

CORRECTIONS MADE:

STATION POSITIONS #18

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5409

(MLR 64)

15 September - 17 October 1954

and

CCOFI Cruise 5410

(MLR 65)

6-24 October 1954

SIO Reference 59-43

1 June 1959

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5409
(MLR 64)
15 September - 17 October 1954

and

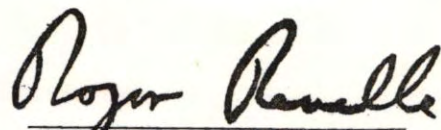
CCOFI CRUISE 5410
(MLR 65)
6-24 October 1954

Sponsored by

Marine Research Committee

SIO Reference 59-43
1 June 1959

Approved for distribution:



Roger Revelle, Director

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INTRODUCTION

The data presented in this report were collected on the sixty-fourth and sixty-fifth consecutive cruises of the California Cooperative Oceanic Fisheries Investigations program. The R/V Paolina-T participated in the sixty-fourth cruise and the R/V Crest and R/V Horizon participated in the sixty-fifth cruise.

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, and the interpretations herein may be subject to modification as the program continues.

STANDARD PROCEDURES

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.

FOOTNOTES

Footnotes which appear frequently are "loose bottle cap" and "possible evaporation." To avoid any confusion as to their meaning the following explanation is included.

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 such 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

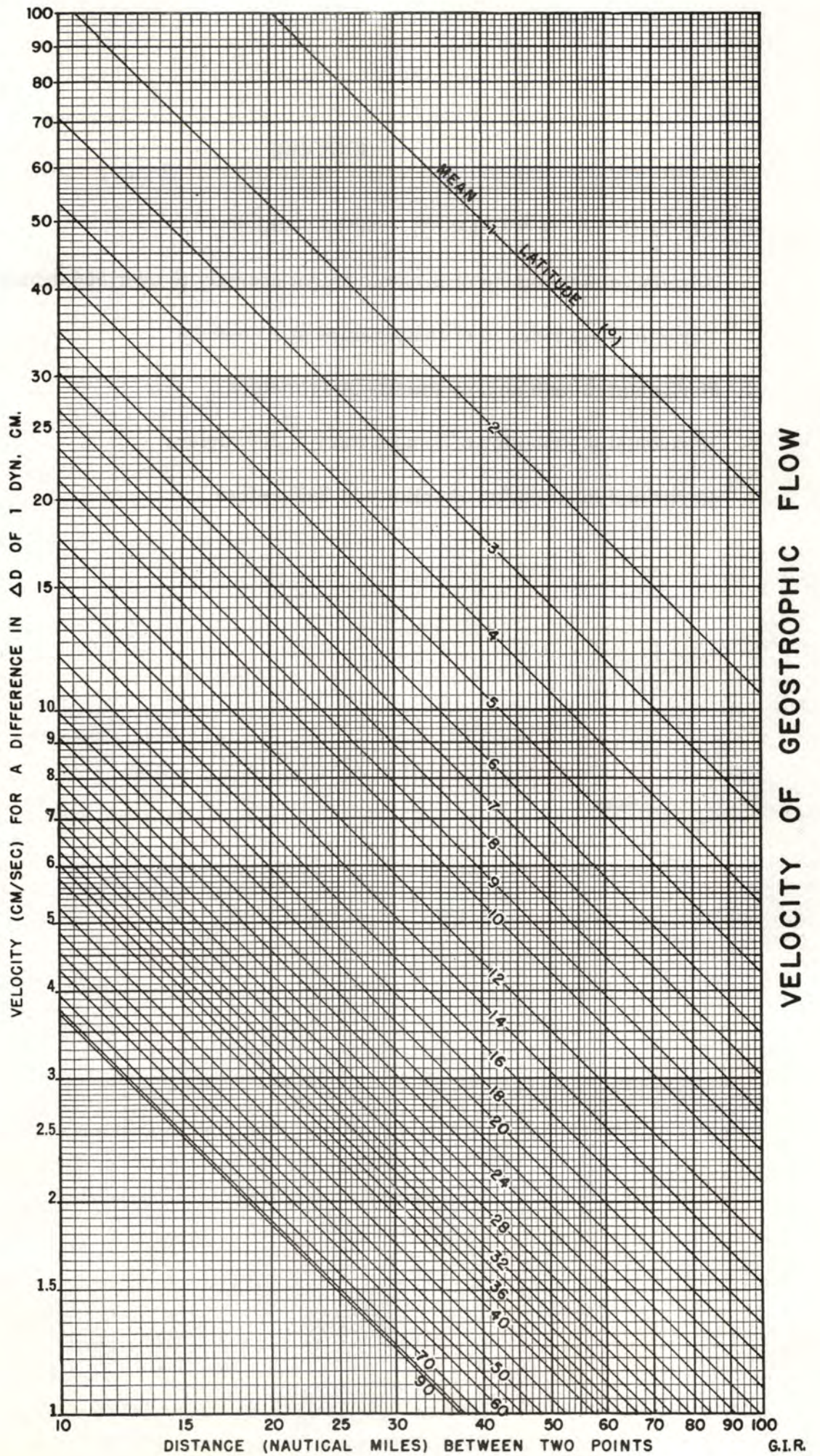
Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

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 1954 volume, the first page of the Cruise 5409 data is numbered 250; the first page of the Cruise 5410 data, 257.



FIGURES

1. CCOFI Cruise 5409 (MLR 64), station positions
2. Horizontal distribution of dynamic height anomaly (0 over 500 d-bar)
3. Horizontal distribution of temperature at 10 meters
4. Horizontal distribution of salinity at 10 meters
5. Horizontal distribution of temperature at 200 meters
6. Horizontal distribution of salinity at 200 meters

