CORRECTIONS MADE:

STATION POSITIONS ~~NP~~

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5709 (MLR 100)
4-21 September 1957

CCOFI CRUISE 5710 (MLR 101)
4 October - 8 November 1957

CCOFI CRUISE 5711 (MLR 102)
16-25 November 1957

CCOFI CRUISE 5712 (MLR 103)
12-20 December 1957

SIO Reference 58-64
15 September 1958

ERRATA

PHYSICAL AND CHEMICAL DATA

CCOFI Cruises 5701 and 5702
SIO Reference 58-22

CCOFI Cruises 5703 and 5704
SIO Reference 58-24

CCOFI Cruises 5705 and 5706
SIO Reference 58-33

CCOFI Cruises 5707 and 5708
SIO Reference 58-63

Please replace the last sentence of the second paragraph of the INTRODUCTION with the following:

"The presentation of data in this report does not constitute publication; however, the data contained in this report have been carefully edited and no modification should be necessary before final publication."

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5709
(MLR 100)
4-21 September 1957

CCOFI CRUISE 5710
(MLR 101)
4 October - 8 November 1957

CCOFI CRUISE 5711
(MLR 102)
16-25 November 1957

CCOFI CRUISE 5712
(MLR 103)
12-20 December 1957

Sponsored by

Marine Research Committee

SIO Reference 58-64
15 September 1958

Approved for distribution:

Roger Revelle

Roger Revelle, Director

CONTENTS

CRUISE 5711

CRUISE 5712

INTRODUCTION

The data presented in this report were collected on Cruises 100, 101, 102 and 103 of the California Cooperative Oceanic Fisheries Investigations. The R/V Black Douglas of the U. S. Fish and Wildlife Service and the R/V Stranger of the Scripps Institution of Oceanography participated in Cruise 100; the R/V Stranger and R/V Paolina-T of the Scripps Institution, in Cruise 101; the R/V Orca of the Scripps Institution, in Cruise 102; the R/V Paolina-T and R/V Stranger, in Cruise 103.

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

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

STANDARD PROCEDURES

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

To indicate degree of accuracy, temperatures are recorded in tenths of a degree when obtained by bucket thermometer, thermograph, or bathythermograph, while temperatures from reversing thermometers are recorded in hundredths of a degree. Extrapolated values and values interpolated between remote observations are entered within parentheses. A hyphen is used to indicate a missing observed

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

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 of casts. A line is left blank between the observed data of each cast.

FOOTNOTES

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

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

p: pretrip or posttrip.

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

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

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

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 1957 volume, the first page of Cruise 5709 is numbered 251; Cruise 5710, 260; Cruise 5711, 301; Cruise 5712, 307.

FIGURES

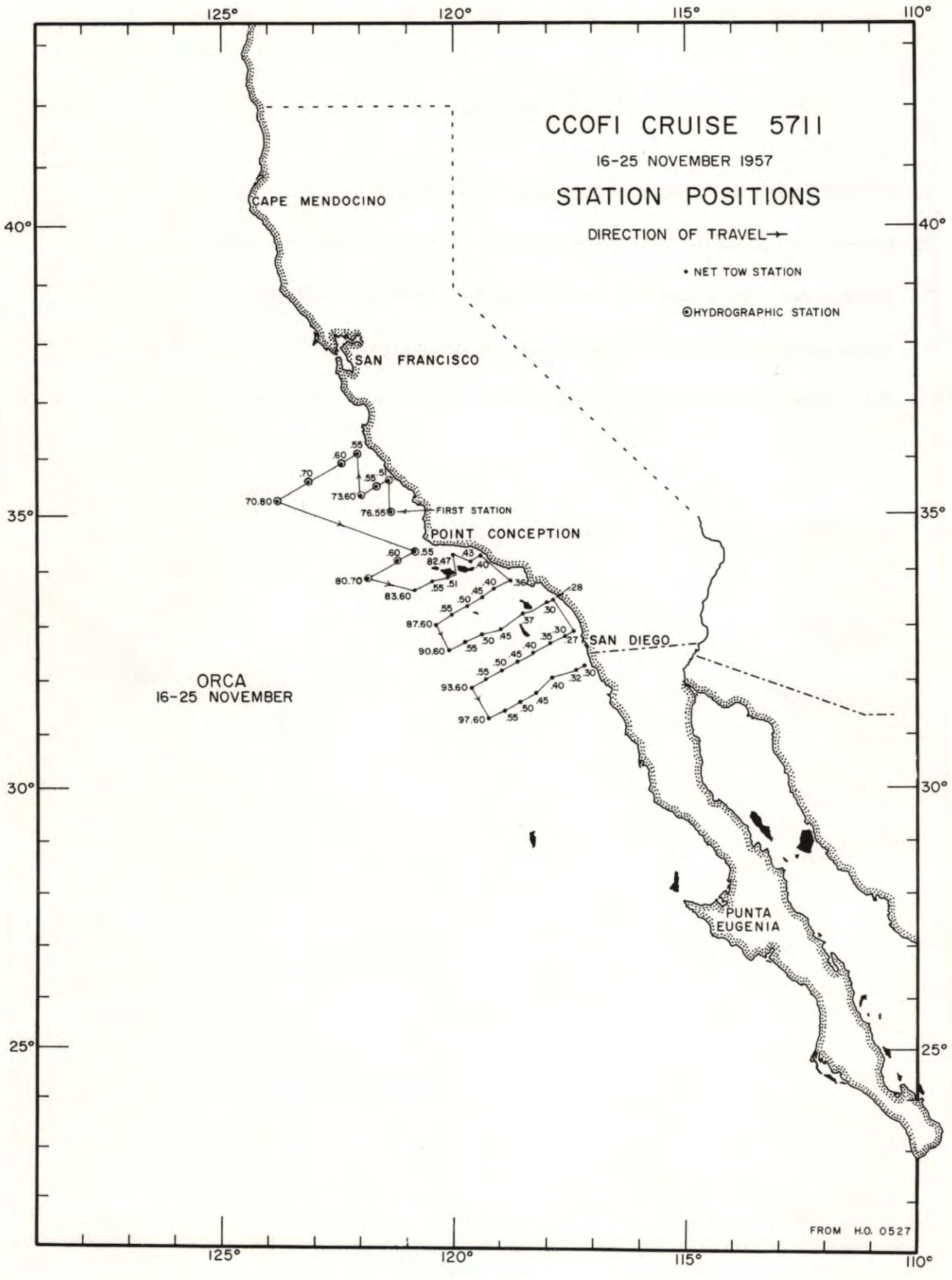
CCOFI CRUISE 5711
16-25 NOVEMBER 1957
STATION POSITIONS
DIRECTION OF TRAVEL→
• NET TOW STATION
⊙HYDROGRAPHIC STATION
CAPE MENDOCINO
SAN FRANCISCO
FIRST STATION
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
ORCA
16-25 NOVEMBER
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 1

