

CORRECTIONS MADE :

STATION POSITIONS ~~HS~~

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5703

(MLR 94)

6-30 March 1957

and

CCOFI Cruise 5704

(MLR 95)

5-30 April 1957

SIO Reference 58-24

1 August 1958

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5703

(MLR 94)

6-30 March 1957

and

CCOFI CRUISE 5704

(MLR 95)

5-30 April 1957

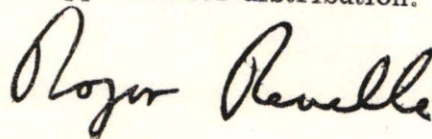
Sponsored by

Marine Research Committee

SIO Reference 58-24

1 August 1958

Approved for distribution:



Roger Revelle, Director

CONTENTS

INTRODUCTION iii

CRUISE 5703

 List of Figures. v

 Personnel vi

 Tabulated Data. 48

 Observations at 10 and 50 Meters (Net-Tow Stations). 48

CRUISE 5704

 List of Figures. ix

 Personnel xi

 Tabulated Data. 55

 Hydrographic Casts. 55

 Observations at 10 and 50 Meters (Net-Tow Stations). 109

DISTRIBUTION LIST 119

INTRODUCTION

The data of this report were collected on the ninety-fourth and ninety-fifth consecutive cruises of the California Cooperative Oceanic Fisheries Investigations program. The R/V Black Douglas of the U. S. Fish and Wildlife Service and the R/V Orca of the Scripps Institution of Oceanography participated in the ninety-fourth cruise while the R/V Black Douglas, and the R/V Horizon and R/V Stranger of the Scripps Institution participated in the ninety-fifth cruise.

The data are tabulated at observed depths; the interpolated and computed values are tabulated at standard depths accompanied by charts of horizontal distribution. The presentation of data in this report does not constitute publication, and the interpretations herein may be subject to modification as the program continues.

The stations occupied in the Gulf of California are based on a special grid; therefore, they will appear in each report following the data obtained in the normal 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.^{1/} 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 ΔD . 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

^{1/} Klein, Hans T. A new technique for processing physical oceanographic data. (MS). Contribution from the Scripps Institution of Oceanography, New Series, No. 000.

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, each messenger time and wire angle is given in the order of increasing depth. A line is left blank between the observed data of each cast.

FOOTNOTES

In addition to standard footnotes, three special notations are used without footnotes because their meaning is always the same.

To indicate a premature or a delayed reversal of the water-sampling device which results in certain depth and property errors, the following notation is used.

p: pretrip or posttrip.

Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

r: rejected value (value seems to be definitely wrong),

u: uncertain value (value may be correct; occasionally it can influence the drawing of the property curve).

FIGURES

1. CCOFI Cruise 5704 (MLR 95), station positions
2. Horizontal distribution of dynamic height anomaly (0 over 500 d-bar)
3. Surface currents measured by geomagnetic electrokinetograph (GEK)
4. Horizontal distribution of temperature at 10 meters
5. Horizontal distribution of salinity at 10 meters
6. Horizontal distribution of temperature at 200 meters
7. Horizontal distribution of salinity at 200 meters

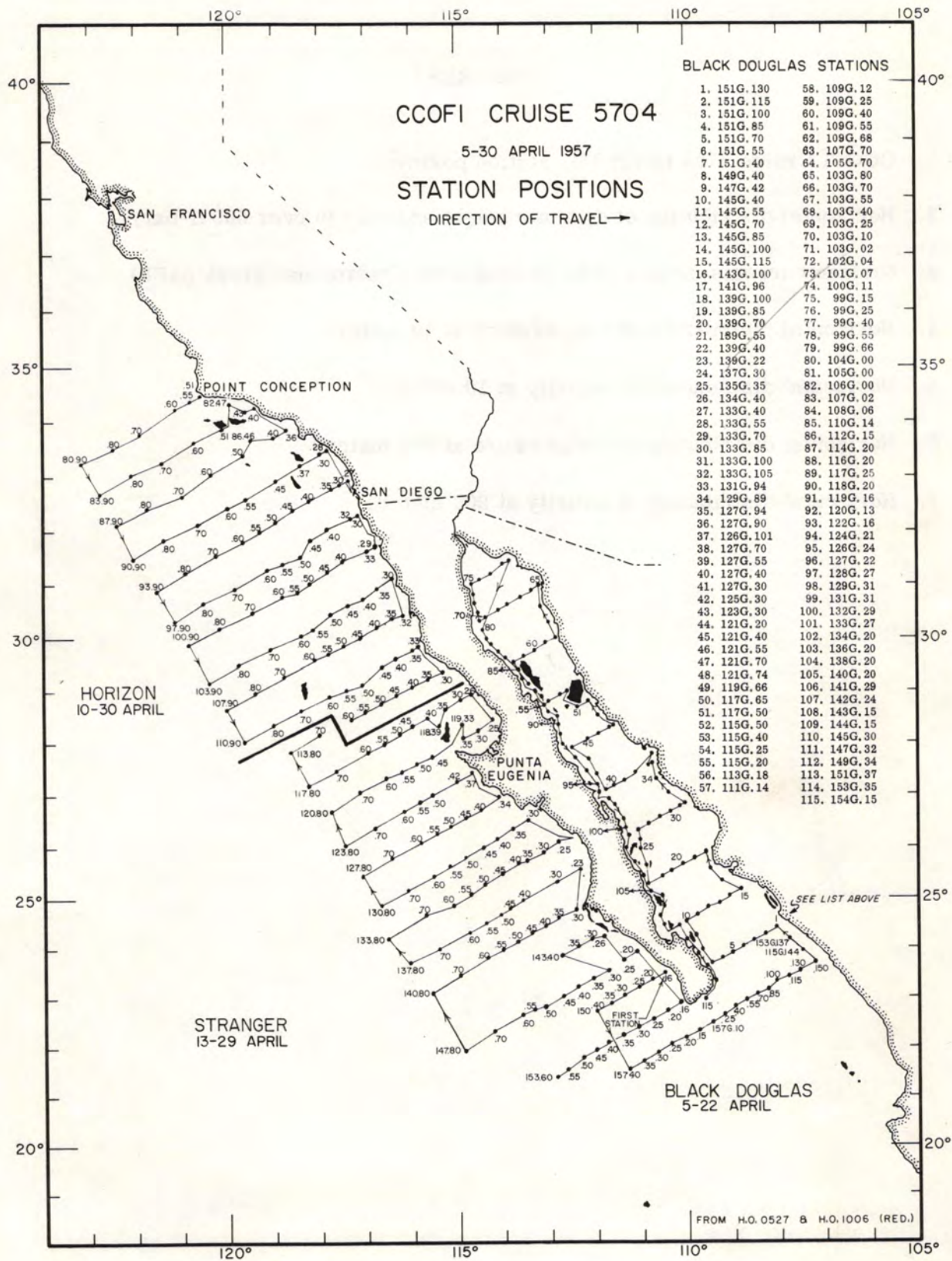


FIGURE 1

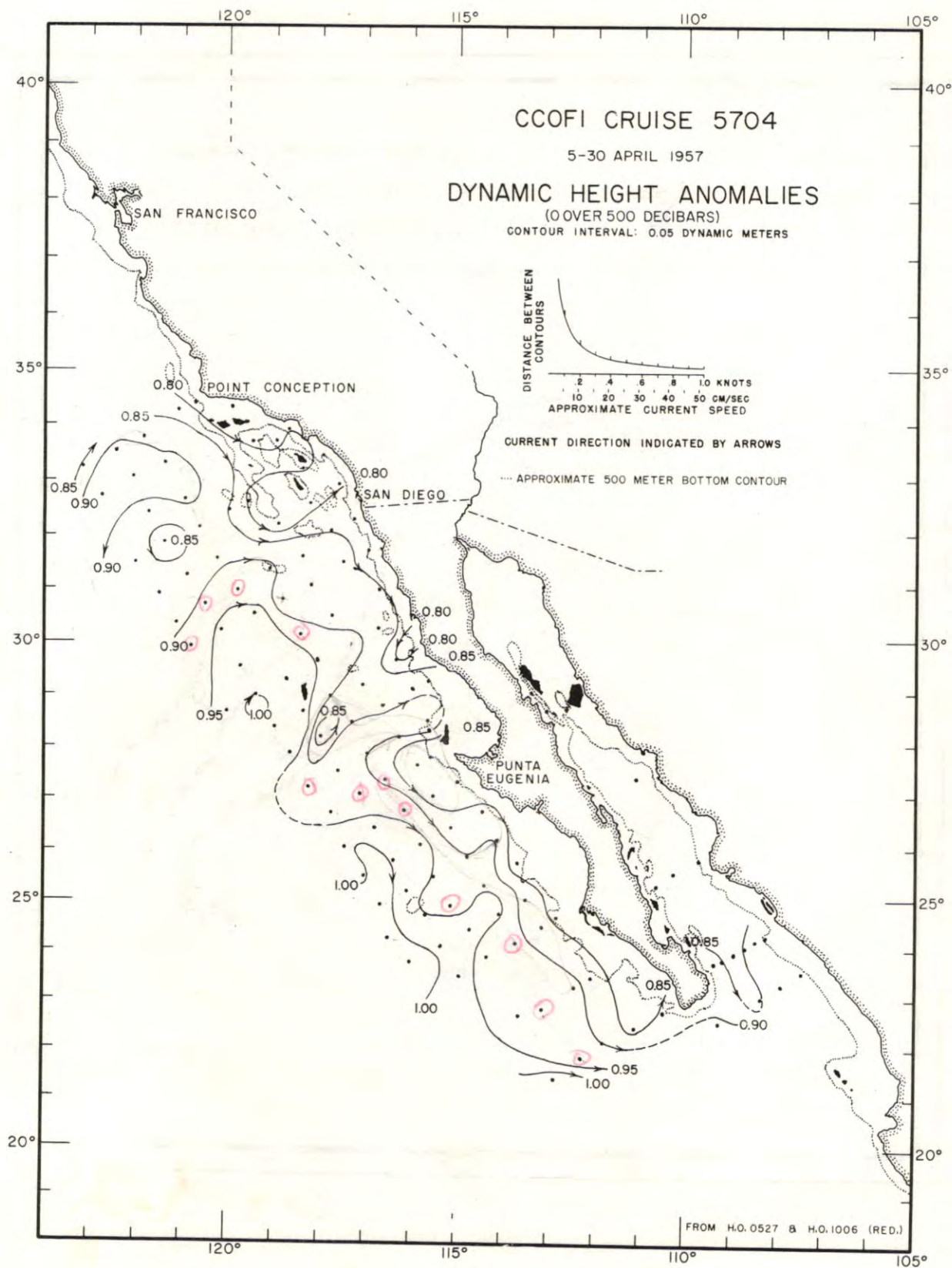


FIGURE 2

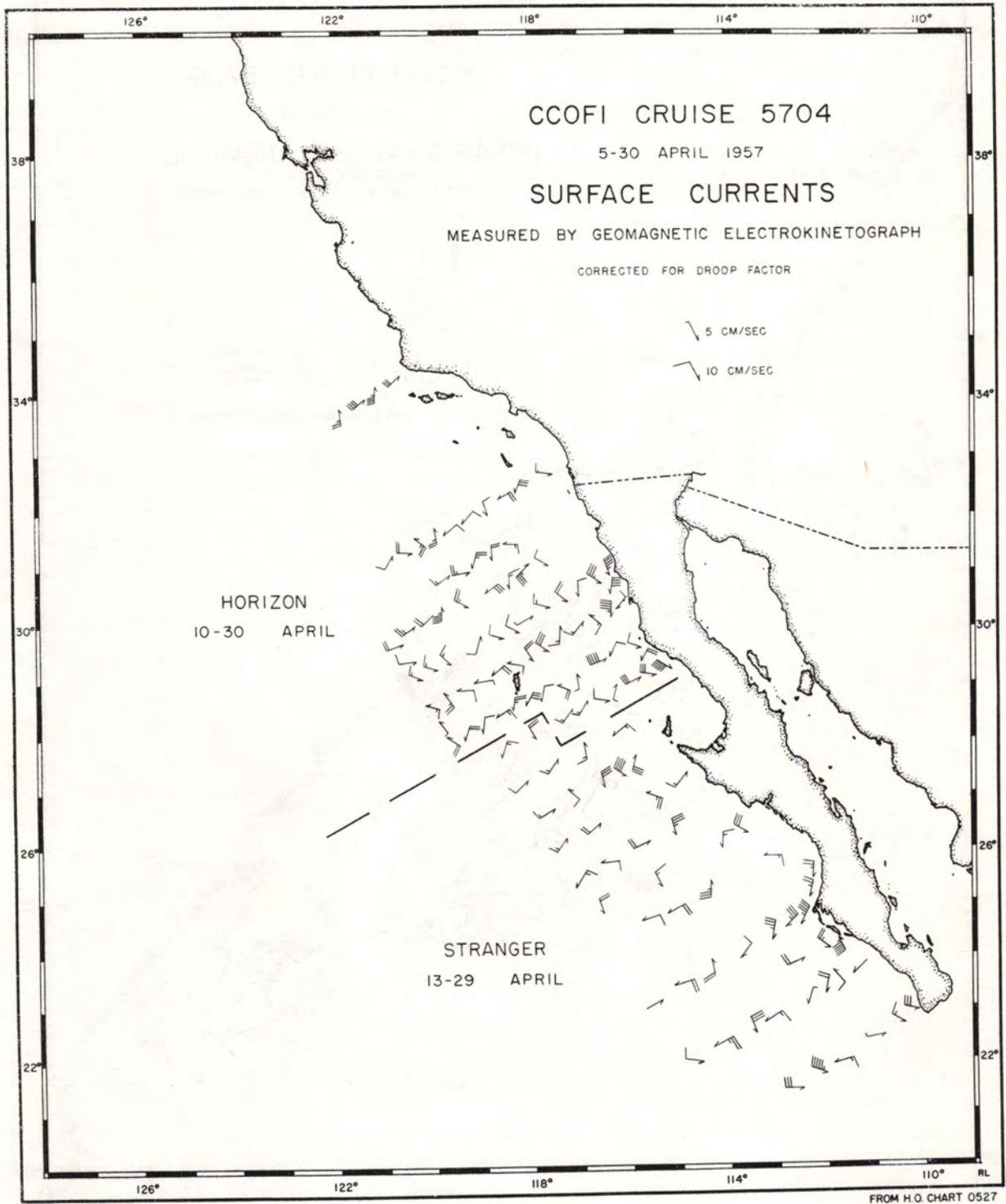


FIGURE 3

FROM H.O. CHART 0527

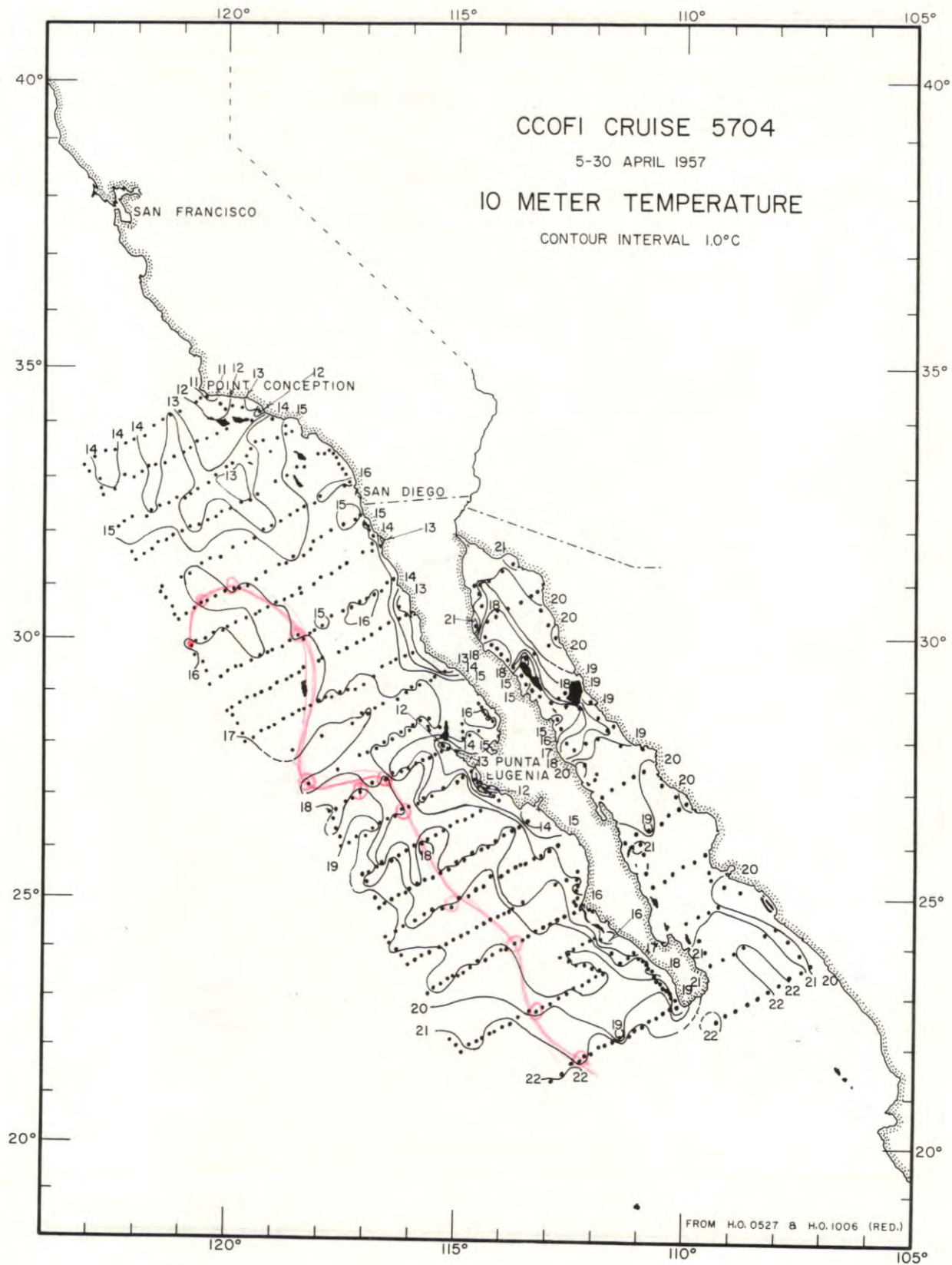


FIGURE 4

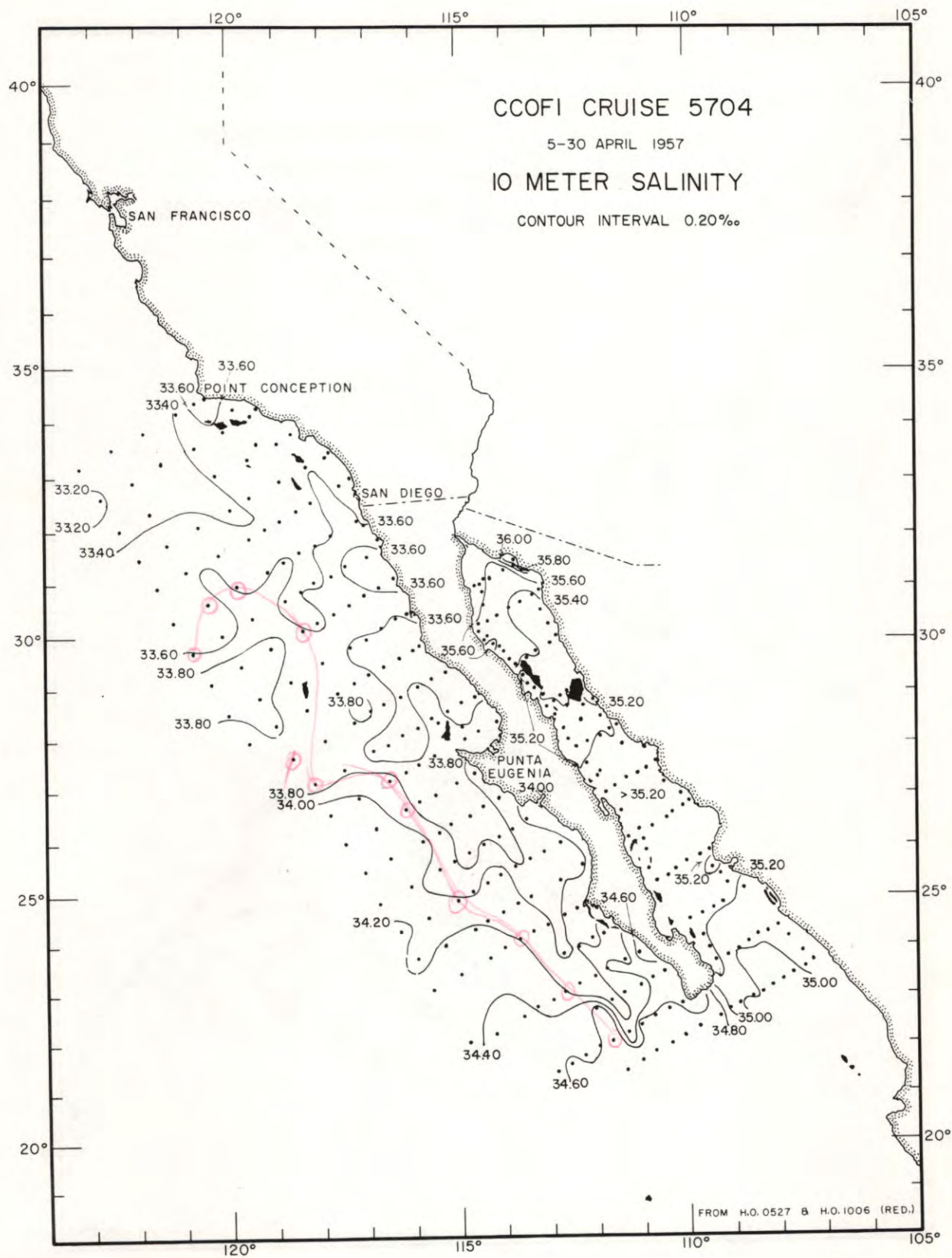


FIGURE 5

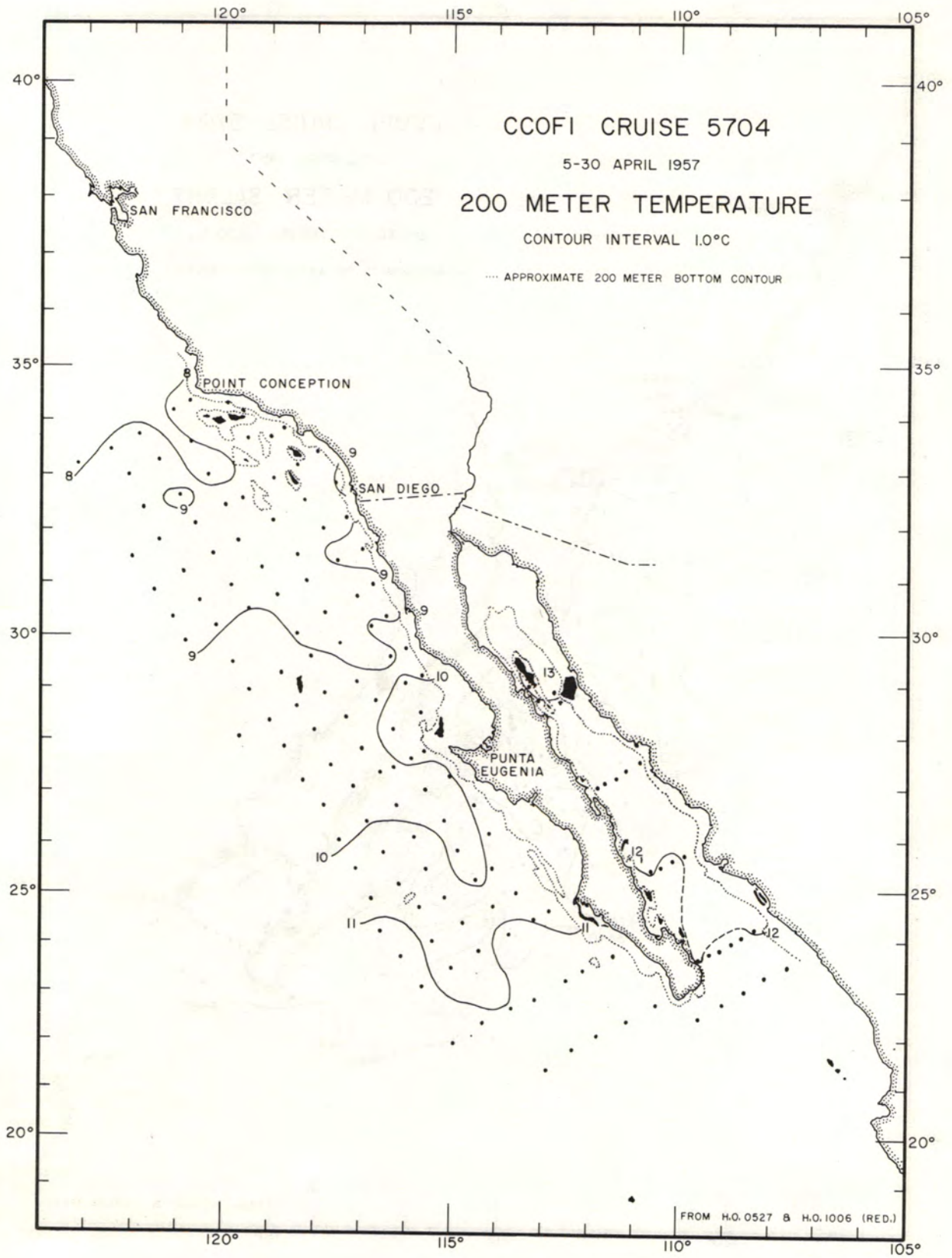


FIGURE 6

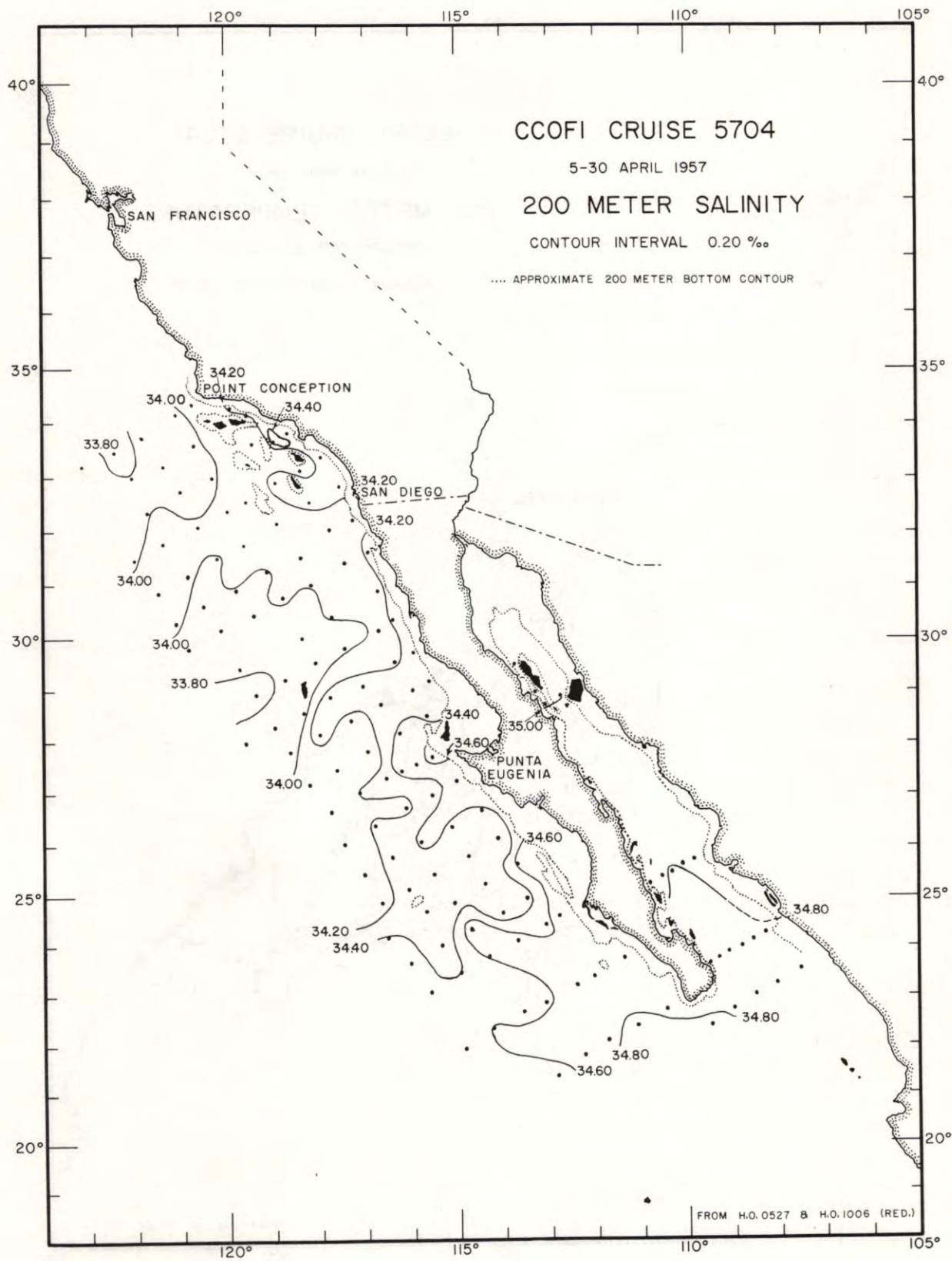


FIGURE 7

CRUISE 5704
PERSONNEL

SHIPS' CAPTAINS

Forster, Charles W., R/V Black Douglas
Hopkins, Marvin F., R/V Horizon
Haines, Robert B., R/V Stranger

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Black Douglas

Vrooman, Andrew M., Fishery Research Biologist, U. S. Fish and Wildlife Service
Froerer, Arthur L., Marine Technician
Justice, David K., Fishery Aid, U. S. Fish and Wildlife Service
Mead, Richard V., Principal Marine Technician
Sprague, Lucian M., Geneticist, U. S. Fish and Wildlife Service

R/V Horizon

Reith, A. Dougall, Senior Marine Technician
Costello, James P., Senior Laboratory Technician
Cunnison, Earle G., Marine Technician
Jeffers, John N., Jr., Marine Technician
Kaye, Hugh R., Marine Technician
Payette, Edward R., Laboratory Technician
Reid, Charles F., Fishery Aid, U. S. Fish and Wildlife Service
Richardson, Park W., Laboratory Technician
Rogers, Richard P., Marine Technician

R/V Stranger

Worrall, Charles G., Senior Marine Technician
Brennan, Robert E., Marine Technician
Davoll, Peter J., Marine Technician
Lucas, Jack C., Marine Technician
Vorobiov, Alexander V., Fishery Aid, U. S. Fish and Wildlife Service

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

S10
CCOFI
5704

HORIZON; April 11, 1957; 1750 GCT; 34°18.5'N, 120°49'W; sounding, 425 fm; wind, 310°, force 4; weather, cloudy; sea, very rough; wire angle, 21°.

80.55

0	11.88	33.65	5.23	0	11.88	33.65	5.23	25.58	241	0.00
9	11.88	33.63	5.20	10	11.88	33.63	5.19	25.56	243	0.02
26	11.95	33.64	5.18	20	11.93	33.63	5.18	25.56	243	0.05
39	10.74	33.60	4.48	30	11.65	33.63	5.10	25.62	238	0.07
48	10.48	33.62	4.28	50	10.41	33.62	4.22	25.83	218	0.12
56	9.96	33.57	3.95	75	9.16	33.62	3.30	26.04	198	0.17
63	9.50	33.55	3.66	100	9.34	33.95	1.84	26.26	177	0.22
78	9.13	33.64	3.16	150	8.71	34.07	1.60	26.46	158	0.30
89	9.40	33.79	2.57	200	8.08	34.13	1.37	26.61	144	0.38
100	9.34	33.95	1.84	250	7.42	34.16	1.24	26.71	134	0.45
119	9.09	33.97	1.78	300	7.22	34.23	1.03	26.81	125	0.52
143	8.77	34.05	1.61	400	6.99	34.31	0.40	26.90	116	0.64
174	8.56	34.14	1.44	500	6.20	34.32	0.40	27.01	106	0.76
218	7.76	34.13	1.34							
287	7.24	34.20	1.08							
376	7.08	34.30	0.41							
507	6.15	34.32	0.39							

HORIZON; April 11, 1957; 2125 GCT; 34°09'N, 121°09'W; sounding, 1300 fm; wind, 320°, force 4; weather, cloudy; sea, very rough; wire angle, 24°.

80.60

0	12.82	33.39	5.20	0	12.82	33.39	5.20	25.21	277	0.00
9	12.81	33.40	5.15	10	12.80	33.40	5.14	25.22	276	0.03
27	12.62	33.40	5.17	20	12.70	33.40	5.16	25.24	274	0.06
41	12.56	33.40	5.16	30	12.61	33.40	5.17	25.25	273	0.08
50p	12.11	33.40	5.03	50	12.11	33.40	5.03	25.34	264	0.14
57p	11.13	33.32	4.83	75	10.10	33.33	4.57	25.65	235	0.20
72p	10.26	33.33	4.62	100	9.51	33.41	4.16	25.82	219	0.26
83p	9.78	33.33	4.44	150	8.77	33.77	2.59	26.22	181	0.36
94p	9.60	33.39	4.28	200	8.16	33.97	1.94	26.46	158	0.44
113p	9.23	33.48	3.88	250	7.37	34.03	1.80	26.63	142	0.52
133p	8.93	33.68	3.09	300	6.82	34.08	1.46	26.74	131	0.59
164p	8.64	33.83	2.33	400	6.17	34.17	0.72	26.90	116	0.72
206p	8.07	33.99	1.91	500	(5.60)	(34.26)		(27.05)	(102)	(0.83)
271p	7.08	34.05	1.71							
352p	6.44	34.13	0.95							
477p	5.72	34.23	0.42							

HORIZON; April 12, 1957; 0305 GCT; 33°42.5'N, 121°55'W; sounding, 1900 fm; wind, 290°, force 4; weather, partly cloudy; sea, rough; wire angle, 25°.

80.70

0	13.39	33.41	-	0	13.39	33.41	(5.20)	(25.10)	(287)	(0.00)
9	13.34	33.39	5.23	10	13.34	33.39	5.23	25.10	287	0.03
27	13.16	33.40	5.32	20	13.26	33.39	5.28	25.12	285	0.06
40	12.92	33.37	5.35	30	13.10	33.39	5.34	25.15	282	0.08
49	12.86	33.35	5.31	50	12.86	33.35	5.30	25.16	281	0.14
58	12.76	-	5.26	75	12.16	33.31	5.07	25.27	271	0.21
67	12.67	33.31	5.27	100	10.60	33.31	4.82	25.55	244	0.28
85	11.74	33.31	4.94	150	8.90	33.69	3.40	26.13	189	0.39
96	10.84	33.31	4.87	200	8.29	33.94	2.52	26.42	162	0.48
108	10.10	33.33	4.67	250	7.51	34.04	2.02	26.62	143	0.55
129	9.23	33.48	4.08	300	6.97	34.07	1.65	26.71	134	0.62
153	8.83	33.72	3.29	400	6.05	34.12	1.07	26.87	119	0.76
188	8.48	33.89 ^{a)}	2.68	500	5.55	34.21	0.56	27.01	106	0.87
234	7.74	34.03	2.16							
306	6.90	34.07	1.62							
403	6.02	34.12	1.05							
537	5.38	34.27 ^{a)}	0.39							

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

S10
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	$\delta\Gamma_3$	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

80.80 HORIZON; April 12, 1957; 0735 GCT; 33°26.5'N, 122°33'W; sounding, 2480 fm; wind, 260°, force 3; weather, clear; sea, moderate; wire angle, 15°.

0	14.00	33.26	5.20	0	14.00	33.26	5.20	24.86	310	0.00
10	14.00	33.27 ^{a)}	5.24	10	14.00	33.27	5.24	24.86	310	0.03
29	14.00	33.26	5.20	20	14.00	33.26	5.22	24.86	310	0.06
43	14.00	33.26 ^{a)}	5.23	30	14.00	33.26	5.21	24.86	310	0.09
53	13.95	33.26	5.30	50	13.99	33.26	5.29	24.87	309	0.15
63	13.71	33.22	5.28	75	12.92	33.12	5.34	24.98	299	0.23
72	13.15	33.12	5.35	100	11.69	33.20	5.18	25.27	271	0.30
90	12.14	33.14	5.30	150	9.47	33.44	4.46	25.84	217	0.43
103	11.52	33.21	5.13	200	8.62	33.78	3.12	26.24	179	0.53
116	10.88	33.22	5.06	250	7.97	34.01	2.33	26.52	152	0.61
136	10.03	33.33	4.85	300	7.32	34.10	1.62	26.69	136	0.69
162	9.09	33.52	4.07	400	6.22	34.15	1.01	26.87	119	0.82
197	8.64	33.75	3.17	500	5.58	34.23	0.56	27.03	104	0.94
244	8.02	34.01	2.43							
318	7.11	34.11	1.48							
412	6.14	34.15	0.94							
546	5.35	34.27	0.37							

80.90 HORIZON; April 12, 1957; 1158 GCT; 33°10'N, 123°13'W; sounding, 2200 fm; wind, 260°, force 2; weather, partly cloudy; sea, slight; wire angle, 08°.

