	12.73	34.79	0.18	26.30	173	0.50
86	15.38	34.55	1.05	243	200	11.98	34.79	0.18	26.45	159	0.58
95	14.84	34.66	0.37	224	250	11.32	34.78	0.18	26.57	148	0.66
108	13.98	34.73	0.23	201	300	10.43	34.73	0.16	26.69	136	0.74
126	13.33	34.78	0.23	185	400	8.62	34.62	0.15	26.90	116	0.87
139	12.90	34.79	0.19	176	500	7.37	34.56	0.13	27.04	103	0.99
154	12.64	34.79	0.18	181	600	6.51	34.55	0.15	27.16	92	1.09
175	12.28	34.83	0.25	162	700	5.84	34.56	0.17	27.24	83	1.19
195	12.04	34.79	0.18	160	800	5.31	34.57	0.22	27.32	76	1.28
215	11.72	34.78	0.19	155	1000	4.51	34.58	0.33	27.42	67	1.44
247	11.38	34.78	0.18	149							
358	9.27	34.66	0.15	123							
502	7.34	34.56	0.13	102							
739	5.62	34.56	0.19	81							
1005	4.48	34.58	0.34	67							

170G.40

HORIZON; December 5, 1956; 2243 GCT; 21°13.5'N, 106°11'W; sounding, 140 fm; wind, 300°, force 2; weather, partly cloudy; sea, slight; wire angle, 03°.

0	27.64	34.42	4.57	574	0	27.64	34.42	4.57	22.10	574	0.00
10	27.57	34.45	4.60	569	10	27.57	34.45	4.60	22.14	569	0.06
29	27.48	34.44	4.80	567	20	27.52	34.44	4.70	22.15	568	0.11
48	24.07	34.42	3.96	468	30	27.48	34.44	4.80	22.17	567	0.17
71	16.92	34.54	1.11	278	50	23.50	34.42	3.77	23.37	452	0.27
94	13.96	34.70	0.24	203	75	16.18	34.58	0.87	25.40	258	0.36
117	13.08	34.77	0.16	181	100	13.90	34.77	0.18	26.05	197	0.42
154	12.27	34.83	0.16	162	150	12.33	34.83	0.16	26.41	163	0.51
191	11.75	34.78	0.21	155	200	(11.62)	(34.77)	(0.22)	(26.50)	(154)	(0.59)

170G.48

HORIZON; December 6, 1956; 0147 GCT; 21°31.5'N, 105°46'W; sounding, 33 fm; wind, 300°, force 4; weather, partly cloudy; sea, slight; wire angle, 00°.

0	27.82	34.56	4.53	569	0	27.82	34.56	4.53	22.14	569	0.00
10	27.80	34.55	4.60	569	10	27.80	34.55	4.60	22.14	569	0.06
29	27.16	34.55	4.61	549	20	27.80	34.55	4.60	22.14	569	0.11
48	17.85	34.44	2.13	306	30	26.85	34.55	4.59	22.45	540	0.17



OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	10 <sup>-5</sup> cm <sup>3</sup> /g	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm <sup>3</sup> /g	dyn. m

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HORIZON; December 5, 1956; 1740, 1807, 1609 GCT; 20°49.5'N, 106°17'W; sounding, 2100 fm; wind, 330°, force 3; weather, partly cloudy; sea, moderate; wire angle, 19°, 17°, 24°.

