UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

DATA REPORT

PHYSICAL AND CHEMICAL DATA
CCOFI CRUISE 5208
(MLR 40)
8-19 August 1952

SIO Reference 57-2
22 January 1957

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5208

(MLR 40)

8-19 August 1952

SIO Reference 57-2

22 January 1957

Approved for distribution:

Roger Revelle

Roger Revelle, Director

CONTENTS

FIGURES

INTRODUCTION

The data in this report were collected on the fortieth full-scale cruise conducted in the Marine Life Research Program. The three ships participating were the MV BLACK DOUGLAS, of the U. S. Fish and Wildlife Service, the MV SPENCER F. BAIRD and the MV CREST of the Scripps Institution of Oceanography.

Data are presented in the form of values tabulated at standard depths, and on charts of horizontal distributions. Values of observed depths will be included in a final publication, OCEANIC OBSERVATIONS OF THE PACIFIC. The presentation of data in these Physical and Chemical Reports does not constitute publication, and these interpretations may be subject to modification as the program continues.

In the tabulated data extrapolated values are indicated by parentheses. The time given is the time that the messenger was released. When more than one cast was made on a station, both messenger times and both wire angles are given; the time and the wire angle given first are for the shallow cast. Horizontal lines separate the casts.

Nansen bottle pretripping occurred on Stations 70.80, 77.65 and 100.60. Some of the depths of observations, therefore, may be slightly in error at these stations.

PERSONNEL

Ships' Captains

Kandie, Harry V., MV BLACK DOUGLAS
Colbeth, Clifford W., MV SPENCER F. BAIRD
Davis, Larry, MV CREST

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

MV BLACK DOUGLAS

Eckles, Howard, Marine Biologist
Livingstone, Robert, Marine Biologist
Anderson, Charles, Marine Technician
Payne, Miles M., Marine Technician

MV SPENCER F. BAIRD

Horrer, Paul L., Oceanographer
Ahlstrom, E. H., Marine Biologist
Arthur, David, Marine Biologist
McGowan, John, Marine Biologist
Mead, Richard V., Principle Marine Technician
Lamplugh, Roscoe, Marine Technician
Kircher, Robert, Marine Technician
Whitney, Ralph, Marine Technician
Focke, Fred, Laboratory Assistant Trainee
Hathaway, Robert, Laboratory Technician
Howell, Robert, Marine Technician

MV CREST

Smith, Alan C., Senior Marine Technician
Wyllie, John G., Marine Technician
Greenbaum, Richard, Marine Technician
Miller, Gaylord, Laboratory Assistant Trainee
Klotz, Jerome, Laboratory Assistant Trainee
Greene, William, Laboratory Assistant Trainee

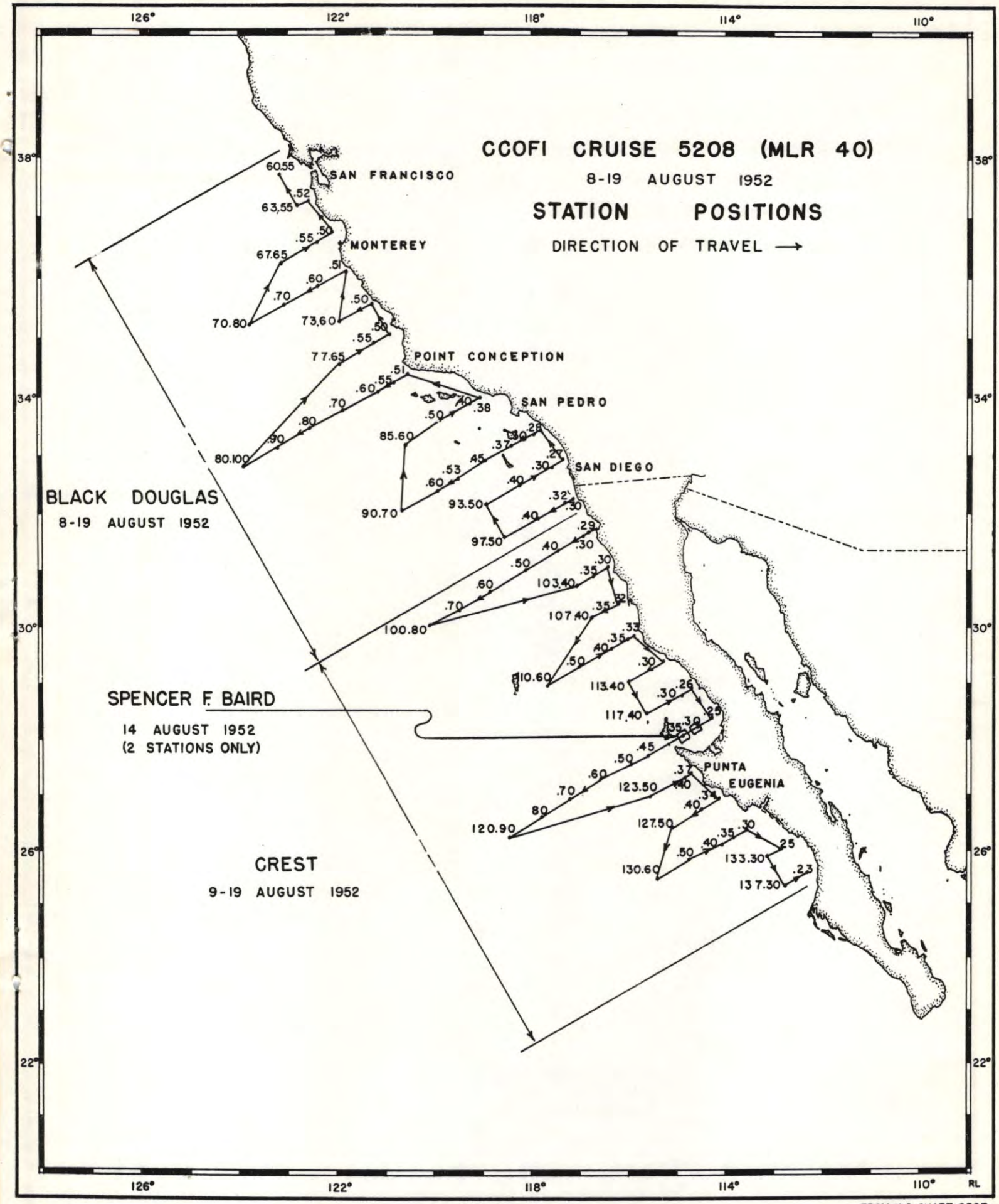


FIGURE 1.

FROM H.O. CHART 0527

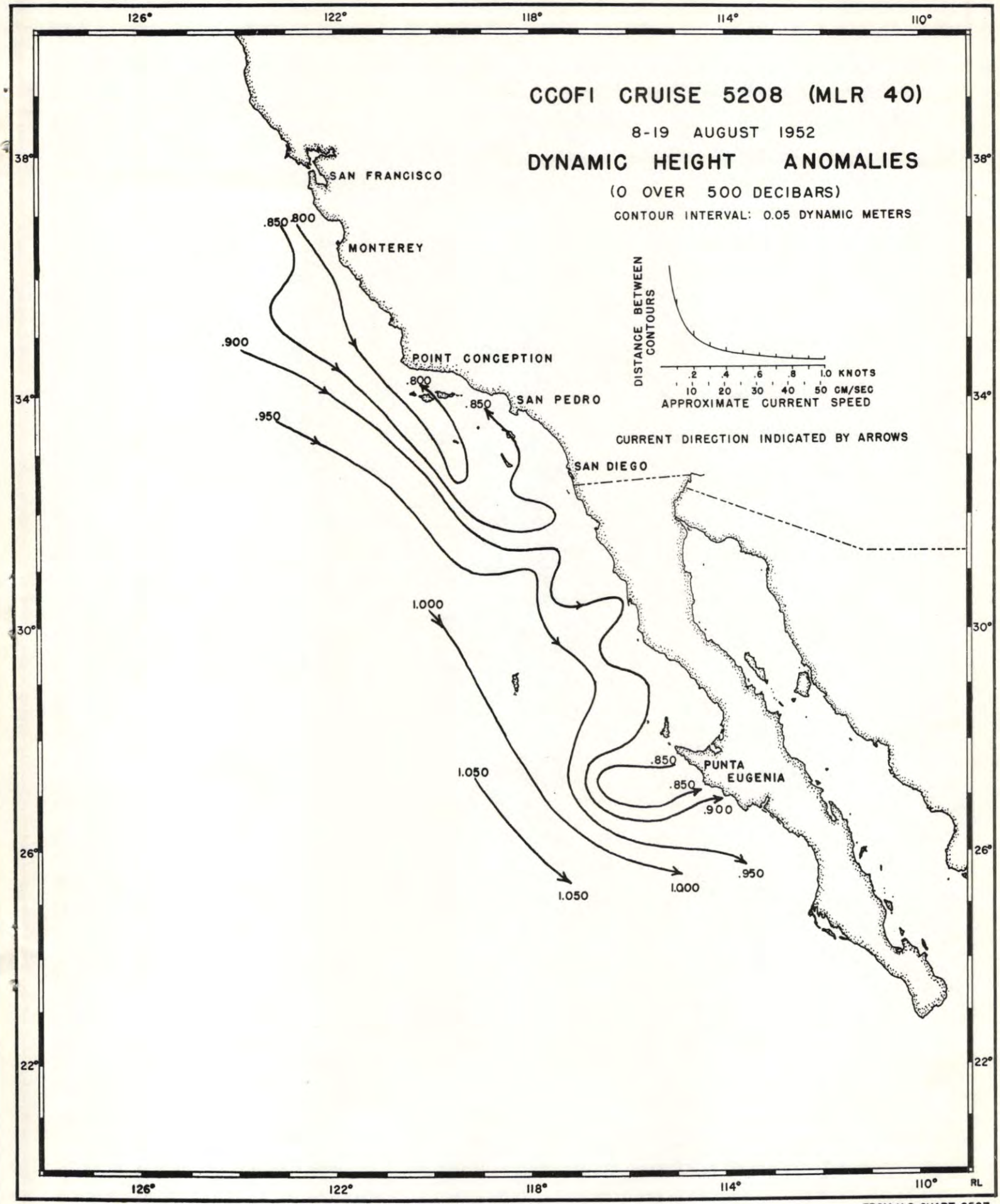
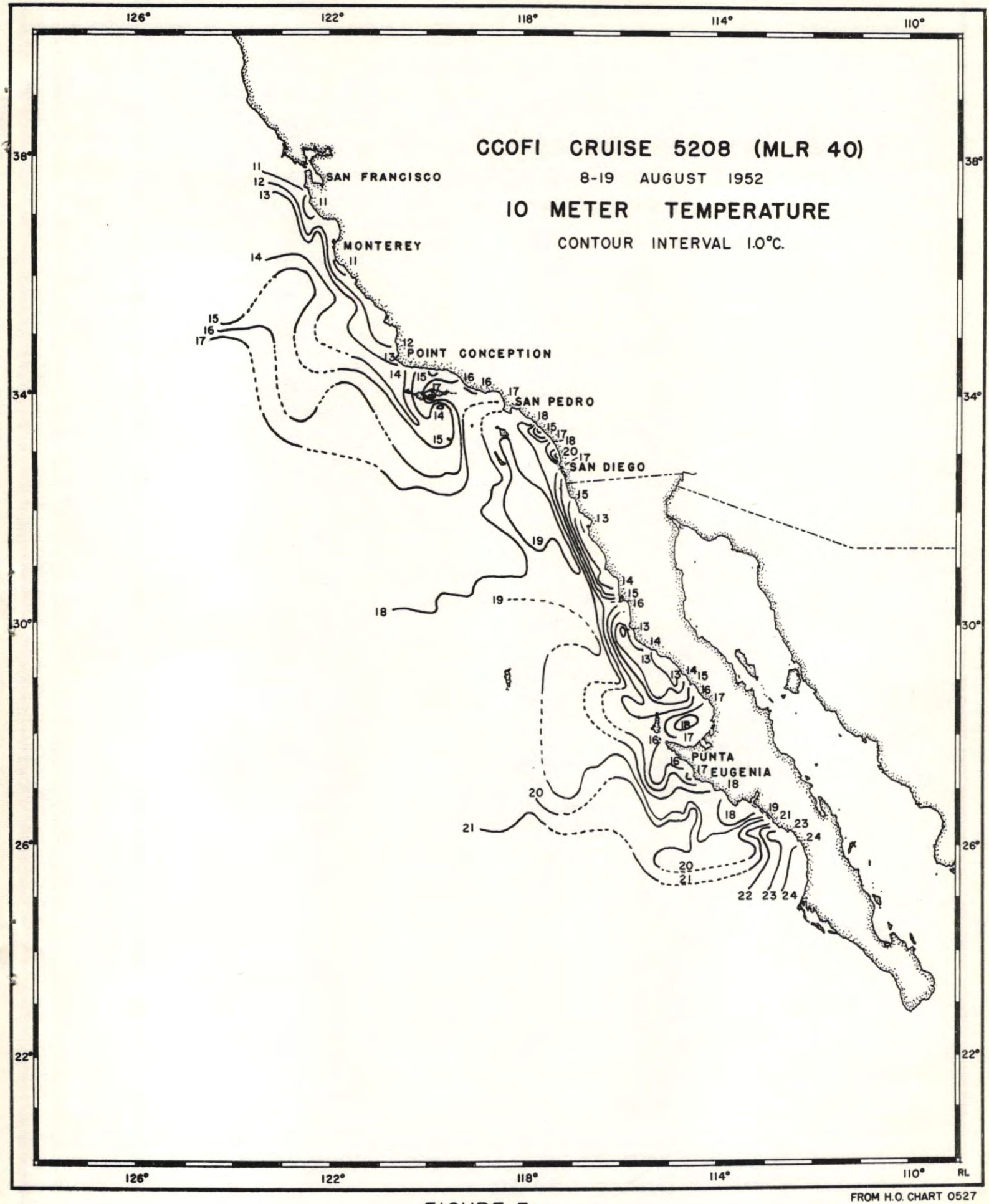


