DRAFTING ROOM

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UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5911
16-25 November 1959

and

CCOFI Cruise 5912
9-19 December 1959

SIO Reference 61-21
24 April 1961

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5911
16-25 November 1959

and

CCOFI CRUISE 5912
9-19 December 1959

Sponsored by

Marine Research Committee

SIO Reference 61-21
24 April 1961

Approved for distribution:

Roger Revelle

Roger Revelle, Director

CONTENTS

INTRODUCTION

The data presented in this report were collected on the one hundred and twenty-sixth and one hundred and twenty-seventh consecutive cruises of the California Cooperative Oceanic Fisheries Investigations program. Two vessels of the Scripps Institution participated in these cruises: R/V Paolina-T, in Cruise 5911; R/V Orca, in Cruise 5912.

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

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.

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

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

FOOTNOTES

Laboratory personnel, before titrating the salinity samples, note any possible imperfections in the sealing of the bottles as follows:

Loose bottle cap:	The cap is definitely loose so that it could be moved with very little applied pressure. The salinity values obtained from these samples may be usable depending on time and/or conditions of storage.
Possible evaporation:	Either the cap was sealed with less than usual pressure, the bottle edge chipped, the rubber washer cracked, or the bale broke on opening, etc.

Use of the above values in interpolation depends upon consistency with other values of salinity and other properties, and these footnotes are supplemented with "falls on property curve" or "does not fall on property curve," depending upon whether the property curve was drawn through the value or not.

In addition to 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.

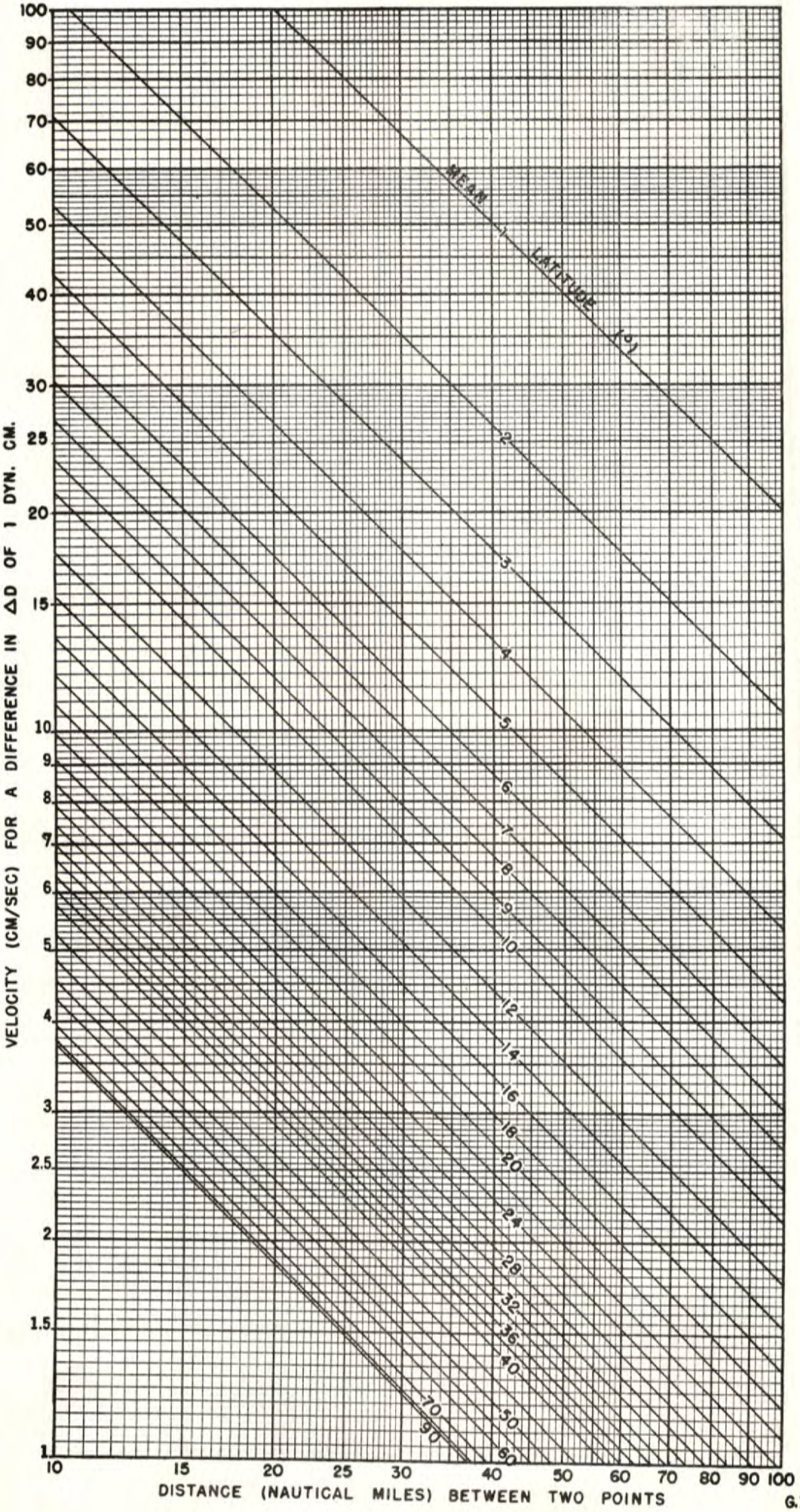
Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

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 1959 volume, the first page of the Cruise 5911 data is numbered 450; Cruise 5912, 461.


VELOCITY OF GEOSTROPHIC FLOW
VELOCITY (CM/SEC) FOR A DIFFERENCE IN ΔD OF 1 DYN. CM.
DISTANCE (NAUTICAL MILES) BETWEEN TWO POINTS
MEAN LATITUDE (φ)
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
4
3
2.5
2
1.5
1
10
15
20
25
30
40
50
60
70
80
90
100
1
2
3
4
5
6
7
8
9
10
12
14
16
18
20
24
28
32
36
40
50
60
70
90
G.I.R.

FIGURES

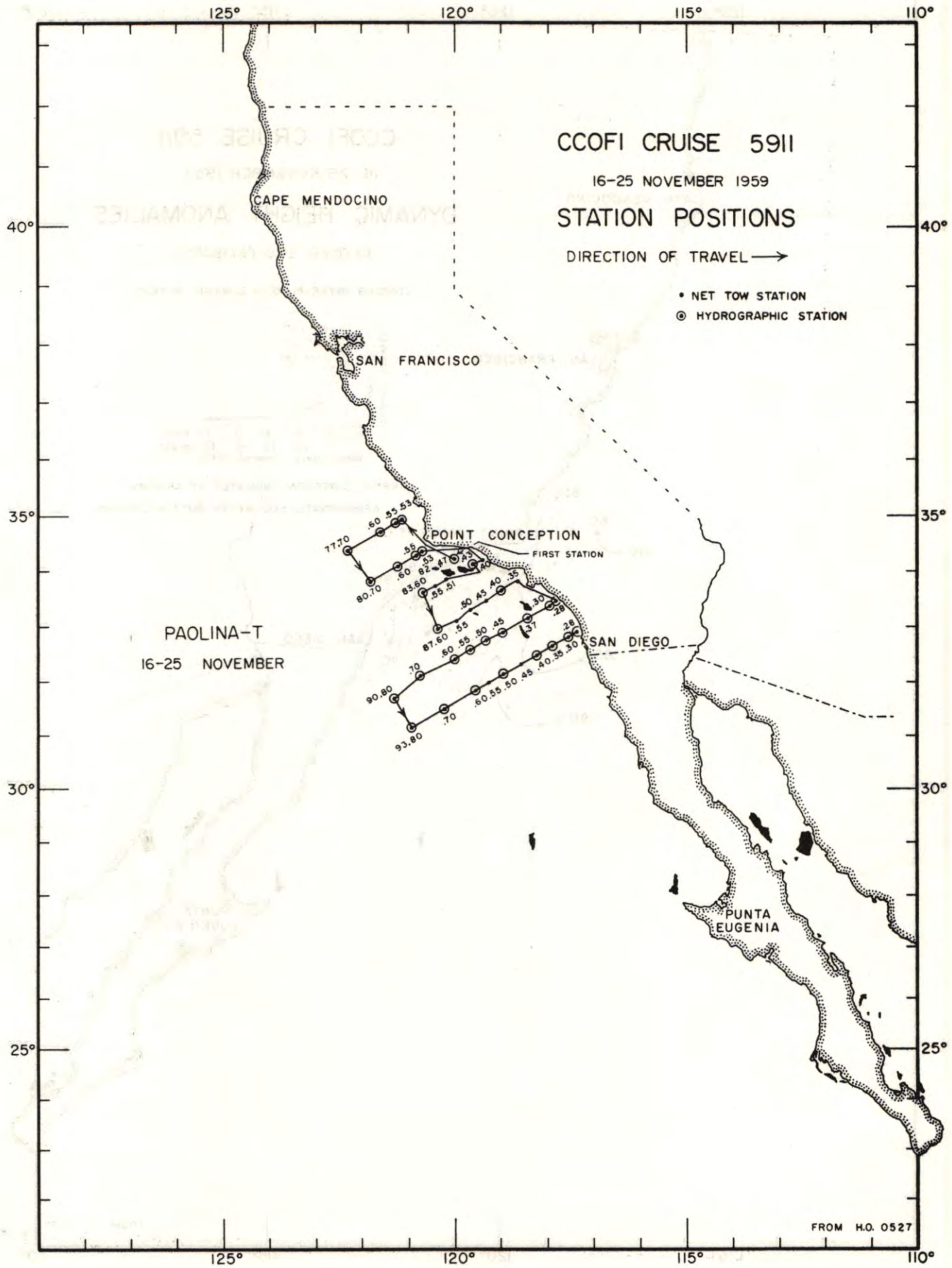

CCOFI CRUISE 5911
16-25 NOVEMBER 1959
STATION POSITIONS
DIRECTION OF TRAVEL
• NET TOW STATION
⊙ HYDROGRAPHIC STATION
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
FIRST STATION
SAN DIEGO
PUNTA EUGENIA
PAOLINA-T
16-25 NOVEMBER
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 1