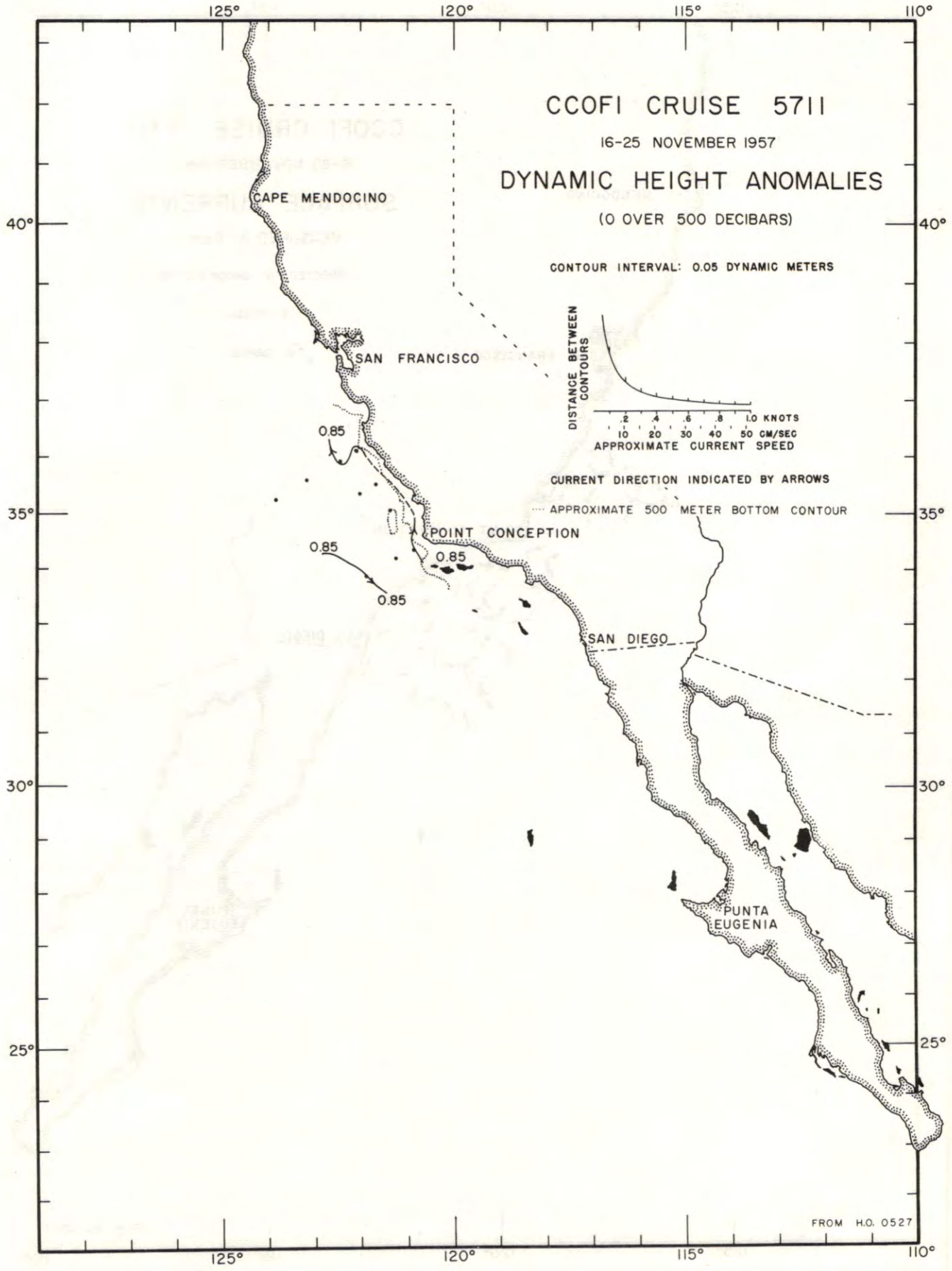
CCOFI CRUISE 5711
16-25 NOVEMBER 1957
DYNAMIC HEIGHT ANOMALIES
(0 OVER 500 DECIBARS)
CONTOUR INTERVAL: 0.05 DYNAMIC METERS
DISTANCE BETWEEN CONTOURS
.2 .4 .6 .8 1.0 KNOTS
10 20 30 40 50 CM/SEC
APPROXIMATE CURRENT SPEED
CURRENT DIRECTION INDICATED BY ARROWS
APPROXIMATE 500 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
0.85
0.85
0.85
0.85
125°
120°
115°
110°
40°
35°
30°
25°
FROM H.O. 0527