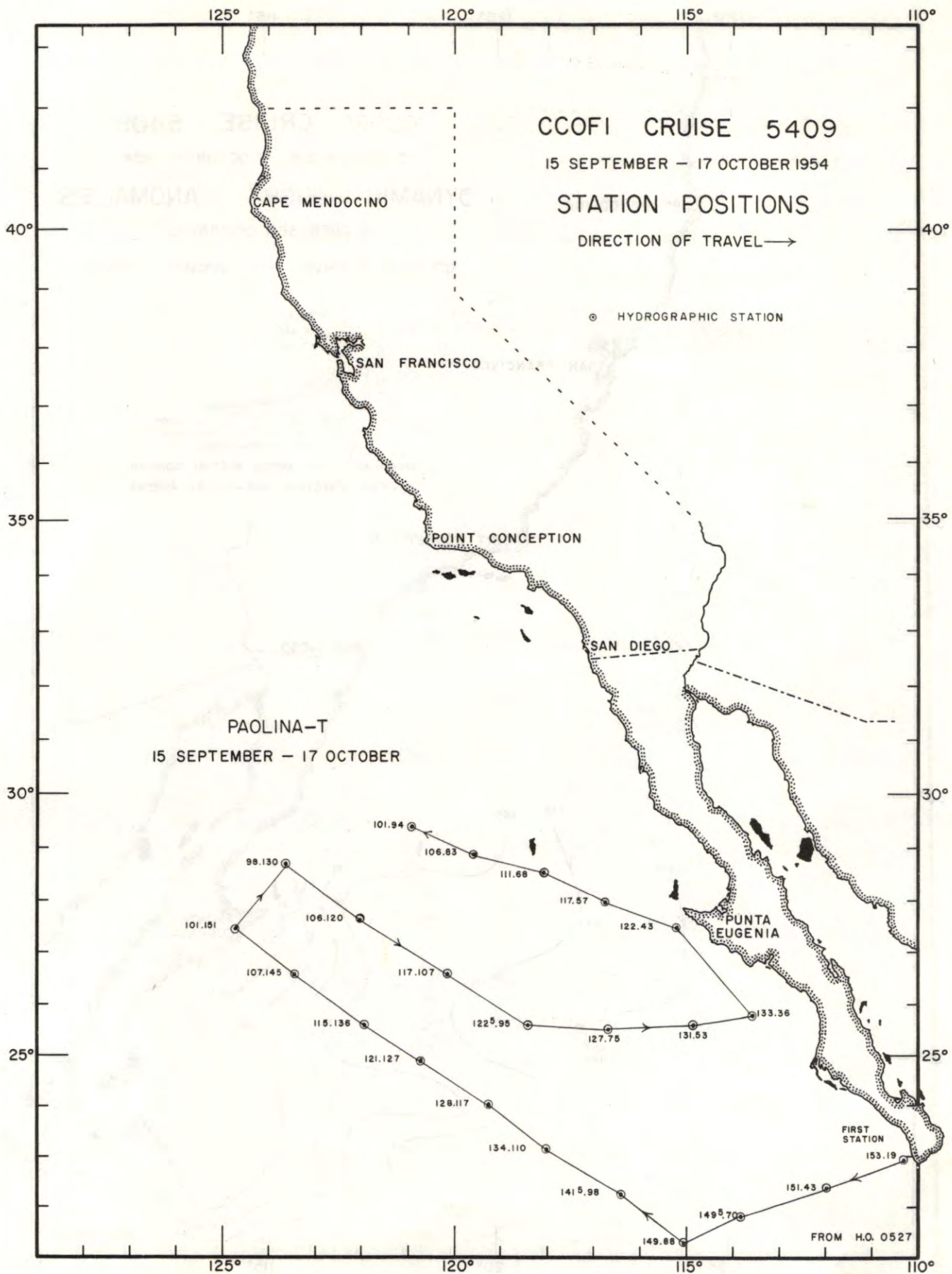


FIGURE 1

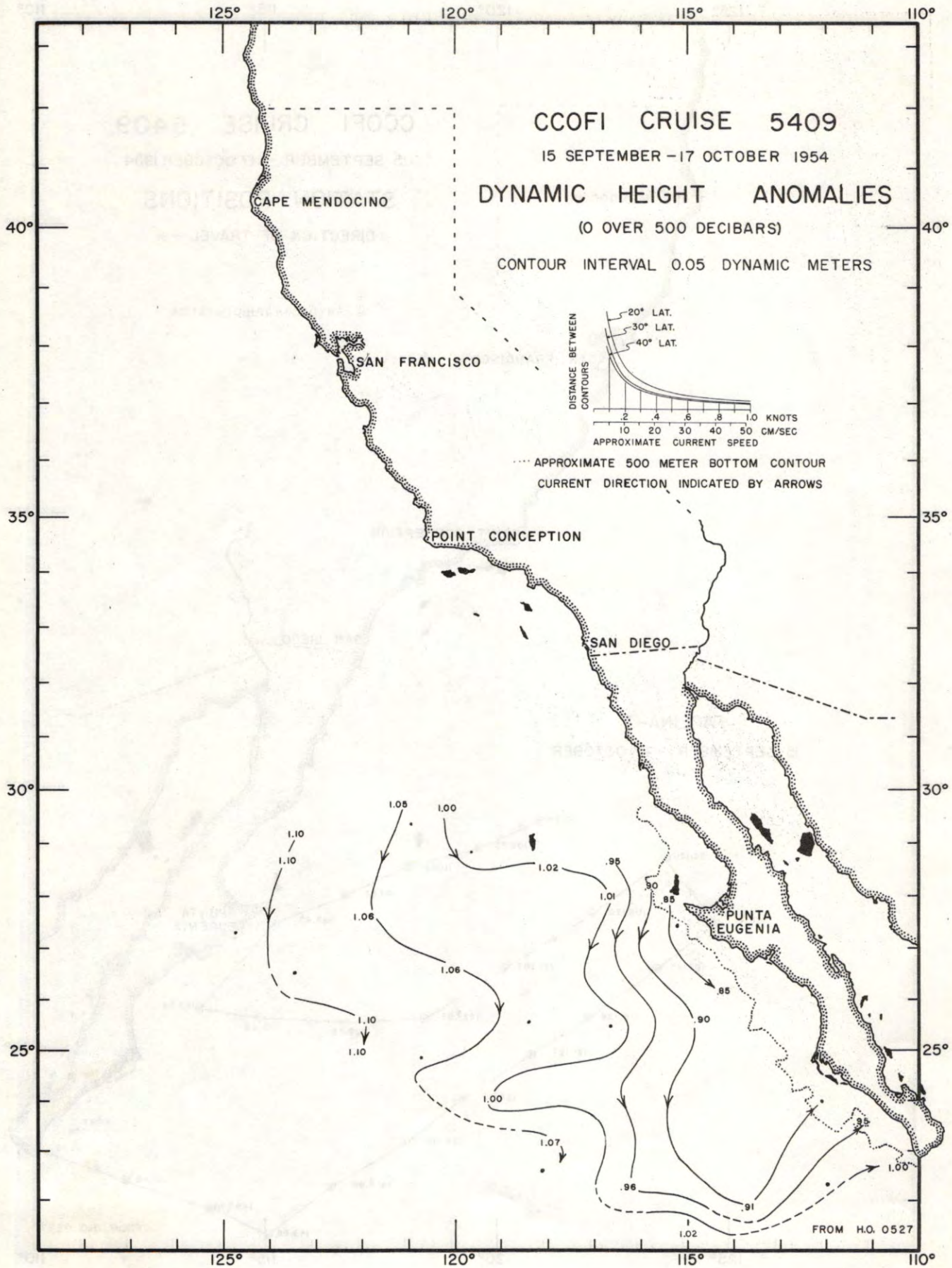


FIGURE 2

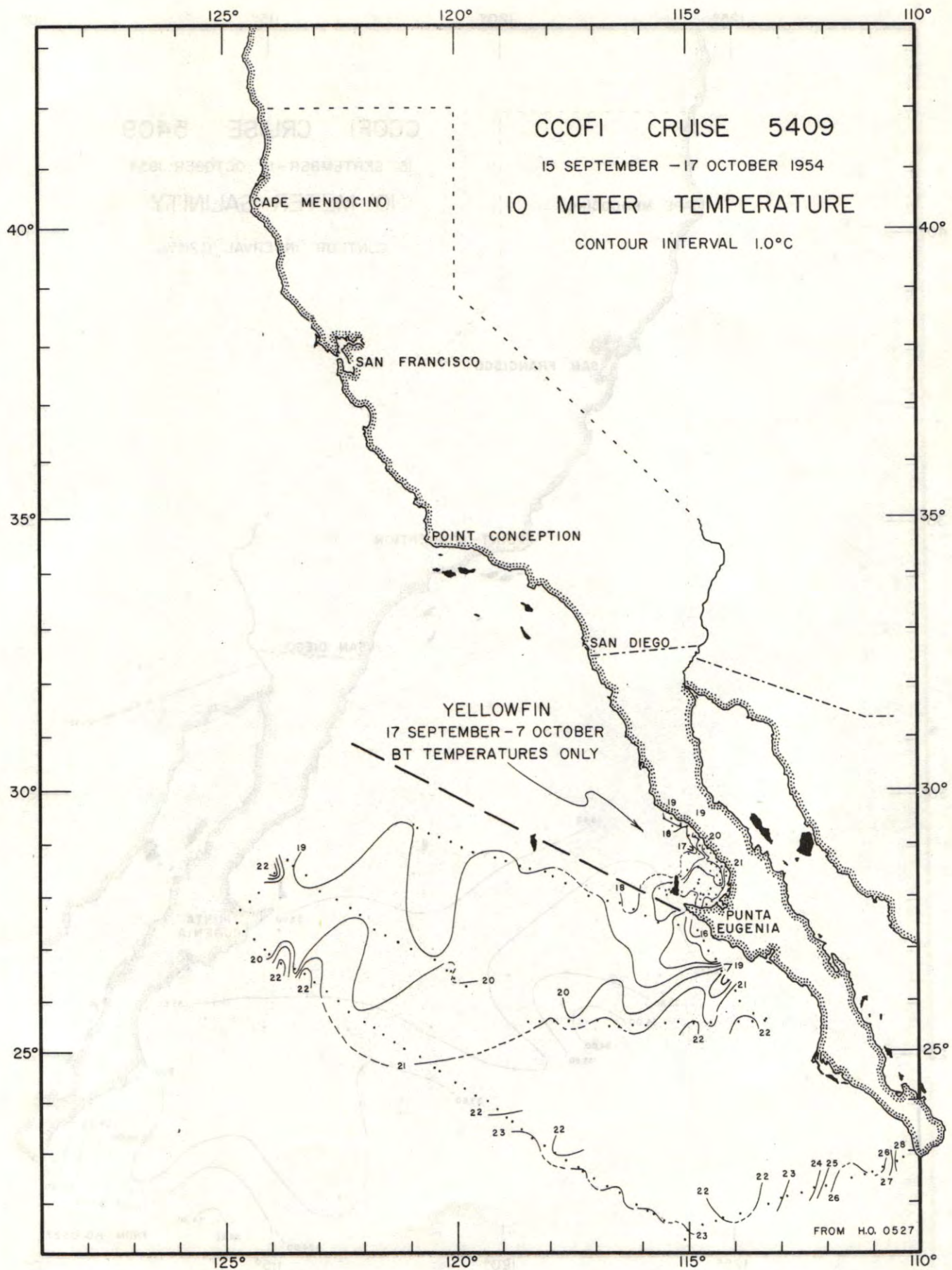


FIGURE 3

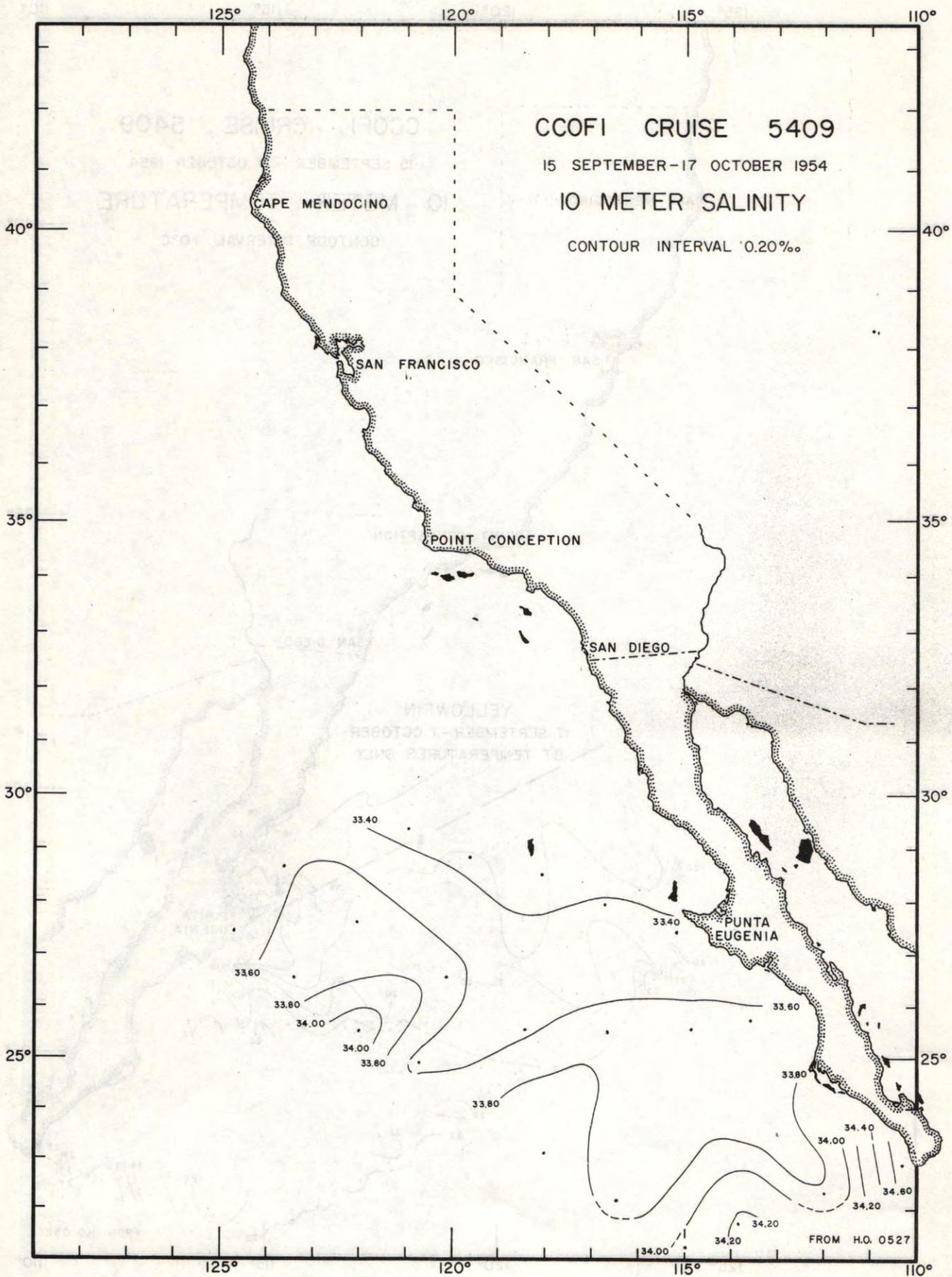


FIGURE 4

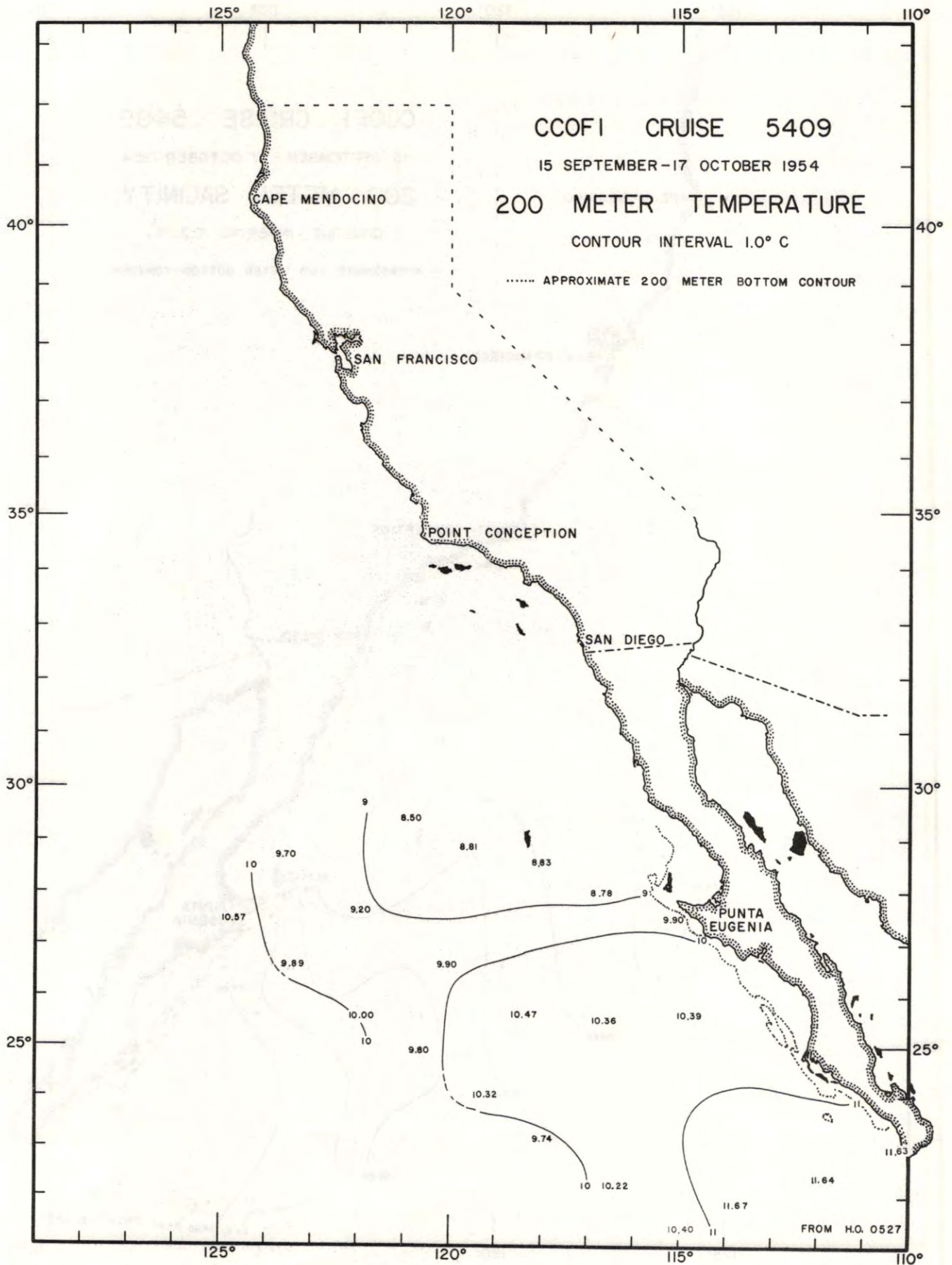


FIGURE 5

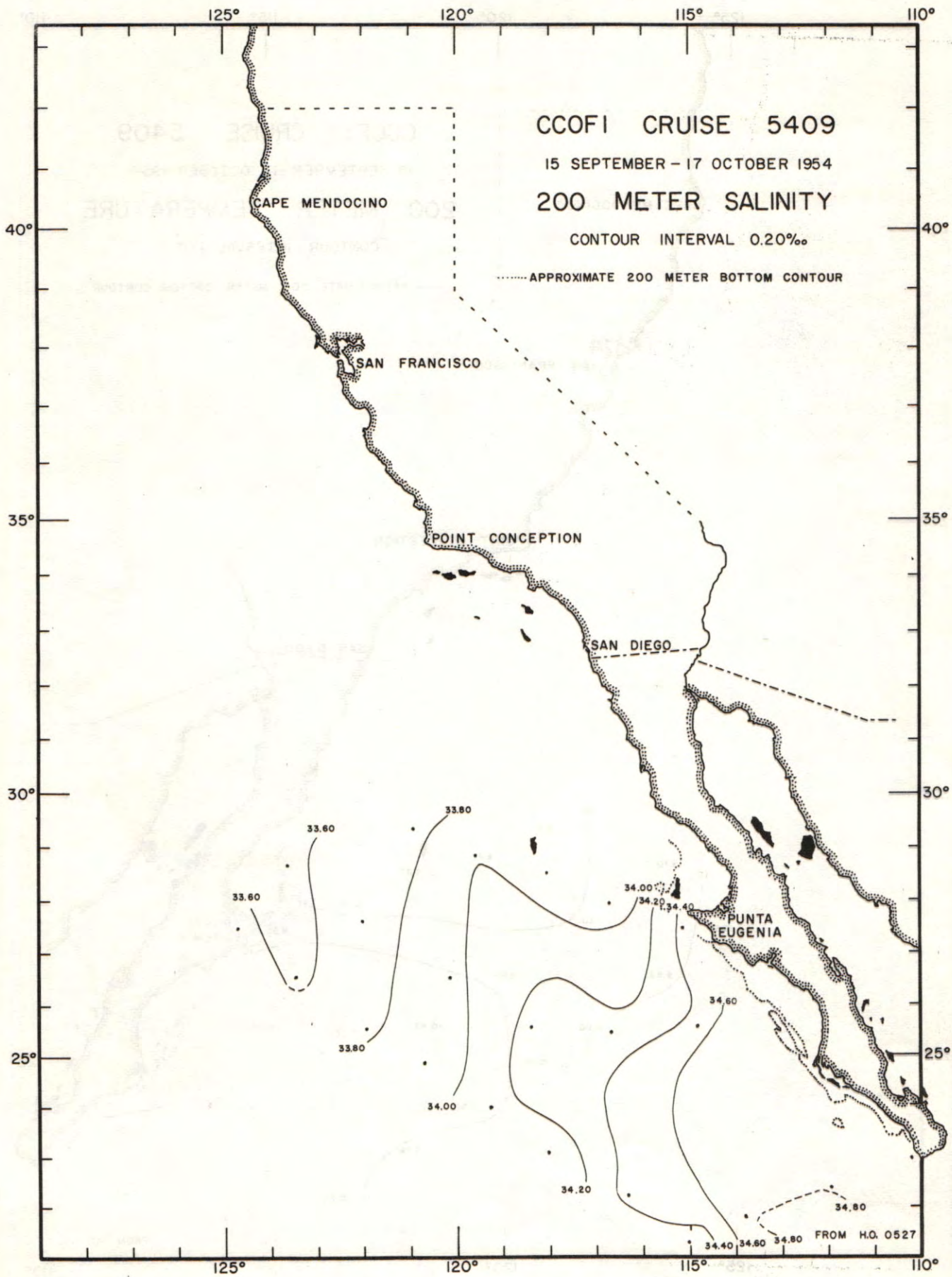


FIGURE 6

PERSONNEL
Cruise 5409

SHIP'S CAPTAIN

Haines, Robert B. , R/V Paolina-T

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Paolina-T

Stover, Allan J. , Jr. , Senior Marine Technician
Coolidge, Richard N. , Senior Marine Technician
Kivlen, John C. , Marine Technician

SIO

CCOFI
5409

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

1
(153.19)PAOLINA-T; September 24, 1954; 1845 GCT; 22°54'N, 110°19'W; sounding, 520 fm;
wind, 140°, force 5; weather, cloudy; sea, moderate; wire angle, 15°.

0	28.09	34.78	0	28.09	34.78	22.22	562	0.00
10	28.05	34.79	10	28.05	34.79	22.24	560	0.06
25	27.16	34.69	20	27.74	34.73	22.30	554	0.11
45	21.26	34.40	30	25.67	34.59	22.85	502	0.16
65	18.08	34.42	50	20.32	34.41	24.25	368	0.25