171<sup>5</sup>G.36

0	27.43	34.47	4.83	564	0	27.43	34.47	4.83	22.20	564	0.00
9	27.39	34.47	4.85	562	10	27.38	34.47	4.86	22.22	562	0.06
27	27.15	34.47	5.24	555	20	27.28	34.47	5.00	22.25	559	0.11
35	24.74	34.40	3.92	489	30	26.80	34.46	5.06	22.40	545	0.17
49	19.50	34.56	1.66	337	50	19.35	34.57	1.57	24.62	333	0.26
58	17.88	34.61	0.73	295	75	15.64	34.65	0.40	24.58	241	0.33
67	16.28	34.63	0.57	257	100	13.74	34.80	0.20	26.10	192	0.38
82	15.11	34.69	0.25	227	150	12.35	34.79	0.13	26.38	166	0.47
					200	11.78	34.77	0.19	26.47	157	0.56
87	14.56	34.75	0.15	212	250	11.20	34.76	0.19	26.58	147	0.63
95	14.01	34.74	0.24	201	300	10.67	34.73	0.12	26.64	141	0.71
107	13.39	34.82	0.11	183	400	9.24	34.63	0.17	26.80	126	0.85
124	12.82	34.81	0.13	173	500	7.75	34.57	0.19	26.99	108	0.97
135	12.44	34.78	0.13	168	600	6.77	34.56	0.20	27.12	95	1.08
148	12.37	34.79	0.13	166	700	6.07	34.56	0.23	27.22	86	1.18
167	12.14	34.81	0.19	160	800	5.41	34.56	0.30	27.30	78	1.28
184	11.90	34.78	0.19	158	1000	4.49	34.57	0.40	27.41	68	1.44
204	11.70	34.76	0.19	156	1200	3.83	34.58	0.61	27.48	61	1.59
234	11.38	34.77	0.22	150	1500	3.02	34.61	1.21	27.60	50	1.79
344	11.02	34.68	0.11	135	2000	2.17	34.67	2.28	27.72	39	2.06
475	8.12	34.58	0.22	112	2500	1.87	34.69	2.64			
699	6.08	34.56	0.23	86	3000	(1.85)	(34.70)				
967	4.62	34.57	0.38	69							
509a)	7.64	34.57	0.18	106							
1014	4.49	34.56	0.40	58							
1500	3.02	34.61	1.21	50							
1971	2.20	34.67	2.18	39							
2446	1.88	34.69	2.65	35							
2919	1.85	34.70	2.60	34							

HORIZON; December 5, 1956; 1935 GCT; 20°55'N, 106°10'W; sounding, 400 fm; wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 09°.

171<sup>5</sup>G.38

0	27.76	34.45	4.82	575	0	27.76	34.45	4.82	22.08	575	0.00
10	27.64	34.45	4.61	571	10	27.64	34.45	4.61	22.12	571	0.06
29	26.36	34.43	4.85	534	20	27.30	34.45	4.66	22.23	561	0.11
39	24.73	34.48	2.79	482	30	26.20	34.43	4.77	22.56	529	0.17
49	20.42	34.54	1.64	361	50	20.33	34.54	1.61	24.34	360	0.26
56	19.46	34.55	1.27	337	75	16.80	34.68	0.23	25.34	265	0.34
68	17.80	34.66	0.42	289	100	14.97	34.77	0.17	25.82	219	0.40
82	16.07	34.70	0.14	247	150	12.87	34.81	0.15	26.29	174	0.50
95	15.32	34.75	0.22	227	200	11.94	34.80	0.21	26.47	157	0.58
109	14.38	34.79	0.09	205	250	11.19	34.77	0.14	26.58	146	0.66
132	13.35	34.79	0.22	185	300	10.66	34.72	0.13	26.64	141	0.73
160	12.65	34.82	0.13	169	400	9.22	34.62	0.15	26.80	126	0.88
192	12.05	34.80	0.21	159							
240	11.32	34.78	0.15	148							
313	10.51	34.71	0.13	139							
407	9.12	34.61	0.15	125							

a) Overlapping casts; reconciliation of property curves when necessary.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_{3-5}$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_{3-5}$	$\Delta D$
m	°C	‰	ml/L	10 <sup>-5</sup> cm/g	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm/g	dyn. m

171<sup>5</sup>G.40

HORIZON; December 5, 1956; 2101 GCT; 21°03'N, 106°07'W; sounding, 200 fm; wind, 300°, force 2; weather, partly cloudy; sea, moderate; wire angle, 03°.

0	27.74	34.38	4.53	579	0	27.74	34.38	4.53	22.04	579	0.00
10	27.50	34.39	4.82	571	10	27.50	34.39	4.82	22.12	571	0.06
29	26.11	34.35	4.16	532	20	27.42	34.39	4.79	22.14	569	0.11
48	22.64	34.43	3.12	428	30	26.00	34.35	4.13	22.56	529	0.17
71	17.04	34.63	0.34	274	50	22.27	34.44	2.96	23.74	417	0.26
94	14.89	34.74	0.20	219	75	16.51	34.66	0.26	25.39	260	0.35
118	13.69	34.76	0.30	194	100	14.54	34.75	0.23	25.89	212	0.41
155	12.51	34.79	0.21	169	150	12.62	34.79	0.22	26.32	171	0.50
193	11.98	34.79	0.24	159	200	11.94	34.78	0.26	26.45	159	0.59
239	11.80	34.76	0.35	158	250	11.72	34.76	0.34	26.48	156	0.67
286	11.42	34.76	0.19	152							

173G.10

HORIZON; December 2, 1956; 0135 GCT; 19°41'N, 107°50'W; sounding, 1925 fm; wind, 010°, force 3; weather, partly cloudy; sea, moderate; wire angle, 24°.