0	14.19	33.32	5.30	0	14.19	33.32	5.30	24.87	309	0.00
10	14.21	33.31	5.25	10	14.21	33.31	5.25	24.86	310	0.03
29	13.82	33.30	5.23	20	14.00	33.30	5.23	24.90	306	0.06
43	13.74	33.30	5.41	30	13.81	33.30	5.24	24.93	303	0.09
52	13.57	33.30	5.38	50	13.61	33.30	5.40	24.98	299	0.15
61	12.58	33.33	5.25	75	11.40	33.36	5.24	25.45	254	0.22
70	11.63	33.36	5.29	100	10.27	33.43	3.93	25.70	230	0.28
90	10.74	33.37	4.84	150	8.59	33.81	3.00	26.27	176	0.38
103	10.10	33.46	3.62	200	7.93	33.99	1.98	26.51	153	0.47
116	9.43	33.57	3.21	250	7.39	34.07	1.72	26.65	140	0.54
140	8.71	33.73	3.11	300	6.80	34.09	1.46	26.75	130	0.61
167	8.36	33.93	2.62	400	5.90	34.15	0.75	26.91	115	0.74
203	7.90	34.00	1.94	500	5.38	34.22	0.48	27.04	103	0.85
254	7.33	34.07	1.69							
333	6.41	34.10	1.25							
433	5.70	34.17	0.62							
571	5.00	34.27	0.36							

82.47 HORIZON; April 13, 1957; 1516 GCT; 34°15'N, 119°58'W; sounding, 300 fm; wind, 080°, force 2; weather, partly cloudy; sea, moderate; wire angle, 07°.

0	13.46	33.58	5.72	0	13.46	33.58	5.72	25.23	275	0.00
10	12.67	33.58	5.31	10	12.67	33.58	5.31	25.38	260	0.03
29	11.64	33.62	4.67	20	12.19	33.60	5.03	25.49	250	0.05
38	10.61	33.62	3.36	30	11.58	33.62	4.59	25.62	238	0.08
48	10.02	33.68	2.76	50	9.98	33.69	2.74	25.95	206	0.12
57	9.78	33.75	2.76	75	9.64	33.80	2.67	26.10	192	0.17
66	9.76	33.78	2.51	100	9.00	34.00	2.03	26.35	168	0.22
80	9.53	33.81	2.78	150	8.65	34.10	1.42	26.49	155	0.30
93	9.10	33.96	2.16	200	8.23	34.20	0.95	26.64	141	0.37
108	8.93	34.02	1.96	250	8.01	34.23	0.91	26.68	137	0.44
130	8.74	34.05	1.54	300	7.54	34.26	0.40	26.82	124	0.51
157	8.61	34.12	1.36	400	6.91	34.27	0.30	26.88	118	0.64
189	8.28	34.18	0.95	500	(6.40)	(34.29)		(26.96)	(110)	(0.75)
235	8.14	34.22	0.98							
281	7.72	34.23	0.61							
380	7.01	34.27	0.34							
478	6.50	34.29	0.25							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn.m

SIO
CCOFI
5704

HORIZON; April 13, 1957; 1808, 1833 GCT; 34°08'N, 119°35.5'W; sounding, 150 fm; wind, 210°, force 2; weather, partly cloudy; sea, moderate; wire angle, 07°, 08°.

8343

0	13.50	33.58	5.52	0	13.50	33.58	5.52	25.22	276	0.00
10	13.24	33.58	5.61	10	13.24	33.58	5.61	25.26	272	0.03
29	11.24	33.60	3.91	20	12.29	33.59	4.74	25.46	253	0.05
49	10.58	33.69	3.48	30	11.23	33.60	3.90	25.67	233	0.08
73	9.34	33.86	2.39	50	10.52	33.70	3.42	25.87	214	0.12
96	9.08	33.98	1.83	75	9.29	33.88	2.27	26.22	181	0.17
119	8.98	34.00	1.83	100	9.06	33.99	1.83	26.33	170	0.22
155	8.62	34.11	1.35	150	8.65	34.10	1.34	26.49	155	0.30
181	8.54	34.18	1.36	200	8.42	34.20	1.28	26.60	145	0.37
226	8.16	34.23	0.77							
137	8.70	34.08	1.43							

HORIZON; April 13, 1957; 0620 GCT; 33°34'N, 120°45'W; sounding, 900 fm; wind, 280°, force 3; weather, clear; sea, moderate; wire angle, 37°.

8360

0	12.08	33.42	5.40	0	12.08	33.42	5.40	25.36	262	0.00
8	12.06	33.41	5.43	10	12.05	33.41	5.44	25.36	262	0.03
24	11.94	33.44	5.44	20	11.99	33.43	5.44	25.38	260	0.05
35	11.78	33.40	5.32	30	11.85	33.42	5.39	25.41	258	0.08
43	11.66	33.40	5.20	50	11.20	33.36	5.06	25.48	251	0.13
51	11.17	33.35	5.06	75	10.70	33.51	4.76	25.69	231	0.19
57	10.60	33.34	4.97	100	9.72	33.53	4.19	25.87	214	0.25
64	10.78	33.46	4.95	150	8.73	33.80	2.87	26.25	178	0.34
70	10.54	33.45	4.75	200	8.00	33.97	2.15	26.49	155	0.43
85	10.86	33.59	4.91	250	7.57	33.99	1.71	26.56	148	0.51
107	9.28	33.51	3.81	300	7.05	34.09	1.25	26.72	133	0.58
127	8.91	33.68	3.18	400	6.37	34.26	0.56	26.94	112	0.70
153	8.65	33.82	2.82							
191	8.10	33.97	2.29							
251	7.56	33.99	1.69							
326	6.81	34.15	1.03							
449	6.24	34.27	0.47							

HORIZON; April 13, 1957; 0106 GCT; 33°12.5'N, 121°27.5'W; sounding, 1900 fm; wind, 230°, force 3; weather, clear; sea, moderate; wire angle, 14°.

8370

0	14.20 ^{a)}	33.31	5.24	0	14.20	33.31	5.24	24.86	310	0.00
10	14.12	33.30	5.26	10	14.12	33.30	5.26	24.87	309	0.03
29	13.90	33.31	5.31	20	14.00	33.30	5.28	24.90	306	0.06
39	13.90	33.30	5.28	30	13.90	33.31	5.30	24.92	304	0.09
48	13.88	33.31	5.18	50	13.88	33.31	5.19	24.92	304	0.15
58	13.89	33.31	5.20	75	13.58	33.31	5.30	25.00	297	0.23
67	13.86	33.31	5.32	100	11.48	33.28	5.13	25.38	261	0.30
81	13.12	33.31	5.20	150	9.29	33.52	3.91	25.93	208	0.42
94	11.88	33.28	5.13	200	8.52	33.84	2.83	26.31	172	0.51
109	10.96	33.29	5.12	250	7.82	34.01	2.26	26.54	150	0.60
130	9.84	33.37	4.54	300	7.17	34.06	1.74	26.68	137	0.67
156	9.17	33.57	3.79	400	6.18	34.18	0.87	26.90	116	0.80
186	8.70	33.76	3.01	500	(5.61)	(34.25)		(27.03)	(104)	(0.92)
228p	8.12	33.97	2.49							
325p	6.84	34.09	1.51							
454p	5.83	34.22	0.64							

a) Additional value of 14.37° not used in interpolation.

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_{T_3}	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

83.80

HORIZON; April 12, 1957; 2043 GCT; 33°00'N, 122°07'W; sounding, 2150 fm; wind, 220°, force 2;
weather, clear; sea, slight; wire angle, 11°.

0	14.41r	33.33	5.12	0	(14.08)	33.33	5.12	(24.91)	(305)	(0.00)
9	14.06	33.33	5.23	10	14.06	33.33	5.23	24.91	305	0.03
28	14.04	33.33	5.25	20	14.05	33.33	5.25	24.91	305	0.06
38	13.93	33.33	5.28	30	14.03	33.33	5.27	24.91	305	0.09
46	13.80	33.33	5.29	50	13.82	33.30	5.28	24.93	303	0.15
55	13.86	33.30	5.27	75	13.58	33.29	5.28	24.96	300	0.23
64	13.80	33.30	5.23	100	11.98	33.22	5.21	25.23	275	0.30
78	13.44	33.28	5.30	150	9.93	33.41	4.38	25.74	226	0.43
91	12.40	33.22	5.20	200	8.65	33.81	2.77	26.26	177	0.53
104	11.80	33.22	5.22	250	7.93	33.98	2.12	26.51	153	0.62
128	10.74	33.30	4.85	300	7.23	34.08	1.64	26.68	137	0.69
155	9.76	33.44	4.28	400	6.36	34.13	0.95	26.85	121	0.82
187	8.84	33.76	3.02	500	5.80	34.20	0.62	26.96	110	0.94
233	8.17	33.93	2.29							
307	7.17	34.09	1.58							
402	6.34	34.13	0.93							
525	5.64	34.22	0.57							

86.46

HORIZON; April 14, 1957; 0656 GCT; 33°36.5'N, 119°29'W; sounding, 1000 fm; wind, 200°, force 4;
weather, partly cloudy; sea, moderate; wire angle, 09°.

0	14.20	33.55	5.39	0	14.20	33.55	5.39	25.05	292	0.00
10	14.20	33.55	5.27	10	14.20	33.55	5.27	25.05	292	0.03
29	13.19	33.55	5.26	20	14.13	33.55	5.27	25.07	290	0.06
39	11.06	33.59	3.83	30	13.00	33.55	5.20	25.29	269	0.09
49	10.60	33.64	3.46	50	10.56	33.65	3.41	25.82	219	0.14
58	10.20	33.68	3.13	75	9.80	33.74	2.78	26.02	200	0.19
69	9.96	33.71	2.91	100	9.22	33.91	2.43	26.25	178	0.24
83	9.58	33.78	2.52	150	8.95	34.03	1.68	26.40	164	0.32
96	9.28	33.87	2.31	200	8.54	34.17	1.32	26.56	148	0.40
110	9.18	33.94	2.45	250	8.21	34.22	1.11	26.65	140	0.47
133	9.02	33.99	1.57	300	7.90	34.26	0.87	26.73	132	0.54
161	8.89	34.06	1.70	400	7.16	34.33	0.56	26.88	118	0.67
193	8.60	34.15	1.38	500	6.38	34.33	0.34	27.00	107	0.79
239	8.27	34.22	1.12							
313	7.80	34.27	0.80							
407	7.10	34.33	0.54							
529	6.16	34.33	0.29							

87.36

HORIZON; April 14, 1957; 0022 GCT; 33°48'N, 118°41.5'W; sounding, 460 fm; wind, 240°, force 3;
weather, partly cloudy; sea, moderate; wire angle, 24°.

0	15.61	33.55	5.25	0	15.61	33.55	5.25	24.74	321	0.00
8	15.22	33.55	5.32	10	15.08	33.55	5.36	24.85	311	0.03
26	13.84	33.53	5.61	20	14.40	33.54	5.52	25.00	297	0.06
35	12.70	33.51	4.89	30	13.24	33.52	5.32	25.22	276	0.09
43	12.16	33.51	4.40	50	11.72	33.49	4.12	25.49	250	0.14
52	11.60	33.49	4.05	75	10.38	33.60	3.17	25.82	219	0.20
60	10.90	33.56	3.54	100	9.50	33.85	2.36	26.16	186	0.25
72	10.52	33.58	3.28	150	8.87	34.09	1.77	26.45	159	0.34
82	10.10	33.64	2.99	200	8.61	34.22	1.37	26.58	146	0.42
94	9.68	33.78	2.46	250	8.26	34.27	1.13	26.68	137	0.49
112	9.16	33.98	2.16	300	7.93	34.31	0.87	26.76	129	0.56
134	8.94	34.06	1.86	400	7.20	34.33	0.59	26.89	117	0.68
161	8.81	34.14 ^{a)}	1.68	500	(6.30)	(34.33)		(27.01)	(106)	(0.80)
200	8.61	34.22	1.37							
264	8.18	34.28	1.06							
348	7.59	34.33	0.69							
465	6.62	34.33	0.48							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{3}{cm/g}$	dyn, m

SIO
CCOFI
5704

HORIZON; April 14, 1957; 0319 GCT; 33°40'N, 118°58.5'W; sounding, 480 fm; wind, 220°, force 4; weather, partly cloudy; sea, moderate; wire angle, 20°.

8740

0	14.90	33.55	5.37	0	14.90	33.55	5.37	24.90	306	0.00
8	14.93	33.54	5.50	10	14.89	33.54	5.51	24.89	307	0.03
24	13.82	33.51	5.69	20	14.21	33.52	5.65	25.02	295	0.06
33	11.88	33.48	4.83	30	12.92	33.49	5.41	25.26	272	0.09
41	10.80	33.51 ^{a)}	3.74	50	10.51	33.52	3.56	25.73	227	0.14
50	10.51	33.52	3.56	75	9.74	33.74	2.71	26.04	198	0.19
58	10.15	33.60	3.32	100	9.40	33.87	2.32	26.20	183	0.24
71	9.84	33.69	2.85	150	8.74	34.09	1.51	26.46	158	0.33
84	9.53	33.82	2.46	200	8.42	34.18	1.21	26.58	146	0.40
98	9.42	33.86	2.34	250	8.13	34.22	1.02	26.67	138	0.48
119	9.00	33.99	1.93	300	7.70	34.25	0.82	26.75	130	0.54
146	8.78	34.07	1.56	400	6.82	34.32	0.44	26.93	113	0.67
176	8.58	34.14	1.34	500	6.30	34.34	0.30	27.02	105	0.78
221	8.33	34.20	1.13							
293	7.77	34.25	0.83							
384	6.96	34.32	0.48							
509	6.25	34.34	0.29							

HORIZON; April 14, 1957; 1418 GCT; 33°00'N, 120°21'W; sounding, 390 fm; wind, 210°, force 3; weather, cloudy; sea, slight; wire angle, 18°.

8760

0	13.02	33.40	5.44	0	13.02	33.40	5.44	25.18	280	0.00
9	13.01	33.40	5.50	10	12.98	33.40	5.50	25.18	280	0.03
14p	12.78	-	5.49	20	12.62	33.39	5.39	25.24	274	0.06
22p	12.60	33.39	5.38	30	12.46	33.39	5.40	25.27	271	0.08
27p	12.52	33.39	5.40	50	11.25	33.39	5.32	25.50	249	0.14
34p	12.38	33.39	5.42	75	9.48	33.38	4.53	25.80	221	0.19
40p	12.14	33.40	5.41	100	8.83	33.66	3.46	26.11	191	0.25
51p	11.18	33.39	5.31	150	8.38	33.87	2.79	26.35	168	0.34
60p	10.23	33.37	4.90	200	7.85	33.99	2.19	26.52	152	0.42
69p	9.98	33.37	4.80	250	7.31	34.07	1.68	26.67	138	0.49
85p	9.14	33.41	4.23	300	6.80	34.12	1.40	26.78	128	0.56
103p	8.80	33.69	3.34	400	6.22	34.14	0.89	26.87	119	0.69
130p	8.58	33.82	2.90							
170p	8.17	33.93 ^{a)}	2.65							
232p	7.49	34.05	1.80							
312p	6.72	34.12	1.33							
429p	6.12	34.15	0.78							

HORIZON; April 14, 1957; 1852 GCT; 32°36'N, 120°59'W; sounding, 2100 fm; wind, 250°, force 2; weather, cloudy; sea, slight; wire angle, 08°.

8770

0	14.53	33.40	5.28	0	14.53	33.40	5.28	24.86	310	0.00
10	13.87	33.39	5.44	10	13.87	33.39	5.44	25.00	297	0.03
29	13.32	33.37	5.56	20	13.57	33.38	5.52	25.05	292	0.06
43	13.08	33.35	5.44	30	13.32	33.37	5.56	25.08	289	0.09
53	12.90	33.35	5.38	50	12.98	33.35	5.38	25.14	283	0.15
62	12.70	33.35	5.33	75	12.54	33.38	5.30	25.25	273	0.22
72	12.59	33.38	5.31	100	12.18	33.39	5.27	25.33	265	0.28
90	12.34	33.37	5.31	150	10.51	33.51	3.96	25.72	228	0.41
104	12.06	33.40	5.23	200	9.10	33.83	2.63	26.21	182	0.51
117	11.62	33.40	5.07	250	8.15	34.07	1.87	26.54	150	0.60
140	10.86	33.44	4.40	300	7.79	34.18	1.12	26.69	136	0.67
169	9.84	33.66	3.17	400	7.01	34.28	0.50	26.87	119	0.81
205	8.99	33.86	2.54	500	6.28	34.34	0.40	27.02	105	0.92
256	8.06	34.09	1.80							
335	7.57	34.23	0.82							
434	6.72	34.31	0.41							
573	5.87	34.36	0.39							

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

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	$\frac{\delta T}{10^5 \text{ cm}^3/\text{g}}$	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L		dyn. m

87.80

HORIZON; April 14, 1957; 2338 GCT; 32°19.5'N, 121°42'W; sounding, 2250 fm; wind, 300°, force 4; weather, cloudy; sea, moderate; wire angle, 06°.

0	14.32	33.35	5.37	0	14.32	33.35	5.37	24.87	309	0.00
10	13.90	33.35	5.38	10	13.90	33.35	5.38	24.95	301	0.03
29	13.50	33.36	5.46	20	13.70	33.35	5.42	25.00	297	0.06
44	13.09	33.40	5.49	30	13.49	33.36	5.46	25.05	292	0.09
54	12.56	33.39	5.32	50	12.82	33.39	5.43	25.21	277	0.15
63	12.06	33.39	5.16	75	11.95	33.40	5.16	25.38	260	0.21
73	11.97	33.40	5.17	100	11.00	33.44	4.80	25.58	241	0.28
91	11.50	33.44	5.03	150	9.41	33.77	2.71	26.11	191	0.39
104	10.78	33.44	4.67	200	8.34	33.99	1.99	26.46	158	0.48
118	10.36	33.46	3.82	250	8.12	34.14	1.45	26.61	144	0.56
141	9.58	33.68	2.98	300	7.34	34.15	1.22	26.72	133	0.63
168	9.07	33.92	2.24	400	6.20	34.16	0.72	26.89	117	0.76
205	8.26	34.00	1.95	500	5.61	34.25	0.47	27.03	104	0.87
256	8.04	34.15	1.35							
335	6.82	34.14	1.10							
435	5.96	34.18	0.60							
575	5.37	34.32	0.34							

90.30

HORIZON; April 17, 1957; 1853 GCT; 33°24.5'N, 117°55'W; sounding, 486 fm; wind, 300°, force 1; weather, partly cloudy; sea, slight; wire angle, 04°.

0	16.30	33.54	5.42	0	16.30	33.54	5.42	24.58	337	0.00
10	15.86	33.53	5.46	10	15.86	33.53	5.46	24.67	328	0.03
28	12.26	33.46	4.36	20	14.20	33.49	5.02	25.01	296	0.06
38	10.92	33.53	3.49	30	12.10	33.46	4.25	25.40	259	0.09
47	10.23	33.57	3.32	50	10.17	33.59	3.26	25.84	217	0.14
56	10.04	33.64	3.01	75	9.71	33.74	2.82	26.04	198	0.19
64	9.82	33.68	2.89	100	9.30	33.85	2.40	26.20	183	0.24
78	9.68	33.75	2.79	150	8.71	34.08	1.80	26.47	157	0.33
91	9.44	33.83	2.54	200	8.60	34.21	1.37	26.58	146	0.40
105	9.23	33.87	2.33	250	8.21	34.24	1.16	26.67	138	0.48
127	8.94	34.00	2.08	300	7.88	34.30	0.89	26.76	129	0.54
153	8.68	34.09	1.76	400	7.21	34.33	0.53	26.88	118	0.67
185	8.70	34.20	1.44	500	6.51	34.37	0.37	27.01	106	0.79
230	8.35	34.22	1.25							
303	7.85	34.31	0.88							
395	7.25	34.33	0.53							
520	6.37	34.38	0.34							

90.37

HORIZON; April 16, 1957; 1434 GCT; 33°11'N, 118°23'W; sounding, 650 fm; wind, 280°, force 2; weather, partly cloudy; sea, moderate; wire angle, 06°.

0	15.20	33.57	5.21	0	15.20	33.57	5.21	24.85	311	0.00
10	15.24	33.59	5.21	10	15.24	33.59	5.21	24.85	311	0.03
30	15.02	33.58	5.26	20	15.21	33.59	5.22	24.86	310	0.06
44	12.20	33.35	4.87	30	15.02	33.58	5.26	24.89	307	0.09
54	10.96	33.46	3.97	50	11.38	33.41	4.28	25.49	250	0.15
64	10.34	33.54	3.52	75	10.13	33.62	3.23	25.87	214	0.21
74	10.16	33.60	3.26	100	9.61	33.76	2.71	26.07	195	0.26
93	9.71	33.74	2.77	150	9.02	34.01	2.01	26.35	168	0.35
107	9.52	33.77	2.64	200	8.67	34.13	1.62	26.50	154	0.43
121	9.26	33.92	2.28	250	8.30	34.17	1.24	26.61	144	0.51
144	9.09	33.99	2.08	300	7.72	34.19	0.77	26.70	135	0.58
171	8.77	34.07	1.79	400	6.80	34.27	0.46	26.89	117	0.71
208	8.62	34.14	1.53	500	6.22	34.33	0.34	27.02	105	0.82
259	8.19	34.18	1.15							
337	7.28	34.21	0.58							
435	6.59	34.30	0.41							
579	5.78	34.37	0.27							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

S10
CCOFI
5704

HORIZON; April 16, 1957; 0841 GCT; 32°54.5'N, 118°56'W; sounding, 950 fm; wind, 300°, force 4;
weather, clear; sea, rough; wire angle, 11°.

9045

0	14.74	33.53	5.22	0	14.74	33.53	5.22	24.91	305	0.00
10	14.76	33.52	5.25	10	14.76	33.52	5.25	24.90	306	0.03
29	14.20	33.49	5.18	20	14.59	33.51	5.22	24.93	303	0.06
44	10.49	33.48	3.82	30	14.18	33.49	5.17	25.01	296	0.09
53	10.15	33.51	3.75	50	10.27	33.50	3.78	25.75	225	0.14
63	9.86	33.61	3.42	75	9.58	33.74	2.80	26.06	196	0.20
72	9.65	33.71	2.93	100	9.17	33.92	2.32	26.27	176	0.24
92	9.26	33.86	2.41	150	8.60	34.13	1.71	26.52	152	0.33
105	9.14	33.93	2.30	200	8.17	34.22	1.42	26.66	139	0.40
119	9.06	33.98	2.12	250	7.83	34.27	1.19	26.74	131	0.47
141	8.71	34.11	1.71	300	7.50	34.31	0.88	26.83	123	0.54
168	8.38	34.16	1.72	400	6.85	34.33	0.46	26.93	113	0.66
203	8.15	34.22	1.40	500	6.24		0.32			
254	7.81	34.27	1.17							
331	7.34	34.33	0.73							
429	6.65	34.33	0.39							
568	5.85	34.44r	0.28							

HORIZON; April 16, 1957; 0328 GCT; 32°32'N, 119°35.5'W; sounding, 500 fm; wind, 280°, force 4;
weather, clear; sea, rough; wire angle, missing.

9055

0	13.00	33.53	5.30	0	13.00	33.53	5.30	25.27	271	0.00
10	13.00	33.57	5.35	10	13.00	33.57	5.35	25.31	267	0.03
28	11.47	33.48	5.17	20	12.90	33.56	5.34	25.32	266	0.05
42	11.21	33.55	5.03	30	11.42	33.48	5.12	25.54	245	0.08
51	10.98	33.53	4.86	50	11.00	33.53	4.87	25.66	234	0.13
60	10.72	33.53	4.75	75	10.54	33.55	4.56	25.75	225	0.18
68	10.64	33.53	4.71	100	10.03	33.65	3.94	25.91	210	0.24
86	10.34	33.62	4.30	150	8.66	33.87	2.38	26.31	172	0.34
98	10.07	33.65	3.96	200	8.26	34.05	1.85	26.51	153	0.42
110	9.81	33.67	3.71	250	7.97	34.23	1.08	26.70	135	0.49
131	8.94	33.80	2.66	300	7.54	34.28	0.70	26.80	126	0.56
156	8.61	33.89	2.30	400	6.77	34.34	0.45	26.95	111	0.68
190	8.32	34.00	1.99	500	6.17	34.34	0.34	27.03	104	0.79
236	8.05	34.22	1.27							
304	7.47	34.29	0.68							
402	6.76	34.34	0.45							
538	5.97	34.34	0.31							

HORIZON; April 16, 1957; 0013 GCT; 32°22.5'N, 120°00'W; sounding, 1000 fm; wind, 280°, force 3;
weather, partly cloudy; sea, rough; wire angle, 10°.

9060

0	14.06	33.40	5.31	0	14.06	33.40	5.31	24.96	300	0.00
9	14.04	33.35	5.20	10	14.03	33.35	5.20	24.92	304	0.03
29	13.69	33.37	5.28	20	13.86	33.37	5.21	24.98	299	0.06
44	13.60	33.37	5.31	30	13.68	33.37	5.29	25.02	295	0.09
50p	13.54	33.35	5.27	50	13.54	33.35	5.27	25.03	294	0.15
56p	13.43	33.42	5.27	75	12.50	33.36	5.12	25.24	274	0.22
64p	13.28	33.40	5.27	100	10.36	33.49	4.57	25.73	227	0.28
77p	12.26	33.35	5.07	150	9.10	33.88	2.82	26.25	178	0.39
87p	10.84	33.36	4.85	200	8.21	34.09	2.03	26.54	150	0.47
97p	10.36	33.41	4.58	250	7.81	34.12	1.55	26.64	141	0.54
114p	10.46	33.70	4.18	300	7.40	34.22	1.18	26.76	129	0.62
135p	9.81	33.80	3.28	400	6.72	34.31	0.65	26.93	113	0.74
162p	8.70	33.93	2.56	500	(6.14)	(34.33)		(27.03)	(104)	(0.85)
203p	8.19	34.09	2.01							
266p	7.64	34.14	1.41							
347p	7.04	34.29	0.91							
470p	6.30	34.32	0.38							

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

90.70

HORIZON; April 15, 1957; 1900 GCT; 32°03.5'N, 120°40'W; sounding, 2100 fm; wind, 300°, force 3; weather, partly cloudy; sea, rough; wire angle, 18°.

0	14.00	33.45	5.23	0	14.00	33.45	5.23	25.01	296	0.00
10	13.98	33.44	5.31	10	13.98	33.44	5.31	25.01	296	0.03
28	13.31	33.40	5.28	20	13.73	33.42	5.30	25.05	292	0.06
42	13.20	33.40	5.25	30	13.28	33.40	5.27	25.12	285	0.09
51	12.85	33.40	5.22	50	12.91	33.40	5.22	25.20	278	0.14
60	12.43	33.45	5.25	75	12.13	33.47	5.32	25.40	259	0.21
68	12.26	33.46	5.35	100	11.62	33.48	5.21	25.50	249	0.28
85	11.94	33.48	5.29	150	9.57	33.68	3.14	26.02	200	0.39
98	11.66	33.48	5.21	200	8.76	34.02	1.80	26.42	162	0.49
111	11.42	33.48	5.19	250	7.80	34.11	1.68	26.63	142	0.56
132	10.46	33.40	4.63	300	7.65	34.29	1.00	26.79	127	0.63
159	9.23	33.82	2.42	400	6.78	34.34	0.54	26.95	111	0.77
194	8.84	34.01	1.81	500	6.21	34.37	0.37	27.05	102	0.87
242	7.86	34.09	1.72							
318	7.58	34.32	0.85							
414	6.64	34.34	0.49							
556	6.04	34.39	0.33							

90.80

HORIZON; April 15, 1957; 1325 GCT; 31°45.5'N, 121°25.5'W; sounding, 2150 fm; wind, 200°, force 4; weather, clear; sea, moderate; wire angle, 12°.

0	15.26	33.55	5.00	0	15.26	33.55	5.00	24.82	314	0.00
10	15.26	33.55	5.10	10	15.26	33.55	5.10	24.82	314	0.03
29	15.09	33.53	5.12	20	15.22	33.54	5.11	24.83	313	0.06
43	14.42	33.51	5.17	30	15.07	33.53	5.12	24.84	312	0.09
52	13.86	33.48	5.24	50	14.00	33.49	5.24	25.04	293	0.15
61	12.04	33.40	4.66	75	11.04	33.42	4.08	25.55	244	0.22
70	11.34	33.41	4.19	100	9.63	33.53	3.68	25.89	212	0.28
89	10.30	33.46	3.85	150	8.60	33.93	2.22	26.36	167	0.37
102	9.58	33.54	3.66	200	8.38	34.09	1.64	26.52	152	0.45
116	9.15	33.68	3.05	250	7.74	34.13	1.48	26.65	140	0.53
137	8.74	33.88	2.46	300	7.41	34.20	0.98	26.75	130	0.60
165	8.49	33.98	2.04	400	6.83	34.28	0.53	26.90	116	0.73
201	8.38	34.09	1.62	500	6.19	34.33	0.38	27.03	104	0.84
251	7.73	34.13	1.47							
329	7.28	34.23	0.76							
427	6.68	34.30	0.49							
568	5.69	34.36	0.30							

90.90

HORIZON; April 15, 1957; 0838 GCT; 31°25.5'N, 122°03'W; sounding, 2200 fm; wind, 220°, force 2; weather, clear; sea, slight; wire angle, 10°.

0	15.29	33.51	5.14	0	15.29	33.51	5.14	24.79	317	0.00
10	15.10	33.51	5.16	10	15.10	33.51	5.16	24.82	314	0.03
29	14.05	33.46	5.39	20	14.54	33.48	5.27	24.92	304	0.06
43	13.79	33.49	5.24	30	14.04	33.46	5.38	25.02	295	0.09
53	13.53	33.48	5.22	50	13.62	33.49	5.22	25.11	286	0.15
62	13.14	33.47	4.93	75	11.70	33.41	4.60	25.44	255	0.22
71	12.20	33.42	4.84	100	10.18	33.49	3.72	25.76	224	0.28
89	10.64	33.43	3.98	150	9.01	33.78	2.66	26.18	185	0.38
102	10.09	33.50	3.68	200	8.49	33.99	1.92	26.43	161	0.47
115	9.62	33.57	3.31	250	7.70	34.05	1.78	26.60	145	0.55
138	9.09	33.73	2.86	300	7.09	34.08	1.42	26.70	135	0.62
166	8.88	33.87	2.30	400	6.28	34.19	0.70	26.90	116	0.75
202	8.44	34.00	1.90	500	5.73	34.27	0.47	27.07	100	0.86
252	7.66	34.05	1.77							
330	6.78	34.11	1.15							
428	6.12	34.22	0.60							
567	5.38	34.31	0.36							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

HORIZON; April 19, 1957; 0050 GCT; 32°49'N, 117°32.5'W; sounding, 465 fm; wind, 270°, force 2;
weather, partly cloudy; sea, moderate; wire angle, 15°.

9330

0	16.09	33.57	5.60	0	16.09	33.57	5.60	24.65	330	0.00
10	15.90	33.57	5.54	10	15.90	33.57	5.54	24.69	326	0.03
28	13.50	33.49	5.86	20	14.65	33.53	5.68	24.93	303	0.06
47	11.14	33.55	4.09	30	13.20	33.49	5.81	25.21	277	0.09
56	10.63	33.57	3.75	50	10.91	33.56	3.96	25.69	231	0.14
64	10.30	33.62	3.36	75	10.00	33.69	3.18	25.95	206	0.20
73	10.05	33.68	3.25	100	9.50	33.82	2.70	26.13	189	0.25
82	9.77	33.75	2.95	150	9.17	34.07	2.02	26.38	165	0.34
99	9.50	33.82	2.72	200	9.00	34.28	1.40	26.58	147	0.42
125	9.28	33.95	2.34	250	8.48	34.29	1.05	26.66	139	0.49
159	9.12	34.11	1.92	300	7.91	34.28	0.90	26.74	131	0.56
212	8.93	34.29	1.20	400	7.01	34.34	0.57	26.91	115	0.69
291	8.00	34.28	0.96	500	6.33	34.35	0.35	27.02	105	0.80
388	7.08	34.34	0.59	600	5.78	34.39	0.27	27.11	96	0.91
486	6.42	34.34	0.38	700	5.54	34.40	0.28	27.16	91	1.00
586	5.86	34.38	0.26							
762	5.00	34.43	0.32							

HORIZON; April 19, 1957; 0713 GCT; 32°30'N, 118°12.5'W; sounding, 1000 fm; wind, 300°, force 3;
weather, clear; sea, rough; wire angle, 35°.

9340

0	15.71	33.57	5.63	0	15.71	33.57	5.63	24.73	322	0.00
8	15.74	33.57	5.52	10	15.74	33.57	5.52	24.72	323	0.03
26	14.56	33.53	5.65	20	15.73	33.57	5.52	24.72	323	0.06
42	11.24	33.51	4.36	30	13.40	33.50	5.32	25.18	280	0.09
60	10.02	33.62	3.62	50	10.55	33.56	3.98	25.75	225	0.14
80	9.47	33.72	3.00	75	9.58	33.70	3.17	26.03	199	0.20
119	9.08	34.04	2.19	100	9.25	33.91	2.51	26.25	178	0.25
156	8.73	34.14	1.83	150	8.79	34.12	1.91	26.49	155	0.33
236	8.17	34.29	1.16	200	8.40	34.23	1.45	26.63	142	0.40
404	6.97	34.35	0.60	250	8.08	34.30	1.10	26.73	132	0.48
574	5.86	34.38	0.30	300	7.72	34.32	0.88	26.81	125	0.54
747	4.96	34.42	0.28	400	6.99	34.35	0.60	26.93	113	0.66
836	4.50	34.47	0.36	500	6.33	34.37	0.42	27.04	103	0.78
1016	4.00u	34.51	0.51	600	5.72	34.39	0.29	27.12	95	0.88
1106	3.70	34.54	0.68	700	5.21	34.41	0.26	27.21	87	0.98
1290	3.32	34.57	0.79	800	4.67	34.45	0.32	27.30	78	1.07
1543	2.80	34.60	1.10	1000	3.97	34.51	0.47	27.42	67	1.23
				1200	3.50	34.55	0.74	27.50	59	1.37
				1500	2.88	34.59	1.05	27.59	51	1.56

HORIZON; April 19, 1957; 1417 GCT; 32°07'N, 118°55'W; sounding, 800 fm; wind, 250°, force 4;
weather, cloudy; sea, rough; wire angle, 16°.

9350

0	14.42	33.53	5.33	0	14.42	33.53	5.33	24.99	298	0.00
10	14.41	33.53	5.36	10	14.41	33.53	5.36	24.99	298	0.03
28	12.11	33.48	5.38	20	13.00	33.50	5.37	25.25	273	0.06
43	11.88	33.48	5.13	30	12.05	33.48	5.34	25.42	257	0.08
52	11.60	33.53	5.19	50	11.68	33.51	5.17	25.51	248	0.14
60	11.30	33.57	4.96	75	10.75	33.58	4.32	25.73	227	0.19
69	11.03	33.57	4.58	100	9.42	33.76	2.78	26.10	192	0.25
88	9.86	33.64	3.39	150	8.64	34.02	1.88	26.43	161	0.34
100	9.42	33.76	2.78	200	8.19	34.15	1.44	26.60	145	0.42
113	9.20	33.84	2.49	250	7.77	34.22	1.15	26.72	133	0.49
135	8.86	33.96	2.06	300	7.52	34.29	0.80	26.81	125	0.55
161	8.51	34.07	1.76	400	6.77	34.34	0.40	26.95	111	0.67
196	8.21	34.14	1.46	500	6.10	34.37	0.28	27.06	101	0.78
245	7.79	34.22	1.19							
322	7.40	34.31	0.70							
418	6.60	34.34	0.36							
558	5.88	34.38	0.23							

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{cm}^3/\text{g}$	dyn. m

9360

HORIZON; April 19, 1957; 2025 GCT; 31°44'N, 119°40'W; sounding, 1900 fm; wind, 320°, force 5; weather, partly cloudy; sea, high; wire angle, 30°.

0	15.60	33.57	5.19	0	15.60	33.57	5.19	24.76	320	0.00
9	15.62	33.56	5.10	10	15.61	33.55	5.10	24.74	321	0.03
31	15.47	33.54	5.20	20	15.60	33.55	5.10	24.74	321	0.06
57	14.31	33.46	5.40	30	15.47	33.54	5.20	24.76	320	0.10
66	13.90	33.43	5.49	50	14.60	33.48	5.34	24.91	305	0.16
79	12.85	33.43	5.38	75	13.23	33.43	5.46	25.15	282	0.23
88	11.91	33.38	4.92	100	10.86	33.39	4.42	25.56	243	0.30
103	10.70	33.40	4.32	150	9.15	33.87	2.60	26.23	180	0.41
115	10.18	33.50	3.88	200	8.52	34.01	1.93	26.45	159	0.49
130	9.62	33.64	3.36	250	7.94	34.14	1.61	26.63	142	0.57
151	9.14	-	2.60	300	7.51	34.19	1.18	26.73	132	0.64
174	8.95	33.96	2.03	400	6.72	34.27	0.55	26.90	116	0.77
199	8.53	34.01	1.93							
249	7.96	34.13	1.62							
326	7.32	34.22	1.00							
426	6.46	34.29	0.43							

9370

HORIZON; April 20, 1957; 0100 GCT; 31°29'N, 120°14'W; sounding, 2100 fm; wind, 300°, force 3; weather, partly cloudy; sea, high; wire angle, 22°.

0	15.90	33.61	5.04	0	15.90	33.61	5.04	24.72	323	0.00
9	15.91	33.56	5.06	10	15.91	33.56	5.06	24.68	327	0.03
32	15.75	33.58	5.10	20	15.89	33.56	5.07	24.68	327	0.06
59	14.42	33.53u	5.29u	30	15.78	33.58	5.09	24.72	323	0.10
68	14.34	33.49u	5.38u	50	14.49	33.51	5.34	24.95	301	0.16
81	13.46	33.48	4.87	75	14.08	33.50	5.27	25.03	294	0.23
89	11.96	33.46	4.42	100	11.54	33.46	4.20	25.50	249	0.30
105	11.32	33.46	4.10	150	9.16	33.76	3.18	26.14	188	0.41
117	10.16	-	3.78	200	8.04	33.99	2.30	26.49	155	0.50
133	9.58	33.63	3.33	250	7.50	34.10	1.71	26.66	139	0.57
153	9.08	33.78	3.14	300	6.92	34.13	1.31	26.76	129	0.64
177	8.52	33.92	2.57	400	6.03	34.18	0.82	26.92	114	0.77
202	8.02	33.99	2.28	500	5.60	34.26	0.50	27.04	103	0.88
253	7.47	34.10	1.69							
333	6.58	34.14	1.11							
439	5.80	34.20	0.71							
578	5.38	34.38	0.32							

9380

HORIZON; April 20, 1957; 0614 GCT; 31°10'N, 120°54.5'W; sounding, 2000 fm; wind, 320°, force 4; weather, clear; sea, rough; wire angle, 04°.