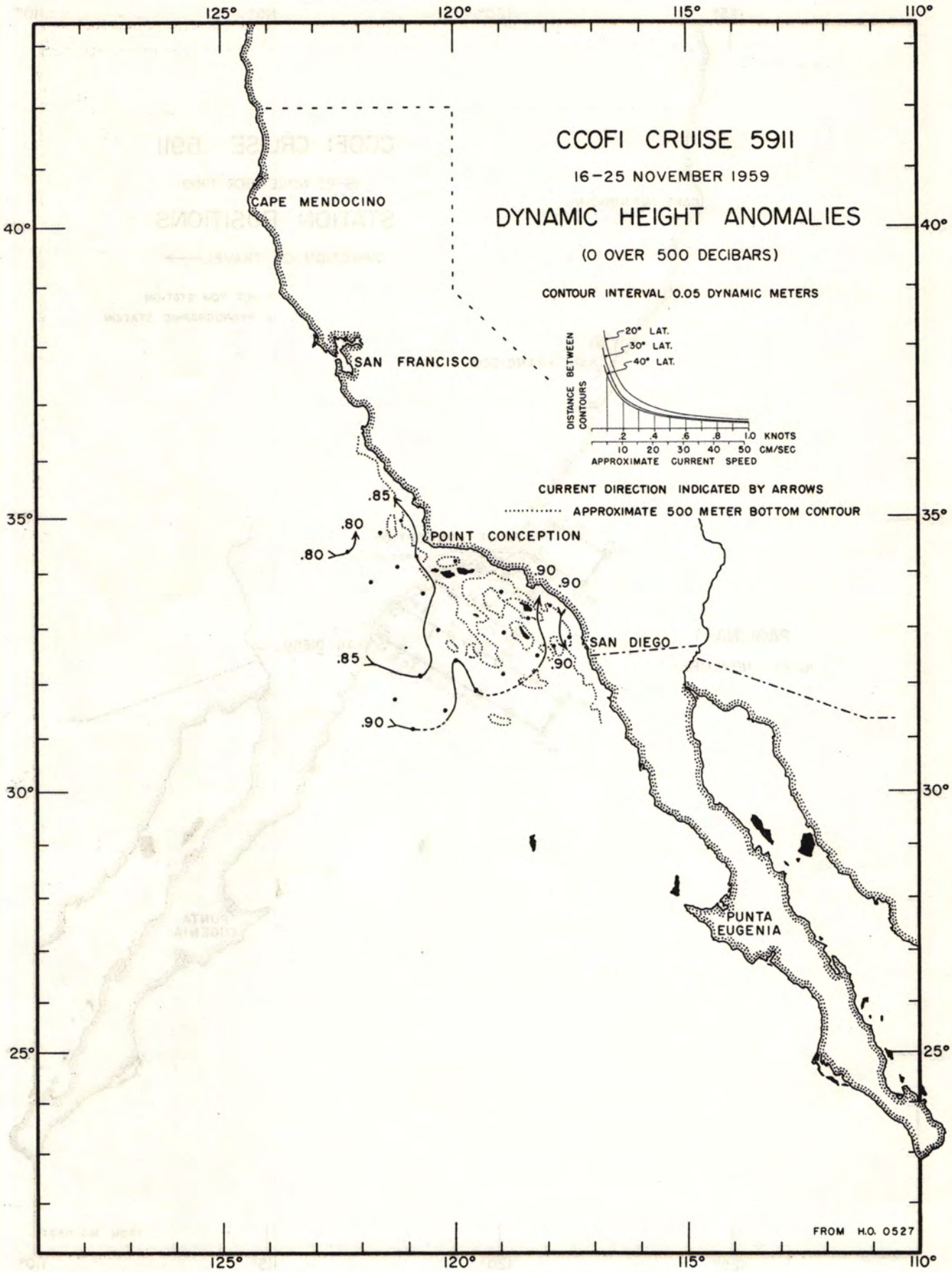

CCOFI CRUISE 5911
16-25 NOVEMBER 1959
DYNAMIC HEIGHT ANOMALIES
(0 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.05 DYNAMIC METERS
20° LAT.
30° LAT.
40° LAT.
DISTANCE BETWEEN CONTOURS
.2 .4 .6 .8 1.0 KNOTS
10 20 30 40 50 CM/SEC
APPROXIMATE CURRENT SPEED
CURRENT DIRECTION INDICATED BY ARROWS
APPROXIMATE 500 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
.85
.80
.80
.90
.90
.85
.90
125°
120°
115°
110°
40°
35°
30°
25°
FROM H.O. 0527

FIGURE 2

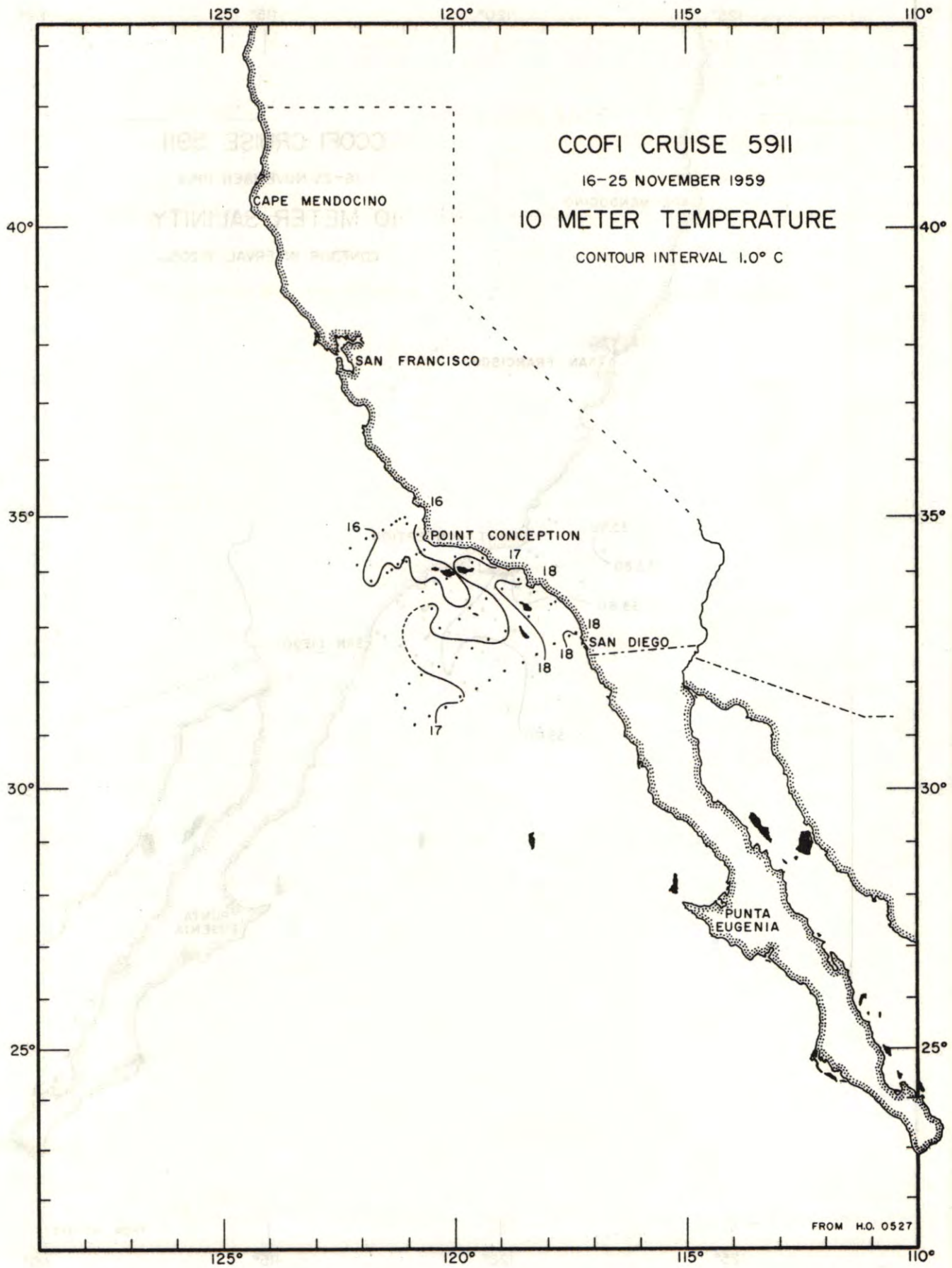

CCOFI CRUISE 5911
16-25 NOVEMBER 1959
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0° C
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°
16
17
18

FIGURE 3

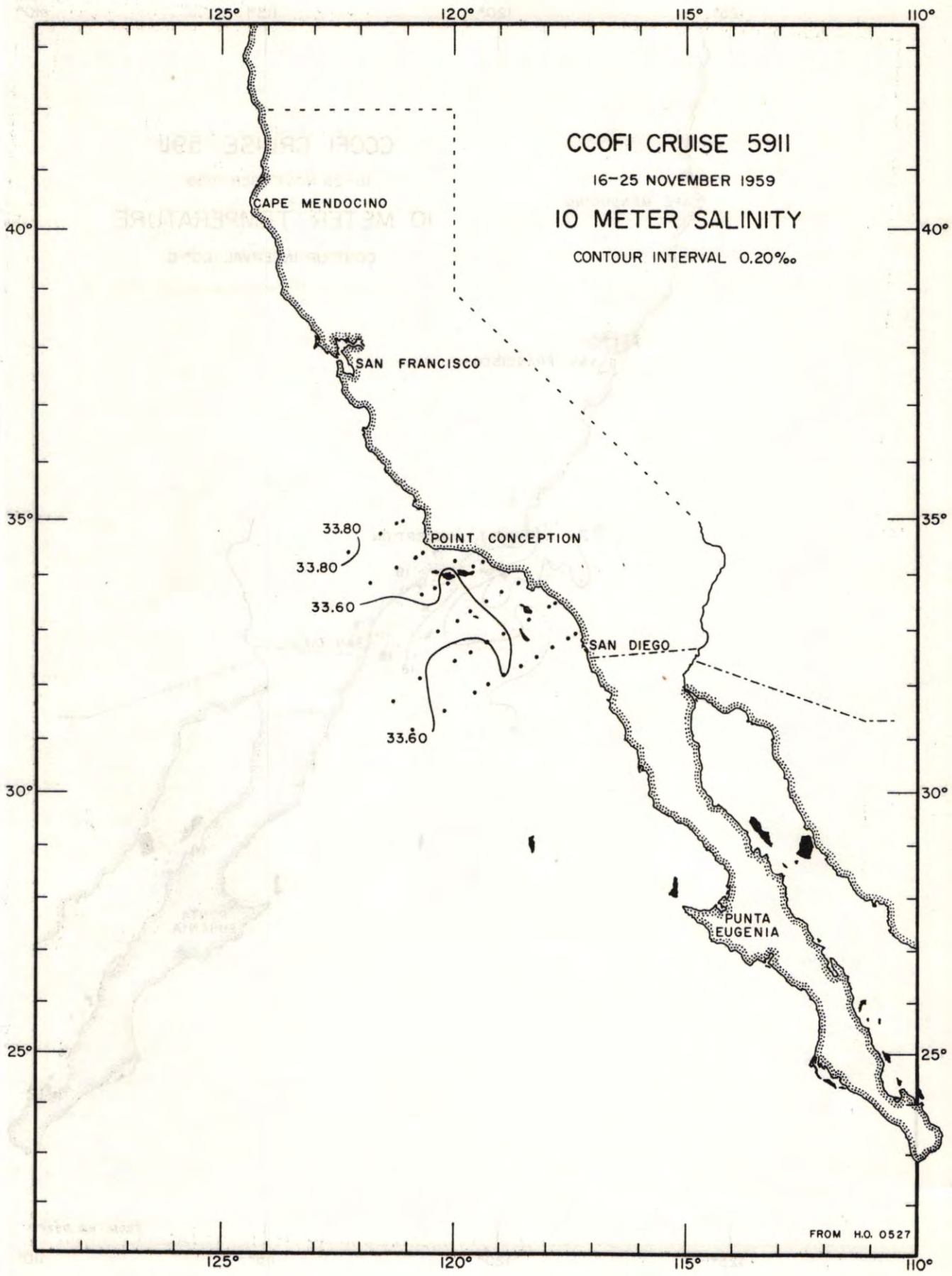

CCOFI CRUISE 5911
16–25 NOVEMBER 1959
10 METER SALINITY
CONTOUR INTERVAL 0.20‰
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
33.80
33.80
33.60
33.60
125°
120°
115°
110°
40°
35°
30°
25°
FROM H.O. 0527