80	13.82	34.01	75	14.63	34.09	25.37	262	0.33
99	13.80	34.40	100	13.78	34.41	25.80	221	0.39
118	13.12	34.52	150	12.50	34.69	26.27	176	0.49
147	12.58	34.69	200	11.63	34.71	26.45	159	0.58
175	11.74	34.71	250	11.16	34.69	26.52	152	0.66
233	11.52	34.70	300	10.18	34.64	26.66	139	0.74
292	10.30	34.65	400	8.79	34.57	26.84	122	0.87
417	8.58	34.56	500	7.47	34.54	27.01	106	0.99
558	6.74	34.53	600	6.34	34.51	27.14	93	1.10
702	5.50	34.45	700	5.51	34.45	27.20	88	1.20

2 A
(151.43)PAOLINA-T; September 25, 1954; 1622 GCT; 22°21'N, 112°00'W; sounding, 1860 fm;
wind, 170°, force 5; weather, cloudy; sea, rough; wire angle, 05°.

0	25.40	33.83	0	25.40	33.83	22.36	548	0.00
10	25.40	33.83	10	25.40	33.83	22.36	548	0.06
26	26.27	34.39	20	26.02	34.16	22.42	543	0.11
41	21.64	34.34	30	25.94	34.38	22.61	525	0.16
57	18.49	34.27	50	19.74	34.30	24.32	361	0.25
72	16.23	34.22	75	15.98	34.22	25.17	280	0.33
87	15.36	34.42	100	15.05	34.66	25.72	228	0.40
102	14.99	34.67	150	12.72	34.83	26.34	169	0.50
127	12.99	34.64	200	11.64	34.79	26.51	153	0.58