0	16.01	33.59	4.88	0	16.01	33.59	4.88	24.68	327	0.00
10	16.02	33.58	4.74	10	16.02	33.58	4.74	24.67	328	0.03
34	15.70	33.57	4.81	20	15.90	33.57	4.77	24.70	325	0.06
63	13.46	33.45	4.83	30	15.75	33.57	4.80	24.72	323	0.10
72	12.59	33.39	4.91	50	15.40	33.61	4.64	24.84	312	0.16
87	11.34	33.37	4.30	75	12.32	33.88	4.86	25.29	269	0.23
96	10.52	33.44	3.90	100	10.20	33.48	3.78	25.75	225	0.30
114	9.52	33.57	3.46	150	8.87	33.81	2.86	26.23	180	0.40
127	9.23	33.69	3.26	200	8.22	34.02	1.90	26.49	155	0.48
146	8.95	33.78	2.95	250	7.50	34.14	1.38	26.69	136	0.56
168	8.54	33.92	2.35	300	6.99	34.18	1.05	26.80	126	0.62
196	8.28	34.01	1.97	400	6.19	34.23	0.56	26.94	112	0.75
224	7.83	34.09	1.59	500	5.70	34.32	0.36	27.07	100	0.86
279	7.19	34.17	1.17	600	5.32	34.38	0.31	27.16	91	0.96
362	6.42	34.20	0.71							
472	5.83	34.29	0.39							
615	5.26	34.38	0.30							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

HORIZON; April 20, 1957; 1055 GCT; 30°49.5'N, 121°32'W; sounding, 2400 fm; wind, 300°, force 4; weather, cloudy; sea, very rough; wire angle, 28°.

9390

0	15.28	33.42	5.03	0	15.28	33.42	5.03	24.71	324	0.00
8	15.28	33.40	4.84	10	15.25	33.40	4.84	24.70	325	0.03
26	14.29	33.42	4.95	20	14.62	33.42	4.90	24.85	311	0.06
39	13.78	33.40	4.96	30	14.05	33.41	4.96	24.96	300	0.09
48	13.66	33.40	5.12	50	13.66	33.40	5.12	25.04	293	0.15
56	13.65	33.40	5.06	75	12.85	33.37	4.87	25.18	280	0.22
64	13.55	33.40	5.03	100	10.68	33.29	4.78	25.52	247	0.29
81	12.30	33.33	4.73	150	9.55	33.73	3.05	26.06	196	0.40
92	11.10	33.28	4.75	200	8.63	34.03	2.06	26.44	160	0.50
103	10.56	33.30	4.63	250	8.05	34.16	1.58	26.63	142	0.57
122	10.16	33.49	4.07	300	7.45	34.20	1.21	26.74	131	0.64
147	9.63	33.70	3.12	400	6.41	34.24	0.70	26.91	115	0.77
178	8.93	33.93	2.33	500	5.79	34.31	0.45	27.06	101	0.88
225	8.31	34.13	1.78							
296	7.50	34.20	1.23							
387	6.54	34.23	0.75							
523	5.65	34.33	0.40							

HORIZON; April 22, 1957; 0007 GCT; 32°11.5'N, 117°16'W; sounding, 690 fm; wind, 220°, force 2; weather, partly cloudy; sea, rough; wire angle, 23°.

9732

0	15.27	33.50	5.26	0	15.27	33.50	5.26	24.78	318	0.00
9	14.95	-	5.14	10	14.94	33.49	5.14	24.84	312	0.03
26	13.92	33.46	5.19	20	14.34	33.47	5.18	24.95	301	0.06
48	12.15	33.45	4.66	30	13.56	33.46	5.10	25.11	286	0.09
55	12.03	33.45	4.69	50	12.11	33.45	4.67	25.38	260	0.15
64	11.34	33.46	3.95	75	10.50	33.49	3.64	25.71	229	0.21
80	10.23	33.51	3.52	100	9.72	33.64	3.23	25.96	205	0.26
92	9.92	33.58	3.40	150	9.04	33.93	2.13	26.29	174	0.36
119	9.35	33.78	2.55	200	8.44	34.07	1.77	26.49	155	0.44
144	9.12	33.91	2.17	250	8.14	34.20	1.35	26.65	140	0.52
180	8.66	34.03	1.94	300	8.05	34.35	0.66	26.78	128	0.58
236	8.19	34.14	1.57	400	7.31	34.35	0.40	26.89	117	0.71
335	8.00	34.36	0.58	500	6.34	34.34	0.39	27.02	105	0.83
457	6.66	34.34	0.33	600	5.72	34.35	0.25	27.10	97	0.94
597	5.74	34.35	0.25	700	5.23	34.39	0.27	27.19	89	1.04
789	4.86	34.42	0.32	800	4.80	34.43	0.34	27.27	81	1.13
1042	3.92	34.49	0.51	1000	4.07	34.48	0.47	27.39	70	1.29

HORIZON; April 21, 1957; 2034 GCT; 31°59'N, 118°47'W; sounding, 710 fm; wind, 270°, force 2; weather, partly cloudy; sea, very rough; wire angle, 22°.

9740

0	15.50	33.58	4.95	0	15.50	33.58	4.95	24.79	317	0.00
9	15.35	33.58	5.04	10	15.35	33.58	5.04	24.82	314	0.03
28	15.30	33.60	4.95	20	15.32	33.60	5.00	24.84	312	0.06
41	14.80	33.51	5.09	30	15.28	33.60	4.95	24.85	311	0.09
59	11.63	33.37	4.65	50	13.40	33.41	5.00	25.10	287	0.15
67	11.08	33.41	4.21	75	10.66	33.49	3.82	25.68	232	0.22
84	10.20	33.58	3.49	100	9.82	33.68	3.16	25.98	204	0.27
96	9.90	33.67	3.23	150	9.28	33.94	2.21	26.27	176	0.37
108	9.72	33.70	3.02	200	8.73	34.15	1.82	26.52	152	0.45
128	9.54	33.78	2.68	250	8.13	34.21	1.35	26.65	140	0.53
152	9.26	33.95	2.19	300	7.94	34.27	1.00	26.73	132	0.60
185	8.98	34.13	1.95	400	7.08	34.27	0.54	26.85	121	0.73
232	8.24	34.18	1.55	500	6.37	34.33	0.37	27.00	107	0.85
305	7.92	34.27	0.97							
398	7.10	34.27	0.55							
534	6.08	34.37	0.31							

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

97.50

HORIZON; April 21, 1957; 1220 GCT; 31°29'N, 118°23'W; sounding, 1380 fm; wind, 270°, force 4;
weather, partly cloudy; sea, very rough; wire angle, 09°.

0	15.19	33.52	4.91	0	15.19	33.52	4.91	24.81	315	0.00
10	15.22	33.53	4.89	10	15.22	33.53	4.89	24.82	314	0.03
34	15.07	33.53	4.89	20	15.18	33.53	4.89	24.82	314	0.06
64	13.58	33.48	4.98	30	15.11	33.53	4.89	24.84	312	0.09
73	12.18	33.34	4.60	50	14.80	33.58	4.91	24.94	302	0.16
88	11.34	33.37	4.32	75	12.08	33.34	4.57	25.30	268	0.23
97	10.36	33.42	3.83	100	10.25	33.43	3.76	25.70	230	0.29
116	9.92	33.52	3.48	150	9.26	33.83	2.45	26.18	184	0.40
130	9.60	33.62	3.01	200	8.65	34.11	1.67	26.50	154	0.47
148	9.29	33.82	2.46	250	8.18	34.17	1.41	26.62	143	0.56
171	8.96	33.96	2.15	300	7.68	34.21	1.18	26.72	133	0.63
198	8.66	34.11	1.70	400	6.89	34.26	0.62	26.88	118	0.76
225	8.43	34.14	1.48	500	6.18	34.30	0.44	27.01	106	0.88
281	7.84	34.19	1.29	600	5.68	34.35	0.34	27.10	97	0.98
363	7.19	34.25	0.72							
469	6.32	34.29	0.46							
612	5.62	34.36	0.32							

97.60

HORIZON; April 21, 1957; 0639 GCT; 31°14'N, 119°08'W; sounding, 1900 fm; wind, 150°, force 4;
weather, partly cloudy; sea, very rough; wire angle, 33°.

0	15.44	33.57	5.10	0	15.44	33.57	5.10	24.80	316	0.00
8	15.46	33.58	4.88	10	15.44	33.58	4.87	24.80	316	0.03
29	15.36	33.58	4.87	20	15.42	33.58	4.87	24.81	315	0.06
55	14.54	33.54	5.05	30	15.33	33.58	4.88	24.83	313	0.09
63	14.02	33.48	4.97	50	14.79	33.56	5.00	24.92	304	0.16
75	13.70	33.48	5.13	75	13.70	33.48	5.13	25.09	288	0.23
83	13.14	33.46	5.03	100	11.60	33.37	4.78	25.42	257	0.30
98	11.66	33.38	4.81	150	9.41	33.67	3.33	26.03	199	0.42
109	11.34	33.33	4.60	200	8.53	34.00	2.02	26.43	161	0.51
120	10.74	33.40	4.28	250	8.10	34.10	1.51	26.58	147	0.59
136	9.94	33.60	3.74	300	7.64	34.16	1.17	26.69	136	0.66
157	9.19	33.69	3.13	400	6.89	34.23	0.74	26.85	121	0.79
177	8.76	33.86	2.56	500	6.17	34.29	0.40	26.99	108	0.91
218	8.36	34.05	1.76							
283	7.80	34.14	1.25							
373	7.05	34.22	0.82							
504	6.12	34.29	0.37							

97.70

HORIZON; April 21, 1957; 0054 GCT; 30°53'N, 119°49'W; sounding, 2000 fm; wind, 260°, force 4;
weather, cloudy; sea, very rough; wire angle, 12°.

0	16.04	33.61	4.91	0	16.04	33.61	4.91	24.69	326	0.00
10	16.04	33.60	4.83	10	16.04	33.60	4.83	24.68	327	0.03
33	15.95	33.60	4.81	20	16.03	33.60	4.82	24.68	327	0.06
62	14.72	33.49	4.99	30	15.99	33.60	4.81	24.70	325	0.10
72	14.02	33.43	5.07	50	15.40	33.56	4.89	24.79	317	0.16
84	12.59	33.31	4.96	75	13.62	33.40	5.04	25.05	292	0.24
94	11.88	33.40	4.70	100	11.40	33.43	4.51	25.50	249	0.31
112	10.58	33.47	4.22	150	9.51	33.71	3.50	26.05	197	0.42
126	10.29	33.54	4.04	200	8.62	34.00	2.26	26.42	162	0.51
144	9.68	33.68	3.69	250	7.94	34.09	1.90	26.58	146	0.59
167	9.02	33.80	2.87	300	7.35	34.13	1.54	26.70	135	0.66
195	8.69	33.99	2.32	400	(6.40)	(34.17)	(0.87)	(26.87)	(119)	(0.79)
221	8.30	34.03	2.02	500	(5.76)	(34.25)	(0.58)	(27.02)	(105)	(0.91)
277	7.60	34.12	1.74	600	(5.20)	(34.33)	(0.37)	(27.14)	(93)	(1.02)
360	6.73	34.14	1.04							
611	5.12	34.34	0.32							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

HORIZON; April 20, 1957; 1945 GCT; 30°37.5'N, 120°31'W; sounding, 1700 fm; wind, 270°, force 5; weather, cloudy; sea, very rough; wire angle, 28°.

97.80

0	16.14	33.59	4.85	0	16.14	33.59	4.85	24.65	330	0.00
8	16.13	33.58	4.87	10	16.12	33.58	4.87	24.65	330	0.03
31	15.94	33.58	4.86	20	16.07	33.58	4.86	24.66	329	0.06
57	15.26	33.53	4.99	30	15.97	33.58	4.86	24.68	327	0.10
66	14.84	33.49	4.95	50	15.50	33.55	4.94	24.76	319	0.16
78	13.30	33.34	5.20	75	13.74	33.38	5.13	25.01	296	0.24
85	12.69	33.30	5.10	100	11.74	33.37	4.55	25.40	259	0.31
100	11.74	33.37	4.55	150	9.63	33.78	3.41	26.08	194	0.43
113	10.82	33.42	4.22	200	8.48	33.96	2.68	26.41	163	0.52
129	10.13	33.51	3.83	250	7.78	34.05	2.08	26.58	147	0.60
149	9.64	33.78	3.41	300	7.06	34.11	1.72	26.72	133	0.67
172	8.92	33.80	3.10	400	6.15	34.20	0.72	26.92	114	0.80
196	8.54	33.95	2.72	500	5.64	34.31	0.43	27.07	100	0.91
246	7.83	34.04	2.13							
321	6.78	34.14	1.52							
422	6.01	34.22	0.61							
558	5.44	34.37	0.34							

HORIZON; April 20, 1957; 1455 GCT; 30°17'N, 121°08'W; sounding, 2100 fm; wind, 250°, force 4; weather, partly cloudy; sea, very rough; wire angle, 26°.

97.90

0	15.87	33.57	4.94	0	15.87	33.57	4.94	24.70	325	0.00
9	15.88	33.57	4.91	10	15.88	33.57	4.91	24.70	325	0.03
28	14.12	33.45	5.24	20	14.93	33.50	5.12	24.85	311	0.06
42	13.34	33.42	5.16	30	14.00	33.45	5.24	25.01	296	0.09
51	13.24	33.41	5.00	50	13.25	33.41	5.00	25.13	284	0.15
60	13.06	33.40	4.94	75	12.11	33.42	4.57	25.36	262	0.22
69	12.59	33.42	4.75	100	10.53	33.47	3.66	25.69	231	0.28
87	11.12	33.41	4.10	150	9.14	33.75	3.18	26.14	188	0.39
99	10.58	33.47	3.64	200	8.49	34.01	2.03	26.45	159	0.48
112	9.74	33.46	4.00	250	7.68	34.08	1.70	26.62	143	0.56
133	9.28	33.61	3.60	300	7.04	34.14	1.36	26.75	130	0.63
157	9.04	33.82	2.89	400	6.51	34.24	0.72	26.91	115	0.75
191	8.64	33.99	2.11	500	5.82	34.31	0.43	27.06	101	0.87
240	7.83	34.07	1.76							
317	6.90	34.16	1.26							
414	6.42	34.25	0.65							
541	5.48	34.34	0.32							

HORIZON; April 22, 1957; 0731 GCT; 31°35.5'N, 116°56.5'W; sounding, 600 fm; wind, 350°, force 1; weather, partly cloudy; sea, rough; wire angle, 21°.

100.33

0	15.39	33.46	5.09	0	15.39	33.46	5.09	24.72	323	0.00
9	15.42	33.48	5.06	10	15.40	33.48	5.07	24.73	322	0.03
28	14.02	33.47	5.31	20	14.80	33.48	5.18	24.86	310	0.06
41	12.57	33.40	4.85	30	13.85	33.46	5.29	25.05	292	0.09
51	11.72	33.42	4.53	50	11.80	33.42	4.57	25.42	257	0.15
59	10.68	33.43	3.90	75	10.29	33.47	3.40	25.73	227	0.21
69	10.44	33.46	3.61	100	9.50	33.64	2.94	26.00	202	0.26
86	9.90	33.50	3.01	150	8.99	34.01	2.10	26.36	167	0.36
99	9.50	33.64	2.94	200	9.26	34.27	1.24	26.52	152	0.44
111	9.28	33.77	2.66	250	9.00	34.34	0.90	26.62	143	0.51
132	9.06	33.82	2.46	300	8.40	34.33	0.90	26.71	134	0.58
158	8.98	34.05	1.94	400	7.42	34.34	0.56	26.86	120	0.72
193	9.27	34.25	1.34	500	6.61	34.35	0.38	26.99	108	0.83
241	9.09	34.34	0.90							
315	8.21	34.33	0.90							
409	7.36	34.34	0.52							
544	6.26	34.36	0.32							

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

100.40

HORIZON; April 22, 1957; 1844 GCT; 31°23'N, 117°29'W; sounding, 600 fm; wind, 290°, force 3;
weather, cloudy; sea, rough; wire angle, 08°.

0	15.16	33.54	5.21	0	15.16	33.54	5.21	24.83	313	0.00
10	15.16	33.53	5.81	10	15.16	33.53	5.81	24.82	314	0.03
29	15.10	33.52	5.52	20	15.15	33.53	5.70	24.83	313	0.06
44	13.30	33.46	5.68	30	15.09	33.52	5.52	24.84	312	0.09
54	12.00	33.44	5.16	50	12.40	33.45	5.40	25.32	266	0.15
63	11.84	33.43	5.03	75	10.90	33.47	4.82	25.62	238	0.21
73	10.96	33.46	4.86	100	10.27	33.60	3.96	25.83	218	0.27
91	10.54	33.53	4.29	150	9.55	33.98	2.52	26.25	178	0.37
104	10.16	33.62	3.82	200	9.17	34.14	2.16	26.44	160	0.46
117	9.92	33.69	3.64	250	8.97	34.29	1.22	26.58	146	0.54
140	9.56	33.91	2.76	300	8.10	34.26	1.06	26.70	135	0.61
166	9.48	34.05	2.25	400	7.06	34.30	0.68	26.87	119	0.74
202	9.16	34.14	2.14	500	6.50	34.37	0.46	27.00	107	0.86
252	8.96	34.29	1.21							
330	7.58	34.25	1.00							
429	6.92	34.31	0.59							
570	6.12	34.38	0.36							

100.50

HORIZON; April 24, 1957; 0012 GCT; 30°59'N, 118°11'W; sounding, 850 fm; wind, 280°, force 4;
weather, partly cloudy; sea, rough; wire angle, 32°.

0	15.9	33.58	5.86	0	15.9	33.58	5.86	24.70	325	0.00
8	15.82	33.58	5.90	10	15.81	33.58	5.90	24.72	323	0.03
25	15.65	33.58	5.74	20	15.72	33.58	5.81	24.74	321	0.06
37	15.12	33.55	5.94	30	15.50	33.57	5.77	24.79	317	0.10
46	14.74	33.54	6.04	50	14.54	33.52	6.03	24.95	301	0.16
53	14.33	33.51	6.00	75	11.85	33.43	5.25	25.42	257	0.23
62	13.79	33.49	5.95	100	10.34	33.48	4.32	25.73	227	0.29
78	11.44	33.42	5.10	150	9.03	33.86	3.02	26.24	179	0.39
89	10.62	33.46	4.69	200	8.32	34.00	2.52	26.47	157	0.48
100	10.34	33.48	4.32	250	7.86	34.15	1.68	26.65	140	0.55
119	9.69	33.60	3.92	300	7.53	34.23	1.15	26.75	130	0.62
142	9.12	33.84	3.09	400	6.71	34.29	0.56	26.92	114	0.75
173	8.74	33.92 ^{a)}	2.80	500	6.12	34.35	0.39	27.05	102	0.86
217	8.09	34.07	2.34							
287	7.62	34.22	1.27							
378	6.86	34.28	0.60							
513	6.06	34.36	0.37							

100.60

HORIZON; April 24, 1957; 0534 GCT; 30°44'N, 118°47.5'W; sounding, 1500 fm; wind, 320°, force 4;
weather, cloudy; sea, moderate; wire angle, 19°.

0	15.3	33.57	5.90	0	15.3	33.57	5.90	24.83	313	0.00
9	15.30	33.55	5.98	10	15.29	33.55	6.00	24.81	315	0.03
28	15.18	33.55	6.36	20	15.23	33.55	6.28	24.83	313	0.06
56	13.74	33.50	6.24	30	15.17	33.55	6.36	24.84	312	0.09
65	13.04	33.44	6.20	50	14.40	33.53	6.29	24.99	298	0.16
74	12.19	33.42	5.91	75	12.17	33.42	5.89	25.35	263	0.22
87	11.50	33.40	5.46	100	10.54	33.41	5.04	25.64	236	0.29
100	10.54	33.41	5.04	150	9.23	33.86	3.04	26.21	182	0.39
112	10.03	33.49	4.66	200	8.58	34.03	2.42	26.45	159	0.48
128	9.54	33.68	3.62	250	8.07	34.14	1.95	26.61	144	0.56
144	9.32	33.84	3.16	300	7.34	34.17	1.64	26.73	132	0.63
170	8.96	33.93	2.74	400	6.52	34.22	0.93	26.89	117	0.76
189	8.66	33.98	2.55	500	5.99	34.30	0.52	27.03	104	0.87
235	8.25	34.13	2.03							
308	7.24	34.17	1.60							
404	6.48	34.22	0.92							
534	5.80	34.33	0.44							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{cm^3}{g}$	dyn. m

SIO
CCOFI
5704

HORIZON; April 24, 1957; 1027 GCT; 30°26'N, 119°27'W; sounding, 1700 fm; wind, 310°, force 4;
weather, cloudy; sea, moderate; wire angle, 25°.

100.70

0	16.39	33.69	5.83	0	16.39	33.69	5.83	24.67	328	0.00
9	16.38	33.69	5.76	10	16.38	33.69	5.76	24.67	328	0.03
27	16.32	33.69	5.79	20	16.35	33.69	5.77	24.68	327	0.06
53	16.22	33.80	5.92	30	16.32	33.69	5.79	24.69	326	0.10
61	15.14	33.55	5.99	50	16.26	33.78	5.85	24.77	319	0.16
70	14.85	33.50	5.95	75	14.71	33.47	5.75	24.88	308	0.24
81	14.56	33.44	5.59	100	13.97	33.55	5.81	25.09	288	0.32
93	14.16	33.48	5.98	150	10.05	33.51	4.92	25.80	221	0.44
104	13.84	33.57	5.78	200	9.00	33.90	3.46	26.28	175	0.54
120	11.96	33.48	5.39	250	7.90	34.00	2.70	26.52	152	0.63
135	10.86	33.46	4.94	300	7.27	34.05	2.13	26.65	140	0.70
159	9.76	33.55	4.90	400	6.40	34.15	1.13	26.85	121	0.84
177	9.64	33.78	3.96	500	5.65	34.19	0.70	26.98	109	0.96
222	8.39	33.96	3.06							
292	7.34	34.04	2.23							
386	6.48	34.14	1.20							
514	5.55	34.19	0.62							

HORIZON; April 24, 1957; 1500 GCT; 30°08'N, 120°09'W; sounding, 1000 fm; wind, 310°, force 4;
weather, cloudy; sea, rough; wire angle, 14°.

100.80

0	16.04	33.53	-	0	16.04	33.53	(5.86)	(24.63)	(332)	(0.00)
10	16.02	33.52	5.84	10	16.02	33.52	5.84	24.63	332	0.03
29	15.76	33.61	5.83	20	15.94	33.56	5.83	24.68	327	0.07
43	15.16	33.49	5.62	30	15.75	33.61	5.82	24.76	320	0.10
53	15.09	33.48	-	50	15.12	33.48	5.66	24.80	316	0.16
63	14.95	33.48	-	75	14.53	33.45	6.31	24.89	307	0.24
72	14.68	33.46	6.31	100	13.41	33.40	5.93	25.09	288	0.32
91	13.82	33.39	6.21	150	10.57	33.51	5.05	25.68	232	0.45
105	13.18	33.40	5.82	200	8.84	33.85		26.27	176	0.55
117	12.00	33.32	5.78	250	8.02	34.03		26.53	151	0.63
141	11.03	33.48	5.29	300	7.27	34.08		26.68	137	0.71
166	9.70	33.63	4.63	400	6.28	34.18		26.89	117	0.84
201	8.83	33.85	-	500	5.78	34.28		27.03	104	0.96
251	8.01	34.03	-							
326	6.90	34.11	-							
422	6.12	34.20	0.96							
560	5.54	34.33	0.46							

HORIZON; April 24, 1957; 2004 GCT; 29°50'N, 120°50'W; sounding, 1900 fm; wind, 320°, force 4;
weather, cloudy; sea, rough; wire angle, 20°.

100.90

0	16.09	33.60	5.85	0	16.09	33.60	5.85	24.67	328	0.00
9	16.08	33.63	5.87	10	16.08	33.63	5.87	24.69	326	0.03
28	16.06	33.61	5.88	20	16.08	33.63	5.87	24.69	326	0.06
42	15.74	33.58	5.92	30	16.03	33.61	5.88	24.69	326	0.10
52	15.27	33.52	6.04	50	15.36	33.53	6.02	24.78	318	0.16
61	15.10	33.52	6.08	75	14.59	33.51	6.08	24.93	303	0.24
70	14.84	33.52	6.08	100	11.86	33.36	5.50	25.36	262	0.31
87	13.08	33.44	6.07	150	9.42	33.76	3.78	26.10	192	0.43
99	11.91	33.36	5.54	200	8.57	33.89	2.56	26.34	169	0.52
112	10.91	33.43	5.00	250	7.92	34.07	2.32	26.58	147	0.60
132	9.94	33.56	4.38	300	7.26	34.13	1.86	26.71	134	0.67
155	9.29	33.78	3.65	400	6.30	34.21	0.94	26.91	115	0.80
186	8.59	33.84	3.28	500	(5.68)	(34.27)		(27.04)	(103)	(0.92)
200p	8.57	33.89	2.56							
266p	7.66	34.09	2.22							
347p	6.73	34.17	1.32							
463p	5.88	34.25	0.60							

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	$\frac{\delta T}{10^{-5} \text{ cm}^3/\text{g}}$	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L		dyn.m

10335

HORIZON; April 26, 1957; 0625 GCT; 30°54.5'N, 116°43'W; sounding, 850 fm; wind, 300°, force 3; weather, clear; sea, rough; wire angle, 30°.

0	15.94	33.59	5.85	0	15.94	33.59	5.85	24.70	325	0.00
8	15.92	33.58	5.90	10	15.91	33.58	5.90	24.70	325	0.03
26	15.69	33.62	5.94	20	15.78	33.61	5.92	24.74	321	0.06
39	15.46	33.62	5.97	30	15.64	33.63	5.95	24.79	317	0.10
47	15.26	33.58	5.96	50	15.13	33.57	6.00	24.87	309	0.16
55	14.93	33.57	6.05	75	11.17	33.45	5.69	25.56	243	0.23
64	12.39	33.51	5.73	100	10.20	33.63	4.08	25.87	214	0.29
76	11.16	33.45	5.69	150	8.91	33.95	3.10	26.33	170	0.38
86	10.66	33.54	5.34	200	8.25	34.08	2.59	26.54	150	0.47
97	10.30	33.61	4.08	250	7.61	34.12	2.06	26.66	139	0.54
113	9.74	33.69	4.09	300	7.32	34.26	1.17	26.82	124	0.61
133	9.35	33.88	3.13	400	7.00	34.30	0.80	26.89	117	0.73
161	8.68	33.98	3.06	500	(6.28)	(34.34)		(27.02)	(105)	(0.85)
201	8.25	34.08	2.58							
266	7.44	34.14	1.87							
349	7.26	34.27	1.00							
478	6.42	34.33	0.48							

10340

HORIZON; April 26, 1957; 0325 GCT; 30°42'N, 117°00.5'W; sounding, 1050 fm; wind, 300°, force 3; weather, clear; sea, moderate; wire angle, 14°.

0	15.99	33.66	5.88	0	15.99	33.66	5.88	24.74	321	0.00
10	15.99	33.61	5.89	10	15.99	33.61	5.89	24.70	325	0.03
30	15.84	33.58	5.91	20	15.91	33.59	5.90	24.70	325	0.06
44	15.83	33.59	5.87	30	15.84	33.58	5.91	24.71	324	0.10
53	15.62	33.62	5.92	50	15.76	33.62	5.90	24.76	320	0.16
63	13.52	33.46 ^{a)}	6.14	75	11.71		5.27			
72	12.00	33.41	5.48	100	10.08		4.68			
92	10.50	33.49	4.31	150	8.84		2.92			
105	9.90	33.67	4.82 _r	200	8.38		2.05			
118	9.56	33.77	3.41	250	7.57		1.99			
140	8.99	33.90	3.10	300	7.22		1.35			
166	8.67	33.98	2.74	400	6.75		0.57			
202	8.35	34.12	2.04	500	6.18		0.38			
251	7.56	34.12	1.99							
328	7.06	34.22	1.03							
423	6.64	34.36	0.49							
562	5.74	34.40	0.31							

10350

HORIZON; April 25, 1957; 2155 GCT; 30°25.5'N, 117°44'W; sounding, 1300 fm; wind, 290°, force 4; weather, partly cloudy; sea, moderate; wire angle, 25°.

0	15.96	33.61	5.96	0	15.96	33.61	5.96	24.71	324	0.00
9	15.68	33.63	5.75	10	15.68	33.63	5.75	24.79	317	0.03
27	15.64	33.59	5.96	20	15.67	33.63	5.85	24.79	317	0.06
40	15.28	33.62	6.00	30	15.61	33.59	5.97	24.78	318	0.10
49	14.56	33.56	6.11	50	14.53	33.56	6.11	24.99	298	0.16
58	14.28	33.57	6.12	75	12.91	33.47	5.58	25.25	273	0.23
67	13.64	33.51	5.87	100	10.58	33.49	4.91	25.69	231	0.29
84	12.04	33.45	5.36	150	9.20	33.87	3.40	26.22	181	0.40
96	10.84	33.47	5.07	200	8.52	34.02	2.34	26.45	159	0.48
108	10.12	33.53	4.51	250	8.06	34.11	1.81	26.58	146	0.56
130	9.49	33.69	3.84	300	7.62	34.22	1.37	26.74	131	0.63
155	9.12	33.91	3.21	400	6.92	34.33	0.61	26.92	114	0.76
188	8.64	33.99	2.56	500	6.26	34.43	0.37	27.09	98	0.87
308	7.56	34.24	1.29							
401	6.92	34.33	0.61							
535	6.01	34.47	0.30							

a) Salinity bottles from this sample down appear to have been listed out of order on the original data sheet; present order assumed to be correct, but these salinity data must be considered doubtful.

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

HORIZON; April 25, 1957; 1601 GCT; 30°01'N, 118°22'W; sounding, 1800 fm; wind, 320°, force 3; weather, cloudy; sea, rough; wire angle, 15°.

103.60

0	16.31	33.75	5.67	0	16.31	33.75	5.67	24.73	322	0.00
9	16.32	33.76	5.59	10	16.32	33.76	5.60	24.74	321	0.03
28	16.30	33.75	5.67	20	16.31	33.76	5.64	24.74	321	0.06
57	15.52	33.60	5.85	30	16.30	33.74	5.68	24.74	321	0.10
66	15.23	33.57	5.85	50	15.80	33.65	5.80	24.78	318	0.16
75	15.12	33.57	5.88	75	15.12	33.57	5.88	24.87	309	0.24
89	14.74	33.64	5.92	100	13.10	33.57	5.34	25.28	270	0.31
100	13.10	33.57	5.34	150	10.62	33.65	4.51	25.82	219	0.44
115	12.20	33.52	5.79	200	8.90	33.86	3.60	26.26	177	0.54
132	11.12	33.59	4.88	250	7.95	34.02	2.92	26.53	151	0.62
150	10.62	33.65	4.51	300	7.21	34.14	2.42	26.73	132	0.69
177	9.43	33.78	4.94	400	6.30	34.22	1.82	26.92	114	0.82
200	8.90	33.86	3.60	500	5.90	34.30	0.90	27.03	104	0.94
250	7.95	34.02	2.92							
327	6.89	34.22 ^a	2.19							
429	6.12	34.22	1.67							
562	5.73	34.42	0.32							

HORIZON; April 25, 1957; 1100 GCT; 29°45'N, 119°02'W; sounding, 1800 fm; wind, 290°, force 5; weather, cloudy; sea, rough; wire angle, 22°.

103.70

0	16.74	33.83 ^a	5.45	0	16.74	33.83	5.45	24.69	326	0.00
9	16.71	33.83	6.10	10	16.72	33.83	6.06	24.70	325	0.03
27	16.76	33.82	5.63	20	16.75	33.82	5.85	24.69	326	0.06
55	16.69	33.82	5.69	30	16.76	33.82	5.64	24.69	326	0.10
65	16.24	33.76	5.84	50	16.72	33.82	5.67	24.70	325	0.16
73	16.02	33.74	5.75	75	15.99	33.74	5.75	24.81	315	0.24
86	15.90	33.74	5.77	100	15.53	33.78	5.78	24.94	302	0.32
99	15.59	33.78	5.78	150	11.3	(33.52)		(25.58)	(241)	(0.46)
110	14.08	33.68	5.71							
127	12.97	33.57	5.68							
142	11.74	33.52	5.40							

HORIZON; April 25, 1957; 0546 GCT; 29°26.5'N, 119°45.5'W; sounding, 1900 fm; wind, 300°, force 6; weather, cloudy; sea, very rough; wire angle, 23°.

103.80

0	16.86	33.81	5.41	0	16.86	33.81	5.41	24.65	330	0.00
8	16.86	33.82	5.81	10	16.86	33.82	5.82	24.65	330	0.03
27	16.86	33.81	5.87	20	16.86	33.81	5.85	24.65	330	0.07
41	16.87	33.82	5.77	30	16.87	33.82	5.86	24.65	330	0.10
49	16.38	33.77	6.00	50	16.36	33.77	6.00	24.74	321	0.16
58	16.12	33.76	6.02	75	16.20	33.80	5.88	24.81	315	0.24
67	16.19	33.79	5.86	100	15.83	33.77	5.93	24.98	299	0.32
83	16.22	33.82	5.93	150	11.32	33.64	5.18	25.68	232	0.46
96	16.20	33.97	5.82	200	9.42	33.82	4.21	26.14	188	0.56
107	14.60	33.74	6.44	250	8.32	34.00	3.05	26.47	157	0.65
127	13.02	33.65	5.54	300	7.67	34.08	2.49	26.62	143	0.73
152	11.21	33.64	5.15	400	6.49	34.20	1.42	26.88	118	0.86
184	9.93	33.73	4.68	500	5.81	34.26	0.86	27.02	105	0.98
230	8.63	33.96	3.35							
301	7.66	34.08	2.48							
394	6.54	34.20	1.44							
526	5.66	34.27	0.71							

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

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{\text{cm}^3}{\text{g}}$	dyn. m

107.35

HORIZON; April 26, 1957; 1509 GCT; 30°20'N, 116°23'W; sounding, 850 fm; wind, 320°, force 3; weather, fog; sea, moderate; wire angle, 35°.

0	14.99	33.51	5.85	0	14.99	33.51	5.85	24.85	311	0.00
8	15.00	33.53	5.96	10	14.98	33.53	5.98	24.86	310	0.03
24	14.40	33.50	6.07	20	14.61	33.51	6.06	24.92	304	0.06
37	13.46	33.57	5.80	30	14.00	33.53	6.00	25.07	290	0.09
45	12.24	33.49	5.23	50	11.81	33.52	4.55	25.50	249	0.14
52	11.68	-	4.39	75	10.44	33.77	3.19	25.94	207	0.20
60	11.02	33.68	3.62	100	9.75	33.95	2.52	26.20	183	0.25
73	10.48	33.77	3.20	150	9.44	34.18	1.72	26.43	161	0.34
82	10.26	33.78 ^{a)}	2.94	200	8.90	34.21	1.68	26.53	151	0.42
91	9.87	33.86	2.85	250	7.99	34.23	1.40	26.69	136	0.49
108	9.74	33.97	2.40	300	7.68	34.27	0.95	26.78	128	0.56
125	9.78	34.05 ^{a)}	2.12	400	7.11	34.33	0.51	26.90	116	0.69
150	9.44	34.18 ^{a)}	1.72							
185	9.17	34.21	1.70							
237	8.12	34.21	1.53							
306	7.63	34.29	0.90							
417	7.00	34.34	0.46							

107.40

HORIZON; April 26, 1957; 1816 GCT; 30°10.5'N, 116°43.5'W; sounding, 1450 fm; wind, 300°, force 3; weather, fog; sea, moderate; wire angle, 03°.

0	15.87	33.58	5.59	0	15.87	33.58	5.59	24.71	324	0.00
10	15.85	33.60	5.55	10	15.85	33.60	5.55	24.72	323	0.03
30	15.72	33.58	5.51	20	15.82	33.59	5.52	24.73	322	0.06
59	13.89	33.46	5.95	30	15.72	33.58	5.51	24.74	321	0.10
69	13.30	33.44	5.76	50	14.44	33.48	5.85	24.94	302	0.16
79	12.16	33.42	5.46	75	12.60	33.43	5.57	25.27	271	0.23
93	11.34	33.42	4.99	100	10.90	33.47	2.60	25.63	237	0.30
106	10.46	33.56	4.29	150	9.78	33.97	2.55	26.21	182	0.40
120	9.78	33.75	3.71	200	9.08	34.07	2.30	26.40	164	0.49
138	9.78	33.85	2.98	250	8.70	34.22	1.80	26.58	147	0.57
156	9.76	34.00	2.40	300	7.90	34.25	1.28	26.72	133	0.64
183	9.10	34.00	2.63	400	7.00	34.32	0.67	26.90	116	0.77
207	9.08	34.09	2.28	500	6.51	34.36	0.44	27.01	106	0.88
258	8.60	34.23	1.69							
336	7.30	34.27	0.95							
440	6.85	34.34	0.55							
576	5.92	34.39	0.29							

107.50

HORIZON; April 27, 1957; 0001 GCT; 29°50'N, 117°25.5'W; sounding, 1400 fm; wind, 240°, force 3; weather, partly cloudy; sea, moderate; wire angle, 14°.