0	27.29	34.57	5.15	552	0	27.29	34.57	5.15	22.32	552	0.00
9	27.30	34.54	5.95	554	10	27.30	34.54	5.94	22.30	554	0.06
27	27.24	34.56	5.39	551	20	27.27	34.56	5.62	22.32	552	0.11
36	27.20	-	5.88	-	30	27.23	34.56	5.50	22.33	551	0.17
45	23.64	34.40	5.51	457	50	21.41	34.37	4.83	23.93	399	0.26
54	20.24	34.37	4.25	369	75	15.48	34.51	2.32	25.51	248	0.34
64	18.32	34.38	2.94	322	100	14.45	34.67	0.52	25.86	215	0.40
72	16.26	34.44	3.07	271	150	12.59	34.81	0.20	26.34	169	0.50
80	15.04	34.57	0.68u	235	200	11.59	34.77	0.21	26.51	153	0.58
89	14.69	-	1.06	-	250	10.93	34.75	0.11	26.62	143	0.66
101	14.44	34.67	0.51	215	300	10.32	34.69	0.18	26.68	137	0.73
115	13.58	34.74	0.19	193	400	8.86	34.62	0.19	26.86	120	0.86
127	13.08	34.87u	0.06	-	500	7.53	34.58	0.24	27.03	103	0.98
140	12.87	34.81	0.15	174	600	6.55	34.55	0.24	27.15	92	1.09
155	12.42	34.81	0.24	166	700	5.82	34.55	0.24	27.25	83	1.19
171	12.06	34.79	0.72	161	800	5.24	34.57	0.24	27.32	76	1.28
191	11.72	34.77	0.33	156							
218	11.32	34.78	0.09	148							
314	10.10	34.67	0.20	136							
439	8.28	34.60	0.18	113							
648	6.17	34.55	0.24	88							
898	4.71	34.58	0.27	69							

173G.20

HORIZON; December 2, 1956; 0712 GCT; 19°58'N, 107°08'W; sounding, 1850 fm; wind, 020°, force 2; weather, partly cloudy; sea, moderate; wire angle, 20°.

0	26.70	34.85	4.87	514	0	26.70	34.85	4.87	22.72	514	0.00
8	26.71	34.85	4.88	514	10	26.70	34.86	4.87	22.73	513	0.05
28	26.67	35.01	4.78	502	20	26.69	34.96	4.81	22.81	506	0.10
37	23.06	34.60	4.83	427	30	26.65	35.01	4.78	22.86	501	0.15
46	18.89	34.32	4.76	340	50	17.52	34.33	3.61	24.90	307	0.23
55	16.37	34.36	2.38	279	75	15.01	34.62	0.63	25.69	231	0.30
64	15.38	34.47	1.20	249	100	13.40	34.82	0.14	26.19	183	0.35
73	15.09	34.60	0.73	234	150	12.41	34.87	0.13	26.43	161	0.44
82	14.36	34.72	0.15	210	200	11.90	34.82	0.10	26.49	155	0.52
90	13.83	34.78	0.20	195	250	11.36		0.10			
103	13.28	34.83	0.13	180	300	10.74		0.10			
119	12.84	34.88	0.16	169	400	9.02		0.11			
131	12.61	34.88	0.14	164	500	7.47		0.12			
143	12.48	34.87	0.13	163	600	6.47		0.12			
159	12.30	34.88	0.14	158	700	5.77		0.16			
176	12.14	34.87	0.14	156	800	5.29		0.21			
195	11.94	34.82	0.10	156	1000	(4.52)					
224	11.63	34.84	0.09	149							
321	10.42	-	0.11	-							
447	8.15	-	0.12	-							
660	6.00	-	0.14	-							
911	4.84	-	0.26	-							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

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HORIZON; December 5, 1956; 0048 GCT; 20°20.5'N, 106°31'W; sounding, 2000 fm; wind, 320°, force 2; weather, partly cloudy; sea, slight; wire angle, 05°.