FIGURE 4

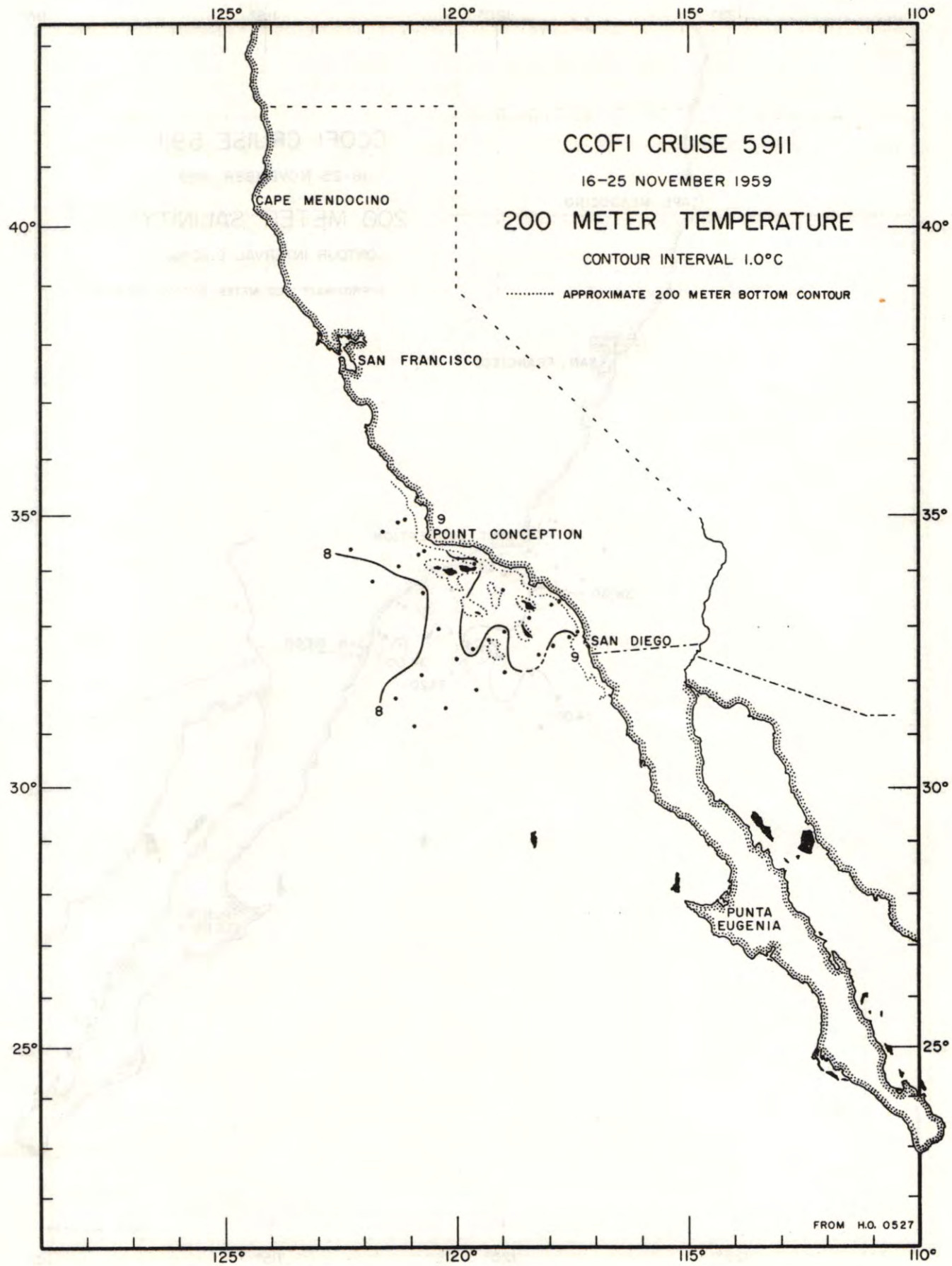

CCOFI CRUISE 5911
16-25 NOVEMBER 1959
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°
9
8

FIGURE 5

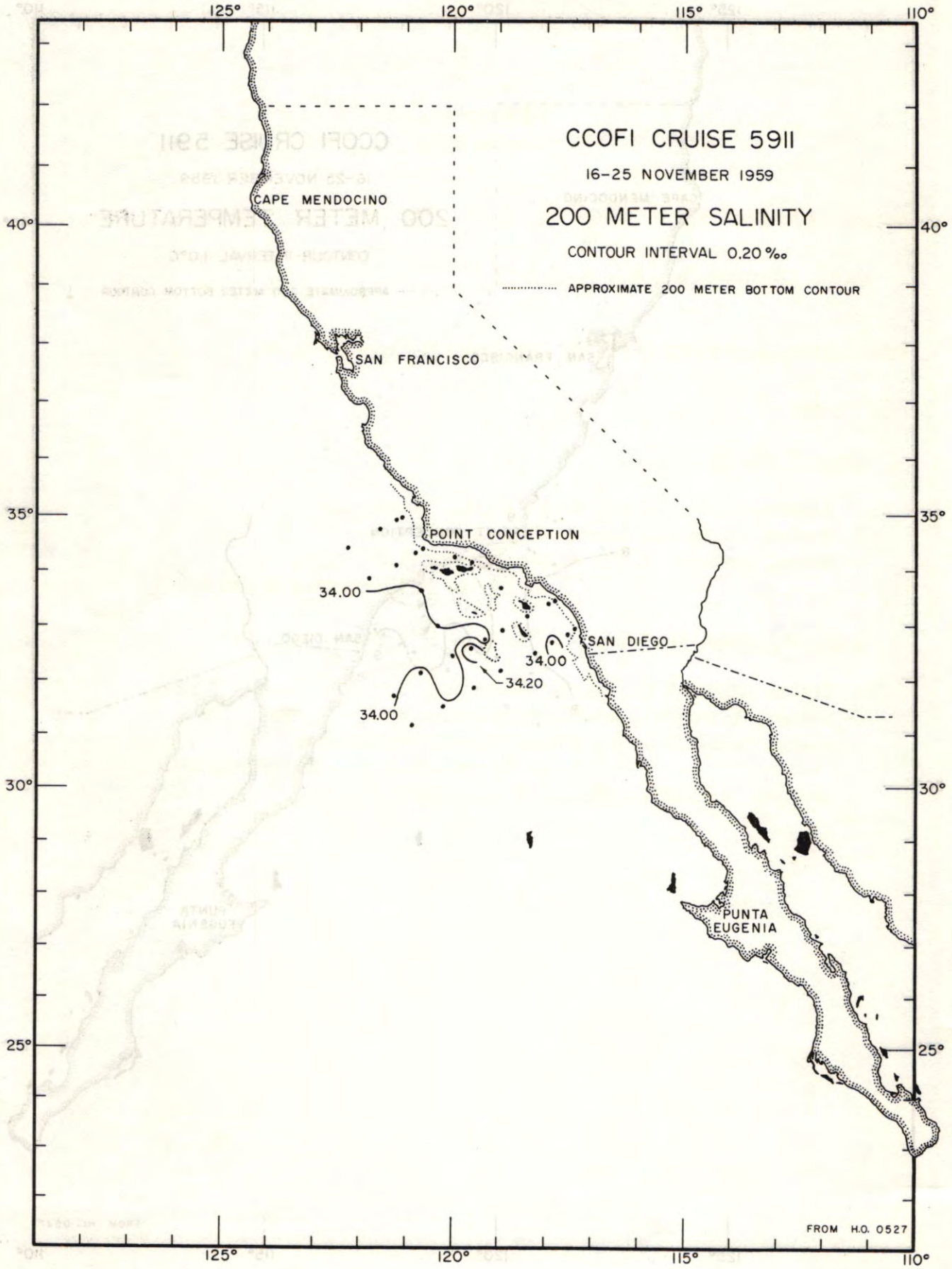

CCOFI CRUISE 5911
16-25 NOVEMBER 1959
200 METER SALINITY
CONTOUR INTERVAL 0.20 ‰
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
34.00
34.00
34.20
34.00
125°
120°
115°
110°
40°
35°
30°
25°
FROM H.O. 0527

FIGURE 6

PERSONNEL
Cruise 5911

SHIP'S CAPTAIN

Davis, Cleveland H., R/V Paolina-T

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Paolina-T

Lines 77 and 80

Anderson, Norman E., Senior Marine Technician
Fisher, Oliver L., Marine Technician
Leong, Roderick J. H., Fishery Research Biologist,
U. S. Bureau of Commercial Fisheries

Lines 83 through 93

Bottom, Kenneth S., Marine Technician
Hester, Arthur W., Marine Technician
Leong, Roderick J. H., Fishery Research Biologist,
U. S. Bureau of Commercial Fisheries
Mantyla, Arnold W., Marine Technician