0	15.93	33.59	5.66	0	15.93	33.59	5.66	24.70	325	0.00
10	15.79	33.59	5.64	10	15.79	33.59	5.64	24.73	322	0.03
29	15.72	33.58	5.80	20	15.74	33.58	5.77	24.73	322	0.06
43	15.68	33.61	5.71	30	15.72	33.58	5.80	24.73	322	0.10
52	14.96	33.54	5.63	50	15.25	33.57	5.66	24.83	313	0.16
62	14.24	33.49 ^{a)}	5.63	75	13.69	33.57	5.42	25.18	280	0.23
71	13.98	33.49 ^{a)}	5.44	100	10.88	33.42	4.92	25.58	241	0.30
89	11.71	33.38	5.40	150	9.46	33.70	3.62	26.05	197	0.41
102	10.80	33.43 ^{a)}	4.87	200	8.59	33.95	3.04	26.38	165	0.50
116	10.46	33.48 ^{a)}	4.68	250	7.91	34.05	2.46	26.56	148	0.58
139	9.57	33.63	3.82	300	7.27	34.11	1.82	26.70	135	0.66
165	9.37	33.83	3.48	400	6.18	34.16	0.96	26.89	117	0.79
201	8.58	33.95	3.03	500	5.77		0.34			
251	7.91	34.05	2.46							
329	6.92	34.13	1.52							
427	5.98	34.17	0.73							
566	5.74	-	0.27							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

HORIZON; April 27, 1957; 0447 GCT; 29°33'N, 118°02'W; sounding, 1800 fm; wind, 310°, force 3; weather, cloudy; sea, rough; wire angle, 26°.

10760

0	16.63	33.74	5.70	0	16.63	33.74	5.70	24.65	330	0.00
8	16.62	33.73	5.70	10	16.62	33.73	5.70	24.65	330	0.03
26	16.48	33.72	5.61	20	16.53	33.73	5.64	24.66	329	0.06
39	16.53	33.78	5.76	30	16.50	33.75	5.68	24.69	326	0.10
49	16.43	33.82u	5.62	50	16.42	33.80	5.63	24.74	321	0.16
56	16.36	33.80	5.71	75	15.25	33.63	5.70	24.88	308	0.24
65	16.26	33.80	5.55	100	13.78	33.59	5.58	25.16	281	0.32
81	14.75	33.56	5.76	150	9.99	33.58	4.23	25.87	214	0.44
93	14.13	33.55	5.74	200	9.03	33.90	2.76	26.27	176	0.54
104	13.52	33.62	5.48	250	8.27	34.07	2.35	26.52	152	0.63
123	12.28	33.60	5.19	300	7.45	34.12	1.73	26.68	137	0.70
145	10.19	33.57	4.50	400	6.96	34.31	0.68	26.90	116	0.83
177	9.34	33.69	2.94	500	6.01	34.33	0.55	27.04	103	0.95
220	8.79	34.05	2.61							
289	7.54	34.10	1.97							
377	7.10	34.30	0.72							
507	5.96	34.33	0.54							

HORIZON; April 27, 1957; 0930 GCT; 29°14'N, 118°42'W; sounding, 1650 fm; wind, 320°, force 3; weather, cloudy; sea, rough; wire angle, 17°.

10770

0	16.82	33.79	5.65	0	16.82	33.79	5.65	24.65	330	0.00
9	16.82	33.79	5.72	10	16.82	33.79	5.71	24.65	330	0.03
28	16.80	33.82 ^{a)}	5.56	20	16.81	33.81	5.62	24.66	329	0.06
43	16.84	33.87	5.75u	30	16.82	33.83	5.56	24.68	327	0.10
52	16.74	33.86	5.55	50	16.77	33.86	5.55	24.71	324	0.16
61	16.56	33.86	5.50	75	16.52	33.85	5.45	24.78	318	0.24
71	16.58	33.86	5.44	100	15.26	33.70	5.65	24.93	303	0.32
90	16.07	33.82	5.51	150	11.00	33.58	4.66	24.69	231	0.46
101	15.21	33.69	5.65	200	9.17	33.83	3.56	26.20	183	0.56
113	13.91	33.59	5.28	250	8.20	34.00	3.00	26.48	156	0.65
134	12.02	33.60	5.03	300	7.49	34.04	2.50	26.62	143	0.73
159	10.57	33.57	4.43	400	6.63	34.19	1.22	26.85	121	0.86
193	9.34	33.78	3.64	500	5.99	34.28	0.64	27.01	106	0.98
241	8.38	33.98	3.12							
316	7.32	34.05	2.36							
412	6.56	34.20	1.10							
550	5.64	34.31	0.42							

HORIZON; April 27, 1957; 1413 GCT; 28°54'N, 119°23'W; sounding, 1900 fm; wind, 320°, force 4; weather, fog; sea, rough; wire angle, 14°.

10780

0	16.69	33.80	5.35	0	16.69	33.80	5.35	24.68	327	0.00
9	16.70	33.81	5.55	10	16.70	33.81	5.56	24.69	326	0.03
29	16.66	33.77	5.61	20	16.68	33.79	5.58	24.67	328	0.06
57	16.49	33.76	5.52	30	16.66	33.77	5.61	24.67	328	0.10
65	15.88	33.66u	5.61	50	16.59	33.76	5.57	24.68	327	0.16
75	15.85	33.72	5.61	75	15.85	33.72	5.61	24.82	314	0.24
89	15.60	33.68	5.60	100	14.21	33.52	5.78	25.02	295	0.32
102	14.05	33.51	5.79	150	11.42	33.56	5.18	25.61	239	0.46
116	13.44	33.59	5.63	200	9.60	33.72	4.22	26.05	197	0.57
134	12.47	33.66	5.24	250	8.48	34.02	3.25	26.45	159	0.66
152	11.29	33.56	5.15	300	7.80	34.10	2.96	26.62	143	0.74
180	10.07	33.65	4.52	400	6.76	34.17	1.52	26.83	123	0.88
202	9.56	33.73	4.19	500	6.15	34.29	0.52	27.00	107	1.00
253	8.39	34.03	3.21							
330	7.44	34.13	2.78							
435	6.44	34.20	0.96							
570	5.94	34.38	0.29							

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

SIO
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{ cm}^3/\text{g}$	dyn.m

110.35

HORIZON; April 29, 1957; 0559 GCT; 29°44.5'N, 115°57.5'W; sounding, 600 fm; wind, 320°, force 4; weather, cloudy; sea, moderate; wire angle, 25°.

0	13.91	33.48		0	13.91	33.48		25.06	291	0.00
9	13.91	33.48		10	13.90	33.48		25.06	291	0.03
27	12.98	33.51		20	13.45	33.50		25.15	282	0.06
40	12.09	33.50		30	12.80	33.51		25.30	268	0.08
48	10.98	33.48		50	10.86	33.49		25.64	236	0.14
56	10.55	33.55		75	10.70	33.94		26.03	199	0.19
64	10.28	33.67		100	10.98	34.20		26.18	185	0.24
81	10.86	34.04		150	10.18	34.30		26.40	164	0.33
93	10.96	34.17		200	9.27	34.31		26.55	149	0.41
107	10.94	34.22		250	8.72	34.33		26.66	139	0.48
127	10.38	34.26		300	8.32	34.34		26.73	132	0.55
153	10.14	34.30		400	7.78	34.41		26.86	120	0.68
187	9.48	34.30		500	7.06	34.41		26.96	110	0.80
236	8.86	34.33								
312	8.24	34.34								
409	7.72	34.41								
546	6.74	34.41								

110.40

HORIZON; April 29, 1957; 0307 GCT; 29°36.5'N, 116°19.5'W; sounding, 1100 fm; wind, 320°, force 4; weather, cloudy; sea, rough; wire angle, 30°.

0	15.02	33.57		0	15.02	33.57		24.88	308	0.00
10	15.02	33.57		10	15.02	33.57		24.88	308	0.03
28	14.54	33.57		20	14.85	33.57		24.92	304	0.06
43	12.54	33.56		30	14.40	33.57		25.02	295	0.09
53	11.81	33.54		50	12.06	33.54		25.47	252	0.15
61	11.02	33.59		75	10.60	33.66		25.82	219	0.20
70	10.80	33.63		100	9.90	33.82		26.07	195	0.26
87	10.11	33.71		150	9.40	34.04		26.32	171	0.35
100	9.90	33.82		200	8.89	34.17		26.50	154	0.43
112	9.78	33.92		250	8.26	34.29		26.69	136	0.50
135	9.58	34.03		300	7.69	34.33		26.82	124	0.57
159	9.28	34.05		400	6.70	34.33		26.95	111	0.69
195	8.95	34.16		500	6.22	34.38		27.05	102	0.80
244	8.32	34.28								
320	7.46	34.33								
415	6.56	34.33								
551	6.10	34.42								

110.50

HORIZON; April 28, 1957; 2037 GCT; 29°~~00.5~~^{05.5}N, 117°01'W; sounding, 1900 fm; wind, 300°, force 4; weather, partly cloudy; sea, rough; wire angle, 30°.

0	16.10	33.60		0	16.10	33.60		24.67	328	0.00
10	16.04	33.62		10	16.04	33.62		24.70	325	0.03
28	15.89	33.62		20	15.96	33.62		24.72	323	0.06
56	15.36	33.56		30	15.87	33.62		24.73	322	0.10
64	14.45	33.53		50	15.53	33.58		24.78	318	0.16
73	13.52	33.55		75	13.35	33.54		25.22	276	0.24
86	12.15	33.45		100	11.12	33.51		25.62	238	0.30
99	11.12	33.49		150	9.94	34.00		26.20	183	0.41
112	11.06	33.74		200	9.88	34.31		26.45	159	0.49
129	10.38	33.86		250	9.47	34.38		26.58	147	0.57
146	9.92	33.97		300	8.60	34.35		26.70	135	0.64
171	10.07	34.20		400	7.47	34.42		26.91	115	0.77
193	9.92	34.29		500	6.70	34.42		27.03	104	0.89
240	9.61	34.38								
313	8.40	34.35								
409	7.39	34.42								
534	6.44	34.42								

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_{T_3}	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm ³ /g	dyn. m

S10
CCOFI
5704

HORIZON; April 28, 1957; 1452 GCT; 28°52'N, 117°43'W; sounding, 1850 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 27°.

110.60

0	16.05	33.62		0	16.05	33.62		24.70	325	0.00
8	16.06	33.65		10	16.06	33.65		24.71	324	0.03
25	16.03	33.64		20	16.04	33.64		24.71	324	0.06
37	15.88	33.60		30	15.97	33.62		24.71	324	0.10
44	15.82	33.58		50	15.68	33.58		24.74	321	0.16
52	15.66	33.58		75	14.40	33.53		24.99	298	0.24
61	15.18	33.58		100	12.67	33.58		25.38	260	0.31
76	14.33	33.52		150	10.12	34.02		26.18	184	0.42
87	13.18	33.46		200	9.52	34.29		26.50	154	0.51
99	12.68	33.58		250	8.94	34.32		26.62	143	0.58
118	11.36	33.68		300	8.44	34.33		26.70	135	0.66
141	10.23	33.91		400	7.40	34.37		26.89	117	0.79
172	9.94	34.16		500	(6.53)	(34.41)		(27.05)	(102)	(0.90)
215	9.33	34.31								
283	8.63	34.33								
368	7.71	34.36								
495	6.58	34.41								

HORIZON; April 28, 1957; 0936 GCT; 28°35.5'N, 118°20'W; sounding, 1900 fm; wind, 320°, force 4; weather, cloudy; sea, moderate; wire angle, 21°.

110.70

0	16.20			0	16.20	(33.68)		(24.71)	(324)	(0.00)
9	16.19	33.68		10	16.20	33.68		24.71	324	0.03
28	16.21	33.69		20	16.20	33.68		24.71	324	0.06
42	16.24	33.75u		30	16.22	33.68		24.71	324	0.10
51	16.27	33.72		50	16.27	33.72		24.72	323	0.16
60	16.20	33.75		75	15.14	33.60		24.88	308	0.24
68	15.48	33.64		100	14.14	33.57		25.07	290	0.32
85	14.74	33.57		150	10.16	33.48		25.76	224	0.45
98	14.22	33.57		200	9.03	33.82		26.21	182	0.55
109	13.26	33.51		250	8.13	33.99		26.48	156	0.64
127	11.85	33.48		300	7.44	34.09		26.66	139	0.71
150	10.16	33.48		400	6.57	34.25		26.91	115	0.85
182	9.42	33.72		500	6.21	34.37		27.05	102	0.96
226	8.55	33.92								
296	7.47	34.08								
387	6.64	34.22								
519	6.19	34.37								

HORIZON; April 28, 1957; 0450 GCT; 28°17'N, 118°57'W; sounding, 2100 fm; wind, 310°, force 4; weather, cloudy; sea, moderate; wire angle, 21°.

110.80

0	16.88	33.83		0	16.88	33.83		24.66	329	0.00
9	16.88	33.83 ^{a)}		10	16.88	33.83		24.66	329	0.03
28	16.86	33.84		20	16.88	33.83		24.66	329	0.06
42	16.74	33.84		30	16.86	33.84		24.68	327	0.10
51	16.50	33.80		50	16.53	33.80		24.72	323	0.16
60	16.35	33.78		75	16.17	33.79		24.81	315	0.24
69	16.32	33.80		100	15.37	33.72		24.92	304	0.32
86	15.70	33.75		150	11.02	33.57		25.68	232	0.46
99	15.39	33.72		200	9.61	33.85		26.14	188	0.57
112	14.08	33.57		250	8.71	34.06		26.46	158	0.65
131	12.54	33.49		300	7.80	34.14		26.65	140	0.73
153	10.82	33.59		400	6.74	34.27		26.90	116	0.86
184	9.90	33.74		500	6.29	34.39		27.05	102	0.98
227	9.12	34.02								
294	7.86	34.13								
378	6.92	34.23								
506	6.28	34.39								

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

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn.m

110.90

HORIZON; April 27, 1957; 2336 GCT; 27°57'N, 119°37'W; sounding, 2100 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 25°.

0	17.08	33.78	5.60	0	17.08	33.78	5.60	24.58	337	0.00
9	17.06	33.77	5.79	10	17.06	33.77	5.79	24.58	337	0.03
27	16.69	33.75	5.66	20	16.84	33.75	5.69	24.62	333	0.07
55	16.10	33.73	5.80	30	16.64	33.75	5.67	24.66	329	0.10
63	15.67	33.66	5.77	50	16.25	33.74	5.77	24.74	321	0.16
71	15.48	33.66	5.79	75	15.36	33.65	5.78	24.87	309	0.24
85	14.70	33.57	5.68	100	13.61	33.49	5.65	25.12	285	0.32
98	13.70	33.49	5.66	150	10.21	33.57	4.41	25.83	218	0.45
111	12.99	33.49	5.31	200	9.09	33.92	3.50	26.28	175	0.55
128	11.41	33.54	5.21	250	8.32	34.05	3.26	26.50	154	0.63
146	10.32	33.56	4.51	300	7.76	34.12	2.21	26.65	140	0.71
174	9.68	33.78	3.71	400	7.26	34.34	0.62	26.88	118	0.84
196	9.17	33.91	3.51	500	6.60	34.37	0.39	27.00	107	0.96
246	8.38	34.04	3.30							
322	7.54	34.16	1.71							
424	7.18	34.35	0.51							
555	6.10	34.38	0.37							

113.35

HORIZON; April 29, 1957; 1400 GCT; 29°12'N, 115°39'W; sounding, 575 fm; wind, 320°, force 3; weather, cloudy; sea, moderate; wire angle, 27°.

0	15.85	33.58		0	15.85	33.58		24.71	324	0.00
9	15.82	33.58		10	15.81	33.58		24.72	323	0.03
27	15.83	33.60		20	15.82	33.59		24.72	323	0.06
39	15.83	33.59		30	15.83	33.60		24.72	323	0.10
48	15.70	33.62		50	15.60	33.62		24.80	316	0.16
56	13.76	33.48		75	11.44	33.48		25.53	246	0.23
65	12.66	33.48		100	10.39	33.76		25.94	207	0.29
80	11.06	33.49		150	10.66	34.28		26.30	173	0.38
91	10.63	33.71		200	9.60	34.28		26.48	156	0.47
103	10.32	33.78		250	8.97	34.33		26.62	143	0.54
122	10.80	34.18		300	8.60	34.39		26.72	133	0.62
144	10.72	34.27		400	7.80	34.41		26.86	120	0.75
174	10.22	34.31		500	(6.91)	(34.43)		(27.01)	(106)	(0.86)
217	9.22	34.27								
283	8.73	34.38								
369	8.04	34.40								
495	6.96	34.43								

113.40

HORIZON; April 29, 1957; 1654 GCT; 29°02.5'N, 115°58.5'W; sounding, 1000 fm; wind, 280°, force 2; weather, cloudy; sea, moderate; wire angle, 15°.

0	15.96	33.62		0	15.96	33.62		24.71	324	0.00
9	15.95	33.62		10	15.95	33.62		24.71	324	0.03
28	15.95	33.61		20	15.95	33.61		24.71	324	0.06
42	15.93	33.61		30	15.95	33.61		24.71	324	0.10
51	14.88	33.53 ^{a)}		50	15.05	33.54		24.85	311	0.16
60	13.58	33.48		75	12.04	33.60		25.51	248	0.23
69	12.68	33.58		100	10.90	34.03		26.06	196	0.29
88	10.78	33.64		150	10.52	34.32		26.34	169	0.38
100	10.90	34.03		200	10.36	34.39		26.44	160	0.46
113	11.20	34.26		250	10.11	34.49		26.55	149	0.54
134	10.54	34.26		300	9.86	34.55		26.64	141	0.62
160	10.52	34.34		400	8.17	34.52		26.73	132	0.76
195	10.38	34.38		500	6.98	34.44		27.01	106	0.88
244	10.16	34.47								
320	9.68	34.56								
415	7.94	34.43								
551	6.62	34.45								

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn.m

S10
CCOFI
5704

HORIZON; April 29, 1957; 2147 GCT; 28°43'N, 116°37'W; sounding, 2000 fm; wind, 300°, force 3;
weather, partly cloudy; sea, moderate; wire angle, 30°.

11350

0	17.13	33.67	5.59	0	17.13	33.67	5.59	24.48	346	0.00
9	16.72	33.68	5.55	10	16.72	33.68	5.55	24.59	336	0.03
28	16.67	33.68	5.54	20	16.69	33.68	5.54	24.60	335	0.07
56	15.42	33.64	5.83	30	16.67	33.68	5.54	24.60	335	0.10
65	14.68	33.58	5.80	50	16.16	33.67	5.67	24.71	324	0.17
74	13.78	33.58	5.18	75	13.72	33.58	5.12	25.18	280	0.24
87	12.64	33.57	4.53	100	11.12	33.52	4.92	25.63	237	0.31
100	11.12	33.52	4.92	150	9.47	33.96	2.85	26.25	178	0.41
112	10.36	33.64	3.96	200	9.41	34.31	1.85	26.47	157	0.50
128	9.49	33.73	3.89	250	9.09	34.40	1.15	26.65	140	0.57
145	9.46	33.93	3.10	300	8.99	34.46	0.59	26.72	133	0.64
170	9.58	34.12	2.29	400	7.73	34.43	0.51	26.89	117	0.77
192	9.48	34.20	2.00	500	6.81	34.45	0.46	27.03	104	0.89
238	9.14	34.34	1.31							
311	8.95	34.47	0.59							
407	7.67	34.43	0.51							
535	6.56	34.45	0.43							

HORIZON; April 30, 1957; 0247 GCT; 28°25'N, 117°15'W; sounding, 2000 fm; wind, 310°, force 3;
weather, partly cloudy; sea, moderate; wire angle, 08°.

11360

0	17.13	33.75	5.71	0	17.13	33.75	5.71	24.54	340	0.00
10	17.13	33.75	5.87	10	17.13	33.75	5.87	24.54	340	0.03
29	16.63	33.69	5.73	20	17.09	33.74	5.87	24.54	340	0.07
59	15.18	33.57	5.45	30	16.59	33.69	5.70	24.62	333	0.10
68	14.87	33.55	5.99	50	15.61	33.60	5.49	24.78	318	0.17
77	14.73	33.56	6.00	75	14.76	33.56	6.00	24.93	303	0.24
90	13.63	33.55	5.43	100	12.88	33.55	4.70	25.32	266	0.32
104	12.54	33.56	4.32	150	9.26	33.78	3.70	26.13	188	0.43
117	11.47	33.66	3.88	200	9.10	34.15	2.12	26.46	158	0.52
135	10.70	33.77	3.74	250	8.69	34.29	1.50	26.63	142	0.60
153	9.17	33.78	3.70	300	8.12	34.33	1.16	26.75	130	0.67
181	9.23	34.10	2.35	400	7.19	34.41	0.54	26.94	112	0.79
204	9.05	34.16	2.07	500	6.43	34.43	0.37	27.07	100	0.90
254	8.65	34.29	1.43							
332	7.78	34.35	0.94							
435	6.90	34.42	0.44							
568	5.96	34.43	0.33							

STRANGER; April 29, 1957; 2331 GCT; 28°07'N, 117°57.5'W; sounding, 1700 fm; wind, 320°, force 2;
weather, cloudy; sea, slight; wire angle, 07°.

11370

0	17.72	33.67	4.39	0	17.72	33.67	4.39	24.35	359	0.00
10	17.09	33.69	4.44	10	17.09	33.69	4.44	24.50	344	0.04
29	16.81	33.68	4.47	20	16.96	33.69	4.44	24.53	341	0.07
39	15.86	33.62	4.95	30	16.79	33.68	4.48	24.57	338	0.10
49	13.80	33.56	4.45	50	13.75	33.56	4.39	25.15	282	0.16
59	12.51	33.59	3.10	75	11.14	33.65	2.88	25.72	228	0.23
68	11.85	33.66	2.86	100	10.66	33.87	2.90	25.98	204	0.28
82	10.48	33.65	2.89	150	9.07	33.97	2.27	26.32	171	0.38
96	10.74	33.86	2.10	200	9.16	34.30	1.01	26.56	148	0.46
110	10.28	33.87	1.92	250	8.60	34.29	0.82	26.65	140	0.53
133	9.27	33.87	2.54	300	8.22	34.33	0.65	26.73	132	0.60
160	9.93	34.22	1.33	400	7.07	34.35	0.40	26.92	114	0.73
193	9.30	34.30	1.06	500	6.37	34.37	0.28	27.03	104	0.84
239	8.68	34.29	0.88							
312	8.13	34.34	0.62							
406	7.00	34.35	0.39							
529	6.22	34.37	0.24							

SIO
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm ³ /g	dyn. m

113.80

STRANGER; April 29, 1957; 1918 GCT; 27°47'N, 118°35.5'W; sounding, 2100 fm; wind, 320°, force 3; weather, cloudy; sea, moderate; wire angle, 07°.

0	16.67	33.69	4.22	0	16.67	33.69	4.22	24.61	334	0.00
9	16.46	33.73	4.55	10	16.45	33.73	4.56	24.68	327	0.03
28	16.42	33.70	4.30r	20	16.42	33.70	4.57	24.68	327	0.06
44	16.37	33.69	4.59	30	16.42	33.69	4.58	24.68	327	0.10
54	15.82	33.65	4.02r	50	16.20	33.68	4.66	24.70	325	0.16
62	15.30	33.62	4.89	75	14.94	33.57	4.33	24.90	306	0.24
73	14.99	33.58	4.38	100	13.35	33.43	4.33	25.12	285	0.32
92	14.10	33.49	4.15	150	10.02	33.50	3.36	25.80	221	0.45
106	12.94	33.40	4.41	200	9.10	33.92	2.21	26.28	175	0.55
120	12.13	33.40	4.36	250	8.44	34.05	1.79	26.49	155	0.63
143	10.30	33.45	3.52	300	7.91	34.18	1.21	26.67	138	0.71
170	9.54	33.68	2.99	400	7.01	34.32	0.49	26.90	116	0.84
208	9.00	33.97	2.08	500	6.37	34.36	0.30	27.02	105	0.96
258	8.34	34.07	1.72							
336	7.54	34.25	0.82							
434	6.74	34.34	0.37							
573	5.97	34.37	0.23							

117.40

STRANGER; April 28, 1957; 1810 GCT; 28°28'N, 115°38'W; sounding, 520 fm; wind, 320°, force 5; weather, cloudy; sea, rough; wire angle, 10°.

0	16.09	33.62	5.71	0	16.09	33.62	5.71	24.69	326	0.00
10	16.07	33.63	5.65	10	16.07	33.63	5.65	24.70	325	0.03
29	16.05	33.64	5.77	20	16.07	33.64	5.71	24.71	324	0.06
57	15.45	33.60	5.76	30	16.05	33.64	5.77	24.71	324	0.10
66	15.20	33.57	5.96	50	15.65	33.62	5.76	24.79	317	0.16
75	14.09	33.47	5.94	75	14.09	33.47	5.94	25.01	296	0.24
89	12.55	33.50	4.83	100	11.86	33.61	4.09	25.56	243	0.31
104	11.54	33.64	3.86	150	10.36	34.09	2.05	26.20	183	0.41
117	10.96	33.67	3.59	200	10.20	34.37	1.10	26.45	159	0.50
136	10.76	33.96	2.46	250	9.74	34.44	0.74	26.58	146	0.58
154	10.24	34.13	1.94	300	9.39	34.48	0.52	26.67	138	0.65
182	10.26	34.32	1.25	400	8.32	34.44	0.44	26.81	125	0.79
204	10.18	34.38	1.06	500	7.21	34.40	0.37	26.93	113	0.91
254	9.68	34.45	0.73							
333	9.13	34.49	0.42							
437	7.84	34.41	0.45							
567	6.62	34.40	0.26							

117.50

STRANGER; April 28, 1957; 2330 GCT; 28°08'N, 116°14'W; sounding, 2150 fm; wind, 320°, force 5; weather, partly cloudy; sea, rough; wire angle, 05°.

0	16.32	33.58	4.24	0	16.32	33.58	4.24	24.61	334	0.00
10	16.29	33.57	4.66	10	16.29	33.57	4.66	24.61	334	0.03
29	16.02	33.58	4.32	20	16.18	33.57	4.51	24.63	332	0.07
43	15.50	33.55	4.18	30	16.00	33.58	4.32	24.68	327	0.10
54	14.77	33.50	4.50	50	15.08	33.52	4.36	24.83	313	0.16
64	13.91	33.50	4.63	75	12.58	33.47	4.02	25.31	267	0.24
73	12.80	33.46	4.16	100	11.00	33.73	2.48	25.81	220	0.30
92	11.21	33.67	3.01	150	10.86	34.24	1.09	26.23	180	0.40
106	10.88	33.79	2.20	200	10.43	34.42	0.68	26.44	160	0.48
119	10.77	33.96	1.77	250	10.01	34.50	0.44	26.58	146	0.56
143	10.84	34.21	1.12	300	9.67	34.52	0.33	26.66	139	0.64
170	10.76	34.37	0.79	400	8.69	34.50	0.25	26.81	125	0.77
208	10.34	34.43	0.63	500	7.50	34.46	0.21	26.94	112	0.90
259	9.98	34.51	0.42							
337	9.32	34.52	0.29							
436	8.30	34.49	-							
575	6.43	34.42	0.20							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{cm^3}{g}$	dyn.m

SIO
CCOFI
5704

STRANGER; April 29, 1957; 0514 GCT; 27°47'N, 116°55'W; sounding, 2000 fm; wind, 340°, force 4; weather, partly cloudy; sea, rough; wire angle, 10°.

11760

0	16.09	33.58	4.60	0	16.09	33.58	4.60	24.66	329	0.00
10	16.09	33.57	4.68	10	16.09	33.57	4.68	24.65	330	0.03
29	15.85	33.56	4.85	20	16.02	33.56	4.78	24.66	329	0.06
52	15.28	33.55	4.88	30	15.84	33.56	4.86	24.70	325	0.10
61	14.56	33.52	4.81	50	15.32	33.55	4.88	24.81	315	0.16
71	13.90	33.46	4.56	75	13.46	33.48	4.36	25.14	283	0.24
80	12.90	33.51	4.14	100	11.73	33.56	3.47	25.54	245	0.30
95	11.84	33.56	3.52	150	9.65	33.85	2.43	26.13	189	0.41
109	11.49	33.56	4.56u	200	9.19	34.14	1.35	26.44	160	0.50
127	10.38	33.69	2.96	250	8.90	34.27	0.96	26.58	146	0.58
146	9.76	33.82	2.54	300	8.30	34.31	0.68	26.71	134	0.65
169	9.35	33.94	2.06	400	7.32	34.33	0.38	26.87	119	0.78
192	9.20	34.11	1.49	500	6.41	34.34	0.27	27.00	107	0.90
238	9.06	34.22	1.11							
313	8.23	34.31	0.67							
406	7.24	34.33	0.37							
527	6.14	34.34	0.24							

STRANGER; April 29, 1957; 1020 GCT; 27°26.5'N, 117°36.5'W; sounding, 2100 fm; wind, 330°, force 4; weather, missing; sea, moderate; wire angle, 00°.

11770

0	16.88	33.65	3.92	0	16.88	33.65	3.92	24.53	341	0.00
10	16.87	33.78r	3.58	10	16.87	33.66	3.58	24.53	341	0.03
29	16.88	33.66	3.69	20	16.87	33.66	3.64	24.53	341	0.07
55	15.78	33.60	4.04	30	16.88	33.66	3.70	24.53	341	0.10
64	15.56	33.60	4.12	50	15.97	33.61	3.98	24.70	325	0.17
74	14.81	33.52	4.68u	75	14.80	33.52	4.20	24.89	307	0.25
84	14.07	33.41	4.23	100	12.72	33.44	3.79	25.26	272	0.32
99	12.81	33.44	3.80	150	10.22	33.76	2.38	25.96	205	0.44
113	11.30	33.43 ^{a)}	3.77	200	9.30	34.07	1.82	26.36	167	0.54
132	10.54	33.51 ^{a)}	3.22	250	8.86	34.23	1.26	26.55	149	0.62
150	10.22	33.76	2.38	300	8.25	34.29	0.86	26.70	135	0.69
174	9.56	33.87 ^{a)}	2.31	400	7.26	34.37	0.41	26.91	115	0.82
197	9.36	34.04	1.91	500	6.39	34.40	0.29	27.05	102	0.93
242	8.95	34.21	1.32							
316	8.04	34.31	0.76							
409	7.18	34.38	0.38							
531	6.12	34.40	0.26							

STRANGER; April 29, 1957; 1422 GCT; 27°07'N, 118°12.5'W; sounding, 2200 fm; wind, 330°, force 4; weather, partly cloudy; sea, moderate; wire angle, 03°.

11780

0	16.88	33.66	4.18	0	16.88	33.66	4.18	24.53	341	0.00
9	16.89	33.71	4.55	10	16.89	33.71	4.55	24.57	338	0.03
30	16.76	33.67	4.47	20	16.85	33.69	4.53	24.57	338	0.07
39	16.44	33.65	4.42	30	16.76	33.67	4.47	24.57	338	0.10
48	15.70	33.62	4.48	50	15.53	33.61	4.45	24.80	316	0.17
58	14.97	33.56	4.38	75	13.91	33.49	4.55	25.07	290	0.24
67	14.68	33.55	4.54	100	11.85	33.47	4.10	25.45	254	0.31
81	13.08	33.44	4.51	150	10.07	33.80	2.38	26.03	199	0.43
95	12.00	33.47	4.25	200	9.16	34.07	1.77	26.40	164	0.52
108	11.51	33.48	3.72	250	8.50	34.17	1.36	26.58	147	0.60
132	10.50	33.71	2.83	300	8.20	34.25	0.91	26.67	137	0.67
161	9.85	33.85	2.16	400	6.89	34.33	0.48	26.92	114	0.80
192	9.30	34.02	1.82	500	6.24	34.36	0.49	27.04	103	0.92
239	8.60	34.15	1.50							
314	8.06	34.27	0.78							
409	6.78	34.33	0.47							
534	6.06	34.37	0.50							

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

S10

CCOF1
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

118.39

STRANGER; April 28, 1957; 1610 GCT; 28°17'N, 115°25'W; sounding, 1500 fm; wind, 300°, force 3; weather, cloudy; sea, moderate; wire angle, 12°.

0	16.03	33.62	5.66	0	16.03	33.62	5.66	24.70	325	0.00
9	16.00	33.62	5.60	10	16.00	33.62	5.60	24.71	324	0.03
29	15.92	33.64	5.64	20	15.98	33.64	5.62	24.73	322	0.06
47	14.00	33.52	5.88	30	15.91	33.64	5.65	24.74	321	0.10
70	11.40	33.52	4.63	50	13.60	33.51	5.78	25.13	284	0.16
93	9.93	33.78	3.42	75	11.00	33.56	4.34	25.67	233	0.22
115	9.78	33.95	2.70	100	9.85	33.82	3.23	26.08	194	0.28
152	10.25	34.29	1.22	150	10.23	34.28	1.25	26.36	167	0.37
188	10.00	34.39	0.95							

119.33

STRANGER; April 27, 1957; 2032 GCT; 28°19'N, 114°53'W; sounding, 58 fm; wind, 300°, force 4; weather, fog; sea, moderate; wire angle, 07°.

0	16.02	33.62	5.95	0	16.02	33.62	5.95	24.70	325	0.00
10	15.94	33.60	5.87	10	15.94	33.60	5.87	24.71	324	0.03
29	15.83	33.62	5.95	20	15.92	33.61	5.90	24.72	323	0.06
49	13.18	33.55	5.41	30	15.82	33.62	5.95	24.74	321	0.10
72	10.74	33.74	3.08	50	13.08	33.55	5.37	25.28	270	0.16
				75	10.6	(33.75)		(25.89)	(212)	(0.22)

120.45

STRANGER; April 27, 1957; 0749, 0804 GCT; 27°41'N, 115°33'W; sounding, 1500 fm; wind, 340°, force 3; weather, fog; sea, rough; wire angle, 22°, 24°.

0	15.89	33.64	5.81	0	15.89	33.64	5.81	24.76	320	0.00
9	15.88	33.63	5.98	10	15.88	33.63	5.98	24.74	321	0.03
27	14.08	33.57	5.75	20	15.83	33.63	5.98	24.76	320	0.06
36	12.98	33.55	5.04	30	13.65	33.56	5.53	25.18	280	0.09
44	12.27	33.64	4.14	50	11.85	33.79	3.47	25.70	230	0.14
54	11.56	33.90	2.99	75	11.10	34.21	1.76	26.16	186	0.20
63	11.22	34.12	1.93	100	10.99	34.27	1.56	26.23	180	0.24
76	11.09	34.21	1.75	150	10.89	34.49	0.73	26.42	162	0.33
				200	10.63	34.60	0.48	26.55	149	0.41
97	11.00	34.25	1.58	250	10.23	34.59	0.36	26.61	144	0.48
116	10.90	34.33	1.36	300	9.85	34.58	0.30	26.67	138	0.56
139	10.92	34.42	0.98	400	8.86	34.57	0.29	26.82	124	0.69
167	10.80	34.56	0.56	500	(7.23)	(34.47)		(26.99)	(108)	(0.81)
208	10.58	34.60	0.47							
273	10.02	34.58	0.31							
357	9.44	34.59	0.28							
471	7.75	34.50	0.30							

120.50

STRANGER; April 27, 1957; 0450 GCT; 27°34'N, 115°51'W; sounding, 2100 fm; wind, 320°, force 4; weather, overcast; sea, moderate; wire angle, 00°.

0	16.00	33.63	5.81	0	16.00	33.63	5.81	24.71	324	0.00
10	16.00	33.62	5.76	10	16.00	33.62	5.76	24.71	324	0.03
29	15.64	33.60	5.86	20	15.89	33.61	5.78	24.73	322	0.06
43	12.96	33.56	5.18	30	15.63	33.60	5.85	24.78	318	0.10
53	11.74	33.64	3.84	50	11.97	33.60	4.27	25.53	246	0.15
63	11.48	33.86	2.84	75	11.04	33.90	2.72	25.93	208	0.21
73	11.06	33.89	2.76	100	11.03	34.18	1.75	26.15	187	0.26
92	11.02	34.13	1.92	150	10.65	34.44	0.84	26.42	162	0.35
106	11.05	34.23	1.59	200	10.18	34.51	0.67	26.56	148	0.43
120	10.72	34.28	1.47	250	9.64	34.53	0.48	26.66	139	0.50
145	10.70	34.43	0.84	300	9.08	34.52	0.38	26.75	130	0.57
173	10.30	34.47	0.92	400	7.90	34.45	0.40	26.88	118	0.70
210	10.12	34.52	0.60	500	6.79	34.42	0.36	27.02	105	0.81
261	9.51	34.53	0.46							
341	8.66	34.51	0.35							
439	7.38	34.42	0.42							
579	6.26	34.43	0.28							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn.m

S10
CCOF1
5704

STRANGER; April 27, 1957; 0140 GCT; 27°25'N, 116°12'W; sounding, 2000 fm; wind, 340°, force 4; weather, overcast; sea, moderate; wire angle, 15°.

12055

0	15.90	33.65	5.97	0	15.90	33.65	5.97	24.76	320	0.00
9	15.84	33.65	5.94	10	15.84	33.65	5.93	24.76	319	0.03
28	14.26	33.64	5.40	20	15.74	33.65	5.91	24.79	317	0.06
38	12.50	33.53	5.18	30	14.05	33.63	5.39	25.14	283	0.09
47	12.46	33.66	4.30	50	12.37	33.69	4.00	25.52	247	0.15
57	11.68	33.77	3.45	75	10.00	33.73	3.32	25.98	203	0.20
66	10.79	33.72	3.36	100	10.64	34.14	1.80	26.18	184	0.25
113p	10.46	34.19	1.60	150	10.41	34.31	1.45	26.36	167	0.34
151p	10.41	34.31	1.42	200	9.74	34.42	1.00	26.56	148	0.42
211p	9.59	34.43	0.92	250	9.12	34.45	0.71	26.69	136	0.49
286p	8.72	34.46	0.57	300	8.60	34.46	0.52	26.79	127	0.56
391p	7.75	34.47	0.30							

STRANGER; April 26, 1957; 2225 GCT; 27°17'N, 116°32'W; sounding, 2000 fm; wind, 330°, force 3; weather, cloudy; sea, moderate; wire angle, 10°.

