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STATION POSITIONS ~~1/2~~

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

## data report

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5401

(MLR 56)

5 January - 4 February 1954

and

CCOFI CRUISE 5402

(MLR 57)

2-16 February 1954

SIO Reference 58-38

1 August 1958

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Sponsored by  
Marine Research Committee

SIO Reference 58-38  
1 August 1958

Approved for distribution:



Roger Revelle, Director

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## INTRODUCTION

The data in this report were collected on the fifty-sixth and the fifty-seventh consecutive cruises of the California Cooperative Oceanic Fisheries Investigations program. The R/V N. B. Scofield of the California Department of Fish and Game and the R/V Crest and the R/V Horizon of the Scripps Institution of Oceanography participated in the fifty-sixth cruise and the R/V Crest and the R/V Horizon participated in the fifty-seventh 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.

## STANDARD PROCEDURES

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

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

<sup>1/</sup>

Klein, Hans T., A new technique for processing physical oceanographic data. MS. Contribution from the Scripps Institution of Oceanography, New Series, No. 000.

## 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).

## FORMAT

These data are typed in the format of the University of California Press publication, "Oceanic Observations of the Pacific." So that these pages can be used as copy for the 1953 volume, the first page of the Cruise 5401 data is numbered 1 and the first page of the Cruise 5402 data is numbered 37.

## FIGURES

1. CCOFI Cruise 5401 (MLR 56), 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

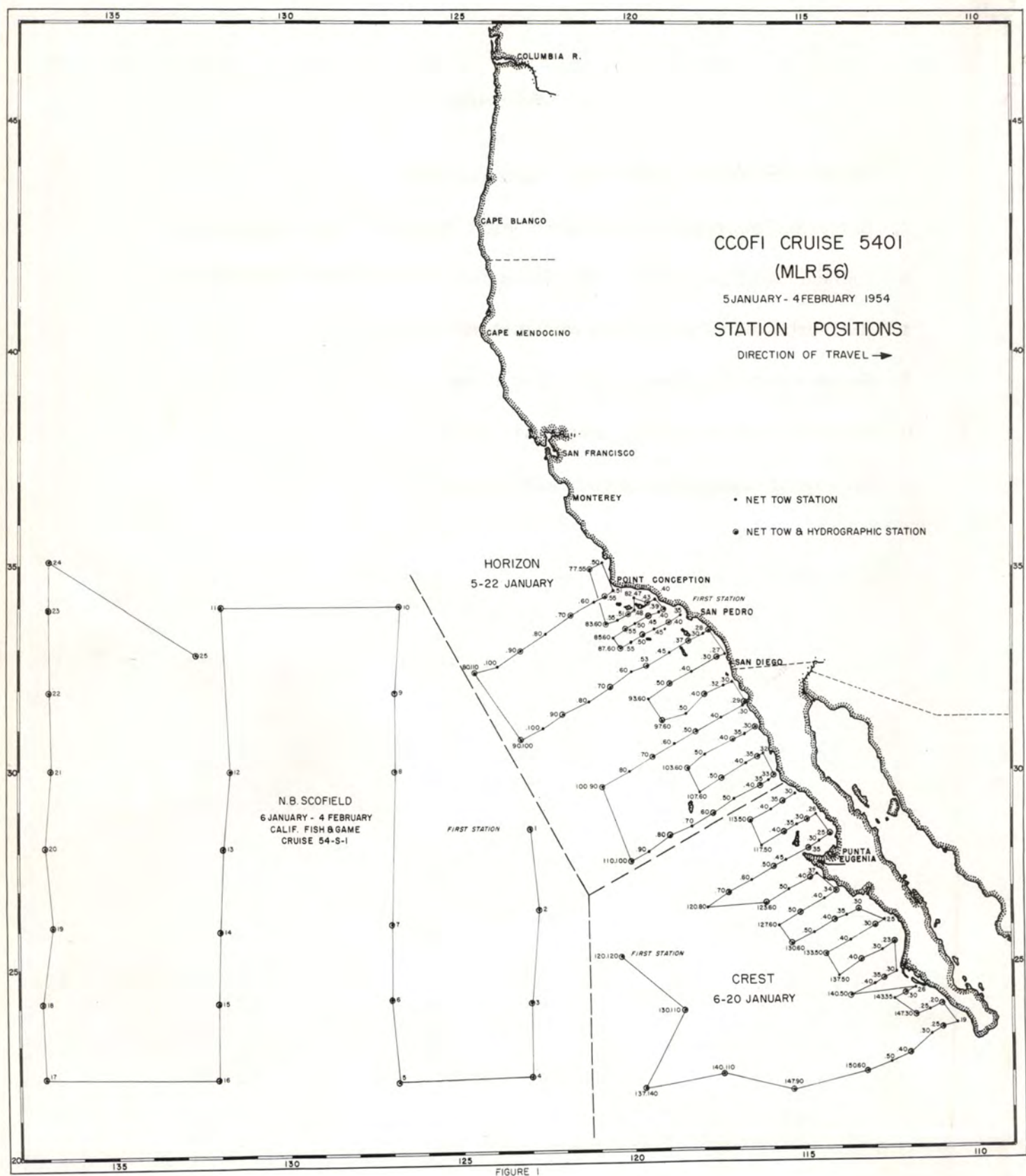
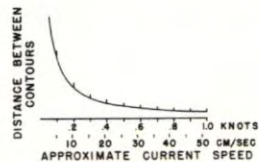


FIGURE 1

CCOFI CRUISE 5401  
 5 JANUARY - 4 FEBRUARY 1954  
 DYNAMIC HEIGHT ANOMALIES  
 (0 OVER 500 DECIBARS)

CONTOUR INTERVAL: 0.05 DYNAMIC METERS



CURRENT DIRECTION INDICATED BY ARROWS

— APPROXIMATE 500 METER BOTTOM CONTOUR

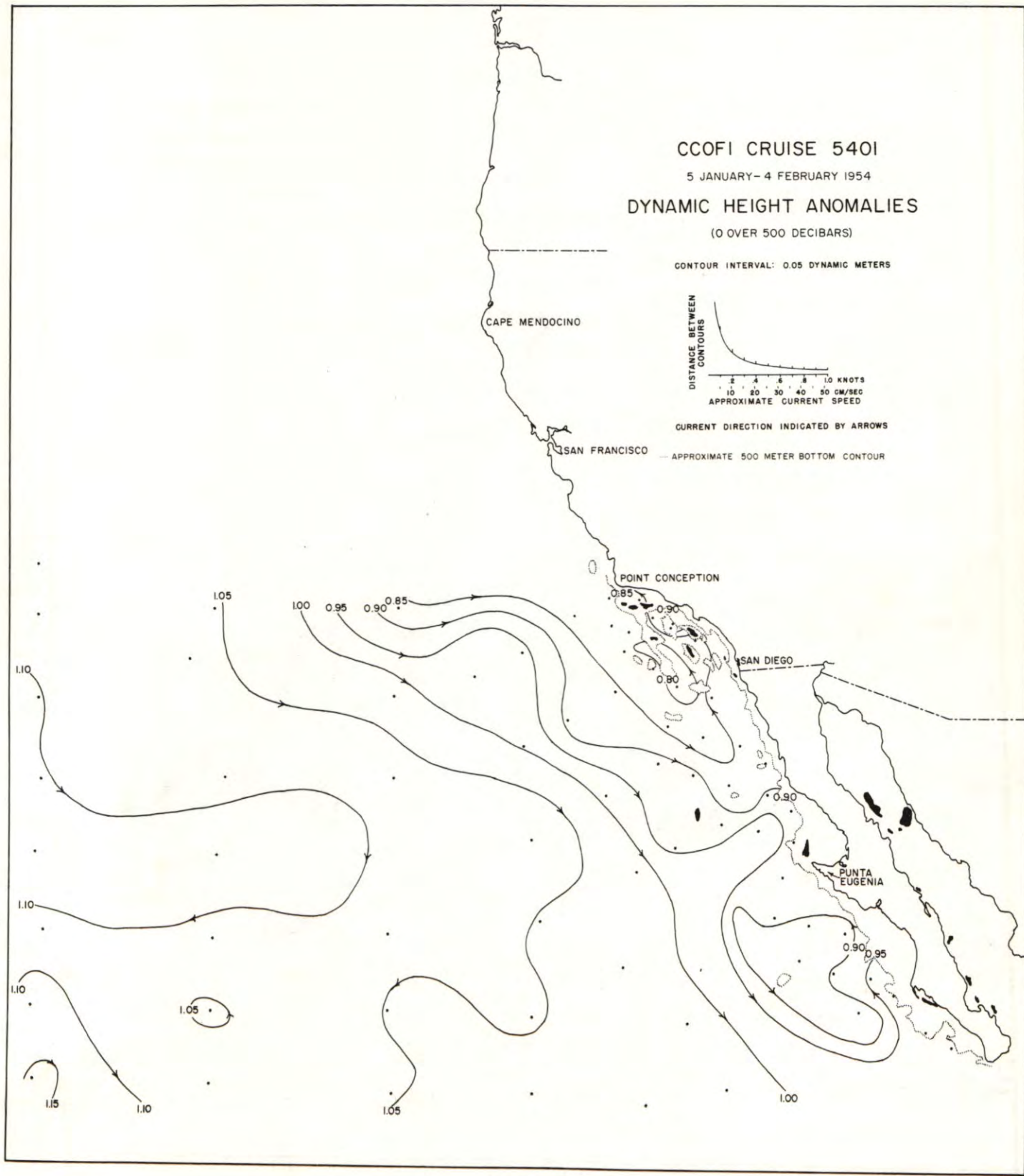


FIGURE 2



CCOFI CRUISE 5401

5 JANUARY - 4 FEBRUARY 1954

SURFACE CURRENTS

MEASURED BY G.E.K.