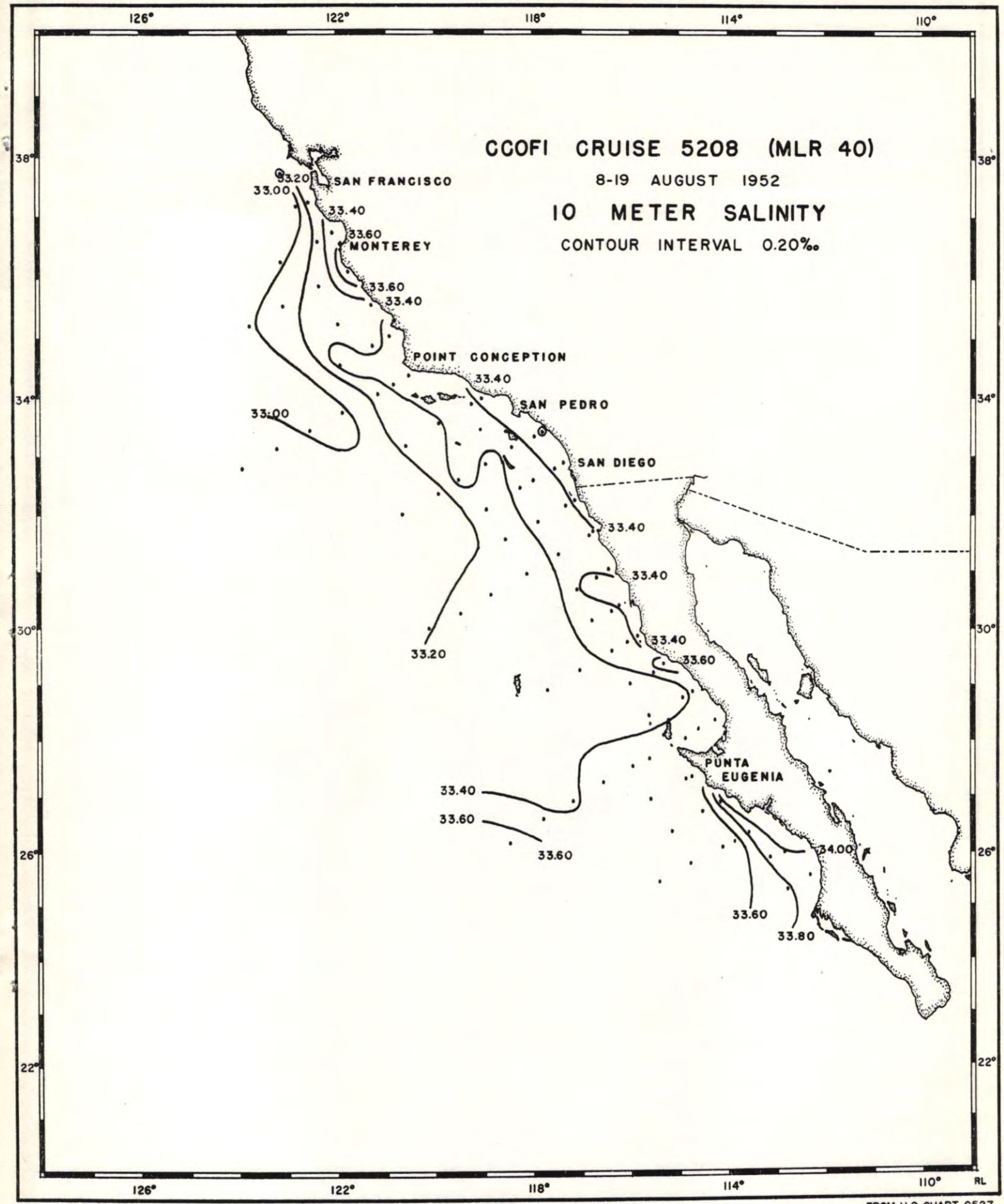
FIGURE 2.

FROM H.O. CHART 0527



FROM H.O. CHART 0527

FIGURE 3.



FROM H.O. CHART 0527

FIGURE 4.

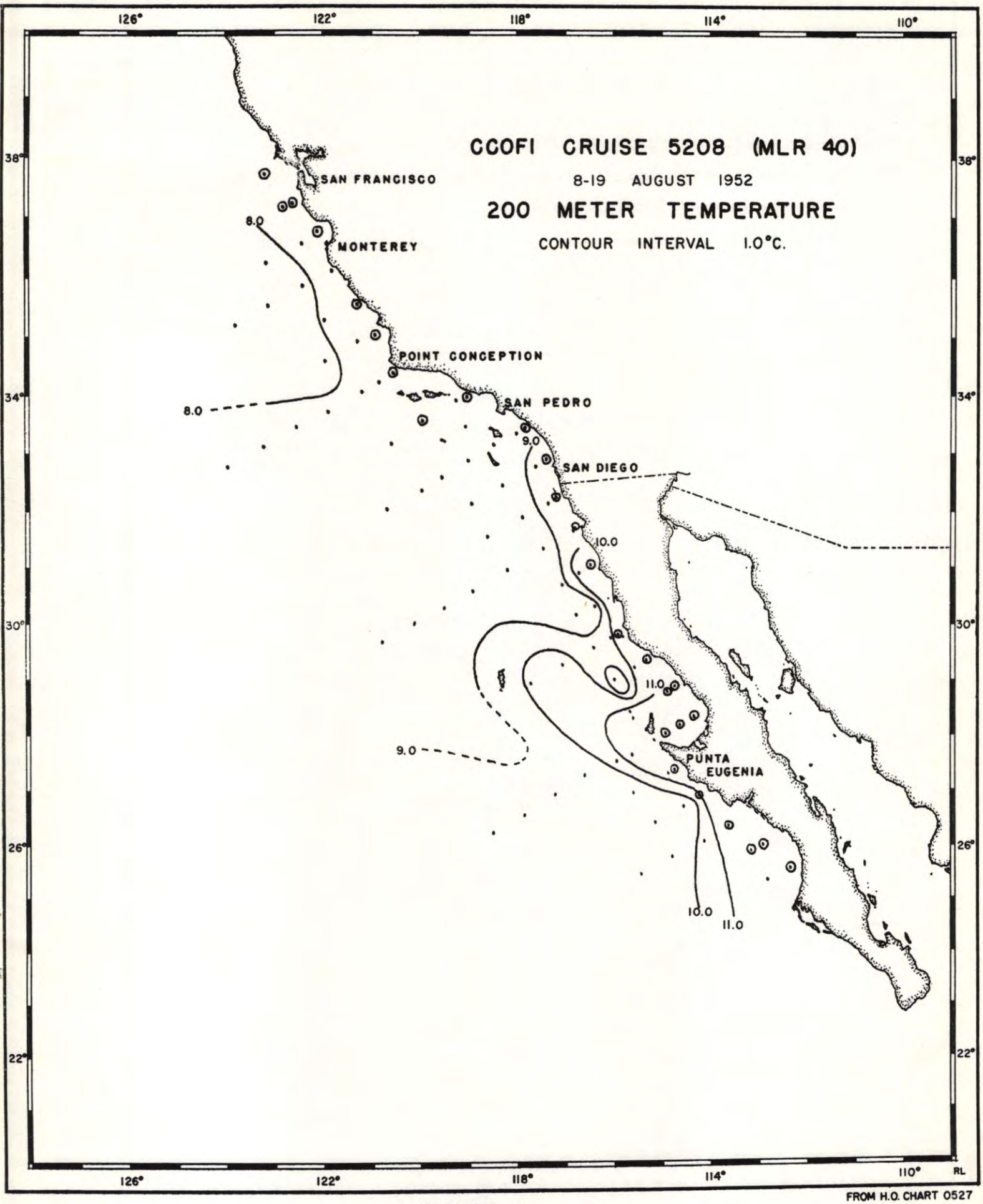

CCOFI CRUISE 5208 (MLR 40)
8-19 AUGUST 1952
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C.
SAN FRANCISCO
MONTEREY
POINT CONCEPTION
SAN PEDRO
SAN DIEGO
PUNTA EUGENIA
8.0
8.0
9.0
9.0
10.0
11.0
10.0
11.0
126°
122°
118°
114°
110°
38°
34°
30°
26°
22°
RL
FROM H.O. CHART 0527

FIGURE 5.

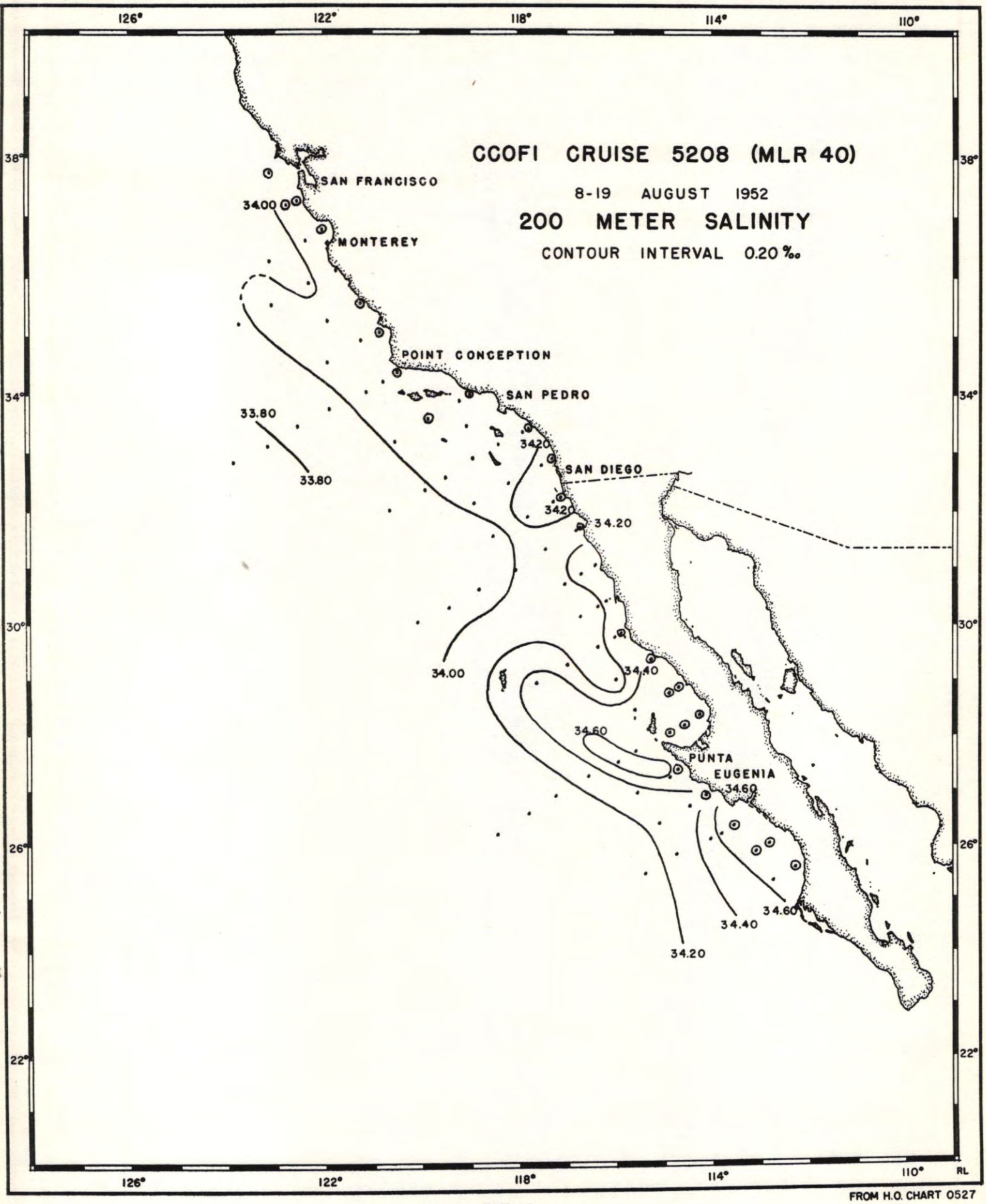

CCOFI CRUISE 5208 (MLR 40)
8-19 AUGUST 1952
200 METER SALINITY
CONTOUR INTERVAL 0.20 ‰
126°
122°
118°
114°
110°
38°
34°
30°
26°
22°
SAN FRANCISCO
MONTEREY
POINT CONCEPTION
SAN PEDRO
SAN DIEGO
PUNTA EUGENIA
34.00
33.80
34.20
34.40
34.60
RL
FROM H.O. CHART 0527

FIGURE 6.

STATION 60.55 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 37°46'N 123°12'W; August 19, 1952; 1615 GCT; wire angle: 6°; sounding: 59 fms; depth of observation: 74 m; weather: clear; sea: very high; wind: 320°, force 7.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	10.15	-	-	-	-	5.26
10	10.14	-	-	-	-	5.38
20	10.10	-	-	-	-	5.30
30	9.93	-	-	-	-	5.18
50	8.97	-	-	-	-	4.19
75	(8.52)	-	-	-	-	(2.86)

STATION 63.52 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 37°19'N 122°36'W; August 19, 1952; 0318 GCT; wire angle: 0°; sounding: 48 fms; depth of observation: 50 m; weather: clear; sea: rough; wind: 280°, force 3.

0	12.51	33.06	25.01	292.2	.000	8.42
10	10.80	33.35	25.55	245.1	.027	5.92
20	10.29	33.46	25.72	228.6	.052	5.14
30	9.02	33.44	25.92	210.6	.076	4.00
50	9.06	33.62	26.05	198.0	.116	2.44

STATION 63.55 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 37°14'N 122°50'W; August 19, 1952; 0535 GCT; wire angle: 26°; sounding: 120 fms; depth of observation: 176 m; weather: clear; sea: rough; wind: 320°, force 4.

0	13.17	32.94	24.79	317.1	.000	6.04
10	13.16	32.94	24.79	317.1	.032	6.02
20	13.04	32.94	24.81	315.1	.063	6.03
30	12.62	32.86	24.83	313.4	.095	6.00
50	10.19	32.84	25.26	273.2	.153	5.81
75	9.10	33.19	25.71	230.7	.216	4.84
100	8.68	33.73	26.20	184.8	.268	2.99
150	8.57	33.94	26.38	168.5	.357	1.88

STATION 67.50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 36°49'N 122°05'W; August 18, 1952; 2050 GCT; wire angle: 7°; sounding: 58 fms; depth of observation: 74 m; weather: clear; sea: rough; wind: 280°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	12.05	33.51	25.44	254.5	.000	6.27
10	10.89	33.51	25.66	234.5	.024	5.45
20	10.42	33.53	25.75	225.4	.047	4.86
30	10.24	33.51	25.77	224.1	.070	4.66
50	9.42	33.69	26.05	198.1	.112	2.96
75	(9.20)	(33.79)	(26.16)	(187.8)	(.160)	(2.60)

STATION 67.55 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 36°39'N 122°26'W; August 18, 1952; 1726 GCT; wire angle: 23°; sounding: 1150 fms; depth of observation: 601 m; weather: clear; sea: very rough; wind: 320°, force 5.