157	12.62	34.85	250	10.76	34.77	26.66	139	0.66
205	11.54	34.78	300	9.98	34.70	26.74	131	0.73
265	10.56	34.76	400	8.51	34.59	26.89	117	0.86
379	8.82	34.60	500	7.32	34.58	27.06	101	0.98
490	7.41	34.58	600	6.43	34.59	27.19	89	1.08
620	6.29	34.59						

3
(149⁵.70)PAOLINA-T; September 26, 1954; 1425 GCT; 21°47'N, 113°51'W; sounding, 2000+ fm;
wind, calm; weather, fog; sea, moderate; wire angle, 05°.

0	22.00	34.19	0	22.00	34.19	23.63	428	0.00
10	21.61	34.22	10	21.61	34.22	23.75	416	0.04
25	21.50	34.22	20	21.60	34.22	23.76	415	0.08
41	20.53	34.30	30	21.18	34.24	23.89	402	0.12
57	16.51	34.63	50	18.92	34.50	24.68	327	0.20
72	14.56	34.50	75	14.40	34.51	25.74	226	0.27
87	14.03	34.60	100	13.81	34.73	26.04	198	0.32
102	13.79	34.74	150	12.75	34.82	26.32	171	0.42
127	13.30	34.78	200	11.67	34.77	26.49	155	0.50
157	12.59	34.82	250	10.92	34.71	26.58	146	0.58
205	11.58	34.76	300	10.16	34.65	26.67	138	0.65
263	10.71	34.69	400	8.73	34.57	26.84	122	0.79
366	9.24	34.60	500	7.30	34.53	27.03	104	0.91
487	7.52	34.53	600	6.29	34.52	27.16	92	1.01