CORRECTED FOR DROOP FACTOR

√ 5 CM/SEC

√ 10 CM/SEC

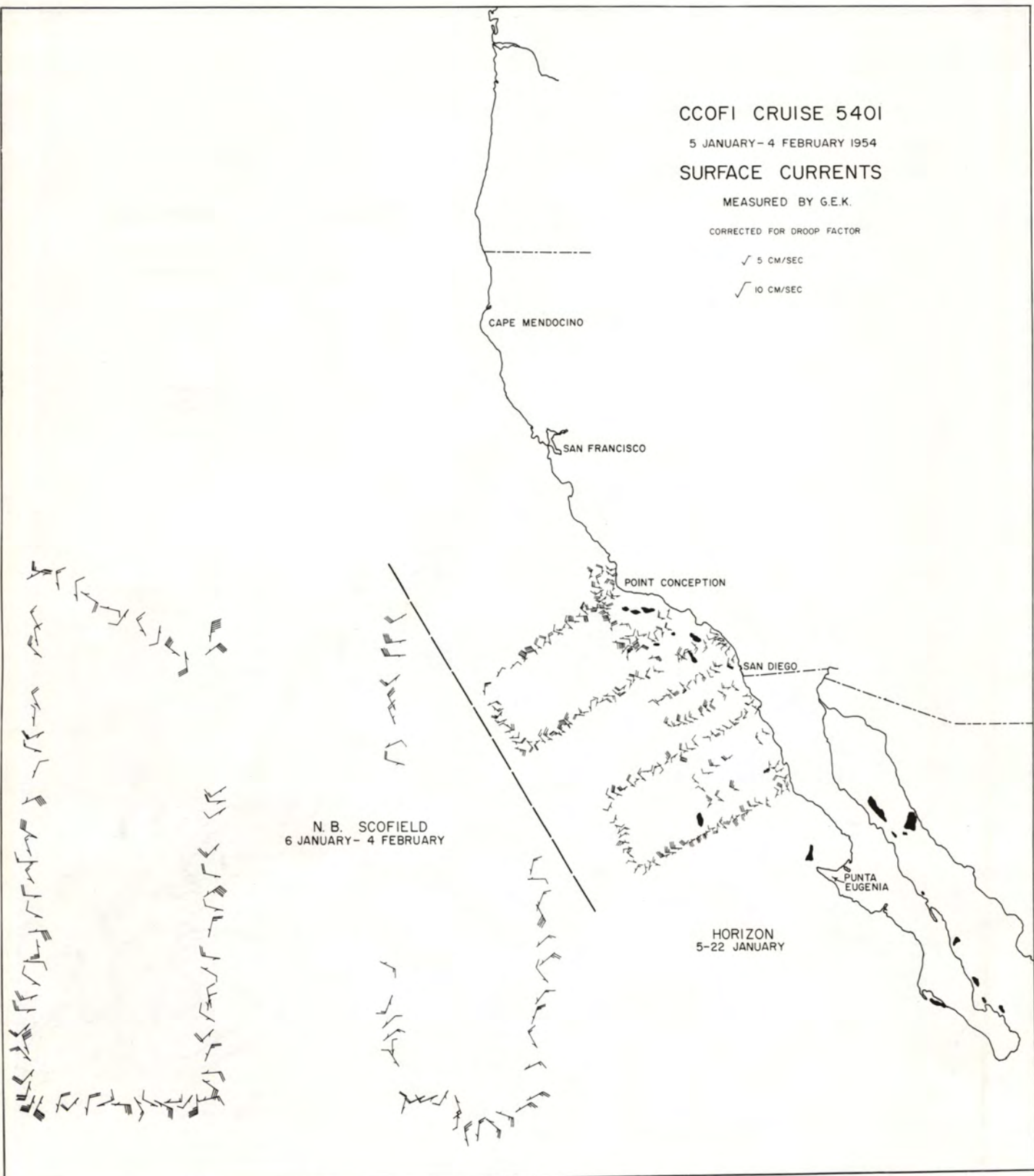


FIGURE 3

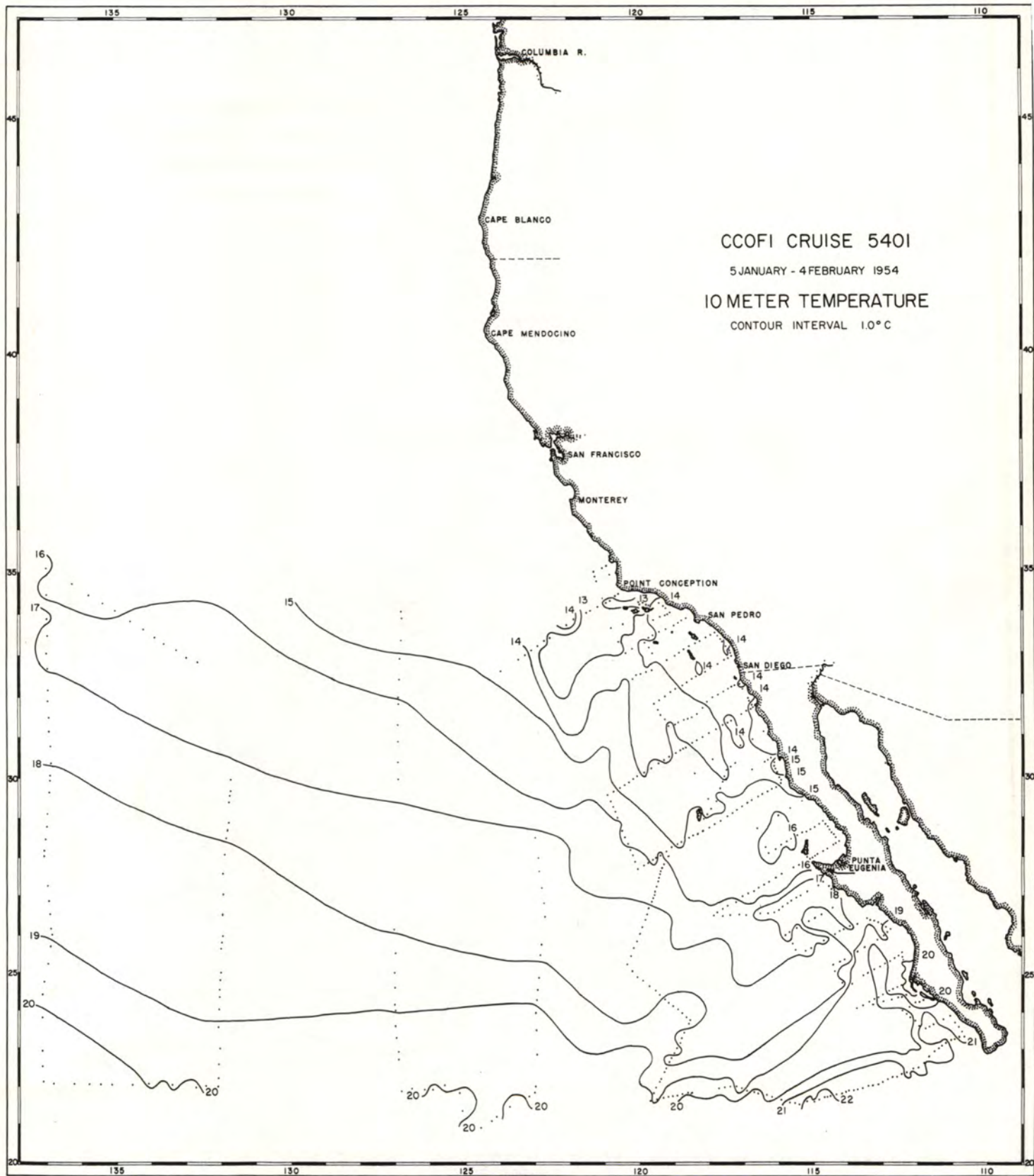


FIGURE 4

CCOFI CRUISE 540I

5 JANUARY-4 FEBRUARY 1954

10 METER SALINITY

CONTOUR INTERVAL 0.20‰

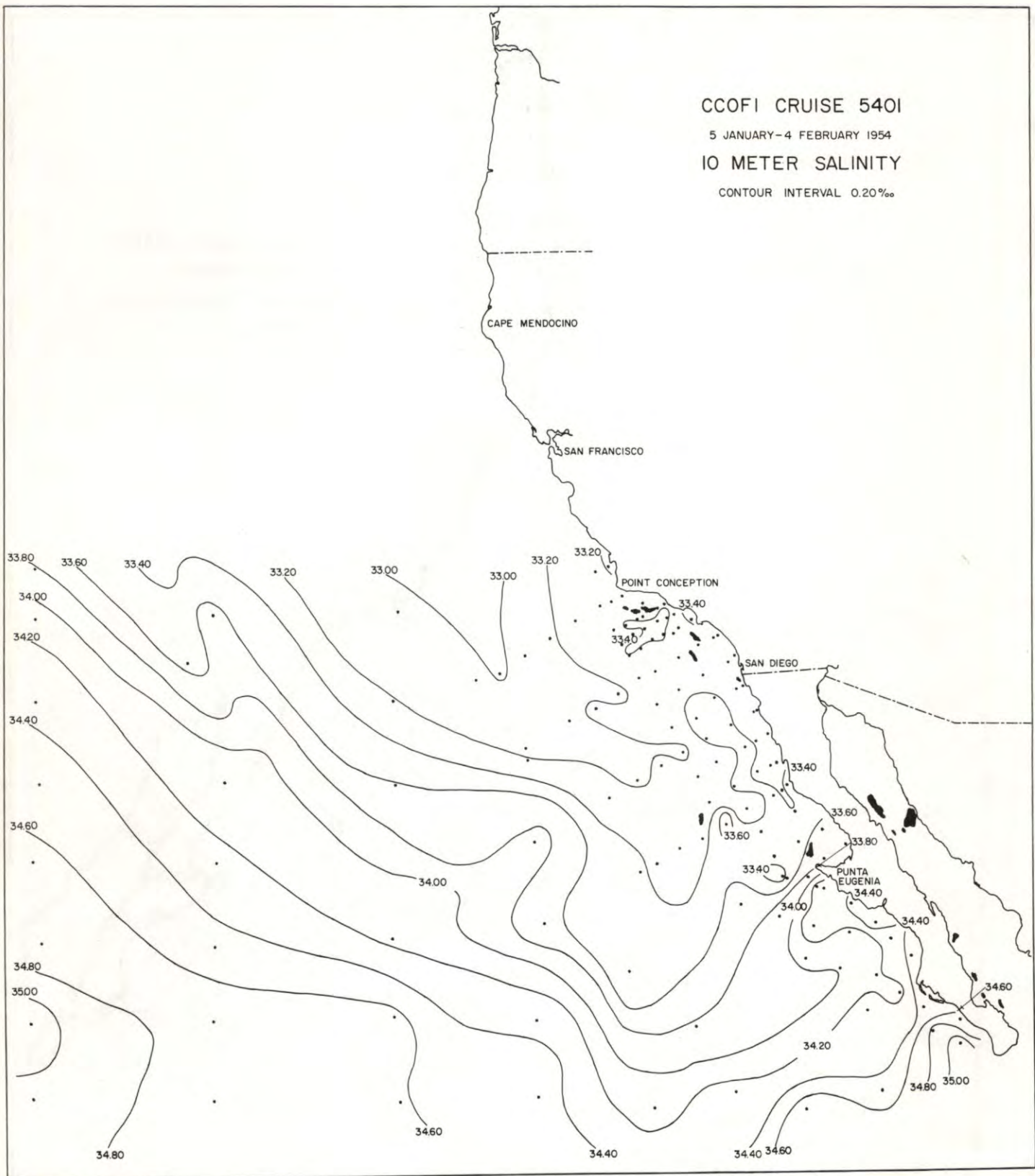


FIGURE 5

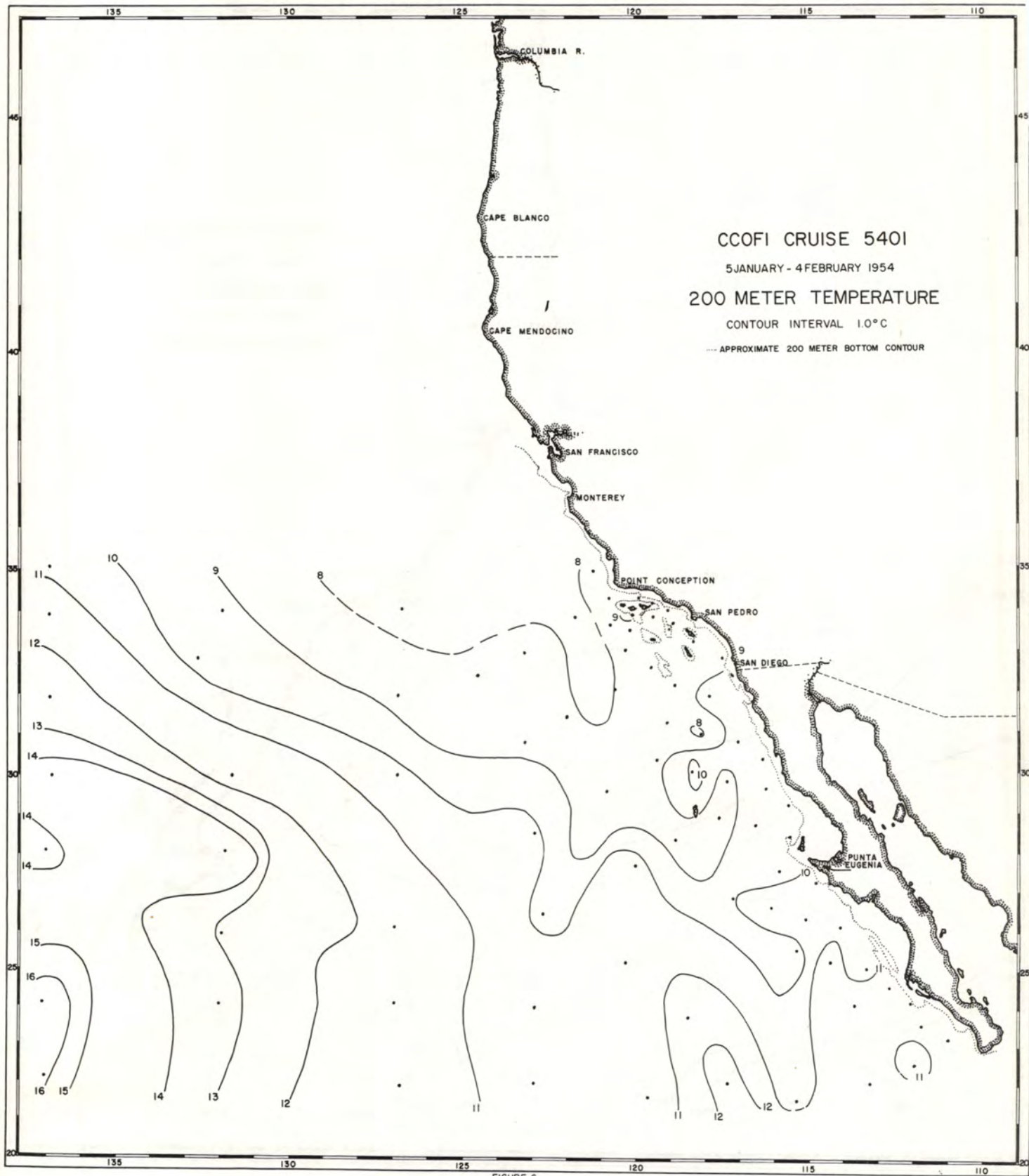


FIGURE 6

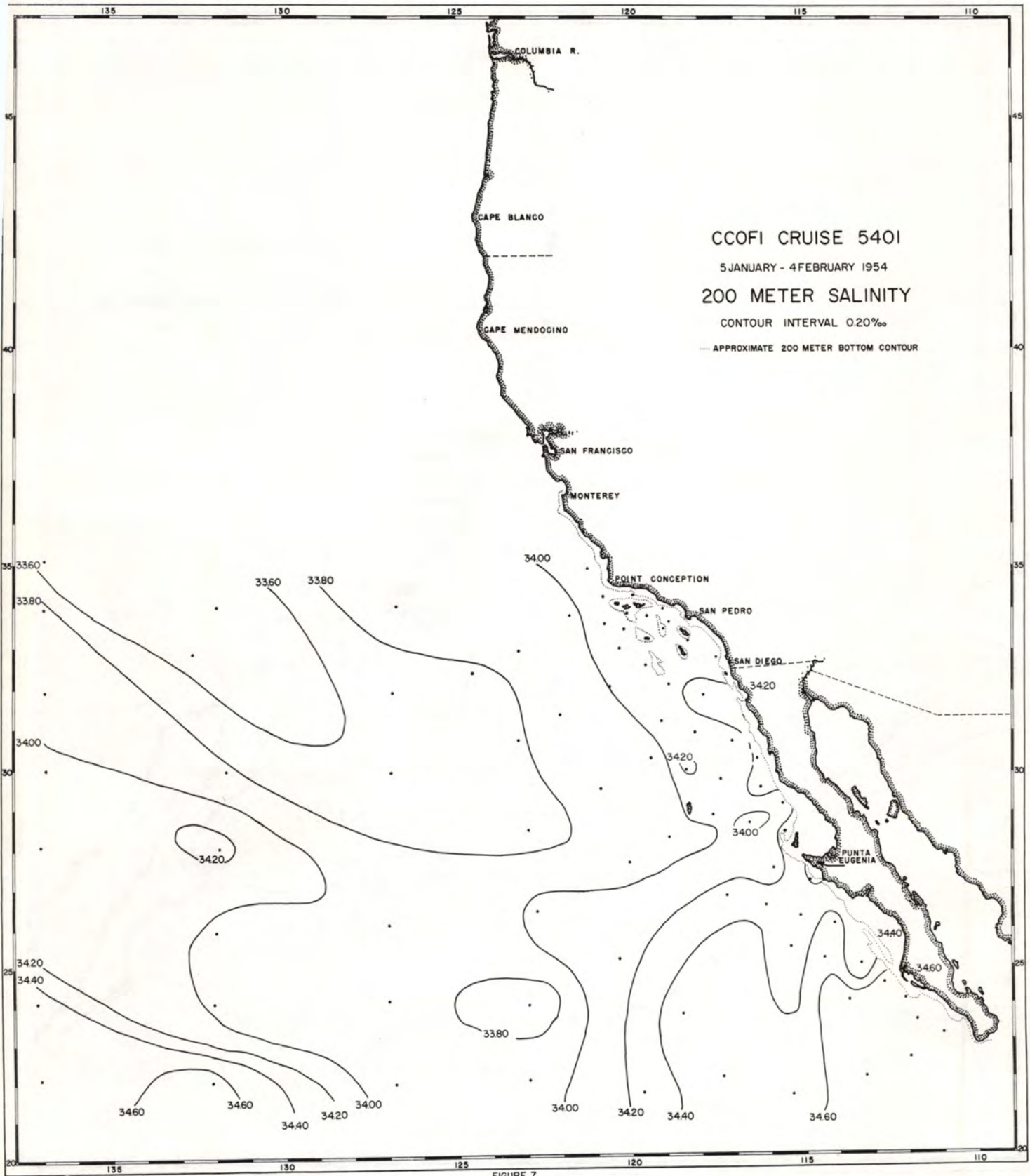


FIGURE 7

CRUISE 5401  
PERSONNEL

SHIPS' CAPTAINS

Davis, Laurence E. , R/V Crest  
Ferris, Noel L. , R/V Horizon  
Kuselj, Ivo, R/V N. B. Scofield

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Crest

Mead, Richard V. , Principal Marine Technician  
King, Robert D. , Marine Technician  
MacGregor, John S. , Fishery Research Biologist, U. S. Fish and Wildlife Service

R/V Horizon

Coolidge, Richard N. , Senior Marine Technician  
Casey, Harold D. , Fishery Aid, U. S. Fish and Wildlife Service  
Kivlen, John C. , Marine Technician  
Schwartzlose, Richard A. , Senior Marine Technician

R/V N. B. Scofield

Wilson, Robert C. , Assistant Marine Biologist, California Department of  
Fish and Game  
Holmberg, E. K. , Aquatic Biologist, Oregon Fish Commission  
Payne, Miles M. , Jr. , Senior Marine Technician

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

SIO

CCOFI  
5401

N. B. SCOFIELD; February 2, 1954; 1927 GCT; 35°05'N, 136°55'W; sounding, 950+ fm; wind, 170°, force 4; weather, drizzle; sea, moderate; wire angle, 18°.

45220  
(24)

0	16.00	33.80	5.66	0	16.00	33.80	5.66	24.85	311	0.00
48	16.02	33.87	5.67	10	(16.03)	(33.83)	(5.66)	(24.86)	(310)	(0.03)
57	15.90	33.87	5.68	20	(16.04)	(33.84)	(5.66)	(24.86)	(310)	(0.06)
133	15.32	33.83	5.70	30	(16.05)	(33.86)	(5.66)	(24.88)	(308)	(0.09)
142	14.62	33.84	5.63	50	16.04	33.87	5.66	24.89	307	(0.16)
152	13.85	33.73	5.64	75	15.74	33.86	5.67	24.96	301	(0.23)
161	13.43	33.68	5.68	100	15.59	33.85	5.68	24.98	299	(0.31)
180	12.64	33.65	5.53	150	14.00	33.75	5.66	25.24	274	(0.45)
198	11.01	33.49	5.38	200	10.85	33.49	5.33	25.65	235	(0.58)
217	9.98	33.58	5.10	250	9.03	33.67	4.57	26.09	193	(0.69)
244	9.16	33.64	4.67	300	8.10	33.94	4.05	26.45	159	(0.78)
281	8.44	33.87	4.19	400	6.54	33.98	2.86	26.69	136	(0.93)
325	7.68	33.99	3.86	500	5.62	34.05	1.72	26.87	119	(1.07)
370	6.90	33.96	3.27	600	4.97	34.11	0.98	27.00	107	(1.18)
462	5.95	34.03	2.10	700	4.53	34.25	0.55	27.16	92	(1.29)
553	5.22	34.07	1.24	800	4.16	34.35	0.37	27.27	81	(1.39)
740	4.38	34.29	0.44	1000	(3.47)	(34.46)		(27.42)	(67)	(1.55)
932	3.70	34.42	0.34							

N. B. SCOFIELD; February 1, 1954; 1954, 2107 GCT; 33°53'N, 136°53'W; sounding, 950+ fm; wind, 180°, force 2; weather, fog; sea, moderate; wire angle, 04°, 05°.

49230  
(23)

0	16.86	34.14	5.56	0	16.86	34.14	5.56	24.91	305	0.00
40	17.16	34.36	5.50	10	(16.91)	(34.16)	(5.54)	(24.92)	(304)	(0.03)
80	17.54	34.47	5.45	20	(17.00)	(34.21)	(5.53)	(24.93)	(303)	(0.06)
119	17.57	34.54	5.38	30	(17.08)	(34.25)	(5.52)	(24.94)	(302)	(0.09)
134	16.42	34.16	5.37	50	17.25	34.33	5.48	24.96	300	(0.15)
148	15.28	34.02	5.40	75	17.50	34.45	5.46	25.00	297	(0.23)
163	14.32	34.01	5.42	100	17.70	34.52	5.40	25.00	297	(0.30)
				150	14.95	34.01	5.42	25.24	274	(0.45)
176	14.39	34.09	5.35	200	11.86	33.88	5.34	25.77	223	(0.57)
196	12.12	33.88	5.38	250	10.13	33.93	5.03	26.12	190	(0.68)
220	11.06	33.89	5.18	300	8.80	33.97	4.51	26.36	167	(0.77)
244	10.29	33.93	5.03	400	7.33	34.02	3.93	26.62	143	(0.93)
283	9.14	33.94	4.69	500	5.83	34.04	2.13	26.84	122	(1.07)
333	8.28	34.02	4.30	600	4.97	34.13	1.07	27.01	106	(1.19)
392	7.42	34.02	4.00	700	4.48	34.23	0.52	27.15	92	(1.30)
491	5.92	34.03	2.26	800	4.16	34.32	0.36	27.26	82	(1.39)
590	5.02	34.12	1.13	1000	(3.67)	(34.49)	(0.38)	(27.44)	(65)	(1.56)
788	4.20	34.30	0.38							
986	3.70	34.49	0.39							

S10

CCOFI  
5401

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

58.245  
(22)

N. B. SCOFIELD; January 31, 1954; 1905 GCT; 31°57'N, 136°55'W; sounding, 950+ fm; wind, 180°, force 4; weather, overcast; sea, very rough; wire angle, 08°.

0	17.29	34.33	5.34	0	17.29	34.33	5.34	24.95	301	0.00
127	16.26	34.08	5.38	10	(17.27)	(34.33)	(5.34)	(24.96)	(300)	(0.03)
146	15.20	33.96	5.42	20	(17.26)	(34.32)	(5.34)	(24.95)	(301)	(0.06)
156	14.64	33.93	5.41	30	(17.25)	(34.32)	(5.34)	(24.95)	(301)	(0.09)
165	14.10	33.84	5.43	50	(17.23)	(34.32)	(5.35)	(24.96)	(300)	(0.15)
185	12.60	33.78	5.37	75	(17.19)	(34.31)	(5.35)	(24.95)	(301)	(0.23)
205	12.05	33.84	5.20	100	(17.13)	(34.29)	(5.36)	(24.96)	(300)	(0.30)
223	11.68	33.93	5.09	150	15.43	34.08	5.43	25.18	279	(0.45)
243	10.92	33.98	5.02	200	12.19	33.82	5.25	25.66	234	(0.58)
262	10.60	34.00	5.00	250	10.80	33.99	5.04	26.05	197	(0.69)
281	10.26	34.07	4.94	300	9.70	34.04	4.80	26.27	176	(0.79)
300	9.70	34.04	4.80	400	7.39	34.01	4.03	26.61	144	(0.96)
340	8.73	34.07	4.56	500	6.05	34.01	2.73	26.78	128	(1.10)
388	7.61	34.02	4.18	600	4.97	34.12	1.25	27.00	107	(1.22)
487	6.20	34.00	2.92	700	4.47	34.26	0.53	27.16	92	(1.33)
585	5.08	34.09	1.42	800	4.13	34.34	0.41	27.27	81	(1.42)
781	4.19	34.33	0.41	1000	(3.60)	(34.44)	(0.46)	(27.40)	(69)	(1.58)
978	3.66	34.43	0.42							

59.175  
(11)

N. B. SCOFIELD; January 18, 1954; 1818, 1848 GCT; 34°00'N, 131°55'W; sounding, 950+ fm; wind, 290°, force 4; weather, partly cloudy; sea, rough; wire angle, 14°, 21°.

0	16.12	33.63	5.79	0	16.12	33.63	5.79	24.69	326	0.00
106	16.14	33.62	5.72	10	(16.12)	(33.63)	(5.79)	(24.69)	(326)	(0.03)
115	16.12	33.59	5.58	20	(16.12)	(33.63)	(5.78)	(24.69)	(326)	(0.06)
125	14.82	33.60	5.81	30	(16.12)	(33.63)	(5.78)	(24.69)	(326)	(0.10)
134	14.38	33.77	5.71	50	(16.13)	(33.62)	(5.77)	(24.68)	(327)	(0.16)
144	14.06	33.67	5.67	75	(16.15)	(33.62)	(5.77)	(24.67)	(328)	(0.25)
163	12.48	33.48	5.68	100	(16.16)	(33.62)	(5.75)	(24.67)	(328)	(0.33)
				150	13.02	33.53	5.65	25.28	270	(0.48)
170	12.02	33.44	5.63	200	9.96	33.61	5.38	25.90	211	(0.60)
189	11.28	33.49	5.49	250	9.04	33.77	4.72	26.17	185	(0.70)
225	9.42	33.62	5.09	300	8.16	33.96	3.93	26.46	158	(0.79)
271	8.70	33.95	4.39	400	6.60	34.01	2.48	26.72	133	(0.94)
362	7.10	33.98	3.05	500	5.56	34.20	1.24	27.00	107	(1.07)
455	5.98	34.09	1.67	600	4.86	34.28	0.74	27.14	93	(1.18)
548	5.19	34.27	0.94	700	4.40	34.29	0.49	27.20	88	(1.27)
738	4.29	34.29	0.41	800	4.12	34.31	0.36	27.25	83	(1.36)
935	3.84	34.47	0.33	1000	(3.74)	(34.49)		(27.43)	(66)	(1.53)



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

S10  
CCOFI  
5401

N. B. SCOFIELD; February 4, 1954; 1910 GCT; 32°50'N, 132°40'W; sounding, 450 fm; wind, 220°, force 1; weather, cloudy; sea, rough; wire angle, 00°.

62190  
(25)

0	16.29	33.55	5.70	0	16.29	33.55	5.70	24.59	336	0.00
41	16.14	33.64u	5.69	10	(16.26)	(33.55)	(5.69)	(24.60)	(335)	(0.03)
80	15.96	33.58u	5.70	20	(16.24)	(33.55)	(5.69)	(24.60)	(335)	(0.07)
89	16.17	33.58	5.70	30	(16.20)	(33.55)	(5.69)	(24.61)	(334)	(0.10)
98	16.13	33.56	5.68	50	16.12	33.55	5.68	24.63	332	(0.17)
113	16.06	33.53	5.70	75	15.95	33.57	5.70	24.68	327	(0.25)
119	15.28	33.40	5.94	100	16.12	33.55	5.66	24.63	332	(0.33)
134	13.94	33.39	5.79	150	12.18	33.25	5.53	25.22	276	(0.48)
148	12.31	33.25	5.58	200	9.44	33.59	4.95	25.96	205	(0.61)
164	11.50	33.30	5.40	250	8.51	33.88	4.24	26.34	169	(0.70)
178	10.46	33.32	5.25	300	7.57	33.97	3.73	26.55	149	(0.79)
208	9.25	33.64	4.86	400	6.16	34.03	2.49	26.80	126	(0.93)
246	8.60	33.86	4.30	500	5.30	34.07	1.36	26.93	113	(1.06)
284	7.86	33.95	3.91	600	4.64	34.21	0.72	27.12	95	(1.17)
390	6.28	34.02	2.61	700	(4.33)	(34.33)	(0.46)	(27.24)	(84)	(1.26)
490	5.37	34.07	1.45							
589	4.70	34.19	0.78							
690	4.36	34.31	0.46							

N. B. SCOFIELD; January 30, 1954; 1859 GCT; 30°00'N, 136°50'W; sounding, 950+ fm; wind, 180°, force 2; weather, overcast; sea, slight; wire angle, 08°.

65265  
(21)

0	18.37	34.56	5.38	0	18.37	34.56	5.38	24.86	310	0.00
98	17.87	34.53	5.35	10	(18.29)	(34.55)	(5.38)	(24.88)	(308)	(0.03)
117	17.91	34.56	5.36	20	(18.23)	(34.55)	(5.38)	(24.89)	(307)	(0.06)
137	17.83	34.65	5.34	30	(18.17)	(34.55)	(5.38)	(24.90)	(306)	(0.09)
156	16.41	34.36	5.26	50	(18.05)	(34.54)	(5.38)	(24.93)	(303)	(0.15)
176	15.31	34.18	5.29	75	(17.93)	(34.53)	(5.37)	(24.95)	(301)	(0.23)
195	14.44	34.09	5.17	100	17.87	34.53	5.36	24.96	300	(0.31)
214	13.37	34.13	4.98	150	17.00	34.47	5.28	25.13	284	(0.45)
233	11.47	34.04	4.86	200	14.17	34.10	5.10	25.48	251	(0.59)
254	11.06	34.00	4.81	250	11.14	34.01	4.83	26.00	202	(0.70)
272	10.28	34.00	4.76	300	9.53	34.05	4.63	26.32	171	(0.80)
292	9.70	34.04	4.66	400	7.34	34.03	3.71	26.63	142	(0.96)
342	8.60	34.10	4.40	500	6.01	34.08	2.18	26.85	121	(1.10)
389	7.54	34.03	3.88	600	5.15	34.15	1.03	27.01	106	(1.22)
487	6.16	34.07	2.39	700	4.65	34.25	0.53	27.14	93	(1.33)
586	5.22	34.14	1.14	800	4.26	34.35	0.48	27.26	82	(1.42)
782	4.31	34.34	0.39	1000	(3.58)	(34.47)	(0.58)	(27.43)	(66)	(1.58)
979	3.67	34.45	0.54							

S10

CCOFI  
5401

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

69120  
(10)

N. B. SCOFIELD; January 16, 1954; 1826 GCT; 34°07'N, 126°44'W; sounding, 950+ fm; wind, 220°, force 5; weather, overcast; sea, rough; wire angle, 22°.