0	12.39	33.22	25.15	282.0	.000	6.15
10	11.70	33.31	25.35	263.2	.027	6.14
20	10.87	33.32	25.51	248.4	.053	5.48
30	10.28	33.38	25.66	234.4	.077	5.02
50	9.35	33.49	25.90	211.9	.122	4.05
75	9.25	33.79	26.15	188.6	.172	2.78
100	8.97	33.92	26.30	175.1	.217	2.28
150	8.56	33.96	26.39	166.9	.303	1.86
200	8.22	34.09	26.55	153.1	.383	1.62
250	7.95	34.14	26.63	146.3	.457	1.40
300	7.61	34.15	26.68	141.5	.529	1.25
400	6.78	34.23	26.86	125.5	.663	0.89
500	6.12	34.23	26.95	118.0	.785	0.58
600	5.56	34.28	27.06	108.3	.898	0.37

STATION 67.65 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 36°19'N 123°09'W; August 18, 1952; 1031 GCT; wire angle: 19°; sounding: 1740 fms; depth of observation: 1095 m; weather: clear; sea: high; wind: 320°, force 7.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	13.96	32.88	24.58	336.7	.000	6.22
10	13.98	32.90	24.59	335.9	.034	6.21
20	13.99	32.90	24.59	336.3	.067	6.32
30	13.99	32.89	24.58	337.3	.101	6.30
50	11.60	32.74	24.93	304.3	.165	6.17
75	10.02	32.76	25.22	276.9	.238	5.79
100	9.32	33.14	25.63	238.2	.302	5.10
150	8.47	33.67	26.18	187.0	.408	3.61
200	7.68	33.91	26.49	158.7	.495	3.11
250	7.42	34.03	26.62	146.9	.571	2.06
300	6.83	34.04	26.71	138.8	.643	1.75
400	5.77	34.06	26.86	124.9	.775	1.25
500	5.07	34.12	26.99	113.0	.893	0.75
600	4.83	34.18	27.07	106.7	1.003	0.50
700	4.53	34.29	27.19	95.9	1.105	0.40
800	4.19	34.38	27.30	86.1	1.196	0.40
1000	3.70	34.44	27.39	77.6	1.359	0.52

STATION 70.51 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 36°10'N 121°46'W; August 16, 1952; 1022 GCT; wire angle: 3°; sounding: 200 fms; depth of observation: 294 m; weather: partly cloudy; sea: moderate; wind: 300°, force 2.

0	11.10	33.61	25.70	230.4	.000	5.17
10	10.48	33.64	25.83	218.0	.022	4.68
20	10.02	33.70	25.95	206.3	.044	4.00
30	9.80	33.71	26.00	202.2	.064	3.65
50	9.04	33.71	26.12	190.8	.103	3.13
75	9.07	33.89	26.26	178.4	.150	2.47
100	9.07	33.93	26.29	175.9	.194	2.14
150	8.92	33.95	26.33	173.1	.281	2.14
200	8.59	34.05	26.46	161.6	.365	1.73
250	8.35	34.07	26.51	157.4	.444	1.57
300	(7.79)	(34.15)	(26.66)	(144.1)	(.520)	(1.44)

STATION 70.60 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 35°53'N 122°23'W; August 17, 1952; 0716 GCT; wire angle: 15°; sounding: 1500 fms; depth of observation: 1203 m; weather: clear; sea: rough; wind: 320°, force 6.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5 s$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.35	33.22	24.55	340.0	.000	6.03
10	15.36	33.22	24.54	340.5	.034	5.93
20	15.35	33.22	24.55	340.5	.068	6.05
30	15.32	33.23	24.56	339.5	.102	6.00
50	11.97	33.35	25.33	266.0	.163	5.38
75	9.66	33.44	25.81	220.9	.223	4.46
100	9.46	33.69	26.04	199.7	.276	3.45
150	8.55	33.95	26.39	167.5	.368	2.50
200	7.73	33.96	26.52	155.7	.449	2.12
250	7.50	34.11	26.67	142.1	.523	1.55
300	7.29	34.20	26.77	133.3	.592	1.08
400	6.58	34.18	26.85	126.5	.722	0.98
500	5.93	34.23	26.98	115.6	.843	0.53
600	5.43	34.32	27.11	103.7	.952	0.40
700	4.89	34.38	27.22	93.6	1.051	0.39
800	4.44	34.40	27.28	87.7	1.142	0.39
1000	3.86	34.46	27.39	78.1	1.307	0.50

STATION 70.70 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 35°33'N 123°06'W; August 17, 1952; 1350 GCT; wire angle: 24°; sounding: 2060 fms; depth of observation: 560 m; weather: clear; sea: rough; wind: 320°, force 5.

0	15.45	33.17	24.48	345.7	.000	5.81
10	15.44	33.17	24.49	345.8	.035	5.84
20	14.16	33.14	24.74	322.1	.068	5.90
30	12.62	33.08	25.00	297.2	.099	6.03
50	10.08	32.90	25.32	267.0	.155	5.77
75	9.88	33.46	25.79	222.9	.217	4.50
100	9.29	33.65	26.04	200.0	.269	3.32
150	8.20	33.93	26.43	163.8	.360	2.63
200	7.99	34.11	26.60	148.3	.438	1.79
250	7.62	34.09	26.64	145.3	.512	1.62
300	6.90	34.06	26.71	138.3	.583	1.58
400	6.37	34.20	26.89	122.2	.713	0.72
500	5.72	34.24	27.01	112.1	.830	0.52

STATION 70.80 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 35°13'N 123°48'W; August 17, 1952; 1936 GCT; wire angle: 40°; sounding: 2220 fms; depth of observation: 603 m; weather: clear; sea: very rough; wind: 320°, force 6.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	14.40	32.92	24.52	342.5	.000	6.21
10	14.35	32.92	24.53	341.8	.034	6.19
20	14.28	32.91	24.54	341.3	.068	6.18
30	14.03	32.84	24.53	341.8	.103	6.17
50	11.00	32.76	25.05	292.5	.166	6.13
75	10.02	32.82	25.27	272.5	.237	5.70
100	9.26	33.22	25.71	231.4	.300	4.81
150	8.14	33.63	26.20	185.2	.404	3.68
200	7.69	33.95	26.52	155.8	.489	2.72
250	7.19	34.03	26.65	143.7	.564	2.23
300	6.72	34.06	26.74	135.9	.634	1.69
400	5.85	34.15	26.92	119.2	.761	0.73
500	5.37	34.20	27.02	110.7	.876	0.44
600	5.04	34.23	27.08	105.5	.984	0.37

STATION 73.50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 35°37'N 121°17'W; August 15, 1952; 1943 GCT; wire angle: 10°; sounding: 47 fms; depth of observation: 73 m; weather: overcast; sea: moderate; wind: 320°, force 1.

0	11.27	33.39	25.50	249.6	.000	5.21
10	11.06	33.39	25.53	246.2	.025	5.19
20	11.02	33.39	25.54	245.7	.049	5.13
30	10.71	33.53	25.70	230.4	.073	4.53
50	10.34	33.58	25.81	221.0	.118	4.09
75	(10.15)	(33.66)	(25.90)	(212.5)	(.173)	(3.52)

STATION 73.60 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 35°18'N 121°58'W; August 16, 1952; 0147 GCT; wire angle: 5°; sounding: 1340 fms; depth of observation: 679 m; weather: cloudy; sea: rough; wind: 330°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	13.45	33.26	24.98	298.9	.000	6.11
10	13.44	33.26	24.98	299.0	.030	6.15
20	13.26	33.27	25.02	295.0	.060	5.98
30	12.82	33.29	25.13	285.5	.089	5.93
50	11.78	33.41	25.42	258.2	.143	5.43
75	10.18	33.49	25.76	225.5	.203	4.32
100	9.43	33.76	26.10	194.1	.256	3.09
150	8.46	33.92	26.38	168.4	.346	2.68
200	8.03	34.08	26.57	151.1	.426	2.10
250	7.85	34.11	26.62	147.1	.501	1.58
300	6.83	34.10	26.75	134.4	.571	1.60
400	6.36	34.22	26.91	120.6	.699	0.73
500	5.69	34.24	27.01	111.7	.815	0.50
600	5.31	34.26	27.07	106.6	.924	0.38

STATION 77.50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 35°04'N 120°52'W; August 15, 1952; 1436 GCT; wire angle: 0°; sounding: 85 fms; depth of observation: 75 m; weather: overcast; sea: moderate; wind: calm.

0	11.25	33.58	25.65	235.2	.000	4.63
10	11.08	33.58	25.68	232.5	.023	4.89
20	10.99	33.60	25.71	229.7	.047	4.64
30	10.94	33.60	25.72	229.1	.069	4.38
50	10.81	33.60	25.74	227.3	.115	4.12
75	10.05	33.75	25.99	204.2	.169	2.99

STATION 77.55 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°54'N 121°13'W; August 15, 1952; 1012 GCT; wire angle: 9°; sounding: 324 fms; depth of observation: 434 m; weather: overcast; sea: rough; wind: 310°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	12.83	33.35	25.17	280.5	.000	6.01
10	12.82	33.35	25.17	280.6	.028	6.05
20	12.60	33.40	25.25	273.1	.056	5.94
30	11.70	33.45	25.46	253.3	.082	5.50
50	10.32	33.48	25.73	228.0	.130	4.27
75	9.55	33.74	26.06	196.9	.183	2.84
100	9.09	33.90	26.26	178.4	.230	2.58
150	8.85	34.04	26.41	165.3	.316	2.12
200	8.60	34.12	26.51	156.5	.397	1.60
250	8.29	34.20	26.62	146.9	.473	1.32
300	7.90	34.22	26.70	140.5	.544	1.13
400	6.90	34.25	26.86	125.7	.677	0.84

STATION 77.65 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°34'N 121°55'W; August 15, 1952; 0150 GCT; wire angle: 37°; sounding: 2050 fms; depth of observation: 414 m; weather: overcast; sea: rough; wind: 340°, force 5.

0	12.98	33.46	25.23	275.3	.000	6.01
10	12.99	33.46	25.22	275.7	.028	6.14
20	13.00	33.44	25.21	277.6	.055	6.02
30	12.97	33.50	25.26	272.9	.083	6.08
50	9.68	33.67	25.99	203.7	.130	3.60
75	8.75	33.82	26.25	178.7	.178	2.85
100	8.74	33.93	26.34	170.9	.222	2.31
150	8.04	33.99	26.50	157.0	.304	2.08
200	7.57	34.05	26.61	146.7	.380	1.75
250	7.09	34.06	26.69	140.1	.452	1.39
300	6.69	34.09	26.77	133.2	.520	1.14
400	5.95	34.13	26.89	122.0	.647	0.73

STATION 80.51 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°26'N 120°32'W; August 12, 1952; 1612 GCT; wire angle: 2°; sounding: 50 fms; depth of observation: 75 m; weather: cloudy; sea: moderate; wind: 320°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	12.71	33.55	25.35	263.6	.000	-
10	12.71	33.57	25.36	262.4	.026	-
20	12.64	33.57	25.38	261.3	.052	-
30	11.62	33.58	25.58	242.4	.078	-
50	11.44	33.62	25.64	236.7	.126	-
75	10.62	33.62	25.79	223.2	.183	-

STATION 80.55 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°19'N 120°48'W; August 12, 1952; 1858 GCT; wire angle: 24°; sounding: 430 fms; depth of observation: 608 m; weather: cloudy; sea: moderate; wind: 300°, force 4.

0	13.25	33.58	25.26	271.6	.000	5.80
10	13.33	33.58	25.25	273.3	.027	5.74
20	12.96	33.60	25.34	265.1	.054	5.77
30	12.43	33.60	25.44	255.5	.080	5.30
50	9.80	33.68	25.98	204.8	.126	3.39
75	9.20	33.85	26.21	183.4	.175	2.84
100	9.04	34.04	26.38	167.3	.219	2.18
150	8.89	34.11	26.46	160.8	.301	1.86
200	8.52	34.17	26.56	151.6	.379	1.37
250	8.32	34.21	26.63	146.6	.453	1.23
300	8.08	34.25	26.69	140.9	.525	1.11
400	7.32	34.25	26.80	131.5	.661	0.87
500	5.95	34.14	26.90	122.5	.788	0.83
600	5.69	34.31	27.07	107.8	.904	0.44

STATION 80.60 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°09'N 121°09'W; August 12-13, 1952; 2307,2332,0003 GCT; wire angle:35°,40°,49°;sounding: 1250 fms; depth of observation: 45, 152, 850 m; weather: overcast; sea: rough; wind: 310°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.28	33.28	24.61	334.1	.000	5.24
10	15.29	33.24	24.57	337.5	.034	5.98
20	14.52	33.21	24.72	324.2	.067	6.20
30	13.30	33.15	24.92	304.9	.098	6.16
50	10.02	33.06	25.46	254.2	.154	5.80
75	9.48	33.40	25.81	221.0	.213	4.25
100	9.20	33.64	26.04	199.4	.266	3.34
150	8.44	33.95	26.40	165.8	.357	2.54
200	8.08	34.04	26.53	154.8	.437	2.07
250	7.61	34.07	26.62	146.6	.513	1.87
300	6.72	34.07	26.75	135.1	.583	1.65
400	6.18	34.22	26.94	118.2	.710	0.84
500	5.91	34.26	27.00	113.1	.826	0.59
600	5.58	34.30	27.07	107.1	.936	0.39
700	5.22	34.35	27.16	100.0	1.039	0.32
800	4.73	34.40	27.25	91.2	1.135	0.35

STATION 80.70 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°49'N 121°51'W; August 13, 1952; 0720 GCT; wire angle: 31°; sounding: 2020 fms; depth of observation: 566 m; weather: overcast; sea: rough; wind: 320°, force 5.