SIO

CCOFI
5911

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
77.53	PAOLINA-T; November 18, 1959; 0728 GCT; 34°57.5'N, 121°06'W; sounding, 280 fm; wind, 290°, force 2; weather, cloudy; sea, slight; wire angle, 02°.										
2	15.74	33.57	5.59	323	0	(15.74)	(33.57)	(5.59)	(24.73)	(323)	(0.00)
12	15.57	33.62	5.57	315	10	15.59	33.62	5.58	24.80	316	0.03
32	14.04	33.58	4.97	287	20	15.52	33.62	5.55	24.82	314	0.06
41	12.60	33.55	4.49	262	30	14.50	33.59	5.17	25.01	296	0.09
52	11.21	33.60	3.98	233	50	11.53	33.58	4.07	25.60	240	0.15
62	10.74	33.64	3.88	222	75	10.57	33.64	3.66	25.82	219	0.20
72	10.59	33.64	3.68	220	100	10.12	33.76	3.17	26.00	202	0.26
87	10.41	33.70	3.52	212	125	9.73	33.87	2.92	26.14	188	0.31
102	10.08	33.77	3.16	202	150	9.38	33.89	2.76	26.21	182	0.36
117	9.84	33.86	2.99	191	200	8.71	34.02	2.41	26.42	162	0.44
142	9.50	33.89	2.80	183	250	8.24	34.18	1.70	26.62	143	0.52
172	9.06	33.89	2.66	177	300	7.62	34.17	1.66	26.70	135	0.59
207	8.64	34.06	2.33	158	400	7.13	34.27	0.94	26.85	121	0.72
257	8.18	34.19	1.62	141	500	5.83	34.39	0.36	27.11	96	0.84
307	7.54	34.17	1.68	134							
411	7.07	34.28	0.82	120							
512	5.68	34.42a)	0.30	92							
77.55	PAOLINA-T; November 18, 1959; 1052 GCT; 34°54'N, 121°13'W; sounding, 280 fm; wind, 290°, force 2; weather, cloudy; sea, slight; wire angle, 02°.										
2	15.68	33.66	5.61b)	314	0	(15.68)	(33.66)	(5.61)	(24.82)	(314)	
12	15.66	33.69	5.58	312	10	15.66	33.65	5.59	24.83	313	
-	-	-	-	-	20						
-	-	-	-	-	30						
-	-	-	-	-	50						
-	-	-	-	-	75						
-	-	-	-	-	100						
-	-	-	-	-	125						
-	-	-	-	-	150						
-	-	-	-	-	200	8.71	34.12	1.99	26.50	154	
-	-	-	-	-	250	8.16	34.19	1.66	26.64	141	
172	9.10	34.03	2.43	168	300	7.82	34.24	1.22	26.73	132	
207	8.62	34.15	1.91	151	400	6.99	34.32	0.70	26.91	115	
256	8.10	34.20	1.63	140	500	6.14	34.31	0.51	27.02	105	
306	7.79	34.25	1.17	131							
410	6.90	34.33	0.68	113							
510	6.06	34.31	0.49	105							
77.60	PAOLINA-T; November 18, 1959; 1441 GCT; 34°43'N, 121°34'W; sounding, 500 fm; wind, 290°, force 2; weather, cloudy; sea, slight; wire angle, 02°.										
2	15.56	33.64	5.49	314	0	(15.56)	(33.64)	(5.49)	(24.82)	(314)	(0.00)
12	15.57	33.66	5.29	312	10	15.57	33.65	5.33	24.83	313	0.03
32	12.93	33.56	4.46	267	20	15.55	33.66	5.27	24.84	312	0.06
42	11.74	33.55	4.06	246	30	13.02	33.56	4.49	25.30	268	0.09
52	11.23	33.59	3.80	235	50	11.32	33.58	3.83	25.64	236	0.14
67	10.46	33.68	3.55	214	75	10.10	33.75	3.34	25.98	203	0.20
82	9.80	33.84	3.04	192	100	9.47	33.90	2.78	26.21	182	0.25
102	9.44	33.91	2.78	181	125	9.29	33.99	2.51	26.30	173	0.29
127	9.24	34.00	2.45	171	150	9.03	34.06	2.14	26.40	164	0.33
147	9.07	34.06	2.17	164	200	8.68	34.12	1.95	26.50	154	0.41
177	8.84	34.09	2.06	159	250	8.37	34.19	1.43	26.60	144	0.49
207	8.62	34.14	1.89	152	300	8.10	34.22	1.30	26.67	138	0.56
237	8.44	34.18	1.51	146	400	7.49	34.31	1.04	26.83	123	0.70
277	8.25	34.21	1.35	141	500	6.78	34.26	0.60	26.89	117	0.82
337	7.86	34.26	1.22	132							
402	7.48	34.31	1.02	123							
487	6.90	34.27	0.64	118							
566	6.28	34.33	0.48	106							

a) The use of this value results in an unusual density structure, but nevertheless the value was accepted in drawing the property curve.

b) Alternate value, 5.76 ml/L, not used in interpolation.

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m

PAOLINA-T; November 18, 1959; 2041 GCT; 34°24'N, 122°16'W; sounding, 2200 fm; wind, 310°, force 3; weather, cloudy; sea, rough; wire angle, 09°. 77.70

2	16.40	33.81	5.33	320	0	(16.40)	(33.81)	(5.33)	(24.76)	(320)	(0.00)
12	16.40	33.84	5.39	317	10	16.40	33.84	5.39	24.78	318	0.03
32	16.40	33.86	5.34	316	20	16.40	33.85	5.39	24.78	317	0.06
42	15.36	33.76	4.79	301	30	16.40	33.86	5.36	24.80	316	0.10
52	13.02	33.71	4.07	258	50	13.50	33.71	4.18	25.32	267	0.15
66	10.72	33.83	3.24	208	75	10.42	33.84	3.09	25.99	202	0.21
82	10.04	33.82	2.91	197	100	9.46	33.88	2.63	26.19	184	0.26
100	9.46	33.88	2.63	184	125	9.08	33.92	2.39	26.28	174	0.31
125	9.06	33.92	2.39	174	150	8.67	33.97	2.36	26.38	165	0.35
144	8.74	33.96	2.39	167	200	8.04	34.09	1.67	26.58	146	0.43
173	8.33	34.05	2.02	154	250	7.60	34.21	1.22	26.73	132	0.50
202	8.02	34.10	1.64	146	300	7.27	34.25	0.94	26.81	125	0.57
232	7.73	34.18	1.35	136	400	6.52	34.33	0.50	26.98	108	0.69
271	7.47	34.23	1.11	129	500	5.79	34.31	0.29	27.07	101	0.80
330	7.06	34.27	0.74	120							
405	6.49	34.34	0.48	107							
480	5.92	34.31	0.33	103							
559	5.42	34.34	0.23	95							

PAOLINA-T; November 19, 1959; 1805 GCT; 34°22.5'N, 120°40'W; sounding, 250 fm; wind, 320°, force 5; weather, clear; sea, very rough; wire angle, 04°. 80.53

2	16.48	33.66	5.57	333	0	(16.48)	(33.66)	(5.57)	(24.62)	(333)	(0.00)
12	16.47	33.62	5.54	335	10	16.47	33.62	5.55	24.60	335	0.03
33	14.52	33.57	4.96	297	20	15.41	33.58	5.20	24.80	315	0.07
51	12.05	33.52	4.42	254	30	14.53	33.55	4.97	24.98	299	0.10
77	10.71	33.57	4.04	226	50	12.14	33.52	4.45	25.44	255	0.15
102	10.24	33.71	3.75	209	75	10.73	33.57	4.04	25.73	227	0.21
126	9.86	33.71	3.57	202	100	10.25	33.71	3.77	25.92	209	0.27
165	9.33	33.89	2.82	181	125	9.88	33.71	3.58	25.98	203	0.32
206	8.62	34.05	1.98	158	150	9.52	33.81	3.15	26.12	190	0.37
256	7.97	34.16	1.36	140	200	8.72	34.04	2.08	26.43	161	0.46
306	7.63	34.23	1.06	131	250	8.01	34.15	1.42	26.62	142	0.54
412	6.80	34.26	0.60	118	300	7.66	34.23	1.05	26.73	132	0.61
					400	6.90	34.26	0.64	26.87	119	0.74

PAOLINA-T; November 19, 1959; 1546 GCT; 34°18.5'N, 120°48.5'W; sounding, 400 fm; wind, 320°, force 5; weather, cloudy; sea, very rough; wire angle, 17°. 80.55

2	15.82	33.64	5.49	319	0	(15.82)	(33.64)	(5.49)	(24.76)	(319)	(0.00)
11	15.81	33.64	5.51	319	10	15.81	33.64	5.50	24.76	319	0.03
31	15.66	33.71	5.51	311	20	15.75	33.65	5.51	24.78	317	0.06
60	12.03	33.59	4.35	248	30	15.67	33.71	5.51	24.85	311	0.10
69	10.60	33.62	3.95	221	50	15.50	33.70	5.50	24.89	307	0.16
82	10.34	33.67	3.62	213	75	10.43	33.64	3.78	25.84	217	0.22
97	-	-	-	-	100	10.15	33.78	3.38	26.00	202	0.28
112	9.55	33.82	3.12	189	125	9.48	33.82	3.08	26.14	188	0.33
136	9.40	33.83	3.04	186	150	9.14	33.93	2.62	26.28	175	0.37
155	9.06	33.96	2.44	171	200	8.72	34.10	1.80	26.48	156	0.46
183	8.88	34.02	2.03	164	250	8.19	34.11	1.53	26.56	148	0.53
212	8.60	34.12	1.70	153	300	7.74	34.21	1.04	26.71	134	0.60
241	8.28	34.10	1.60	150	400	6.90	34.29	0.74	26.89	117	0.74
290	7.85	34.20	1.08	136	500	6.25	34.31	0.50	27.00	107	0.85
343	7.28	34.23	0.94	126	600	(5.63)	(34.33)	(0.29)	(27.09)	(98)	(0.96)
426	6.74	34.30	0.65	114							
511	6.18	34.31	-	106							
594	5.66	34.33	0.29	98							