0	14.10	33.08	5.55	0	14.10	33.08	5.55	24.70	325	0.00
51	14.06	33.06	5.82	10	(14.10)	(33.08)	(5.56)	(24.70)	(325)	(0.03)
60	13.94	33.15	5.85	20	(14.10)	(33.08)	(5.60)	(24.70)	(325)	(0.06)
69	11.99	33.22	5.24	30	(14.10)	(33.07)	(5.66)	(24.70)	(325)	(0.10)
78	10.83	33.22	5.08	50	14.06	33.06	5.84	24.70	325	(0.16)
87	10.28	33.30	4.71	75	11.19	33.22	5.11	25.38	260	(0.24)
100	9.22	33.46	4.21	100	9.22	33.46	4.21	25.90	211	(0.30)
118	8.66	33.66	3.63	150	8.43	33.79	3.20	26.28	175	(0.39)
153	8.38	33.82	3.15	200	7.64	33.95	2.59	26.52	152	(0.48)
179	7.86	33.91	2.85	250	7.16	34.05	2.10	26.67	138	(0.55)
269	6.95	34.09	1.97	300	6.56	34.11	1.74	26.80	126	(0.62)
360	5.90	-	1.35	400	5.56	34.13	1.11	26.94	112	(0.74)
451	5.24	34.14	0.85	500	5.05	34.23	0.63	27.08	99	(0.85)
545	4.89	34.29	0.47	600	4.68	34.32	0.39	27.20	88	(0.95)
734	4.26	34.38	0.37	700	4.35	34.36	0.36	27.24	84	(1.04)
930	3.80	34.49	0.46	800	4.09	34.40	0.37	27.32	76	(1.13)
				1000	(3.66)	(34.51)		(27.45)	(64)	(1.28)

72280  
(20)

N. B. SCOFIELD; January 29, 1954; 2029 GCT; 28°08'N, 137°03'W; sounding, 950+ fm; wind, 180°, force 4; weather, drizzle; sea, moderate; wire angle, 06°.

0	18.33	34.63	5.33	0	18.33	34.63	5.33	24.93	303	0.00
40	18.26	34.68	5.31	10	(18.30)	(34.63)	(5.33)	(24.93)	(303)	(0.03)
60	18.91	34.96	5.26	20	(18.27)	(34.64)	(5.33)	(24.95)	(301)	(0.06)
129	19.14	35.06	5.18	30	(18.26)	(34.64)	(5.32)	(24.95)	(301)	(0.09)
139	19.10	35.07	5.18	50	18.52	34.81	5.28	25.02	295	(0.15)
158	17.12	34.69	4.96	75	19.03	35.01	5.24	25.04	293	(0.22)
178	16.04	34.50	4.91	100	19.12	35.04	5.18	25.04	293	(0.29)
198	13.87	34.15	4.85	150	18.55	34.97	5.00	25.14	283	(0.44)
217	13.37	34.14	4.86	200	13.77	34.15	4.85	25.60	240	(0.57)
237	12.34	34.04	4.85	250	11.83	34.04	4.86	25.90	211	(0.69)
256	11.61	34.04	4.88	300	10.35	34.03	4.74	26.16	186	(0.79)
276	10.98	34.04	4.80	400	7.64	34.00	3.40	26.56	148	(0.96)
295	10.53	34.04	4.72	500	6.20	34.03	2.02	26.79	127	(1.10)
395	7.72	34.00	3.52	600	5.27	34.15	1.14	27.00	107	(1.22)
493	6.29	34.02	2.06	700	4.68	(34.24)	0.52	(27.13)	(94)	(1.33)
592	5.32	34.14	1.20	800	4.23	(34.33)	0.45	(27.25)	(83)	(1.43)
789	4.27	34.13u	0.42	1000	(3.64)	(34.44)	(0.66)	(27.40)	(69)	(1.60)
988	3.68	34.43	0.65							

7755

HORIZON; January 10, 1954; 0418 GCT; 34°54'N, 121°12.5'W; sounding, 310 fm; wind, 310°, force 5; weather, clear; sea, rough; wire angle, 35°.

0	12.58	33.19		0	12.58	33.19		25.09	288	0.00
9	12.56	33.21		10	12.55	33.21		25.12	285	0.03
25	12.59	33.22		20	12.58	33.22		25.12	285	0.06
34	12.56	33.28		30	12.60	33.26		25.14	283	0.09
43	11.66	33.31		50	11.57	33.35		25.41	258	0.14
51	11.57	33.35		75	10.60	33.55		25.74	226	0.20
59	11.50	33.38		100	9.90	33.60		25.90	211	0.26
68	11.00	33.43		150	8.94	33.89		26.28	175	0.35
76	10.52	33.55		200	8.40	34.00		26.45	159	0.44
85	9.97	33.53		250	7.82	34.07		26.59	146	0.52
102	9.88	33.61		300	7.50	34.15		26.70	135	0.59
122	9.57	33.71		400	6.67	34.21		26.86	120	0.72
138	9.02	33.84								
171	8.82	33.96								
238	7.92	34.05								
331	7.28	34.18								
445	6.24	34.22								

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	Z	T	S	O <sub>2</sub>	σ <sub>t</sub>	δ <sub>T</sub> <sub>3</sub>	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm/g	dyn. m

S10

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5401

N. B. SCOFIELD; January 20, 1954; 1840 GCT; 29°59'N, 131°40'W; sounding, 950+ fm; wind, 040°, force 1; weather, cloudy; sea, very rough; wire angle, 04°.

77.205  
(12)

0	17.47	34.13	5.39	0	17.47	34.13	5.39	24.77	319	0.00
99	17.46	34.34u	5.40	10	(17.47)	(34.13)	(5.39)	(24.77)	(319)	(0.03)
118	16.25	34.13	5.46	20	(17.47)	(34.13)	(5.39)	(24.77)	(319)	(0.06)
129	16.20	34.10	5.43	30	(17.47)	(34.13)	(5.39)	(24.76)	(320)	(0.10)
138	15.69	34.13	5.32	50	(17.48)	(34.13)	(5.39)	(24.76)	(320)	(0.16)
149	15.08	34.01	5.26	75	(17.49)	(34.13)	(5.39)	(24.76)	(320)	(0.24)
157	14.44	33.93	5.22	100	17.45	(34.13)	5.39	24.76	320	(0.32)
176	13.40	33.86	5.18	150	14.95	33.99	5.25	25.22	276	(0.47)
196	11.98	33.81	5.06	200	11.70	33.81	5.05	25.74	226	(0.59)
246	9.78	33.86	4.77	250	9.66	33.87	4.74	26.15	187	(0.70)
294	8.80	33.99	4.46	300	8.68	33.99	4.40	26.40	164	(0.79)
393	6.98	33.98	3.47	400	6.83	33.98	3.35	26.66	139	(0.95)
492	5.58	34.04	1.97	500	5.53	34.05	1.86	26.88	118	(1.08)
589	4.98	34.16	0.94	600	4.91	34.18	0.86	27.06	101	(1.20)
787	4.28	34.36	0.39	700	4.53	34.29	0.46	27.19	89	(1.30)
985	3.74	34.48	0.62	800	4.24	34.37	0.40	27.28	80	(1.39)
				1000	(3.71)	(34.49)	(0.66)	(27.43)	(66)	(1.55)

N. B. SCOFIELD; January 15, 1954; 1856 GCT; 31°58'N, 126°53'W; sounding, 950+ fm; wind, 220°, force 2; weather, overcast; sea, moderate; wire angle, 06°.

78.140  
(9)

0	15.42	33.20	5.76	0	15.42	33.20	5.76	24.51	343	0.00
90	14.90	33.17	5.81	10	(15.42)	(33.20)	(5.76)	(24.51)	(343)	(0.03)
99	13.34	33.13	5.97	20	(15.42)	(33.20)	(5.77)	(24.51)	(343)	(0.07)
108	12.74	33.12	5.97	30	(15.42)	(33.20)	(5.77)	(24.51)	(343)	(0.10)
118	11.93	33.08	5.79	50	(15.40)	(33.20)	(5.78)	(24.52)	(342)	(0.17)
138	10.93	33.18	5.44	75	(15.38)	(33.20)	(5.80)	(24.52)	(342)	(0.26)
157	10.13	33.30	5.05	100	13.28	33.13	5.95	24.91	305	(0.34)
178	9.34	33.50	4.32	150	10.41	33.26	5.19	25.54	245	(0.48)
196	8.87	33.68	3.72	200	8.78	33.73	3.68	26.18	184	(0.59)
245	8.24	33.98	3.41	250	8.20	33.99	3.34	26.48	156	(0.68)
294	7.72	34.10	2.43	300	7.66	34.11	2.34	26.65	140	(0.75)
392	6.58	34.18	1.31	400	6.44	34.18	1.27	26.87	119	(0.89)
490	5.31	34.19	0.94	500	5.29	34.19	0.92	27.02	105	(1.00)
589	5.22	34.34	0.43	600	5.20	34.35	0.43	27.16	92	(1.11)
786	4.53	34.49	0.37	700	4.84	34.46	0.38	27.29	79	(1.20)
984	3.84	34.51	0.53	800	4.48	34.49	0.37	27.35	74	(1.28)
				1000	(3.78)	(34.51)	(0.57)	(27.44)	(65)	(1.44)

HORIZON; January 10, 1954; 1510 GCT; 34°17.5'N, 120°49'W; sounding, 430 fm; wind, 320°, force 5; weather, partly cloudy; sea, moderate; wire angle, 16°.

80.55

0	13.01	33.36		0	13.01	33.36		25.14	283	0.00
10	13.00	33.38		10	13.00	33.38		25.16	281	0.03
30	13.01	33.40		20	13.00	33.40		25.17	280	0.06
40	12.69	33.34		30	13.01	33.40		25.17	280	0.08
50	11.24	33.32		50	11.24	33.32		25.45	254	0.14
60	11.03	33.40		75	10.60	33.58		25.76	224	0.20
70	10.88	33.49		100	9.98	33.79		26.03	199	0.25
79	10.42	33.65		150	9.36	34.03		26.32	171	0.34
89	10.24	33.68		200	8.95	34.08		26.43	161	0.43
99	9.99	33.79		250	8.59	34.14		26.53	151	0.51
124	9.72	33.94		300	7.92	34.21		26.69	136	0.58
153	9.31	34.04		400	6.84	34.32		26.93	113	0.72
203	8.93	34.08		500	6.17	34.38		27.06	101	0.83
262	8.48	34.20		600	5.59	34.44		27.18	90	0.93
366	7.14	34.20								
487	6.25	34.35								
611	5.52	34.30								

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5401

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

8070  
✓  
HORIZON; January 10, 1954; 2326 GCT; 33°48.5'N, 121°49.5'W; sounding, 2000 fm; wind, 320°, force 4; weather, cloudy; sea, rough; wire angle, 30°.

0	14.05	33.30		0	14.05	33.30		24.88	308	0.00
9	14.02	33.31		10	14.02	33.31		24.90	306	0.03
23	13.94	33.26		20	13.98	33.26		24.87	309	0.06
45	13.51	33.34		30	13.85	33.29		24.92	304	0.09
54	12.80	33.31		50	13.14	33.33		25.09	288	0.15
63	12.27	33.19		75	10.70	33.31		25.53	246	0.22
72	11.10	33.28		100	9.32	33.60		25.99	202	0.28
89	9.54	33.42		150	8.36	33.83		26.32	171	0.37
111	9.12	33.68		200	7.78	33.99		26.53	151	0.45
138	8.52	33.78		250	7.34	34.01		26.61	144	0.53
181	7.98	33.98		300	7.04	34.18		26.79	127	0.60
242	7.40	34.00		400	6.42	34.32		26.98	109	0.72
330	6.89	34.25		500	5.76	34.34		27.08	99	0.83
440	6.16	34.33		600	5.21	34.34		27.15	92	0.93
596	5.22	34.34		700	4.79	34.44		27.28	80	1.02
795	4.43	34.49		800	4.42	34.49		27.36	73	1.11
1084	3.54	34.52		1000	3.78	34.52		27.45	64	1.26

8090  
✓  
HORIZON; January 11, 1954; 1025 GCT; 33°02.5'N, 123°13.5'W; sounding, 2350 fm; wind, 240°, force 5; weather, cloudy; sea, moderate; wire angle, 35°.

0	14.69	33.14		0	14.69	33.14		24.63	332	0.00
8	14.68	33.02		10	14.68	33.02		24.54	340	0.03
21	14.68	33.04		20	14.67	33.04		24.55	340	0.07
42	14.70	33.05		30	14.69	33.05		24.56	339	0.10
51	14.70	33.04		50	14.70	33.04		24.55	340	0.17
59	14.70	33.06		75	13.80	33.07		24.76	320	0.25
67	14.34	33.04		100	11.95	33.06		25.11	286	0.33
82	13.28	33.12		150	9.30	33.55		25.96	205	0.45
102	11.80	33.06		200	8.78	33.99		26.38	166	0.55
125	9.90	33.22		250	8.20	34.06		26.53	151	0.63
163	9.12	33.71		300	7.70	34.10		26.63	142	0.70
214	8.63	34.02		400	6.83	34.17		26.81	125	0.84
286	7.83	34.09		500	6.06	34.24		26.97	110	0.97
371	7.06	34.15		600	5.40	34.32		27.11	96	1.08
489	6.14	34.23		700	4.90	34.40		27.23	85	1.17
648	5.14	34.36		800	4.54	34.48		27.34	74	1.26
896	4.24	34.54								

80110  
HORIZON; January 11, 1954; 2037 GCT; 32°25'N, 124°35'W; sounding, 2800 fm; wind, 300°, force 6; weather, rain; sea, high; wire angle, 23°.

0	15.15	33.13		0	15.15	33.13		24.52	342	0.00
10	15.12	33.11		10	15.12	33.11		24.51	343	0.03
30	15.14	33.14		20	15.11	33.13		24.53	341	0.07
52	15.08	33.12		30	15.14	33.14		24.53	341	0.10
67	14.66	33.04		50	15.10	33.13		24.53	341	0.17
75	14.17	33.05		75	14.17	33.05		24.67	328	0.26
89	12.93	33.04		100	12.40	33.07		25.04	293	0.33
111	11.94	33.10		150	10.06	33.22		25.57	242	0.47
142	10.52	33.18		200	8.56	33.71		26.20	183	0.58
163	9.44	33.30		250	7.90	33.90		26.45	159	0.66
215	8.33	33.84		300	7.30	33.97		26.59	146	0.74
290	7.42	33.95		400	6.24	34.18		26.90	116	0.88
389	6.32	34.16		500	5.65	34.29		27.06	101	0.99
524	5.52	34.30		600	5.11	34.31		27.14	93	1.10
707	4.66	34.33		700	4.68	34.33		27.20	88	1.20
932	4.03	34.43		800	4.36	34.36		27.26	82	1.29
1246	3.24	-		1000	3.84	(34.47)		(27.40)	(69)	(1.45)

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

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5401

N. B. SCOFIELD; January 28, 1954; 1901, 1937 GCT; 26°05'N, 136°49'W; sounding, 950+ fm; wind, 130°, force 2; weather, overcast; sea, moderate; wire angle, 10°, 15°.

81300  
(19)

0	19.02	34.71	5.16	0	19.02	34.71	5.16	24.81	315	0.00
98	18.87	34.72	5.14	10	(18.99)	(34.71)	(5.16)	(24.82)	(314)	(0.03)
127	18.74	34.73	5.17	20	(18.95)	(34.71)	(5.16)	(24.83)	(313)	(0.06)
136	17.63	34.52	5.18	30	(18.90)	(34.72)	(5.16)	(24.86)	(310)	(0.09)
146	17.42	34.52	5.18	50	(18.84)	(34.72)	(5.15)	(24.87)	(309)	(0.16)
164	16.62	34.36	5.02	75	(18.80)	(34.72)	(5.15)	(24.87)	(309)	(0.23)
183	14.54	34.11	4.91	100	18.85	34.72	5.15	24.86	310	(0.31)
203	13.12	34.02	4.82	150	17.35	34.51	5.15	25.08	289	(0.46)
222	12.16	33.96	4.79	200	13.36	34.04	4.85	25.60	240	(0.60)
241	10.92	33.87	4.54	250	10.55	33.88	4.35	26.00	202	(0.71)
261	10.10	33.93	4.19	300	9.12	34.05	4.13	26.37	166	(0.81)
288	9.52	34.01	4.12	400	7.73	34.18	2.39	26.69	136	(0.96)
335	8.45	34.09	3.98	500	6.29	34.25	1.22	26.94	112	(1.10)
382	7.98	34.16	2.63	600	5.46		0.67			
478	6.58	34.25	1.43	700	4.97		0.48			
				800	4.63		0.47			
573	5.62	34.25u	0.75	1000	(4.10)		(0.84)			
765	4.75	34.23u	0.46							
960	4.20	34.57u	0.74							

HORIZON; January 9, 1954; 0551 GCT; 34°14.5'N, 119°59'W; sounding, 325 fm; wind, 320°, force 5; weather, clear; sea, rough; wire angle, 10°.

8247

0	13.18	33.37		0	13.18	33.37		25.12	285	0.00
10	13.16	33.37		10	13.16	33.37		25.12	285	0.03
30	12.94	33.39		20	13.08	33.38		25.15	282	0.06
40	11.48	33.37		30	12.94	33.39		25.18	280	0.08
50	10.94	33.46		50	10.94	33.46		25.61	239	0.14
60	10.39	33.60		75	10.01	33.74		25.99	202	0.19
70	10.08	33.74		100	9.60	33.91		26.19	184	0.24
80	9.94	33.74		150	9.30	34.03		26.33	170	0.33
90	9.70	33.91		200	8.85	34.08		26.44	160	0.42
100	9.60	33.91		250	8.26	34.17		26.60	145	0.49
119	9.50	33.98		300	7.80	34.19		26.69	136	0.57
144	9.33	34.02		400	7.12	34.18		26.78	128	0.70
163	9.22	34.05		500	6.49	34.21		26.89	117	0.83
202	8.80	34.08								
281	7.97	34.19								
386	7.21	34.18								
508	6.46	34.21								

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5401

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

8343

HORIZON; January 9, 1954; 0247 GCT; 34°08'N, 119°34'W; sounding, 130 fm; wind, 280°, force 4; weather, clear; sea, slight; wire angle, 03°.

0	14.36	33.40		0	14.36	33.40		24.90	306	0.00
10	14.36	33.39		10	14.36	33.39		24.89	307	0.03
15	14.36	33.40		20	14.28	33.39		24.91	305	0.06
20	14.28	33.39		30	13.92	33.38		24.97	300	0.09
26	14.25	33.39		50	12.27	33.32		25.25	273	0.15
31	13.82	33.37		75	10.83	33.44		25.61	239	0.21
36	13.34	33.33		100	10.20	33.66		25.89	212	0.27
47	12.54	33.31		150	9.48	34.00		26.28	175	0.37
57	11.82	33.39		200	8.99	34.13		26.46	158	0.45
67	11.62	33.43								
77	10.73	33.45								
97	10.26	33.64								
112	10.02	33.72								
142	9.56	33.95								
173	9.26	34.09								
209	8.89	34.14								

8351

HORIZON; January 9, 1954; 1056 GCT; 33°51.5'N, 120°08.5'W; sounding, 200 fm; wind, 320°, force 5; weather, clear; sea, rough; wire angle, 10°.

0	13.17	33.30		0	13.17	33.30		25.06	291	0.00
10	13.18	33.35		10	13.18	33.35		25.10	287	0.03
15	13.17	33.30		20	13.16	33.33		25.09	288	0.06
20	13.16	33.33		30	12.80	33.35		25.18	280	0.09
25	13.06	33.34		50	11.75	33.39		25.41	258	0.14
30	12.80	33.35		75	10.12	33.57		25.84	217	0.20
35	12.64	33.37		100	9.68	33.76		26.06	196	0.25
46	12.14	33.37		150	9.57	33.86		26.15	187	0.35
56	10.92	33.46		200	9.04	34.02		26.37	166	0.44
66	10.29	33.54		250	8.52	34.15		26.55	149	0.52
81	10.02	33.60		300	7.93	34.21		26.69	136	0.59
101	9.66	33.77								
127	9.65	33.84								
167	9.44	33.88								
207	8.98	34.05								
248	8.56	34.14								
307	7.86	34.22								

8360

HORIZON; January 9, 1954; 1638 GCT; 33°33'N, 120°45.5'W; sounding, 1450 fm; wind, 320°, force 6; weather, partly cloudy; sea, high; wire angle, 38°.

0	12.52	33.40		0	12.52	33.40		25.27	271	0.00
8	12.50	33.37		10	12.50	33.37		25.25	273	0.03
25	12.48	33.41		20	12.49	33.41		25.28	270	0.05
37	12.35	33.40		30	12.45	33.41		25.29	269	0.08
50	11.79	33.37		50	11.79	33.37		25.38	260	0.13
58	11.16	33.44		75	10.55	33.41		25.64	236	0.20
66	11.02	33.37		100	9.82	33.64		25.94	207	0.25
78	10.41	33.44		150	8.95	33.82		26.22	181	0.35
86	10.10	33.49		200	8.17	34.09		26.56	148	0.44
99	9.86	33.64		250	7.73	34.18		26.69	136	0.51
123	9.30	33.66		300	7.15	34.24		26.82	124	0.58
146	9.02	33.78		400	6.50	34.23		26.90	116	0.70
189	8.29	34.07		500	5.82	34.26		27.01	106	0.82
234	7.90	34.15								
315	7.04	34.25								
428	6.34	34.23								
555	5.44	34.31								

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

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540I

N. B. SCOFIELD; January 21, 1954; 1915 GCT; 28°06'N, 131°53'W; sounding, 950+ fm; wind, 180°, force 3; weather, cloudy; sea, moderate; wire angle, 08°.