0	15.93	32.88	24.16	377.1	.000	5.71
10	15.94	32.88	24.15	377.6	.038	5.75
20	15.92	32.88	24.16	377.5	.075	5.77
30	14.70	32.88	24.42	352.3	.112	6.28
50	11.75	32.84	24.98	299.6	.177	6.20
75	10.32	32.89	25.27	272.1	.249	5.78
100	9.44	33.11	25.59	242.3	.313	5.00
150	8.70	33.75	26.21	184.5	.420	3.11
200	8.12	33.94	26.45	162.8	.506	2.30
250	7.66	34.02	26.58	151.0	.585	1.93
300	7.20	34.06	26.67	142.4	.658	1.60
400	6.52	34.14	26.83	128.7	.794	1.00
500	5.62	34.16	26.96	116.8	.917	0.67

STATION 80.80 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°29'N 122°32'W; August 13, 1952; 1357 GCT; wire angle: 15°; sounding: 2100 fms; depth of observation: 1285 m; weather: overcast; sea: rough; wind: 330°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.71	32.99	24.29	364.4	.000	5.80
10	15.72	32.97	24.27	366.3	.037	5.68
20	15.72	32.97	24.27	366.6	.073	5.70
30	15.70	32.97	24.28	366.5	.110	5.82
50	12.70	32.89	24.84	313.1	.178	6.07
75	10.34	32.89	25.27	272.5	.251	5.80
100	9.47	33.06	25.55	246.5	.316	5.00
150	8.62	33.63	26.13	192.2	.426	3.55
200	8.29	33.84	26.34	172.6	.517	2.57
250	7.89	33.97	26.50	158.0	.599	2.14
300	7.42	34.07	26.65	144.7	.675	1.78
400	6.53	34.17	26.85	126.6	.811	1.00
500	5.83	34.21	26.97	115.7	.932	0.57
600	5.28	34.30	27.11	103.3	1.041	0.36
700	4.82	34.36	27.21	94.2	1.140	0.31
800	4.42	34.39	27.28	88.2	1.231	0.35
1000	3.80	34.46	27.40	77.3	1.397	0.53

STATION 80.90 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°09'N 123°12'W; August 13, 1952; 2210 GCT; wire angle: 26°; sounding: 2320 fms; depth of observation: 573 m; weather: overcast; sea: rough; wind: 340°, force 5.

0	17.16	33.12	24.06	386.6	.000	6.07
10	17.16	33.15	24.08	384.7	.039	6.04
20	17.16	33.15	24.08	385.0	.077	5.52
30	17.15	33.15	24.08	385.1	.116	5.52
50	14.30	33.13	24.70	326.4	.187	5.54
75	13.10	33.04	24.88	310.2	.266	6.15
100	11.92	33.09	25.14	285.3	.341	5.68
150	9.03	33.29	25.80	223.6	.468	4.63
200	8.38	33.78	26.28	178.4	.568	3.52
250	8.10	34.02	26.51	157.4	.652	2.62
300	7.62	34.09	26.64	146.1	.728	2.02
400	6.46	34.12	26.82	129.3	.866	1.10
500	5.62	34.16	26.96	116.8	.989	0.67

STATION 80.100 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°49'N 123°54'W; August 14, 1952; 0430 GCT; wire angle: 28°; sounding: 2240 fms; depth of observation: 1203 m; weather: overcast; sea: rough; wind: 350°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	17.25	33.15	24.06	386.4	.000	5.42
10	17.28	33.15	24.05	387.4	.039	5.58
20	17.28	33.15	24.05	387.7	.077	5.59
30	17.27	33.15	24.05	387.8	.116	5.67
50	14.45	33.15	24.69	328.0	.188	6.05
75	12.99	33.11	24.95	303.0	.267	6.03
100	11.96	33.08	25.13	286.8	.340	5.82
150	9.15	33.48	25.93	211.4	.465	4.41
200	8.39	33.76	26.26	180.0	.563	3.70
250	7.81	33.93	26.48	159.8	.648	2.92
300	7.25	34.03	26.64	145.3	.724	2.22
400	6.43	34.13	26.83	128.2	.861	1.18
500	5.69	34.20	26.98	114.7	.982	1.03
600	5.14	34.16	27.02	111.9	1.096	0.65
700	4.81	34.27	27.14	100.8	1.202	0.44
800	4.53	34.42	27.29	87.3	1.296	0.36
1000	3.84	34.45	27.39	78.6	1.462	0.57

STATION 85.38 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°01'N 119°02'W; August 12, 1952; 0537 GCT; wire angle: 0°; sounding: 45 fms; depth of observation: 50 m; weather: cloudy; sea: moderate; wind: 300°, force 2.

0	16.62	33.37	24.37	356.3	.000	6.36
10	15.60	33.35	24.59	336.0	.035	6.11
20	13.22	33.30	25.05	292.1	.066	6.33
30	12.20	33.37	25.31	268.2	.094	5.77
50	10.08	33.35	25.67	233.7	.144	4.24

STATION 85.40 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°57'N 119°10'W; August 12, 1952; 0250 GCT; wire angle: 12°; sounding: 410 fms; depth of observation: 624 m; weather: cloudy; sea: moderate; wind: 300°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	17.67	33.42	24.16	376.3	.000	5.92
10	17.34	33.42	24.24	369.1	.037	6.16
20	11.65	33.31	25.36	262.5	.069	5.70
30	10.80	33.31	25.52	248.1	.094	4.80
50	10.22	33.42	25.70	230.8	.142	4.02
75	9.55	33.59	25.95	208.0	.197	3.45
100	9.33	33.75	26.11	193.2	.247	2.94
150	9.19	34.00	26.33	173.5	.339	2.18
200	8.97	34.10	26.44	163.7	.423	2.03
250	8.78	34.15	26.51	158.0	.504	1.56
300	8.44	34.16	26.57	153.0	.581	1.28
400	7.69	34.35	26.83	129.5	.723	0.78
500	6.78	34.29	26.91	122.5	.849	0.50
600	5.99	34.42	27.12	103.6	.962	0.32

STATION 85.50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°37'N 119°52'W; August 11, 1952; 2024 GCT; wire angle: 22°; sounding: 160 fms; depth of observation: 141 m; weather: overcast; sea: moderate; wind: 300°, force 3.

0	14.50	33.62	25.04	293.2	.000	5.71
10	14.50	33.40	24.87	309.6	.030	5.59
20	13.80	33.46	25.06	291.5	.060	5.11
30	9.68	33.66	25.98	204.0	.085	4.60
50	9.63	33.76	26.07	196.2	.125	3.35
75	9.20	33.72	26.11	193.0	.174	2.95
100	8.96	33.89	26.28	177.2	.220	2.44
150	(8.87)	(34.04)	(26.41)	(165.6)	(.306)	(2.11)

STATION 85.60 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°13'N 120°33'W; August 11, 1952; 1229 GCT; wire angle: 16°; sounding: 900 fms; depth of observation: 615 m; weather: overcast; sea: rough; wind: 320°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.34	33.37	24.66	328.8	.000	5.89
10	15.33	33.37	24.66	328.9	.033	5.84
20	15.34	33.37	24.66	329.4	.066	5.91
30	15.30	33.39	24.69	327.3	.099	5.86
50	13.14	33.37	25.12	286.1	.160	5.69
75	11.25	33.38	25.49	251.6	.227	4.90
100	9.11	33.59	26.02	201.7	.284	3.62
150	8.56	33.80	26.27	178.7	.379	2.82
200	8.12	34.07	26.55	153.1	.462	2.43
250	7.48	34.05	26.62	146.3	.537	2.02
300	6.75	34.09	26.76	134.0	.607	1.66
400	6.07	34.11	26.86	125.0	.736	0.96
500	5.62	34.28	27.05	107.9	.853	0.49
600	5.27	34.33	27.13	100.9	.957	0.33

STATION 90.28 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°28'N 117°47'W; August 9, 1952; 1735 GCT; wire angle: 0°; sounding: 250 fms; depth of observation: 50 m; weather: overcast; sea: slight; wind: 210°, force 1.

0	19.51	-	-	-	-	-
10	16.41					
20	14.58					6.56
30	12.84					6.31
50	10.15					5.64

STATION 90.30 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°24'N 117°55'W; August 9, 1952; 1925 GCT; wire angle: 4°; sounding: 300 fms; depth of observation: 487 m; weather: cloudy; sea: slight; wind: 240°, force 1.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	20.07	33.46	23.59	430.9	.000	5.56
10	17.08	33.37	24.27	366.9	.040	6.03
20	14.58	33.35	24.81	315.2	.074	6.36
30	12.91	33.34	25.15	283.5	.104	6.15
50	10.64	33.31	25.54	245.9	.157	4.78
75	10.27	33.49	25.75	227.0	.216	4.08
100	9.65	33.69	26.01	202.7	.270	3.29
150	9.22	33.95	26.28	177.7	.365	2.75
200	8.62	34.11	26.50	157.6	.449	2.19
250	8.30	34.14	26.57	151.5	.526	1.60
300	8.37	34.25	26.65	145.3	.600	1.00
400	7.53	34.26	26.78	133.8	.740	0.64
500	(7.06)	(34.28)	(26.86)	(127.2)	(.870)	(0.42)

STATION 90.37 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°11'N 118°24'W; August 10, 1952; 0105 GCT; wire angle: 29°; sounding: 650 fms; depth of observation: 890 m; weather: partly cloudy; sea: moderate; wind: 240°, force 3.

0	19.69	33.53	23.74	416.4	.000	5.57
10	19.30	33.46	23.79	412.3	.041	5.69
20	18.35	33.46	24.03	389.9	.082	5.93
30	15.30	33.46	24.74	322.2	.117	6.30
50	10.62	33.50	25.70	231.5	.173	6.31
75	9.50	33.74	26.07	196.2	.226	3.15
100	9.11	33.85	26.22	182.4	.273	2.92
150	8.76	34.03	26.42	164.7	.360	2.20
200	8.73	34.16	26.52	155.6	.440	1.63
250	8.45	34.23	26.62	147.0	.516	1.29
300	7.98	34.25	26.71	139.5	.587	0.95
400	7.31	34.29	26.84	128.4	.721	0.56
500	6.55	34.29	26.94	119.4	.845	0.52
600	5.86	34.31	27.05	110.0	.960	0.41
700	5.29	34.36	27.16	100.1	1.065	0.34
800	4.86	34.40	27.24	92.8	1.161	0.34
1000	(4.27)	(34.43)	(27.33)	(85.2)	(1.340)	

STATION 90.45 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°54'N 118°56'W; August 10, 1952; 0640 GCT; wire angle: 0°; sounding: 995 fms; depth of observation: 587 m; weather: overcast; sea: moderate; wind: 240°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	17.86	33.37	24.08	384.3	.000	5.54
10	17.88	33.39	24.09	383.7	.038	5.64
20	17.57	33.35	24.13	379.7	.077	5.72
30	13.90	33.29	24.91	306.2	.111	5.90
50	11.08	33.31	25.47	253.3	.167	4.92
75	9.64	33.65	25.98	205.0	.224	3.50
100	8.98	33.81	26.21	183.4	.273	3.18
150	8.76	34.05	26.43	163.2	.359	2.12
200	8.31	34.14	26.57	150.7	.438	1.73
250	7.83	34.15	26.65	143.8	.511	1.36
300	7.78	34.28	26.76	134.3	.581	0.82
400	7.07	34.31	26.89	123.6	.710	0.61
500	6.22	34.32	27.01	112.7	.828	0.42
600	(5.72)	(34.39)	(27.13)	102.2	(.936)	

STATION 90.53 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°38'N 119°29'W; August 10, 1952; 1212 GCT; wire angle: 30°; sounding: 730 fms; depth of observation: 1106 m; weather: overcast; sea: moderate; wind: 270°, force 4.

0	16.35	33.49	24.53	341.6	.000	5.65
10	16.33	33.51	24.55	340.0	.034	5.72
20	15.75	33.49	24.66	329.3	.068	5.74
30	13.96	33.49	25.05	292.7	.099	5.60
50	10.11	33.50	25.78	223.1	.150	3.81
75	9.50	33.70	26.04	199.1	.203	3.31
100	8.89	33.81	26.23	182.0	.251	3.10
150	8.37	33.98	26.44	162.6	.337	2.43
200	8.12	34.13	26.59	148.7	.415	1.73
250	7.70	34.21	26.72	137.5	.486	1.15
300	7.18	34.22	26.80	130.3	.553	0.94
400	6.89	34.28	26.89	123.3	.680	0.76
500	6.24	34.30	26.99	114.4	.799	0.42
600	5.61	34.32	27.09	106.0	.909	0.35
700	5.11	34.36	27.18	97.8	1.011	0.36
800	4.65	34.42	27.28	88.7	1.104	0.38
1000	4.13	34.45	27.36	82.0	1.275	0.48

STATION 90.60 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°25'N 119°58'W; August 10, 1952; 1721 GCT; wire angle: 22°; sounding: 650 fms; depth of observation: 597 m; weather: overcast; sea: moderate; wind: 270°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	16.67	33.14	24.19	374.2	.000	5.56
10	16.67	33.15	24.19	373.8	.037	5.69
20	16.60	33.15	24.21	372.5	.075	5.71
30	16.31	33.11	24.25	369.4	.112	5.80
50	14.07	33.04	24.68	328.4	.182	6.29
75	11.70	33.12	25.21	278.7	.257	5.55
100	10.04	33.35	25.68	234.1	.322	4.40
150	8.71	33.74	26.20	185.4	.426	3.24
200	8.15	33.96	26.46	161.7	.513	2.70
250	7.69	34.01	26.56	152.2	.592	2.31
300	6.98	34.06	26.70	139.4	.665	1.71
400	6.11	34.15	26.89	122.5	.796	0.92
500	5.73	34.23	27.00	113.0	.913	0.42
600	5.40	34.29	27.09	105.5	1.023	0.35

STATION 90.70 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°04'N 120°39'W; August 11, 1952; 0017 GCT; wire angle: 28°; sounding: 2080 fms; depth of observation: 1086 m; weather: overcast; sea: rough; wind: 320°, force 5.