617	6.17	34.52						

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

PAOLINA-T; September 27, 1954; 1645 GCT; 21°15'N, 115°04'W; sounding, 1900 fm;
wind, 120°, force 2; weather, partly cloudy; sea, moderate; wire angle, 00°.

0	23.75	34.10	0	23.75	34.10	23.06	482	0.00
10	23.61	34.08	10	23.61	34.08	23.08	480	0.05
25	23.55	34.06	20	23.55	34.06	23.08	480	0.10
41	21.30	34.29	30	22.82	34.11	23.33	456	0.14
57	20.20	34.15	50	20.78	34.23	23.99	393	0.23
72	18.33	33.90	75	18.09	33.88	24.41	353	0.32
88	16.50	33.83	100	14.27	33.71	25.15	282	0.40
102	14.04	33.71	150	11.38	34.10	26.03	199	0.52
127	12.29	33.94	200	10.40	34.34	26.39	164	0.62
157	11.18	34.14	250	9.63	34.48	26.63	142	0.70
205	10.31	34.35	300	9.11	34.51	26.74	131	0.77
265	9.45	34.49	400	8.08	34.51	26.90	116	0.90
370	8.47	34.52	500	7.05	34.47	27.02	105	1.02
489	7.17	34.47	600	6.26	34.51	27.15	92	1.12
619	6.13	34.51						

PAOLINA-T; September 28, 1954; 1639 GCT; 22°13'N, 116°27'W; sounding, 2000+ fm;
wind, 350°, force 2; weather, overcast; sea, slight; wire angle, 06°.