83225  
(13)

0	17.74	34.23	5.38	0	17.74	34.23	5.38	24.77	319	0.00
60	18.50	34.64	5.33	10	(17.75)	(34.23)	(5.35)	(24.76)	(320)	(0.03)
118	16.86	34.32	5.37	20	(17.77)	(34.24)	(5.35)	(24.77)	(319)	(0.06)
127	16.88	34.38	5.24	30	(17.77)	(34.24)	(5.35)	(24.77)	(319)	(0.10)
137	17.24	34.51	5.19	50	(18.46)	(34.57)	(5.35)	(24.85)	(311)	(0.16)
147	17.05	34.54	5.17	75	18.45	34.59	5.35	24.87	309	(0.24)
166	16.61	34.60	5.12	100	18.42	34.63	5.35	24.90	306	(0.31)
196	15.06	34.31	4.96	150	16.99	34.55	5.14	25.20	278	(0.46)
215	13.79	34.14	4.93	200	14.75	34.26	4.93	25.48	251	(0.60)
244	12.01	34.01	4.90	250	11.70	33.99	4.88	25.88	213	(0.72)
272	10.51	33.89	4.76	300	9.21	33.90	4.36	26.25	178	(0.82)
292	9.44	33.89	4.48	400	7.08	34.05	3.06	26.68	137	(0.98)
388	7.32	34.04	3.27	500	5.66	34.13	1.71	26.93	113	(1.11)
584	4.98	34.18	0.92	600	4.89	34.19	0.84	27.07	100	(1.22)
779	4.26	34.39	0.44	700	4.49	34.32	0.51	27.22	86	(1.33)
976	3.77	34.45	0.71	800	4.20	34.40	0.45	27.31	77	(1.42)
				1000	(3.70)	(34.45)	(0.76)	(27.40)	(69)	(1.58)

HORIZON; January 8, 1954; 1835 GCT; 33°47'N, 119°31.5'W; sounding, 1060 fm; wind, 280°, force 4; weather, cloudy; sea, moderate; wire angle, 10°.

8545

0	14.68	33.40		0	14.68	33.40		24.83	313	0.00
10	14.66	33.39		10	14.66	33.39		24.83	313	0.03
30	14.64	33.38		20	14.65	33.38		24.82	314	0.06
40	14.56	33.51		30	14.64	33.38		24.82	314	0.09
51	14.31	33.37		50	14.36	33.39		24.89	307	0.16
61	12.30	33.26		75	11.50	33.34		25.41	258	0.23
71	11.80	33.30		100	10.17	33.54		25.80	221	0.29
81	11.02	33.41		150	9.15	33.85		26.22	181	0.39
92	10.32	33.42		200	8.62	34.07		26.47	157	0.48
101	10.16	33.55		250	8.29	34.19		26.62	143	0.55
126	9.54	33.71		300	7.82	34.20		26.69	136	0.62
156	9.08	33.88		400	7.12	34.23		26.82	124	0.76
206	8.58	34.09		500	6.55	34.30		26.95	111	0.88
264	8.18	34.20		600	5.87	34.34		27.07	100	1.00
369	7.30	34.21								
489	6.62	34.29								
615	5.76	34.34								

HORIZON; January 8, 1954; 1112 GCT; 33°27.5'N, 120°12.5'W; sounding, 500 fm; wind, 310°, force 6; weather, clear; sea, very rough; wire angle, 33°.

8555

0	12.92	33.29		0	12.92	33.29		25.11	286	0.00
9	12.98	33.27		10	12.98	33.27		25.08	289	0.03
26	12.84	33.30		20	12.91	33.29		25.11	286	0.06
39	12.48	33.37		30	12.75	33.32		25.16	281	0.09
48	11.87	33.31		50	11.81	33.31		25.33	265	0.14
57	11.58	33.30		75	10.44	33.40		25.65	235	0.20
66	11.19	33.35		100	9.51	33.57		25.94	207	0.26
75	10.44	33.40		150	8.26	33.97		26.45	159	0.35
88	9.86	33.51		200	8.02	34.08		26.57	148	0.43
96	9.61	33.55		250	7.71	34.14		26.66	139	0.50
119	8.96	33.69		300	6.93	34.18		26.80	126	0.57
146	8.30	33.95		400	6.18	34.26		26.97	110	0.69
195	8.06	34.07		500	5.90	34.32		27.05	102	0.81
254	7.59	34.14		600	5.52	34.37		27.14	93	0.91
360	6.32	34.23								
482	5.98	34.31								
611	5.48	34.37								

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5401

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

8740

HORIZON; January 6, 1954; 1015 GCT; 33°39.5'N, 118°59.5'W; sounding, 360 fm; wind, 220°, force 3; weather, clear; sea, slight; wire angle, 02°.

0	14.55	33.42		0	14.55	33.42		24.87	309	0.00
10	14.44	33.38		10	14.44	33.38		24.86	310	0.03
30	14.30	33.37		20	14.36	33.37		24.87	309	0.06
41	14.25	33.40		30	14.30	33.37		24.89	307	0.09
51	14.16	33.35		50	14.18	33.35		24.90	306	0.15
61	13.78	33.35		75	12.29	33.31		25.24	274	0.23
72	12.58	33.31		100	10.58	33.48		25.69	231	0.29
82	11.76	33.31		150	9.31	33.83		26.17	185	0.40
92	11.26	33.39		200	8.88	34.02		26.39	164	0.48
102	10.44	33.49		250	8.53	34.10		26.51	153	0.57
122	9.66	33.77		300	8.15	34.15		26.61	144	0.64
147	9.34	33.82		400	7.36	34.23		26.78	128	0.78
167	9.14	33.87		500	6.50	34.28		26.94	112	0.91
207	8.84	34.04								
249	8.56	34.10								
393	7.42	34.23								
513	6.40	34.29								

8750

HORIZON; January 6, 1954; 1603 GCT; 33°20.5'N, 119°40.5'W; sounding, 45 fm; wind, 090°, force 1; weather, cloudy; sea, moderate; wire angle, 06°.

0	14.33	33.37		0	14.33	33.37		24.88	308	0.00
10	13.46	33.39		10	13.46	33.39		25.07	290	0.03
15	13.42	33.45		20	13.30	33.46		25.16	281	0.06
20	13.30	33.46		30	12.05	33.41		25.37	262	0.07
26	12.23	33.40		50	11.63	33.41		25.44	255	0.14
31	12.02	33.42								
36	11.93	33.44								
41	11.90	33.43								
52	11.54	33.41								

8760

HORIZON; January 8, 1954; 0440 GCT; 33°01'N, 120°20.5'W; sounding, 1800 fm; wind, 300°, force 5; weather, clear; sea, rough; wire angle, 35°.

0	13.93	33.31		0	13.93	33.31		24.98	298	0.00
9	13.92	33.40		10	13.89	33.40		25.00	297	0.03
26	12.76	33.33		20	13.19	33.35		25.10	287	0.06
34	11.94	33.30		30	12.35	33.32		25.24	274	0.09
43	10.99	33.26		50	10.24	33.27		25.58	242	0.14
51	10.16	33.27		75	9.49	33.50		25.89	212	0.20
59	9.94	33.33		100	8.78	33.69		26.14	188	0.25
67	9.58	33.40		150	8.32	33.93		26.41	163	0.34
76	9.37	33.51		200	8.07	34.02		26.52	152	0.42
84	9.10	33.55		250	7.41	34.10		26.67	138	0.49
106	8.70	33.72		300	6.97	34.17		26.79	127	0.56
129	8.48	33.79		400	6.41	34.25		26.92	114	0.68
166	8.26	33.99		500	(5.94)	(34.25)		(26.99)	(108)	(0.80)
204	8.03	34.02								
279	7.12	34.14								
373	6.56	34.24								
481	6.03	34.25								



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

SIO  
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5401

N. B. SCOFIELD; January 27, 1954; 1850, 1943 GCT; 24°03'N, 137°12'W; sounding, 950+ fm; wind, 100°, force 3; weather, cloudy; sea, moderate; wire angle, 09°, 12°.

88318  
(18)

0	19.92	35.21	5.03	0	19.92	35.21	5.03	24.96	300	0.00
20	19.71	35.09	5.07	10	19.80	35.14	5.05	24.94	302	0.03
146	18.21	34.74	5.09	20	19.71	35.09	5.07	24.93	303	0.06
166	17.72	34.70	4.98	30	(19.70)	(35.09)	(5.07)	(24.93)	(303)	(0.09)
186	17.54	34.72	4.94	50	(19.70)	(35.09)	(5.08)	(24.93)	(303)	(0.15)
205	15.70	34.38	4.94	75	(19.70)	(35.09)	(5.09)	(24.93)	(303)	(0.23)
224	14.16	34.21	4.85	100	(19.64)	(35.07)	(5.09)	(24.92)	(304)	(0.30)
				150	18.04	34.72	5.10	25.06	291	(0.46)
234	13.23	34.14	4.86	200	16.60	34.54	4.95	25.28	270	(0.60)
243	12.62	34.08	4.83	250	12.35	34.06	4.94	25.81	220	(0.72)
253	12.20	34.05	4.92	300	10.19	34.09	4.71	26.23	180	(0.82)
263	11.56	34.05	4.87	400	7.59	34.04	3.75	26.60	145	(0.99)
292	10.34	34.10	4.74	500	5.98	34.06	1.67	26.83	123	(1.13)
340	9.04	34.05	4.49	600	5.31	34.25	0.70	27.07	100	(1.25)
389	7.84	34.04	3.96	700	4.89	34.35	0.56	27.20	88	(1.35)
484	6.11	34.05	1.96	800	4.57	34.42	0.56	27.29	79	(1.44)
581	5.40	34.22	0.74	1000	(4.01)	(34.48)	(0.84)	(27.39)	(70)	(1.61)
776	4.64	34.40	0.56							
973	4.08	34.34	0.79							

HORIZON; January 14, 1954; 0811 GCT; 33°28.5'N, 117°46.5'W; sounding, 45 fm; wind, 040°, force 2; weather, clear; sea, slight; wire angle, 00°.

9028

0	13.89	33.36		0	13.89	33.36		24.96	300	0.00
10	13.87	33.39		10	13.87	33.39		24.99	298	0.03
15	13.88	33.37		20	13.78	33.37		24.99	298	0.06
20	13.78	33.37		30	13.68	33.39		25.03	294	0.09
26	13.74	33.37		50	12.45	33.31		25.21	277	0.15
31	13.62	33.39								
36	13.44	33.37								
41	13.38	-								
52	12.05	33.30								

HORIZON; January 14, 1954; 0302 GCT; 33°12'N, 118°22'W; sounding, 650 fm; wind, 320°, force 2; weather, clear; sea, smooth; wire angle, 00°.

9037

0	14.34	33.39		0	14.34	33.39		24.89	307	0.00
10	14.30	33.36		10	14.30	33.36		24.88	308	0.03
31	14.23	33.41		20	14.27	33.39		24.91	305	0.06
41	12.88	33.26		30	14.25	33.41		24.93	303	0.09
51	11.34	33.35		50	11.38	33.33		25.43	256	0.15
62	11.14	33.44		75	10.79	33.68		25.81	220	0.21
72	10.86	33.69		100	10.34	33.70		25.90	211	0.26
82	10.66	33.63		150	9.23	33.91		26.25	178	0.36
92	10.38	-		200	8.52	34.02		26.45	159	0.45
102	10.32	33.71		250	8.34	34.19		26.61	144	0.52
128	10.06	33.85		300	7.95	34.24		26.71	134	0.60
157	9.05	33.92		400	7.01	34.29		26.88	118	0.73
207	8.48	34.04		500	6.32	34.36		27.03	104	0.85
267	8.28	34.22		600	5.80	34.38		27.11	96	0.95
372	7.24	34.27								
492	6.38	34.36								
621	5.70	34.38								

S10  
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5401

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

9053

HORIZON; January 13, 1954; 1815 GCT; 32°35'N, 119°35.5'W; sounding, 1000 fm; wind, 020°, force 4; weather, partly cloudy; sea, very rough; wire angle, 11°.

0	13.81	33.31		0	13.81	33.31		24.94	302	0.00
10	13.78	33.32		10	13.78	33.32		24.96	300	0.03
25	13.78	33.30		20	13.79	33.32		24.95	301	0.06
50	12.96	33.35		30	13.72	33.30		24.95	301	0.09
60	11.18	33.18		50	12.96	33.35		25.14	283	0.15
71	10.03	33.41		75	9.97	33.42		25.75	225	0.21
81	9.90	33.43		100	9.53	33.58		25.94	207	0.27
101	9.50	33.59		150	8.90	33.91		26.30	173	0.36
126	9.06	33.79		200	8.22	34.09		26.55	149	0.45
156	8.68	33.94		250	7.75	34.18		26.69	136	0.52
205	8.16	34.10		300	7.38	34.22		26.77	128	0.59
276	7.57	34.20		400	6.78	34.28		26.90	116	0.72
379	6.90	34.26		500	6.20	34.34		27.03	104	0.83
509	6.15	34.34		600	5.58	34.36		27.12	95	0.94
692	5.08	34.37		700	5.05	34.37		27.19	89	1.04
916	4.20	34.49		800	4.60	34.44		27.30	78	1.13
1220	3.80	34.52		1000	4.04	34.51		27.41	68	1.29

9070

HORIZON; January 13, 1954; 0817 GCT; 32°04'N, 120°39.5'W; sounding, 2100 fm; wind, 280°, force 4; weather, partly cloudy; sea, rough; wire angle, 18°.

0	14.02	33.21		0	14.02	33.21		24.82	314	0.00
10	14.02	33.17		10	14.02	33.17		24.79	317	0.03
30	13.92	33.15		20	13.98	33.16		24.79	317	0.06
55	12.52	33.12		30	13.92	33.15		24.80	316	0.10
69	10.78	33.02		50	13.02	33.13		24.96	300	0.16
78	10.46	33.04		75	10.58	33.03		25.34	264	0.22
93	9.64	33.24		100	9.56	33.34		25.75	225	0.29
118	9.40	33.57		150	8.73	33.81		26.25	178	0.39
151	8.70	33.82		200	8.00	34.00		26.51	153	0.48
175	8.30	33.94		250	7.59	34.10		26.65	140	0.55
234	7.72	34.07		300	7.20	34.18		26.77	128	0.62
316	7.06	34.19		400	6.12	34.20		26.93	113	0.75
430	5.90	34.20		500	5.56	34.24		27.03	104	0.86
581	5.22	34.34		600	5.15	34.36		27.17	91	0.96
785	4.52	34.48		700	4.80	34.44		27.28	80	1.06
1032	3.80	34.52		800	4.48	34.48		27.34	74	1.14
1359	3.10	34.56		1000	3.88	34.52		27.44	65	1.30

9090

HORIZON; January 12, 1954; 2139 GCT; 31°23.5'N, 122°00'W; sounding, 2300 fm; wind, 320°, force 5; weather, partly cloudy; sea, high; wire angle, 26°.

0	13.41	33.15		0	13.41	33.15		24.90	306	0.00
9	13.38	33.14		10	13.36	33.14		24.90	306	0.03
29	13.44	33.19		20	13.39	33.18		24.93	303	0.06
52	13.45	33.15		30	13.45	33.19		24.92	304	0.09
65	12.51	33.04		50	13.47	33.16		24.90	306	0.15
73	12.31	33.12		75	12.20	33.12		25.11	286	0.23
87	10.79	32.97		100	10.13	33.12		25.48	251	0.30
110	9.76	33.36		150	8.74	33.69		26.15	187	0.40
140	8.96	33.65		200	8.10	33.93		26.44	160	0.49
162	8.54	33.75		250	7.37	34.04		26.63	142	0.57
215	7.92	33.97		300	6.77	34.10		26.76	129	0.64
289	6.88	34.09		400	6.03	34.14		26.89	117	0.77
392	6.09	34.13		500	5.52	34.27		27.06	101	0.88
531	5.40	34.29		600	5.18	34.32		27.14	93	0.99
721	4.77	34.36		700	4.85	34.35		27.20	88	1.08
953	3.86	34.47		800	4.44	34.39		27.28	80	1.18
1270	3.15	34.61		1000	3.74	34.49		27.43	66	1.34

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

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HORIZON; January 12, 1954; 1053 GCT; 30°45'N, 123°15'W; sounding, 2000 fm; wind, 320°, force 5; weather, partly cloudy; sea, rough; wire angle, 35°.

90110

0	15.29	33.19		0	15.29	33.19		24.54	340	0.00
9	15.26	33.18		10	15.26	33.18		24.53	341	0.03
27	15.28	33.21		20	15.26	33.21		24.56	339	0.07
47	15.28	33.19		30	15.28	33.21		24.55	340	0.10
59	15.30	33.19		50	15.28	33.19		24.54	340	0.17
67	15.29	33.19		75	15.30	33.29		24.61	334	0.26
79	15.30	33.32		100	13.41	33.18		24.92	304	0.34
98	13.55	-		150	10.35	33.31		25.60	240	0.47
125	11.79	33.13		200	8.68	33.79		26.24	179	0.58
143	10.73	33.22		250	8.24	34.02		26.49	155	0.66
183	8.89	33.68		300	7.76	34.14		26.66	139	0.74
236	8.39	33.96		400	6.66	34.18		26.84	122	0.88
304	7.70	34.14		500	6.10	34.32		27.02	105	1.00
402	6.63	34.18		600	5.60	34.34		27.10	97	1.10
533	-	34.33		700	5.16	34.34		27.16	92	1.21
705	5.14	34.34		800	4.77	34.38		27.23	85	1.30
963	4.20	34.46		1000	(4.07)	(34.47)		(27.38)	(71)	(1.48)

N. B. SCOFIELD; January 22, 1954; 1905 GCT; 25°59'N, 132°00'W; sounding, 950+ fm; wind, 040°, force 1; weather, partly cloudy; sea, very rough; wire angle, 05°.

92245  
(14)

0	18.40	34.49	5.18	0	18.40	34.49	5.18	24.80	316	0.00
118	17.48	34.45	5.30	10	(18.35)	(34.48)	(5.18)	(24.81)	(315)	(0.03)
127	17.10	34.43	5.27	20	(18.30)	(34.47)	(5.18)	(24.82)	(314)	(0.06)
137	17.06	34.45	5.18	30	(18.24)	(34.47)	(5.19)	(24.83)	(313)	(0.09)
147	17.34	34.58	5.10	50	(18.13)	(34.46)	(5.22)	(24.85)	(311)	(0.16)
156	16.74	34.50	5.08	75	(18.07)	(34.45)	(5.25)	(24.85)	(311)	(0.24)
166	15.53	34.24	5.06	100	(18.02)	(34.45)	(5.27)	(24.86)	(310)	(0.31)
176	14.74	34.26	5.01	150	17.50	34.65	5.07	25.15	283	(0.46)
195	13.22	34.02	4.91	200	12.90	33.99	4.87	25.65	235	(0.59)
243	10.41	33.91	4.58	250	10.19	33.92	4.47	26.10	192	(0.70)
292	9.02	34.04	3.86	300	8.89	34.04	3.82	26.40	164	(0.80)
389	7.31	34.04	3.52	400	7.15	34.05	3.51	26.67	138	(0.95)
487	6.18	34.21	1.29	500	6.08	34.24	1.05	26.96	110	(1.08)
584	5.68	34.34	0.51	600	5.59	34.35	0.50	27.11	96	(1.19)
781	4.70	34.45	0.50	700	5.06	34.41	0.50	27.22	86	(1.29)
979	4.05	34.56	0.66	800	4.64	34.46	0.50	27.31	77	(1.38)
				1000	(3.99)	(34.57)	(0.68)	(27.47)	(62)	(1.54)

HORIZON; January 14, 1954; 1511 GCT; 32°49.5'N, 117°31.5'W; sounding, 415 fm; wind, 140°, force 2; weather, clear; sea, smooth; wire angle, 00°.

9330

0	14.34	33.38		0	14.34	33.38		24.89	307	0.00
10	14.32	33.39		10	14.32	33.39		24.90	306	0.03
30	14.33	33.38		20	14.32	33.38		24.89	307	0.06
41	14.28	33.40		30	14.33	33.38		24.89	307	0.09
51	13.14	33.30		50	13.35	33.31		25.04	293	0.15
61	11.93	33.31		75	11.10	33.40		25.53	246	0.22
72	11.24	33.38		100	10.40	33.64		25.84	217	0.28
82	10.84	33.45		150	9.38	33.89		26.21	182	0.38
92	10.66	-		200	8.56	34.02		26.44	160	0.47
102	10.38	33.66		250	8.20	34.13		26.59	146	0.54
127	10.12	33.82		300	7.68	34.16		26.68	137	0.62
158	9.17	33.91		400	6.92	34.19		26.81	125	0.75
207	8.50	34.04		500	6.53	34.28		26.94	112	0.88
267	8.06	34.15		600	5.80	34.36		27.09	98	0.99
373	7.04	34.17								
494	6.56	34.28								
621	5.59	34.38								

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

9350

HORIZON; January 15, 1954; 0127 GCT; 32°10'N, 118°56'W; sounding, 850 fm; wind, 290°, force 3; weather, partly cloudy; sea, slight; wire angle, 00°.