0	17.23	33.19	24.09	383.1	.000	5.34
10	17.24	33.15	24.06	386.5	.038	5.99
20	17.23	33.15	24.06	386.6	.077	6.05
30	17.19	33.14	24.06	386.7	.116	6.01
50	14.61	33.08	24.60	336.3	.188	5.53
75	12.65	33.11	25.02	296.6	.267	5.54
100	11.28	33.12	25.28	271.9	.338	5.52
150	9.45	33.55	25.93	210.9	.459	3.78
200	8.50	33.89	26.35	172.1	.555	2.70
250	7.82	34.01	26.54	154.1	.636	2.03
300	7.20	34.08	26.69	140.9	.710	1.63
400	6.16	34.12	26.86	125.4	.843	1.03
500	5.70	34.20	26.98	114.8	.963	0.52
600	5.36	34.30	27.10	104.3	1.073	0.32
700	4.92	34.36	27.20	95.5	1.173	0.30
800	4.54	34.38	27.26	90.3	1.266	0.34
1000	3.94	34.46	27.39	79.0	1.435	0.60

STATION 93.27 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°56'N 117°19'W; August 9, 1952; 1155 GCT; wire angle: 3°; sounding: 140 fms; depth of observation: 149 m; weather: overcast; sea: slight; wind: calm.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	20.25	33.35	23.46	443.4	.000	5.39
10	17.17	33.39	24.26	367.4	.041	6.13
20	14.85	33.49	24.86	310.4	.074	6.68
30	12.97	33.51	25.27	272.1	.104	6.70
50	10.68	33.40	25.61	239.9	.155	4.76
75	9.75	33.69	25.99	203.8	.210	3.53
100	9.69	33.74	26.04	199.7	.261	2.96
150	(9.42)	(33.98)	(26.27)	(178.6)	(.355)	(2.28)

STATION 93.30 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°50'N 117°32'W; August 9, 1952; 0851, 0921 GCT; wire angle: 4°, 4°; sounding: 450 fms; depth of observation: 96 m; 585 m; weather: overcast; sea: slight; wind: calm.

0	19.33	33.44	23.77	414.1	.000	5.50
10	17.82	33.33	24.06	386.6	.040	5.64
20	15.16	33.31	24.66	330.0	.076	6.26
30	13.15	33.30	25.07	291.0	.107	6.04
50	11.52	33.31	25.39	260.9	.162	5.23
75	10.15	33.41	25.71	230.9	.224	4.10
100	9.53	33.71	26.04	199.3	.277	3.45
150	8.89	33.91	26.30	175.6	.371	2.91
200	9.42	34.22	26.46	161.9	.455	1.50
250	9.12	34.32	26.59	150.7	.534	1.12
300	8.58	34.25	26.62	148.4	.608	1.05
400	7.74	34.34	26.81	131.0	.748	0.61
500	6.95	34.33	26.92	121.9	.875	0.45
600	(6.04)	(34.36)	(27.06)	(108.7)	(.990)	

STATION 93.40 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°30'N 118°12'W; August 9, 1952; 0237 GCT; wire angle: 9°; sounding: 930 fms; depth of observation: 585 m; weather: overcast; sea: moderate; wind: 300°, force 2.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	18.83	33.39	23.86	405.7	.000	4.86
10	18.24	33.46	24.06	386.9	.040	5.35
20	17.25	33.37	24.23	371.0	.078	5.62
30	13.90	33.27	24.89	307.7	.111	6.00
50	12.28	33.33	25.26	273.1	.170	5.98
75	9.86	33.40	25.75	227.0	.232	4.50
100	9.51	33.63	25.99	204.9	.286	3.58
150	9.32	33.91	26.23	182.2	.383	2.66
200	8.62	34.08	26.48	159.8	.468	2.23
250	8.56	34.19	26.57	151.7	.546	1.51
300	7.78	34.24	26.73	137.3	.618	1.16
400	6.98	34.23	26.84	128.3	.751	0.67
500	6.12	34.28	26.99	114.3	.872	0.37
600	(5.49)	(34.35)	(27.12)	(102.2)	(.981)	

STATION 93.50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°10'N 118°54'W; August 8, 1952; 2042 GCT; wire angle: 19°; sounding: 820 fms; depth of observation: 556 m; weather: overcast; sea: moderate; wind: 300°, force 2.

0	17.15	33.31	24.20	372.5	.000	5.58
10	16.89	33.30	24.26	367.7	.037	5.75
20	15.93	33.31	24.49	346.3	.073	5.92
30	14.90	33.35	24.74	322.0	.106	6.03
50	12.25	33.29	25.24	275.4	.166	5.50
75	9.75	33.43	25.79	223.0	.228	4.16
100	9.07	33.60	26.03	200.3	.281	3.36
150	8.55	33.83	26.29	176.4	.375	2.50
200	8.21	34.12	26.57	150.7	.457	1.75
250	7.85	34.17	26.67	142.6	.530	1.13
300	7.28	34.20	26.77	133.1	.599	0.80
400	6.58	34.28	26.93	119.1	.725	0.48
500	6.10	34.26	26.98	115.5	.843	0.35

STATION 97.30 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°15'N 117°09'W; August 8, 1952; 0103 GCT; wire angle: 10°; sounding: 33 fms; depth of observation: 30 m; weather: overcast; sea: slight; wind: 280°, force 1.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	20.06	33.48	23.61	429.2	.000	5.73
10	12.80	33.37	25.19	278.7	.035	5.63
20	11.02	33.55	25.66	233.9	.061	4.41
30	10.38	33.55	25.78	223.4	.084	3.84

STATION 97.32 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 32°12'N 117°17'W; August 8, 1952; 0230 GCT; wire angle: 17°; sounding: 740 fms; depth of observation: 567 m; weather: partly cloudy; sea: moderate; wind: calm.

0	20.05	33.49	23.62	428.3	.000	5.26
10	18.25	33.45	24.05	387.9	.041	5.47
20	14.80	33.31	24.73	322.6	.076	5.89
30	12.50	33.31	25.20	278.1	.106	5.70
50	10.55	33.43	25.65	235.5	.158	4.00
75	9.94	33.61	25.90	212.8	.214	3.31
100	9.63	33.85	26.14	190.6	.264	2.40
150	9.58	34.03	26.29	177.5	.356	2.40
200	9.45	34.21	26.45	163.1	.441	1.98
250	9.09	34.26	26.54	154.7	.521	1.56
300	8.33	34.26	26.66	143.9	.595	1.23
400	7.75	34.32	26.80	132.6	.734	0.65
500	6.74	34.32	26.94	119.8	.860	0.41

STATION 97.40 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 31°56'N 117°50'W; August 8, 1952; 0830 GCT; wire angle: 0°; sounding: 590 fms; depth of observation: 586 m; weather: overcast; sea: moderate; wind: 290°, force 1.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	19.01	33.49	23.89	402.8	.000	5.55
10	18.99	33.49	23.89	402.6	.040	5.52
20	17.15	33.49	24.34	360.0	.078	6.07
30	12.95	33.43	25.21	277.6	.110	5.80
50	10.65	33.49	25.68	232.8	.161	4.42
75	9.63	33.65	25.98	204.9	.216	3.48
100	9.28	33.78	26.14	190.3	.265	3.17
150	9.15	34.10	26.41	165.5	.354	2.23
200	8.79	34.22	26.56	152.0	.434	1.63
250	8.87	34.34	26.64	145.3	.508	0.92
300	8.79	34.34	26.66	145.0	.581	0.65
400	7.42	34.28	26.81	130.8	.719	0.64
500	6.58	34.29	26.94	119.8	.844	0.40
600	(5.98)	(34.37)	(27.08)	(107.1)	(.957)	

STATION 97.50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 31°36'N 118°30'W; August 8, 1952; 1455 GCT; wire angle: 3°; sounding: 1120 fms; depth of observation: 591 m; weather: overcast; sea: moderate; wind: 280°, force 1.

0	17.56	33.37	24.15	377.4	.000	5.70
10	17.56	33.37	24.15	377.7	.038	5.72
20	17.31	33.39	24.23	370.9	.075	5.76
30	14.52	33.22	24.72	323.7	.110	5.99
50	12.22	33.31	25.26	273.4	.170	5.47
75	10.05	33.41	25.72	229.3	.232	4.42
100	9.55	33.59	25.95	208.5	.287	3.66
150	8.65	33.84	26.29	177.1	.384	2.93
200	8.16	33.97	26.46	161.1	.468	2.38
250	7.80	34.14	26.65	144.1	.544	1.82
300	7.54	34.21	26.74	136.0	.615	1.33
400	6.82	34.32	26.93	119.4	.742	0.53
500	6.19	34.34	27.03	110.8	.857	0.37
600	(5.67)	(34.33)	(27.09)	(106.0)	(.966)	(0.28)

STATION 100.29 (Interpolated Values at Standard Depths)

CREST: 31°42'N 116°44'W; August 9, 1952; 0252 GCT; wire angle: 0°; sounding: 55 fms; depth of observation: 50 m; weather: partly cloudy; sea: slight;wind: 140°, force 1.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.51	33.40	24.65	330.2	.000	7.52
10	12.61	33.40	25.25	273.0	.030	6.32
20	10.95	33.46	25.61	239.4	.056	4.61
30	10.78	33.55	25.71	230.1	.079	4.16
50	10.38	33.69	25.89	213.5	.124	3.00

STATION 100.30 (Interpolated Values at Standard Depths)

CREST: 31°40'N 116°46'W; August 9, 1952; 0417 GCT; wire angle: 14°; sounding: 240 fms; depth of observation: 342 m; weather: cloudy; sea: moderate; wind: 320°, force 2.

0	18.48	33.49	24.02	390.1	.000	5.53
10	13.46	33.42	25.10	287.6	.034	6.39
20	11.59	33.39	25.44	255.6	.061	5.30
30	10.97	33.39	25.55	245.1	.086	4.60
50	10.33	33.62	25.84	217.9	.132	3.60
75	9.97	33.85	26.08	195.5	.184	2.12
100	9.94	33.87	26.10	194.1	.233	1.83
150	9.75	33.98	26.22	183.9	.327	1.41
200	9.82	34.15	26.34	173.5	.417	1.18
250	9.72	34.27	26.45	164.0	.501	1.22
300	9.21	34.33	26.58	152.4	.580	

STATION 100.40 (Interpolated Values at Standard Depths)

CREST: 31°21'N 117°27'W; August 9, 1952; 0928 GCT; wire angle: 15°; sounding: 1000 fms; depth of observation: 1153 m; weather: cloudy; sea: slight; wind: 320°, force 2.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5 s$	ΔD (dyn.m.)	O_2 (ml/L)
0	19.30	33.46	23.79	412.0	.000	5.30
10	19.30	33.44	23.78	413.7	.041	5.12
20	19.30	33.44	23.78	414.1	.083	4.85
30	19.10	33.42	23.81	411.0	.124	4.90
50	13.65	33.24	24.92	305.5	.196	5.87
75	11.40	33.33	25.42	257.9	.266	4.88
100	10.24	33.63	25.86	216.7	.325	3.76
150	9.67	33.97	26.22	183.3	.425	2.57
200	8.43	34.01	26.45	162.1	.512	2.66
250	7.86	34.15	26.65	144.3	.588	2.09
300	7.50	34.18	26.72	137.7	.659	1.31
400	7.23	34.40	26.94	119.2	.787	0.47
500	6.27	34.35	27.03	111.1	.902	0.37
600	5.56	34.37	27.13	101.6	1.009	0.30
700	5.07	34.41	27.22	93.6	1.106	0.30
800	4.71	34.47	27.31	85.8	1.196	0.31
1000	4.10	34.50	27.40	78.0	1.360	0.50

STATION 100.50 (Interpolated Values at Standard Depths)

CREST: 31°00'N 118°07'W; August 9, 1952; 1454 GCT; wire angle: 0°; sounding: 760 fms; depth of observation: 592 m; weather: overcast; sea: moderate; wind: 280°, force 2.

0	18.00	33.22	23.93	398.5	.000	5.21
10	17.98	33.22	23.94	398.3	.040	5.36
20	17.29	33.17	24.06	386.5	.079	5.26
30	16.34	33.14	24.26	367.8	.117	4.80
50	15.02	33.13	24.55	341.1	.188	5.38
75	13.30	33.13	24.91	307.4	.269	5.30
100	12.09	33.31	25.28	272.2	.341	4.58
150	9.54	33.54	25.91	213.0	.463	3.65
200	8.88	34.00	26.38	169.7	.558	2.66
250	8.17	34.14	26.59	149.5	.638	1.90
300	7.93	34.17	26.65	144.6	.712	1.53
400	6.96	34.28	26.88	124.3	.846	0.73
500	6.12	34.29	27.00	113.6	.965	0.38
600	(5.70)	(34.37)	(27.11)	(103.5)	(1.073)	(0.29)

STATION 100.60 (Interpolated Values at Standard Depths)

CREST: 30°37'N 118°48'W; August 9, 1952; 1942 GCT; wire angle: 4°; sounding: 1650 fms; depth of observation: 1083 m; weather: overcast; sea: rough; wind: 290°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	18.77	33.39	23.87	404.3	.000	5.70
10	18.76	33.39	23.87	404.3	.040	5.44
20	18.41	33.34	23.92	400.0	.081	6.07
30	17.19	33.26	24.16	378.0	.120	6.10
50	14.95	33.19	24.61	335.2	.191	5.10
75	13.68	33.15	24.85	313.3	.272	4.84
100	11.72	33.15	25.23	277.4	.346	4.82
150	9.41	33.54	25.93	211.0	.468	3.80
200	8.79	33.90	26.31	175.7	.565	2.99
250	8.09	34.05	26.54	155.0	.647	1.91
300	7.61	34.14	26.68	142.2	.722	1.13
400	6.68	34.27	26.91	121.2	.853	0.50
500	5.92	34.31	27.04	109.5	.969	0.40
600	5.39	34.33	27.12	102.4	1.075	0.39
700	5.00	34.36	27.19	96.5	1.174	0.41
800	4.66	34.44	27.29	87.4	1.266	0.44
1000	4.03	34.46	27.38	80.1	1.433	0.54

STATION 100.70 (Interpolated Values at Standard Depths)

CREST: 30°18'N 119°26'W; August 10, 1952; 0044 GCT; wire angle: 20°; sounding: 2000 fms; depth of observation: 556 m; weather: cloudy; sea: rough; wind: 300°, force 4.