12060

0	17.38	33.88	5.51	0	17.38	33.88	5.51	24.59	336	0.00
9	17.23	33.87	5.59	10	17.22	33.87	5.58	24.62	333	0.03
29	17.18	33.87	5.53	20	17.20	33.87	5.56	24.62	333	0.07
38	17.02	33.84	5.56	30	17.17	33.87	5.53	24.63	332	0.10
47	15.29	33.62	5.71	50	14.90	33.57	5.73	24.91	305	0.16
55	14.33	33.52	5.77	75	12.84	33.53	5.00	25.30	268	0.24
65	13.45	33.51	5.49	100	11.45	33.64	4.22	25.66	234	0.30
78	12.59	33.53	4.86	150	9.61	33.87	3.19	26.15	187	0.40
91	11.66	33.58	4.52	200	9.35	34.21	1.94	26.46	158	0.49
103	11.38	33.66	4.15	250	8.98	34.28	1.38	26.58	146	0.57
125	10.26	33.75	3.56	300	8.40	34.31	1.00	26.70	135	0.64
150	9.61	33.87	3.19	400	7.36	34.35	0.67	26.88	118	0.78
179	9.44	34.11	2.25	500	(6.86)	(34.43)	(0.36)	(27.01)	(106)	(0.89)
222	9.23	34.25	1.70							
289	8.54	34.31	1.04							
376	7.54	34.34	0.78							
495	6.86	34.42	0.36							

STRANGER; April 26, 1957; 1809 GCT; 27°01'N, 117°06.5'W; sounding, 2100 fm; wind, 360°, force 3; weather, partly cloudy; sea, rough; wire angle, 02°.

12070

0	18.36	34.12	5.44	0	18.36	34.12	5.44	24.53	341	0.00
10	18.34	34.09	5.38	10	18.34	34.09	5.38	24.51	343	0.03
29	18.32	34.09	5.46	20	18.33	34.09	5.42	24.51	343	0.07
53	18.34	34.11	5.44	30	18.32	34.09	5.45	24.51	343	0.10
63	18.32	34.11	5.36	50	18.34	34.11	5.45	24.52	342	0.17
74	17.50	33.97	5.50	75	17.20	33.93	5.52	24.66	329	0.26
84	15.31	33.69	5.57	100	13.23	33.63	3.70	25.30	268	0.33
98	13.36	33.62	3.69	150	10.23	33.86	3.05	26.05	197	0.44
112	12.10	33.74	3.76	200	9.80	34.20	1.86	26.38	166	0.54
130	10.58	33.73	3.52	250	9.23	34.33	1.32	26.58	147	0.62
149	10.23	33.86	3.06	300	8.67	34.38	0.98	26.71	134	0.69
172	9.85	34.03	2.49	400	7.96	34.49	0.37	26.90	116	0.82
195	9.83	34.18	1.91	500	7.04	34.47	0.25	27.01	106	0.94
242	9.35	34.31	1.39							
316	8.48	34.40	0.85							
410	7.89	34.49	0.33							
534	6.68	34.45	0.25							

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	$\frac{\delta_T}{10^5 \text{ cm}^3/\text{g}}$	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L		dyn. m

120.80

STRANGER; April 26, 1957; 1302 GCT; 26°38'N, 117°44'W; sounding, 2100 fm; wind, 330°, force 4; weather, cloudy; sea, rough; wire angle, 00°.

0	18.37	34.16	5.44	0	18.37	34.16	5.44	24.57	338	0.00
9	18.38	34.16	5.38	10	18.39	34.16	5.37	24.56	339	0.03
29	18.39	34.15	5.29	20	18.39	34.16	5.33	24.56	339	0.07
53	18.40	34.16	5.36	30	18.40	34.15	5.30	24.54	340	0.10
63	18.40	34.16	5.26	50	18.40	34.15	5.34	24.54	340	0.17
72	18.36	34.16	5.46	75	18.20	34.15	5.46	24.59	336	0.25
84	16.04	33.87	5.23	100	12.56	33.68	3.80	25.48	251	0.33
98	12.84	33.68	3.93	150	10.87	34.18	1.91	26.18	184	0.44
113	12.08	33.82	3.10	200	9.38	34.17	2.02	26.44	160	0.53
130	11.18	33.89	2.68	250	8.95	34.31	1.19	26.61	144	0.60
150	10.87	34.18	1.91	300	8.41	34.34	0.87	26.71	134	0.68
174	9.67	34.07	2.33	400	7.47	34.34	0.50	26.85	121	0.81
195	9.44	34.16	2.08	500	6.62	34.37	0.28	27.00	107	0.93
243	9.01	34.31	1.26							
317	8.27	34.34	0.82							
412	7.35	34.34	0.46							
533	6.36	34.38	0.22							

123.42

STRANGER; April 25, 1957; 1227 GCT; 27°14'N, 115°00.5'W; sounding, 1000 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 03°.

0	15.74	33.74	5.95	0	15.74	33.74	5.95	24.86	310	0.00
9	15.72	33.76	5.64	10	15.72	33.76	5.65	24.88	308	0.03
30	15.73	33.75 ^{a)}	5.95	20	15.73	33.75	5.80	24.87	309	0.06
43	15.68	33.71	5.99	30	15.73	33.75	5.95	24.87	309	0.09
54	13.41	33.73	3.92	50	14.49	33.72	4.75	25.11	286	0.15
64	11.82	-	-	75	11.00	33.62	4.07	25.72	228	0.22
74	11.04	33.62	4.08	100	10.38	33.83	2.94	26.00	202	0.27
93	10.44	33.77	3.26	150	10.48	34.37	1.23	26.41	163	0.36
107	10.34	33.89	2.75	200	9.99	34.44	0.90	26.54	150	0.44
121	10.40	34.09	2.12	250	9.52	34.50	0.50	26.66	139	0.52
143	10.60	34.38	1.22	300	8.77	34.44	0.54	26.74	131	0.59
171	9.88	34.33	1.32	400	7.47	34.36	0.46	26.87	119	0.72
207	9.99	34.47	0.79	500	6.64	34.42	0.30	27.03	104	0.83
257	9.42	34.50	0.50							
334	8.22	34.40	0.55							
432	7.13	34.37	0.40							
567	6.32	34.45	0.22							

123.50

STRANGER; April 25, 1957; 1640 GCT; 26°57.5'N, 115°32'W; sounding, 1800 fm; wind, 360°, force 3; weather, cloudy; sea, moderate; wire angle, 02°.

0	15.80	33.62	5.76	0	15.80	33.62	5.76	24.76	320	0.00
10	15.76	33.64	5.97	10	15.76	33.64	5.97	24.78	318	0.03
29	14.37	33.55	6.02	20	15.41	33.62	6.01	24.84	312	0.06
38	12.42	33.48	5.38	30	14.35	33.54	6.02	25.04	293	0.09
48	12.17	33.53	4.78	50	12.14	33.53	4.74	25.45	254	0.15
58	11.59	33.56	4.52	75	11.42	33.86	2.88	25.83	218	0.21
68	11.62	33.79	3.22	100	9.91	33.81	3.17	26.06	196	0.26
82	10.94	33.87	2.79	150	9.24	34.05	2.53	26.35	168	0.35
97	9.98	33.80	3.18	200	9.28	34.31	1.39	26.55	149	0.43
111	9.79	33.92	2.84	250	9.00	34.39	0.80	26.66	139	0.51
135	9.47	34.00	2.64	300	8.57	34.42	0.58	26.75	130	0.58
163	9.08	34.11	2.42	400	7.39	34.38	0.43	26.90	116	0.70
196	9.28	34.30	1.39	500	6.48	34.39	0.40	27.03	104	0.82
243	9.03	34.38	0.82							
318	8.36	34.42	0.51							
412	7.23	34.38	0.42							
536	6.20	34.40	0.39							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

STRANGER; April 25, 1957; 2124 GCT; 26°39'N, 116°09'W; sounding, 2050 fm; wind, 320°, force 2; weather, cloudy; sea, moderate; wire angle, 11°.

12360

0	17.81	33.91	5.50	0	17.81	33.91	5.50	24.50	344	0.00
9	17.73	33.91	5.49	10	17.73	33.91	5.49	24.52	342	0.03
28	17.66	33.92	5.50	20	17.70	33.92	5.49	24.53	341	0.07
52	17.59	33.89	5.54	30	17.66	33.92	5.50	24.54	340	0.10
61	16.37	33.72	5.61	50	17.60	33.89	5.53	24.54	340	0.17
70	14.10	33.55	5.60	75	13.40	33.50	5.38	25.18	280	0.25
80	13.10	33.49	5.19	100	12.24	33.60	4.76	25.47	252	0.32
93	12.66	33.57	4.81	150	9.92	33.85	3.18	26.09	193	0.43
107	11.58	33.62	4.68	200	9.44	34.19	1.92	26.43	161	0.52
125	10.66	33.64	4.12	250	8.90	34.26	1.47	26.58	147	0.60
142	10.09	33.78	3.44	300	8.20	34.26	1.22	26.68	137	0.67
164	9.73	33.91	2.96	400	7.50	34.33	0.61	26.85	121	0.80
187	9.51	34.14	2.16	500	6.83	34.37	0.47	26.98	109	0.92
231	9.15	34.26	1.45							
304	8.15	34.26	1.19							
396	7.53	34.33	0.61							
518	6.68	34.38	0.45							

STRANGER; April 26, 1957; 0222, 0252 GCT; 26°19'N, 116°47'W; sounding, 2050 fm; wind, 330°, force 3; weather, overcast; sea, moderate; wire angle, 07°, 11°.

12370

0	19.16	34.22	5.28	0	19.16	34.22	5.28	24.41	353	0.00
9	19.18	34.22	5.26	10	19.18	34.22	5.27	24.40	354	0.04
29	19.11	34.22	5.30	20	19.17	34.22	5.29	24.41	353	0.07
58	18.44	34.09u	5.34u	30	19.10	34.22	5.31	24.42	352	0.10
67	18.46	34.07u ^{a)}	5.52u	50	18.61	34.11	5.40	24.46	348	0.18
78	17.46	33.90 ^{a)}	5.50	75	17.95	33.99	5.48	24.52	342	0.26
92	15.08	33.67 ^{a)}	5.54	100	13.36	33.62	5.31	25.27	271	0.34
105	13.04	33.62	5.16	150	10.72	33.76	3.57	25.88	213	0.46
120	12.69	33.73	3.86	200	9.98	34.21	1.97	26.35	168	0.56
140	11.16	33.69	3.82	250	9.23	34.29	1.35	26.54	150	0.64
158	10.48	33.86	3.24	300	8.75	34.37	0.89	26.69	136	0.72
186	10.04	34.13	2.24	400	8.05	34.44	0.41	26.85	121	0.85
209	9.88	34.23	1.77	500	7.26	34.45	0.28	26.98	109	0.97
261	9.10	34.31	1.27							
343	8.39	34.42	0.56							
441	7.80	34.45	0.35							
577	6.44	34.45	0.22							

STRANGER; April 26, 1957; 0745 GCT; 25°58.5'N, 117°26'W; sounding, 2000 fm; wind, 330°, force 3; weather, overcast; sea, rough; wire angle, 00°.

12380

0	18.97	34.16	5.24	0	18.97	34.16	5.24	24.41	353	0.00
10	18.97	34.18	5.30	10	18.97	34.18	5.30	24.42	352	0.04
29	18.92	34.16	5.25	20	18.97	34.17	5.26	24.42	352	0.07
38	18.61	34.16	5.28	30	18.91	34.16	5.25	24.42	352	0.10
49	18.24	34.07	5.31	50	18.24	34.07	5.32	24.52	342	0.18
59	18.18	34.10	5.35	75	18.08	34.09	5.37	24.58	337	0.26
68	18.18	34.10	5.34	100	15.10	33.71	5.27	24.98	299	0.34
82	17.83	34.04	5.40	150	11.18	33.83	3.01	25.85	216	0.47
95	15.96	33.78	5.42	200	9.90	34.08	2.43	26.27	176	0.57
109	13.91	33.67	4.98	250	9.84	34.41	1.11	26.53	151	0.65
133	11.86	33.68	3.81	300	9.60	34.49	0.56	26.64	141	0.73
159	10.83	33.91	2.73	400	8.23	34.45	0.41	26.83	123	0.87
192	9.91	34.06	2.44	500	6.87	34.41	0.34	27.00	107	0.99
239	9.89	34.34	1.37							
313	9.48	34.49	0.48							
407	8.14	34.45	0.40							
530	6.45	34.40	0.32							

a) Assumed order of values.

SIO
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

12740

STRANGER; April 25, 1957; 0107 GCT; 26°40.5'N, 114°29'W; sounding, 1600 fm; wind, 320°, force 5; weather, partly cloudy; sea, very rough; wire angle, 22°.

0	16.70	33.71	5.58	0	16.70	33.71	5.58	24.61	334	0.00
9	16.68	33.72 ^{a)}	5.57	10	16.68	33.72	5.56	24.63	332	0.03
27	16.56	33.71	5.56	20	16.63	33.72	5.56	24.64	331	0.07
40	16.40	33.69	5.64	30	16.54	33.71	5.57	24.65	330	0.10
50	15.44	33.69	5.57	50	15.44	33.69	5.57	24.89	307	0.16
60	13.86	33.62	5.21	75	12.54	33.58	4.76	25.41	258	0.23
69	13.02	33.58	4.98	100	10.78	33.69	3.91	25.82	219	0.30
86	11.57	33.62	4.28	150	10.28	34.15	2.01	26.26	177	0.39
98	10.82	33.68	3.98	200	10.02	34.39	1.02	26.49	155	0.48
112	10.46	33.77	3.40	250	9.21	34.37	0.97	26.62	143	0.56
134	10.63	34.11	1.98	300	8.69	34.37	0.81	26.69	136	0.63
160	10.03	34.18	2.03	400	7.79	34.42	0.41	26.88	118	0.76
193	10.10	34.39	1.08	500	6.80	34.43	0.30	27.02	105	0.87
243	9.29	34.37 ^{a)}	0.98							
317	8.49	34.37	0.72							
410	7.69	34.43	0.38							
541	6.37	34.43	0.28							

12750

STRANGER; April 24, 1957; 1946 GCT; 26°22.5'N, 115°08'W; sounding, 1950 fm; wind, 350°, force 4; weather, overcast; sea, rough; wire angle, 18°.

0	16.24	33.68	5.67	0	16.24	33.68	5.67	24.70	325	0.00
9	16.16	33.69	5.71	10	16.15	33.69	5.72	24.72	323	0.03
29	15.91	33.68	5.76	20	16.05	33.69	5.75	24.74	321	0.06
50	15.44	33.65	5.65	30	15.91	33.68	5.76	24.78	318	0.10
58	15.06	33.65 ^{a)}	5.66	50	15.44	33.65	5.65	24.85	311	0.16
67	13.76	33.68	4.86	75	13.23	33.71	4.21	25.36	262	0.23
75	13.23	33.71	4.21	100	11.10	33.78	3.08	25.83	218	0.29
87	11.71	33.75	3.38	150	10.03	34.21	1.99	26.34	169	0.39
99	11.14	33.78	3.11	200	9.51	34.35	1.31	26.54	150	0.47
114	10.69	33.94	2.52	250	9.04	34.39	0.98	26.65	140	0.54
129	10.47	34.04	2.31	300	8.80	34.45	0.63	26.74	131	0.62
148	10.04	34.20	2.01	400	7.95	34.47	0.28	26.89	117	0.74
167	10.08	34.33	1.80	500	(6.73)	(34.42)		(27.02)	(105)	(0.86)
207	9.40	34.35	1.26							
269	8.94	34.41	0.88							
350	8.54	34.49	0.31							
462	7.17	34.44	0.28							

12760

STRANGER; April 24, 1957; 1324, 1358 GCT; 26°03.5'N, 115°46'W; sounding, 2100 fm; wind, 020°, force 3; weather, cloudy; sea, rough; wire angle, 08°, 07°.

0	18.24	34.07	5.45	0	18.24	34.07	5.45	24.52	342	0.00
10	18.24	34.07	5.57	10	18.24	34.07	5.57	24.52	342	0.03
29	18.24	34.06	5.42	20	18.24	34.06	5.50	24.51	343	0.07
54	18.24	34.05	5.45	30	18.24	34.05	5.43	24.51	343	0.10
63	17.76	33.98	5.53	50	18.24	34.05	5.45	24.51	343	0.17
72	17.27	33.89	5.55	75	17.07	33.86	5.59	24.64	331	0.26
82	16.59	33.80	5.63	100	13.77	33.61	5.14	25.19	279	0.33
				150	11.00	33.86	3.00	25.91	210	0.46
95	14.16	33.63	5.20	200	10.95	34.44	0.88	26.38	166	0.55
108	13.14	33.60	5.00	250	10.42	34.52	0.65	26.52	152	0.64
127	11.89	33.62	4.18	300	9.86	34.53	0.50	26.63	142	0.71
145	10.98	33.75	3.42	400	8.39	34.42	0.41	26.79	127	0.85
168	11.16	34.28	1.29	500	7.23	34.43	0.39	26.95	111	0.98
192	11.03	34.42	0.95							
238	10.55	34.51	0.70							
313	9.68	34.53 ^{a)}	0.48							
406	8.27	34.42 ^{a)}	0.41							
534	6.86	34.43	0.38							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_{τ}^{-5}	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm ³ /g	dyn. m

S10
CCOFI
5704

STRANGER; April 24, 1957; 0810 GCT; 25°44'N, 116°25'W; sounding, 2000 fm; wind, 320°, force 5; weather, cloudy; sea, rough; wire angle, 08°.

127.70

0	18.21	34.09	5.35	0	18.21	34.09	5.35	24.54	340	0.00
10	18.20	34.09	5.45	10	18.20	34.09	5.45	24.54	340	0.03
29	18.22	34.09	5.36	20	18.22	34.09	5.40	24.54	340	0.07
58	18.13	34.05	5.38	30	18.22	34.09	5.36	24.54	340	0.10
67	17.85	34.05	5.23	50	18.21	34.09	5.37	24.54	340	0.17
77	17.74	34.07	5.40	75	17.75	34.07	5.38	24.64	331	0.25
90	17.64	34.04	5.39	100	16.90	33.93	5.40	24.73	322	0.34
104	16.30	33.84	5.40	150	11.36	33.83	3.00	25.82	219	0.47
117	13.32	33.61	4.88	200	10.62	34.22	1.61	26.26	177	0.57
136	11.72	33.69	3.64	250	10.57	34.51	0.60	26.48	156	0.66
154	11.26	33.89	2.76	300	9.79	34.47	0.56	26.60	145	0.73
182	10.86	34.14	1.87	400	8.33	34.42	0.40	26.79	127	0.88
204	10.58	34.25	1.54	500	7.23	34.41	0.28	26.94	112	1.00
255	10.56	34.52	0.58							
333	9.14	34.43	0.55							
436	7.90	34.42	0.33							
569	6.48	34.40	0.23							

STRANGER; April 24, 1957; 0327 GCT; 25°25'N, 117°02'W; sounding, 2100 fm; wind, 340°, force 3; weather, cloudy; sea, rough; wire angle, 15°.

127.80

0	18.30	34.09	5.34	0	18.30	34.09	5.34	24.52	342	0.00
9	18.30	34.09	5.40	10	18.30	34.09	5.40	24.52	342	0.03
28	18.29	34.13u	5.39	20	18.30	34.09	5.39	24.52	342	0.07
57	18.14	34.06	5.38	30	18.29	34.09	5.38	24.52	342	0.10
65	18.06	34.10	5.45	50	18.19	34.06	5.37	24.53	341	0.17
74	17.98	34.12	5.45	75	17.97	34.12	5.45	24.63	332	0.26
87	17.16	33.93	5.44	100	16.18	33.84	5.41	24.84	312	0.34
100	16.18	33.84	5.41	150	10.86	33.76	3.74	25.86	215	0.47
113	14.12	33.69	4.86	200	10.29	34.16	1.75	26.27	176	0.57
131	12.30	33.65	4.45	250	10.16	34.46	0.88	26.52	152	0.65
148	10.92	33.75	3.79	300	9.59	34.52	0.46	26.67	138	0.73
173	10.40	33.97	2.70	400	7.85	34.38	0.52	26.83	123	0.86
194	10.28	34.14	2.01	500	6.88	34.40	0.31	26.98	109	0.99
244	10.20	34.43	1.00							
318	9.30	34.52	0.41							
416	7.58	34.36	0.53							
545	6.64	34.42	0.22							

STRANGER; Apr^l 22, 1957; 2214 GCT; 26°19'N, 113°47'W; sounding, 280 fm; wind, 310°, force 4; weather, clear; sea, rough; wire angle, 13°.

130.35

0	17.52	33.83	5.56	0	17.52	33.83	5.56	24.51	343	0.00
9	17.47	33.86	5.49	10	17.46	33.86	5.49	24.56	339	0.03
29	17.23	33.89	5.50	20	17.39	33.88	5.49	24.59	336	0.07
48	14.79	33.68	5.57	30	17.21	33.89	5.50	24.63	332	0.10
70	11.61	33.66	3.65	50	14.45	33.66	5.50	25.08	289	0.16
98	11.77	34.16	1.54	75	11.61	33.70	3.40	25.67	233	0.23
116	11.66	34.36	0.66	100	11.75	34.17	1.50	26.02	200	0.28
143	11.58	34.56	0.41	150	11.6	(34.58)		(26.36)	(167)	(0.38)

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{cm}^3/\text{g}$	dyn.m

130.40

STRANGER; April 23, 1957; 0130 GCT; 26°07'N, 114°08'W; sounding, 1200 fm; wind, 290°, force 5; weather, clear; sea, rough; wire angle, 18°.

0	17.04	33.79	5.66	0	17.04	33.79	5.66	24.60	335	0.00
9	16.94	33.75	5.71	10	16.93	33.75	5.72	24.60	335	0.03
29	16.36	33.68	5.81	20	16.60	33.70	5.79	24.63	332	0.07
42	16.13	33.69	5.70	30	16.33	33.68	5.80	24.68	327	0.10
51	15.36	33.64	5.60	50	15.58	33.65	5.62	24.83	313	0.16
60	14.14	33.61	5.10	75	13.20	33.67	4.16	25.34	264	0.24
68	13.70	33.66	4.57	100	11.43	33.67	3.37	25.68	232	0.30
85	12.36	33.67	3.69	150	11.27	34.28	1.57	26.18	184	0.40
98	11.52	33.67	3.47	200	10.18	34.33	1.13	26.42	162	0.49
112	11.18	33.84	2.79	250	9.52	34.37	0.81	26.56	148	0.57
133	11.46	34.15	1.66	300	9.20	34.43	0.52	26.66	139	0.64
160	11.07	34.31	1.53	400	8.07	34.42	0.32	26.83	123	0.78
197	10.24	34.33	1.18	500	6.96	34.41	0.33	26.98	109	0.90
244	9.56	34.36	0.85							
320	9.04	34.45	0.43							
415	7.90	34.42	0.31							
552	6.42	34.40	0.36							

130.50

STRANGER; April 23, 1957; 0715 GCT; 25°46'N, 114°47.5'W; sounding, 2000 fm; wind, 320°, force 5; weather, clear; sea, rough; wire angle, 18°.

0	17.04	33.76	5.66	0	17.04	33.76	5.66	24.58	337	0.00
9	17.03	33.77	5.63	10	17.02	33.77	5.63	24.59	336	0.03
28	16.62	33.77	5.64	20	16.80	33.77	5.63	24.64	331	0.07
56	16.20	33.66r	5.69	30	16.58	33.77	5.66	24.68	327	0.10
65	16.12	33.78	5.60	50	16.27	33.78	5.68	24.76	319	0.16
74	14.62	33.64	5.53	75	14.53	33.64	5.51	25.05	292	0.24
87	12.90	33.66	4.28	100	11.82	33.66	3.86	25.60	240	0.31
101	11.72	33.66	3.82	150	10.89	34.20	1.70	26.20	183	0.42
113	11.37	33.84	3.03	200	9.66	34.25	1.63	26.44	160	0.50
131	11.40	34.10	1.88	250	9.62	34.45	0.77	26.61	144	0.58
149	10.90	34.20	1.71	300	9.14	34.48	0.50	26.71	134	0.65
176	10.36	34.25	1.58	400	8.02	34.46	0.31	26.86	120	0.78
199	9.69	34.25	1.64	500	6.97	34.45	0.22	27.02	105	0.90
248	9.64	34.45	0.78							
324	8.87	34.48	0.43							
425	7.73	34.45	0.28							
557	6.40	34.46	0.20							

130.60

STRANGER; April 23, 1957; 1305 GCT; 25°25'N, 115°30'W; sounding, 2000 fm; wind, 340°, force 3; weather, cloudy; sea, rough; wire angle, 09°.

0	17.36	33.83	5.40	0	17.36	33.83	5.40	24.56	339	0.00
9	17.35	33.85	5.49	10	17.36	33.85	5.50	24.57	338	0.03
28	17.37	33.84	5.55	20	17.37	33.85	5.54	24.57	338	0.07
57	17.10	33.79	5.57	30	17.34	33.84	5.57	24.56	339	0.10
68	17.12	33.83	5.62	50	17.16	33.79	5.53	24.57	338	0.17
77	17.05	33.85	5.48	75	17.07	33.85	5.51	24.64	331	0.25
91	16.77	33.88	5.52	100	13.73	33.69	4.86	25.25	273	0.33
103	13.15	33.66	4.59	150	11.16	33.92	2.64	25.93	208	0.45
117	12.10	33.70	3.88	200	10.20	34.34	1.45	26.42	162	0.54
136	11.62	33.79	3.38	250	9.74	34.43	0.97	26.58	147	0.62
155	10.99	33.97	2.45	300	9.04	34.44	0.72	26.69	136	0.70
180	10.18	34.16	1.99	400	7.91	34.43	0.38	26.86	120	0.83
203	10.22	34.36	1.29	500	6.83	34.42	0.27	27.01	106	0.95
255	9.57	34.42	0.98							
333	8.76	34.45	0.53							
434	7.47	34.42	0.33							
568	6.27	34.43	0.21							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	$\frac{\delta T}{\delta z}$	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm ³ /g	dyn. m

130.70

STRANGER; April 23, 1957; 1735 GCT; 25°07'N, 116°04'W; sounding, 2100 fm; wind, 360°, force 3; weather, cloudy; sea, rough; wire angle, 12°.

0	18.36	34.05	5.28	0	18.36	34.05	5.28	24.48	346	0.00
9	18.36	34.06	5.38	10	18.35	34.06	5.37	24.48	346	0.03
28	18.33	34.07	5.29	20	18.34	34.07	5.34	24.49	345	0.07
56	18.24	34.06	5.35	30	18.33	34.07	5.30	24.50	344	0.10
66	18.04	34.03	5.67	50	18.27	34.07	5.32	24.50	344	0.17
75	17.12	33.91	5.55	75	17.12	33.91	5.55	24.67	328	0.26
89	15.44	33.71	5.63	100	14.22	33.67	5.24	25.13	284	0.34
103	13.84	33.67	5.10	150	11.57	34.08	2.08	25.98	204	0.46
116	12.68	33.68	4.41	200	10.71	34.37	1.21	26.35	168	0.55
134	11.76	33.82	3.26	250	9.88	34.41	1.01	26.53	151	0.63
152	11.55	34.09	2.04	300	9.43	34.46	0.51	26.65	140	0.71
179	11.53	34.23	1.52	400	8.03	34.41	0.47	26.83	123	0.85
201	10.68	34.37	1.21	500	6.91	34.40	0.42	26.99	108	0.97
250	9.88	34.41	1.01							
327	9.14	34.48	0.28							
427	7.63	34.39	0.50							
558	6.50	34.42	0.36							

130.80

STRANGER; April 23, 1957; 2201 GCT; 24°49'N, 116°39'W; sounding, 2150 fm; wind, 340°, force 3; weather, cloudy; sea, rough; wire angle, 17°.

0	19.39	34.21	5.21	0	19.39	34.21	5.21	24.34	360	0.00
9	19.40	34.19	5.19	10	19.39	34.19	5.20	24.32	361	0.04
28	19.34	34.24	5.23	20	19.36	34.20	5.21	24.35	359	0.07
57	19.33	34.22	5.09	30	19.34	34.24	5.22	24.37	357	0.11
66	19.32	34.22	5.27	50	19.32	34.23	5.12	24.37	357	0.18
75	19.31	34.20	5.27	75	19.31	34.20	5.27	24.35	359	0.27
90	18.27	34.04	5.32	100	16.54	33.78	5.52	24.70	325	0.36
102	16.22	33.74	5.55	150	11.69	33.68	4.33	25.64	236	0.50
116	14.72	33.69	5.45	200	10.15	34.08	2.15	26.23	180	0.60
133	13.00	33.69	4.88	250	10.23	34.42	0.89	26.48	156	0.69
151	11.60	33.68	4.29	300	9.58	34.47	0.62	26.64	141	0.77
176	10.51	33.92	3.01	400	8.51	34.48	0.28	26.81	125	0.90
197	10.16	34.07	2.33	500	7.20	34.44	0.23	26.98	109	1.03
245	10.26	34.42	0.93							
320	9.30	34.48	0.54							
418	8.31	34.48	0.23							
549	6.47	34.41	0.23							

133.30

STRANGER; April 21, 1957; 1911 GCT; 25°52.5'N, 113°07.5'W; sounding, 100 fm; wind, variable, force 2; weather, clear; sea, slight; wire angle, 00°.

0	16.11	33.93	6.23	0	16.11	33.93	6.23	24.92	304	0.00
10	15.52	33.93	6.34	10	15.52	33.93	6.34	25.06	291	0.03
29	14.90	33.96 ^{a)}	5.57	20	15.20	33.95	6.09	25.13	284	0.06
48	14.11	33.91	4.18	30	14.87	33.96	5.51	25.22	276	0.09
72	12.30	34.13	3.19	50	14.00	33.91	4.09	25.36	262	0.14
96	12.12	34.39	0.76	75	12.26	34.16	3.11	25.90	211	0.20
120	11.62	34.42	0.73	100	12.04	34.40	0.73	26.13	189	0.25

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

S10
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{ cm}^3/\text{g}$	dyn. m

133.40 STRANGER; April 21, 1957; 1410 GCT; 25°38'N, 113°40'W; sounding, 1100 fm; wind, 320°, force 2; weather, clear; sea, moderate; wire angle, 05°.

0	16.36	33.80	5.85	0	16.36	33.80	5.85	24.76	319	0.00
10	16.34	33.80	5.53	10	16.34	33.80	5.53	24.78	318	0.03
29	14.80	33.68	5.46	20	15.79	33.75	5.49	24.86	310	0.06
38	13.87	33.70	5.03	30	14.78	33.68	5.45	25.03	294	0.09
48	13.44	33.78	4.32	50	13.40	33.79	4.28	25.40	259	0.15
57	13.20	33.85	3.91	75	12.40	34.00	2.53	25.75	225	0.21
67	12.84	33.96	2.91	100	11.42	34.24	1.43	26.12	190	0.26
81	12.02	34.04	2.20	150	10.95	34.49	0.72	26.41	163	0.35
93	11.51	34.18	1.66	200	10.62	34.60	0.48	26.54	150	0.43
106	11.38	34.28	1.28	250	10.34	34.65	0.22	26.65	140	0.50
129	11.14	34.38	1.08	300	9.70	34.63	0.17	26.73	132	0.58
157	10.88	34.52	0.65	400	8.61	34.57	0.20	26.87	119	0.70
191	10.62	34.58	0.53	500	7.58	34.51	0.19	26.98	109	0.82
237	10.48	34.66	0.23							
313	9.54	34.62	0.17							
409	8.51	34.57	0.20							
534	7.20	34.49	0.18							

133.50 STRANGER; April 21, 1957; 0830 GCT; 25°15'N, 114°22'W; sounding, 2100 fm; wind, 330°, force 2; weather, clear; sea, very rough; wire angle, 00°.

0	18.28	34.11	5.45	0	18.28	34.11	5.45	24.54	340	0.00
9	18.30	34.13	5.21	10	18.30	34.13	5.22	24.56	339	0.03
29	18.26	34.14	5.42	20	18.28	34.13	5.33	24.57	338	0.07
54	17.55	34.03	5.52	30	18.26	34.14	5.43	24.58	337	0.10
64	17.43	34.01	5.70	50	17.91	34.09	5.48	24.62	333	0.17
74	16.60	33.87	5.60	75	16.57	33.87	5.58	24.76	319	0.25
84	14.96	33.69	5.18	100	12.66	33.66	4.37	25.44	255	0.32
98	12.96	33.68	4.24	150	10.60	33.87	2.98	25.98	203	0.44
112	11.83	33.66	4.32	200	9.84	34.24	1.89	26.41	163	0.53
130	11.05	33.77	3.51	250	9.62	34.41	1.16	26.58	147	0.61
149	10.60	33.87	3.00	300	9.00	34.42	0.93	26.68	137	0.68
173	10.36	34.10	2.18	400	8.02	34.45	0.34	26.85	121	0.82
196	9.89	34.22	1.96	500	7.10	34.45	0.19	27.00	107	0.94
243	9.69	34.40	1.22							
317	8.79	34.42	0.88							
411	7.95	34.45	0.31							
534	6.78	34.45	0.16							

133.60 STRANGER; April 21, 1957; 0146, 0205 GCT; 24°51'N, 115°05'W; sounding, 2100 fm; wind, 320°, force 2; weather, partly cloudy; sea, very rough; wire angle, 05°, 05°.

0	18.51	34.04	5.38	0	18.51	34.04	5.38	24.43	351	0.00
9	18.22	34.04	5.49	10	18.21	34.04	5.46	24.50	344	0.03
29	18.18	34.03	5.40	20	18.19	34.04	5.42	24.50	344	0.07
54	17.40	33.95	5.69	30	18.18	34.03	5.40	24.51	343	0.10
63	16.80	33.88	5.48	50	17.90	34.00	5.50	24.56	339	0.17
72	15.72	33.72	5.53	75	15.30	33.69	5.36	24.92	304	0.25
84	14.02	33.69	4.45	100	12.33	33.77	3.29	25.58	241	0.32
97	12.54	33.75	3.48	150	11.15	34.21	1.66	26.15	187	0.43
111	11.82	-	2.63	200	10.50	34.38	1.18	26.41	163	0.52
130	11.47	34.02	2.32	250	10.03	34.47	0.71	26.55	149	0.60
148	11.20	34.21	1.65	300	9.38	34.50	0.46	26.69	136	0.67
171	10.34	34.18	1.82	400	7.84	34.43	0.37	26.87	119	0.80
				500	6.84	34.43	0.30	27.01	106	0.92
195	10.50	34.36	1.20							
241	10.15	34.47	0.76							
316	9.10	34.50 ^{a)}	0.41							
411	7.63	34.42 ^{a)}	0.36							
532	6.60	34.43	0.28							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

S10
CCOFI
5704

STRANGER; April 20, 1957; 2103 GCT; 24°40.5'N, 115°38'W; sounding, 1950 fm; wind, 340°, force 2; weather, partly cloudy; sea, very rough; wire angle, 07°.

13370

0	18.28	34.04	5.25	0	18.28	34.04	5.25	24.48	346	0.00
10	17.98	34.04	5.28	10	17.98	34.04	5.28	24.57	338	0.03
29	17.90	34.04	5.30	20	17.92	34.04	5.28	24.58	337	0.07
43	17.89	34.04	5.24	30	17.90	34.04	5.29	24.59	336	0.10
54	17.49	33.98	5.36	50	17.71	34.02	5.30	24.62	333	0.17
64	16.96	33.86	5.51	75	16.25	33.74	5.60	24.74	321	0.25
73	16.32	33.75	5.60	100	14.54	33.67	4.92	25.07	290	0.33
92	15.49	33.68	5.42	150	11.50	34.06	2.62	25.98	204	0.45
105	13.48	33.68	4.25	200	10.63	34.33	1.22	26.34	169	0.54
120	12.02	33.70	3.54	250	9.72	34.43	0.89	26.58	147	0.63
143	11.45	33.96	2.38	300	9.21	34.49	0.53	26.70	135	0.70
170	11.63	34.32	1.09	400	8.18	34.45	0.34	26.84	122	0.83
207	10.40	34.34	1.23	500	7.09	34.44	0.26	26.99	108	0.95
259	9.61	34.45	0.83							
338	8.84	34.49	0.38							
438	7.76	34.43	0.33							
578	6.33	34.47	0.18							

STRANGER; April 20, 1957; 1453 GCT; 24°11'N, 116°30'W; sounding, 2000 fm; wind, 340°, force 4; weather, partly cloudy; sea, rough; wire angle, 11°.

13380

0	19.40	34.23	5.21	0	19.40	34.23	5.21	24.35	359	0.00
9	19.43	34.22	5.15	10	19.44	34.22	5.15	24.34	360	0.04
27	19.46	34.20	5.10	20	19.46	34.21	5.12	24.32	361	0.07
44	19.14	34.14	5.28	30	19.42	34.19	5.11	24.31	362	0.11
51	19.12	34.18	5.26	50	19.13	34.18	5.26	24.39	355	0.18
63	18.78	34.11	5.34	75	18.39	34.04	5.40	24.46	348	0.27
76	18.36	34.03	5.41	100	15.63	33.73	5.46	24.88	308	0.35
89	16.78	33.83	5.44	150	12.07	33.97	2.75	25.80	221	0.48
104	15.42	33.72	5.44	200	11.42	34.43	0.96	26.27	176	0.58
118	13.69	33.66	4.92	250	11.00	34.59	0.49	26.48	156	0.67
141	12.17	33.86	3.24	300	10.17	34.57	0.33	26.61	144	0.75
168	11.96	34.25	1.47	400	8.66	34.50	0.27	26.81	125	0.89
206	11.35	34.46	0.91	500	7.48	34.44	0.22	26.93	113	1.01
256	10.93	34.60	0.43							
335	9.52	34.54	0.31							
435	8.20	34.48	0.26							
572	6.68	34.39	0.21							

STRANGER; April 19, 1957; 0816 GCT; 25°19'N, 112°48'W; sounding, 43 fm; wind, 310°, force 5; weather, partly cloudy; sea, rough; wire angle, 00°.