0	23.37	33.59	0	23.37	33.59	22.78	508	0.00
10	23.21	33.65	10	23.21	33.65	22.87	500	0.05
25	22.66	33.62	20	22.88	33.62	22.94	493	0.10
40	19.59	33.63	30	21.92	33.62	23.21	467	0.15
55	17.09	33.55	50	18.00	33.59	24.21	372	0.23
70	14.48	33.40	75	14.00	33.47	25.03	294	0.32
85	13.11	33.64	100	12.38	33.81	25.61	239	0.38
100	12.38	33.81	150	11.77	34.41	26.19	184	0.49
125	11.81	34.22	200	10.22	34.45	26.50	154	0.58
154	11.78	34.42	250	9.79	34.53	26.64	141	0.65
201	10.20	34.45	300	9.12	34.54	26.76	129	0.72
261	9.64	34.54	400	7.72	34.50	26.94	112	0.85
364	8.22	34.52	500	6.81	34.46	27.04	103	0.96
483	6.92	34.46	600	6.13	34.48	27.15	92	1.07
613	6.05	34.48						

PAOLINA-T; September 29, 1954; 1619 GCT; 23°07'N, 118°03'W; sounding, 2000 fm;
wind, 340°, force 4; weather, overcast; sea, moderate; wire angle, 05°.

0	23.13	33.94	0	23.13	33.94	23.11	477	0.00
10	22.86	33.95	10	22.86	33.95	23.20	468	0.05
26	22.71	33.92	20	22.76	33.94	23.22	466	0.09
41	21.90	-	30	22.69	33.89	23.20	468	0.14
56	18.72	33.76	50	20.02	33.79	23.86	405	0.23
71	17.44	33.69	75	17.21	33.69	24.48	346	0.32
86	16.75	33.72	100	15.08	33.43	24.77	319	0.41
101	14.97	33.43	150	11.50	33.57	25.59	240	0.55
125	12.68	33.41	200	9.74	34.07	26.29	174	0.65
154	11.32	33.65	250	9.41	34.24	26.48	156	0.74
203	9.70	34.09	300	8.80	34.31	26.63	142	0.82
262	9.30	34.26	400	7.56	34.38	26.87	119	0.95
367	7.95	34.36	500	6.72	34.40	27.01	106	1.07
487	6.82	34.40	600	6.10	34.42	27.10	97	1.18
615	6.04	34.42						

S10

CCOFI
5409

6

(149.88)

7

(1415.98)

8

(134.110)

S10
CCOFI
5409

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

9
(128.117)

PAOLINA-T; September 30, 1954; 1641 GCT; 24°00'N, 119°19'W; sounding, 2000+ fm;
wind, 010°, force 6; weather, cloudy; sea, moderate; wire angle, 15°.

0	21.93	33.76	0	21.93	33.76	23.32	456	0.00
10	21.93	33.80	10	21.93	33.80	23.35	454	0.05
25	21.76	33.82	20	21.81	33.82	23.40	449	0.09
45	18.66	33.65	30	21.62	33.78	23.42	447	0.14
66	16.28	33.50	50	18.13	33.61	24.20	373	0.22
80	14.96	33.32	75	15.60	33.38	24.61	334	0.31
99	12.98	33.31	100	12.92	33.31	25.12	285	0.38
118	11.80	33.35	150	10.59	33.64	25.81	220	0.51
147	10.63	33.63	200	10.32	34.17	26.27	176	0.61
175	10.28	33.93	250	10.40	34.56	26.56	148	0.70
235	10.42	34.50	300	10.12	34.74	26.75	130	0.77
303	10.07	34.74	400	7.56	34.51	26.97	110	0.90
420	7.26	34.50	500	6.54	34.51	27.12	95	1.00
560	6.17	34.52	600	5.92	34.54	27.22	86	1.10
704	5.26	34.62	700	5.26	34.62	27.37	72	1.19

10
(121.127)

PAOLINA-T; October 1, 1954; 1631 GCT; 24°52'N, 120°45'W; sounding, 2000+ fm;
wind, 350°, force 5; weather, overcast; sea, rough; wire angle, 15°.

0	20.62	33.58	0	20.62	33.58	23.54	436	0.00
10	20.61	33.58	10	20.61	33.58	23.54	436	0.04
25	20.79	33.93	20	20.73	33.86	23.72	419	0.09
45	20.65	34.08	30	20.77	33.98	23.80	411	0.13
66	16.94	33.40	50	20.10	33.95	23.96	396	0.21
81	16.45	33.46	75	16.61	33.44	24.43	351	0.30
101	15.20	33.44	100	15.30	33.44	24.73	322	0.39
118	13.08	33.26	150	11.53	33.45	25.49	250	0.53
148	11.56	33.44	200	9.80	33.85	26.11	191	0.64
177	10.58	33.66	250	8.82	34.14	26.49	155	0.73
234	9.00	34.09	300	8.37	34.27	26.67	138	0.81
301	8.35	34.27	400	7.48	34.42	26.92	114	0.94
417	7.32	34.42	500	6.55	34.42	27.04	103	1.06
555	5.85	34.42	600	5.57	34.43	27.18	90	1.16
695	5.20	34.49	700	(5.18)	(34.50)	(27.28)	(80)	(1.25)

11
(115.136)

PAOLINA-T; October 2, 1954; 1647 GCT; 25°33'N, 121°59'W; sounding, 2000+ fm;
wind, 360°, force 4; weather, partly cloudy; sea, slight; wire angle, 04°.

0	20.78	34.09	0	20.78	34.09	23.88	403	0.00
10	20.77	34.09	10	20.77	34.09	23.88	403	0.04
26	20.75	34.08	20	20.75	34.08	23.88	403	0.08
41	20.75	34.08	30	20.75	34.08	23.88	403	0.12
57	20.68	34.09	50	20.74	34.09	23.89	402	0.20
72	17.80	33.52	75	17.60	33.47	24.22	371	0.30
87	16.51	33.32	100	15.61	33.34	24.58	337	0.39
102	15.50	33.34	150	12.45	33.47	25.34	264	0.54
127	13.44	33.31	200	10.00	33.79	26.03	199	0.66
157	12.07	33.51	250	9.45	34.08	26.35	168	0.75
203	9.88	33.81	300	8.80	34.21	26.55	149	0.83
264	9.30	34.14	400	7.48	34.31	26.83	123	0.98
370	7.89	34.29	500	6.38	34.36	27.02	105	1.10
491	6.43	34.36	600	5.73	34.42	27.15	92	1.20
618	5.65	34.42						

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

S10
CCOF1
5409

PAOLINA-T; October 3, 1954; 1947, 2027 GCT; 26°33'N, 123°29'W; sounding, 2200 fm;
wind, 350°, force 1; weather, partly cloudy; sea, slight; wire angle, 10°, 10°.

I1A
(107.145)

0	20.37	33.68	0	20.37	33.68	23.68	422	0.00
10	19.89	33.68	10	19.89	33.68	23.81	410	0.04
25	19.61	33.86	20	19.63	33.84	23.99	393	0.08
40	19.56	33.86	30	19.60	33.86	24.02	390	0.12
55	18.36	33.86	50	18.70	33.86	24.25	368	0.20
70	17.68	33.87	75	17.49	33.86	24.54	340	0.29
85	17.07	33.82	100	16.64	33.86	24.74	321	0.37
100	16.64	33.86	150	12.51	33.38	25.26	272	0.52
126	14.07	33.49	200	9.89	33.59	25.89	212	0.64
155	12.18	33.38	250	8.46	33.85	26.32	171	0.74
203	9.68	33.60	300	7.79	34.06	26.59	146	0.82
			400	7.01	34.22	26.82	124	0.96
264	8.14	33.92	500	6.12	34.28	26.99	108	1.08
367	7.27	34.20	600	5.38	34.40	27.18	90	1.19
488	6.25	34.27						
615	5.29	34.41						

PAOLINA-T; October 4, 1954; 1647 GCT; 27°28'N, 124°45'W; sounding, 2000+ fm;
wind, 040°, force 3; weather, partly cloudy; sea, slight; wire angle, 05°.