0	19.08	33.31	23.73	417.5	.000	4.83
10	19.07	33.31	23.73	417.6	.042	5.38
20	17.20	33.27	24.16	377.2	.081	5.46
30	16.39	33.23	24.32	362.4	.118	5.27
50	14.72	33.24	24.70	326.9	.187	5.75
75	13.47	33.13	24.87	310.7	.267	5.20
100	12.25	33.18	25.15	284.7	.342	5.21
150	9.39	33.51	25.91	212.9	.466	4.48
200	8.54	33.94	26.38	169.0	.561	3.12
250	7.90	34.03	26.55	153.7	.642	2.42
300	7.36	34.06	26.65	144.6	.717	1.92
400	6.56	34.20	26.87	124.7	.851	0.82
500	5.87	34.29	27.03	110.3	.969	0.47

STATION 100.80 (Interpolated Values at Standard Depths)

CREST: 30°01'N 120°07'W; August 10, 1952; 0558, 0626 GCT; wire angle: 25°, 35°; sounding: 2100 fms; depth of observation: 254, 1008 m; weather: cloudy; sea: rough; wind: 320°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	18.36	33.19	23.82	409.1	.000	5.04
10	18.35	33.19	23.82	409.2	.041	5.00
20	18.03	33.17	23.89	403.5	.082	4.92
30	17.57	33.18	24.00	392.4	.121	5.02
50	16.33	33.44	24.49	346.3	.195	5.22
75	15.00	33.46	24.81	317.2	.278	5.40
100	13.13	33.33	25.09	290.1	.354	5.51
150	10.01	33.29	25.64	239.0	.486	4.23
200	8.68	33.87	26.30	176.2	.590	2.81
250	8.33	34.04	26.49	159.3	.674	2.22
300	7.83	34.11	26.62	147.6	.751	1.79
400	6.61	34.23	26.89	123.2	.886	0.74
500	5.96	34.24	26.98	115.2	1.005	0.52
600	5.39	34.32	27.11	103.2	1.115	0.42
700	4.91	34.39	27.22	93.1	1.213	0.40
800	4.51	34.41	27.28	87.8	1.303	0.41
1000	3.90	34.45	27.38	79.3	1.470	0.58

STATION 103.30 (Interpolated Values at Standard Depths)

CREST: 31°05'N 116°25'W; August 11, 1952; 0917 GCT; wire angle: 0°; sounding: 43 fms; depth of observation: 50 m; weather: overcast; sea: rough; wind: 320°, force 4.

0	15.29	33.53	24.80	316.1	.000	5.99
10	13.44	33.50	25.16	281.3	.030	5.44
20	11.60	33.48	25.50	249.1	.056	4.67
30	10.45	33.49	25.72	229.0	.080	3.66
50	10.15	33.66	25.90	212.0	.124	2.85

STATION 103.35 (Interpolated Values at Standard Depths)

CREST: 30°53'N 116°42'W; August 11, 1952; 0618 GCT; wire angle: 30°; sounding: 970 fms; depth of observation: 584 m; weather: overcast; sea: moderate; wind: 320°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	16.97	33.40	24.32	361.9	.000	5.42
10	16.90	33.38	24.32	362.1	.036	5.20
20	12.50	33.29	25.19	279.3	.068	6.06
30	11.20	33.31	25.45	254.9	.095	4.45
50	10.32	33.70	25.90	211.8	.142	2.51
75	10.17	33.85	26.05	198.8	.193	1.94
100	10.10	33.91	26.10	193.7	.242	1.72
150	10.04	34.10	26.26	179.7	.335	1.44
200	10.19	34.36	26.44	164.1	.421	0.65
250	9.87	34.40	26.53	156.9	.502	0.58
300	9.46	34.39	26.59	152.0	.579	0.62
400	8.17	34.35	26.76	136.6	.723	0.54
500	6.88	34.33	26.93	121.0	.852	0.42
600	(5.82)	(34.28)	(27.03)	(111.7)	(.968)	

STATION 103.40 (Interpolated Values at Standard Depths)

CREST: 30°43'N 117°04'W; August 11, 1952; 0237, 0256 GCT; wire angle: 30°, 30°; sounding: 850 fms; depth of observation: 134, 575 m; weather: cloudy; sea: rough; wind: 330°, force 5.

0	18.51	33.42	23.96	395.9	.000	4.95
10	18.46	33.40	23.96	396.5	.040	5.42
20	17.53	33.40	24.18	375.2	.078	5.48
30	16.29	33.37	24.45	350.0	.114	6.05
50	11.02	33.40	25.55	245.7	.174	4.41
75	10.06	33.55	25.83	219.1	.232	3.71
100	9.40	33.77	26.11	192.9	.284	3.00
150	8.99	34.00	26.36	170.4	.374	2.33
200	8.52	34.10	26.51	156.8	.456	1.88
250	8.28	34.17	26.60	148.9	.533	1.52
300	7.91	34.23	26.70	139.9	.605	1.31
400	6.84	34.25	26.87	124.8	.737	0.69
500	6.20	34.33	27.02	111.7	.856	0.40

STATION 107.32 (Interpolated Values at Standard Depths)

CREST: 30°26'N 116°11'W; August 11, 1952; 1404 GCT; wire angle: 43°; sounding: 220 fms; depth of observation: 238 m; weather: overcast; sea: rough; wind: 340°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	10^5S	ΔD (dyn.m.)	O_2 (ml/L)
0	19.29	33.33	23.69	421.2	.000	5.17
10	15.67	33.33	24.56	339.0	.038	4.50
20	14.55	33.30	24.78	318.2	.071	5.03
30	12.90	33.30	25.12	286.3	.101	4.68
50	10.56	33.53	25.73	228.3	.153	3.49
75	10.07	33.90	26.10	193.4	.205	2.07
100	10.16	34.00	26.16	188.0	.253	1.46
150	10.50	34.15	26.22	183.7	.346	1.10
200	10.08	34.37	26.47	161.5	.432	0.76

STATION 107.35 (Interpolated Values at Standard Depths)

CREST: 30°20'N 116°20'W; August 11, 1952; 1616, 1652 GCT; wire angle: 20°, 30°; sounding: 940 fms; depth of observation: 211, 643 m; weather: overcast; sea: moderate; wind: 320°, force 4.

0	18.79	33.44	23.90	401.1	.000	5.22
10	18.91	33.46	23.89	402.9	.040	4.64
20	18.92	33.45	23.88	404.2	.081	5.31
30	18.89	33.40	23.85	407.4	.121	5.25
50	13.78	33.26	24.91	306.6	.193	4.38
75	10.70	33.22	25.46	254.1	.263	4.05
100	9.96	33.54	25.84	218.8	.322	3.51
150	9.54	33.93	26.21	184.2	.422	2.56
200	8.49	34.03	26.46	161.5	.509	2.21
250	8.00	34.13	26.61	147.8	.586	1.92
300	7.59	34.14	26.68	141.9	.659	1.62
400	7.10	34.24	26.83	129.2	.794	0.82
500	6.62	34.34	26.97	116.6	.917	0.45
600	5.99	34.36	27.07	108.0	1.029	0.31

STATION 107.40 (Interpolated Values at Standard Depths)

CREST: 30°10'N 116°44'W; August 11, 1952; 1953, 2019 GCT; wire angle: 17°, 25°; sounding: 1430 fms; depth of observation: 257, 593 m; weather: overcast; sea: rough; wind: 340°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	18.90	33.42	23.86	405.2	.000	5.70
10	18.90	33.42	23.86	405.5	.041	5.44
20	18.92	33.39	23.83	408.5	.081	5.45
30	16.60	33.23	24.27	367.0	.120	6.00
50	14.15	33.12	24.73	324.1	.189	5.45
75	11.90	33.13	25.18	281.5	.265	5.50
100	10.42	33.20	25.50	251.4	.331	4.59
150	9.06	33.79	26.18	187.1	.441	3.39
200	8.47	34.06	26.49	159.0	.528	2.65
250	8.10	34.13	26.60	149.2	.605	1.91
300	8.02	34.32	26.76	134.9	.676	0.82
400	7.40	34.36	26.88	124.6	.805	0.51
500	6.52	34.33	26.98	116.0	.926	0.38
600	5.90	34.33	27.06	109.0	1.038	0.41

STATION 110.33 (Interpolated Values at Standard Depths)

CREST: 29°50'N 115°52'W; August 12, 1952; 2334 GCT; wire angle: 2°; sounding: 27 fms; depth of observation: 30 m; weather: partly cloudy; sea: moderate; wind: 320°, force 4.

0	13.90	33.44	25.02	294.4	.000	4.83
10	12.23	33.24	25.20	277.8	.029	4.91
20	11.36	33.46	25.53	246.4	.055	3.84
30	11.10	33.58	25.67	233.3	.079	3.82

STATION 110.35 (Interpolated Values at Standard Depths)

CREST: 29°46'N 116°00'W; August 12, 1952; 2105, 2136 GCT; wire angle: 22°, missing; sounding: 700 fms; depth of observation: 130,548 m; weather: overcast; sea: moderate; wind: 260°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.97	33.36	24.51	342.9	.000	5.54
10	14.38	33.42	24.91	305.7	.032	5.52
20	13.80	33.42	25.03	294.5	.062	5.52
30	12.02	33.48	25.43	256.8	.090	4.49
50	11.08	33.68	25.75	226.0	.138	3.08
75	10.47	33.77	25.93	209.6	.193	2.40
100	10.16	33.86	26.06	198.4	.244	1.72
150	10.48	34.28	26.33	173.8	.337	1.27
200	10.82	34.39	26.35	172.6	.423	0.72
250	9.94	34.35	26.47	161.7	.507	1.09
300	9.38	34.36	26.58	152.9	.586	0.90
400	8.59	34.41	26.74	138.6	.731	0.42
500	7.29	34.35	26.89	125.3	.863	0.32

STATION 110.40 (Interpolated Values at Standard Depths)

CREST: 29°36'N 116°20'W; August 12, 1952; 1745 GCT; wire angle: 10°; sounding: 1250 fms; depth of observation: 579 m; weather: overcast; sea: moderate; wind: 320°, force 4.

0	18.94	33.46	23.88	403.3	.000	4.45
10	18.92	33.49	23.91	400.9	.040	5.05
20	15.50	33.27	24.55	340.0	.077	5.76
30	14.52	33.22	24.72	323.7	.110	5.62
50	12.71	33.21	25.08	289.8	.172	5.21
75	11.25	33.29	25.42	258.3	.240	4.53
100	10.38	33.61	25.82	220.5	.300	3.67
150	9.47	33.92	26.22	183.8	.401	2.68
200	9.25	34.19	26.46	161.4	.488	1.57
250	9.11	34.34	26.60	149.1	.565	0.95
300	8.51	34.34	26.70	140.7	.638	0.92
400	7.99	34.40	26.83	130.2	.773	0.39
500	6.68	34.38	27.00	114.5	.895	0.31

STATION 110.50 (Interpolated Values at Standard Depths)

CREST: 29°17'N 116°59'W; August 12, 1952; 1227 GCT; wire angle: 15°; sounding: 1600 fms; depth of observation: 1151 m; weather: overcast; sea: rough; wind: 330°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	1058	ΔD (dyn.m.)	O_2 (ml/L)
0	18.68	33.37	23.88	403.6	.000	5.36
10	18.68	33.39	23.89	402.4	.040	5.10
20	18.67	33.38	23.89	403.2	.081	5.20
30	18.64	33.36	23.88	404.3	.121	5.39
50	15.77	33.30	24.51	344.4	.196	5.55
75	12.80	33.22	25.08	291.4	.275	5.05
100	10.74	33.53	25.70	232.4	.341	4.14
150	10.33	34.00	26.14	191.9	.447	2.30
200	10.20	34.35	26.43	165.0	.536	1.39
250	10.21	34.50	26.55	155.2	.616	0.71
300	8.83	34.30	26.62	148.6	.692	1.23
400	8.25	34.45	26.83	130.4	.832	0.39
500	7.70	34.44	26.90	124.6	.959	0.26
600	6.61	34.41	27.03	112.7	1.078	0.28
700	5.62	34.39	27.14	102.2	1.185	0.32
800	5.04	34.38	27.20	96.6	1.285	0.46
1000	4.37	34.45	27.33	85.0	1.466	0.70

STATION 110.60 (Interpolated Values at Standard Depths)

CREST: 28°56'N 117°39'W; August 12, 1952; 0714 GCT; wire angle: 10°; sounding: 1840 fms; depth of observation: 627 m; weather: overcast; sea: rough; wind: 320°, force 5.

0	19.58	33.39	23.67	423.9	.000	4.99
10	19.58	33.39	23.67	424.2	.042	5.28
20	19.60	33.37	23.64	426.5	.085	5.18
30	19.50	33.33	23.64	427.3	.128	5.51
50	16.00	33.25	24.42	353.0	.206	5.70
75	12.70	33.31	25.16	282.9	.285	5.75
100	10.73	33.53	25.70	232.2	.350	3.75
150	10.97	34.28	26.24	182.2	.453	1.28
200	10.07	34.44	26.52	156.2	.538	1.03
250	9.62	34.45	26.61	149.1	.614	0.82
300	9.41	34.49	26.67	143.8	.687	0.50
400	7.82	34.31	26.78	134.3	.826	0.62
500	6.72	34.33	26.95	118.7	.953	0.59
600	5.88	34.34	27.07	108.0	1.066	0.36

STATION 113.30 (Interpolated Values at Standard Depths)

CREST: 29°22'N 115°18'W; August 13, 1952; 0405 GCT; wire angle: 15°; sounding: 38 fms; depth of observation: 29 m; weather: clear; sea: moderate; wind: 300°, force 6.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	12.62	33.58	25.39	259.7	.000	3.43
10	12.54	33.62	25.44	255.5	.026	3.88
20	11.65	33.62	25.60	239.7	.051	3.42

STATION 113.40 (Interpolated Values at Standard Depths)

CREST: 29°02'N 115°58'W; August 13, 1952; 0908 GCT; wire angle: 35°; sounding: 980 fms; depth of observation: 537 m; weather: overcast; sea: moderate; wind: 320°, force 5.

0	18.41	33.40	23.97	395.0	.000	4.99
10	18.40	33.38	23.96	396.5	.040	5.75
20	17.23	33.30	24.18	375.7	.078	5.43
30	15.66	33.20	24.46	348.8	.114	5.61
50	14.18	33.15	24.74	322.6	.182	5.98
75	12.05	33.19	25.20	279.8	.257	5.79
100	10.22	33.26	25.58	243.7	.322	5.57
150	9.21	33.82	26.18	187.2	.430	3.44
200	8.70	34.02	26.42	165.5	.518	2.89
250	8.59	34.16	26.55	154.3	.598	1.71
300	8.06	34.20	26.66	144.3	.673	1.31
400	6.96	34.25	26.86	126.5	.808	0.87
500	6.48	34.34	26.99	114.7	.929	0.33

STATION 117.26 (Interpolated Values at Standard Depths)

CREST: 28°56'N 114°41'W; August 13, 1952; 2103 GCT; wire angle: 5°; sounding: 45 fms; depth of observation: 50 m; weather: partly cloudy; sea: moderate; wind: 300°, force 3.