SIO
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5911

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
80.60	PAOLINA-T; November 19, 1959; 1020 GCT; 34°06.5'N, 121°12.5'W; sounding, 2000+ fm; wind, 320°, force 7; weather, cloudy; sea, rough; wire angle, 16°.										
4	15.84	33.62	5.57	321	0	(15.9)	(33.62)		(24.74)	(321)	(0.00)
13	15.86	33.60	5.62	323	10	15.85	33.61	5.61	24.73	322	0.03
33	15.87	33.59	5.59	324	20	15.86	33.60	5.61	24.71	323	0.06
42	15.89	33.63	5.59	321	30	15.87	33.59	5.61	24.71	324	0.10
56	-	-	-	-	50	15.87	33.58	5.19	24.96	300	0.16
71	11.06	33.58	4.13	232	75	10.66	33.59	4.03	25.74	226	0.23
95	-	-	-	-	100	9.89	33.76	3.61	26.03	199	0.28
114	9.12	33.80	3.34	184	125	8.96	33.85	3.09	26.25	178	0.33
133	8.84	33.91	2.87	172	150	8.59	34.04	2.59	26.45	159	0.37
151	8.58	34.04	2.58	158	200	8.11	34.11	1.99	26.58	146	0.45
179	8.34	34.07	2.34	153	250	7.42	34.21	1.37	26.76	129	0.52
212	7.95	34.14	1.73	142	300	7.07	34.27	0.98	26.86	120	0.58
240	7.53	34.20	1.45	132	400	6.51	34.32	0.67	26.97	109	0.70
287	7.12	34.25	1.06	122	500	5.97	34.31	0.67	27.04	103	0.81
340	6.95	34.34	0.78	113	600	(5.50)	(34.38)	(0.33)	(27.15)	(93)	(0.91)
424	6.34	34.31	0.64	108							
508	5.92	34.32	0.66	102							
591	5.54	34.37	0.37	94							
80.70	PAOLINA-T; November 19, 1959; 0340 GCT; 33°50'N, 121°48'W; sounding, 2000 fm; wind, 310°, force 3; weather, overcast; sea, rough; wire angle, 10°.										
2	15.82	33.62	5.43	321	0	(15.82)	(33.62)	(5.43)	(24.75)	(321)	(0.00)
12	15.82	33.67	5.56	317	10	15.82	33.66	5.54	24.78	318	0.03
31	15.80	33.64	5.40	319	20	15.81	33.64	5.40	24.77	319	0.06
61	11.74	33.44	4.60	254	30	15.80	33.64	5.40	24.77	319	0.10
70	11.12	33.60	3.96	231	50	15.74	33.63	5.38	24.78	318	0.16
85	10.2	33.66	3.64	211	75	11.02	33.62	3.89	25.72	229	0.23
99	9.41	33.73	3.53	194	100	9.39	33.73	3.52	26.09	193	0.28
114	9.11	33.86	2.98	180	125	8.92	33.92	2.75	26.31	172	0.33
139	8.70	34.00	2.57	163	150	8.60	34.01	2.42	26.43	161	0.37
158	8.54	34.02	2.36	159	200	7.83	34.07	2.30	26.59	145	0.45
187	7.92	34.06	2.67	147	250	7.14	34.19	1.79	26.78	127	0.52
216	7.78	34.09	1.81	143	300	6.60	34.18	1.45	26.85	121	0.58
245	7.22	34.19	1.82a)	128	400	5.96	34.20	0.83	26.95	111	0.70
295	6.63	34.18	1.48	121	500	5.50	34.29	0.49	27.08	99	0.81
349	6.28	34.17	1.01	118	600	5.13	34.37	0.29	27.19	89	0.91
434	5.78	34.24	0.70	106							
519	5.44	34.31	0.41	97							
604	5.12	34.38	0.28	88							
82.47	PAOLINA-T; November 17, 1959; 2116 GCT; 34°13.5'N, 119°58.5'W; sounding, 310 fm; wind, 280°, force 3; weather, partly cloudy; sea, slight; wire angle, 00°.										
2	17.42	33.68	5.27	352	0	(17.42)	(33.68)	(5.27)	(24.42)	(352)	(0.00)
12	16.85	33.68	5.30	339	10	17.00	33.68	5.30	24.53	342	0.03
37	13.99	33.52	5.01	290	20	16.02	33.65	5.29	24.66	329	0.07
47	13.00	33.53	4.69	270	30	14.80	33.61	5.25	24.77	319	0.10
62	12.37	33.51	4.63	260	50	13.00	33.54	4.69	25.28	270	0.16
77	11.16	33.77	3.85	220	75	11.35	33.76	3.98	25.76	224	0.22
97	9.90	33.77	3.10	199	100	9.82	33.78	3.07	26.04	197	0.28
122	9.53	33.86	2.82	186	125	9.51	33.88	2.77	26.18	184	0.32
147	9.41	34.00	2.37	174	150	9.39	34.00	2.35	26.30	173	0.37
166	9.27	34.02	2.12	170	200	9.00	34.10	1.70	26.44	160	0.45
216	8.88	34.14	1.52	155	250	8.52	34.20	1.16	26.59	146	0.53
265	8.35	34.22	0.99	142	300	7.96	34.22	0.82	26.69	136	0.60
325	7.70	34.22	0.72	132	400	7.00	34.27	0.36	26.87	119	0.74
384	7.13	34.26	0.42	122	500	6.53	34.30	0.06	26.95	111	0.86
444	6.68	34.29	0.11	114							
493	6.54	34.30	0.03	111							
523	6.52	34.29	0.09	111							
553	6.52	34.34	0.04	108							

a) Alternate value, 2.00 ml/L, not used in interpolation.

OBSERVED					INTERPOLATED				COMPUTED			
Z m	T °C	S ‰	O_2 ml/L	δ_{T_3} 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δ_{T_3} 10^{-5} cm/g	ΔD dyn. m	
PAOLINA-T; November 20, 1959; 1440 GCT; 34°07.5'N, 119°34'W; sounding, 130 fm; wind, 320°, force 1; weather, clear; sea, slight; wire angle, 04°.												8343
2	17.26	33.68	5.43	348	0	(17.26)	(33.68)	(5.43)	(24.46)	(348)	(0.00)	
12	17.04	33.66	5.49	345	10	17.07	33.66	5.48	24.49	345	0.03	
32	16.28	33.61	5.56	331	20	17.00	33.65	5.50	24.50	344	0.07	
52	14.28	33.54	5.24	295	30	16.35	33.62	5.55	24.62	333	0.10	
77	11.92	33.60	4.38	245	50	14.29	33.53	5.25	25.01	296	0.17	
102	10.58	33.71	3.75	214	75	12.10	33.59	4.43	25.50	249	0.23	
127	9.97	33.75	3.35	201	100	10.61	33.70	3.78	25.86	215	0.29	
167	9.32	33.93	2.69	178	125	10.00	33.75	3.39	26.00	202	0.35	
207	8.90	34.09	1.96	159	150	9.55	33.85	2.99	26.15	187	0.40	
					200	8.96	34.07	2.08	26.42	162	0.48	
PAOLINA-T; November 21, 1959; 0240 GCT; 33°37'N, 120°40'W; sounding, 740 fm; wind, 320°, force 4; weather, partly cloudy; sea, very rough; wire angle, 15°.												8360
1	16.12	33.63	5.33	326	0	(16.12)	(33.63)	(5.33)	(24.69)	(326)	(0.00)	
11	16.12	33.61	5.36	328	10	16.12	33.61	5.36	24.68	327	0.03	
31	16.07	33.64	5.40	325	20	16.10	33.62	5.39	24.69	326	0.07	
59	12.45	33.37	4.68	272	30	16.08	33.64	5.40	24.70	325	0.10	
69	10.89	33.48	4.17	236	50	15.99	33.64	5.39	24.73	323	0.16	
83	10.10	33.51	4.03	221	75	10.52	33.49	4.10	25.71	229	0.23	
97	9.54	33.62	3.78	204	100	9.42	33.65	3.69	26.02	200	0.29	
111	9.06	33.75	3.42	187	125	8.84	33.85	3.25	26.27	176	0.33	
135	8.72	33.89	3.22	172	150	8.57	33.94	3.30	26.37	166	0.38	
154	8.53	33.95	3.30	164	200	7.90	34.00	3.08	26.53	151	0.46	
182	8.19	34.02	3.13	154	250	7.28	34.09	2.09	26.68	137	0.53	
211	7.73	34.00	3.05	149	300	7.18	34.18	1.12	26.77	128	0.60	
240	7.32	34.07	2.43	138	400	6.43	34.30	0.66	26.97	110	0.72	
288	7.24	34.16	1.24	131	500	5.94	34.34	0.49	27.06	101	0.83	
342	6.79	34.27	0.92	116	600	(5.38)	(34.38)	(0.25)	(27.17)	(91)	(0.93)	
425	6.32	34.31	0.59	108								
509	5.90	34.34	0.48	100								
593	5.41	34.38	0.26	92								
PAOLINA-T; November 21, 1959; 2111 GCT; 33°40'N, 118°58'W; sounding, 410 fm; wind, 320°, force 2; weather, partly cloudy; sea, moderate; wire angle, 00°.												8740
1	18.36	33.76	5.31	367	0	(18.36)	(33.76)	(5.31)	(24.26)	(367)	(0.00)	
11	18.14	33.77	5.39	362	10	18.17	33.77	5.37	24.31	362	0.04	
30	15.91	33.57	5.64a)	326	20	18.10	33.77	5.40	24.33	361	0.07	
41	14.34	33.53	5.27	297	30	15.91	33.57	5.64	24.69	326	0.11	
56	12.89	33.56	4.71	266	50	13.40	33.54	4.91	25.21	277	0.17	
71	12.13	33.60	4.43	250	75	11.91	33.62	4.33	25.55	244	0.23	
96	10.92	33.66	4.01	224	100	10.75	33.67	3.97	25.80	220	0.29	
116	10.22	33.70	3.80	209	125	10.02	33.74	3.62	25.99	203	0.34	
135	9.86	33.84	3.32	193	150	9.60	33.91	2.90	26.20	183	0.40	
155	9.50	33.93	2.77	180	200	9.10	34.14	2.00	26.45	159	0.48	
185	9.24	34.14	2.03	161	250	8.44	34.20	1.49	26.60	144	0.56	
220	8.86	34.13	1.98	156	300	7.95	34.28	1.17	26.74	131	0.63	
249	8.46	34.20	1.50	145	400	7.12	34.30	0.80	26.87	119	0.76	
299	7.96	34.28	1.17	131	500	6.41	34.33	0.46	27.00	107	0.88	
354	7.48	34.30	0.92	124	600	5.87	34.40	0.33	27.12	95	0.98	
438	6.84	34.31	0.71	114								
523	6.24	34.34	0.39	105								
608	5.84	34.42	0.32	94								

a) Alternate value, 5.78 ml/L, not used in interpolation.