0	13.88	33.39		0	13.88	33.39		24.99	298	0.00
10	13.84	33.38		10	13.84	33.38		24.99	298	0.03
31	13.74	33.40		20	13.80	33.39		25.01	296	0.06
41	13.04	33.37		30	13.76	33.40		25.02	295	0.09
51	11.27	33.36		50	11.40	33.36		25.45	254	0.14
62	10.29	33.49		75	9.78	33.58		25.90	211	0.20
72	9.88	33.56		100	9.28	33.76		26.12	190	0.25
82	9.59	33.63		150	8.48	33.98		26.42	162	0.34
92	9.38	-		200	8.02	34.12		26.60	145	0.42
103	9.22	33.78		250	7.50	34.14		26.69	136	0.49
128	8.78	33.92		300	7.16	34.20		26.79	127	0.56
158	8.38	34.00		400	6.50	34.29		26.95	111	0.68
208	7.95	34.13		500	5.82	34.27		27.02	105	0.80
268	7.34	34.15		600	5.41	34.36		27.14	93	0.90
373	6.74	34.30								
495	5.84	34.27								
622	5.34	34.39								

9740

HORIZON; January 15, 1954; 2114 GCT; 31°54.5'N, 117°52'W; sounding, 1090 fm; wind, 360°, force 2; weather, partly cloudy; sea, slight; wire angle, 03°.

0	14.65	33.43		0	14.65	33.43		24.86	310	0.00
10	14.52	33.43		10	14.52	33.43		24.89	307	0.03
31	14.47	33.39		20	14.50	33.41		24.87	309	0.06
41	13.92	33.38		30	14.47	33.39		24.87	309	0.09
51	12.65	33.28		50	12.80	33.29		25.13	284	0.15
61	11.76	33.26		75	11.02	33.30		25.47	252	0.22
72	11.19	33.28		100	10.03	33.55		25.84	217	0.28
82	10.67	33.40		150	9.76	34.07		26.29	174	0.38
92	10.23	-		200	9.77	34.38		26.53	151	0.46
103	9.99	33.58		250	9.22	34.33		26.58	146	0.54
128	9.58	33.86		300	8.42	34.27		26.66	139	0.61
158	9.79	34.15		400	7.06	34.24		26.83	123	0.75
208	9.72	34.38		500	6.13	34.28		26.99	108	0.87
268	8.94	34.31		600	5.47	34.35		27.13	94	0.98
373	7.35	34.23								
494	6.18	34.28								
620	5.37	34.36								

9760

HORIZON; January 15, 1954; 1109 GCT; 31°14.5'N, 119°07.5'W; sounding, 1850 fm; wind, 270°, force 2; weather, partly cloudy; sea, moderate; wire angle, 20°.

0	14.29	33.20		0	14.29	33.20		24.76	320	0.00
10	14.24	33.23		10	14.24	33.23		24.79	317	0.03
29	14.10	33.22		20	14.17	33.23		24.81	315	0.06
39	13.48	33.14		30	14.07	33.22		24.82	314	0.10
48	12.86	33.19		50	12.72	33.21		25.09	289	0.15
58	12.16	33.27		75	10.70	33.26		25.50	249	0.22
68	11.00	33.18		100	9.08	33.54		25.98	204	0.28
77	10.62	33.32		150	8.60	33.80		26.26	177	0.38
86	9.90	-		200	8.16	34.03		26.51	153	0.46
95	9.26	33.49		250	7.48	34.04		26.62	143	0.54
119	8.90	33.68		300	6.90	34.09		26.74	131	0.61
146	8.63	33.78		400	6.22	34.24		26.95	111	0.73
191	8.28	34.03		500	5.75	34.35		27.09	98	0.84
245	7.54	34.04								
339	6.60	34.13								
453	5.96	34.31								
577	5.46	34.40								

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

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N. B. SCOFIELD; January 26, 1954; 1844 GCT; 22°06'N, 137°04'W; sounding, 950+ fm; wind, 080°, force 3; weather, drizzle; sea, moderate; wire angle, 14°.

97335  
(17)

0	21.05	34.88	5.05	0	21.05	34.88	5.05	24.41	353	0.00
88	20.36	35.04	5.10	10	(21.00)	(34.90)	(5.05)	(24.44)	(350)	(0.04)
116	18.63	34.83	5.11	20	(20.94)	(34.93)	(5.06)	(24.45)	(349)	(0.07)
136	18.27	35.42r	4.98	30	(20.88)	(34.95)	(5.06)	(24.50)	(344)	(0.10)
155	18.22	34.81	4.92	50	(20.74)	(34.99)	(5.07)	(24.58)	(337)	(0.17)
174	17.83	34.98u	4.86	75	(20.54)	(35.03)	(5.09)	(24.67)	(328)	(0.26)
193	17.04	34.69	4.68	100	19.82	34.99	5.11	24.82	314	(0.34)
212	15.15	34.34	4.66	150	18.70	34.83	4.93	24.99	298	(0.49)
221	13.88	34.16	4.61	200	16.50	34.59	4.65	25.34	264	(0.64)
231	13.30	34.13	4.55	250	12.13	34.07	4.51	25.86	215	(0.76)
240	12.88	34.14	4.58	300	9.62	34.06	3.85	26.30	173	(0.86)
260	11.42	34.00	4.28	400	7.89	34.24	1.20	26.71	134	(1.02)
288	9.97	34.03	4.06	500	6.79	34.33	0.43	26.94	112	(1.15)
382	8.16	34.22	1.68	600	6.07	34.42	0.46	27.11	96	(1.26)
476	7.01	34.31	0.42	700	5.47	34.44	0.47	27.20	88	(1.36)
573	6.25	34.41	0.47	800	4.94	34.46	0.48	27.28	80	(1.45)
763	5.12	34.45	0.48	1000	(4.10)	(34.53)	(0.72)	(27.42)	(67)	(1.62)
958	4.27	34.51	0.64							

HORIZON; January 16, 1954; 0721 GCT; 31°42'N, 116°43.5'W; sounding, 55 fm; wind, 360°, force 1; weather, partly cloudy; sea, calm; wire angle, 02°.

10029

0	13.73	33.37		0	13.73	33.37		25.00	297	0.00
15	13.90	33.37		10	13.91	33.37		24.97	300	0.03
26	13.52	-		20	13.72	33.37		25.01	296	0.06
36	13.45	33.39		30	13.49	33.39		25.07	290	0.09
46	12.74	33.38		50	12.68	33.40		25.24	274	0.15
52	12.68	33.40		75	11.76	33.48		25.47	252	0.21
57	12.62	33.37								
62	12.30	33.40								
67	12.15	-								
72	11.84	33.48								
82	11.64	33.41								

HORIZON; January 16, 1954; 1754 GCT; 30°59'N, 118°10'W; sounding, 970 fm; wind, 360°, force 4; weather, partly cloudy; sea, moderate; wire angle, 22°.

10050

0	13.67	33.43		0	13.67	33.43		25.06	291	0.00
10	13.62	33.43		10	13.62	33.43		25.07	290	0.03
24	13.65	33.45		20	13.64	33.45		25.08	289	0.06
48	11.46	33.36		30	13.32	33.44		25.14	283	0.09
57	10.50	33.24		50	11.22	33.34		25.47	252	0.14
67	9.76	33.26		75	9.43	33.47		25.87	214	0.20
76	9.42	33.51		100	9.28	33.71		26.08	194	0.25
96	9.31	33.69		150	8.50	33.87		26.33	170	0.34
119	9.01	-		200	8.00	34.08		26.57	148	0.42
148	8.52	33.86		250	7.54	34.10		26.66	139	0.50
195	8.04	34.07		300	7.20	34.16		26.75	130	0.57
261	7.48	34.11		400	6.48	34.24		26.91	115	0.69
360	6.80	34.23		500	5.80	34.27		27.02	105	0.81
482	5.92	34.26		600	5.34	34.35		27.14	93	0.92
658	5.09	34.37		700	4.90	34.39		27.23	85	1.01
875	4.27	34.43		800	4.50	34.41		27.29	79	1.10
1177	3.56	34.53		1000	3.92	34.48		27.40	69	1.27

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

100.70

HORIZON; January 17, 1954; 0409 GCT; 30°19.5'N, 119°27.5'W; sounding, 1410 fm; wind, 320°, force 4; weather, cloudy; sea, slight; wire angle, 05°.

0	14.59	33.30		0	14.59	33.30		24.77	319	0.00
10	14.60	33.22		10	14.60	33.22		24.71	324	0.03
25	14.44	33.26		20	14.49	33.25		24.75	320	0.06
51	14.22	33.21		30	14.41	33.25		24.77	319	0.10
62	14.00	33.86		50	14.24	33.21		24.78	318	0.16
72	13.08	33.13		75	12.80	33.11		24.99	298	0.24
82	12.12	33.03		100	11.00	33.08		25.30	268	0.31
102	10.92	33.10		150	9.40	33.51		25.91	210	0.43
127	9.98	-		200	8.52	33.86		26.32	171	0.53
157	9.27	33.56		250	7.67	34.03		26.58	146	0.61
207	8.41	33.89		300	7.24	34.18		26.76	129	0.68
277	7.38	34.11		400	6.66	34.27		26.91	115	0.81
382	6.83	34.27		500	5.81	34.27		27.02	105	0.92
512	5.74	34.27		600	5.31	34.37		27.16	92	1.03
697	4.92	34.46		700	4.90	34.46		27.28	80	1.12
923	4.18	34.56		800	4.55	34.52		27.37	72	1.20
1231	3.42	34.60		1000	3.97	34.58		27.48	61	1.36
				1200	3.48	34.60		27.54	56	1.49

100.90

HORIZON; January 17, 1954; 1502 GCT; 29°34'N, 120°54'W; sounding, 2250 fm; wind, 240°, force 2; weather, partly cloudy; sea, smooth; wire angle, 07°.

0	15.22	33.30		0	15.22	33.30		24.64	331	0.00
10	15.20	33.31		10	15.20	33.31		24.65	330	0.03
25	15.22	33.31		20	15.21	33.31		24.64	331	0.07
51	15.22	33.30		30	15.23	33.31		24.64	331	0.10
61	15.20	33.30		50	15.22	33.30		24.64	331	0.17
72	15.02	33.27		75	14.97	33.27		24.67	328	0.25
82	14.70	33.30		100	13.04	33.15		24.97	300	0.33
102	12.93	33.15		150	9.94	33.24		25.61	239	0.46
127	11.52	-		200	8.15	33.84		26.32	167/171	0.57
158	9.62	33.33		250	7.97	34.08		26.58	146	0.65
207	8.54	33.92		300	7.42	34.12		26.69	136	0.72
276	7.69	34.11		400	6.48	34.15		26.84	122	0.85
380	6.65	34.14		500	5.72	34.24		27.01	106	0.97
509	5.68	34.25		600	5.30	34.34		27.14	93	1.08
693	4.98	34.41		700	4.95	34.41		27.24	84	1.18
918	4.17	34.51		800	4.57	34.47		27.33	75	1.26
1226	3.38	34.58		1000	3.92	34.53		27.44	65	1.42

100.125  
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N. B. SCOFIELD; January 6, 1954; 2236 GCT; 28°30'N, 123°00'W; sounding, 1000+ fm; wind, 290°, force 3; weather, cloudy; sea, rough; wire angle, 25°.

0	17.63	33.74	5.22	0	17.63	33.74	5.22	24.42	352	0.00
23	17.58	34.01u	5.44	10	17.61	33.75	5.27	24.43	351	0.04
46	17.57	33.78	5.44	20	17.59	33.77	5.43	24.45	349	0.07
68	17.52	33.75	5.42	30	17.58	33.77	5.45	24.45	349	0.11
90	17.45	33.96u	5.39	50	17.55	33.77	5.44	24.46	348	0.18
112	15.89	33.58	5.62	75	17.50	33.74	5.42	24.46	348	0.26
203	10.20	33.75	3.91	100	17.42	33.73	5.45	24.45	349	0.35
382	6.70	34.09	1.95	150	13.50	33.60	5.09	25.23	275	0.51
566	5.61	34.33	0.48	200	10.36	33.74	4.00	25.93	208	0.63
752	4.74	34.42	0.40	250	8.83	33.87	3.30	26.29	175	0.73
950	4.16	34.52	0.55	300	7.70	33.98	2.77	26.54	150	0.81
				400	6.55	34.12	1.77	26.81	125	0.96
				500	5.96	34.26	0.78	27.00	107	1.08
				600	5.44	34.34	0.43	27.12	95	1.19
				700	4.97	34.39	0.40	27.22	86	1.28
				800	4.59	34.44	0.41	27.30	78	1.37
				1000	(4.03)	(34.54)	(0.62)	(27.44)	(65)	(1.54)

OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	Z	T	S	O <sub>2</sub>	σ <sub>t</sub>	δ <sub>T</sub>	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 <sup>5</sup> cm <sup>3</sup> /g	dyn. m

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5401

N. B. SCOFIELD; January 23, 1954; 1914 GCT; 24°03'N, 132°04'W; sounding, 950+ fm; wind, 070°, force 3; weather, overcast; sea, rough; wire angle, 00°.

100265  
(15)

0	19.02	34.75	5.03	0	19.02	34.75	5.03	24.84	312	0.00
70	19.26	34.90	5.01	10	(19.01)	(34.75)	(5.03)	(24.85)	(311)	(0.03)
79	19.30	34.93	5.14	20	(19.00)	(34.75)	(5.03)	(24.85)	(311)	(0.06)
89	19.25	34.88	5.20	30	(19.00)	(34.75)	(5.03)	(24.85)	(311)	(0.09)
98	19.26	34.85	5.18	50	(19.00)	(34.75)	(5.03)	(24.85)	(311)	(0.16)
108	19.24	34.86	5.18	75	19.30	34.93	5.06	24.91	305	(0.23)
118	18.04	34.60	5.20	100	19.25	34.85	5.16	24.86	310	(0.31)
127	17.49	34.54	5.22	150	17.04	34.48	5.11	25.12	285	(0.46)
157	16.90	34.94r	5.04	200	13.20	33.99	4.83	25.59	241	(0.60)
176	15.22	34.29	4.97	250	9.98	33.93	4.06	26.15	188	(0.71)
197	13.50	34.02	4.85	300	8.82	34.06	3.74	26.43	161	(0.80)
215	12.00	33.91	4.69	400	6.82	34.21	2.38	26.84	122	(0.94)
244	10.14	33.91	4.15	500	5.79	34.25	1.04	27.01	106	(1.06)
293	8.99	34.04	3.80	600	5.22	34.30	0.55	27.11	96	(1.17)
390	6.98	34.20	2.53	700	4.87	34.38	0.58	27.22	86	(1.27)
586	5.28	34.29	0.54	800	4.58	34.46	0.64	27.32	76	(1.36)
783	4.64	34.44	0.63	1000	(4.04)	(34.53)	(0.77)	(27.43)	(66)	(1.52)
992	4.06	34.69r	0.78							

N. B. SCOFIELD; January 12, 1954; 1855 GCT; 26°07'N, 127°00'W; sounding, 950+ fm; wind, 320°, force 5; weather, partly cloudy; sea, high; wire angle, 14°.

102190  
(7)

0	17.98	34.18	5.43	0	17.98	34.18	5.43	24.67	328	0.00
77	17.96	34.10	5.44	10	(17.98)	(34.18)	(5.43)	(24.67)	(328)	(0.03)
88	17.92	34.10	5.44	20	(17.98)	(34.18)	(5.43)	(24.66)	(329)	(0.07)
97	16.84	34.09	5.58	30	(17.98)	(34.18)	(5.43)	(24.66)	(329)	(0.10)
107	16.98	34.22	5.45	50	(17.98)	(34.15)	(5.43)	(24.64)	(331)	(0.16)
116	16.86	34.22	5.35	75	(17.96)	(34.10)	(5.44)	(24.62)	(333)	(0.25)
126	16.69	34.23	5.30	100	16.88	34.13	5.56	24.90	306	(0.33)
135	16.34	34.25	5.20	150	15.66	34.17	5.18	25.21	277	(0.48)
145	15.96	34.20	5.21	200	11.76	33.96	4.89	25.85	216	(0.60)
193	12.06	33.96	4.94	250	9.64	33.96	4.49	26.23	180	(0.70)
288	8.56	33.99	4.03	300	8.27	34.01	3.83	26.47	157	(0.79)
384	7.10	34.11	2.25	400	6.97	34.14	2.00	26.77	129	(0.94)
479	6.44	34.25	1.07	500	6.26	34.26	0.90	26.95	111	(1.06)
566	5.73	34.29	0.55	600						
759p	4.88	34.69	0.41							
966	4.08	34.66u	0.62							

HORIZON; January 22, 1954; 0848 GCT; 31°05.5'N, 116°26'W; sounding, 48 fm; wind, 310°, force 4; weather, clear; sea, moderate; wire angle, 12°.

10330

0	13.59	33.35		0	13.59	33.35		25.02	295	0.00
15	13.59	33.33		10	13.61	33.33		25.00	297	0.03
25	13.51	33.33		20	13.58	33.33		25.00	297	0.06
35	12.28	33.36		30	12.79	33.34		25.17	280	0.09
40	12.08	33.38		50	11.88	33.40		25.39	260	0.14
45	11.91	33.42		75	(11.00)	(33.50)		(25.63)	(237)	(0.20)
50	11.88	33.40								
55	11.86	33.42								
60	11.84	33.40								
70	11.31	33.46								

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5401

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

10340

HORIZON; January 21, 1954; 0416 GCT; 30°45'N, 117°06'W; sounding, 1000 fm; wind, 320°, force 4; weather, partly cloudy; sea, very rough; wire angle, 10°.

0	15.03	33.41		0	15.03	33.41		24.76	320	0.00
10	15.02	33.42		10	15.02	33.42		24.77	319	0.03
30	15.00	33.42		20	15.03	33.42		24.77	319	0.06
45	14.43	33.36		30	15.00	33.42		24.78	318	0.10
61	11.80	33.12		50	13.63	33.28		24.96	300	0.16
71	11.22	33.20		75	11.08	33.24		25.41	258	0.23
81	10.88	33.29		100	10.38	33.54		25.77	223	0.29
97	10.42	33.52		150	9.02	33.85		26.24	179	0.39
107	10.30	33.57		200	9.18	34.12		26.42	162	0.48
122	9.74	33.69		250	8.34	34.19		26.61	144	0.56
152	9.02	33.86		300	7.73	34.24		26.74	131	0.63
182	9.30	34.07		400	7.15	34.33		26.89	117	0.76
242	8.46	34.18		500	6.20	34.34		27.03	104	0.87
312	7.62	34.25		600	5.55	34.35		27.12	95	0.98
431	6.90	34.34		700	5.11	34.39		27.20	88	1.08
571	5.70	34.34								
713	5.06	34.40								

10360

HORIZON; January 20, 1954; 1852 GCT; 30°01'N, 118°25'W; sounding, 2000 fm; wind, 290°, force 6; weather, cloudy; sea, high; wire angle, 32°.

0	14.56	33.32		0	14.56	33.32		24.79	317	0.00
9	14.54	33.37		10	14.55	33.37		24.83	313	0.03
26	14.54	-		20	14.55	33.34		24.81	315	0.06
40	14.54	33.31		30	14.55	33.32		24.79	317	0.09
52	14.53	33.31		50	14.55	33.31		24.79	317	0.16
61	13.95	33.24		75	11.32	33.20		25.34	264	0.23
70	11.89	33.19		100	11.12	33.69		25.75	225	0.29
82	11.20	33.33		150	10.57	34.14		26.20	183	0.40
91	11.27	-		200	10.04	34.24		26.37	166	0.48
104	11.07	33.77		250	9.43	34.33		26.54	150	0.57
129	11.02	34.02		300	8.72	34.34		26.67	138	0.64
155	10.63	34.16		400	7.72	34.34		26.82	124	0.78
207	9.99	34.25		500	6.78	34.34		26.95	111	0.90
269	9.21	34.34		600	5.98	34.35		27.06	101	1.02
376	7.98	34.34								
515	6.66	34.34								
669	5.51	34.36								

10735

HORIZON; January 19, 1954; 2149 GCT; 30°20.5'N, 116°22'W; sounding, 1000 fm; wind, 220°, force 6; weather, cloudy; sea, slight; wire angle, 34°.

0	14.67	33.48		0	14.67	33.48		24.89	307	0.00
9	14.58	33.40		10	14.56	33.39		24.85	311	0.03
25	14.21	33.29		20	14.32	33.31		24.84	312	0.06
33	14.21	33.38		30	14.20	33.34		24.88	308	0.09
42	14.25	33.37		50	14.21	33.45		24.97	300	0.15
50	14.21	33.45		75	11.70	33.25		25.31	267	0.22
58	13.31	33.35		100	10.28	33.44		25.71	229	0.29
66	12.50	33.28		150	9.11	33.81		26.19	184	0.39
74	11.81	-		200	9.57	34.25		26.46	158	0.48
81	11.08	33.25		250	9.21	34.34		26.59	146	0.56
99	10.30	33.42		300	8.70	34.35		26.68	137	0.63
121	9.94	33.67		400	7.51	34.36		26.86	120	0.77
154	9.09	33.84		500	(6.25)	(34.40)		(27.07)	(100)	(0.88)
191	9.58	34.21								
266	9.05	34.35								
363	8.00	34.35								
474	6.54	34.39								



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

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5401

HORIZON; January 20, 1954; 0703 GCT; 29°48'N, 117°23'W; sounding, 1500 fm; wind, 200°, force 6; weather, partly cloudy; sea, very rough; wire angle, 22°.