0	15.86	33.54	24.68	327.4	.000	4.48
10	15.40	33.53	24.77	318.6	.032	4.61
20	12.64	33.58	25.38	260.6	.061	3.25
30	11.54	33.60	25.61	239.9	.087	3.30
50	10.35	33.50	25.74	227.1	.136	1.51

STATION 117.30 (Interpolated Values at Standard Depths)

CREST: 28°47'N 114°56'W; August 13, 1952; 1840 GCT; wire angle: 0°; sounding: 55 fms; depth of observation: 75 m; weather: overcast; sea: moderate; wind: 320°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	15.45	33.42	24.68	327.5	.000	5.68
10	15.03	33.37	24.73	322.6	.033	5.67
20	12.54	33.28	25.17	280.8	.063	5.02
30	12.22	33.24	25.20	278.1	.091	4.75
50	11.04	33.39	25.54	246.7	.143	3.70
75	10.54	33.82	25.96	207.1	.200	5.17

STATION 117.40 (Interpolated Values at Standard Depths)

CREST: 28°28'N 115°36'W; August 13, 1952; 1342 GCT; wire angle: 7°; sounding: 500 fms; depth of observation: 546 m; weather: overcast; sea: moderate; wind: 320°, force 3.

0	15.49	33.26	24.55	340.0	.000	5.24
10	15.46	33.26	24.55	339.6	.034	5.76
20	13.72	33.15	24.84	312.7	.067	5.85
30	13.31	33.29	25.03	294.8	.097	5.10
50	13.29	33.48	25.18	280.9	.155	4.82
75	12.35	33.49	25.37	263.2	.223	3.20
100	10.92	33.82	25.89	214.1	.282	1.53
150	11.50	34.42	26.25	181.2	.381	0.38
200	11.45	34.56	26.37	171.2	.469	0.34
250	10.98	34.60	26.49	161.1	.552	0.52
300	9.26	34.43	26.65	145.8	.629	0.40
400	8.43	34.42	26.77	135.4	.770	0.28
500	7.43	34.39	26.90	124.4	.899	

STATION 120.25 (Interpolated Values at Standard Depths)

CREST: 28°23'N 114°15'W; August 14, 1952; 0208 GCT; wire angle: 10°; sounding: 30 fms; depth of observation: 29 m; weather: overcast; sea: moderate; wind: 310°, force 5.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	17.39	33.53	24.32	361.9	.000	5.42
10	17.38	33.55	24.33	360.5	.036	5.42
20	14.28	33.55	25.03	294.5	.069	5.65
30	(11.53)	(33.62)	(25.63)	(237.8)	(.095)	(3.45)

STATION 120.30 (Interpolated Values at Standard Depths)

SPENCER F. BAIRD: 28°13'N 114°33'W; August 14, 1952; 0458 GCT; wire angle: 25°; sounding: 50 fms; depth of observation: 68 m; weather: partly cloudy; sea: rough; wind: 320°, force 3.

0	18.5	33.60	24.10	382.6	.000	6.55
10	18.5	33.57	24.08	385.1	.038	6.54
20	18.4	33.58	24.11	382.3	.077	5.76
30	17.6	33.60	24.32	362.5	.114	6.88
50	13.9	33.56	25.12	287.0	.179	5.75

STATION 120.35 (Interpolated Values at Standard Depths)

SPENCER F. BAIRD: 28°02'N 114°54'W; August 14, 1952; 0949 GCT; wire angle: 5°; sounding: 47 fms; depth of observation: 50 m; weather: partly cloudy; sea: moderate; wind: 360°, force 3.

0	18.6	33.57	24.05	387.1	.000	5.76
10	18.6	33.58	24.06	386.7	.039	5.80
20	18.5	33.58	24.08	384.7	.077	5.90
30	18.2	33.57	24.15	378.6	.115	5.91
50	16.0	33.57	24.67	329.7	.186	5.70

STATION 120.45 (Interpolated Values at Standard Depths)

CREST: 27°43'N 115°33'W; August 15, 1952; 0623 GCT; wire angle: 25°; sounding: 1200 fms; depth of observation: 1086 m; weather: clear; sea: slight; wind: 010°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	17.94	33.53	24.18	374.5	.000	5.20
10	17.92	33.53	24.19	374.4	.037	4.68
20	15.55	33.36	24.61	334.5	.073	5.61
30	13.57	33.35	25.02	295.4	.104	5.59
50	11.56	33.36	25.42	258.0	.160	3.80
75	11.28	33.79	25.80	221.9	.220	2.55
100	11.62	34.12	26.00	204.2	.273	1.18
150	11.98	34.51	26.23	183.3	.370	0.35
200	11.47	34.58	26.38	170.1	.458	0.26
250	10.92	34.60	26.50	160.0	.541	0.28
300	10.25	34.62	26.63	148.1	.618	0.22
400	8.91	34.51	26.77	136.3	.760	0.20
500	7.58	34.43	26.91	123.6	.890	0.26
600	6.40	34.43	27.07	108.4	1.006	0.25
700	5.46	34.43	27.19	97.5	1.109	0.30
800	4.83	34.43	27.26	90.2	1.203	0.38
1000	4.07	34.47	27.38	79.8	1.373	0.58

STATION 120.50 (Interpolated Values at Standard Depths)

CREST: 27°34'N 115°56'W; August 15, 1952; 1005 GCT; wire angle: 25°; sounding: 2000 fms; depth of observation: 596 m; weather: clear; sea: slight; wind: 040°, force 3.

0	19.37	33.51	23.81	410.0	.000	4.93
10	19.33	33.53	23.84	407.9	.041	5.00
20	18.50	33.53	24.04	388.3	.081	5.17
30	15.85	33.49	24.64	331.7	.117	5.11
50	11.78	33.44	25.44	256.0	.175	3.63
75	10.65	33.60	25.77	225.2	.236	3.58
100	10.69	33.97	26.05	199.1	.289	2.14
150	11.32	34.55	26.39	168.4	.381	0.64
200	10.79	34.65	26.56	153.0	.461	0.26
250	10.30	34.65	26.65	145.7	.536	0.23
300	9.36	34.51	26.70	141.5	.607	0.30
400	8.29	34.51	26.87	126.6	.741	0.23
500	6.92	34.44	27.01	113.4	.861	0.22
600	5.97	34.38	27.09	106.3	.971	0.25

STATION 120.60 (Interpolated Values at Standard Depths)

CREST: 27°16'N 116°32'W; August 15, 1952; 1455 GCT; wire angle: 9°; sounding: 1950 fms; depth of observation: 1150 m; weather: partly cloudy; sea: moderate; wind: 010°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	19.62	33.60	23.81	409.6	.000	4.86
10	19.60	33.58	23.80	410.9	.041	5.37
20	18.40	33.49	24.04	388.9	.081	5.98
30	15.25	33.51	24.79	317.5	.116	6.04
50	12.59	33.66	25.46	254.5	.174	4.13
75	10.80	33.72	25.84	218.9	.233	3.35
100	10.43	33.96	26.09	195.5	.284	2.62
150	10.36	34.34	26.39	167.3	.375	1.37
200	9.02	34.25	26.55	153.4	.455	1.81
250	8.96	34.37	26.65	144.5	.530	0.93
300	9.40	34.55	26.72	139.2	.601	0.27
400	7.43	34.43	26.93	119.8	.730	0.33
500	6.73	34.47	27.06	108.5	.844	0.21
600	6.07	34.44	27.12	103.1	.950	0.19
700	5.44	34.43	27.19	96.9	1.050	0.22
800	4.93	34.45	27.27	90.0	1.144	0.29
1000	4.10	34.52	27.42	76.5	1.310	0.46

STATION 120.70 (Interpolated Values at Standard Depths)

CREST: 26°54'N 117°10'W; August 15, 1952; 1903 GCT; wire angle: 21°; sounding: 2000+ fms; depth of observation: 519 m; weather: partly cloudy; sea: moderate; wind: 040°, force 4.

0	19.10	33.37	23.77	413.6	.000	5.50
10	18.65	33.39	23.90	401.7	.041	5.36
20	17.81	33.35	24.08	385.3	.080	5.58
30	16.80	33.30	24.28	366.3	.118	5.48
50	15.28	33.31	24.63	333.3	.188	5.88
75	13.40	33.26	24.99	299.8	.267	6.23
100	10.90	33.23	25.44	257.2	.336	5.05
150	9.55	33.75	26.07	197.7	.450	3.98
200	9.47	34.14	26.39	168.6	.542	1.92
250	8.98	34.29	26.59	150.7	.622	1.32
300	8.52	34.31	26.67	143.1	.695	0.95
400	7.68	34.39	26.86	126.4	.830	0.45
500	6.76	34.36	26.97	117.1	.951	0.36

STATION 120.80 (Interpolated Values at Standard Depths)

CREST: 26°33'N 117°48'W; August 15, 1952; 2354 GCT; wire angle: 22°; sounding: 2000+ fms; depth of observation: 1102 m; weather: cloudy; sea: moderate; wind: 050°, force 4.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	20.98	33.48	23.37	452.5	.000	3.40
10	20.93	33.49	23.39	450.9	.045	4.89
20	20.75	33.48	23.43	447.3	.090	5.21
30	19.06	33.49	23.87	404.9	.133	5.29
50	17.60	33.58	24.30	364.6	.210	5.39
75	16.25	33.62	24.65	332.2	.297	5.18
100	15.00	33.62	24.93	306.2	.377	5.24
150	10.78	33.64	25.78	226.0	.510	3.40
200	9.73	34.02	26.25	181.6	.612	2.82
250	8.76	34.10	26.47	161.4	.697	2.26
300	8.40	34.23	26.63	147.2	.774	1.21
400	7.70	34.39	26.86	126.7	.911	0.42
500	6.78	34.37	26.97	116.6	1.033	0.33
600	5.99	34.38	27.09	106.5	1.145	0.30
700	5.42	34.42	27.19	97.3	1.246	0.27
800	4.93	34.42	27.25	92.2	1.341	0.29
1000	4.13	34.50	27.40	78.4	1.512	0.50

STATION 120.90 (Interpolated Values at Standard Depths)

CREST: 26°12'N 118°27'W; August 16, 1952; 0422 GCT; wire angle: 9°; sounding: 2000+ fms; depth of observation: 581 m; weather: clear; sea: moderate; wind: 050°, force 4.

0	21.25	33.78	23.52	437.8	.000	4.26
10	21.26	33.78	23.52	438.4	.044	4.41
20	21.27	33.75	23.49	441.2	.088	4.53
30	20.40	33.71	23.69	422.1	.131	4.98
50	18.59	33.71	24.16	378.3	.211	4.88
75	16.38	33.57	24.58	338.7	.301	5.41
100	15.00	33.53	24.86	312.8	.382	4.87
150	10.95	33.55	25.68	235.6	.519	4.00
200	9.62	34.04	26.29	178.4	.623	2.71
250	9.30	34.18	26.45	163.9	.708	1.84
300	9.20	34.29	26.55	155.2	.788	1.09
400	8.09	34.40	26.81	131.7	.931	0.42
500	6.76	34.37	26.98	116.3	1.055	0.27
600	(5.93)	(34.36)	(27.08)	(107.2)	(1.167)	

STATION 123.37 (Interpolated Values at Standard Depths)

CREST: 27°24'N 114°40'W; August 17, 1952; 0133 GCT; wire angle: 2°; sounding: 37 fms; depth of observation: 50 m; weather: cloudy; sea: moderate;wind: 270°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	17.70	33.49	24.21	371.9	.000	5.43
10	15.92	33.49	24.63	332.6	.035	5.64
20	14.26	33.40	24.92	305.0	.067	5.38
30	12.66	33.46	25.29	270.0	.096	5.47
50	12.92	33.96	25.62	238.7	.147	1.09

STATION 123.40 (Interpolated Values at Standard Depths)

CREST: 27°18'N 114°52'W; August 16, 1952; 2323 GCT; wire angle: 10°; sounding: 213 fms; depth of observation: 284 m; weather: partly cloudy; sea: moderate;wind: 340°, force 3.

0	21.12	33.58	23.40	448.9	.000	4.88
10	18.80	33.55	23.99	393.7	.042	5.44
20	16.00	33.44	24.57	338.3	.079	5.71
30	13.71	33.43	25.05	292.2	.110	4.25
50	11.86	33.54	25.50	250.0	.164	3.67
75	10.99	33.90	25.94	208.8	.222	3.21
100	11.67	34.29	26.12	192.6	.272	1.02
150	12.01	34.53	26.24	182.3	.366	0.34
200	11.34	34.60	26.42	166.3	.453	0.57
250	10.78	34.60	26.52	157.6	.534	0.42

STATION 123.50 (Interpolated Values at Standard Depths)

CREST: 26°58'N 115°31'W; August 16, 1952; 1846 GCT; wire angle: 2°; sounding: 1800 fms; depth of observation: 590 m; weather: partly cloudy; sea: slight; wind: 020°, force 2.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	20.62	33.62	23.57	433.2	.000	5.00
10	18.36	33.57	24.11	381.8	.041	4.83
20	17.69	33.55	24.26	367.9	.078	5.43
30	16.50	33.34	24.38	356.8	.114	5.40
50	13.00	33.56	25.30	269.5	.177	4.76
75	11.10	33.83	25.87	215.9	.238	3.10
100	10.40	33.97	26.10	194.2	.289	2.72
150	9.46	34.15	26.40	166.7	.379	2.02
200	9.10	34.37	26.63	145.7	.457	1.72
250	9.33	34.58	26.76	134.9	.528	0.34
300	9.13	34.53	26.75	136.4	.595	0.19
400	7.91	34.52	26.93	120.2	.724	0.21
500	6.78	34.49	27.07	107.7	.838	0.21
600	(5.95)	(34.47)	(27.16)	(99.3)	(.941)	(0.18)

STATION 127.34 (Interpolated Values at Standard Depths)

CREST: 26°55'N 114°06'W; August 17, 1952; 0638 GCT; wire angle: 0°; sounding: 40 fms; depth of observation: 50 m; weather: clear; sea: moderate; wind: calm.