FIGURE 2

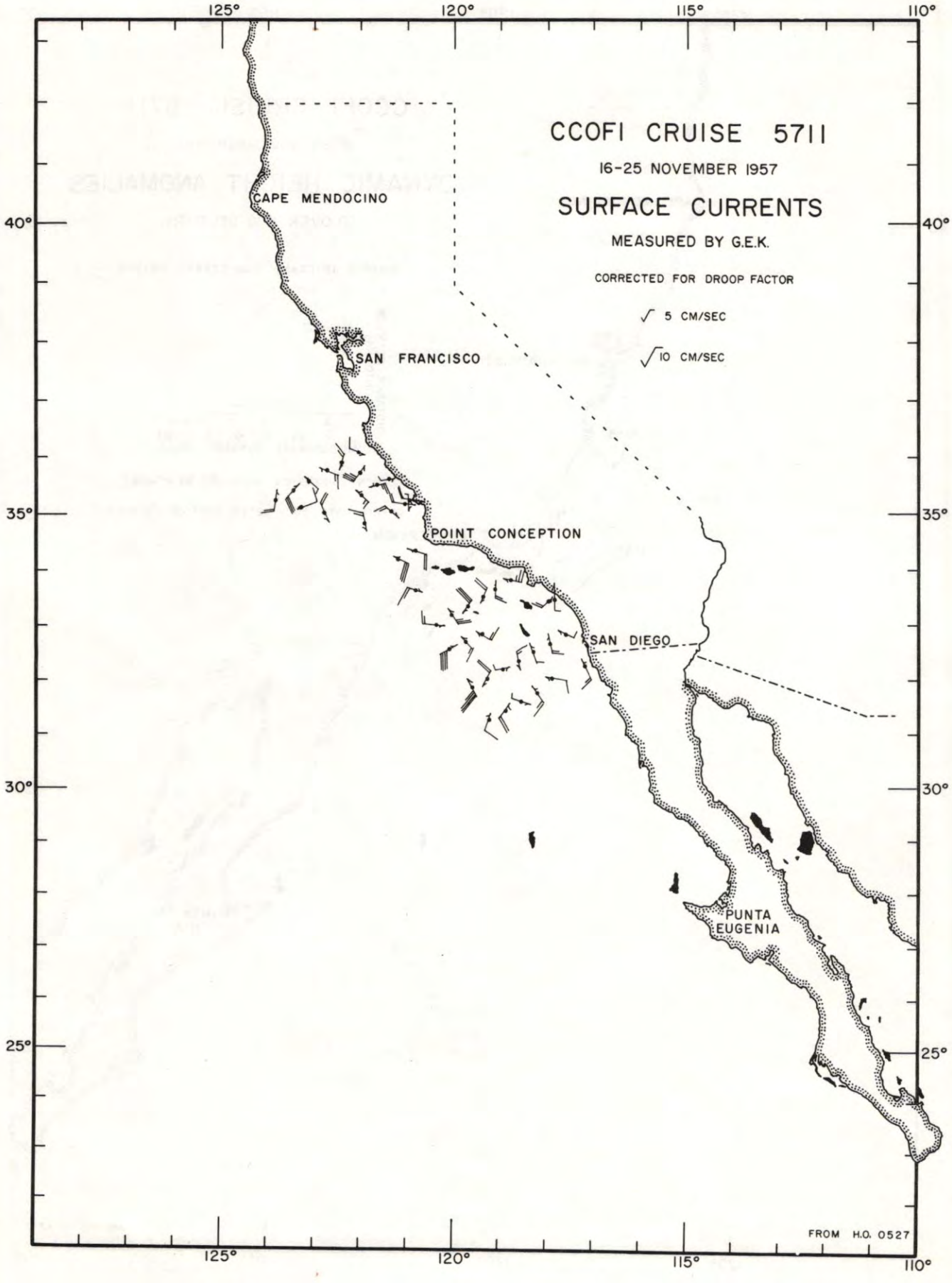
CCOFI CRUISE 5711
16-25 NOVEMBER 1957
SURFACE CURRENTS
MEASURED BY G.E.K.
CORRECTED FOR DROOP FACTOR
5 CM/SEC
10 CM/SEC
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 3