173G.30

0	27.23	34.57	4.75	550	0	27.23	34.57	4.75	22.34	550	0.00
10	27.18	34.56	4.54	549	10	27.18	34.56	4.54	22.35	549	0.06
29	23.08	34.47	3.94	436	20	27.12	34.56	4.50	22.37	547	0.11
38	18.83	34.51	1.94	324	30	22.70	34.47	3.83	23.64	426	0.16
48	17.00	34.58	0.83	276	50	16.77	34.60	0.72	25.28	270	0.23
58	15.76	34.67	0.24	243	75	14.65	34.70	0.14	25.84	217	0.29
68	14.94	34.69	0.13	224	100	13.27	34.81	0.14	26.21	181	0.34
78	14.45	34.71	0.13	212	150	12.13	34.81	0.13	26.44	160	0.43
88	13.90	34.79	0.12	195	200	11.57	34.78	0.13	26.52	152	0.51
97	13.44	34.80	0.15	186	250	11.00	34.76	0.14	26.61	143	0.58
112	12.89	34.83	0.12	173	300	10.32	34.70	0.14	26.68	137	0.66
133	12.54	34.81	0.15	168	400	9.05	34.61	0.12	26.82	124	0.80
145	12.22	34.81	0.15	162	500	7.71	34.55	0.10	26.99	108	0.92
160	11.99	34.81	0.09	158	600	6.73	34.54	0.10	27.11	96	1.03
179	11.84	34.78	0.11	157	700	6.02	34.54	0.12	27.21	87	1.13
199	11.58	34.78	0.13	152	800	5.41	34.55	0.16	27.29	79	1.22
221	11.40	34.79	0.13	149	1000	4.39	34.59	0.30	27.45	64	1.39
254	10.96	34.76	0.14	143							
366	9.49	34.63	0.15	129							
508	7.60	34.55	0.10	107							
746	5.73	34.54	0.14	83							
1012	4.34	34.60	0.32	63							

HORIZON; December 5, 1956; 0651, 0708, 0518 GCT; 19°47.5'N, 106°08.5'W; sounding, 2400 fm; wind, 340°, force 4; weather, partly cloudy; sea, slight; wire angle, 10°, 14°, 06°.

177G.30

0	26.92	- a)	4.67	-	0	26.92	(34.61)	4.67	(22.47)	(538)	(0.00)
10	26.92	34.61	4.51	538	10	26.92	34.61	4.51	22.47	538	0.05
30	19.84	34.52	2.30	349	20	26.90	34.61	4.49	22.48	537	0.11
38	17.10	34.61	0.54	276	30	19.84	34.52	2.30	24.45	349	0.15
48	15.80	34.66	0.36	244	50	15.65	34.67	0.31	25.59	241	0.21
58	14.83	34.69	0.13	222	75	13.83	34.72	0.08	26.03	199	0.27
67	14.27	34.72	0.11	208	100	13.17	34.77	0.14	26.20	183	0.31
76	13.77	34.72	0.08	198	150	12.37	34.81	0.11	26.39	165	0.40
85	13.52	34.76	0.10	190	200	11.79	34.78	0.12	26.48	156	0.48
94	13.29	34.76	0.13	186	250	11.22	34.75	0.16	26.56	149	0.56
107	12.94	34.78	0.15	177	300	10.48	34.69	0.13	26.65	140	0.64
					400	8.99	34.60	0.11	26.83	123	0.78
121	12.77	34.81a)	0.21	172	500	7.74	34.58	0.15	27.01	106	0.90
135	12.60	34.79	0.13	170	600	6.86	34.59	0.15	27.13	94	1.01
149	12.37	34.81	0.11	165	700	5.98	34.61	0.15	27.27	81	1.11
167	12.11	34.78	0.13	162	800	5.34	34.60	0.17	27.34	74	1.19
186	11.86	34.78	0.15	157	1000	4.34	34.58	0.35	27.44	65	1.35
209	11.70	34.78	0.11	154	1200	3.88	34.62	0.60	27.52	58	1.50
241	11.34	34.76	0.16	150	1500	3.10	34.64	1.08	27.61	49	1.69
351	9.68	34.63	0.11	132	2000	2.14	34.66	2.07	27.71	39	1.96
494	7.78	34.58	0.15	107	2500	1.86	34.70	2.70			
732	5.74	34.61	0.15	78	3000	1.85	34.69	2.56			
1001	4.34	34.58	0.35	65							
567b)	7.18	34.58	0.15	99							
1095	4.14	34.60	0.46	61							
1599	2.86	34.65	1.23	46							
2086	2.05	34.66	2.22	39							
2576	1.84	34.70	2.79	34							
3052	1.85	34.69	2.52	35							