13730

0	17.07	34.01	5.50	0	17.07	34.01	5.50	24.76	320	0.00
10	17.08	33.99	5.63	10	17.08	33.99	5.63	24.73	322	0.03
29	16.94	34.04	5.10	20	17.06	34.02	5.58	24.78	318	0.06
48	13.86	34.09	2.48	30	16.92	34.04	5.03	24.82	314	0.10

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{ cm}^3/\text{g}$	dyn.m

13740

STRANGER; April 19, 1957; 1310, 1327 GCT; 24°⁵⁷47.5'N, 113°29'W; sounding, 2000 fm; wind, 340°, force 4; weather, partly cloudy; sea, rough; wire angle, 10°, 07°.

0	17.00	33.96	5.56	0	17.00	33.96	5.56	24.73	322	0.00
9	16.98	33.93	5.56	10	16.98	33.93	5.56	24.72	323	0.03
28	16.98	33.93	5.54	20	16.98	33.93	5.55	24.72	323	0.06
				30	16.97	33.93	5.53	24.72	323	0.10
45	16.82	33.94	5.50	50	16.69	33.92	5.50	24.78	318	0.16
54	16.38	33.86	5.51	75	14.19	33.75	5.08	25.21	277	0.24
63	14.76	33.75	5.40	100	12.80	33.80	3.82	25.52	247	0.30
74	14.20	33.75	5.10	150	10.79	34.15	1.82	26.18	185	0.41
91	13.55	33.77	4.66	200	10.14	34.39	1.21	26.47	157	0.50
106	12.24	33.81	3.28	250	9.66	34.48	0.61	26.63	142	0.58
119	11.25	33.77	3.37	300	9.21	34.53	0.42	26.73	132	0.65
142	10.74	34.07	2.14	400	8.02	34.51	0.33	26.90	116	0.78
168	10.93	34.34	1.22	500	6.89	34.47	0.20	27.04	103	0.89
206	10.01	34.40	1.10							
257	9.61	34.49	0.58							
334	8.86	34.54	1.09u							
433	7.57	34.49	0.22							
565	6.38	34.45	0.21							

13750

STRANGER; April 19, 1957; 1749 GCT; 24°40'N, 114°02'W; sounding, 2600 fm; wind, 360°, force 4; weather, cloudy; sea, rough; wire angle, 15°.

0	18.40	34.07	5.36	0	18.40	34.07	5.36	24.48	346	0.00
9	18.39	34.07	5.38	10	18.39	34.07	5.37	24.48	346	0.03
28	18.35	34.07	5.35	20	18.37	34.07	5.37	24.49	345	0.07
42	18.36	34.07	5.38	30	18.35	34.07	5.36	24.49	345	0.10
52	18.34	34.04	5.36	50	18.34	34.05	5.36	24.48	346	0.17
61	18.33	34.07	5.28	75	17.41	33.97	5.39	24.65	330	0.26
70	17.84	34.03	5.40	100	14.40	33.73	4.72	25.14	283	0.34
89	15.26	33.78	5.07	150	11.35	34.06	2.41	26.00	202	0.46
102	14.22	33.73	4.62	200	10.23	34.34	1.18	26.42	162	0.55
116	12.89	33.78	3.53	250	9.66	34.39	1.01	26.55	149	0.63
137	11.92	33.96	-	300	9.17	34.41	0.66	26.65	140	0.70
163	10.85	34.14	2.02	400	8.23	34.50	0.35	26.86	120	0.84
189	10.38	34.31	1.23	500	7.21	34.49	0.18	27.01	106	0.96
248	9.66	34.39	1.03							
323	8.94	34.43	0.52							
417	8.09	34.50	0.22							
554	6.60	34.47	0.17							

13760

STRANGER; April 18, 1957; 2321, 2367 GCT; 24°19'N, 114°42'W; sounding, 2000 fm; wind, 340°, force 5; weather, cloudy; sea, very rough; wire angle, 10°, 07°.

0	18.96	34.24	5.19	0	18.96	34.24	5.19	24.47	347	0.00
10	18.94	34.22	5.27	10	18.94	34.22	5.27	24.46	348	0.03
30	18.82	34.22	5.39	20	18.87	34.22	5.36	24.48	346	0.07
44	18.78	34.20	5.27	30	18.82	34.22	5.39	24.49	345	0.10
54	18.17	34.11	5.36	50	18.39	34.14	5.32	24.53	341	0.17
63	18.03	34.07	5.39	75	17.46	34.05	5.32	24.70	325	0.26
72	17.74	34.07	5.36	100	14.10	33.71	4.65	25.20	278	0.33
92	14.66	33.74	4.98	150	11.99	34.13	1.93	25.94	207	0.45
107	13.59	33.70	4.27	200	11.80	34.65	1.33	26.38	166	0.55
				250	11.16	34.68	0.20	26.51	153	0.63
120	12.30	33.82	3.13	300	10.32	34.63	0.17	26.63	142	0.71
144	12.06	34.05	2.20	400	8.76	34.55	0.14	26.83	123	0.84
170	11.75	34.41	1.09	500	7.38	34.51	0.14	27.00	107	0.96
208	11.81	34.70	0.28							
259	11.00	34.67	0.20							
337	9.72	34.60	0.16							
434	8.24	34.53	0.13							
576	6.47	34.49	0.14							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

S10
CCOFI
5704
137
130.70

STRANGER; April 20, 1957; 0450 GCT; 23°59'N, 115°21.5'W; sounding, 2000 fm; wind, 340°, force 5; weather, cloudy; sea, very rough; wire angle, 10°.

0	19.25	34.24	5.28	0	19.25	34.24	5.28	24.40	354	0.00
9	19.28	34.21	5.24	10	19.28	34.21	5.24	24.37	357	0.04
28	19.28	34.21	5.24	20	19.28	34.21	5.24	24.37	357	0.07
43	19.28	34.23	5.23	30	19.28	34.21	5.23	24.37	357	0.11
52	19.25	34.23	5.20	50	19.26	34.23	5.20	24.38	356	0.18
61	19.24	34.23	5.26	75	19.24	34.22	5.22	24.39	355	0.27
71	19.24	34.22	5.19	100	15.92	33.81	5.25	24.88	308	0.35
89	19.18	34.22	5.24	150	12.00	34.04	2.30	25.86	215	0.48
102	15.48	33.77	5.25	200	10.73	34.37	1.26	26.35	168	0.58
117	13.82	33.74	4.50	250	10.26	34.49	0.62	26.52	152	0.66
139	12.24	33.87	2.96	300	9.30	34.45	0.65	26.66	139	0.74
166	11.63	34.23	1.61	400	7.98	34.47	0.37	26.88	118	0.87
202	10.69	34.38	1.25	500	7.08	34.46	0.23	27.01	106	0.99
252	10.23	34.49	0.61							
329	8.70	34.43	0.67							
426	7.76	34.47	0.31							
564	6.50	34.45	0.20							

STRANGER; April 20, 1957; 0944 GCT; 23°39'N, 116°00.5'W; sounding, 2100 fm; wind 350°, force 4; weather, cloudy; sea, moderate; wire angle, 10°.

13780

0	19.21	34.18	5.25	0	19.21	34.18	5.25	24.36	358	0.00
9	19.22	34.18	5.17	10	19.22	34.18	5.17	24.36	358	0.04
28	19.23	34.19	5.26	20	19.22	34.19	5.21	24.37	357	0.07
44	19.22	34.22	5.15	30	19.23	34.20	5.25	24.37	357	0.11
53	19.19	34.22	5.14	50	19.21	34.22	5.15	24.40	354	0.18
63	19.08	34.21	5.42	75	18.94	34.14	5.24	24.41	353	0.27
72	19.00	34.16	5.23	100	17.46	33.93	5.46	24.61	334	0.36
92	18.04	34.00	5.44	150	12.09	33.82	3.27	25.68	232	0.50
106	16.88	33.88	5.45	200	11.64	34.48	0.85	26.27	176	0.60
121	14.14	33.69	5.13	250	11.02	34.58	0.54	26.47	157	0.68
144	12.38	33.77	3.64	300	10.27	34.57	0.37	26.58	146	0.76
170	11.43	34.06	2.16	400	8.50	34.48	0.30	26.81	125	0.90
207	11.66	34.51	0.64	500	7.11	34.43	0.30	26.98	109	1.03
256	10.92	34.58	0.53							
333	9.74	34.55	0.28							
431	7.92	34.45	0.31							
569	6.48	34.43	0.29							

STRANGER; April 18, 1957; 1940 GCT; 24°37'N, 112°47'W; sounding, 550 fm; wind, 360°, force 5; weather, partly cloudy; sea, rough; wire angle, 17°.

140.35

0	17.94	34.00	5.17	0	17.94	34.00	5.17	24.54	340	0.00
9	17.93	34.01	5.45	10	17.93	34.01	5.45	24.54	340	0.03
28	17.74	34.02	5.36	20	17.88	34.01	5.43	24.57	338	0.07
37	16.74	34.00	5.15	30	17.67	34.02	5.34	24.62	333	0.10
46	15.64	34.04	4.17	50	14.87	33.95	4.11	25.21	277	0.16
56	13.46	33.78	4.12	75	11.48	33.82	3.28	25.78	222	0.22
64	12.70	33.85	3.44	100	10.69	33.99	2.58	26.07	195	0.28
77	11.32	33.82	3.24	150	11.30	34.57	0.67	26.41	163	0.37
91	10.86	33.91	2.90	200	10.79	34.62	0.39	26.54	150	0.45
104	10.64	34.02	2.42	250	10.01	34.62	0.30	26.68	137	0.52
125	10.75	34.25	1.74	300	9.43	34.61	0.22	26.76	129	0.59
151	11.30	34.57	0.66	400	8.45	34.57	0.14	26.87	119	0.72
181	11.09	34.61	0.47	500	7.47	34.54	0.12	27.01	106	0.84
225	10.38	34.63	0.35							
295	9.46	34.61	0.22							
384	8.61	34.56	0.15							
505	7.42	34.54	0.12							

S10

CCOF1
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

140.40

STRANGER; April 18, 1957; 1640, 1658 GCT; 24°27'N, 113°04'W; sounding, 1550 fm; wind, 330°, force 5; weather, partly cloudy; sea, rough; wire angle, 17°, 27°.

0	17.52	34.02	5.58	0	17.52	34.02	5.58	24.66	329	0.00
8	17.50	34.02	5.53	10	17.50	34.02	5.54	24.67	328	0.03
26	17.44	34.02	5.58	20	17.49	34.02	5.56	24.67	328	0.06
40	15.13	33.86	5.34	30	17.36	34.01	5.58	24.70	325	0.10
48	14.46	33.82	4.98	50	14.27	33.82	4.86	25.24	274	0.16
57	13.78	33.82	4.51	75	13.04	33.82	3.76	25.49	250	0.22
				100	12.51	34.09	1.94	25.80	221	0.28
67	13.50	33.80	4.23	150	11.22	34.33	1.15	26.24	179	0.38
83	12.61	33.86 ^{a)}	3.27	200	11.00	34.56	0.44	26.45	159	0.47
96	12.60	34.05	2.22	250	10.10	34.57	0.46	26.62	143	0.55
107	12.24	34.14	1.69	300	9.89	34.63	0.25	26.70	135	0.62
129	11.65	34.25	1.42	400	8.33	34.57	0.16	26.90	116	0.75
155	11.13	34.36	1.04	500	7.30	34.52	0.13	27.02	105	0.86
189	11.15	34.56	0.46							
238	10.19	34.56	0.48							
314	9.75	34.63	0.16							
408	8.20	34.56	0.15							
544	6.96	34.51	0.12							

140.50

STRANGER; April 18, 1957; 1011, 1046 GCT; 24°07.5'N, 113°40.5'W; sounding, 1800 fm; wind, 350°, force 3; weather, partly cloudy; sea, rough; wire angle, 05°, 05°.

0	18.68	34.22		0	18.68	34.22		24.52	342	0.00
9	18.68	34.20		10	18.67	34.20		24.51	343	0.03
20	18.60	34.18		20	18.60	34.18		24.51	343	0.07
38	18.59	34.18		30	18.60	34.18		24.51	343	0.10
49	18.20	34.13		50	18.17	34.12		24.58	337	0.17
58	17.86	34.07		75	16.81	33.97		24.79	317	0.25
69	17.55	34.05		100	13.21	33.77		25.42	257	0.33
83	14.72	33.71		150	11.46	34.30		26.16	186	0.44
97	13.36	33.75		200	11.31	34.64		26.46	158	0.52
112	12.57	33.83		250	10.40	34.62		26.61	144	0.60
135	11.60	34.03		300	9.60	34.57		26.70	135	0.68
162	11.43	34.42		400	8.31	34.51		26.86	120	0.81
195	11.38	34.63		500	7.14	34.54		27.03	104	0.92
241	10.55	34.63								
316	9.38	34.56								
409	8.20	34.51								
536	7.02	34.56								

140.60

STRANGER; April 18, 1957; 0355, 0424 GCT; 23°48'N, 114°18.5'W; sounding, 2300 fm; wind, 360°, force 4; weather, partly cloudy; sea, rough; wire angle, 05°, 04°.

0	19.10	34.26	5.20	0	19.10	34.26	5.20	24.45	349	0.00
10	19.10	34.27	5.27	10	19.10	34.27	5.27	24.46	348	0.03
30	19.06	34.25	5.21	20	19.10	34.25	5.24	24.45	349	0.07
38	19.06	34.27	5.23	30	19.06	34.25	5.21	24.45	349	0.10
48	19.05	34.28	5.34	50	19.04	34.28	5.35	24.48	346	0.17
58	18.91	34.25	5.38	75	16.08	33.89	5.00	24.89	307	0.26
67	17.12	34.01	5.21	100	13.46	33.80	4.09	25.38	260	0.33
81	15.40	33.82	4.82	150	11.18	34.05	2.53	26.02	200	0.44
97	13.69	33.80	4.18	200	10.90	34.50	0.80	26.43	161	0.54
111	12.58	33.78	3.62	250	10.74	34.65	0.26	26.58	147	0.62
141	11.45	33.95	2.87	300	10.10	34.65	0.24	26.68	137	0.69
163	10.83	34.18	1.96	400	8.65	34.61	0.17	26.92	114	0.82
196	10.90	34.48	0.93	500	7.10	34.54	0.11	27.06	101	0.93
243	10.81	34.65	0.28							
321	9.80	34.64	0.23							
417	8.18	34.60	0.15							
534	6.76	34.52	0.10							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

STRANGER; April 17, 1957; 2218, 2245 GCT; 23°26'N, 114°55'W; sounding, 2000 fm; wind, 360°, force 4; weather, partly cloudy; sea, rough; wire angle, 11°, 15°.

14070

0	19.14	34.23	5.54	0	19.14	34.23	5.54	24.42	352	0.00
10	19.14	34.25	5.42	10	19.14	34.25	5.42	24.43	351	0.04
28	18.98	34.20	5.47	20	19.05	34.22	5.46	24.43	351	0.07
38	18.94	34.22	5.42	30	18.97	34.21	5.46	24.44	350	0.10
48	18.90	34.17	5.37	50	18.86	34.17	5.36	24.44	350	0.18
57	18.55	34.16	5.94u	75	17.43	34.05	5.63	24.70	325	0.26
68	17.86	34.09	5.60	100	14.96	33.76	5.30	25.05	292	0.34
79	17.14	34.02	5.64	150	11.00	33.90	3.00	25.93	208	0.46
94	15.70	33.86	5.34	200	10.60	34.40	1.19	26.40	164	0.56
107	13.82	33.62	5.30	250	10.00	34.45	0.80	26.54	150	0.64
130	11.83	33.66	4.17	300	9.44	34.46	0.63	26.64	141	0.72
157	10.84	33.96	2.65	400	8.05	34.48	0.31	26.88	118	0.85
188	10.70	34.36	1.36	500	7.09	34.48	0.31	27.02	105	0.97
234	10.19	34.45	0.87							
306	9.37	34.46	0.61							
399	8.06	34.48	0.31							
522	6.94	34.48	0.31							

STRANGER; April 17, 1957; 1627 GCT; 23°04'N, 115°34'W; sounding, 2100 fm; wind, 340°, force 5; weather, partly cloudy; sea, very rough; wire angle, 04°.

14080

0	19.13	34.23	5.30	0	19.13	34.23	5.30	24.42	352	0.00
10	19.12	34.23	5.35	10	19.12	34.23	5.35	24.42	352	0.04
29	19.12	34.23	5.39	20	19.12	34.23	5.37	24.42	352	0.07
43	19.00	34.21	5.32	30	19.12	34.23	5.39	24.42	352	0.10
53	18.10	34.07	5.68	50	18.40	34.12	5.58	24.52	342	0.18
63	17.91	34.00	5.54	75	16.88	33.80	5.71	24.64	331	0.26
73	17.08	33.82	5.75	100	14.01	33.67	4.66	25.18	280	0.34
91	15.14	33.71	4.41	150	11.12	33.93	2.78	25.94	207	0.46
106	13.49	33.66	4.77	200	11.02	34.44	1.09	26.35	168	0.56
119	12.84	33.68	4.70	250	10.49	34.54	0.53	26.53	151	0.64
144	11.24	33.89	3.01	300	9.72	34.52	0.47	26.65	140	0.71
173	10.85	34.11	2.08	400	8.42	34.51	0.44	26.85	121	0.85
209	11.05	34.51	0.80							
263	10.28	34.54	0.51							
342	9.14	34.51	0.42							
442	7.96	34.51	0.47							

STRANGER; April 15, 1957; 0643, 0704 GCT; 23°45.5'N, 111°23'W; sounding, 125 fm; wind, 320°, force 2; weather, partly cloudy; sea, moderate; wire angle, 05°, 05°.

14725

0	17.67	34.27	5.41	0	17.67	34.27	5.41	24.82	314	0.00
10	17.67	34.27	5.32	10	17.67	34.27	5.32	24.82	314	0.03
29	16.98	34.34	4.08	20	17.35	34.31	4.66	24.92	304	0.06
48	15.56	34.35	2.63	30	16.95	34.34	3.93	25.04	293	0.09
73	13.62	34.20	1.82	50	15.35	34.34	2.52	25.40	258	0.15
97	12.54	34.36	0.88	75	13.52	34.20	1.74	25.69	231	0.21
				100	12.47	34.39	0.80	26.05	197	0.26
122	12.12	34.56	0.43	150	11.99	34.61	0.39	26.31	172	0.35
160	11.95	34.62	0.38	200	11.74	34.72	0.22	26.44	160	0.44
200	11.74	34.72	0.22							

SIO
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn.m

147.35

STRANGER; April 16, 1957; 0509 GCT; 23°23'N, 112°02'W; sounding, 1750 fm; wind, 310°, force 3; weather, partly cloudy; sea, moderate; wire angle, 16°.

0	18.44	34.22	5.64	0	18.44	34.22	5.64	24.59	336	0.00
9	18.44	34.18	5.56	10	18.44	34.18	5.55	24.56	339	0.03
28	18.00	34.27	5.34	20	18.18	34.22	5.41	24.65	330	0.07
38	18.00	34.29	5.06	30	18.00	34.28	5.30	24.73	322	0.10
46	17.00	34.18	5.03	50	16.08	34.14	4.48	25.05	292	0.16
55	15.60	34.13	4.01	75	13.99	34.29	1.61	25.66	234	0.23
64	14.42	34.17	2.44	100	12.82	34.33	1.07	25.93	208	0.28
76	13.95	34.29	1.59	150	11.87	34.58	0.36	26.31	172	0.38
90	13.32	34.29	1.39	200	11.15	34.62	0.28	26.47	157	0.46
104	12.63	34.36	0.95	250	10.57	34.63	0.16	26.58	146	0.54
125	12.06	34.51	0.55	300	9.89	34.61	0.12	26.69	136	0.61
152	11.84	34.58	0.33	400	8.69	34.54	0.12	26.83	123	0.75
182	11.32	34.61	0.35	500	7.48	34.51	0.12	26.99	108	0.87
227	10.86	34.63	0.18							
299	9.90	34.61	0.12							
390	8.80	34.54	0.12							
511	7.34	34.51	0.12							

147.40

STRANGER; April 16, 1957; 0818 GCT; 23°12'N, 112°22'W; sounding, 1800 fm; wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 11°.

0	18.41	34.07	5.51	0	18.41	34.07	5.51	24.48	346	0.00
9	18.40	34.07	5.48	10	18.39	34.07	5.48	24.48	346	0.03
28	18.06	34.07	5.51	20	18.20	34.07	5.49	24.53	341	0.07
38	18.02	34.04	5.46	30	18.06	34.06	5.50	24.57	338	0.10
47	17.66	34.02	5.49	50	17.47	34.01	5.51	24.66	329	0.17
57	16.88	33.96	5.56	75	14.42	33.80	4.27	25.20	278	0.24
66	15.82	33.87	5.06	100	12.12	33.82	3.60	25.67	233	0.31
80	13.60	33.77	3.90	150	11.95	34.48	0.63	26.22	181	0.42
94	12.21	33.71	4.00	200	11.18	34.61	0.43	26.46	158	0.50
107	12.04	33.94	2.58	250	10.51	34.57	0.37	26.55	149	0.58
131	11.94	34.27	1.28	300	9.62	34.56	0.27	26.69	136	0.66
158	11.81	34.53	0.55	400	8.47	34.52	0.17	26.85	121	0.79
189	11.32	34.62	0.43	500	7.27	34.51	0.17	27.02	105	0.91
235	10.75	34.58	0.40							
307	9.52	34.56	0.25							
401	8.45	34.52	0.17							
524	6.95	34.51	0.17							

147.50

STRANGER; April 16, 1957; 1413 GCT; 22°48'N, 113°03'W; sounding, 1700 fm; wind, 340°, force 2; weather, partly cloudy; sea, moderate; wire angle, 00°.

0	19.34	34.27	5.26	0	19.34	34.27	5.26	24.40	354	0.00
10	19.36	34.27	6.34r	10	19.36	34.27	5.26	24.39	355	0.04
30	19.03	34.22	5.39	20	19.19	34.24	5.32	24.42	352	0.07
39	18.98	34.21	5.36	30	19.03	34.22	5.39	24.44	350	0.10
48	18.84	34.22	5.47	50	18.78	34.21	5.48	24.49	345	0.18
59	18.33	34.13	5.51	75	16.84	33.99	5.66	24.80	316	0.26
70	17.46	34.06	5.80	100	13.12	33.76	4.25	25.43	256	0.33
84	15.31	33.81	4.93	150	12.10	34.49	0.82	26.20	183	0.44
98	13.26	33.76	4.33	200	11.23	34.59	0.53	26.43	161	0.53
113	12.61	33.76	3.81	250	10.48	34.62	0.36	26.60	145	0.61
136	12.44	34.35	1.15	300	9.66	34.61	0.36	26.72	133	0.68
164	11.74	34.54	0.66	400	8.34	34.55	0.43	26.89	117	0.81
193	11.31	34.58	0.55	500	7.22	34.54	0.27	27.05	102	0.92
243	10.58	34.62	0.36							
319	9.38	34.60	0.37							
413	8.19	34.55	0.43							
536	6.83	34.54	0.18							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

S10

CCOFI
5704

STRANGER; April 16, 1957; 1840 GCT; 22°38'N, 113°33'W; sounding, 2050 fm; wind, 340°, force 3; weather, partly cloudy; sea, rough; wire angle, 17°.

147.60

0	20.80	34.48	5.09	0	20.80	34.48	5.09	24.17	376	0.00
9	20.78	34.44	5.01	10	20.77	34.44	5.01	24.15	378	0.04
28	20.30	34.42	5.04	20	20.56	34.43	5.02	24.20	373	0.08
36	20.10	34.42	5.08	30	20.26	34.42	5.07	24.27	366	0.11
45	19.99	34.42	5.01	50	19.85	34.42	5.03	24.38	356	0.18
54	19.76	34.42	5.05	75	17.76	34.14	5.24	24.70	325	0.27
64	19.76	34.43	5.05	100	13.69	33.97	3.20	25.48	251	0.34
75	17.76	34.14	5.24	150	11.91	34.48	0.95	26.22	181	0.45
90	14.82	33.89	4.16	200	11.05	34.58	0.59	26.46	158	0.54
102	13.53	33.98	3.08	250	10.56	34.63	0.34	26.60	145	0.62
123	11.90	34.03	2.51	300	9.84	34.62	0.35	26.70	135	0.69
149	11.91	34.47	1.00	400	8.47	34.56	0.17	26.88	118	0.82
180	11.28	34.52	0.85	500	7.48	34.52	0.16	27.00	107	0.94
224	10.89	34.63	0.36							
295	9.92	34.62	0.35							
385	8.65	34.57	0.18							
506	7.42	34.52	0.16							

STRANGER; April 16-17, 1957; 2335, 0018 GCT; 22°17'N, 114°12'W; sounding, 2100 fm; wind 340°, force 4; weather, partly cloudy; sea, rough; wire angle, 18°, 19°.

147.70

0	21.02	34.54	5.46	0	21.02	34.54	5.46	24.16	377	0.00
9	21.02	34.51	5.08	10	21.01	34.51	5.08	24.14	379	0.04
28	20.92	34.52	5.09	20	20.97	34.51	5.08	24.16	377	0.08
42	20.87	34.52	5.09	30	20.91	34.52	5.09	24.18	375	0.11
51	20.82	34.52	5.10	50	20.82	34.52	5.10	24.20	373	0.19
60	20.82	34.52	5.08	75	20.49	34.43	5.13	24.22	371	0.28
69	20.68	34.47	5.15	100	17.59	34.10	4.81	24.70	325	0.37
88	19.68	34.34	5.06	150	12.73	34.44	0.92	26.03	199	0.50
102	16.86	34.03	4.70	200	11.30	34.60	0.60	26.43	161	0.59
115	14.22	33.91	3.62	250	10.68	34.59	0.54	26.53	151	0.67
137	13.32	34.33	1.45	300	10.02	34.58	0.37	26.64	141	0.74
162	12.25	34.51	0.66	400	8.58	34.51	0.20	26.83	123	0.88
195	11.37	34.60	0.60							
248	10.69	34.59	0.55							
325	9.69	34.58	0.28							
422	8.21	34.49	0.19							

STRANGER; April 17, 1957; 0532, 0557 GCT; 21°54'N, 114°49'W; sounding, 2000 fm; wind, 340°, force 4; weather, partly cloudy; sea, rough; wire angle, 05°, 05°.

147.80

0	21.72	34.24	4.78	0	21.72	34.24	4.78	23.74	417	0.00
10	21.73	34.31	4.95	10	21.73	34.31	4.95	23.79	412	0.04
29	21.28	34.34	5.00	20	21.57	34.33	4.98	23.85	407	0.08
44	20.54	34.33	5.20	30	21.26	34.34	5.00	23.94	398	0.12
54	20.06	34.29	5.25	50	20.29	34.31	5.23	24.18	375	0.20
64	18.74	34.10	5.39	75	17.56	33.99	5.20	24.63	332	0.29
74	17.62	33.99	5.25	100	14.97	34.04	2.97	25.26	272	0.37
93	15.67	34.05	3.24	150	11.73	34.40	1.20	26.20	183	0.48
106	14.28	34.03	2.72	200	11.10	34.53	0.61	26.41	163	0.57
121	12.87	34.11	1.98	250	10.54	34.67	0.29	26.63	142	0.64
145	11.78	34.35	1.40	300	9.79	34.62	0.25	26.70	135	0.72
173	11.62	34.52	0.67	400	8.25	34.52	0.28	26.88	118	0.85
210	10.93	34.53 ^{a)}	0.60	500	7.16	34.53	0.21	27.05	102	0.96
262	10.40	34.70	0.23							
339	9.10	34.54	0.28							
438	7.76	34.52	0.25							
579	6.68	34.53	0.18							

a) Salinity value high; acceptable for this region.

S10

CCOF1
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

153.16

STRANGER; April 14, 1957; 1855, 1915 GCT; 22°54'N, 110°07'W; sounding, 200 fm; wind, 340°, force 4; weather, partly cloudy; sea, moderate; wire angle 25°, 35°.

0	18.59	34.47	5.04	0	18.59	34.47	5.04	24.73	322	0.00
8	18.50	34.45	5.05	10	18.48	34.45	5.03	24.74	321	0.03
26	18.28	34.45	4.91	20	18.38	34.45	4.99	24.78	318	0.06
44	17.84	34.50	4.17	30	18.21	34.45	4.80	24.82	314	0.10
66	15.72	34.65	1.91	50	17.58	34.53	3.80	25.03	294	0.16
87	13.81	34.67	0.50	75	14.57	34.66	1.50	25.78	223	0.22
108	13.07	34.72	0.27	100	13.31	34.70	0.30	26.11	191	0.27
				150	12.24	34.81	0.25	26.42	162	0.36
132	12.52	34.81	0.34							
165	12.04	34.81 ^{a)}	0.18							

15320

STRANGER; April 14, 1957; 1405 GCT; 22°45'N, 110°23'W; sounding, 900 fm; wind 310°, force 2; weather, cloudy; sea, moderate; wire angle, 15°.

0	20.62	34.70	5.10	0	20.62	34.70	5.10	24.39	355	0.00
10	20.60	34.73	5.17	10	20.60	34.73	5.17	24.42	352	0.04
29	20.62	34.62	5.14	20	20.61	34.68	5.15	24.38	356	0.07
38	20.54	34.62	5.15	30	20.62	34.62	5.14	24.34	360	0.11
46	19.19	34.31	5.09	50	17.67	34.24	4.47	24.79	317	0.17
56	16.16	34.22	3.37	75	14.67	34.60	0.81	25.75	225	0.24
66	15.42	34.29	2.51	100	13.67	34.75	0.41	26.08	194	0.30
77	14.54	34.64	0.66	150	11.94	34.68	0.33	26.38	166	0.39
90	13.90	34.72	0.46	200	11.24	34.64	0.33	26.47	157	0.47
105	13.56	34.75	0.40	250	10.65	34.62	0.27	26.56	148	0.55
125	12.56	34.63	0.37	300	10.00	34.61	0.17	26.67	138	0.62
152	11.90	34.68	0.33	400	8.66	34.59	0.14	26.88	118	0.75
183	11.44	34.65	0.34	500	7.34	34.56	0.25	27.04	103	0.87
228	10.90	34.63	0.32							
296	10.04	34.61	0.17							
389	8.80	34.60	0.12							
511	7.20	34.55	0.27							

15330

STRANGER; April 14, 1957; 1011 GCT; 22°25.5'N, 111°01'W; sounding, 1750 fm; wind, 320°, force 3; weather, cloudy; sea, moderate; wire angle, 05°.

0	21.08	34.70	5.07	0	21.08	34.70	5.07	24.26	367	0.00
10	21.10	34.70	5.00	10	21.10	34.70	5.00	24.25	368	0.04
29	20.93	34.67	4.98	20	21.07	34.69	4.98	24.26	367	0.07
38	18.54	34.34	5.55	30	20.92	34.67	4.99	24.28	365	0.11
49	17.46	34.42	3.66	50	17.40	34.43	3.62	25.00	297	0.18
58	16.00	34.52	2.83	75	15.02	34.66	1.40	25.72	228	0.24
67	15.74	34.61	2.10	100	13.61	34.72	0.42	26.07	195	0.30
81	14.42	34.68	0.96	150	12.44	34.88	0.25	26.43	161	0.38
95	13.81	34.67	0.57	200	11.52	34.89	0.22	26.62	143	0.46
109	13.30	34.84	0.27	250	10.90	34.85	0.21	26.70	135	0.53
132	12.80	34.85	0.24	300	10.19	34.78	0.16	26.76	129	0.60
160	12.25	34.89	0.24	400	8.63	34.71	0.14	26.96	110	0.72
193	11.61	34.90	0.22	500	7.40	34.63	0.15	27.09	98	0.83
240	11.02	34.87	0.22							
314	9.98	34.76	0.13							
408	8.49	34.70	0.13							
532	7.08	34.61	0.15							

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

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

S10

CCOFI
5704

STRANGER; April 14, 1957; 0352 GCT; 22°06'N, 111°40'W; sounding, 1800 fm; wind 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 05°.

153.40

0	21.24	34.67	5.00	0	21.24	34.67	5.00	24.18	375	0.00
8	21.26	34.66	5.05	10	21.26	34.66	5.06	24.18	375	0.04
27	21.23	34.66	5.11	20	21.25	34.66	5.09	24.18	375	0.07
37	19.92	34.36	4.74	30	21.09	34.63	5.10	24.21	372	0.11
46	18.47	34.27	4.31	50	17.66	34.19	4.36	24.76	320	0.18
56	16.94	34.14	4.39	75	16.40	34.78	2.18	25.50	249	0.25
66	16.69	34.42	2.59	100	13.67	34.57	0.76	25.94	207	0.31
75	16.40	34.78	2.18	150	12.59	34.74	0.23	26.29	174	0.41
94	14.08	34.56	0.87	200	11.67	34.73	0.20	26.47	157	0.49
108	13.38	34.59	0.66	250	10.83	34.68	0.22	26.58	146	0.57
132	12.99	34.72	0.22	300	10.02	34.61	0.31	26.66	139	0.64
159	12.38	34.74	0.24	400	8.78	34.58	0.28	26.85	121	0.78
191	11.83	34.74	0.20	500	7.61	34.54	0.17	26.99	108	0.90
238	11.00	34.70	0.20							
314	9.81	34.59	0.32							
408	8.66	34.58	0.27							
533	7.22	34.52	0.12							

STRANGER; April 13, 1957; 2220 GCT; 21°46'N, 112°12.5'W; sounding, 1700 fm; wind, 330°, force 2; weather, cloudy; sea, moderate; wire angle, 14°.

153.50

0	20.39	34.43	5.12	0	20.39	34.43	5.12	24.24	369	0.00
9	20.36	34.42	5.15	10	20.36	34.42	5.15	24.24	369	0.04
29	20.22	-	5.16	20	20.39	34.42	5.14	24.24	369	0.07
38	19.64	34.42	5.20	30	20.20	34.42	5.16	24.28	365	0.11
48	19.55	34.39	5.24	50	19.53	34.38	5.24	24.44	350	0.18
57	19.44	34.36	5.23	75	16.55	33.92	5.06	24.81	315	0.26
66	17.85	34.06	5.15	100	13.20	34.09	2.22	25.67	233	0.34
79	15.96	33.89	4.97	150	11.82	34.54	0.70	26.28	175	0.44
93	14.32	33.91	3.54	200	11.18	34.63	0.35	26.47	157	0.52
106	12.76	34.22	1.64	250	10.50	34.65	0.22	26.62	143	0.60
128	12.34	34.42	0.86	300	9.84	34.64	0.14	26.70	135	0.67
154	11.76	34.55	0.68	400	8.66	34.56	0.14	26.85	121	0.80
185	11.39	34.61	0.40	500	7.49	34.54	0.14	27.01	106	0.92
230	10.75	34.65	0.27							
302	9.89	34.64	0.14							
393	8.74	34.56	0.15							
515	7.30	34.54	0.14							

STRANGER; April 13, 1957; 1628 GCT; 21°23'N, 112°46'W; sounding, 2076 fm; wind, 340°, force 3; weather, cloudy; sea, moderate; wire angle, 11°.

153.60

0	22.74	34.47	4.71	0	22.74	34.47	4.71	23.63	427	0.00
10	22.74	34.46	4.74	10	22.74	34.46	4.74	23.62	428	0.04
29	22.57	34.59	4.82	20	22.67	34.55	4.81	23.70	420	0.08
38	22.46	34.60	4.79	30	22.57	34.59	4.81	23.77	414	0.13
47	22.26	34.60	4.79	50	22.07	34.58	4.78	23.90	402	0.21
57	21.74	34.54	4.78	75	21.16	34.53	4.81	24.12	381	0.31
66	21.68	34.55	4.82	100	17.75	34.16	3.42	24.71	324	0.40
80	20.58	34.47	4.80	150	11.97	34.36	1.15	26.12	190	0.52
93	19.11	34.31	4.10	200	11.22	34.55	0.56	26.36	167	0.61
107	15.80	34.33r	2.64	250	10.46	34.57	0.42	26.56	148	0.69
129	12.42	34.14	1.82	300	9.80	34.55	0.34	26.65	140	0.77
158	11.83	34.42 ^{a)}	0.91	400	8.63	34.52	0.23	26.82	124	0.90
190	11.38	34.56	0.61	500	7.48	34.51	0.18	26.99	108	1.02
236	10.64	34.58	0.45							
310	9.66	34.54	0.32							
403	8.57	34.52	0.22							
529	7.16	34.51	0.16							

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

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{cm^3}{g}$	dyn. m

99G.15

BLACK DOUGLAS; April 17, 1957; 0547 GCT; 30°58'N, 114°40'W; sounding, 12 fm; wind, calm; weather, partly cloudy; sea, smooth; wire angle, 00°.

0	20.00	35.62	5.60	0	20.00	35.62	5.60	25.24	274	0.00
10	19.87	35.62	5.60	10	19.87	35.62	5.60	25.29	269	0.03

99G.40

BLACK DOUGLAS; April 17, 1957; 0911 GCT; 31°10.5'N, 114°15'W; sounding, 30 fm; wind, 020°, force 3; weather, cloudy; sea, smooth; wire angle, 03°.

0	20.12	35.48	5.90	0	20.12	35.48	5.90	25.11	286	0.00
10	19.92	35.48	5.96	10	19.92	35.48	5.96	25.16	281	0.03
30	16.68	35.43	3.95	20	18.90	35.46	5.67	25.42	257	0.06
				30	16.68	35.43	3.95	25.94	207	0.08

99G.55

BLACK DOUGLAS; April 17, 1957; 1125 GCT; 31°18'N, 114°00'W; sounding, 19 fm; wind, 020°, force 3; weather, overcast; sea, smooth; wire angle, 00°.