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3^{-5} 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3^{-5} 10^{-5} cm/g	ΔD dyn. m
87.60	PAOLINA-T; November 21, 1959; 0840 GCT; 32°58.5'N, 120°20'W; sounding, 410 fm; wind, 320°, force 4; weather, clear; sea, rough; wire angle, 10°.										
3	16.76	33.58	5.49	344	0	(16.76)	(33.58)	(5.49)	(24.50)	(344)	(0.00)
13	16.76	33.55	5.40	346	10	16.76	33.55	5.40	24.48	346	0.03
33	16.76	33.58	5.41	344	20	16.76	33.55	5.40	24.48	346	0.07
62	13.96	33.45	5.49	295	30	16.76	33.57	5.40	24.49	345	0.10
72	12.90	33.51	5.17	270	50	16.40	33.57	5.42	24.58	337	0.17
87	11.60	33.55	4.68	243	75	12.61	33.52	5.07	25.34	264	0.25
101	10.30	33.65	4.17	214	100	10.32	33.65	4.18	25.86	214	0.31
116	10.16	33.67	4.14	210	125	9.97	33.69	4.05	25.96	205	0.36
140	9.45	33.75	3.63	193	150	9.20	33.80	3.40	26.17	186	0.41
159	9.00	33.85	3.23	179	200	8.44	34.00	2.50	26.45	159	0.50
188	8.54	33.99	2.57	162	250	7.82	34.09	1.73	26.60	144	0.58
217	8.34	34.02	2.41	156	300	7.48	34.15	1.34	26.70	135	0.65
246	7.88	34.08	1.81	145	400	6.74	34.30	0.62	26.93	113	0.78
295	7.50	34.13	1.40	136	500	6.28	34.30	0.48	26.99	108	0.89
348	7.04	34.25	0.89	121	600	(5.64)	(34.36)	(0.32)	(27.12)	(96)	(1.00)
434	6.60	34.32	0.63	110							
516	6.16	34.29	0.46	107							
599	5.64	34.36	0.33	96							
90.28	PAOLINA-T; November 22, 1959; 0648 GCT; 33°28'N, 117°47'W; sounding, 225 fm; wind, 090°, force 2; weather, fog; sea, moderate; wire angle, 00°.										
1	18.26	33.73	5.25	367	0	(18.26)	(33.73)	(5.25)	(24.26)	(367)	(0.00)
11	18.26	33.75	5.01	366	10	18.26	33.75	5.02	24.27	366	0.04
31	14.90	33.51	5.69a)	309	20	17.98	33.73	5.04	24.32	361	0.07
51	13.37	33.53	4.92	277	30	15.08	33.52	5.68	24.84	312	0.11
76	12.32	33.60	4.58	253	50	13.42	33.53	4.95	25.19	279	0.17
101	11.38	33.66	4.12	231	75	12.37	33.60	4.61	25.45	254	0.23
126	10.31	33.78	3.51	204	100	11.41	33.66	4.15	25.67	233	0.29
166	9.58	33.97	2.85	179	125	10.35	33.77	3.54	25.95	206	0.35
206	9.24	34.07	2.19	166	150	9.80	33.90	3.12	26.15	187	0.40
256	8.79	34.20	1.61	149	200	9.29	34.06	2.27	26.35	168	0.49
306	8.24	34.23	1.19	140	250	8.83	34.19	1.66	26.53	151	0.57
					300	8.31	34.23	1.26	26.64	141	0.65
90.30	PAOLINA-T; November 22, 1959; 0850 GCT; 33°24.5'N, 117°55'W; sounding, 298 fm; wind, 300°, force 3; weather, clear; sea, moderate; wire angle, 03°.										
2	18.17	33.71	5.33	367	0	(18.17)	(33.71)	(5.33)	(24.26)	(367)	(0.00)
12	18.15	33.77	5.38	362	10	18.15	33.76	5.36	24.30	363	0.04
32	17.58	33.69	5.54	354	20	18.09	33.76	5.40	24.33	361	0.07
42	15.96	33.55	5.51	328	30	17.90	33.74	5.47	24.35	358	0.11
52	14.04	33.49	5.41	294	50	14.20	33.49	5.46	25.00	297	0.17
62	13.62	33.53	5.02	282	75	12.77	33.53	4.76	25.32	266	0.24
72	12.97	33.53	4.82	270	100	11.16	33.63	4.15	25.70	230	0.31
87	11.90	33.53	4.44	250	125	10.28	33.72	3.68	25.92	209	0.36
102	11.07	33.64	4.11	228	150	9.78	33.84	3.11	26.10	192	0.41
117	10.48	33.69	3.83	214	200	9.20	34.07	2.22	26.38	165	0.50
141	9.95	33.79	3.32	198	250	8.83	34.19	1.49	26.53	151	0.59
171	9.44	33.95	2.66	178	300	8.19	34.23	1.19	26.66	139	0.66
205	9.16	34.09	2.14	163	400	7.15	34.25	0.74	26.83	123	0.80
255	8.78	34.20	1.44	149	500	6.43	34.30	0.49	26.97	110	0.92
304	8.12	34.23	1.16	138							
409	7.08	34.25	0.70	122							
509	6.38	34.31	0.48	108							

a) Alternate value, 5.87 ml/L, not used in interpolation.

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	$\delta_{T_3}^{-5}$ 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	$\delta_{T_3}^{-5}$ 10^{-5} cm/g	ΔD dyn. m
PAOLINA-T; November 22, 1959; 1258 GCT; 33°10.5'N, 118°23.5'W; sounding, 600 fm; wind, 060°, force 3; weather, fog; sea, moderate; wire angle, 06°.											90.37
1	18.18	33.75	5.24	364	0	(18.18)	(33.75)	(5.25)	(24.29)	(364)	(0.00)
11	18.18	33.74	5.31	364	10	18.18	33.74	5.31	24.29	364	0.04
31	16.99	33.64	5.51	345	20	18.17	33.74	5.31	24.29	364	0.07
41	14.07	33.47	5.34	296	30	17.80	33.71	5.40	24.35	358	0.11
56	12.58	33.46	4.82	268	50	12.90	33.46	5.04	25.20	278	0.17
71	11.82	33.49	4.41	252	75	11.74	33.56	4.21	25.58	241	0.24
95	10.64	33.65	3.88	220	100	10.63	33.68	3.83	25.84	217	0.30
115	9.92	33.71	3.49	203	125	9.90	33.77	3.40	26.03	199	0.35
135	9.44	33.82	3.19	188	150	9.36	33.86	2.81	26.19	184	0.40
155	9.34	33.87	2.75	183	200	9.05	34.13	1.77	26.45	158	0.48
184	9.18	34.06	2.04	166	250	8.36	34.20	1.31	26.61	144	0.56
218	8.74	34.18	1.51	150	300	7.82	34.18	1.03	26.68	137	0.63
247	8.42	34.20	1.35	144	400	7.16	34.26	0.71	26.84	122	0.77
297	7.86	34.18	1.05	138	500	6.35	34.30	0.39	26.98	109	0.89
352	7.60	34.27	0.87	128	600	5.78	34.34	0.31	27.08	99	1.00
436	6.84	34.26	0.61	118							
521	6.21	34.31	0.35	106							
605	5.76	34.34	0.31	98							
PAOLINA-T; November 22, 1959; 1842 GCT; 32°54.5'N, 118°56.5'W; sounding, 900 fm; wind, 280°, force 2; weather, missing; sea, very rough; wire angle, 01°.											90.45
2	16.58	33.58	5.44	340	0	(16.58)	(33.58)	(5.44)	(24.54)	(340)	(0.00)
12	16.52	33.55	5.63	340	10	16.53	33.55	5.59	24.54	340	0.03
32	16.22	33.51	5.54	337	20	16.43	33.54	5.60	24.54	340	0.07
42	14.52	33.48	5.53	304	30	16.26	33.53	5.58	24.56	339	0.10
57	13.22	33.45	5.27	280	50	13.69	33.46	5.39	25.08	289	0.16
71	12.26	33.52	4.91	258	75	11.97	33.55	4.80	25.49	250	0.23
96	10.90	33.66	4.31	223	100	10.68	33.67	4.17	25.82	219	0.29
116	10.09	33.71	3.70	206	125	9.92	33.76	3.40	26.02	199	0.34
136	9.75	33.83	3.11	192	150	9.53	33.89	2.88	26.18	184	0.39
156	9.46	33.91	2.81	181	200	8.97	34.07	2.12	26.42	162	0.48
185	9.10	34.02	2.39	168	250	8.55	34.20	1.48	26.58	146	0.56
219	8.80	34.14	1.79	154	300	8.31	34.22	1.31	26.64	141	0.63
249	8.56	34.20	1.49	146	400	7.19	34.29	0.83	26.86	120	0.77
299	8.32	34.22	1.32	141	500	6.56	34.31	0.50	26.96	110	0.89
352	7.65	34.25	1.00	130	600	5.81	34.37	0.35	27.10	97	1.00
437	6.94	34.31	0.71	114							
523	6.42	34.31	0.43	109							
607	5.76	34.38	0.35	96							
PAOLINA-T; November 22, 1959; 2245 GCT; 32°44.5'N, 119°17.5'W; sounding, 250 fm; wind, 280°, force 2; weather, clear; sea, rough; wire angle, 15°.											90.50
3	17.19	33.58	5.30	354	0	(17.19)	(33.58)	(5.30)	(24.40)	(354)	(0.00)
12	16.92	33.60	5.44	346	10	16.95	33.60	5.42	24.48	347	0.04
32	16.84	33.61	5.51	344	20	16.87	33.60	5.48	24.49	345	0.07
51	16.73	33.58	5.30	344	30	16.85	33.61	5.50	24.50	344	0.10
75	13.35	33.51	4.97	279	50	16.77	33.58	5.31	24.51	344	0.17
98	11.55	33.57	4.40	241	75	13.35	33.51	4.97	25.19	279	0.25
122	10.21	33.66	4.28	212	100	11.48	33.58	4.88	25.61	239	0.32
159	9.28	33.82	3.57	186	125	10.08	33.67	4.21	25.92	209	0.37
197	8.70	33.95	2.74	167	150	9.46	33.79	3.76	26.11	191	0.42
244	8.52	34.16	1.89	149	200	8.68	33.96	2.68	26.38	166	0.51
291	7.98	34.22	1.41	136	250	8.48	34.17	1.86	26.57	147	0.59
392	6.90	34.31	0.80	115	300	7.88	34.23	1.34	26.71	134	0.67
					400	(6.80)	(34.32)	(0.79)	(26.94)	(113)	(0.80)

SIO

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5911

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_{3} 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_{3} 10^{-5} cm/g	ΔD dyn. m

90.55 PAOLINA-T; November 23, 1959; 0225 GCT; 32°34.5'N, 119°38.5'W; sounding, 390 fm; wind, 280°, force 3; weather, clear; sea, rough; wire angle, 17°.

2	17.39	33.59	5.41	357	0	(17.39)	(33.59)	(5.41)	(24.36)	(357)	(0.00)
11	17.39	33.61	-	356	10	17.39	33.61	5.41	24.38	356	0.04
31	17.30	33.60	5.43	354	20	17.34	33.61	5.41	24.38	355	0.07
58	16.60	33.52	5.59	345	30	17.30	33.60	5.42	24.39	355	0.11
68	14.26	33.34	5.67	309	50	17.20	33.59	5.44	24.40	353	0.18
82	12.92	33.44	5.24	275	75	13.60	33.37	5.57	25.04	293	0.26
95	11.74	33.50	4.58	250	100	11.60	33.55	4.48	25.56	243	0.33
109	10.48	33.65	4.15	217	125	9.59	33.72	3.76	26.04	198	0.38
131	9.46	33.75	3.65	193	150	9.21	33.85	3.33	26.20	182	0.43
149	9.22	33.85	3.34	182	200	9.13	34.22	1.91	26.51	153	0.52
177	8.96	34.07	2.46	162							
201	9.14	34.22	1.88	153							
228	8.82	34.23	1.60	148							

90.60 PAOLINA-T; November 22, 1959; 0557 GCT; 32°25'N, 119°59'W; sounding, 450 fm; wind, 280°, force 3; weather, clear; sea, very rough; wire angle, 07°.