- a) Salinity bottle numbers for the two upper casts (0-107 m and 121-1001 m) were not recorded on the data sheet. Since standard handling and titrating procedures were used, these salinity values are assumed to be in correct order. The surface value has been omitted because the sample bottle was not capped.
- b) Overlapping casts; reconciliation of property curves when necessary.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O <sub>2</sub>	$\delta T_3$	Z	T	S	O <sub>2</sub>	$\sigma_t$	$\delta T_3$	$\Delta D$	
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m	

177G.35

HORIZON; December 5, 1956; 1007 GCT; 19°59'N, 105°53'W; sounding, 1000 fm; wind, 340°, force 4;  
weather, clear; sea, moderate; wire angle, 26°.

0	27.00	34.63	4.86	539	0	27.00	34.63	4.86	22.46	539	0.00
9	27.00	34.62	4.55	540	10	27.00	34.62	4.55	22.46	539	0.05
25	22.48	34.46	3.57	421	20	24.30	34.51	3.82	23.20	468	0.10
35	19.31	34.48	2.17	338	30	20.62	34.47	2.80	24.21	372	0.15
48	17.06	34.58	0.79	278	50	16.83	34.60	0.71	25.27	271	0.21
57	15.93	34.67	0.47	246	75	14.47	34.68	0.15	25.86	215	0.27
64	15.04	34.68	0.21	227	100	13.26	34.80	0.14	26.21	182	0.32
78	14.37	34.68	0.14	213	150	12.37	34.85	0.17	26.42	162	0.41
88	14.04	34.76	0.24	201	200	12.00	34.84	0.19	26.49	155	0.49
96	13.48	34.76	0.16	190	250	11.38	34.79	0.18	26.57	148	0.57
108	13.02	34.85	0.14	174	300	10.73	34.75	0.20	26.65	140	0.64
126	12.86	34.85	0.19	171	400	9.28	34.67	0.20	26.84	122	0.78
138	12.51	34.84	0.20	165	500	7.71	34.60	0.16	27.02	104	0.91
151	12.36	34.85	0.17	162	600	6.68	34.59	0.18	27.16	91	1.01
175	12.14	34.84	0.18	158	700	5.92	34.58	0.20	27.25	83	1.11
192	12.10	34.82u	0.18	-	800	5.34	34.57	0.24	27.32	76	1.20
214	11.80	34.85	0.21	151	1000	4.46	34.56	0.35	27.41	68	1.36
243	11.44	34.80	0.18	149							
362	9.86	34.70	0.21	130							
501	7.70	34.60	0.16	104							
739	5.67	34.58	0.21	80							
1019	4.38	34.56	0.37	67							

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
80.51-O	XII-5	2230	34°26.0'	120°33.0'	82	300°	3	overcast	moderate	14.98	33.58
80.55-O	6	0030	34°19.5'	120°48.0'	400	300°	3	cloudy	rough	14.08	33.55
80.60-O	6	0315	34°09.0'	121°09.0'	1000	300°	2	missing	moderate	14.06	33.52
80.70-O	6	0830	33°47.5'	121°51.5'	2000	300°	3	missing	moderate	13.38	33.58
80.80-O	6	1400	33°27.5'	122°33.0'	2000	300°	3	rain	rough	16.19	33.44
80.90-O	6	1900	33°07.0'	123°15.0'	2000+	290°	3	cloudy	very rough	15.86	33.39
82.47-O	7	2030	34°15.0'	119°58.0'	300	320°	5	partly cloudy	rough	14.40	33.58
83.43-O	7	2330	34°08.0'	119°34.0'	130	300°	4	partly cloudy	moderate	14.60	-
83.51-O	7	1600	33°51.0'	120°08.0'	150	340°	5	partly cloudy	very rough	14.12	33.57
83.55-O	7	1330	33°43.5'	120°24.5'	530	290°	5	missing	very rough	13.66	33.46
83.60-O	7	1015	33°32.5'	120°46.0'	900	300°	5	missing	very rough	13.64	33.58
87.36-O	8	0500	33°48.0'	118°42.0'	480	320°	4	clear	moderate	14.94	33.59
87.40-O	8	0715	33°40.0'	118°59.0'	450	280°	3	clear	moderate	14.50	33.55
87.45-O	8	1000	33°30.0'	119°19.5'	900	320°	5	clear	moderate	14.00	-
87.50-O	8	1230	33°20.0'	119°40.0'	35	340°	5	clear	moderate	13.15	33.47
87.55-O	8	1515	33°10.0'	120°01.0'	650	320°	4	partly cloudy	rough	14.22	33.46
87.60-O	8	1745	33°00.0'	120°22.0'	2000+	020°	4	partly cloudy	rough	14.02	33.45
90.28-O	11	0015	33°28.5'	117°45.5'	36	290°	2	cloudy	smooth	15.32	-
90.30-O	10	2300	33°24.0'	117°55.0'	320	280°	2	partly cloudy	smooth	15.22	33.60

TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)

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Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
90.37-O	XII-10	1630	33°10.5'	118°23.0'	647	060°	1	partly cloudy	smooth	14.96	33.60
90.45-O	10	1200	32°54.5'	118°55.5'	900	260°	1	clear	slight	13.87	-
90.50-O	10	0915	32°45.5'	119°17.0'	250	300°	2	clear	moderate	15.04	33.49
90.55-O	10	0615	32°36.5'	119°39.5'	500	310°	3	clear	moderate	14.42	33.48
90.60-O	10	0330	32°30.0'	120°01.0'	2000	300°	4	clear	moderate	13.90	33.39
90.70-O	9	2030	32°04.0'	120°39.0'	2000+	010°	5	clear	rough	15.13	-
90.80-O	9	1500	31°45.0'	121°19.0'	2000+	360°	5	clear	very rough	15.06	33.51
90.90-O	9	0730	31°30.0'	121°51.0'	2000+	040°	5	clear	rough	15.54	33.39
93.27-O	11	0500	32°55.0'	117°20.0'	100	020°	1	clear	smooth	15.54	33.66
93.30-O	11	0650	32°50.0'	117°31.5'	400	calm		clear	smooth	15.39	33.63
93.35-O	11	0915	32°39.5'	117°52.0'	350	-	1	clear	smooth	16.45	33.65
93.40-O	11	1145	32°29.5'	118°13.0'	900	-	1	clear	smooth	16.29	33.63
93.45-O	11	1415	32°19.5'	118°34.0'	2000	-	1	partly cloudy	slight	15.14	33.55
93.50-O	11	1645	32°09.5'	118°53.0'	2000	280°	2	partly cloudy	rough	15.20	33.50
93.55-O	11	1915	32°00.0'	119°13.5'	2000+	280°	3	partly cloudy	rough	15.31	33.48
93.60-O	11	2200	31°50.0'	119°34.0'	2000	300°	4	cloudy	rough	15.52	33.51
97.30-O	12	1815	32°15.0'	117°09.0'	33	300°	2	partly cloudy	moderate	15.76	33.61
97.32-O	12	1645	32°11.0'	117°16.5'	600	320°	2	cloudy	moderate	16.04	33.62
97.40-O	12	1245	31°54.5'	117°51.5'	2000+	320°	2	clear	moderate	15.96	33.60

TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
97.45-O	XII-12	1000	31°44.5'	118°11.0'	2000+	310°	3	clear	rough	15.66	33.62
97.55-O	12	0500	31°28.0'	118°50.5'	2000+	300°	3	clear	rough	15.18	33.58
97.60-O	12	0230	31°15.0'	119°11.0'	2000	320°	3	cloudy	rough	15.02	33.55
118G.20-H	13	0930	28°15.5'	112°46.0'	50	300°	3	clear	moderate	16.60	35.30
119G.16-H	13	1045	28°06.0'	112°43.0'	42	calm		clear	moderate	16.56	35.30
120G.13-H	13	1210	27°54.5'	112°42.5'	170	calm		clear	moderate	16.65	35.28
121G.13-H	13	1305	27°46.5'	112°37.5'	250	200°	2	clear	moderate	17.36	35.33
122G.16-H	13	1440	27°39.0'	112°24.5'	325	190°	1	clear	moderate	17.84	-
123G.30-H	12	1615	27°37.0'	112°10.0'	625	310°	4	clear	moderate	16.62	35.27
124G.21-H	13	1703	27°22.5'	112°15.0'	80	calm		clear	moderate	16.24	35.17
125G.30-H	12	1405	27°19.0'	111°59.0'	750	290°	2	partly cloudy	moderate	17.60	35.26
126G.24-H	13	1929	27°08.0'	111°58.0'	60	calm		clear	slight	17.23	35.26
127G.22-H	13	2055	26°59.0'	111°54.0'	30	360°	1	clear	slight	18.06	35.27
127G.30-H	12	1130	27°04.0'	111°47.0'	750	280°	3	clear	moderate	17.80	-
128G.27-H	13	2240	26°53.0'	111°44.0'	190	360°	2	clear	slight	18.57	35.26
129G.31-H	13	2340	26°46.0'	111°35.5'	290	300°	3	clear	moderate	18.46	35.28
131G.31-H	14	0215	26°27.5'	111°23.0'	240	300°	3	clear	slight	18.09	35.28
132G.29-H	14	0355	26°19.0'	111°21.0'	200	300°	1	clear	slight	18.33	35.28

TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)

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Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
133G.27-H	XII-14	0520	26°10.0'	111°15.0'	200	100°	1	clear	slight	18.64	35.27
134G.20-H	14	0650	25°57.5'	111°18.0'	180	calm		clear	slight	18.99	35.32
134G.40-H	12	0320	26°07.5'	110°59.0'	460	320°	4	clear	moderate	18.60	35.35
135G.35-H	12	0130	25°55.5'	110°58.0'	450	320°	5	clear	moderate	18.78	35.32
136G.20-H	14	1210	25°40.0'	111°07.5'	120	calm		clear	slight	20.54	35.27
137G.30-H	11	2300	25°35.0'	110°54.5'	274	340°	4	clear	slight	21.40	35.34
138G.20-H	15	0300	25°22.0'	110°56.0'	350	300°	4	clear	slight	20.22	35.27
140G.20-H	15	0510	25°06.0'	110°47.0'	380	310°	2	clear	smooth	21.48	35.30
141G.29-H	15	0715	25°02.0'	110°30.0'	210	340°	1	clear	smooth	20.32	35.26
142G.24-H	15	0900	24°50.0'	110°27.5'	350	calm		clear	calm	21.58	35.30
143G.15-H	15	1050	24°37.0'	110°33.5'	200	210°	2	clear	calm	21.68	35.32
144G.15-H	15	1220	24°28.0'	110°28.0'	100	140°	2	clear	calm	22.07	35.32
145G.30-H	16	1910	24°27.5'	110°09.0'	330	040°	3	partly cloudy	moderate	21.70	35.31
147G.32-H	16	2105	24°11.0'	109°55.0'	340	300°	4	partly cloudy	moderate	21.92	35.33
149G.34-H	16	2343	23°54.5'	109°43.5'	260	330°	2	partly cloudy	slight	21.98	35.34
151G.37-H	17	0200	23°37.0'	109°30.5'	190	320°	1	missing	slight	21.98	35.34
151G.115-H	9	2215	24°17.0'	108°17.0'	430	340°	7	cloudy	very rough	22.08	34.97
153G.35-H	17	0530	23°20.0'	109°21.0'	450	320°	1	missing	slight	21.80	35.27
153G.137-H	9	1730	24°11.5'	107°42.0'	20	320°	5	cloudy	very rough	21.82	35.07

TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)



Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
154G.15-H	XII-17	0755	23°01.5'	109°34.0'	100	310°	1	missing	slight	22.03	35.20
155G.144-H	9	1410	23°47.5'	107°50.0'	440	320°	5	partly cloudy	high	23.22	34.98
157G.10-H	3	0930	22°30.0'	109°15.0'	1650	080°	1	partly cloudy	moderate	25.20	-
157G.40-H	3	1410	22°40.5'	108°49.0'	1650	190°	3	overcast	slight	25.23	34.76
157G.70-H	3	1950	22°59.0'	108°19.0'	1450	350°	1	overcast	moderate	24.28	34.95
157G.100-H	4	0030	23°18.0'	107°58.0'	1350	350°	1	overcast	moderate	25.78	34.72

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