10750

0	14.46	33.41		0	14.46	33.41		24.88	308	0.00
9	14.44	33.40		10	14.43	33.40		24.88	308	0.03
28	14.46	33.36		20	14.44	33.37		24.86	310	0.06
43	14.40	33.39		30	14.46	33.36		24.84	312	0.09
57	12.58	33.22		50	13.73	33.34		24.98	299	0.15
67	11.58	33.18		75	10.98	33.33		25.50	249	0.22
76	10.92	33.34		100	10.05	33.46		25.76	224	0.28
90	10.44	33.40		150	9.01	33.81		26.21	182	0.38
99	10.08	-		200	8.91	34.12		26.46	158	0.47
113	9.86	33.56		250	8.79	34.29		26.62	143	0.55
140	9.17	33.75		300	8.26	34.31		26.71	134	0.62
168	8.86	33.93		400	7.12	34.26		26.84	122	0.75
222	8.92	34.23		500	6.25	34.30		26.99	108	0.88
286	8.42	34.31		600	5.58	34.36		27.12	95	0.98
396	7.18	34.26								
528	6.06	34.96 <sup>a)</sup>								
661	5.20	34.40								

N. B. SCOFIELD; January 24, 1954; 1906, 1932 GCT; 22°05'N, 132°03'W; sounding, 950+ fm; wind, 070°, force 2; weather, cloudy; sea, moderate; wire angle, 10°, 14°.

108280  
(16)

0	19.22	34.74	5.25	0	19.22	34.74	5.25	24.79	317	0.00
79	19.32	34.82	5.23	10	(19.24)	(34.74)	(5.25)	(24.79)	(317)	(0.03)
118	18.46	34.71	5.17	20	(19.26)	(34.76)	(5.25)	(24.79)	(317)	(0.06)
128	18.19	34.88	5.06	30	(19.28)	(34.78)	(5.25)	(24.80)	(316)	(0.10)
138	18.17	34.79	5.02	50	(19.30)	(34.79)	(5.25)	(24.80)	(316)	(0.16)
177	17.34	34.80	4.87	75	(19.33)	(34.81)	(5.25)	(24.81)	(315)	(0.24)
197	15.56	34.68	4.84	100	19.32	34.82	5.21	24.82	314	(0.32)
				150	18.10	34.79	4.98	25.10	287	(0.47)
208	14.36	34.36	4.81	200	15.20	34.59	4.84	25.63	237	(0.60)
227	12.16	34.00	4.64	250	10.26	34.01	3.83	26.15	187	(0.71)
246	10.39	33.98	3.96	300	8.96	34.16	2.85	26.49	155	(0.80)
265	9.90	34.09	3.49	400	7.54	34.34	2.17	26.84	122	(0.94)
282	9.41	34.14	3.03	500	6.47	34.35	0.52	27.00	107	(1.06)
330	8.36	34.20	2.65	600	5.70	34.40	0.46	27.14	93	(1.17)
377	7.78	34.34	1.42	700	5.33	34.48	0.51	27.25	83	(1.27)
471	6.82	34.34	0.65	800	4.96	34.51	0.58	27.32	76	(1.36)
566	5.84	34.38	0.42	1000	(4.23)	(34.52)	(0.73)	(27.40)	(69)	(1.52)
760	5.10	34.51	0.55							
958	4.38	34.52	0.70							

HORIZON; January 19, 1954; 1504 GCT; 29°51'N, 115°51.5'W; sounding, 35 fm; wind, 240°, force 4; weather, drizzle; sea, moderate; wire angle, 00°.

11033

0	14.68	33.41		0	14.68	33.41		24.84	312	0.00
10	14.63	33.47		10	14.63	33.47		24.89	307	0.03
15	14.55	33.47		20	14.50	33.48		24.93	303	0.06
20	14.50	33.48		30	13.81	33.36		24.98	299	0.09
26	14.16	33.41		50	12.59	33.44		25.29	269	0.15
31	13.76	33.35								
36	13.65	33.35								
41	13.24	33.36								
51	12.52	33.45								

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

S10  
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5401

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

110.40  
✓  
HORIZON; January 19, 1954; 1034 GCT; 29°37'N, 116°18.5'W; sounding, 1400 fm; wind, 240°, force 2; weather, rain; sea, slight; wire angle, 16°.

0	15.57	33.48		0	15.57	33.48		24.70	325	0.00
9	15.56	33.45		10	15.57	33.45		24.67	328	0.03
25	15.56	33.48		20	15.57	33.47		24.69	326	0.06
50	15.54	33.48		30	15.55	33.48		24.70	325	0.10
60	15.54	33.44		50	15.54	33.48		24.70	325	0.16
70	15.06	33.35		75	14.25	33.28		24.83	313	0.24
81	12.98	33.22		100	12.45	33.31		25.21	277	0.32
101	12.42	33.32		150	9.76	34.25		26.43	161	0.43
124	10.81	33.68		200	9.90	34.27		26.42	162	0.51
153	9.76	34.25u		250	9.33	34.38		26.60	145	0.59
202	9.89	34.27		300	8.66	34.39		26.71	134	0.66
271	8.99	34.40		400	7.62	34.35		26.84	122	0.80
373	7.96	-		500	6.52	34.34		26.99	108	0.92
498	6.54	34.34		600	5.81	34.38		27.11	96	1.03
680	5.36	34.40		700	5.27	34.40		27.19	89	1.13
901	4.34	34.43		800	4.79	34.41		27.25	83	1.22
1207	3.42	34.51		1000	4.02	34.45		27.37	72	1.39

11060  
✓  
HORIZON; January 18-19, 1954; 2342, 0008 GCT; 28°56'N, 117°39.5'W; sounding, 2000 fm; wind, 320°, force 1; weather, cloudy; sea, moderate; wire angle, 12°, 10°.

0	15.47	33.44		0	15.47	33.44		24.69	326	0.00
10	15.30	33.61r		10	15.30	33.43		24.72	323	0.03
24	15.24	33.42		20	15.25	33.42		24.72	323	0.06
50	15.24	33.53		30	15.24	33.44		24.74	321	0.10
60	14.62	33.40		50	15.24	33.53		24.81	315	0.16
70	12.53	33.12r		75	12.41	33.39		25.28	270	0.24
80	12.24	33.39		100	11.06	33.45		25.58	242	0.30
101	11.00	33.46		150	9.04	33.80		26.19	184	0.41
125	9.60	-		200	8.95	34.06		26.41	163	0.50
154	9.02	34.82		250	8.53	34.18		26.57	148	0.57
202	8.96	34.07		300	7.80	34.20		26.70	135	0.65
				400	6.89	34.22		26.84	122	0.78
268	8.32	34.20		500	6.47	34.37		27.02	105	0.90
371	7.04	34.20		600	5.77	34.42		27.14	93	1.01
499	6.48	34.37		700	5.22	34.46		27.24	84	1.10
680	5.32	34.45		800	4.79	34.49		27.32	76	1.19
904	4.39	34.51		1000	4.08	34.52		27.42	67	1.35
1213	3.46	34.52								

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

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HORIZON; January 18, 1954; 1400 GCT; 28°19.5'N, 118°54'W; sounding, 1650 fm; wind, 310°, force 2; weather, cloudy; sea, slight; wire angle, 07°.

11080

0	14.62	33.23		0	14.62	33.23		24.71	324	0.00
10	14.62	33.29		10	14.62	33.29		24.76	319	0.03
25	14.63	33.22		20	14.62	33.23		24.71	324	0.06
51	14.62	33.24		30	14.62	33.22		24.70	325	0.10
61	14.45	33.27		50	14.62	33.24		24.72	323	0.16
71	14.20	33.22		75	13.82	33.20		24.86	310	0.24
82	12.88	33.18		100	11.44	33.16		25.29	269	0.32
102	11.37	33.16		150	9.55	33.60		25.96	205	0.44
127	10.60	-		200	8.42	33.96		26.42	162	0.53
157	9.30	33.68		250	7.91	34.10		26.60	145	0.61
206	8.36	33.99		300	7.43	34.13		26.69	136	0.68
275	7.69	34.12		400	6.61	34.16		26.83	123	0.81
379	6.79	34.14		500	5.97	34.34		27.06	101	0.93
508	5.92	34.35		600	5.40	34.39		27.17	91	1.04
692	5.00	34.42		700	4.98	34.42		27.24	84	1.13
917	4.29	34.48		800	4.65	34.45		27.30	78	1.22
1223	3.41	34.57		1000	4.04	34.50		27.41	68	1.38
				1200	3.45	34.56		27.51	58	1.53

HORIZON; January 18, 1954; 0435 GCT; 27°31'N, 120°05.5'W; sounding, 1650 fm; wind, 090°, force 2; weather, partly cloudy; sea, slight; wire angle, 12°.

110100

0	16.3	33.44		0	16.3	33.44		24.50	344	0.00
10	16.31	33.45		10	16.31	33.45		24.51	343	0.03
25	16.30	33.40		20	16.30	33.40		24.47	347	0.07
50	16.30	33.40		30	16.30	33.40		24.47	347	0.10
60	16.28	33.40		50	16.30	33.40		24.47	347	0.17
70	16.24	33.44		75	16.28	33.44		24.51	343	0.26
80	16.29	33.42		100	14.57	33.34		24.81	315	0.34
100	14.57	33.34		150	11.01	33.50		25.63	237	0.48
125	12.84	-		200	10.08	33.94		26.13	189	0.59
154	10.90	33.53		250	9.13	34.17		26.47	157	0.68
203	10.02	33.96		300	8.70	34.26		26.61	144	0.76
271	8.92	34.22		400	7.71	34.33		26.81	125	0.90
374	8.13	34.32		500	6.55	34.35		26.99	108	1.02
502	6.54	34.35		600	5.92	34.39		27.10	97	1.13
685	5.44	34.42		700	5.36	34.46		27.23	85	1.23
908	4.46	34.51		800	4.89	34.47		27.29	79	1.32
1214	3.54	34.59		1000	4.15	34.54		27.43	66	1.48

N. B. SCOFIELD; January 7, 1954; 1305 GCT; 26°29'N, 122°45'W; sounding, 1000+ fm; wind, 290°, force 3; weather, clear; sea, slight; wire angle, 07°.

110140  
(2)

0	17.70	33.68	5.48	0	17.70	33.68	5.48	24.36	358	0.00
79	17.78	33.68	5.45	10	(17.72)	(33.68)	(5.48)	(24.35)	(359)	(0.04)
89	17.64	33.68	5.46	20	(17.73)	(33.68)	(5.47)	(24.35)	(359)	(0.07)
99	15.04	33.47	5.75	30	(17.75)	(33.68)	(5.46)	(24.34)	(360)	(0.11)
108	14.56	33.45	5.69	50	(17.78)	(33.68)	(5.46)	(24.34)	(360)	(0.18)
118	13.79	33.45	5.48	75	(17.80)	(33.68)	(5.45)	(24.33)	(360)	(0.27)
147	11.54	33.73	4.72	100	15.05	33.47	5.74	24.80	316	(0.36)
172	10.32	33.73	3.81	150	11.39	33.73	4.60	25.74	226	(0.49)
196	9.98	34.00	2.84	200	9.87	34.02	2.79	26.23	180	(0.60)
245	9.08	34.16	2.39	250	9.02	34.17	2.30	26.49	155	(0.68)
391	7.68	34.33	0.76	300	8.54	34.24	2.49	26.62	143	(0.76)
488	6.70	34.36	0.48	400	7.60	34.34	0.72	26.83	123	(0.90)
586	5.94	34.38	0.34	500	6.59	34.36	0.43	26.99	108	(1.02)
781	4.98	34.42	0.37	600	5.86	34.38	0.33	27.10	97	(1.13)
978	4.23	34.52	0.55	700	5.33	34.40	0.33	27.18	90	(1.23)
				800	4.90	34.43	0.37	27.26	82	(1.32)
				1000	(4.15)	(34.53)	(0.57)	(27.42)	(67)	(1.49)

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

110205  
(6)

N. B. SCOFIELD; January 11, 1954; 1813 GCT; 24°07'N, 127°00'W; sounding, 950+ fm; wind, 020°, force 3; weather, cloudy; sea, rough; wire angle, 10°.

0	19.12	34.65	5.14	0	19.12	34.65	5.14	24.74	321	0.00
138	16.68	34.12	5.33	10	(19.10)	(34.65)	(5.16)	(24.75)	(320)	(0.03)
148	16.07	34.09	5.26	20	(19.09)	(34.65)	(5.17)	(24.75)	(320)	(0.06)
157	15.46	34.01	5.23	30	(19.08)	(34.64)	(5.20)	(24.75)	(320)	(0.10)
167	14.32	33.89	5.09	50	(19.05)	(34.64)	(5.23)	(24.75)	(320)	(0.16)
177	13.37	33.86	4.95	75	(19.02)	(34.63)	(5.27)	(24.75)	(320)	(0.24)
186	12.78	33.86	4.91	100	(18.98)	(34.62)	(5.32)	(24.76)	(320)	(0.32)
196	11.90	33.86	4.71	150	15.95	34.08	5.23	25.07	290	(0.48)
216	10.84	33.81	4.36	200	11.68	33.85	4.61	25.78	222	(0.61)
244	9.74	33.96	3.46	250	9.68	(33.97)	3.25	(26.23)	(180)	(0.71)
293	9.06		2.22	300	8.97		2.17			
391	7.77		1.58	400	7.66		1.48			
489	6.62		0.59	500	6.51		0.53			
587	5.74		0.32	600	5.66		0.33			
782	4.75		0.46	700	5.11		0.39			
982	4.06		0.65	800	4.67		0.47			
				1000	(3.99)		(0.67)			

11335

CREST; January 20, 1954; 1203 GCT; 29°12'N, 115°39'W; sounding, 750 fm; wind, 250°, force 5; weather, partly cloudy; sea, high; wire angle, 19°.

0	15.3	33.40		0	15.3	33.40		24.69	326	0.00
10	15.10	33.40		10	15.10	33.40		24.74	321	0.03
29	14.26	33.43		20	14.70	33.41		24.83	313	0.06
44	14.00	33.49		30	14.25	33.43		24.94	302	0.10
53	14.02	33.53		50	14.02	33.52		25.06	291	0.15
63	14.00	33.51		75	13.43	33.51		25.17	280	0.23
73	13.63	33.51		100	11.90	33.66		25.59	240	0.29
83	12.34	33.38		150	10.34	34.01		26.14	188	0.40
97	12.08	33.66		200	9.40	34.13		26.39	164	0.49
106	11.50	33.66		250	9.24	34.26		26.52	152	0.57
130	10.88	33.89		300	8.96	34.34		26.63	142	0.65
158	10.14	34.04		400	7.86	34.38		26.83	123	0.79
209	9.33	34.15		500	6.78	34.36		26.97	110	0.91
271	9.16	34.31		600	6.00	34.37		27.08	99	1.02
379	8.12	34.38								
505	6.74	34.36								
638	5.78	34.38								

11350

CREST; January 20, 1954; 0504 GCT; 28°42'N, 116°37'W; sounding, 1900 fm; wind, 250°, force 5; weather, rain showers; sea, rough; wire angle, 23°.

0	16.0	33.43		0	16.0	33.43		24.56	339	0.00
10	15.78	33.63r		10	15.78	33.45		24.63	332	0.03
28	15.82	33.46		20	15.82	33.46		24.63	332	0.07
43	15.82	33.45		30	15.83	33.46		24.62	333	0.10
52	15.82	33.47		50	15.83	33.46		24.62	333	0.17
62	15.81	33.46		75	14.70	33.36		24.79	317	0.25
72	15.29	33.41		100	12.30	33.11		25.09	288	0.32
82	13.76	33.17		150	9.90	33.40		25.74	226	0.46
96	12.64	33.11		200	9.15	33.87		26.23	180	0.56
105	11.90	33.11		250	8.94	34.20		26.52	152	0.64
128	10.94	33.24		300	8.40	34.23		26.63	142	0.72
156	9.02	33.45		400	6.75	34.16		26.81	125	0.86
207	9.12	33.96		500	5.92	34.21		26.96	110	0.98
269	8.86	34.23		600	5.66	34.36		27.11	96	1.09
378	7.00	34.16								
499	5.93	34.21								
631	5.59	34.38								

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

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CREST; January 19, 1954; 1416 GCT; 28°46'N, 114°55'W; sounding, 55 fm; wind, 180°, force 2; weather, rain showers; sea, slight; wire angle, 00°.

11730

0	15.88	33.64		0	15.88	33.64		24.75	320	0.00
10	15.89	33.63		10	15.89	33.63		24.74	321	0.03
15	15.88	33.63		20	15.90	33.62		24.73	322	0.06
20	15.90	33.62		30	15.89	33.64		24.75	320	0.10
25	15.89	33.63		50	15.90	33.64		24.75	320	0.16
30	15.89	33.64		75	14.90	33.60		24.94	302	0.24
36	15.90	33.62								
41	15.88	33.64								
56	15.88	33.64								
67	15.50	33.62								
82	14.04	33.58								

CREST; January 19, 1954; 1933 GCT; 28°28.5'N, 115°35'W; sounding, 380 fm; wind, 220°, force 4; weather, cloudy; sea, rough; wire angle, 09°.

11740

0	16.1	33.49		0	16.1	33.49		24.58	337	0.00
11	15.96	33.49		10	15.97	33.49		24.61	334	0.03
30	15.96	33.49		20	15.94	33.49		24.62	333	0.07
46	15.86	33.48		30	15.96	33.49		24.62	333	0.10
56	15.83	33.38		50	15.85	33.47		24.63	332	0.17
65	14.67	33.26		75	13.38	33.40		25.10	287	0.24
76	13.37	33.45		100	11.58	33.55		25.56	243	0.31
86	13.16	33.54		150	9.80	33.80		26.07	195	0.42
100	11.58	33.55		200	9.93	34.30		26.44	160	0.51
111	10.40	33.46		250	9.50	34.38		26.57	148	0.59
135	9.70	33.60		300	8.93	34.39		26.67	138	0.67
165	10.02	34.04		400	7.88	34.37		26.82	124	0.80
219	9.82	34.35		500	6.80	34.46		27.04	103	0.92
282	9.12	34.39		600	5.98	34.43		27.13	94	1.03
396	7.94	34.37								
524	6.58	34.46								
659	5.50	34.41								

CREST; January 19, 1954; 0837 GCT; 28°23'N, 114°14'W; sounding, 33 fm; wind, calm; weather, cloudy; sea, calm; wire angle, 00°.

12025

0	15.73	33.67		0	15.73	33.67		24.81	315	0.00
10	15.76	33.68		10	15.76	33.68		24.81	315	0.03
16	15.73	33.62		20	15.67	33.62		24.78	318	0.06
21	15.64	33.62		30	15.32	33.58		24.83	313	0.10
26	15.32	33.60								
31	15.32	33.58								
36	15.23	33.61								
42	14.83	33.60								

CREST; January 19, 1954; 0402 GCT; 28°03'N, 114°54'W; sounding, 45 fm; wind, 160°, force 1; weather, cloudy; sea, smooth; wire angle, 00°.

12035

0	15.90	33.65		0	15.90	33.65		24.75	320	0.00
10	15.91	33.62		10	15.91	33.62		24.73	322	0.03
15	15.84	33.57		20	15.84	33.60		24.73	322	0.06
20	15.84	33.60		30	15.82	33.66		24.78	318	0.10
25	15.82	33.58		50	15.79	33.69		24.81	315	0.16
30	15.82	33.66		75	(15.63)	(33.62)		(24.79)	(317)	(0.24)
41	15.81	33.66								
46	15.79	33.69								
56	15.78	33.68								
72	15.66	33.63								

S10

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5401

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

12050

CREST; January 18, 1954; 2047 GCT; 27°33.5'N, 115°52'W; sounding, 2000 fm; wind, 330°, force 1; weather, cloudy; sea, moderate; wire angle, 15°.

0	15.9	33.44		0	15.9	33.44		24.59	336	0.00
10	15.56	33.40		10	15.56	33.40		24.64	331	0.03
25	15.56	33.37		20	15.56	33.37		24.61	334	0.07
49	15.22	33.40		30	15.53	33.38		24.63	332	0.10
60	14.64	33.34		50	15.18	33.40		24.72	323	0.17
69	13.81	33.37		75	12.80	33.30		25.14	283	0.24
79	12.44	33.21		100	12.88	33.70		25.43	256	0.31
98	12.81	33.69		150	10.84	34.04		26.08	194	0.42
122	10.54	33.64		200	9.77	34.13		26.33	170	0.52
151	10.82	34.05		250	9.54	34.34		26.53	151	0.60
198	9.78	34.13		300	9.19	34.42		26.65	140	0.68
265	9.47	34.38		400	7.76	34.40		26.86	120	0.81
365	8.24	34.43		500	6.66	34.34		26.97	110	0.93
489	6.76	34.34		600	5.92	34.34		27.06	101	1.05
667	5.50	34.34		700	5.30	34.35		27.15	92	1.15
886	4.38	34.42		800	4.72	34.38		27.24	84	1.25
1190	3.60	34.56		1000	4.04	34.48		27.39	70	1.42

12070

CREST; January 18, 1954; 1025, 1047 GCT; 26°54'N, 117°14'W; sounding, 2100 fm; wind, 320°, force 2; weather, cloudy; sea, moderate; wire angle, 02°, 07°.