0	19.80	35.46	5.26	0	19.80	35.46	5.26	25.19	279	0.00
10	19.79	35.44	5.19	10	19.79	35.44	5.19	25.18	280	0.03

103G.02

BLACK DOUGLAS; April 16, 1957; 2310 GCT; 30°17'N, 114°30'W; sounding, 25 fm; wind, variable, force 1; weather, clear; sea, smooth; wire angle, 00°.

0	21.37	35.55	6.09	0	21.37	35.55	6.09	24.84	312	0.00
10	17.99	35.48	6.94	10	17.99	35.48	6.94	25.66	234	0.03
30	16.29	35.50	3.83	20	16.78	35.49	5.91	25.95	206	0.05
40	16.30	35.52	3.66	30	16.29	35.50	3.83	26.08	194	0.07

103G.40

BLACK DOUGLAS; April 16, 1957; 1744 GCT; 30°36'N, 113°52'W; sounding, 50 fm; wind, 230°, force 1; weather, clear; sea, smooth; wire angle, 00°.

0	19.85	35.38	6.16	0	19.85	35.38	6.16	25.11	286	0.00
10	18.49	35.34	6.38	10	18.49	35.34	6.38	25.43	256	0.03
30	16.42	35.32	4.69	20	17.44	35.33	5.74	25.68	232	0.05
50	14.58	35.20	2.51	30	16.42	35.32	4.69	25.91	210	0.07
75	14.44	35.16	2.24	50	14.58	35.20	2.51	26.24	179	0.11
				75	14.44	35.16	2.24	26.24	179	0.16

103G.70

BLACK DOUGLAS; April 16, 1957; 1312 GCT; 30°51'N, 113°22'W; sounding, 25 fm; wind, 150°, force 2; weather, rain; sea, smooth; wire angle, 00°.

0	20.29	35.39	5.77	0	20.29	35.39	5.77	25.01	296	0.00
10	20.06	35.34	6.02	10	20.06	35.34	6.02	25.03	294	0.03
30	16.74	35.25	5.27	20	18.20	35.28	5.80	25.45	254	0.06
40	15.94	35.26	3.30	30	16.74	35.25	5.27	25.78	222	0.08

109G.12

BLACK DOUGLAS; April 15, 1957; 1933 GCT; 29°30'N, 113°46'W; sounding, 145 fm; wind, 330°, force 1; weather, partly cloudy; sea, smooth; wire angle, 12°.

0	17.18	35.43	5.76	0	17.18	35.43	5.76	25.82	219	0.00
10	16.52	35.41	5.37	10	16.52	35.41	5.37	25.96	205	0.02
30	16.04	35.38	5.04	20	16.26	35.40	5.20	26.01	201	0.04
48	15.06	35.27	3.74	30	16.04	35.38	5.04	26.05	197	0.06
71	14.44	35.32u	3.19	50	15.01	35.27	3.72	26.20	183	0.10
94	14.05	35.25u	2.82	75	14.36	(35.24)	3.12	(26.32)	(171)	(0.14)
115	13.95	35.22	2.74	100	14.02	35.23	2.80	26.38	166	(0.19)
149	13.56	35.16	2.46	150	13.55	35.16	2.45	26.43	161	(0.27)
185	13.12	35.12	2.05	200	12.98	35.11	1.90	26.50	154	(0.35)
229	12.70	35.08	1.69							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

S10
CCOFI
5704

BLACK DOUGLAS; April 15, 1957; 2340 GCT; 29°44'N, 113°18'W; sounding, 100 fm; wind, calm; weather, partly cloudy; sea, calm; wire angle, 00°.

109G40

0	19.06	35.47	6.89	0	19.06	35.47	6.89	25.38	260	0.00
10	17.85	35.25	6.79	10	17.85	35.25	6.79	25.52	247	0.02
30	17.08	35.41	6.17	20	16.80	35.29	6.58	25.80	221	0.05
50	15.80	35.30	4.53	30	17.08	35.41	6.17	25.83	218	0.07
73	15.20	35.31	3.75	50	15.80	35.30	4.53	26.04	198	0.11
97	13.87	35.21	2.68	75	15.21	35.32	3.49	26.19	184	0.16
120	13.36	35.08	1.75	100	13.77	35.19	2.52	26.40	164	0.20
148	13.28	35.08	1.66	150	(13.27)	(35.08)	(1.65)	(26.43)	(161)	(0.29)

BLACK DOUGLAS; April 16, 1957; 0345 GCT; 29°58'N, 112°52.5'W; sounding, 47 fm; wind, calm; weather, clear; sea, calm; wire angle, 00°.

109G68

0	20.41	35.39	6.31	0	20.41	35.39	6.31	24.98	299	0.00
10	18.58	35.30	6.88	10	18.58	35.30	6.88	25.38	261	0.03
30	16.06	35.16	5.27	20	17.08	35.26	6.15	25.68	232	0.05
50	14.76	35.15	3.37	30	16.06	35.16	5.27	25.88	213	0.07
75	14.38	35.11	2.39	50	14.76	35.15	3.37	26.16	186	0.11
				75	14.38	35.11	2.39	26.21	182	0.16

BLACK DOUGLAS; April 15, 1957; 1700 GCT; 29°13.5'N, 113°33'W; sounding, 220 fm; wind, variable, force 1; weather, clear; sea, smooth; wire angle, 15°.

111G14

0	14.40	35.10	3.67	0	14.40	35.10	3.67	26.20	183	0.00
10	14.13	35.08	3.37	10	14.13	35.08	3.37	26.24	179	0.02
29	13.84	35.07	3.07	20	13.97	35.07	3.20	26.27	176	0.04
48	13.71	35.08	2.95	30	13.83	35.07	3.06	26.29	174	0.05
72	13.74	35.07	2.97	50	13.71	35.08	2.96	26.33	170	0.09

BLACK DOUGLAS; April 15, 1957; 1330 GCT; 28°58.5'N, 113°18'W; sounding, 600 fm; wind, 340°, force 1; weather, clear; sea, slight; wire angle, 05°.

113G18

0	16.08	35.21	5.46	0	16.08	35.21	5.46	25.91	210	0.00
10	15.71	35.21	4.84	10	15.71	35.21	4.84	26.00	202	0.02
30	15.46	35.19	4.64	20	15.57	35.20	4.75	26.02	200	0.04
50	15.29	35.21	4.28	30	15.46	35.19	4.64	26.04	198	0.06
60	15.16	35.23	4.10	50	15.29	35.21	4.28	26.09	193	0.10
69	14.93	35.21	3.91	75	14.81	35.19	3.78	26.18	185	0.15
87	14.62	35.16	3.56	100	14.06	35.10	3.10	26.27	176	0.19
96	14.11	35.10	3.17	150	13.39	35.04	2.58	26.36	167	0.28
110	14.00	35.10	3.02	200	13.05	35.03	2.21	26.43	161	0.36
131	13.60	35.07	2.78	250	12.90	35.01	2.11	26.44	160	0.44
158	13.33	35.04	2.53	300	12.69	34.99	1.98	26.47	157	0.52
188	13.10	35.03	2.27	400	12.32	34.94	1.70	26.50	154	0.68
251	12.88	35.01	2.10	500	12.18	34.93	1.58	26.52	152	0.84
370	12.40	34.95	1.76	600	11.92	34.91	1.37	26.55	149	1.00
549	12.04	34.92	1.48	700	11.72	34.89	1.28	26.58	146	1.16
729	11.66	34.89	1.26	800	11.61	34.88	1.24	26.61	144	1.31
933	11.41	34.87	1.20	1000	(11.33)	(34.86)		(26.63)	(142)	(1.62)

SIO

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{cm^3}{g}$	dyn. m

115G.20

BLACK DOUGLAS; April 15, 1957; 0959 GCT; 28°⁴²'N, 113°^{04.5}'W; sounding, 600 fm; wind, calm; weather, clear; sea, calm; wire angle, 01°.

0	15.83	35.13	4.88	0	15.83	35.13	4.88	25.90	211	0.00
10	15.34	35.12	4.47	10	15.34	35.12	4.47	26.02	200	0.02
30	15.20	35.14	4.17	20	15.27	35.13	4.32	26.04	198	0.04
49	14.70	35.14	3.55	30	15.20	35.14	4.17	26.06	196	0.06
58	14.56	35.11	3.48	50	14.67	35.14	3.54	26.16	186	0.10
68	14.30	35.09	3.25	75	14.23	35.09	3.21	26.23	180	0.14
81	14.20	35.09	3.20	100	14.04	35.09	2.98	26.27	176	0.19
96	14.09	35.09	3.01	150	13.52	35.04	2.54	26.34	169	0.28
109	13.92	35.08	2.92	200	13.00	35.01	2.27	26.42	162	0.36
132	13.68	35.03	2.75	250	12.90	35.00	2.27	26.44	160	0.44
158	13.42	35.04	2.48	300	12.72	34.98	2.15	26.46	158	0.52
188	13.04	35.01	2.27	400	12.25	34.93	1.64	26.50	154	0.68
262	12.86	35.00	2.27	500	12.08	34.91	1.60	26.52	152	0.84
374	12.34	34.94	1.67	600	11.89	34.90	1.56	26.55	149	1.00
554	11.95	34.90	1.58	700	11.73	34.89	1.53	26.56	148	1.16
744	11.66	34.88	1.51	800	11.57	34.87	1.46	26.58	146	1.32
940	11.40	34.85	1.33	1000	(11.33)	(34.83)		(26.61)	(144)	(1.63)

115G.40

BLACK DOUGLAS; April 15, 1957; 0553 GCT; 28°52'N, 112°45'W; sounding, 230 fm; wind, 180°, force 1; weather, clear; sea, calm; wire angle, 00°.

0	17.17	35.30	5.71	0	17.17	35.30	5.71	25.72	228	0.00
10	17.14	35.29	5.68	10	17.14	35.29	5.68	25.72	228	0.02
30	16.81	35.26	5.37	20	16.99	35.27	5.55	25.74	226	0.04
50	16.72	35.26	5.20	30	16.81	35.26	5.37	25.78	223	0.07
75	16.10	35.26	4.82	50	16.72	35.26	5.20	25.80	221	0.11
98	14.68	35.21	3.29	75	16.10	35.26	4.82	25.94	207	0.16
121	14.10	35.16	2.81	100	14.63	35.20	3.26	26.22	181	0.22
159	13.66	35.10	2.49	150	13.76	35.12	2.66	26.34	169	0.30
194	13.19	35.05	2.09	200	13.16	35.04	2.05	26.42	162	0.39
239	13.04	35.01	2.00	250	12.92	34.99	1.95	26.43	161	0.47
283	12.43	34.96	1.87	300	12.24	34.94	1.81	26.51	153	0.55
380	11.30	34.87	1.47							

127G.30

BLACK DOUGLAS; April 13, 1957; 2131 GCT; 27°03'N, 111°47.5'W; sounding, 500 fm; wind, 090°, force 2; weather, partly cloudy; sea, slight; wire angle, 13°.

0	21.33	35.34	5.82	0	21.33	35.34	5.82	24.68	327	0.00
10	19.35	35.28	6.83	10	19.35	35.28	6.83	25.16	281	0.03
30	17.74	35.24	4.64	20	18.40	35.26	5.70	25.38	260	0.06
38	17.28	35.21	4.27	30	17.74	35.24	4.64	25.54	245	0.08
47	16.38	35.14	3.33	50	16.15	35.11	3.18	25.82	219	0.13
56	15.70	35.07	2.88	75	14.43	34.99	1.53	26.10	192	0.18
64	14.88	35.03	2.08	100	13.98	34.98	2.10	26.20	183	0.23
75	14.43	34.99	1.53	150	13.24	34.96	1.95	26.33	170	0.32
88	14.14	34.96	1.47	200	12.50	34.90	1.38	26.43	161	0.40
101	13.96	34.98	2.11	250	11.82	34.83	0.65	26.51	153	0.48
120	13.54	34.99	1.98	300	11.20	34.78	0.36	26.58	146	0.56
146	13.27	34.96	1.97							
175	12.94	34.94	1.79							
218	12.24	34.87	1.08							
287	11.36	34.79	0.37							
376	10.35	34.74	0.28							
496	-	34.88	1.44							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{3}{\text{cm}^3/\text{g}}$	dyn. m

BLACK DOUGLAS; April 13, 1957; 1948 GCT; 27°08'N, 111°38'W; sounding, 900 fm; wind, 090°, force 1; weather, partly cloudy; sea, smooth; wire angle, 00°.

127G40

0	21.80	35.35	5.48	0	21.80	35.35	5.48	24.56	339	0.00
10	19.94	35.31	6.17	10	19.94	35.31	6.17	25.03	294	0.03
30	17.96	35.27	4.90	20	18.78	35.29	5.60	25.31	267	0.06
40	17.54	35.25	4.42	30	17.96	35.27	4.90	25.51	248	0.08
49	17.18	35.21	3.95	50	17.10	35.20	3.85	25.67	233	0.13
58	16.21	35.14	2.81	75	15.08	35.03	1.94	26.00	202	0.19
67	15.50	35.07	2.17	100	14.00	34.98	1.50	26.18	184	0.24
81	14.84	35.01	1.73	150	13.22	34.96	1.40	26.33	170	0.33
94	14.17	34.99	1.25	200	12.72	34.93	1.78	26.42	162	0.41
108	13.80	34.97	1.72	250	12.32	34.88	1.49	26.45	159	0.49
129	13.33	34.91	1.03	300	11.60	34.81	0.87	26.53	151	0.57
156	13.19	34.96	1.47	400	(9.86)	(34.68)	(0.22)	(26.74)	(131)	(0.72)
187	12.79	34.95 ^{a)}	1.77							
232	12.58	34.90	1.75							
305	11.49	34.80	0.81							
397	9.97	34.69	0.22							
520	-	34.96	2.12							

BLACK DOUGLAS; April 13, 1957; 1659 GCT; 27°15.5'N, 111°23'W; sounding, 1000 fm; wind, 160°, force 1; weather, partly cloudy; sea, calm; wire angle, 00°.

127G55

0	21.07	35.35	5.69	0	21.07	35.35	5.69	24.76	319	0.00
10	19.72	35.30	6.19	10	19.72	35.30	6.19	25.08	289	0.03
31	17.80	35.26	4.85	20	18.73	35.27	5.52	25.35	263	0.06
39	17.62	35.26	4.69	30	17.82	35.26	4.88	25.53	246	0.08
48	17.08	35.19	3.78	50	16.89	35.17	3.88	25.69	231	0.13
57	16.24	35.14	4.38	75	16.06	35.10	4.28	25.83	218	0.19
66	16.16	35.10	4.35	100	14.76	35.00	1.65	26.04	198	0.24
80	15.98	35.14	4.23	150	13.43	34.96	1.38	26.29	174	0.33
93	14.94	35.01	1.95	200	12.62	34.89	0.88	26.40	164	0.42
107	14.50	34.99	1.47	250	12.03	34.85	0.74	26.48	156	0.50
131	13.71	34.97	1.28	300	11.45	34.78	0.32	26.53	151	0.58
156	13.37	34.96	1.42	400	10.10	34.70	0.31	26.72	133	0.72
189	12.75	34.90	0.90							
234	12.22	34.87	0.82							
308	11.38	34.77	0.29							
401	10.08	34.70	0.31							

BLACK DOUGLAS; April 13, 1957; 1420 GCT; 27°23'N, 111°08.5'W; sounding, 900 fm; wind, calm; weather, cloudy; sea, calm; wire angle, 00°.

127G70

0	20.75	35.34	5.44	0	20.75	35.34	5.44	24.84	312	0.00
10	19.75	35.30	5.80	10	19.75	35.30	5.80	25.08	289	0.03
30	17.02	35.18	4.34	20	18.30	35.24	5.05	25.41	258	0.06
40	16.38	35.14	4.28	30	17.02	35.18	4.34	25.67	233	0.08
49	15.68	35.09	3.37	50	15.62	35.09	3.28	25.91	210	0.13
59	14.99	35.03	2.40	75	14.24	35.01	2.00	26.16	186	0.18
68	14.48	35.01	2.05	100	13.59	34.96	1.45	26.27	176	0.22
82	14.02	35.01	1.90	150	12.69	34.88	0.74	26.38	166	0.31
96	13.62	34.96	1.49	200	12.02	34.85	0.53	26.49	155	0.39
110	13.44	34.96	1.34	250	11.43	34.79	0.40	26.55	149	0.47
132	12.99	34.88	0.93	300	11.16	34.82	0.40	26.64	141	0.54
159	12.56	34.88	0.68	400	9.86	34.72	0.39	26.78	128	0.68
192	12.14	34.87	0.58	500	8.45	34.64	0.26	26.94	112	0.81
235	11.54	34.78	0.40							
308	11.04	34.82	0.96 ^u							
400	9.86	34.72	0.39							
521	8.13	34.63	0.22							

a) Value considered acceptable for this region.

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

127G90

BLACK DOUGLAS; April 12, 1957; 0457 GCT; 27°33'N, 110°49'W; sounding, 400 fm; wind, variable, force 1; weather, clear; sea, calm; wire angle, 00°.

0	20.75	35.29	6.21	0	20.75	35.29	6.21	24.81	315	0.00
10	20.26	35.32	6.05	10	20.26	35.32	6.05	24.95	301	0.03
30	18.08	35.22	4.57	20	19.37	35.28	5.58	25.15	282	0.06
40	16.94	35.20	3.42	30	18.08	35.22	4.57	25.44	255	0.09
49	15.93	35.10	2.69	50	15.71	35.08	2.54	25.89	212	0.13
58	14.87	35.01	1.93	75	14.30	34.97	1.50	26.12	190	0.18
68	14.54	34.99	1.66	100	13.93	34.95	1.19	26.20	183	0.23
82	14.10	34.96	1.34	150	12.98	34.90	0.76	26.34	169	0.32
96	13.94	34.96	1.19	200	12.31	34.84	0.64	26.43	161	0.40
110	13.84	34.94	1.18	250	11.84	34.81	0.60	26.49	155	0.48
131	13.38	34.94	0.87	300	11.09	34.74	0.31	26.58	147	0.56
157	12.82	34.88	0.71	400	(9.57)	(34.70)	(0.22)	(26.82)	(124)	(0.70)
189	12.40	34.85	0.62							
234	12.06	34.83	0.66							
306	11.00	34.73	0.28							
399	9.58	34.70	0.22							

127G94

BLACK DOUGLAS; April 12, 1957; 0347 GCT; 27°34.5'N, 110°46.5'W; sounding, 36 fm; wind, variable, force 1; weather, clear; sea, calm; wire angle, 00°.

0	20.68	35.23	6.02	0	20.68	35.23	6.02	24.78	318	0.00
10	19.74	35.21	6.27	10	19.74	35.21	6.27	25.01	296	0.03
30	16.98	35.12	3.40	20	18.22	35.17	4.82	25.36	262	0.06
50	15.68	35.06	1.92	30	16.98	35.12	3.40	25.63	237	0.08
				50	15.68	35.06	1.92	25.88	213	0.13

139G22

BLACK DOUGLAS; April 11, 1957; 0220 GCT; 25°15'N, 110°49'W; sounding, 450 fm; wind, calm; weather, partly cloudy; sea, calm; wire angle, 10°.

0	20.79	35.30	5.66	0	20.79	35.30	5.66	24.80	316	0.00
10	20.49	35.34	5.80	10	20.49	35.34	5.80	24.91	305	0.03
29	19.00	35.26	4.75	20	19.90	35.31	5.52	25.05	292	0.06
38	18.00	35.21	3.55	30	18.95	35.26	4.70	25.24	274	0.09
47	16.70	35.12	2.71	50	16.50	35.11	2.60	25.73	227	0.14
56	16.10	35.09	2.38	75	14.53	35.00	1.28	26.09	193	0.19
65	14.82	35.00	1.52	100	13.91	34.96	0.96	26.20	183	0.24
77	14.47	35.00	1.27	150	12.61	34.88	0.38	26.40	164	0.33
90	14.06	34.97	1.02	200	11.90	34.82	0.29	26.48	156	0.41
103	13.88	34.96	0.93	250	11.34	34.77	0.25	26.55	149	0.49
124	13.28	34.92	0.71	300	10.76	34.76	0.19	26.65	140	0.56
150	12.61	34.88	0.38	400	9.35	34.61	0.15	26.78	128	0.70
181	12.14	34.85	0.30	500	8.12	34.59	0.12	26.95	111	0.82
225	11.60	34.78	0.27							
297	10.80	34.76	0.19							
388	9.50	34.62	0.14							
509	8.01	34.59	0.11							

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10^{-5}cm/g	dyn. m

BLACK DOUGLAS; April 10, 1957; 2300 GCT; 25°24'N, 110°31.5'W; sounding, 650 fm; wind, 080°, force 1; weather, partly cloudy; sea, smooth; wire angle, 00°.

139G40

0	21.30	35.32	5.52	0	21.30	35.32	5.52	24.67	328	0.00
10	20.33	35.32	-	10	20.33	35.32	5.36	24.94	302	0.03
30	18.57	35.27	4.78	20	19.38	35.30	5.13	25.16	281	0.06
40	17.86	35.26	4.04	30	18.57	35.27	4.78	25.35	263	0.09
50	17.40	35.21	3.92	50	17.40	35.21	3.92	25.60	240	0.14
59	16.34	35.15	2.93	75	14.90	35.04	1.88	26.04	198	0.19
68	15.20	35.08	2.05	100	14.05	35.01	1.45	26.21	182	0.24
82	14.64	35.01	1.72	150	12.73	34.87	0.58	26.36	167	0.33
96	14.14	35.01	1.52	200	12.16	34.86	0.50	26.47	157	0.41
110	13.94	35.00	1.34	250	11.54	34.80	0.26	26.54	150	0.49
132	13.08	34.91	0.84	300	10.60	34.73	0.11	26.65	140	0.56
158	12.61	34.86	0.52	400	9.52	34.67	0.14	26.80	126	0.70
190	12.24	34.87	0.52							
234	11.82	34.83	0.36							
307	10.48	34.72	0.10							
400	9.52	34.67	0.14							
523	-	34.68 ^{a)}	0.13							

BLACK DOUGLAS; April 10, 1957; 2020 GCT; 25°31.5'N, 110°19.5'W; sounding, 1200 fm; wind, 240°, force 2; weather, partly cloudy; sea, moderate; wire angle, 00°.

139G.55

0	20.97	35.31	5.54	0	20.97	35.31	5.54	24.76	320	0.00
10	20.36	35.34	5.63	10	20.36	35.34	5.63	24.94	302	0.03
30	18.30	35.27	4.88	20	19.40	35.32	5.37	25.19	279	0.06
40	17.22	35.19	3.79	30	18.30	35.27	4.88	25.43	256	0.09
50	16.18	35.12	2.89	50	16.18	35.12	2.89	25.82	219	0.13
59	15.37	35.05	2.20	75	14.85	35.01	1.79	26.03	199	0.19
68	15.06	35.02	1.94	100	13.83	34.96	0.43	26.21	182	0.24
83	14.52	34.99	1.64	150	12.38	34.83	0.37	26.41	163	0.32
96	14.02	34.97	1.50	200	11.70	34.77	0.12	26.49	155	0.40
110	13.46	34.93	1.25	250	11.17	34.75	0.11	26.58	147	0.48
131	12.96	34.88	0.78	300	10.73	34.72	0.10	26.63	142	0.55
158	12.19	34.81	0.24	400	9.65	34.66	0.09	26.76	129	0.69
188	11.84	34.78	0.13	500	8.27	34.61	0.12	26.94	112	0.82
235	11.33	34.76	0.13							
308	10.65	34.72	0.09							
400	9.65	34.66	0.09							
522	7.98	34.60	0.13							

BLACK DOUGLAS; April 10, 1957; 1747 GCT; 25°39'N, 110°03'W; sounding, 1300 fm; wind, 210°, force 2; weather, partly cloudy; sea, slight; wire angle, 00°.

139G.70

0	20.74	35.34	5.82	0	20.74	35.34	5.82	24.85	311	0.00
10	20.46	35.34	5.81	10	20.46	35.34	5.81	24.92	304	0.03
30	18.55	35.26	5.03	20	19.72	35.32	5.57	25.09	288	0.06
40	17.64	35.21	4.22	30	18.55	35.26	5.03	25.35	263	0.09
49	16.86	35.16	3.23	50	16.80	35.15	3.13	25.69	231	0.14
59	16.29	35.08	2.60	75	14.29	35.00	1.49	26.14	188	0.19
68	14.64	35.03	1.63	100	13.37	34.92	1.03	26.28	175	0.24
82	14.02	34.98	1.36	150	12.71	34.88	0.76	26.38	165	0.32
96	13.52	34.94	1.07	200	11.77	34.82	0.37	26.52	152	0.40
109	13.12	34.89	0.70u	250	11.12	34.76	0.27	26.58	146	0.48
132	12.96	34.96r	0.93	300	10.67	34.75	0.20	26.66	139	0.55
159	12.57	34.88	0.66	400	9.52	34.66	0.09	26.79	127	0.69
187	12.00	34.86	0.41							
215	11.46	34.78	0.32							
307	10.61	34.75	0.17							
400	9.52	34.66	0.09							
554	-	34.76	0.24							

a) Loose bottle cap.

SIO
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^5 \text{ cm}^3/\text{g}$	dyn. m

139G.85 BLACK DOUGLAS; April 10, 1957; 1513, 1529 GCT; 25°46.5'N, 109°48.5'W; sounding, 550 fm; wind, 200°, force 1; weather, partly cloudy; sea, smooth; wire angle, 02°, 04°.

0	20.3	35.38	5.61	0	20.3	35.38	5.61	25.00	297	0.00
10	20.30	35.40	5.55	10	20.30	35.40	5.55	25.01	296	0.03
30	16.76	35.17	2.86	20	18.80	35.30	4.38	25.31	267	0.06
40	15.38	35.10	1.48	30	16.76	35.17	2.86	25.72	228	0.08
49	14.20	34.99	1.15	50	14.08	34.97	1.08	26.18	185	0.12
58	13.53	34.88	0.51	75	13.34	34.81	0.45	26.21	182	0.17
67	13.38	34.82 ^{a)}	0.46	100	13.06	34.78		26.24	179	0.22
81	13.28	34.85u	0.41 ^{b)}	150	12.72	34.80		26.32	171	0.30
				200	12.31	34.83		26.42	162	0.39
94	13.12	34.86u	0.46	250	11.58	34.83		26.55	149	0.47
106	13.00	34.78	0.27	300	10.88	34.81		26.67	138	0.54
129	12.69	34.78	0.16	400	9.87	34.69	0.23	26.75	130	0.68
154	12.71	34.81	0.51	500	8.70	34.62	0.19	26.89	117	0.81
185	12.51	34.83	0.38							
230	11.88	34.83	0.56							
301	10.87	34.81	0.27							
392	9.98	34.70	0.24							
514	8.52	34.61	0.17							

139G.100

BLACK DOUGLAS; April 10, 1957; 1259 GCT; 25°54'N, 109°^{34.5}54.5'W; sounding, 18 fm; wind, calm; weather, partly cloudy; sea, calm; wire angle, 00°.

0	20.28	35.26	5.93	0	20.28	35.26	5.93	24.90	306	0.00
10	19.78	35.23	5.78	10	19.78	35.23	5.78	25.02	295	0.03
20	16.37	35.04	2.70	20	16.37	35.04	2.70	25.71	229	0.06
30	15.83	35.02	2.03	30	15.83	35.02	2.03	25.82	219	0.08

151G.40

BLACK DOUGLAS; April 9, 1957; 0940 GCT; 23°40'N, 109°27.5'W; sounding, 350 fm; wind, 280°, force 2; weather, clear; sea, slight; wire angle, 00°.

0	21.58	35.23	5.38	0	21.58	35.23	5.38	24.53	341	0.00
10	21.58	35.24	5.42	10	21.58	35.24	5.42	24.53	341	0.03
30	20.30	35.28	5.40	20	21.16	35.26	5.42	24.66	329	0.07
40	19.36	35.28	4.81	30	20.30	35.28	5.40	24.91	305	0.10
50	18.81	35.28	4.48	50	18.81	35.28	4.48	25.30	268	0.16
59	17.32	35.14	3.28	75	16.43	35.09	2.48	25.73	227	0.22
68	16.97	35.12	2.88	100	14.66	34.94	1.24	26.02	200	0.27
83	15.74	35.03	2.04	150	12.75	34.82	0.38	26.32	171	0.36
97	14.92	34.96	1.39	200	12.03	34.78	0.28	26.43	161	0.45
110	13.84	34.88	0.78	250	11.42	34.75	0.21	26.52	152	0.53
132	13.08	35.02r	0.45	300	10.82	34.71	0.17	26.60	145	0.60
157	12.61	34.81	0.36	400	9.16	34.64	(0.10)	26.83	123	0.74
188	12.19	34.79	0.30	500	8.46	34.61		26.92	114	0.87
234	11.60	34.76	0.23							
305	10.76	34.70	0.16							
398	9.18	34.64	0.10							
519	8.38	34.61	-							

a) Property structure considered acceptable for this region.

b) Property structure considered possible for this region; however, no interpolations made between 81 and 301 meters.

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

BLACK DOUGLAS; April 9, 1957; 0705 GCT; 23°47.5'N, ¹⁰⁹107°13.5'W; sounding, 1400 fm; wind, 260°, force 3; weather, clear; sea, slight; wire angle, 08°.

15IG.55

0	21.75	35.06	5.32	0	21.75	35.06	5.32	24.35	359	0.00
10	21.67	35.07	5.45	10	21.67	35.07	5.45	24.39	355	0.04
30	20.68	35.30	5.66	20	21.38	35.15	5.56	24.52	342	0.07
40	19.20	35.28	4.91	30	20.68	35.30	5.66	24.83	313	0.10
50	18.70	35.25	4.52	50	18.70	35.25	4.52	25.30	268	0.16
60	17.77	35.19	3.70	75	16.36	35.07	2.62	25.74	226	0.22
70	16.63	35.10	2.85	100	14.58	34.96	1.27	26.05	197	0.28
83	15.82	35.03	2.18	150	12.67	34.84	0.34	26.34	169	0.37
98	14.68	34.96	1.34	200	11.82	34.79	0.16	26.48	156	0.45
112	13.80	34.93 ^{a)}	0.71	250	11.14	34.76	0.23	26.58	146	0.53
135	13.06	34.85	0.44	300	10.39	34.71	0.16	26.68	137	0.60
160	12.44	34.83	0.29	400	8.76	34.61	0.11	26.87	119	0.73
191	11.90	34.79	0.14	500	7.70	34.63	0.10	27.04	103	0.85
237	11.34	34.77	0.24							
308	10.23	34.70	0.15							
400	8.76	34.61	0.11							
519	7.54	34.63	0.10							

BLACK DOUGLAS; April 9, 1957; 0447 GCT; 23°55'N, 108°59'W; sounding, 1400 fm; wind, 260°, force 3; weather, clear; sea, slight; wire angle, 00°.

15IG.70

0	22.10	34.98	5.01	0	22.10	34.98	5.01	24.19	374	0.00
10	22.00	35.00	5.04	10	22.00	35.00	5.04	24.23	370	0.04
30	20.91	35.06	5.15	20	21.70	35.03	5.08	24.34	360	0.07
39	17.71	34.85	2.91	30	20.91	35.06	5.15	24.59	336	0.11
48	16.16	34.67	1.56	50	16.01	34.65	1.44	25.50	249	0.17
58	15.26	34.60	0.96	75	14.17	34.72	0.58	25.95	206	0.22
67	14.58	34.70	0.77	100	13.39	34.72	0.40	26.12	190	0.27
79	13.99	34.72	0.52	150	12.20	34.76	0.19	26.38	166	0.36
93	13.58	34.73	0.47	200	11.53	34.78	0.18	26.52	152	0.44
107	13.21	34.72	0.28	250	10.97	34.76	0.16	26.62	143	0.52
129	12.62	34.74	0.21	300	10.15	34.70	0.11	26.71	134	0.59
155	12.11	34.76	0.17	400	8.83	34.61	0.11	26.85	121	0.72
186	11.64	34.78	0.17	500	7.70	34.57	0.11	27.00	107	0.84
231	11.22	34.77	0.16							
303	10.06	34.70	0.11							
396	8.90	34.61	0.11							
521	7.41	34.56	0.11							

BLACK DOUGLAS; April 9, 1957; 0201 GCT; 24°02.5'N, 108°45'W; sounding, 1400 fm; wind, 320°, force 3; weather, partly cloudy; sea, slight; wire angle, 12°.

15IG.85

0	22.17	35.03	5.28	0	22.17	35.03	5.28	24.21	372	0.00
10	22.18	35.02	5.04	10	22.18	35.02	5.04	24.20	373	0.04
29	20.87	35.10	5.13	20	21.00	35.09	5.13	24.59	336	0.07
39	19.84	35.09	4.58	30	20.86	35.10	5.12	24.63	332	0.11
48	18.16	34.92	3.70	50	18.00	34.90	3.59	25.22	276	0.17
56	17.37	34.81	2.87	75	14.48	34.61	0.60	25.81	220	0.23
66	15.64	34.65	1.11	100	13.52	34.73	0.32	26.10	192	0.28
78	14.28	34.61	0.51	150	12.38	34.78	0.30	26.36	167	0.37
92	13.87	34.72	0.37	200	11.50	34.76	0.20	26.52	152	0.45
105	13.32	34.73	0.31	250	10.78	34.72	0.20	26.62	143	0.53
127	12.73	34.76	0.32	300	10.24	34.69	0.12	26.69	136	0.60
154	12.30	34.78	0.30	400	8.89	34.60	(0.15)	26.85	121	0.73
185	11.79	34.78	0.21	500	7.84	34.59		27.00	107	0.85
230	11.00	34.73	0.21							
301	10.23	34.69	0.12							
392	9.00	34.61 ^{a)}	0.13							
513	7.68	34.59	-							

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

SIO
CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{3}{\text{cm}^3/\text{g}}$	dyn. m

151G.100

BLACK DOUGLAS; April 8, 1957; 2334 GCT; 24°10'N, 108°30.5'W; sounding, 900 fm; wind, 320°, force 3; weather, partly cloudy; sea, smooth; wire angle, 17°.

0	21.97	35.08	5.29	0	21.97	35.08	5.29	24.30	363	0.00
9	21.79	35.05	5.37	10	21.77	35.05	5.38	24.35	359	0.03
28	20.66	35.12	5.52	20	21.31	35.08	5.47	24.49	345	0.07
37	19.53	35.08	4.71	30	20.38	35.11	5.45	24.76	319	0.10
47	18.68	35.07	4.18	50	18.22	35.03	3.85	25.25	273	0.15
56	17.19	34.88	2.92	75	15.40	34.70	1.27	25.68	232	0.21
65	16.16	34.73	1.83	100	13.75	34.69	0.46	26.02	200	0.26
78	15.10	34.70	1.04	150	12.48	34.78	0.16	26.34	169	0.35
92	13.99	34.67	0.47	200	11.82	34.78	0.10	26.47	157	0.43
105	13.62	34.70	0.43	250	11.20	34.76	0.10	26.58	147	0.52
127	12.94	34.78	0.14	300	10.55	34.70	0.12	26.65	140	0.59
154	12.40	34.78	0.14	400	9.16	34.63	0.10	26.82	124	0.73
185	11.99	34.78	0.11	500	8.33	34.60	0.10	26.93	113	0.86
230	11.44	34.78	0.09							
303	10.51	34.70	0.13							
395	9.20	34.63	0.10							
518	8.20	34.60	0.10							

151G.115

BLACK DOUGLAS; April 8, 1957; 2057 GCT; 24°17.5'N, 108°16.5'W; sounding, 450 fm; wind, 290°, force 3; weather, partly cloudy; sea, smooth; wire angle, 15°.

0	22.08	35.21	5.34	0	22.08	35.21	5.34	24.38	356	0.00
9	21.26	35.18	5.43	10	21.20	35.18	5.42	24.60	335	0.04
28	19.77	35.26	4.98	20	20.34	35.23	5.20	24.87	309	0.07
37	19.44	35.26	4.66	30	19.70	35.26	4.90	25.06	291	0.10
46	18.78	35.23	4.04	50	18.20	35.20	3.70	25.40	259	0.16
56	16.88	35.10	2.98	75	14.40	34.79	0.92	25.95	206	0.23
65	15.94	34.97	2.12	100	13.21	34.74	0.15	26.16	186	0.28
79	14.03	34.76	0.63	150	12.51	34.77	0.19	26.33	170	0.37
91	13.38	34.73	0.34	200	12.07	34.79	0.09	26.43	161	0.46
104	13.15	34.74	0.10	250	11.59	34.77	0.08	26.51	153	0.53
126	12.92	34.74	0.08	300	11.08	34.74	0.07	26.58	147	0.61
152	12.47	34.78	0.19	400	9.38	34.66	0.06	26.81	125	0.74
184	12.22	34.79	0.09	500	8.11	34.55	0.06	26.92	114	0.87
228	11.80	34.78	0.07							
300	11.08	34.74	0.07							
391	9.50	34.67	0.06							
512	7.98	34.54	0.06							

151G.130

BLACK DOUGLAS; April 8, 1957; 1830 GCT; 24°25'N, 108°02.5'W; sounding, 20 fm; wind, 300°, force 3; weather, partly cloudy; sea, smooth; wire angle, 00°.

0	20.42	35.00	5.78	0	20.42	35.00	5.78	24.67	328	0.00
10	19.78	35.00	5.82	10	19.78	35.00	5.82	24.84	312	0.03
30	14.66	34.70	0.63	20	18.68	34.96	4.70	25.09	288	0.06
				30	14.66	34.70	0.63	25.84	217	0.09

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \text{cm}^3/\text{g}$	dyn. m

SIO
CCOFI
5704

BLACK DOUGLAS; April 7, 1957; 1132, 1148 GCT; 22°29'N, 109°25'W; sounding, 1700 fm; wind, 280°, force 2; weather, clear; sea, slight; wire angle, 12°, 16°.