2	17.24	33.62	5.32	352	0	(17.24)	(33.62)	(5.32)	(24.42)	(352)	(0.00)
12	17.26	33.65	5.34	350	10	17.26	33.64	5.34	24.43	351	0.04
32	17.18	33.64	5.32	349	20	17.24	33.65	5.33	24.44	350	0.07
61	13.48	33.46	5.34	285	30	17.19	33.64	5.32	24.45	349	0.11
71	12.78	33.48	4.94	270	50	14.50	33.49	5.32	24.93	303	0.17
86	12.19	33.53	4.66	256	75	12.60	33.49	4.83	25.33	265	0.24
101	11.08	33.57	4.37	233	100	11.17	33.57	4.38	25.65	235	0.30
116	10.50	33.59	4.10	222	125	10.17	33.63	3.91	25.88	213	0.36
141	9.55	33.78	3.47	193	150	9.17	33.83	3.32	26.20	183	0.41
161	8.84	33.86	3.20	176	200	8.30	33.99	2.46	26.46	158	0.50
191	8.42	33.95	2.75	163	250	7.63	34.08	2.00	26.63	142	0.58
221	8.06	34.04	2.09	151	300	7.27	34.13	1.52	26.71	134	0.65
251	7.62	34.08	1.99	142	400	6.86	34.25	0.68	26.87	119	0.78
300	7.27	34.13	1.52	134	500	6.07	34.29	0.42	27.01	106	0.90
355	7.18	34.23	0.87	125	600	5.68	34.37	0.35	27.12	95	1.00
439	6.51	34.26	0.56	114							
524	5.96	34.43u	0.35	-							
608	5.66	34.38	0.32	94							

90.70 PAOLINA-T; November 23, 1959; 1215 GCT; 32°07'N, 120°42'W; sounding, 2000+ fm; wind, 320°, force 1; weather, clear; sea, very rough; wire angle, 11°.

2	16.94	33.60	5.46	346	0	(16.94)	(33.60)	(5.46)	(24.48)	(346)	(0.00)
12	16.94	33.59	5.57	347	10	16.94	33.59	5.54	24.47	347	0.03
32	16.96	33.61	5.43	346	20	16.95	33.60	5.50	24.47	347	0.07
41	16.81	33.59	5.52	344	30	16.96	33.61	5.43	24.48	346	0.10
56	12.58	33.49	4.70	266	50	13.45	33.50	4.95	25.16	281	0.17
71	11.45	33.55	4.26	241	75	11.19	33.58	4.12	25.66	234	0.23
95	10.12	33.72	3.70	206	100	10.00	33.73	3.59	25.98	203	0.29
115	9.72	33.75	3.38	197	125	9.39	33.82	3.37	26.15	187	0.34
133	9.14	33.86	3.37	180	150	8.78	33.89	3.15	26.31	172	0.38
152	8.75	33.89	3.13	172	200	8.09	34.02	2.49	26.51	153	0.46
181	8.28	34.01	2.83	156	250	7.54	34.08	1.78	26.64	141	0.54
214	7.95	34.02	2.24	151	300	6.88	34.11	1.50	26.75	130	0.61
242	7.66	34.07	1.84	143	400	5.99	34.15	0.78	26.91	115	0.74
290	7.02	34.11	1.55	132	500	5.48	34.26	0.37	27.06	101	0.85
343	6.36	34.10	1.27	124	600	(5.11)	(34.35)		(27.17)	(91)	(0.95)
424	5.85	34.18	0.69	112							
506	5.46	34.27	0.36	-							
589	5.16	34.34	0.26	92							

OBSERVED					INTERPOLATED				COMPUTED			
Z m	T °C	S ‰	O_2 ml/L	$\delta_{T_3}^{-5}$ 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	$\delta_{T_3}^{-5}$ 10^{-5} cm/g	ΔD dyn. m	

PAOLINA-T; November 23, 1959; 1825 GCT; 31°42.5'N, 121°18'W; sounding, 2000+ fm; wind, 300°, force 1; weather, clear; sea, rough; wire angle, 10°. 90.80

2	16.28	33.42	5.42	345	0	(16.28)	(33.42)	(5.42)	(24.49)	(345)	(0.00)
12	16.16	33.44	5.38	341	10	16.18	33.44	5.38	24.53	341	0.03
32	15.98	33.40	5.45	340	20	16.06	33.43	5.40	24.54	341	0.07
61	13.33	33.17	5.63	303	30	15.99	33.40	5.44	24.54	341	0.10
71	12.36	33.16	5.35	286	50	16.00	33.41	5.46	24.55	340	0.17
85	11.88	33.35	4.85	263	75	12.19	33.22	5.16	25.20	278	0.25
100	10.95	33.43	4.50	241	100	10.95	33.43	4.50	25.58	241	0.31
114	10.23	33.60	4.02	217	125	9.75	33.69	3.82	26.00	202	0.37
139	9.14	33.78	3.68	186	150	8.95	33.84	3.59	26.25	178	0.42
158	8.82	33.89	3.50	173	200	8.19	33.97	3.03	26.46	158	0.50
187	8.38	33.96	3.19	162	250	7.51	34.05	2.27	26.63	142	0.58
217	7.94	33.99	2.81	153	300	6.90	34.07	1.67	26.72	133	0.65
246	7.57	34.05	2.34	143	400	6.09	34.17	0.99	26.91	115	0.78
295	6.96	34.07	1.73	134	500	5.49	34.26	0.52	27.05	102	0.89
349	6.45	34.27u	1.33u	-	600	5.09	34.36	0.41	27.18	90	1.00
432	5.89	34.23	0.78	108							
517	5.41	34.27	0.46	100							
601	5.08	34.36	0.41	90							

PAOLINA-T; November 25, 1959; 1211 GCT; 32°55'N, 117°23'W; sounding, 250 fm; wind, direction missing, force 1; weather, clear; sea, slight; wire angle, 02°. 93.28

2	18.25	33.76	5.35	365	0	(18.25)	(33.76)	(5.35)	(24.28)	(365)	(0.00)
12	18.24	33.73	5.26	367	10	18.25	33.73	5.26	24.26	367	0.04
32	16.47	33.60	5.70	336	20	18.24	33.73	5.26	24.26	367	0.07
52	13.42	33.51	5.05	280	30	18.18	33.72	5.26	24.27	366	0.11
77	11.80	33.62	4.32	242	50	13.56	33.51	5.08	25.14	283	0.18
102	10.57	33.71	3.95	214	75	11.91	33.61	4.37	25.55	244	0.24
127	10.01	33.74	3.50	203	100	10.63	33.70	3.98	25.85	216	0.30
167	9.36	33.91	2.74	180	125	10.09	33.74	3.56	25.97	204	0.35
207	9.02	34.05	2.22	164	150	9.62	33.82	3.05	26.12	191	0.40
257	8.74	34.22	1.46	147	200	9.07	34.02	2.32	26.36	167	0.49
307	8.12	34.23	1.29	138	250	8.79	34.20	1.53	26.55	150	0.58
412	6.99	34.27	0.64	119	300	8.22	34.23	1.32	26.66	139	0.65
					400	7.10	34.26	0.73	26.85	121	0.78

PAOLINA-T; November 25, 1959; 0945 GCT; 32°50'N, 117°31.5'W; sounding, 400 fm; wind, direction missing, force 1; weather, clear; sea, moderate; wire angle, 01°. 93.30

2	18.14	33.87	5.42	355	0	(18.14)	(33.87)	(5.42)	(24.39)	(355)	(0.00)
12	17.93	33.75	5.37	358	10	17.99	33.77	5.37	24.36	358	0.04
32	16.70	33.60	5.63	342	20	17.60	33.69	5.47	24.39	355	0.07
42	14.86	33.53	5.68	307	30	16.95	33.62	5.60	24.49	345	0.11
52	13.72	33.50	5.18	286	50	13.92	33.50	5.27	25.07	290	0.17
67	12.44	33.69	4.62	249	75	12.11	33.64	4.43	25.53	246	0.24
81	11.61	33.57	4.08	242	100	10.67	33.67	3.80	25.82	218	0.30
101	10.63	33.68	3.79	217	125	10.10	33.76	3.38	25.99	203	0.35
126	10.07	33.76	3.37	202	150	9.46	33.92	2.84	26.23	180	0.40
146	9.53	33.90	2.91	183	200	8.99	34.10	2.01	26.44	160	0.48
175	9.12	34.02	2.44	168	250	8.63	34.20	1.58	26.57	147	0.56
204	8.98	34.11	1.95	159	300	8.18	34.23	1.33	26.67	138	0.64
234	8.79	-	1.64	-	400	7.18	34.33	0.84	26.89	117	0.77
274	8.38	34.22	1.50	142	500	6.30	34.35	0.47	27.03	104	0.88
334	7.90	34.25	1.11	133							
409	7.06	34.34	0.80	115							
485	6.42	34.35	0.49	106							
564	5.84	34.38	0.45	97							