0	16.3	33.73		0	16.3	33.73		24.72	323	0.00
10	16.15	33.69		10	16.15	33.69		24.73	322	0.03
26	16.17	33.69		20	16.15	33.69		24.73	322	0.06
				30	16.20	33.70		24.72	323	0.10
44	16.62	33.84		50	16.80	33.95		24.78	318	0.16
55	16.90	33.98		75	13.46	33.61		25.24	274	0.24
66	15.91	33.84		100	13.00	33.97		25.62	238	0.30
76	13.45	33.61		150	11.14	34.19		26.14	188	0.41
95	13.48	33.93		200	9.99	34.32		26.44	160	0.50
120	11.60	34.04		250	9.28	34.35		26.58	146	0.58
150	11.14	34.19		300	8.80	34.41		26.71	134	0.65
200	9.99	34.32		400	7.90	34.45		26.88	118	0.78
270	9.07	34.36		500	6.86	34.45		27.03	104	0.90
376	8.18	34.45		600	6.10	34.44		27.12	95	1.01
504	6.80	34.45		700	5.48	34.43		27.19	89	1.11
690	5.52	34.43		800	4.92	34.44		27.26	82	1.20
914	4.38	34.46		1000	4.08	34.48		27.39	70	1.37
1222	3.44	34.52								

120120

CREST; January 7, 1954; 2128 GCT; 25°21.5'N, 120°22'W; sounding, 2150 fm; wind, 360°, force 5; weather, cloudy; sea, very rough; wire angle, 16°.

0	17.3	33.48		0	17.3	33.48		24.30	363	0.00
10	17.25	33.47		10	17.25	33.47		24.30	363	0.04
25	17.24	33.49		20	17.24	33.48		24.31	362	0.07
54	17.24	33.51		30	17.24	33.49		24.32	361	0.11
63	17.28	33.57		50	17.24	33.51		24.34	360	0.18
72	17.30	33.56		75	17.30	33.55		24.35	359	0.27
86	15.30	33.37		100	14.62	33.47		24.90	306	0.36
106	14.34	33.48		150	10.79	33.53		25.69	231	0.49
130	11.78	33.42		200	10.16	34.04		26.20	183	0.60
158	10.45	33.63		250	10.02	34.32		26.44	160	0.68
208	10.10	34.11		300	9.30	34.38		26.60	145	0.76
280	9.65	34.38		400	7.76	34.32		26.80	126	0.90
377	8.05	34.33		500	6.74	34.31		26.93	113	1.03
503	6.78	34.31		600	5.99	34.33		27.05	102	1.15
675	5.50	34.35		700	5.33	34.36		27.15	92	1.25
896	4.34	34.43		800	4.77	34.39		27.24	84	1.35
1189	3.57	34.51		1000	4.33	34.46		27.34	74	1.52

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

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N. B. SCOFIELD; January 8, 1954; 0726 GCT; 24°00'N, 123°00'W; sounding, 950+ fm; wind, 020°, force 4; weather, clear; sea, moderate; wire angle, 08°.

120160  
(3)

0	19.30	34.38	5.35	0	19.30	34.38	5.35	24.49	345	0.00
70	19.30	34.36	5.25	10	(19.30)	(34.37)	(5.34)	(24.48)	(346)	(0.04)
89	19.26	34.36	5.26	20	(19.30)	(34.37)	(5.33)	(24.48)	(346)	(0.07)
109	18.14	34.14	5.40	30	(19.30)	(34.37)	(5.30)	(24.48)	(346)	(0.10)
128	16.72	34.00	5.43	50	(19.30)	(34.36)	(5.27)	(24.48)	(346)	(0.17)
148	14.81	33.79	5.23	75	19.30	34.36	5.24	24.47	347	(0.26)
167	12.27	33.69	4.80	100	19.00	34.31	5.33	24.52	342	(0.35)
196	10.90	33.68	4.03	150	14.50	33.77	5.20	25.15	282	(0.50)
244	9.64	34.03	2.96	200	10.73	33.69	3.92	25.82	219	(0.63)
292	8.73	34.16	2.32	250	9.54	34.05	2.83	26.32	172	(0.73)
341	7.79	34.18	1.93	300	8.58	34.16	2.28	26.54	150	(0.82)
389	7.28	34.22	1.16	400	7.15	34.23	1.04	26.81	125	(0.96)
486	6.34	34.29	0.51	500	6.23	34.31	0.46	27.00	107	(1.08)
583	5.68	34.42	0.37	600	5.59	34.43	0.35	27.18	90	(1.19)
778	4.96	34.47	0.41	700	5.23	34.45	0.37	27.23	85	(1.28)
975	4.25	34.61u	0.55	800	4.87	34.47	0.42	27.28	80	(1.37)
				1000	(4.16)	(34.51)	(0.56)	(27.40)	(69)	(1.53)

N. B. SCOFIELD; January 10, 1954; 1759 GCT; 21°55'N, 126°50'W; sounding, 950+ fm; wind, 040°, force 4; weather, overcast; sea, very rough; wire angle, 12°.

120220  
(5)

0	19.68	34.60	5.16	0	19.68	34.60	5.16	24.56	339	0.00
107	19.66	34.57	5.22	10	(19.68)	(34.60)	(5.17)	(24.56)	(339)	(0.03)
118	18.88	34.40	5.29	20	(19.68)	(34.60)	(5.17)	(24.56)	(339)	(0.07)
126	17.66	34.22	5.30	30	(19.68)	(34.60)	(5.18)	(24.56)	(339)	(0.10)
135	17.10	34.22	5.19	50	(19.68)	(34.60)	(5.18)	(24.56)	(339)	(0.17)
144	16.65	34.15	5.15	75	(19.68)	(34.60)	(5.20)	(24.56)	(339)	(0.26)
155	15.45	34.03	4.88	100	(19.67)	(34.58)	(5.24)	(24.55)	(340)	(0.34)
174	13.63	33.89	4.52	150	16.00	34.08	5.05	25.06	291	(0.50)
193	11.88	33.87	4.01	200	11.44	33.89	3.80	25.85	216	(0.63)
242	9.82	34.12	2.79	250	9.73	34.14	2.63	26.34	169	(0.73)
291	9.22	34.26	1.83	300	9.13	34.28	1.67	26.55	149	(0.81)
387	8.18	34.41	0.66	400	8.03	34.41	0.58	26.83	123	(0.95)
485	7.10	34.45	0.34	500	6.97	34.46	0.33	27.03	104	(1.07)
581	6.29	34.52	0.30	600	(6.16)	(34.52)	(0.30)	(27.18)	(90)	(1.18)
777	5.16	34.53 <sup>a)</sup>	0.37							
974	4.38	34.78r	-							

CREST; January 17, 1954; 1055 GCT; 27°18'N, 114°51.5'W; sounding, 270 fm; wind, 300°, force 2; weather, partly cloudy; sea, slight; wire angle, 14°.

12340

0	17.8	34.33		0	17.8	34.33		24.83	313	0.00
9	17.70	34.31		10	17.70	34.31		24.84	312	0.03
15	17.73	34.40		20	17.72	34.29		24.82	314	0.06
19	17.73	34.29		30	17.67	34.27		24.81	315	0.09
25	17.72	34.31		50	13.97	33.79		25.28	270	0.15
30	17.67	34.27		75	11.46	33.71		25.71	229	0.22
40	15.86	34.02		100	11.10	33.79		25.84	217	0.27
50	13.97	33.79		150	10.54	34.21		26.26	177	0.37
65	12.06	33.68		200	10.22	34.40		26.47	157	0.46
80	11.32	33.73		250	9.60	34.41		26.59	146	0.53
99	11.10	33.78		300	9.04	34.42		26.68	137	0.61
123	10.71	34.06		400	(8.21)	(34.42)		(26.81)	(125)	(0.75)
163	10.48	34.27								
201	10:20	34.40								
251	9.56	34.41								
322	8.83	34.42								
397	8.23	34.42								

a) Alternate value of 34.62‰.

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

12360

CREST; January 17, 1954; 2020 GCT; 26°37'N, 116°08.5'W; sounding, 2060 fm; wind, 340°, force 3; weather, cloudy; sea, rough; wire angle, 11°.

0	17.2	33.86		0	17.2	33.86		24.61	334	0.00
10	17.12	33.89		10	17.12	33.89		24.65	330	0.03
31	17.13	33.89		20	17.12	33.89		24.65	330	0.07
45	17.20	34.05		30	17.12	33.89		24.65	330	0.10
56	17.13	34.04		50	17.18	34.05		24.76	320	0.16
66	14.85	33.86		75	13.12	33.73		25.41	258	0.24
76	13.02	33.73		100	11.84	33.83		25.73	227	0.30
86	12.32	33.75		150	10.22	34.01		26.16	186	0.40
102	11.80	33.84		200	10.25	34.39		26.45	159	0.49
112	11.40	33.88		250	9.60	34.42		26.59	146	0.57
137	10.24	33.84		300	9.00	34.41		26.68	137	0.64
167	10.48	34.22		400	7.88	34.43		26.86	120	0.78
221	10.00	34.42		500	6.81	34.42		27.01	106	0.90
286	9.18	34.41		600	6.00	34.42		27.12	95	1.01
399	7.90	34.43								
528	6.55	34.42								
664	5.55	34.42								

12734

CREST; January 16, 1954; 2112 GCT; 26°55'N, 114°05.5'W; sounding, 44 fm; wind, 270°, force 4; weather, partly cloudy; sea, moderate; wire angle, 00°.

0	18.23	34.38		0	18.23	34.38		24.76	320	0.00
10	18.15	34.42		10	18.15	34.42		24.81	315	0.03
15	18.12	34.34		20	18.12	34.42		24.82	314	0.06
21	18.12	34.42		30	18.10	34.40		24.81	315	0.10
26	18.11	34.38		50	17.55	34.27		24.84	312	0.16
31	18.10	34.40								
36	18.10	34.38								
42	18.11	34.40								
52	16.86	34.20								
62	14.49	34.02								

12750

CREST; January 16, 1954; 1310 GCT; 26°22'N, 115°10.5'W; sounding, 1930 fm; wind, 350°, force 5; weather, clear; sea, moderate; wire angle, 17°.

0	18.5	34.32		0	18.5	34.32		24.65	330	0.00
10	18.39	34.30		10	18.39	34.30		24.66	329	0.03
30	18.42	34.29		20	18.42	34.29		24.64	331	0.07
44	18.40	34.28		30	18.42	34.29		24.64	331	0.10
54	15.42	33.76		50	17.30	34.20		24.85	311	0.16
64	13.41	33.46		75	13.19	33.71		25.38	260	0.24
74	13.20	33.69		100	11.28	33.69		25.73	227	0.30
84	12.96	33.78		150	10.48	34.30		26.34	169	0.40
98	11.32	33.69		200	10.60	34.33		26.35	168	0.48
107	11.10	33.83		250	9.20	34.36		26.61	144	0.56
131	10.58	33.95		300	8.82	34.38		26.68	137	0.64
160	10.88	34.33		400	7.44	34.31		26.83	123	0.77
213	9.46	34.33		500	6.62	34.38		27.00	107	0.89
274	9.06	34.38		600	6.00	34.37		27.08	99	1.00
386	7.58	34.31								
511	6.54	34.38								
643	5.76	34.36								



OBSERVED				INTERPOLATED				COMPUTED		
Z	T	S	O <sub>2</sub>	Z	T	S	O <sub>2</sub>	σ <sub>t</sub>	δ <sub>T</sub>	ΔD
m	°C	‰	ml/L	m	°C	‰	ml/L	g/L	10 <sup>-5</sup> cm <sup>3</sup> /g	dyn. m

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N. B. SCOFIELD; January 8, 1954; 2242 GCT; 22°00'N, 123°00'W; sounding, 950+ fm; wind, 040°, force 4; weather, cloudy; sea, rough; wire angle, 15°.

128.175  
(4)

0	19.80	34.50	5.30	0	19.80	34.50	5.30	24.45	349	0.00
77	19.41	34.58	5.40	10	(19.76)	(34.51)	(5.31)	(24.47)	(347)	(0.04)
87	19.22	34.36 <sup>a)</sup>	5.42	20	(19.74)	(34.52)	(5.32)	(24.48)	(346)	(0.07)
96	18.49	34.54	5.37	30	(19.69)	(34.53)	(5.33)	(24.50)	(344)	(0.10)
105	17.14	34.13	5.40	50	(19.60)	(34.56)	(5.35)	(24.55)	(340)	(0.17)
116	16.73	33.98	5.34	75	(19.45)	(34.58)	(5.40)	(24.60)	(335)	(0.26)
144	14.32	33.95	4.17	100	17.50	34.21	5.36	24.81	315	(0.34)
168	11.86	33.79	3.93	150	13.50	33.89	4.10	25.47	253	(0.48)
191	10.58	33.84	3.86	200	10.24	33.89	3.72	26.06	196	(0.60)
239	9.33	34.12	2.78	250	9.24	34.14	2.51	26.43	161	(0.69)
288	9.00	34.23	1.83	300	8.91	34.26	1.65	26.57	148	(0.77)
385	8.08	34.38	0.61	400	7.90	34.39	0.55	26.83	123	(0.91)
479	7.01	34.41	0.33	500	6.84	34.42	0.32	27.01	106	(1.03)
577	6.28	34.45	0.30	600	6.11	34.46	0.30	27.13	94	(1.14)
771	5.12	34.49	0.38	700	5.48	34.48	0.32	27.23	85	(1.24)
968	4.41	34.52	0.52	800	5.00	34.49	0.38	27.29	79	(1.33)
				1000	(4.33)	(34.52)	(0.57)	(27.39)	(69)	(1.50)

CREST; January 15, 1954; 1414, 1422 GCT; 26°26.5'N, 113°29'W; sounding, 45 fm; wind, 020°, force 3; weather, clear; sea, moderate; wire angle, 03°, 04°.

130.30

0	18.78	34.45		0	18.78	34.45		24.68	327	0.00
10	18.84	34.46		10	18.84	34.46		24.67	328	0.03
				20	18.84	34.48		24.68	327	0.07
15	18.82	34.49		30	18.82	34.47		24.68	327	0.10
21	18.84	34.48		50	18.80	34.45		24.67	328	0.16
26	18.84	34.45								
31	18.82	34.47								
36	18.84	34.45								
41	18.82	34.44								
52	18.79	34.45								
62	18.68	34.44								

CREST; January 15, 1954; 1910 GCT; 26°11.5'N, 114°08.5'W; sounding, 1380 fm; wind, 010°, force 3; weather, clear; sea, rough; wire angle, 19°.

130.40

0	18.1	34.15		0	18.10	34.15		24.62	333	0.00
10	17.98	34.14		10	17.98	34.14		24.64	331	0.03
24	18.02	34.14		20	18.01	34.14		24.63	332	0.07
53	14.02	33.60		30	17.99	34.13		24.63	332	0.10
62	13.42	33.68		50	14.70	33.61		24.99	298	0.16
72	12.73	33.77		75	12.50	33.77		25.56	243	0.23
87	11.53	33.66		100	11.12	33.77		25.82	219	0.29
105	11.09	33.87		150	11.15	34.36		26.27	176	0.39
129	11.56	34.22		200	10.77	34.46		26.42	162	0.48
156	11.10	34.38		250	10.05	34.50		26.57	148	0.56
207	10.64	34.47		300	9.36	34.50		26.69	136	0.63
280	9.62	34.51		400	8.18	34.44		26.83	123	0.77
381	8.40	34.44		500	7.10	34.46		27.00	107	0.89
516	6.95	34.46		600	6.15	34.46		27.13	94	1.00
699	5.47	34.46		700	5.42	34.46		27.22	86	1.10
927	4.46	34.53		800	4.95	34.49		27.30	78	1.19
1231	3.62	34.56		1000	4.24	34.54		27.42	67	1.35
				1200	3.70	34.67		27.58	52	1.49

a) Loose cap on bottle; value not used in interpolation.

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

13060

CREST; January 16, 1954; 0349 GCT; 25°31'N, 115°25'W; sounding, 2050 fm; wind, 360°, force 4; weather, clear; sea, moderate; wire angle, 15°.

0	17.4	34.04		0	17.4	34.04		24.70	325	0.00
9	17.02	34.04		10	17.02	34.04		24.79	317	0.03
25	16.99	34.09		20	17.00	34.08		24.83	313	0.06
55	13.46	33.67		30	17.00	34.08		24.83	313	0.10
65	12.22	33.55		50	15.80	33.84		24.92	304	0.16
75	12.36	33.75		75	12.36	33.75		25.57	242	0.23
89	11.08	33.72		100	10.38	33.73		25.92	209	0.28
108	10.18	33.77		150	10.05	34.11		26.27	176	0.38
134	10.06	33.98		200	9.78	34.32		26.48	156	0.46
163	10.02	34.19		250	9.35	34.40		26.61	144	0.54
216	9.62	34.35		300	8.92	34.42		26.70	135	0.62
294	8.98	34.42		400	7.58	34.39		26.88	118	0.75
402	7.52	34.39		500	6.55	34.39		27.02	105	0.87
545	6.19	34.40		600	5.81	34.41		27.13	94	0.97
734	5.10	34.44		700	5.28	34.43		27.21	87	1.07
973	4.14	34.52		800	4.80	34.47		27.30	78	1.16
1284	3.33	34.54		1000	4.07	34.52		27.42	67	1.33

130110

CREST; January 8, 1954; 1140 GCT; 23°48'N, 118°33.5'W; sounding, 2250 fm; wind, 270°, force 5; weather, partly cloudy; sea, very rough; wire angle, 16°.

0	18.2	33.86		0	18.2	33.86		24.37	357	0.00
10	18.08	33.82		10	18.08	33.82		24.37	357	0.04
25	18.10	33.80		20	18.10	33.80		24.35	359	0.07
52	18.10	33.82		30	18.10	33.80		24.35	359	0.11
61	18.10	33.82		50	18.10	33.82		24.36	358	0.18
70	18.10	33.81		75	18.10	33.82		24.36	358	0.27
85	16.30	33.86		100	15.00	33.70		24.99	298	0.35
101	14.88	33.69		150	12.10	33.95		25.77	223	0.48
124	12.56	33.54		200	11.58	34.43		26.24	179	0.59
149	12.03	33.91		250	10.50	34.42		26.43	161	0.67
194	11.62	34.39		300	9.30	34.36		26.59	146	0.75
221	11.36	34.51		400	8.10	34.41		26.82	124	0.89
351	8.56	34.36		500	7.12	34.45		26.99	108	1.02
471	7.44	34.45		600	6.06	34.39		27.08	99	1.13
633	5.85	34.40		700	5.42	34.49		27.24	84	1.23
838	4.75	34.55		800	4.92	34.54		27.34	74	1.32
1119	3.77	34.57		1000	4.12	34.57		27.45	64	1.47

13330

CREST; January 15, 1954; 0647 GCT; 25°55'N, 113°07'W; sounding, 100 fm; wind, 010°, force 4; weather, partly cloudy; sea, very rough; wire angle, 10°.

0	18.78	34.24		0	18.78	34.24		24.52	342	0.00
10	18.82	34.25		10	18.82	34.25		24.51	343	0.03
15	18.78	34.24		20	18.79	34.24		24.51	343	0.07
20	18.79	34.24		30	18.77	34.26		24.53	341	0.10
25	18.79	34.26		50	17.13	33.92		24.68	327	0.17
30	18.77	34.26		75	14.30	34.09		25.44	255	0.24
35	18.75	34.25		100	13.67	34.32		25.75	225	0.30
45	17.78	34.06		150	12.00	34.57		26.27	176	0.41
55	16.36	33.87								
65	14.86	33.99								
80	14.32	34.13								
99	13.70	34.31								
118	13.02	34.46								
151	11.98	34.57								

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

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CREST; January 14, 1954; 2113 GCT; 25°13'N, 114°27'W; sounding, 1950 fm; wind, 320°, force 4; weather, partly cloudy; sea, very rough; wire angle, 22°.

13350

0	18.0	34.00		0	18.0	34.00		24.53	341	0.00
10	18.00	34.00		10	18.00	34.00		24.53	341	0.03
29	18.02	34.02		20	18.01	34.01		24.53	341	0.07
44	17.98	33.99		30	18.02	34.02		24.54	340	0.10
53	17.92	34.03		50	17.94	34.02		24.56	339	0.17
62	14.36	33.37		75	13.75	33.37		25.00	297	0.25
71	13.88	33.42		100	11.75	33.58		25.55	244	0.32
81	13.54	33.36		150	12.14	34.32		26.05	197	0.43
94	12.03	33.51		200	11.26	34.54		26.39	164	0.52
103	11.68	33.62		250	10.48	34.53		26.52	152	0.60
126	11.68	33.95		300	9.50	34.48		26.65	140	0.68
153	12.14	34.36		400	7.80	34.34		26.81	125	0.82
200	11.26	34.54		500	6.74	34.40		27.00	107	0.94
260	10.30	34.52								
357	8.49	34.37								
455	7.10	34.36								
562	6.42	34.43								

CREST; January 14, 1954; 0319 GCT; 25°34'N, 112°18.5'W; sounding, 43 fm; wind, 210°, force 2; weather, cloudy; sea, rough; wire angle, 00°.

13723

0	19.68	34.43		0	19.68	34.43		24.43	351	0.00
10	19.70	34.46		10	19.70	34.46		24.45	349	0.04
15	19.70	34.45		20	19.70	34.42		24.42	352	0.07
21	19.70	34.42		30	19.65	34.43		24.44	350	0.11
26	19.70	34.45		50	18.10	34.21		24.66	329	0.17
31	19.64	34.42								
36	19.70	34.38								
41	19.66	34.38								
52	17.70	34.17								
62	15.88	34.05								

CREST; January 14, 1954; 1204 GCT; 25°02.5'N, 113°25'W; sounding, 1600 fm; wind, 300°, force 4; weather, cloudy; sea, moderate; wire angle, 10°.