0	21.08	33.93	23.68	422.5	.000	5.75
10	19.44	34.02	24.18	375.1	.040	4.95
20	17.32	33.93	24.64	331.8	.075	5.03
30	16.62	33.98	24.84	312.7	.107	4.18
50	13.22	33.91	25.52	248.0	.164	1.67

STATION 127.40 (Interpolated Values at Standard Depths)

CREST: 26°44'N 114°30'W; August 17, 1952; 0930 GCT; wire angle: 4°; sounding: 1700 fms; depth of observation: 591 m; weather: partly cloudy; sea: moderate; wind: 320°, force 1.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	22.20	33.57	23.10	478.0	.000	3.40
10	20.15	33.55	23.64	426.7	.045	4.17
20	19.87	33.58	23.73	417.9	.087	4.08
30	17.00	33.40	24.31	363.5	.127	5.18
50	13.30	33.35	25.08	290.7	.192	4.18
75	12.05	33.48	25.42	258.4	.261	3.33
100	10.59	33.68	25.84	218.8	.320	2.93
150	9.99	34.11	26.28	178.2	.419	2.01
200	9.23	34.21	26.48	159.6	.504	1.42
250	9.14	34.32	26.58	151.0	.582	0.82
300	8.62	34.38	26.71	139.5	.654	0.57
400	7.46	34.36	26.87	125.4	.787	0.38
500	6.70	34.41	27.02	112.5	.906	0.20
600	(6.17)	(34.43)	(27.10)	(105.2)	(1.015)	(0.20)

STATION 127.50 (Interpolated Values at Standard Depths)

CREST: 26°23'N 115°08'W; August 17, 1952; 1418 GCT; wire angle: 0°; sounding: 1780 fms; depth of observation: 592 m; weather: cloudy; sea: slight; wind: 240°, force 1.

0	20.17	33.48	23.58	432.0	.000	5.00
10	19.07	33.48	23.86	405.3	.042	5.32
20	18.63	33.51	24.00	392.9	.082	5.23
30	17.30	33.43	24.26	368.1	.120	5.54
50	14.06	33.24	24.84	313.6	.188	5.28
75	12.08	33.40	25.35	264.9	.260	4.60
100	10.13	33.44	25.73	228.9	.322	4.29
150	10.08	34.13	26.28	178.2	.424	2.15
200	9.18	34.24	26.51	156.6	.507	1.61
250	8.70	34.29	26.63	146.4	.583	1.20
300	8.58	34.37	26.71	139.6	.655	0.53
400	7.90	34.42	26.85	127.4	.788	0.35
500	6.57	34.38	27.01	113.0	.908	0.27
600	(5.71)	(34.38)	(27.12)	(102.8)	(1.016)	(0.23)

STATION 130.30 (Interpolated Values at Standard Depths)

CREST: 26°22'N 113°31'W; August 18, 1952; 1352 GCT; wire angle: 0°; sounding: 40 fms; depth of observation: 57 m; weather: partly cloudy; sea: slight; wind: 290°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5 s$	ΔD (dyn.m.)	O_2 (ml/L)
0	21.26	34.02	23.70	420.7	.000	5.29
10	16.45	33.91	24.83	313.5	.037	4.05
20	13.30	33.85	25.46	253.2	.065	2.99
30	12.57	33.97	25.70	230.9	.089	2.00
50	12.93	34.34	25.92	211.0	.133	0.42

STATION 130.35 (Interpolated Values at Standard Depths)

CREST: 26°15'N 113°48'W; August 18, 1952; 1041 GCT; wire angle: 25°; sounding: 270 fms; depth of observation: 320 m; weather: clear; sea: moderate;wind: 350°, force 4.

0	21.17	33.53	23.35	453.8	.000	5.16
10	18.60	33.51	24.00	391.8	.042	5.58
20	16.62	33.45	24.43	351.1	.079	5.68
30	14.90	33.39	24.77	319.0	.113	5.67
50	13.09	33.46	25.20	278.6	.173	2.38
75	12.50	34.09	25.81	221.9	.235	1.60
100	12.25	34.23	25.96	207.6	.289	1.20
150	12.24	34.59	26.24	182.2	.386	0.45
200	11.52	34.63	26.41	167.3	.474	0.39
250	10.94	34.67	26.55	155.2	.554	0.22
300	10.27	34.65	26.65	146.3	.630	0.23

STATION 130.40 (Interpolated Values at Standard Depths)

CREST: 26°07'N 114°06'W; August 18, 1952; 0709, 0727 GCT; wire angle: 18°, 24°; sounding: 1200 fms; depth of observation: 71, 1090 m; weather: clear; sea: moderate; wind: 320°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	20.87	33.49	23.40	449.0	.000	4.26
10	19.54	33.49	23.75	416.0	.043	4.56
20	18.15	33.41	24.04	388.8	.083	4.43
30	16.90	33.38	24.32	362.7	.121	4.48
50	15.00	33.33	24.71	326.0	.190	4.82
75	12.80	33.32	25.15	284.0	.266	4.68
100	11.81	33.68	25.62	240.0	.332	3.60
150	11.37	34.24	26.14	192.1	.440	1.49
200	10.68	34.47	26.44	164.3	.529	0.79
250	10.00	34.45	26.54	155.4	.609	0.72
300	8.93	34.38	26.66	144.3	.684	0.70
400	7.75	34.40	26.86	126.7	.819	0.35
500	6.80	34.41	27.00	113.9	.939	0.30
600	5.91	34.39	27.10	104.7	1.049	0.30
700	5.36	34.45	27.22	94.4	1.148	0.29
800	4.94	34.49	27.30	87.2	1.239	0.30
1000	4.25	34.52	27.40	78.4	1.405	0.51

STATION 130.50 (Interpolated Values at Standard Depths)

CREST: 25°49'N 114°46'W; August 18, 1952; 0238 GCT; wire angle: 10°; sounding: 1800 fms; depth of observation: 576 m; weather: partly cloudy; sea: moderate; wind: 300°, force 3.

0	21.52	33.44	23.19	469.4	.000	5.11
10	19.60	33.42	23.68	422.5	.045	5.03
20	19.11	33.44	23.82	409.5	.086	4.84
30	18.30	33.44	24.03	390.5	.126	4.97
50	15.61	33.30	24.55	341.0	.199	5.29
75	14.50	33.33	24.81	316.5	.282	5.35
100	12.80	33.30	25.14	286.1	.357	5.25
150	10.06	33.85	26.06	198.5	.478	2.88
200	9.80	34.23	26.40	167.3	.569	1.56
250	9.14	34.31	26.58	151.8	.649	1.20
300	9.15	34.42	26.66	144.8	.723	0.54
400	7.72	34.37	26.84	128.4	.860	0.41
500	6.75	34.37	26.98	116.2	.982	0.32

STATION 130.60 (Interpolated Values at Standard Depths)

CREST: 25°28'N 115°24'W; August 17, 1952; 2050 GCT; wire angle: 11°; sounding: 1950 fms; depth of observation: 1156 m; weather: cloudy; sea: moderate; wind: 270°, force 1.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5 s$	ΔD (dyn.m.)	O_2 (ml/L)
0	23.12	33.64	22.89	497.8	.000	4.88
10	20.76	33.49	23.43	446.5	.047	5.10
20	20.21	33.42	23.52	438.0	.091	5.15
30	19.77	33.48	23.68	423.0	.134	5.25
50	17.00	33.64	24.49	346.6	.211	5.64
75	15.80	33.55	24.70	327.5	.296	5.73
100	14.10	33.53	25.05	294.4	.373	5.21
150	10.72	33.84	25.94	210.3	.500	3.11
200	9.73	34.09	26.31	176.4	.596	2.29
250	9.19	34.20	26.48	160.7	.681	1.76
300	8.82	34.29	26.61	149.2	.758	1.15
400	7.87	34.39	26.84	129.2	.897	0.48
500	6.87	34.37	26.96	117.9	1.021	0.30
600	6.13	34.38	27.07	108.4	1.134	0.28
700	5.53	34.40	27.16	100.2	1.238	0.28
800	5.00	34.44	27.25	91.6	1.334	0.34
1000	4.25	34.49	27.38	80.6	1.506	0.44

STATION 133.25 (Interpolated Values at Standard Depths)

CREST: 26°04'N 112°48'W; August 18, 1952; 1815 GCT; wire angle: 2°; sounding: 44 fms; depth of observation: 50 m; weather: clear; sea: slight; wind: 300°, force 3.

0	23.89	34.00	22.94	493.2	.000	4.69
10	23.04	34.00	23.19	470.0	.048	5.17
20	17.96	33.75	24.35	359.6	.090	5.61
30	13.86	33.62	25.17	281.2	.122	4.56
50	13.38	34.18	25.70	231.3	.173	1.50

STATION 133.30 (Interpolated Values at Standard Depths)

CREST: 25°54'N 113°08'W; August 18, 1952; 2044 GCT; wire angle: 2°; sounding: 98 fms; depth of observation: 129 m; weather: clear; sea: moderate;wind: 280°, force 3.

Depth (m)	T (°C)	S (‰)	σ_t (mg/cm^3)	$10^5\delta$	ΔD (dyn.m.)	O_2 (ml/L)
0	23.86	33.98	22.93	493.8	.000	4.92
10	22.14	33.93	23.39	450.7	.047	4.64
20	16.10	33.62	24.68	327.3	.086	5.26
30	13.60	33.55	25.17	281.3	.117	4.73
50	12.46	33.66	25.48	252.1	.170	3.65
75	11.83	34.10	25.94	208.9	.228	2.12
100	12.44	34.38	26.04	200.1	.279	0.99

STATION 137.23 (Interpolated Values at Standard Depths)

CREST: 25°34'N 112°19'W; August 19, 1952; 0401 GCT; wire angle: 8°; sounding: 40 fms; depth of observation: 50 m; weather: clear; sea: slight; wind: 330°, force 3.

0	25.14	33.95	22.53	532.5	.000	4.80
10	24.38	33.93	22.74	512.5	.052	4.70
20	18.18	33.62	24.19	374.2	.097	5.95
30	16.06	33.51	24.61	334.8	.132	5.77
50	13.54	33.73	25.32	267.4	.192	3.64

STATION 137.30 (Interpolated Values at Standard Depths)

CREST: 25°20'N 112°46'W; August 19, 1952; 0102 GCT; wire angle: 29°; sounding: 200 fms; depth of observation: 299 m; weather: clear; sea: moderate;wind: 280°, force 4.

0	23.66	33.77	22.83	503.4	.000	4.48
10	22.85	33.75	23.05	482.9	.049	4.70
20	19.72	33.55	23.75	416.4	.094	5.02
30	16.80	33.49	24.42	352.5	.133	5.60
50	14.39	33.49	24.96	301.9	.198	6.41
75	12.30	33.77	25.60	241.7	.266	3.50
100	11.99	34.03	25.86	217.5	.323	1.75
150	12.50	34.57	26.18	188.5	.425	0.30
200	11.89	34.63	26.34	174.0	.516	0.16
250	11.11	34.63	26.49	161.2	.599	0.14
300	10.90	34.61	26.51	160.1	.680	0.15

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

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

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

Dr. Rolf L. Bolin
Hopkins Marine Station
Pacific Grove, Calif.

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

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

Dr. E. L. Pickard
Inst. of Oceanography
U. of British Columbia
Vancouver, B. C.
CANADA

Librarian 4
Dept. of Fish and Game
Calif. State Fisheries Lab.
Terminal Island, Calif.

Mr. R. S. Croker
Calif. Dept. of Fish & Game
926 J Street
Sacramento 14, California

Herrn Prof. Dr. A. Defant
Sternwartestrasse 38
Innsbruck
AUSTRIA

Mr. Don Powell
U.S. Fish & Wildlife Service
2725 Montlake Blvd.
Seattle 2, Washington

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

Mr. Milton C. James
Pacific Mar. Fish.Comm.
340 State Office Bldg.
1400 S.W. 5th Avenue
Portland 1, Oregon

Hancock Library of Biology and Oceanography
Allan Hancock Foundation
University of So. Calif.
Los Angeles 7, California

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

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

Mr. J. F. Theodore Saur
Code 2235
U.S. Navy Electronics Laboratory
San Diego 52, California

Mr. Seth Gordon, Director
Calif. Dept. of Fish&Game
Marine Fisheries Branch
926 J Street
Sacramento 14, California

Dr. J. L. McHugh
Virginia Fisheries Lab.
Gloucester Point, Va.

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

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

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

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

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

Dr. D. W. Pritchard
Chesapeake Bay Institute
The Johns Hopkins Univer.
R.F.D. #2--Box 42
Annapolis, Maryland

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

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

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

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

Mr. Don T. Saxby
California Packing Corp.
215 Freemont Street
San Francisco, Calif.

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

Library
Scripps Institution of Oceanography
La Jolla, California

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

Pres. Robert G. Sproul
University of California
Berkeley 4, California

Miss Margaret Storey, Librarian
Natural History Museum
Stanford, California

Dr. Harald U. Sverdrup
Norwegian Polar Institute
Observatoriegt 1
Oslo, NORWAY

Dept. of Oceanography
A. & M. College of Texas
College Station, Texas

Chief, Division of Fisheries
Commonwealth Scientific and Indust. Research Org.
P. O. Box 21
Cronulla, NSW, AUSTRALIA

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

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

U.S. Hydrographic Office 2
Navy Department
Washington 25, D. C.
ATT: Mr. John Lyman

University of California
Department of Zoology
Berkeley 4, California

University of Calif. 2
General Library
Berkeley 4, California
ATT: Gifts & Exchange Department

Director
University of Miami
Marine Laboratory
Coral Gables, Florida

Librarian
University of Washington
Oceanographic Laboratories
Friday Harbor, Washington

Librarian 2
University of Washington
Oceanographic Laboratories
Seattle 5, Washington

Director
University of Washington
School of Fisheries
Seattle 4, Washington

Dr. Lionel A. Walford
Chief, Branch of Fishery Biology
U.S. Fish & Wildlife Service
Washington 25, D. C.

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

Director
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts

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

Mr. Ray Cannon
Research Education
Ocean Fish Protective Assn.
645 N. Serrano
Los Angeles 4, California

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

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

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

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