I1B
(101.151)

0	19.68	33.47	0	19.68	33.47	23.70	420	0.00
10	19.65	33.54	10	19.65	33.54	23.76	415	0.04
26	19.65	33.65	20	19.65	33.64	23.84	407	0.08
41	19.57	33.55	30	19.63	33.62	23.83	408	0.12
57	17.99	33.45	50	18.67	33.47	23.96	396	0.20
72	17.16	33.56	75	17.11	33.61	24.44	350	0.30
88	17.01	33.77	100	16.67	33.85	24.73	322	0.38
103	16.54	33.86	150	12.83	33.24	25.08	289	0.54
128	14.79	33.68	200	10.57	33.64	25.81	220	0.67
157	12.40	33.20	250	8.91	33.82	26.23	180	0.77
206	10.39	33.67	300	8.05	33.92	26.44	160	0.86
247	9.09	33.81	400	6.95	34.03	26.68	137	1.01
369	7.24	34.00	500	6.31	34.14	26.86	120	1.14
488	6.37	34.12	600	5.80	34.30	27.05	102	1.26
616	5.72	34.32						

PAOLINA-T; October 5, 1954; 1645 GCT; 28°41'N, 123°40'W; sounding, 2000+ fm;
wind, 360°, force 2; weather, overcast; sea, moderate; wire angle, 02°.

I1C
(98.130)

0	19.28	33.66	0	19.28	33.66	23.95	397	0.00
10	19.27	33.58	10	19.27	33.58	23.89	402	0.04
26	19.27	33.61	20	19.27	33.60	23.90	402	0.08
41	19.29	33.68	30	19.26	33.64	23.94	398	0.12
57	19.23	33.64	50	19.29	33.66	23.95	397	0.20
72	17.19	33.68	75	17.07	33.70	24.52	342	0.29
87	16.80	33.87	100	16.70	33.93	24.78	318	0.38
102	16.67	33.93	150	13.50	33.56	25.20	278	0.53
126	15.80	33.87	200	9.70	33.58	25.91	210	0.65
156	12.82	33.54	250	8.61	33.86	26.31	172	0.75
205	9.57	33.60	300	7.88	34.02	26.54	150	0.83
265	8.37	33.94	400	7.00	34.21	26.82	124	0.97
369	7.21	34.15	500	6.39	34.31	26.98	109	1.10
489	6.45	34.31	600	5.74	34.34	27.09	98	1.21
617	5.65	34.34						

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

11D
(106.120)

PAOLINA-T; October 6, 1954; 1634 GCT; 27°37'N, 122°04'W; sounding, 2000+ fm;
wind, 320°, force 3; weather, overcast; sea, moderate; wire angle, 04°.

0	19.98	33.68	0	19.98	33.68	23.78	413	0.00
10	19.99	33.67	10	19.99	33.67	23.77	414	0.04
26	20.00	33.65	20	19.99	33.66	23.76	415	0.08
41	20.04	33.77	30	20.01	33.68	23.77	414	0.12
57	19.72	33.74	50	19.92	33.76	23.86	405	0.21
72	17.15	33.37	75	16.35	33.34	24.41	353	0.30
86	15.00	33.31	100	14.18	33.34	24.89	307	0.38
101	14.13	33.34	150	10.92	33.50	25.64	236	0.52
125	12.26	33.39	200	9.20	33.72	26.11	191	0.63
155	10.68	33.53	250	8.30	33.95	26.43	161	0.72
205	9.10	33.74	300	7.46	34.01	26.60	145	0.80
264	8.06	33.98	400	6.27	34.09	26.82	124	0.94
368	6.45	34.04	500	5.93	34.25	26.99	108	1.06
490	5.97	34.24	600	5.59	34.38	27.14	93	1.17
617	5.53	34.39						

12
(117.107)

PAOLINA-T; October 7, 1954; 1643 GCT; 26°33'N, 120°11'W; sounding, 2150 fm;
wind, 360°, force 5; weather, overcast; sea, rough; wire angle, 12°.

0	20.42	33.61	0	20.42	33.61	23.61	429	0.00
10	20.42	33.64	10	20.42	33.64	23.64	426	0.04
25	20.43	33.64	20	20.42	33.64	23.64	426	0.09
45	19.42	33.51	30	20.44	33.62	23.62	428	0.13
65	15.75	33.22	50	18.36	33.42	24.00	392	0.21
81	14.81	33.23	75	15.18	33.23	24.59	336	0.30
101	13.69	33.22	100	13.78	33.22	24.88	308	0.38
120	12.12	33.23	150	10.42	33.43	25.68	232	0.52
150	10.42	33.43	200	9.90	33.94	26.16	186	0.63
181	10.03	33.79	250	9.56	34.24	26.45	159	0.72
237	9.62	34.20	300	9.15	34.35	26.61	144	0.79
306	9.10	34.35	400	9.01	34.39	26.81	125	0.93
422	7.75	34.39	500	6.90	34.38	26.97	110	1.06
564	6.31	34.37	600	6.08	34.38	27.07	100	1.17
707	5.35	34.42	700	5.38	34.42	27.19	89	1.27

13
(122⁵.95)

PAOLINA-T; October 8, 1954; 1647 GCT; 25°35'N, 118°27'W; sounding, 1800 fm;
wind, 010°, force 4; weather, overcast; sea, rough; wire angle, 20°.

0	20.49	33.61	0	20.49	33.61	23.59	431	0.00
10	20.51	33.59	10	20.51	33.59	23.57	433	0.04
25	20.51	33.63	20	20.51	33.63	23.60	430	0.09
44	19.26	33.53	30	20.51	33.61	23.59	431	0.13
64	16.27	33.30	50	18.32	33.46	24.04	388	0.21
78	14.87	33.18	75	15.13	33.19	24.57	338	0.30
97	13.59	33.25	100	13.40	33.26	24.99	298	0.38
116	12.06	33.27	150	10.70	33.70	25.84	217	0.51
142	10.92	33.60	200	10.47	34.24	26.30	173	0.61
168	10.54	33.90	250	9.82	34.40	26.53	151	0.70
217	10.41	34.38	300	8.98	34.40	26.67	138	0.77
282	9.24	34.40	400	7.69	34.35	26.83	123	0.91
392	7.77	34.35	500	6.68	34.31	26.94	112	1.03
527	6.50	34.30	600	6.06	34.36	27.06	101	1.15
667	5.77	34.42						

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

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PAOLINA-T; October 9, 1954; 1635 GCT; 25°30'N, 116°42'W; sounding, 2180+ fm;
wind, 360°, force 5; weather, partly cloudy; sea, very rough; wire angle, 15°.