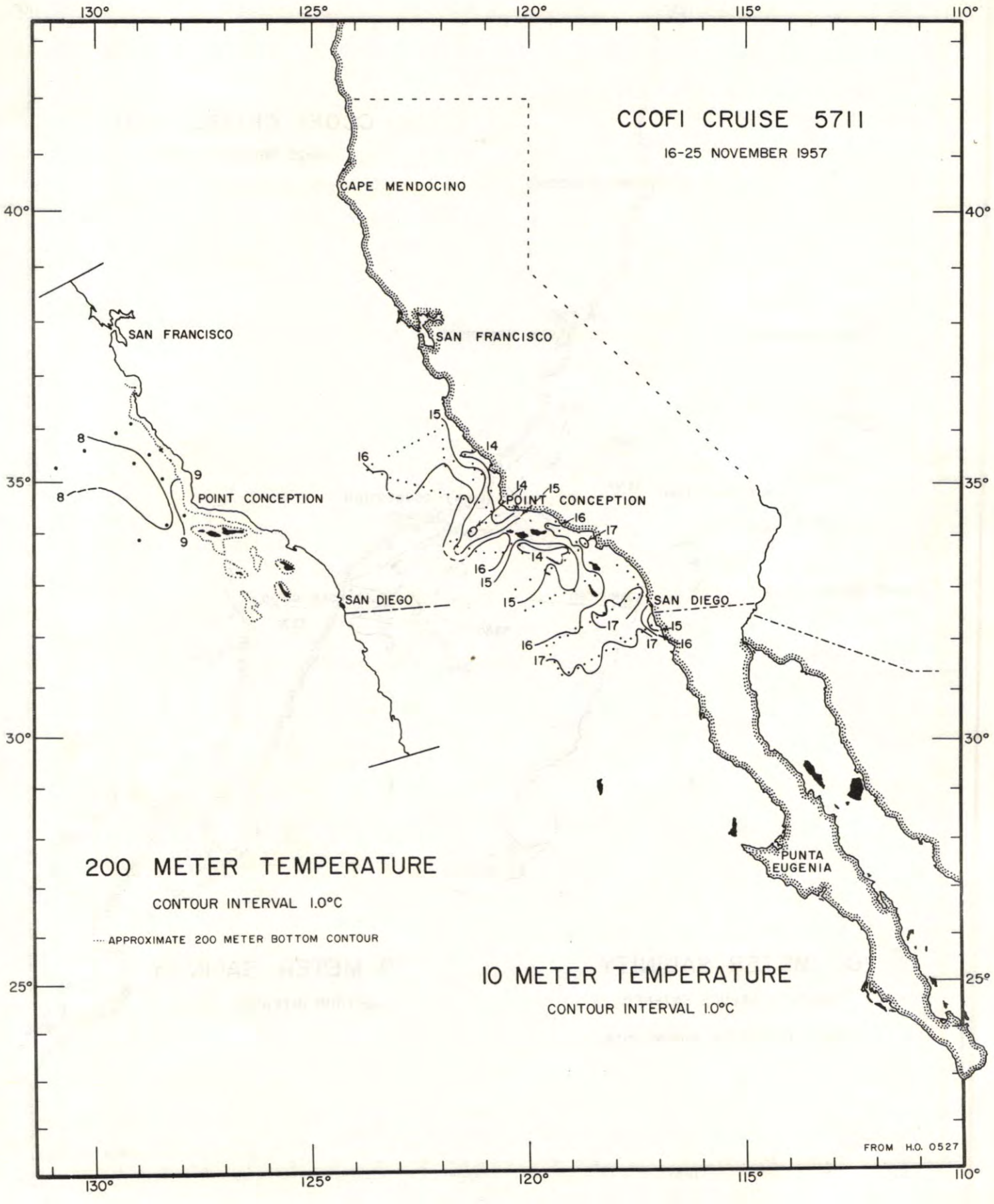
CCOFI CRUISE 5711
16-25 NOVEMBER 1957
CAPE MENDOCINO
SAN FRANCISCO
SAN FRANCISCO
POINT CONCEPTION
POINT CONCEPTION
SAN DIEGO
SAN DIEGO
PUNTA EUGENIA
130°
125°
120°
115°
110°
40°
35°
30°
25°
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
APPROXIMATE 200 METER BOTTOM CONTOUR
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
FROM H.O. 0527

FIGURE 4

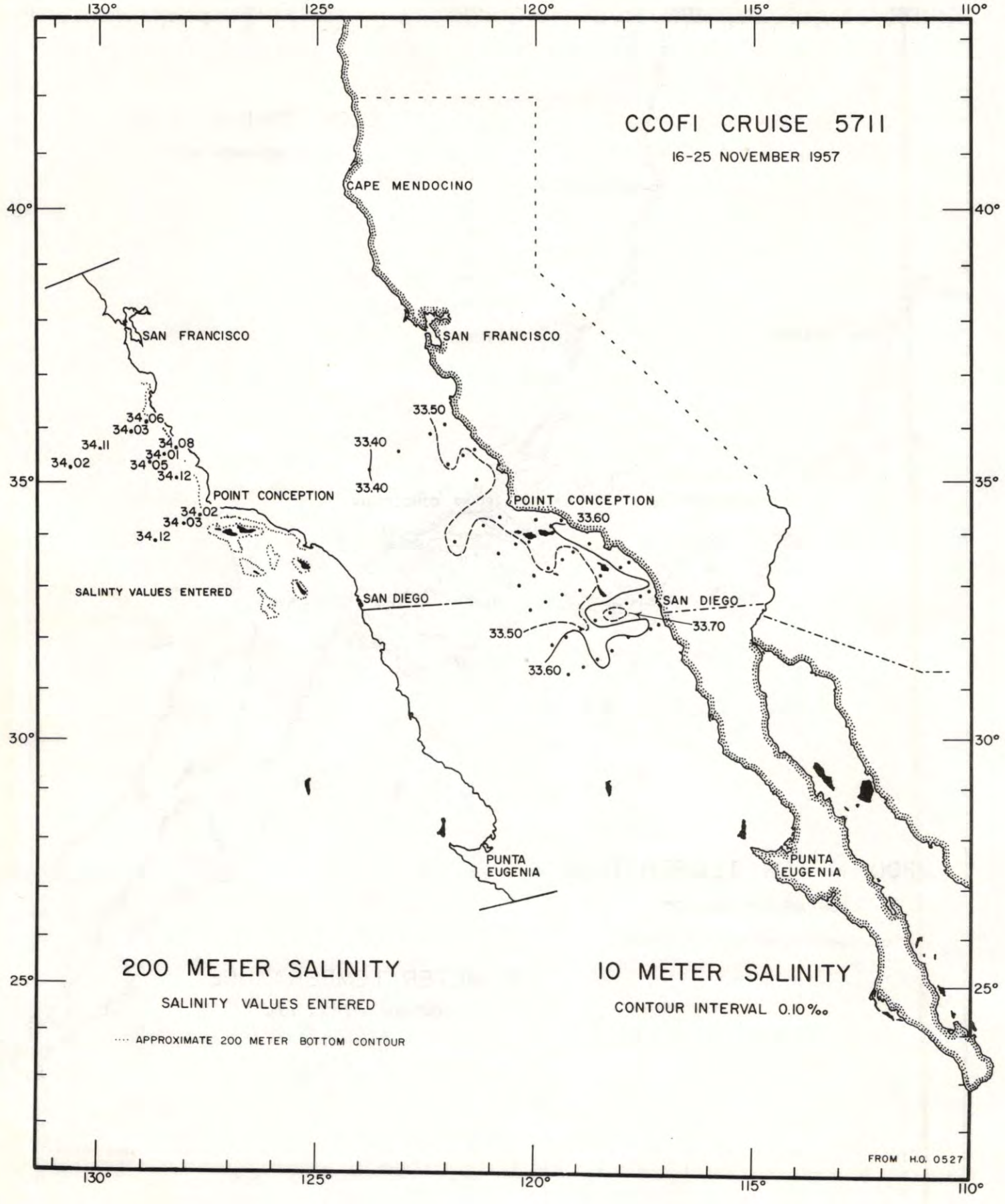
CCOFI CRUISE 5711
16-25 NOVEMBER 1957
CAPE MENDOCINO
SAN FRANCISCO
SAN FRANCISCO
34.06
34.03
34.11
34.08
34.01
34.02
34.05
34.12
33.40
33.40
33.50
POINT CONCEPTION
POINT CONCEPTION
34.02
34.03
34.12
33.60
SALINTY VALUES ENTERED
SAN DIEGO
SAN DIEGO
33.70
33.50
33.60
PUNTA EUGENIA
PUNTA EUGENIA
200 METER SALINITY
SALINITY VALUES ENTERED
APPROXIMATE 200 METER BOTTOM CONTOUR
10 METER SALINITY
CONTOUR INTERVAL 0.10‰
FROM H.O. 0527
130°
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 5