157G.10

0	22.37	34.61	-	0	22.37	34.61	(4.80)	23.83	408	0.00
9	22.38	34.63	4.78	10	22.38	34.63	4.77	23.86	406	0.04
29	22.32	34.66	4.77	20	22.36	34.65	4.76	23.87	404	0.08
38	20.88	34.55	4.85	30	22.30	34.66	4.75	23.89	402	0.12
47	20.40	34.52	4.93	50	20.12	34.48	4.80	24.36	358	0.20
				75	16.08	34.38	2.87	25.23	275	0.28
52	19.70	34.42	4.51	100	14.25	34.52	1.12	25.78	222	0.34
60	18.04	34.42	4.09	150	12.58	34.85	0.05	26.38	166	0.44
72	16.59	34.38	3.14	200	11.82	34.87	0.06	26.54	150	0.52
85	15.34	34.41	2.48	250	11.12	34.85	0.07	26.65	140	0.59
98	14.37	34.50	1.34	300	10.37	34.77	0.08	26.73	132	0.66
119	13.44	34.79	0.16	400	8.85	34.59	0.09	26.84	122	0.79
144	12.68	34.85	0.06	500	7.58	34.52	0.08	26.98	109	0.91
176	12.14	34.86	0.05							
218	11.56	34.87	0.06							
289	10.44	34.78	0.08							
382	9.08	34.61	0.09							
501	7.56	34.52	0.08							

BLACK DOUGLAS; April 7, 1957; 1745 GCT; 22°48'N, 108°55'W; sounding, 1700 fm; wind, 220°, force 3; weather, partly cloudy; sea, moderate; wire angle, 25°.

157G.40

0	21.67	34.87	5.12	0	21.67	34.87	5.12	24.23	370	0.00
9	21.61	34.95	5.13	10	21.60	34.95	5.13	24.30	363	0.04
27	21.32	34.88	5.17	20	21.46	34.91	5.16	24.31	362	0.07
36	20.67	34.86	4.99	30	21.22	34.87	5.17	24.36	358	0.11
45	20.05	34.85	4.46	50	19.00	34.81	3.43	24.89	307	0.18
53	17.92	34.77	2.44	75	15.41	34.66	0.92	25.64	236	0.24
62	16.54	34.72	1.50	100	13.85	34.70	0.44	26.01	201	0.30
73	15.49	34.57u	0.96	150	12.42	34.77	0.22	26.34	169	0.39
85	14.82	34.66	0.70	200	11.50	34.75	0.13	26.50	154	0.47
95	14.08	34.70	0.47	250	10.82	34.71	0.12	26.61	144	0.55
114	13.31	34.71	0.35	300	10.20	34.66	0.11	26.67	138	0.62
136	12.67	34.76	0.21							
162	12.21	34.78	0.22							
201	11.48	34.75	0.13							
263	10.63	34.70	0.11							
347	9.60	34.61	0.09							

BLACK DOUGLAS; April 7, 1957; 2217 GCT; 23°03'N, 108°26.5'W; sounding, 1550 fm; wind, 220°, force 1; weather, partly cloudy; sea, slight; wire angle, 12°.

157G.70

0	22.21	35.04	5.25	0	22.21	35.04	5.25	24.21	372	0.00
10	21.56	35.02	5.37	10	21.56	35.02	5.37	24.37	357	0.04
29	20.92	35.05	5.15	20	21.18	35.04	5.33	24.48	346	0.07
39	20.66	35.04	4.71	30	20.91	35.05	5.14	24.58	337	0.10
48	19.44	34.96	3.90	50	19.00	34.95	3.63	25.01	296	0.17
56	16.76	34.94	2.13	75	15.45	34.81	1.23	25.87	214	0.23
65	16.06	34.88	1.64	100	13.80	34.78	0.60	26.08	194	0.28
78	14.66	34.81	0.79	150	12.41	34.76	0.24	26.34	169	0.38
91	14.37	34.81	0.89	200	11.62	34.76	0.23	26.49	155	0.46
105	13.41	34.76	0.35	250	10.95	34.82	0.17	26.66	139	0.53
126	12.81	34.77	0.22	300	10.30	34.80	0.10	26.78	128	0.60
152	12.39	34.76	0.24	400	8.88	34.71	0.09	26.93	113	0.73
183	11.88	34.75	0.25	500	7.75	34.67	0.10	27.07	100	0.84
226	11.25	34.80 ^{a)}	0.19							
297	10.38	34.81	0.10							
386	9.02	34.72	0.08							
506	7.62	34.67	0.11							

a) Mean value between 34.76 and 34.85‰.

S10

CCOFI
5704

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O ₂	Z	T	S	O ₂	σ_t	δ_T	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	$10^{-5} \frac{\text{cm}^3}{\text{g}}$	dyn. m

157G.100

BLACK DOUGLAS; April 8, 1957; 0239 GCT; 23°21'N, 108°00'W; sounding, 1400 fm; wind, calm; weather, partly cloudy; sea, calm; wire angle, 05°.

0	22.92	35.14	4.92	0	22.92	35.14	4.92	24.08	384	0.00
9	22.26	35.09	4.84	10	22.25	35.09	4.84	24.24	369	0.04
29	-	35.08	4.94	20	22.16	35.09	4.86	24.26	367	0.07
38	20.58	34.96	5.09	30	21.66	35.07	4.96	24.38	356	0.11
48	19.72	34.88	4.40	50	19.30	34.85	3.94	24.84	312	0.18
57	17.63	34.76	2.50	75	15.45	34.78	1.23	25.72	228	0.24
66	16.92	34.93u	2.23	100	13.74	34.74	0.40	26.06	196	0.30
79	14.88	34.76	0.84	150	12.21	34.70	0.27	26.33	170	0.39
93	14.02	34.77	0.51	200	11.69	34.75	0.10	26.48	156	0.47
106	13.44	34.71	0.32	250	11.02	34.71	0.10	26.56	148	0.55
128	12.73	34.70	0.32	300	10.38	34.67	0.10	26.65	140	0.63
155	12.14	34.70	0.24	400	9.00	34.60	0.10	26.82	124	0.76
186	11.84	34.76	0.10	500	7.66	34.56	0.10	27.00	107	0.88
232	11.26	34.73	0.09							
302	10.36	34.67	0.10							
395	9.06	34.60	0.09							
517	7.43	34.56	0.09							

157G.130

BLACK DOUGLAS; April 8, 1957; 0700, 0725 GCT; 23°33'N, 107°31'W; sounding, 500 fm; wind, 300°, force 1; weather, clear; sea, smooth; wire angle, 00°, 00°.

0	22.24	35.00	4.84	0	22.24	35.00	4.84	24.17	376	0.00
11	21.93	35.00	4.87	10	21.99	35.00	4.87	24.24	369	0.04
23	20.20	34.92	4.45	20	21.20	34.97	4.76	24.43	351	0.07
33	20.13	34.94	4.20	30	20.15	34.94	4.21	24.69	326	0.11
43	19.20	34.83	3.39	50	17.40	34.66	1.60	25.18	280	0.17
54	16.64	34.61	1.00	75	14.46	34.69	0.19	25.87	214	0.23
64	15.42	34.60	0.54	100	13.42	34.72	0.10	26.10	192	0.28
79	14.19	34.70	0.13	150	12.39	34.77	0.09	26.34	169	0.37
94	13.54	34.70	0.09	200	11.87	34.79	0.07	26.46	158	0.45
110	13.28	34.75	0.10	250	11.34	34.74	0.07	26.52	152	0.53
134	12.68	34.78	0.09	300	10.71	34.72	0.07	26.63	142	0.61
162	12.21	34.76	0.08	400	9.32	34.65	0.05	26.81	125	0.75
				500	8.24	34.60	0.06	26.94	112	0.87
172	12.14	34.81u	0.08							
217	11.67	34.75	0.06							
289	10.86	34.73	0.06							
382	9.59	34.66	0.05							
505	8.20	34.60	0.06							

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
80.51-H	11	1530	34°26.5'	120°32.5'	45	320°	4	partly cloudy	moderate	10.86	-	9.90	33.77
83.40-H	13	2015	34°14.0'	119°22.0'	12	180°	1	partly cloudy	slight	13.80	33.56	-	-
83.51-H	13	1105	33°52.0'	120°08.5'	520	290°	6	clear	moderate	12.48	33.59	9.38	33.90
83.90-H	12	1630	32°38.0'	122°47.5'	2100	270°	2	cloudy	moderate	14.18	33.18	13.65	33.18
87.50-H	14	0950	33°20.0'	119°40.0'	45	260°	2	partly cloudy	slight	13.28	33.57	11.41	33.64
87.90-H	15	0400	32°02.0'	122°27.0'	2300	320°	2	clear	slight	14.75	33.33	14.30	33.46
90.28-H	17	2030	33°27.5'	117°46.5'	250	200°	2	cloudy	smooth	15.50	33.56	10.32	33.66
93.27-H	18	2250	32°56.0'	117°19.0'	50	260°	3	partly cloudy	moderate	16.26	33.51	10.52	33.57
93.45-H	19	1120	32°20.0'	118°33.0'	1000	300°	3	partly cloudy	rough	14.76	33.55	13.02	33.51
93.55-H	19	1720	31°55.0'	119°18.0'	800	250°	4	cloudy	very rough	13.98	33.44	12.46	33.46
97.30-H	22	0135	32°15.0'	117°08.5'	70	210°	2	cloudy	rough	15.42	33.56	9.88	33.77
97.45-H	21	1730	31°47.0'	118°10.0'	1470	270°	2	partly cloudy	very rough	15.39	33.60	12.80	33.46
97.55-H	21	0940	31°21.0'	118°45.0'	220	280°	4	partly cloudy	very rough	15.58	33.63	14.52	33.52
100.29-H	22	0545	31°41.5'	116°43.5'	120	320°	1	partly cloudy	moderate	12.72	33.61	10.07	33.61
100.45-H	23	2130	31°11.0'	117°48.0'	650	320°	4	partly cloudy	rough	15.91	33.60	15.55	33.61
100.55-H	24	0230	30°50.0'	118°27.0'	1120	280°	4	cloudy	rough	15.48	33.60	14.86	33.56
103.30-H	26	0900	31°06.0'	116°26.5'	185	180°	2	clear	rough	15.00	33.55	10.96	33.49
103.45-H	26	0100	30°35.0'	117°21.0'	1000	300°	4	partly cloudy	rough	16.02	33.64	15.60	33.59
103.55-H	25	1818	30°08.0'	118°08.0'	1500	300°	4	partly cloudy	moderate	15.50	33.58	16.31	33.55

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
103.90-H	25	0050	29°06.0'	120°25.0'	2000	300°	4	cloudy	very rough	16.94	33.85	16.82	33.84
107.32-H	26	1330	30°26.0'	116°11.0'	380	320°	2	clear	rough	13.42	33.65	9.84	33.68
107.45-H	26	2126	29°59.5'	117°04.0'	1000	240°	3	fog	moderate	15.90	33.58	14.38	33.51
107.90-H	27	1838	28°36.0'	120°00.0'	2000	320°	4	cloudy	rough	16.94	33.80	16.61	33.78
110.33-H	29	0730	29°48.0'	115°52.0'	45	320°	4	cloudy	moderate	12.80	33.59	11.00	33.78
110.45-H	29	0020	29°26.0'	116°37.0'	250	060°	3	cloudy	rough	15.38	33.58	12.09	33.49
110.55-H	28	1755	28°58.0'	117°22.5'	1775	310°	4	partly cloudy	rough	16.38	33.64	14.44	33.55
113.30-H	29	1130	29°21.5'	115°18.0'	31	320°	4	fog	moderate	12.74	33.54	11.73	33.60
113.45-H	29	1930	28°52.0'	116°18.0'	800	300°	2	cloudy	moderate	16.00	33.60	15.94	33.58
113.55-H	30	0030	28°33.0'	116°57.0'	1750	300°	3	partly cloudy	moderate	17.49	33.80	15.94	33.67
117.26-S	28	0835	28°55.0'	114°43.0'	-	-	-	missing	missing	15.02	33.48	10.42	33.82
117.30-S	28	1020	28°48.5'	114°57.5'	-	-	-	missing	missing	13.95	33.48	10.74	33.73
117.35-S	28	1225	28°37.0'	115°16.0'	-	-	-	missing	missing	16.14	33.49	13.39	33.61
117.45-S	28	2037	28°18.0'	115°56.0'	1900	320°	5	partly cloudy	rough	16.11	33.57	15.55	33.55
117.55-S	29	0230	27°57.0'	116°35.0'	2150	320°	5	cloudy	rough	16.22	33.58	14.74	33.48
120.25-S	28	0415	28°23.0'	114°15.0'	30	330°	4	cloudy	rough	16.06	33.66	-	-
120.30-S	28	0200	28°12.0'	114°33.0'	42	330°	5	fog	very rough	15.56	33.62	11.06	33.59
120.35-S	27	2300	28°03.0'	114°54.0'	44	calm	-	fog	moderate	15.03	33.61	12.15	33.53
123.37-S	25	0930	27°23.5'	114°40.5'	40	320°	3	partly cloudy	rough	13.66	33.84	13.20	-

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
123.55-S	25	1845	26°49.0'	115°49.0'	2050	350°	2	cloudy	moderate	15.94	33.60	15.24	33.54
127.34-S	25	0440	26°55.0'	114°06.0'	40	330°	3	partly cloudy	moderate	14.04	33.86	11.22	33.75
127.45-S	24	2240	26°31.5'	114°48.0'	1800	320°	4	partly cloudy	rough	16.54	33.78	13.26	33.78
127.55-S	24	1635	26°12.5'	115°27.0'	1950	350°	4	overcast	rough	17.18	33.82	17.17	33.82
130.30-S	22	1940	26°29.5'	113°28.0'	20	280°	4	clear	moderate	13.41	34.01	-	-
130.45-S	23	0420	25°57.0'	114°26.5'	1900	320°	6	clear	rough	17.34	33.93	17.20	33.92
130.55-S	23	1020	25°35.0'	115°10.0'	2000	320°	4	partly cloudy	rough	17.11	33.80	16.88	33.79
133.25-S	21	2140	26°04.0'	112°49.0'	45	270°	1	clear	slight	15.92	33.93	13.21	34.13
133.35-S	21	1630	25°43.0'	113°28.0'	230	320°	2	clear	moderate	16.48	33.86	13.32	33.86
133.45-S	21	1130	25°27.0'	114°01.0'	2100	320°	3	clear	rough	17.82	34.03	16.54	33.86
133.55-S	21	0527	25°04.0'	114°42.5'	2000	320°	2	cloudy	rough	18.60	33.99	17.86	33.99
137.23-S	19	0445	25°33.0'	112°19.5'	35	360°	4	partly cloudy	rough	15.42	33.93	12.92	34.27
137.45-S	19	1555	24°46.5'	113°49.0'	1800	320°	4	partly cloudy	rough	18.52	34.11	18.44	34.10
137.55-S	19	2020	24°30.0'	114°21.0'	2000	320°	5	cloudy	rough	18.32	34.08	18.32	34.07
140.30-S	18	2305	24°45.0'	112°24.5'	57	340°	5	partly cloudy	rough	16.62	34.13	13.34	34.31
140.45-S	18	1345	24°17.0'	113°22.0'	1900	350°	4	partly cloudy	rough	18.12	34.04	17.60	33.96
140.55-S	18	0715	23°57.5'	¹¹³ 133 °59.0'	2000	340°	4	partly cloudy	rough	19.56	34.36	19.50	34.36
143.26-S	15	1230	24°24.0'	111°48.0'	43	320°	2	partly cloudy	slight	15.22	34.27	13.90	34.43
143.30-S	15	1430	24°11.0'	112°03.0'	125	320°	3	partly cloudy	moderate	18.38	34.12	14.00	33.77

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

CCOFI
5704

S10

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
143.35-S	15	1700	24°00.5'	112°22.0'	135	320°	3	partly cloudy	smooth	18.86	34.22	17.46	34.04
143.40-S	15	1940	23°51.0'	112°41.0'	1750	320°	3	cloudy	moderate	17.85	33.99	17.12	33.92
147.20-S	15	0400	23°56.0'	111°03.5'	74	310°	2	partly cloudy	moderate	16.86	34.69	14.83	34.70
147.30-S	16	0240	23°34.0'	111°42.0'	295	300°	4	partly cloudy	rough	18.94	34.43	16.06	34.16
147.45-S	16	1115	23°01.0'	112°41.0'	1850	320°	3	partly cloudy	moderate	19.06	34.20	16.72	33.95
147.55-S	16	1645	22°44.5'	113°18.0'	1650	340°	2	partly cloudy	rough	19.28	34.23	18.94	34.22
150.16-B	5	2130	23°30.0'	110°27.5'	90	310°	3	cloudy	moderate	18.64	34.47	14.97	34.43
150.20-B	5	2340	23°22.0'	110°43.0'	200	260°	2	cloudy	moderate	19.65	34.52	14.84	34.20
150.25-B	6	0230	23°12.0'	111°01.5'	630	280°	4	cloudy	moderate	18.83	34.24	14.92	34.11
150.30-B	6	0520	23°02.0'	111°20.0'	1500	270°	3	partly cloudy	slight	18.64	34.33	14.77	33.97
150.35-B	6	0803	22°52.0'	111°38.5'	1800	280°	3	partly cloudy	slight	18.52	34.19	17.68	34.15
150.40-B	6	1045	22°42.0'	111°57.5'	2000	280°	3	partly cloudy	slight	20.04	34.62	18.79	34.37
153.25-S	14	1300	22°35.5'	110°42.0'	1700	320°	3	overcast	moderate	20.92	34.63	19.08	34.40
153.35-S	14	0735	22°15.5'	111°20.0'	1730	320°	3	cloudy	moderate	18.99	34.27	18.24	34.26
153.45-S	14	0110	21°56.0'	111°57.0'	1785	330°	2	cloudy	moderate	21.15	34.60	18.36	34.23
153.55-S	13	1905	21°31.0'	112°35.0'	2000	340°	3	cloudy	moderate	21.68	34.63	21.35	34.58
157.15-B	7	0820	22°20.0'	109°43.0'	1750	300°	3	clear	smooth	22.42	34.69	19.89	34.42
157.20-B	7	0540	22°11.5'	110°01.0'	1650	280°	3	partly cloudy	smooth	21.56	34.72	19.85	34.66
157.25-B	7	0300	22°03.0'	110°19.0'	1800	calm		cloudy	smooth	21.56	34.75	18.82	34.66

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
157.30-B	7	0030	21°52.5'	110°37.5'	1800	calm		cloudy	smooth	21.53	34.74	21.42	34.80
157.35-B	6	2203	21°42.5'	110°56.0'	2000	320°	2	partly cloudy	slight	21.35	34.69	19.98	34.54
157.40-B	6	1925	21°32.5'	111°14.5'	1800	270°	3	partly cloudy	slight	21.56	34.70	18.66	34.23
99G.25-B	17	0700	31°03.0'	114°30.0'	13	070°	1	cloudy	calm	18.61	35.62	-	-
99G.66-B	17	1310	31°24.0'	113°47.5'	5	340°	3	overcast	smooth	21.76 ^{a)}	36.04	-	-
100G.11-B	17	0300	30°47.5'	114°38.0'	13	160°	2	partly cloudy	smooth	19.55	35.74	-	-
101G.07-B	17	0135	30°37.0'	114°37.0'	12	120°	2	partly cloudy	smooth	20.26	-	-	-
102G.04-B	17	0020	30°26.5'	114°34.0'	20	160°	2	partly cloudy	smooth	19.55	35.62	-	-
103G.10-B	16	2155	30°21.0'	114°22.0'	30	040°	1	clear	smooth	17.94	35.48	15.39	35.47
103G.25-B	16	1925	30°28.5'	114°07.0'	70	320°	1	clear	smooth	17.48	35.44	14.73	35.29
103G.55-B	16	1455	30°43.5'	113°37.0'	40	180°	2	clear	smooth	19.58	35.39	14.71	35.19
103G.80-B	16	1135	30°56.0'	113°12.0'	6	290°	2	cloudy	smooth	20.21	35.44	-	-
104G.00-B	17	2140	30°07.5'	114°26.5'	40	060°	1	partly cloudy	slight	17.76	35.39	15.52	35.43
105G.00-B	17	2315	29°58.5'	114°21.0'	65	090°	3	partly cloudy	slight	18.42	35.61	15.93	35.46
105G.70-B	16	0845	30°33.5'	113°10.5'	17	160°	2	partly cloudy	smooth	19.78	35.32	17.27 ^{b)}	35.25

a) Depth, 8 meters.

b) Depth, 30 meters.

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
106G.00-B	18	0050	29°50.0'	114°15.0'	43	-	1	cloudy	slight	18.05	35.57	16.35	35.52
107G.02-B	18	0210	29°42.5'	114°07.0'	60	060°	1	partly cloudy	smooth	18.14	35.52	16.15	35.46
107G.70-B	16	0607	30°16.5'	112°59.5'	38	120°	4	partly cloudy	smooth	19.17	35.28	15.24	35.11
108G.06-B	18	0410	29°35.5'	113°57.5'	200	090°	1	clear	calm	18.00	35.55	15.94	35.46
109G.25-B	15	2140	29°36.5'	113°33.0'	140	calm		partly cloudy	calm	14.72	-	13.87	35.14
109G.55-B	16	0145	29°51.5'	113°03.5'	60	calm		partly cloudy	calm	18.93	35.34	14.70	35.17
110G.14-B	18	0640	29°22.5'	113°38.0'	240	120°	3	partly cloudy	slight	14.74	35.17	14.44	35.10
112G.15-B	18	0940	29°05.5'	113°26.0'	400	-	1	partly cloudy	smooth	15.38	35.15	14.39	35.06
114G.20-B	18	1210	28°50.5'	113°10.0'	600	340°	2	cloudy	smooth	15.52	35.12	14.40	35.12
115G.25-B	15	0805	28°45.0'	113°00.0'	145	calm		clear	calm	15.16	35.08	14.63	35.07
115G.50-B	15	0400	28°57.0'	112°35.0'	40	var.	2	clear	calm	17.95	35.19	16.66	35.14
116G.20-B	18	1444	28°33.5'	112°59.0'	180	calm		partly cloudy	calm	14.59	35.08	14.48	35.08
117G.25-B	18	2220	28°27.0'	112.48.5'	150	340°	1	clear	smooth	14.02	34.99	13.89	34.96
117G.50-B	14	2025	28°39.5'	112°24.5'	120	-	1	fog	calm	15.98	35.05	14.07	35.03
117G.65-B	14	1820	28°47.0'	112°10.0'	11	-	1	fog	smooth	19.44	35.23	-	-
118G.20-B	19	0000	28°16.0'	112°47.5'	65	360°	1	clear	smooth	15.89	35.07	14.57	35.03
119G.16-B	19	0135	28°05.5'	112°45.5'	37	030°	1	clear	slight	15.96	35.08	14.24	35.04
119G.66-B	14	1730	28°30.0'	111°57.0'	6	040°	2	overcast	smooth	18.16	35.16	-	-
120G.13-B	19	0310	27°55.0'	112°43.0'	130	200°	3	clear	slight	17.73	-	14.29	35.01

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
121G. 20-B	14	0510	27°50.0'	112°31.0'	350	300°	2	clear	smooth	17.14	35.12	15.53	35.07
121G. 40-B	14	0825	28°00.0'	112°11.5'	450	060°	2	clear	smooth	18.21	35.16	14.49	35.01
121G. 55-B	14	1100	28°07.5'	111°56.5'	200	120°	1	clear	smooth	19.26	35.30	18.25	35.23
121G. 70-B	14	1245	28°15.0'	111°42.0'	28	120°	1	clear	smooth	17.63	35.16	15.13	35.07
121G. 74-B	14	1330	28°17.0'	111°38.0'	23	120°	1	clear	smooth	18.51	35.23	16.02 ^{a)}	35.08
122G. 16-B	19	0615	27°39.5'	112°28.5'	200	270°	5	clear	moderate	16.29	35.07	15.07	35.06
123G. 30-B	14	0215	27°37.5'	112°10.0'	500	140°	1	clear	smooth	20.37	35.30	16.55	35.17
124G. 21-B	19	0845	27°24.5'	112°13.0'	300	290°	6	clear	moderate	16.64	35.08	15.06	35.05
125G. 30-B	14	0000	27°20.5'	111°59.0'	800	090°	1	clear	smooth	19.44	35.30	15.99	35.13
126G. 24-B	19	1132	27°08.5'	111°59.0'	50	280°	4	clear	rough	20.20	35.28	14.65	34.99
126G. 101-B	12	0745	27°46.5'	110°45.0'	17	320°	1	clear	calm	19.42	35.26	-	-
127G. 22-B	19	1300	26°59.0'	111°55.0'	33	360°	3	partly cloudy	rough	21.30	35.34	15.97	35.10
128G. 27-B	20	0155	26°53.0'	111°44.5'	200	360°	1	cloudy	smooth	21.43	35.32	15.88	35.08
129G. 31-B	20	0325	26°46.0'	111°35.5'	250	calm		partly cloudy	calm	21.57	35.33	16.48	35.14
129G. 89-B	12	0045	27°15.0'	110°40.5'	350	160°	1	clear	smooth	20.44	35.32	16.22	35.15
131G. 31-B	20	0640	26°29.0'	111°24.0'	200	calm		clear	smooth	21.13	35.31	16.31	35.10
131G. 94-B	11	2225	27°00.5'	110°23.5'	50	200°	2	clear	smooth	20.27	35.33	15.96	35.14

a) Depth, 40 meters.

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
132G. 29-B	20	0806	26°19.0'	111°21.0'	180	180°	1	partly cloudy	calm	21.02	35.32	16.22	35.09
133G. 27-B	20	0935	26°09.5'	111°16.0'	100	calm		partly cloudy	calm	21.10	35.31	16.88	35.17
133G. 40-B	11	1100	26°16.0'	111°04.5'	270	calm		partly cloudy	calm	20.50	35.33	16.40	35.15
133G. 55-B	11	1250	26°23.5'	110°50.0'	1100	calm		partly cloudy	calm	18.23	35.25	14.99	35.01
133G. 70-B	11	1445	26°31.0'	110°35.5'	700	calm		clear	smooth	20.56	35.31	17.73	35.25
133G. 85-B	11	1645	26°38.5'	110°21.5'	600	090°	1	clear	smooth	20.04	35.31	15.77	35.09
133G. 100-B	11	1900	26°46.0'	110°07.0'	47	var.	2	partly cloudy	smooth	20.04	35.32	16.76	35.14
133G. 105-B	11	1950	26°48.5'	110°02.0'	15	var.	2	partly cloudy	smooth	19.78	35.26	-	-
134G. 20-B	20	1125	25°57.5'	111°18.0'	150	280°	1	partly cloudy	calm	20.84	35.28	16.43	35.14
134G. 40-B	11	0905	26°07.5'	110°59.0'	430	calm		partly cloudy	calm	21.90	35.35	17.21	35.19
135G. 35-B	11	0730	25°56.0'	110°58.5'	450	calm		clear	calm	20.23	35.32	17.26	35.20
136G. 20-B	11	1353	25°40.0'	111°07.5'	100	190°	4	partly cloudy	moderate	20.60	35.29	16.32	35.10
137G. 30-B	11	0510	25°36.0'	110°52.0'	230	320°	5	clear	calm	20.64	35.28	17.80	35.30
138G. 20-B	21	0143	25°22.5'	110°56.0'	200	160°	1	partly cloudy	smooth	20.67	35.27	15.81	35.05
140G. 20-B	21	0410	25°05.5'	110°45.5'	250	160°	3	clear	smooth	21.17	35.30	16.58	35.12
141G. 29-B	21	0630	25°01.0'	110°31.5'	120	130°	3	clear	smooth	21.51	35.30	16.59	35.08
141G. 96-B	10	1010	25°34.5'	109°27.0'	300	260°	2	partly cloudy	smooth	20.27	35.16	14.23	34.83
142G. 24-B	21	0823	24°50.0'	110°30.5'	300	140°	2	partly cloudy	slight	22.21	35.30	16.91	35.08
143G. 15-B	21	1022	24°37.0'	110°33.5'	200	220°	3	cloudy	slight	21.64	35.30	16.68	35.09

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
143G.100-B	10	0725	25°19.0'	109°13.0'	25	270°	3	clear	smooth	19.44	35.30	16.98 ^{a)}	35.25
144G.15-B	21	1154	24°28.0'	110°28.0'	100	280°	2	partly cloudy	smooth	21.77	35.36	16.94	35.10
145G.30-B	22	0150	24°27.0'	110°08.5'	380	360°	3	clear	moderate	22.52	35.26	18.36	35.16
145G.40-B	9	1745	24°32.0'	109°59.0'	500	240°	5	cloudy	rough	20.40	35.24	18.70	35.19
145G.55-B	9	1945	24°39.5'	109°45.0'	700	360°	5	cloudy	moderate	20.69	35.25	18.80	35.20
145G.70-B	9	2200	24°47.0'	109°31.0'	1100	270°	3	cloudy	slight	21.04	35.25	18.48	35.27
145G.85-B	9	2355	24°54.5'	109°16.5'	1250	310°	2	partly cloudy	slight	19.92	35.25	17.00	35.13
145G.100-B	10	0130	25°02.5'	109°02.5'	500	270°	1	cloudy	slight	18.99	35.23	16.73	35.12
145G.115-B	19	0405	25°09.5'	108°48.0'	17	300°	1	partly cloudy	smooth	16.76	35.12	-	-
147G.32-B	22	0445	24°10.5'	109°56.0'	150	340°	3	clear	slight	22.74	35.17	17.82	-
147G.42-B	9	1605	24°15.5'	109°46.5'	800	calm		partly cloudy	smooth	21.32	35.23	19.16	35.21
149G.34-B	21	1948	23°54.5'	109°43.5'	300	320°	6	clear	moderate	23.16	35.05	17.12	35.08
149G.40-B	9	1235	23°57.5'	109°38.0'	550	280°	3	clear	smooth	21.13	35.21	18.56	35.17
151G.37-B	22	1017	23°38.5'	109°30.5'	48	360°	3	clear	rough	22.86	35.08	18.35	34.97
153G.35-B	22	1247	23°20.0'	109°21.0'	400	360°	5	partly cloudy	rough	22.82	35.07	18.06	-
153G.137-B	8	1545	24°11.0'	107°45.5'	28	310°	1	fog	smooth	20.12	35.16	16.20	34.78
154G.15-B	22	1607	23°01.5'	109°34.0'	135	180°	1	partly cloudy	slight	23.12	35.05	18.07	34.96

a) Depth, 40 meters.

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
155G. 144-B	8	1245	23° 57.0'	107° 28.5'	40	280°	1	fog	calm	20.28	35.03	14.20	34.73
157G. 25-B	7	1442	22° 40.5'	109° 09.0'	1700	240°	3	partly cloudy	moderate	22.26	34.63	19.10	34.33
157G. 55-B	7	1940	22° 55.5'	108° 41.0'	1300	230°	3	cloudy	moderate	21.02	34.87	16.66	34.78
157G. 85-B	8	0010	23° 10.5'	108° 12.5'	1400	230°	1	partly cloudy	smooth	21.69	34.95	18.94	34.88
157G. 115-B	8	0440	23° ²⁵ 55.5'	107° 45.0'	500	090°	1	clear	smooth	21.85	34.94	18.92	34.71
157G. 150-B	8	1049	23° 43.0'	107° 12.0'	40	calm		fog	calm	19.56	35.08	13.98	34.71

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

ERRATA

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5703 (MLR 94)

and

CCOFI Cruise 5704 (MLR 95)

SIO Reference 58-24

Cruise 5704, Station 97.40, page 65:

Longitude should be $117^{\circ}47'W$ (not $118^{\circ}47'W$).

DISTRIBUTION LIST

Dr. E. H. Ahlstrom
U. S. Fish and Wildlife Service
c/o Scripps Institution of Oceanography
La Jolla, California

British Joint Services
(Navy Staff)
1910 K Street N. W.
Washington, D. C.

Mr. J. G. Burnette, Chairman
Marine Research Committee
P. O. Box 807
Los Altos, California

Mr. Ray Cannon
Ocean Fish Protective Association
645 N. Serrano Street
Los Angeles 4, California

Mr. R. S. Croker, Director
California Department of Fish and Game
Marine Fisheries Laboratory Branch
722 Capitol Avenue
Sacramento 14, California

Director of Research
Fish Commission of Oregon
Route 1, Box 31A
Clackamas, Oregon

Hancock Library of Biology and
Oceanography
Allan Hancock Foundation
University of Southern California
Los Angeles 7, California

Dr. Robert W. Hiatt
University of Hawaii
Honolulu, T. H.

Mr. William Anderson
U. S. Fish and Wildlife Service
Brunswick, Georgia

Dr. Wayne V. Burt
Assoc. Prof. of Oceanography
School of Science
Oregon State College
Corvallis, Oregon

Librarian (4)
Department of Fish and Game
California State Fisheries Laboratory
Terminal Island, California

Chief, Division of Fisheries
Commonwealth Scientific and Industrial
Research Organization
P. O. Box 21
Crunulla, N. S. W., AUSTRALIA

Herrn Professor Dr. A. Defant
Sternwartestrasse 38
Innsbruck
AUSTRIA

Mr. Seth Gordon, Director
California Department of Fish and Game
926 J Street
Sacramento 14, California

Mr. John Hawk
c/o Seafarers' International Union
of North America
450 Harrison Street
San Francisco 5, California

Director
Hopkins Marine Station
Pacific Grove, California

Mr. John D. Isaacs
Director, Marine Life Research
University of California
Scripps Institution of Oceanography
La Jolla, California

Dr. H. Kitamura
Oceanographic Section
Kobe Marine Observatory
Kobe, JAPAN

Mr. Joseph Mardesich
Franco-Italian Packing Company
Fish Harbor Wharf
Terminal Island, California

Dr. J. L. McHugh
Virginia Fisheries Laboratory
Gloucester Point, Virginia

Mr. Arthur H. Mendonca
c/o R. E. Booth Company, Inc.
280 Battery Street
San Francisco 11, California

Mr. John V. Morris
French Sardine Company
582 Tuna Street
Terminal Island, California

Director
Norwegian Polar Institute
Observatorieggt 1
Oslo, NORWAY

Office of Naval Research
Geophysics Branch
Washington 25, D. C.

Dr. E. L. Pickard
Institute of Oceanography
University of British Columbia
Vancouver, B. C.
CANADA

Mr. Milton C. James
Pacific Marine Fishery Commission
340 State Office Building
1400 S. W. Fifth Avenue
Portland 1, Oregon

Dr. E. C. La Fond
Code 2235
U. S. Navy Electronics Laboratory
San Diego 52, California

Mr. J. C. Marr
U. S. Fish and Wildlife Service
c/o Scripps Institution of Oceanography
La Jolla, California

Dr. H. J. McLellan
Atlantic Oceanographic Group
St. Andrews, New Brunswick
CANADA

Dr. R. C. Miller, Director
California Academy of Science
Golden Gate Park
San Francisco 18, California

Dr. A. W. H. Needler, Director
Pacific Biological Station
Nanaimo, B. C.
CANADA

Dr. Yngve H. Olsen
Journal of Marine Research
Yale University
New Haven, Connecticut

Librarian
Pacific Oceanic Fishery Investigations
P. O. Box 3830
Honolulu, T. H.

Mr. Don Powell
U. S. Fish and Wildlife Service
2725 Montlake Boulevard
Seattle 2, Washington

Dr. D. W. Pritchard, Director
Chesapeake Bay Institute
The Johns Hopkins University
121 Maryland Hall
Baltimore 18, Maryland

Mr. Joseph L. Reid, Jr.
University of California
Scripps Institution of Oceanography
La Jolla, California

Dr. Gordon A. Riley
Bingham Oceanographic Foundation
Yale University
New Haven, Connecticut

Mr. Gunnar I. Roden
University of California
Scripps Institution of Oceanography
La Jolla, California

Dr. M. B. Schaefer
Inter-American Tropical Tuna Commission
c/o Scripps Institution of Oceanography
La Jolla, California

Mr. O. E. Sette, Chief
Ocean Research
U. S. Fish and Wildlife Service
450-B Jordan Hall
Stanford, California

Mr. W. E. Stewart
c/o California State Chamber of
Commerce
350 Bush Street
San Francisco 4, California

Dr. Albert L. Tester, Chief
Division of Biological Research
Bureau of Commercial Fisheries
U. S. Fish and Wildlife Service
Washington 25, D. C.

Mr. John Radovich
California Department of Fish and Game
California State Fisheries Laboratory
Terminal Island, California

Dr. Roger Revelle
University of California
Scripps Institution of Oceanography
La Jolla, California

Mrs. Margaret K. Robinson
University of California
Scripps Institution of Oceanography
La Jolla, California

Mr. Don T. Saxby
California Division
California Packing Corporation
2600 Seventh Street
Berkeley 10, California

Library (4)
University of California
Scripps Institution of Oceanography
La Jolla, California

President Clark Kerr
University of California
Berkeley 4, California

Miss Margaret Storey, Librarian
Natural History Museum
Stanford, California

Department of Oceanography
Texas A. and M. College
College Station, Texas

Dr. John P. Tully
Pacific Oceanographic Group
P. O. Drawer 6
Nanaimo, B. C.
CANADA

Library (2)
U. S. Navy Electronics Laboratory
San Diego 52, California

University of California (2)
General Library
Berkeley 4, California
Attn: Gifts and Exchange Department

Librarian
University of Washington
Oceanographic Laboratories
Friday Harbor, Washington

Director
University of Washington
School of Fisheries
Seattle 4, Washington

Dr. Lionel A. Walford, Chief
Atlantic Fishery Oceanographic
Research Center
U. S. Fish and Wildlife Service
734 Jackson Place, N. W.
Washington 25, D. C.

Director
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts

U. S. Hydrographic Office
Navy Department
Washington 25, D. C.
Attn: Mr. John Lyman

University of California
Department of Zoology
Berkeley 4, California

Director
University of Miami
Marine Laboratory
Coral Gables, Florida

Librarian (2)
University of Washington
Oceanographic Laboratories
Seattle 5, Washington

Mr. Gilbert C. Van Camp, Sr.
772 Tuna Street
Terminal Island, California

Dr. Boyd W. Walker
University of California
Department of Zoology
Los Angeles 24, California