S10

CCOFI 5911

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
9335	PAOLINA-T; November 25, 1959; 0525 GCT; 32°40.5'N, 117°52.5'W; sounding, 325 fm; wind, 045°, force 1; weather, clear; sea, moderate; wire angle, 00°.										
2	18.36	33.73	5.24	370	0	(18.36)	(33.73)	(5.24)	(24.23)	(370)	(0.00)
12	18.16	33.72	5.25	366	10	18.20	33.73	5.24	24.26	367	0.04
32	17.15	33.60	5.41	351	20	18.08	33.71	5.26	24.28	365	0.07
42	15.63	33.55	5.64	322	30	17.45	33.63	5.35	24.38	356	0.11
52	14.50	33.52	5.45	300	50	14.70	33.52	5.49	24.92	304	0.18
66	13.16	33.57	4.89	270	75	12.59	33.60	4.65	25.40	258	0.25
82	12.22	33.62	4.49	250	100	11.28	33.69	4.12	25.72	228	0.31
102	11.20	33.69	4.10	226	125	10.30	33.70	3.99	25.90	210	0.36
126	10.26	33.70	3.98	210	150	9.62	33.83	3.22	26.12	190	0.41
146	9.71	33.82	3.33	192	200	8.92	33.96	2.75	26.34	169	0.50
176	9.23	33.93	2.92	177	250	8.82	34.22	1.89	26.56	148	0.59
206	8.88	33.98	2.70	167	300	8.34	34.23	1.53	26.64	141	0.66
235	8.88	34.20	2.07	151	400	7.14	34.36	0.82	26.92	114	0.79
275	8.64	34.23	1.65	145	500	6.38	34.34	0.59	27.01	106	0.91
334	7.90	34.25	1.35	133							
409	7.06	34.38	0.75	112							
484	6.48	34.34	0.61	107							
564	6.05	34.36	0.43	101							
9340	PAOLINA-T; November 25, 1959; 0201 GCT; 32°30.5'N, 118°12.5'W; sounding, 900 fm; wind, 300°, force 2; weather, clear; sea, rough; wire angle, 00°.										
1	17.95	33.67	5.40	364	0	(17.95)	(33.67)	(5.40)	(24.29)	(364)	(0.00)
11	17.70	33.69	5.38	357	10	17.72	33.69	5.38	24.36	358	0.04
31	15.78	33.52	5.67	327	20	17.16	33.68	5.48	24.49	345	0.07
41	14.24	33.50	5.43	297	30	16.30	33.60	5.62	24.62	332	0.11
51	13.68	33.54	5.19	282	50	13.71	33.54	5.21	25.14	284	0.17
65	12.58	33.58	4.73	259	75	12.09	33.59	4.50	25.49	250	0.23
81	11.82	33.59	4.34	245	100	10.73	33.65	4.03	25.79	222	0.29
101	10.69	33.65	4.01	220	125	9.90	33.75	3.60	26.01	200	0.35
126	9.90	33.75	3.59	200	150	9.62	33.91	2.81	26.19	184	0.40
145	9.62	33.89	2.90	186	200	9.49	34.14	1.99	26.39	165	0.48
175	9.59	34.10	2.13	169	250	8.37	34.12	2.10	26.54	150	0.56
205	9.40	34.14	1.99	163	300	8.10	34.23	1.60	26.67	138	0.64
234	8.48	34.07	2.21	155	400	7.01	34.26	0.98	26.86	120	0.77
273	8.28	34.18	1.88	144	500	6.61	34.33	0.61	26.96	110	0.89
333	7.76	34.25	1.27	131							
407	6.94	34.26	0.98	119							
481	6.74	34.32	0.64	112							
561	6.02	34.34	0.58	102							
9350	PAOLINA-T; November 24, 1959; 1837 GCT; 32°10.5'N, 118°56'W; sounding, 750 fm; wind, 300°, force 2; weather, clear; sea, rough; wire angle, 03°.										
2	17.30	33.63	5.35	353	0	(17.30)	(33.63)	(5.35)	(24.41)	(353)	(0.00)
12	17.14	33.60	5.35	351	10	17.17	33.60	5.35	24.42	352	0.04
32	17.00	33.61	5.41	347	20	17.00	33.61	5.40	24.47	347	0.07
42	16.05a)	33.54	5.57	331	30	17.00	33.61	5.40	24.47	347	0.10
52	14.31	33.44	5.49	302	50	14.70	33.45	5.52	24.86	310	0.17
67	13.13	33.48	4.97	276	75	12.65	33.53	4.68	25.34	264	0.24
82	12.02	33.52	4.44	254	100	10.84	33.63	4.12	25.75	225	0.30
102	10.75	33.64	4.10	222	125	10.08	33.76	3.58	26.00	202	0.36
127	10.02	33.77	3.54	201	150	9.47	33.89	2.99	26.20	183	0.41
147	9.52	33.87	3.02	185	200	8.88	34.11	2.30	26.46	158	0.49
177	9.06	34.00	2.57	168	250	8.37	34.20	1.62	26.62	143	0.57
206	8.81	34.13	2.23	155	300	8.03	34.26	1.17	26.71	134	0.64
236	8.42	34.16	1.87	148	400	6.94	34.36	0.80	26.95	112	0.77
276	8.28	34.26	1.29	138	500	5.05	34.34	0.51	27.05	102	0.88
336	7.62	34.27	1.03	128							
411	6.82	34.36	0.78	110							
486	6.13	34.34	0.52	103							
566	5.80	34.38	0.42	96							

a) Alternate value, 14.78°C, not used in interpolation.

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O_2	δT_3	Z	T	S	O_2	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m	
PAOLINA-T; November 24, 1959; 1227 GCT; 31°51'N, 119°31'W; sounding, 2000+ fm; wind, 300°, force 2; weather, clear; sea, rough; wire angle, 02°.												93.60
2	17.48	33.64	5.36	356	0	(17.48)	(33.64)	(5.36)	(24.38)	(356)	(0.00)	
12	17.48	33.67	5.38	354	10	17.48	33.67	5.37	24.40	354	0.04	
32	17.44	33.63	5.41	356	20	17.47	33.66	5.39	24.40	354	0.07	
42	17.43	33.67	5.41	353	30	17.45	33.63	5.41	24.38	356	0.11	
57	15.14	33.56	5.47	311	50	16.60	33.63	5.42	24.58	337	0.18	
72	13.28	33.50	5.10	278	75	12.98	33.51	5.01	25.27	271	0.25	
97	11.28	33.62	4.41	233	100	11.08	33.63	4.33	25.72	228	0.32	
117	10.36	33.69	3.97	212	125	10.21	33.73	3.78	25.94	207	0.37	
136	10.04	33.78	3.55	200	150	9.58	33.83	3.30	26.14	189	0.42	
156	9.36	33.86	3.19	184	200	8.59	34.05	2.46	26.46	158	0.51	
186	8.82	33.99	2.60	166	250	7.99	34.12	1.89	26.60	144	0.59	
220	8.24	34.11	2.21	149	300	7.89	34.22	1.27	26.70	135	0.66	
249	8.00	34.12	1.97	144	400	6.72	34.26	0.85	26.90	116	0.79	
299	7.90	34.22	1.29	135	500	6.00	34.33	0.42	27.05	102	0.90	
354	7.34	34.25	0.99	125	600	5.59	34.38	0.26	27.14	94	1.01	
439	6.32	34.28	0.72	110								
524	5.90	34.34	0.37	100								
608	5.54	34.38	0.25	93								
PAOLINA-T; November 24, 1959; 0611 GCT; 31°30'N, 120°12'W; sounding, 2000+ fm; wind, 300°, force 1; weather, clear; sea, rough; wire angle, 08°.												93.70
2	17.14	33.66	5.38	347	0	(17.14)	(33.66)	(5.38)	(24.47)	(347)	(0.00)	
12	17.03	33.64	5.39	346	10	17.05	33.64	5.39	24.48	346	0.03	
32	17.43	33.84a)	5.32	340	20	17.03	33.66	5.38	24.50	344	0.07	
62	12.68b)	33.20a)	5.47	290	30	17.41	33.82	5.32	24.54	340	0.10	
72	12.61	33.39	5.14	274	50	17.30	33.86	5.32	24.59	336	0.17	
87	11.26	33.49	4.56	242	75	11.40	33.39	4.73	25.47	252	0.24	
101	10.73	33.58	4.17	226	100	10.77	33.58	4.19	25.73	227	0.30	
116	10.10	33.64	3.96	212	125	9.85	33.69	3.74	25.98	204	0.36	
140	9.45	33.77	3.35	192	150	9.17	33.82	3.28	26.19	184	0.41	
159	8.92	33.86	3.21	177	200	8.37	34.01	2.64	26.46	158	0.50	
189	8.46	33.98	2.70	161	250	7.77	34.08	1.95	26.60	144	0.57	
218	8.19	34.05	2.50	152	300	7.50	34.21	1.43	26.74	131	0.64	
247	7.80	34.07	2.01	145	400	6.71	34.28	0.64	26.91	115	0.77	
296	7.52	34.20	1.48	131	500	5.93	34.31	0.54	27.04	103	0.88	
350	7.08	34.26	0.92	121	600	5.33	34.40	0.44	27.19	89	0.99	
434	6.46	34.29	0.55	111								
519	5.78	34.32	0.53	100								
601	5.32	34.40	0.44	89								
PAOLINA-T; November 24, 1959; 0001 GCT; 31°10'N, 120°54'W; sounding, 2000+ fm; wind, 300°, force 3; weather, clear; sea, rough; wire angle, 03°.												93.80
1	16.94	33.46	5.48	357	0	(16.94)	(33.46)	(5.48)	(24.36)	(357)	(0.00)	
11	16.38	33.42	5.54	348	10	16.39	33.41	5.51	24.47	347	0.04	
31	16.35	33.41	5.51	347	20	16.36	33.41	5.51	24.47	347	0.07	
61	13.94	33.21	5.75	312	30	16.35	33.41	5.51	24.47	347	0.10	
71	13.38	33.21	5.68	301	50	16.35	33.41	5.51	24.47	347	0.17	
86	12.56	33.27	5.30	281	75	13.28	33.25	5.60	25.01	296	0.25	
101	11.77	33.42	4.89	256	100	11.79	33.41	4.90	25.42	257	0.33	
115	10.91	33.53	4.54	233	125	10.30	33.63	4.22	25.85	216	0.38	
140	9.71	33.75	3.94	197	150	9.43	33.80	3.93	26.13	189	0.44	
160	9.22	33.84	3.93	183	200	8.51	34.03	2.56	26.46	158	0.52	
189	8.70	33.95	2.71	167	250	7.88	34.14	2.03	26.64	141	0.60	
219	8.22	34.14	2.37	146	300	7.29	34.20	1.52	26.78	128	0.67	
248	7.92	34.14	2.06	141	400	6.61	34.31	1.20	26.95	111	0.80	
298	7.32	34.20	1.52	129	500	5.86	34.34	0.56	27.07	100	0.90	
352	6.92	34.22	1.71	122	600	5.23	34.36	0.66	27.16	91	1.01	
437	6.28	34.36	0.75	104								
522	5.69	34.33	0.52	98								
607	5.20	34.37	0.68	90								

a) Salinity samples at 32 and 62 meters appear to have been reversed; they are assumed to be in the order listed.

b) Alternate value, 13.02°C, not used in interpolation.

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
83.40-P	XI-20	1210	34°13.5'	119°21.5'	11	320°	2	clear	slight	16.88	33.65
83.51-P	20	2030	33°52.0'	120°07.5'	52	290°	1	partly cloudy	slight	15.71	33.55
83.55-P	20	2330	33°44.5'	120°23.0'	700	320°	3	partly cloudy	rough	16.54	33.66
87.35-P	22	0030	33°50.0'	118°37.5'	310	300°	4	partly cloudy	moderate	17.58	33.68
87.45-P	21	1852	33°29.5'	119°18.0'	200	320°	1	partly cloudy	rough	16.86	33.62
87.50-P	21	1510	33°19.5'	119°39.0'	30	320°	3	partly cloudy	rough	16.14	33.53
87.55-P	21	1230	33°08.0'	119°55.0'	600	320°	4	clear	rough	16.24	33.53
93.45-P	24	2215	32°19.5'	118°32.0'	950	300°	1	clear	rough	17.49	33.68
93.55-P	24	1530	32°00.0'	119°15.5'	850	300°	2	clear	rough	17.44	33.64

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