CRUISE 5711
PERSONNEL

SHIPS' CAPTAINS

Colbeth, Clifford W., R/V Orca

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Orca

Brown, Daniel M., Senior Marine Technician
Froerer, Arthur I., Marine Technician
Jaynes, John M., Marine Technician

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

70.55

ORCA; November 17, 1957; 2216 GCT; 36°03'N, 122°02'W; sounding, 700+ fm; wind, 360°, force 2; weather, partly cloudy; sea, rough; wire angle, 10°.

0	15.26	33.51	0	15.26	33.51	24.79	317	0.00
10	15.08	33.51	10	15.08	33.51	24.83	313	0.03
30	14.98	33.49	20	15.01	33.50	24.83	313	0.06
40	14.38	33.46	30	14.98	33.49	24.83	313	0.09
50	12.00	33.33	50	12.00	33.33	25.31	267	0.15
60	11.50	33.39 a)	75	9.85	33.49	25.82	219	0.21
70	10.42	33.46	100	9.22	33.76	26.13	189	0.26
81	9.44	33.53	150	8.80	33.95	26.35	168	0.36
100	9.22	33.76	200	8.28	34.06	26.52	153	0.44
115	9.10	33.82	250	7.81	34.12	26.63	142	0.51
138	8.89	33.91	300	7.51	34.19	26.73	132	0.58
169	8.64	34.02	400	6.80	34.24	26.87	119	0.71
203	8.22	34.06	500	6.05	34.28	27.00	107	0.83
242	7.87	34.11						
333	7.36	34.22						
433	6.52	34.25						
564	5.70	34.31						

70.60

ORCA; November 18, 1957; 0153 GCT; 35°53'N, 122°23'W; sounding, 1700 fm; wind, 300°, force 1; weather, cloudy; sea, rough; wire angle, 04°.

0	15.84	33.48	0	15.84	33.48	24.64	331	0.00
10	15.76	33.49	10	15.76	33.49	24.66	329	0.03
30	15.70	33.51	20	15.72	33.50	24.68	327	0.06
40	15.68	33.51	30	15.70	33.51	24.69	326	0.10
51	15.38	33.51	50	15.42	33.51	24.76	320	0.16
61	12.46	33.39	75	10.51	33.44	25.67	233	0.23
71	10.93	33.42	100	9.57	33.64	25.99	203	0.29
85	9.74	33.49	150	8.83	33.91	26.31	172	0.38
100	9.57	33.64	200	8.12	34.03	26.52	153	0.47
115	9.38	33.71	250	7.60	34.07	26.62	143	0.54
140	9.02	33.87	300	7.21	34.13	26.73	133	0.61
169	8.46	33.97	400	6.39	34.18	26.88	118	0.74
203	8.06	34.04	500	5.75	34.23	27.00	107	0.86
253	7.58	34.07						
333	6.98	34.18						
433	6.04	34.18						
566	5.60	34.32						

70.70

ORCA; November 18, 1957; 0727 GCT; 35°34'N, 123°06'W; sounding, 2100+ fm; wind, 150°, force 2; weather, drizzle; sea, rough; wire angle, 06°.

0	15.74	33.48	0	15.74	33.48	24.66	329	0.00
10	15.74	33.49	10	15.74	33.49	24.67	328	0.03
30	15.67	33.48	20	15.72	33.49	24.67	328	0.06
40	14.40	33.31	30	15.67	33.48	24.67	328	0.10
50	12.14	33.24	50	12.14	33.24	25.22	276	0.15
60	10.86	33.30	75	9.84	33.35	25.71	229	0.22
70	9.96	33.31	100	8.94	33.58	26.04	198	0.28
85	9.72	33.49	150	8.59	34.00	26.42	162	0.37
100	8.94	33.58	200	7.98	34.11	26.61	144	0.44
115	8.66	33.73	250	7.34	34.14	26.71	134	0.52
140	8.66	33.96	300	6.86	34.19	26.82	124	0.58
169	8.38	34.04	400	6.21	34.25	26.96	111	0.70
204	7.94	34.11	500	5.72	34.29	27.05	102	0.81
253	7.32	34.14						
312 b)	6.78	34.20						
389 c)	6.26	34.25 d)						
567	5.38	34.30						

a) Possible evaporation; value falls on property curve.
b) Alternate depth, 334 meters.
c) Alternate depth, 434 meters.
d) Cracked salinity bottle; value falls on property curve.