13740

0	19.5	34.18		0	19.5	34.18		24.29	364	0.00
10	19.54	34.19		10	19.54	34.19		24.28	365	0.04
30	19.48	34.23		20	19.51	34.21		24.31	362	0.07
45	19.48	34.27		30	19.48	34.23		24.33	360	0.11
56	15.28	33.53		50	19.47	34.05		24.20	373	0.18
66	13.94	33.65		75	12.93	33.62		25.36	263	0.26
76	12.89	33.62		100	12.62	33.90		25.64	236	0.33
87	12.74	33.69		150	11.00	34.14		26.13	189	0.43
101	12.62	33.91		200	10.60	34.25		26.28	175	0.53
111	12.12	34.00		250	10.36	34.53		26.54	150	0.61
136	11.62	34.14		300	9.88	34.54		26.63	142	0.69
166	10.33	34.14		400	8.36	34.45		26.81	125	0.83
221	10.53	34.47		500	6.90	34.38		26.97	110	0.95
286	10.07	34.54		600	6.05	34.40		27.09	98	1.06
399	8.40	34.45								
528	6.62	34.38								
662	5.66	34.42								

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

137.140

CREST; January 9, 1954; 0321 GCT; 21°40'N, 119°41'W; sounding, 2200 fm; wind, 290°, force 4; weather, cloudy; sea, very rough; wire angle, 23°.

0	19.2	34.16		0	19.2	34.16		24.35	359	0.00
9	19.24	34.16		10	19.24	34.16		24.34	360	0.04
24	19.24	34.14		20	19.24	34.14		24.32	361	0.07
52	19.27	34.15		30	19.24	34.14		24.32	361	0.11
61	19.28	34.18		50	19.24	34.15		24.33	360	0.18
71	19.28	34.14		75	19.30	34.04		24.23	370	0.27
84	17.44	33.89		100	16.00	33.78		24.83	313	0.36
102	15.86	33.77		150	12.00	33.74		25.63	237	0.50
125	14.00	33.73		200	10.36	34.26		26.33	170	0.60
151	11.93	33.74		250	9.24	34.24		26.51	153	0.68
199	10.40	34.26		300	8.55	34.35		26.70	135	0.76
270	8.91	34.25		400	7.60	34.42		26.90	116	0.89
366	7.94	34.42		500	6.62	34.43		27.04	103	1.01
496	6.66	34.43		600	6.02	34.47		27.15	92	1.11
671	5.68	34.51		700	5.53	34.52		27.25	83	1.21
896	4.69	34.56		800	5.08	34.55		27.33	75	1.30
1197	3.70	34.56		1000	4.32	34.56		27.42	67	1.46

140.35

CREST; January 13, 1954; 1910, 1924 GCT; 24°35.5'N, 112°43'W; sounding, 460 fm; wind, 260°, force 1; weather, cloudy; sea, rough; wire angle, 05°, 05°.

0	19.6	34.14		0	19.6	34.14		24.23	370	0.00
10	19.56	34.14		10	19.56	34.14		24.24	369	0.04
31	19.52	34.14		20	19.53	34.14		24.25	368	0.07
41	19.47	34.14		30	19.52	34.14		24.25	368	0.11
				50	19.20	34.11		24.31	362	0.18
51	19.05	34.10		75	14.71	33.49		24.89	307	0.27
63	16.42	33.68		100	13.30	33.89		25.49	250	0.34
73	14.86	33.49		150	12.42	34.44		26.09	193	0.45
83	14.28	33.76		200	11.80	34.66		26.38	166	0.54
103	13.10	33.90		250	11.17	34.60		26.45	159	0.63
129	11.74	33.95		300	10.55	34.56		26.53	151	0.71
158	12.22	34.54		400	9.08	34.53		26.76	129	0.85
207	11.73	34.66		500	7.34	34.49		26.99	108	0.98
277	10.86	34.57		600	6.30	34.44		27.09	98	1.09
381	9.44	34.54		700	5.60	34.43		27.17	91	1.19
509	7.24	34.49		800	5.12	34.46		27.26	82	1.29
664	5.80	34.43								
820	5.02	34.47								

140.50

CREST; January 13, 1954; 1214 GCT; 24°08.5'N, 113°41'W; sounding, 1800 fm; wind, 270°, force 3; weather, partly cloudy; sea, slight; wire angle, 05°.

0	19.3	34.25		0	19.3	34.25		24.39	355	0.00
10	19.26	34.25		10	19.26	34.25		24.40	354	0.04
25	19.28	34.26		20	19.27	34.26		24.41	353	0.07
51	19.22	34.26		30	19.27	34.26		24.41	353	0.11
62	16.05	33.99		50	19.23	34.26		24.42	352	0.18
72	15.44	34.14		75	15.32	34.19		25.30	268	0.26
82	15.10	34.29		100	14.58	34.49		25.69	231	0.32
102	14.54	34.51		150	12.77	34.77		26.28	175	0.42
127	13.66	34.70		200	11.50	34.71		26.48	156	0.51
157	12.54	34.77		250	10.40	34.66		26.64	141	0.58
206	11.39	34.70		300	9.30	34.62		26.79	127	0.65
276	9.86	34.64		400	7.40	34.53		27.01	106	0.78
378	7.72	34.54		500	6.38	34.50		27.13	94	0.88
506	6.32	34.50		600	5.80	34.48		27.19	89	0.98
690	5.34	34.48		700	5.30	34.48		27.25	83	1.08
911	4.44	34.49		800	4.86	34.48		27.30	78	1.16
1216	3.52	34.58		1000	4.15	34.51		27.40	69	1.33

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

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CREST; January 9, 1954; 1758 GCT; 22°06'N, 117°25'W; sounding, 2250 fm; wind, 010°, force 4;  
weather, cloudy; sea, high; wire angle, 26°.

140110

0	19.5	34.25		0	19.5	34.25		24.34	360	0.00
10	19.54	34.27		10	19.54	34.27		24.35	359	0.04
23	19.56	34.27		20	19.56	34.27		24.34	360	0.07
52	19.56	34.23		30	19.57	34.26		24.33	360	0.11
60	19.54	34.23		50	19.56	34.23		24.31	362	0.18
70	19.53	34.25		75	19.40	34.23		24.35	359	0.27
83	16.73	33.80		100	13.92	33.51		25.07	290	0.35
100	13.92	33.51		150	13.34	34.42		25.89	212	0.48
122	12.98	33.95		200	12.51	34.57		26.18	184	0.58
147	13.34	34.41		250	11.60	34.64		26.40	164	0.67
192	12.66	34.55		300	10.36	34.56		26.57	148	0.75
257	11.46	34.64		400	8.28	34.45		26.82	124	0.90
345	9.38	34.48		500	7.00	34.44		27.00	107	1.02
462	7.40	34.44		600	6.20	34.45		27.11	96	1.13
623	6.04	34.45		700	5.60	34.46		27.20	88	1.23
833	4.90	34.49		800	5.05	34.48		27.28	80	1.32
1125	3.82	34.54		1000	4.25	34.52		27.40	69	1.49

CREST; January 12, 1954; 1345 GCT; 24°13'N, 112°04.5'W; sounding, 126 fm; wind, 270°, force 2;  
weather, cloudy; sea, rough; wire angle, 08°.

14330

0	19.93	34.35		0	19.93	34.35		24.30	363	0.00
10	19.96	34.40		10	19.96	34.40		24.33	360	0.04
15	19.96	34.35		20	19.96	34.34		24.29	364	0.07
20	19.96	34.34		30	19.96	34.39		24.33	360	0.11
25	19.96	34.34		50	19.18	34.20		24.38	356	0.18
30	19.96	34.39		75	14.77	33.69		25.03	294	0.26
36	19.96	34.34		100	12.85	34.03		25.69	231	0.33
46	19.64	34.26		150	12.75	34.63		26.18	184	0.43
56	18.26	34.04		200	11.76	34.68		26.41	163	0.52
66	15.56	33.73								
76	14.70	33.69								
96	13.02	33.92								
110	13.22	34.34								
139	12.96	34.62								
168	12.42	34.64								
203	11.71	34.69								

CREST; January 12, 1954; 0014 GCT; 23°55.5'N, 111°06.5'W; sounding, 110 fm; wind, 270°, force 2;  
weather, cloudy; sea, moderate; wire angle, 02°.

14720

0	20.84	34.62		0	20.84	34.62		24.27	366	0.00
10	20.84	34.63		10	20.84	34.63		24.28	365	0.04
15	20.80	34.60		20	20.79	34.60		24.27	366	0.07
20	20.79	34.60		30	20.76	34.54		24.23	370	0.11
25	20.79	34.61		50	19.10	34.43		24.58	337	0.18
30	20.76	34.54		75	13.82	33.90		25.39	260	0.26
36	20.72	34.58		100	13.78	34.20		25.63	237	0.32
46	20.31	34.54		150	12.44	34.64		26.24	179	0.42
56	16.88	33.95								
66	15.40	34.02								
82	13.53	33.80								
102	13.67	34.33								
122	12.96	34.43								
156	12.36	34.67								

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

147.30

CREST; January 12, 1954; 0540, 0554 GCT; 23°38'N, 111°47'W; sounding, 440 fm; wind, 270°, force 3; weather, cloudy; sea, moderate; wire angle, 08°, 07°.

0	21.6	34.86		0	21.6	34.86		24.24	369	0.00
10	21.60	34.85		10	21.60	34.85		24.24	369	0.04
30	21.64	34.85		20	21.64	34.85		24.22	371	0.07
46	21.64	34.87		30	21.64	34.85		24.22	371	0.11
56	21.05	34.72		50	21.63	34.85		24.23	370	0.19
66	20.07	34.57		75	18.70	34.39		24.65	330	0.27
				100	13.78	33.89		25.40	259	0.35
78	18.09	34.27		150	12.60	34.61		26.19	184	0.46
88	15.20	33.74		200	11.80	34.68		26.40	164	0.55
103	13.52	34.06		250	10.88	34.68		26.57	148	0.63
114	13.40	34.33		300	10.30	34.63		26.63	142	0.70
139	12.75	34.57		400	8.90	34.57		26.82	124	0.84
171	12.32	34.65		500	7.96	34.53		26.93	113	0.97
226	11.23	34.69		600	7.76	34.51		26.95	111	1.09
290	10.44	34.64								
405	8.80	34.57								
536	7.85	34.52								
671	7.72	34.51								

147.90

CREST; January 10, 1954; 0839 GCT; 21°36'N, 115°25'W; sounding, 2250 fm; wind, 360°, force 3; weather, partly cloudy; sea, high; wire angle, 20°.

0	21.6	34.53		0	21.6	34.53		23.99	393	0.00
10	21.60	34.53		10	21.60	34.53		23.99	393	0.04
24	21.60	34.54		20	21.60	34.54		24.00	392	0.08
53	21.53	34.51		30	21.59	34.54		24.00	392	0.12
62	12.07	34.37		50	21.53	34.52		24.00	392	0.20
71	16.80	33.67		75	16.10	33.67		24.72	323	0.29
85	15.24	33.73		100	14.35	33.93		25.31	267	0.36
104	14.12	33.93		150	11.16	34.03		26.01	201	0.48
128	12.39	33.94		200	10.96	34.48		26.40	164	0.57
156	11.13	34.09		250	10.40	34.52		26.53	151	0.65
207	10.92	34.49		300	9.46	34.52		26.69	136	0.73
283	9.82	34.52		400	8.08	34.48		26.87	119	0.86
385	8.20	34.48		500	7.32	34.52		27.02	105	0.98
521	7.15	34.52		600	6.50	34.52		27.13	94	1.09
704	5.72	34.52		700	5.75	34.52		27.23	85	1.19
933	4.59	34.52		800	5.19	34.52		27.29	79	1.28
1234	3.54	34.58		1000	4.32	34.53		27.40	69	1.45

150.25

CREST; January 11, 1954; 1613 GCT; 23°13'N, 111°02'W; sounding, 690 fm; wind, 040°, force 3; weather, cloudy; sea, slight; wire angle, 16°.

0	21.3	35.13		0	21.3	35.13		24.53	341	0.00
10	21.39	35.14		10	21.39	35.14		24.51	343	0.03
30	21.41	35.15		20	21.42	35.15		24.51	343	0.07
45	21.14	35.16		30	21.41	35.15		24.52	342	0.10
55	20.64	35.12		50	20.95	35.14		24.63	332	0.17
65	19.16	34.95		75	17.92	34.83		25.18	280	0.25
75	17.92	34.83		100	15.20	34.62		25.65	235	0.31
84	16.48	34.68		150	12.60	34.62		26.20	183	0.42
99	15.33	34.63		200	11.84	34.68		26.39	164	0.51
109	14.28	34.60		250	11.20	34.67		26.50	154	0.59
133	13.36	34.63		300	10.50	34.63		26.60	145	0.67
162	12.30	34.61		400	9.08	34.55		26.77	128	0.81
216	11.64	34.69		500	7.40	34.50		26.99	108	0.94
278	10.82	34.65		600	6.36	34.51		27.14	93	1.05
388	9.30	34.56								
515	7.19	34.50								
649	6.00	34.51								

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

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CREST; January 11, 1954; 0850 GCT; 22°43'N, 111°58'W; sounding, 1900 fm; wind, 300°, force 2; weather, clear; sea, rough; wire angle, 05°.

15040

0	20.5			0	20.5					
10	20.54			10	20.54					
25	20.54			20	20.55					
51	20.44			30	20.52					
62	20.53			50	20.43					
72	19.70			75	19.10					
82	17.18			100	15.00					
102	14.77			150	11.48					
127	12.43			200	10.74					
156	11.44			250	10.46					
205	10.74			300	9.50					
273	9.97			400	8.24					
374	8.48			500	7.49					
500	7.49			600	6.68					
679	6.00			700	5.82					
898	4.66			800	5.15					
1200	3.70			1000	4.28					
				1200	3.70					

CREST; January 10, 1954; 2238, 2252 GCT; 22°05'N, 113°17'W; sounding, 2100 fm; wind, 020°, force 3; weather, partly cloudy; sea, very rough; wire angle, 15°, 16°.

15060

0	21.4	34.46		0	(21.4)	(34.46)		(23.99)	(393)	(0.00)
				10	21.28	34.45		24.02	390	0.04
10	21.28	34.45		20	21.24	34.46		24.04	388	0.08
25	21.24	34.46		30	21.22	34.46		24.04	388	0.12
55	21.12	34.43		50	21.15	34.44		24.05	387	0.20
65	16.84	33.64		75	15.71					
75	15.71	-		100	14.80					
90	15.70	-		150	12.50					
110	12.62	-		200	11.70					
133	12.85	-		250	10.85					
160	12.29	-		300	9.85					
212	11.56	-		400	8.62					
287	10.03	-		500	7.42					
390	8.77	-		600	6.55					
526	7.18	-		700	5.85					
710	5.79	-		800	5.28					
942	4.61	-		1000	4.38					
1247	3.62	-		1200	3.72					

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

86155  
(8)

N. B. SCOFIELD; January 14, 1954; 1830 GCT; 29°58'N, 126°52'W; sounding, 950+ fm; wind, 320°, force 2; weather, overcast; sea, rough; wire angle, 10°.

0	16.58	33.60	5.68	0	16.58	33.60	5.68	24.56	339	0.00
78	16.62	33.62	5.63	10	(16.58)	(33.61)	(5.67)	(24.57)	(338)	(0.03)
87	16.56	33.62	5.62	20	(16.59)	(33.61)	(5.66)	(24.56)	(339)	(0.07)
97	15.00	33.41	5.87	30	(16.60)	(33.61)	(5.66)	(24.56)	(339)	(0.10)
106	15.24	33.60	5.78	50	(16.62)	(33.62)	(5.65)	(24.57)	(338)	(0.17)
116	14.94	33.60	5.75	75	(16.63)	(33.62)	(5.65)	(24.56)	(339)	(0.26)
135	14.33	33.58	5.65	100	15.01	33.43	5.86	24.78	318	(0.34)
154	13.32	33.53	5.55	150	13.60	33.55	5.58	25.17	280	(0.49)
174	12.08	33.46	5.50	200	10.58	33.50	5.21	25.70	230	(0.62)
194	10.74	33.48	5.29	250	9.10	33.80	4.55	26.19	184	(0.72)
290	8.10	33.96	4.02	300	7.90	33.97	3.90	26.50	154	(0.80)
387	6.48	34.00	2.58	400	6.29	34.01	2.35	26.76	129	(0.95)
485	5.46	34.12	1.24	500	5.34	34.14	1.12	26.98	109	(1.08)
582	4.89	34.22	0.66	600	4.81	34.25	0.60	27.12	95	(1.18)
777	4.28	34.39	0.45	700	4.49	34.34	0.46	27.22	85	(1.28)
975	3.76	34.47	0.64	800	4.21	34.41	0.45	27.32	76	(1.37)
				1000	(3.70)	(34.48)	(0.68)	(27.43)	(66)	(1.53)



Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
77.50-H	10	0725	35°03.5'	120°53.0'	95	320°	6	clear	slight	12.54	33.02		
80.51-H	10	1205	34°26.5'	120°32.0'	55	330°	2	clear	slight	13.22	33.37	✓	
80.60-H	10	1750	34°09.5'	121°08.5'	1100	320°	4	partly cloudy	moderate	12.71	33.25	✓	
80.80-H	11	0450	33°21.5'	122°31.5'	2400	320°	2	partly cloudy	slight	12.95	33.17	✓	
80.100-H	11	1535	32°32.0'	123°56.0'	2300	270°	7	sky obscured	very rough	14.66	32.99		
83.40-H	9	0107	34°13.5'	119°22.0'	11	280°	3	partly cloudy	slight	14.35	33.40		
83.48-H	9	0835	33°58.0'	119°54.5'	110	320°	5	clear	slight	12.86	33.36		
83.55-H	9	1400	33°41.0'	120°27.5'	610	320°	6	clear	very rough	12.56	33.42	✓	
85.39-H	8	2247	34°00.0'	119°04.5'	245	290°	3	partly cloudy	slight	14.44	33.33		
85.40-H	8	2130	33°57.0'	119°11.0'	425	320°	2	cloudy	slight	14.74	33.46		
85.50-H	8	1455	33°27.5'	119°55.0'	485	310°	6	missing	very rough	13.56	33.41		
85.60-H	8	0800	33°16.5'	120°33.5'	1313	300°	6	clear	rough	12.83	33.23		
87.35-H	6	0650	33°50.0'	118°37.5'	330	360°	2	partly cloudy	calm	14.24	33.42	✓	
87.45-H	6	1334	33°28.5'	119°21.5'	720	270°	3	cloudy	moderate	14.82	33.40		
87.55-H	8	0118	33°10.0'	120°00.5'	640	280°	6	partly cloudy	rough	14.04	33.39		
90.30-H	14	0645	33°24.5'	117°55.5'	325	300°	2	clear	smooth	14.22	33.35	✓	
90.45-H	13	2240	32°54.5'	118°56.0'	940	090°	3	clear	moderate	14.44	33.34	✓	
90.60-H	13	1415	32°27.0'	120°01.5'	580	090°	4	partly cloudy	moderate	13.13	33.38	✓	
90.80-H	13	0255	31°44.0'	121°19.0'	1450	320°	4	cloudy	rough	14.36	33.22	✓	
90.100-H	12	1615	31°03.5'	122°37.0'	2260	320°	6	cloudy	very rough	15.38	33.12		

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
93.27-H	14	1305	32°57.0'	117°19.0'	80	040°	2	clear	calm	14.04	33.36	✓	
93.40-H	14	2020	32°28.0'	118°14.0'	850	270°	3	partly cloudy	slight	13.94	33.34	✓	
93.60-H	15	0625	31°48.5'	119°32.0'	1900	270°	3	cloudy	slight	13.68	33.37	✓	
97.30-H	16	0305	32°15.0'	117°08.5'	27	300°	3	partly cloudy	slight	13.86	33.35	✓	
97.32-H	16	0145	32°11.5'	117°19.0'	680	290°	2	partly cloudy	moderate	14.24	33.29	✓	
97.50-H	15	1615	31°28.0'	118°28.0'	1400	270°	3	cloudy	slight	13.63	33.54	✓	
100.30-H	16	0825	31°40.5'	116°47.0'	235	290°	2	partly cloudy	slight	13.90	33.32	✓	
100.40-H	16	1255	31°21.0'	117°28.0'	1060	290°	3	partly cloudy	slight	15.34	33.40	✓	
100.60-H	16	2300	30°39.0'	118°47.0'	1600	300°	3	cloudy	moderate	14.12	33.18	✓	
100.80-H	17	0940	29°59.0'	120°07.0'	2225	270°	4	cloudy	slight	14.25	33.18	✓	
103.35-H	22	0600	30°55.0'	116°45.0'	1050	320°	3	clear	moderate	13.94	33.39	✓	
103.50-H	20	2300	30°23.0'	117°51.0'	-	290°	6	overcast	high	13.61	33.24	✓	
107.32-H	19	1940	30°27.0'	116°11.5'	340	240°	4	drizzle	moderate	14.10	33.29	✓	
107.40-H	20	0120	30°11.0'	116°43.5'	1520	220°	7	drizzle	rough	14.54	33.37	✓	
107.60-H	20	1240	29°26.5'	118°02.0'	2550	320°	6	partly cloudy	very rough	14.20	33.35	✓	
110.35-H	19	1335	29°46.5'	116°00.5'	530	220°	3	overcast	slight	15.36	33.32	✓	
110.50-H	19	0500	29°14.5'	117°01.0'	1650	290°	2	overcast	moderate	15.40	33.33	✓	
110.70-H	18	1845	28°35.0'	118°19.0'	1920	330°	3	cloudy	moderate	15.24	33.35	✓	
110.90-H	18	0905	27°58.0'	119°35.0'	2200	040°	2	partly cloudy	calm	15.74	33.30	✓	

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

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