SIO

CCOFI
5711

OBSERVED			INTERPOLATED			COMPUTED		
Z m	T °C	S ‰	Z m	T °C	S ‰	σ_t g/L	δ_T 10^{-5} cm^3/g	ΔD dyn. m
70.80	ORCA; November 18, 1957; 1250 GCT; 35°14'N, 123°48'W; sounding, 2100+ fm; wind, 270°, force 2; weather, cloudy; sea, moderate; wire angle, 09°.							
0	16.08	33.40	0	16.08	33.40	24.52	343	0.00
10	16.06	33.40	10	16.06	33.40	24.52	342	0.03
30	15.06	33.41	20	15.79	33.41	24.60	335	0.07
40	13.37	33.31	30	15.06	33.41	24.76	320	0.10
49	11.58	33.23	50	11.48	33.23	25.34	265	0.16
59	10.77	33.30	75	9.71	33.38	25.76	225	0.22
68	10.12	33.34	100	8.92	33.56	26.03	199	0.28
83	9.35	33.43	150	8.57	33.91	26.36	167	0.37
97	8.98	33.52	200	7.72	34.02	26.57	148	0.44
111	8.79	33.66	250	7.05	34.04	26.68	137	0.52
135	8.70	33.85	300	6.55	34.09	26.79	127	0.59
164	8.39	33.95	400	5.83	34.17	26.95	112	0.71
198	7.76	34.02[a]	500	5.66	34.23	27.01	106	0.82
247	7.08	34.04						
325	6.33	34.11						
425	5.74	34.20						
557	5.62	34.31						
73.51	ORCA; November 17, 1957; 0947 GCT; 35°36.5'N, 121°21.5'W; sounding, 250+ fm; wind, 340°, force 2; weather, clear; sea, moderate; wire angle, 05°.							
0	14.28	33.51	0	14.28	33.51	25.00	291	0.00
10	14.24	33.51	10	14.24	33.51	25.01	296	0.03
29	14.18	33.51	20	14.20	33.51	25.02	295	0.06
51	11.48	33.57	30	14.17	33.51	25.03	294	0.09
75	10.54	33.64	50	11.58	33.57	25.57	242	0.14
100	10.14	33.66	75	10.54	33.64	25.82	219	0.20
126	9.66	33.89	100	10.14	33.66	25.90	211	0.25
165	9.34	33.97	150	9.46	33.94	26.24	179	0.35
203	8.62	34.08	200	8.71	34.08	26.46	158	0.44
250	8.02	34.08	250	8.02	34.08	26.57	147	0.51
298	7.66	34.14	300	7.64	34.14	26.67	138	0.59
403	6.42	34.18	400	6.48	34.18	26.87	119	0.72
73.55	ORCA; November 17, 1957; 1301 GCT; 35°29'N, 121°37'W; sounding, 800 fm; wind, calm; weather, clear; sea, moderate; wire angle, 00°.							
0	14.45	33.49	0	14.45	33.49	24.95	301	0.00
10	14.47	33.49	10	14.47	33.49	24.95	302	0.03
30	14.24	33.49	20	14.38	33.49	24.96	300	0.06
40	12.02	33.40	30	14.24	33.49	24.99	298	0.09
50	11.04	33.42	50	11.04	33.42	25.56	243	0.14
60	10.55	33.48	75	10.26	33.58	25.82	219	0.20
70	10.48	33.55	100	9.63	33.65	25.98	204	0.26
85	9.78	33.60	150	8.59	33.87	26.32	171	0.35
99	9.65	33.64	200	8.06	34.01	26.51	153	0.43
114	9.22	33.69	250	7.44	34.07	26.65	140	0.51
138	8.76	33.82	300	7.20	34.16	26.75	130	0.58
167	8.36	33.93	400	6.69	34.25	26.89	117	0.70
200	8.06	34.01	500	6.10	34.29	27.00	107	0.82
249	7.45	34.07						
327[b]	7.08	34.20						
438[c]	6.47	34.27						
569	5.69	34.31						

a) Possible evaporation; value falls on property curve.
b) Alternate depth, 426 meters.
c) Alternate depth, 557 meters.

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

ORCA; November 17, 1957; 1610 GCT; 35°19'N, 121°58'W; sounding, 1300 fm; wind, 020°, force 4; weather, partly cloudy; sea, rough; wire angle, 05°. 7360

0	15.69	33.49	0	15.69	33.49	24.68	327	0.00
10	15.66	33.51	10	15.66	33.51	24.70	325	0.03
31	14.47	33.48	20	15.60	33.51	24.71	324	0.06
46	12.18	33.46	30	14.80	33.49	24.87	309	0.10
57	10.82	33.47	50	11.75	33.46	25.46	253	0.15
67	10.32	33.55	75	9.82	33.59	25.90	211	0.21
77	9.76	33.60	100	9.26	33.65	26.04	198	0.26
97	9.37	33.63	150	8.33	33.96	26.43	161	0.35
112	8.92	33.77	200	7.93	34.05	26.56	149	0.43
127	8.66	33.83	250	7.78	34.14	26.65	140	0.50
151	8.31	33.96	300	7.27	34.16	26.74	131	0.58
180	7.90	34.01	400	6.56	34.21	26.88	118	0.70
220	8.00	34.11	500	6.10	34.28	26.99	108	0.82
274	7.52	34.15	600	5.36	34.33	27.13	94	0.93
358	6.79	34.18						
462	6.32	34.25						
608	5.28	34.34						

ORCA; November 16, 1957; 1643 GCT;[a] 35°13.5'N, 120°56'W; sounding, 52 fm; wind, 140°, force 3; weather, cloudy; sea, high; wire angle, 03°. 7649

0	13.24	33.48	0	13.24	33.48	25.18	279	0.00
10	13.04	33.49	10	13.04	33.49	25.24	275	0.03
31	11.85	33.56	20	12.70	33.51	25.32	267	0.05
52	11.00	33.63	30	11.88	33.55	25.51	248	0.08
77	10.34	33.69	50	11.08	33.63	25.71	229	0.13
			75	10.37	33.69	25.88	213	0.18

ORCA; November 16, 1957; 1935 GCT;[a] 35°12.5'N, 120°59.5'W; sounding, 130 fm; wind, 140°, force 2; weather, drizzle; sea, very rough; wire angle, 00°. 7650

0	14.68	33.46	0	14.68	33.46	24.87	309	0.00
10	14.58	33.48	10	14.58	33.48	24.92	305	0.03
31	13.56	33.42	20	14.33	33.47	24.96	301	0.06
51	11.18	33.35	30	13.56	33.42	25.08	289	0.09
77	10.84	33.62	50	11.18	33.35	25.48	251	0.14
101	10.34	33.68	75	10.84	33.62	25.74	226	0.20
126	9.97	33.79	100	10.35	33.68	25.88	213	0.26
165	9.73	33.95	150	9.80	33.91	26.16	187	0.36
204	9.34	34.02	200	9.38	34.01	26.31	172	0.45

ORCA; November 17, 1957; 0408 GCT;[a] 35°03'N, 121°19'W; sounding, 280 fm; wind, 350°, force 3; weather, partly cloudy; sea, very rough; wire angle, 09°. 7655

0	14.86	33.49	0	14.86	33.49	24.86	310	0.00
10	14.86	33.47	10	14.86	33.47	24.85	311	0.03
31	14.86	33.48	20	14.86	33.47	24.85	311	0.06
41	14.49	33.46	30	14.86	33.48	24.85	311	0.09
51	13.94	33.45	50	13.98	33.45	25.02	295	0.15
61	11.62	33.33	75	10.93	33.38	25.55	245	0.22
71	11.24	33.35	100	9.45	33.57	25.94	207	0.28
86	9.96	33.47	150	8.66	33.89	26.32	171	0.37
100	9.45	33.57	200	8.38	34.12	26.55	150	0.45
115	9.00	33.74	250	7.94	34.18	26.66	139	0.53
139	8.78	33.85	300	7.29	34.18	26.76	130	0.60
167	8.58	33.96	400	5.99	34.19	26.94	112	0.72
199	8.39	34.11	500	(5.35)	(34.27)	(27.08)	(99)	(0.83)
246	8.01	34.18						
293	7.38	34.18						
394	6.03	34.19						
494	5.39	34.27						

a) Special station occupied in study of currents.

S10

CCOFI
5711

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

80.55

ORCA; November 19, 1957; 0728 GCT; 34°19.5'N, 120°48.5'W; sounding, 400 fm; wind, 320°, force 3; weather, fog; sea, moderate; wire angle, 05°.

0	14.04	33.55	0	14.04	33.55	25.08	289	0.00
10	13.82	33.55[a]	10	13.82	33.55	25.12	285	0.03
30	12.65	33.51[a]	20	13.35	33.53	25.21	277	0.06
41	11.72	33.59	30	12.65	33.51	25.33	265	0.08
51	11.29	33.66	50	11.31	33.66	25.69	231	0.13
61	10.89	33.71	75	10.76	33.72	25.84	217	0.19
71	10.82	33.71	100	10.08	33.77	26.00	202	0.24
86	10.53	33.74	150	9.65	33.93	26.20	183	0.34
100	10.08	33.77	200	9.42	34.02	26.30	173	0.43
115	9.90	33.82	250	8.96	34.15	26.48	156	0.51
140	9.72	33.91	300	7.97	34.15	26.63	142	0.59
170	9.56	33.98	400	6.89	34.19	26.82	124	0.73
205	9.40	34.03	500	6.20	34.27	26.97	110	0.85
255	8.88	34.16						
334	7.27	34.14						
434	6.75	34.25						
565	5.49	34.27						

80.60

ORCA; November 19, 1957; 1057 GCT; 34°09.5'N, 121°10'W; sounding, 1000 fm; wind, 300°, force 2; weather, fog; sea, rough; wire angle, 04°.

0	15.59	33.44	0	15.59	33.44	24.66	329	0.00
10	14.54	33.46	10	14.54	33.46	24.91	305	0.03
31	13.48	33.54	20	13.77	33.52	25.11	286	0.06
42	13.30	33.53	30	13.50	33.54	25.18	280	0.09
52	12.06	33.51	50	12.47	33.51	25.37	261	0.14
62	9.96	33.33	75	9.59	33.38	25.78	222	0.20
72	9.68	33.37	100	8.98	33.55	26.01	201	0.26
87	9.24	33.42	150	8.48	33.87	26.34	170	0.35
101	8.96	33.55	200	7.96	34.03	26.55	150	0.43
115	8.78	33.71	250	7.41	34.05	26.64	141	0.51
140	8.60	33.82	300	7.01	34.13	26.75	130	0.58
169	8.27	33.96	400	6.05	34.18	26.92	115	0.70
204	7.90	34.04	500	5.59	34.27	27.05	102	0.82
253	7.38	34.05						
333	6.78	34.18						
433	5.76	34.18						
565	5.56	34.36						

80.70

ORCA; November 19, 1957; 1605 GCT; 33°49'N, 121°50'W; sounding, 2000+ fm; wind, 310°, force 3; weather, overcast; sea, rough; wire angle, 15°.

0	15.76	33.49	0	15.76	33.49	24.66	329	0.00
10	15.76	33.51	10	15.76	33.51	24.68	327	0.03
30	15.54	33.53	20	15.66	33.53	24.71	324	0.06
40	15.29	33.52	30	15.54	33.53	24.75	321	0.10
50	12.85	33.46[a]	50	12.85	33.46	25.25	273	0.16
60	11.75	33.50	75	10.89	33.54	25.68	232	0.22
69	11.12	33.52	100	9.84	33.67	25.96	205	0.28
83	10.60	33.58	150	9.44	34.01	26.30	174	0.37
97	9.84	33.64	200	8.79	34.12	26.48	156	0.45
111	9.88	33.82	250	7.84	34.09	26.60	144	0.53
134	9.60	33.95	300	7.04	34.09	26.71	134	0.60
161	9.32	34.06[a]	400	6.66	34.21	26.87	119	0.73
194	8.89	34.12	500	6.15	34.28	26.98	108	0.85
239	8.01	34.09						
315	6.84	34.09						
411	6.64	34.25						
541	5.84	34.29						

a) Possible evaporation; value falls on property curve.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
82.47-O	20	0905	34°15.0'	119°58.0'	300	calm		clear	slight	15.68	33.58	11.92	33.57
83.40-O	20	1700	34°14.0'	119°22.0'	12	270°	1	partly cloudy	slight	15.66	33.57	-	-
83.43-O	20	1135	34°08.0'	119°34.0'	130	calm		clear	smooth	15.82	33.60	12.36	33.58
83.51-O	20	0455	33°52.0'	120°05.0'	53	340°	7	clear	rough	15.20	33.55	13.08	33.54
83.55-O	20	0135	33°46.0'	120°25.0'	532	320°	6	overcast	very rough	15.68	33.44	14.91	33.39
83.60-O	19	2230	33°37.0'	120°47.0'	800	320°	5	overcast	rough	16.64	33.34	15.06	33.39
87.36-O	20	2120	33°48.0'	118°42.0'	480	270°	3	smog	moderate	17.28	33.61	12.50	33.49
87.40-O	21	0025	33°38.0'	119°03.0'	140	270°	1	clear	moderate	14.13	33.44	10.22	33.40
87.45-O	21	0235	33°30.0'	119°19.0'	917	-	1	clear	smooth	13.85	33.49	10.32	33.57
87.50-O	21	0530	33°20.0'	119°39.5'	38	080°	1	clear	moderate	14.46	33.52	11.22	33.38
87.55-O	21	0820	33°10.0'	120°00.0'	660	310°	4	clear	rough	14.78	33.49	10.72	33.59
87.60-O	21	1120	33°00.0'	120°21.0'	250	330°	5	clear	rough	14.35	33.49	10.62	33.57
90.28-O	23	1220	33°28.0'	117°46.0'	100	calm		clear	calm	16.68	33.62	12.92	33.46
90.30-O	23	1030	33°25.0'	117°55.0'	340	040°	2	clear	smooth	16.70	33.62	13.72	33.46
90.37-O	22	0905	33°14.5'	118°27.5'	650	040°	3	clear	moderate	16.12	33.59	11.44	33.55
90.45-O	22	0225	32°55.0'	118°56.0'	950	060°	5	clear	rough	15.08	33.42	13.54	33.40
90.50-O	21	2245	32°50.5'	119°21.0'	206	070°	5	clear	rough	15.29	33.42	11.86	33.40
90.55-O	21	1935	32°41.5'	119°42.0'	300	350°	3	clear	rough	15.77	33.44	15.50	33.43
90.60-O	21	1630	32°32.5'	120°03.0'	450	330°	5	clear	rough	15.86	33.48	15.17	33.46

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
93.27-O	23	1720	32°55.0'	117°20.0'	86	270°	1	cloudy	calm	16.56	33.60	13.56	33.60
93.30-O	23	1915	32°48.0'	117°32.0'	400	-	1	cloudy	calm	17.58	33.68	14.50	33.48
93.35-O	23	2210	32°39.0'	117°52.0'	350	310°	2	cloudy	calm	17.41	33.64	13.62	33.49
93.40-O	24	0045	32°29.0'	118°13.0'	925	310°	3	cloudy	slight	17.38	33.71	13.18	33.48
93.45-O	24	0345	32°19.0'	118°33.0'	900	310°	2	cloudy	moderate	17.00	33.68	12.04	33.46
93.50-O	24	0630	32°10.0'	118°53.0'	800	calm		cloudy	smooth	15.24	33.46	13.14	33.36
93.55-O	24	0925	32°00.0'	119°14.0'	750	300°	1	clear	calm	16.13	33.63	11.85	33.70
93.60-O	24	1210	31°50.0'	119°33.0'	1500	300°	2	clear	slight	15.80	33.55	12.98	33.46
97.30-O	25	1230	32°15.0'	117°08.0'	33	calm		clear	calm	14.70	33.61	13.35	33.65
97.32-O	25	1050	32°11.0'	117°16.0'	700	calm		clear	calm	15.88	33.60	12.72	33.55
97.40-O	25	0430	32°00.0'	117°50.0'	800	-	1	clear	calm	16.42	33.60	13.54	33.54
97.45-O	25	0110	31°45.0'	118°10.0'	800	-	1	partly cloudy	slight	17.16	33.64	12.67	33.45
97.50-O	24	2225	31°35.0'	118°30.0'	1320	360°	1	clear	slight	15.90	33.53	14.32	33.48
97.55-O	24	1940	31°25.0'	118°50.0'	900	300°	1	clear	slight	17.16	33.69	16.64	33.49
97.60-O	24	1700	31°16.0'	119°11.0'	2000	360°	2	partly cloudy	moderate	17.07	33.68	16.49	33.66

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