14
(127.75)

0	21.26	33.66	0	21.26	33.66	23.43	446	0.00
10	21.25	33.66	10	21.25	33.66	23.43	446	0.04
25	21.26	33.71	20	21.25	33.71	23.47	442	0.09
45	20.17	33.59	30	21.26	33.69	23.45	444	0.13
65	16.49	33.30	50	19.11	33.51	23.88	403	0.22
80	15.37	33.27	75	15.71	33.27	24.50	344	0.31
100	12.94	33.29	100	12.94	33.29	25.10	287	0.39
119	11.86	33.48	150	11.36	34.05	25.99	202	0.52
147	11.41	34.03	200	10.36	34.23	26.31	172	0.61
175	10.74	34.12	250	9.81	34.43	26.56	148	0.69
237	9.92	34.38	300	9.46	34.53	26.70	135	0.77
298	9.50	34.53	400	7.74	34.39	26.85	121	0.90
414	7.57	34.38	500	6.92	34.34	26.93	113	1.03
551	6.56	34.33	600	6.25	34.35	27.03	104	1.14
691	5.59	34.48	700	(5.53)	(34.50)	(27.24)	(84)	(1.24)

PAOLINA-T; October 10, 1954; 1645, 1704 GCT; 25°33'N, 114°52'W; sounding,
1900 fm; wind, 320°, force 5; weather, clear; sea, very rough; wire angle, 27°, 26°.

15
(131.53)

0	22.07	33.73	0	22.07	33.73	23.26	462	0.00
9	22.08	33.71	10	22.08	33.71	23.24	464	0.05
			20	22.06	33.69	23.23	465	0.09
23	22.05	33.68	30	19.30	33.47	23.80	411	0.14
43	13.83	33.14	50	13.12	33.23	25.02	295	0.21
62	12.03	33.38	75	11.05	33.42	25.56	243	0.28
74	11.08	33.41	100	10.52	33.92	26.04	198	0.33
92	11.12	33.89	150	10.85	34.42	26.37	166	0.42
110	10.35	33.94	200	10.39	34.49	26.51	153	0.50
137	10.84	34.33	250	9.87	34.52	26.62	143	0.58
162	10.81	34.45	300	9.18	34.50	26.72	133	0.65
214	10.24	34.50	400	7.68	34.40	26.87	119	0.79
276	9.56	34.52	500	6.74	34.46	27.05	102	0.90
384	7.86	34.40	600	6.02	34.46	27.14	93	1.01
513	6.63	34.46						
653	5.70	34.45						

PAOLINA-T; October 11, 1954; 1635 GCT; 25°44'N, 113°34'W; sounding, 310 fm;
wind, 320°, force 4; weather, clear; sea, very rough; wire angle, 08°.

16
(133.36)

0	21.59	33.64	0	21.59	33.64	23.32	456	0.00
10	21.57	33.64	10	21.57	33.64	23.33	456	0.05
15	21.57	33.59	20	21.56	33.61	23.30	459	0.09
20	21.56	33.61	30	17.70	33.48	24.20	373	0.13
25	18.98	33.41	50	14.46	33.17	24.70	325	0.20
30	17.70	33.48	75	11.36	33.30	25.41	258	0.28
35	16.36a)	33.25						
46	14.81	33.17						
56	13.80	33.15						
67	12.05	33.22						
82	11.05	33.36						

a) Mean value of 16.45° and 16.28°C.

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

17
(122.43)

PAOLINA-T; October 13, 1954; 1641 GCT; 27°27'N, 115°13'W; sounding, 1900 fm;
wind, 010°, force 4; weather, cloudy; sea, moderate; wire angle, 03°.

0	19.05	33.57	0	19.05	33.57	23.94	398	0.00
10	17.85	33.46	10	17.85	33.46	24.15	378	0.04
25	16.87	33.43	20	17.29	33.44	24.27	366	0.08
41	13.74	33.34	30	15.80	33.41	24.59	336	0.11
57	11.85	33.52	50	12.50	33.44	25.30	268	0.17
72	11.49	33.84	75	11.47	33.87	25.83	218	0.23
87	11.42	33.94	100	11.34	34.18	26.10	192	0.28
102	11.32	34.19	150	10.38	34.37	26.41	163	0.38
127	10.39	34.22	200	9.90	34.42	26.54	150	0.46
157	10.37	34.39	250	8.99	34.40	26.67	138	0.53
205	9.83	34.42	300	8.40	34.39	26.76	129	0.60
265	8.75	34.39	400	7.47	34.42	26.92	114	0.73
368	7.78	34.41	500	6.60	34.44	27.05	102	0.84
488	6.69	34.44	600	5.75	34.38	27.12	95	0.95
617	5.65	34.37						

18
(117.57)

PAOLINA-T; October 14, 1954; 1632 GCT; 27°56'N, 116°46'W; sounding, 2050 fm;
wind, 360°, force 3; weather, cloudy; sea, rough; wire angle, 08°.

0	18.99	33.44	0	18.99	33.44	23.85	406	0.00
10	18.94	33.41	10	18.94	33.41	23.84	407	0.04
25	18.94	33.36	20	18.93	33.38	23.82	409	0.08
41	18.11	33.24	30	18.92	33.32	23.78	413	0.12
56	15.35	33.16	50	16.18	33.19	24.34	360	0.20
71	14.36	33.09	75	14.22	33.08	24.68	327	0.29
85	13.87	33.07	100	13.13	33.21	25.00	297	0.36
100	13.13	33.21	150	9.70	33.48	25.84	217	0.50
124	11.21	33.19	200	8.78	33.91	26.32	171	0.59
153	9.56	33.52	250	8.66	34.17	26.54	150	0.68
202	8.73	33.94	300	8.55	34.31	26.67	138	0.75
262	8.65	34.22	400	7.99	34.43	26.85	121	0.89
365	8.30	34.43	500	7.00	34.42	26.98	109	1.01
486	7.07	34.42	600	6.38	34.50	27.13	94	1.12
612	6.30	34.51						

19
(111.68)

PAOLINA-T; October 15, 1954; 1625 GCT; 28°29'N, 118°06'W; sounding, 2500 fm;
wind, 020°, force 5; weather, cloudy; sea, moderate; wire angle, 10°.

0	19.07	33.32	0	19.07	33.32	23.74	416	0.00
10	19.07	33.30	10	19.07	33.30	23.73	418	0.04
25	18.87	33.38	20	18.93	33.37	23.82	409	0.08
45	17.72	33.23	30	18.69	33.35	23.86	405	0.12
65	14.87	33.27	50	17.00	33.23	24.18	375	0.20
80	13.97	33.15	75	14.30	33.19	24.75	320	0.29
100	12.40	33.12	100	12.40	33.12	25.08	289	0.37
120	12.21	33.43	150	9.79	33.43	25.78	222	0.50
148	9.91	33.43	200	8.83	33.89	26.30	173	0.60
177	9.11	33.70	250	8.29	34.05	26.51	153	0.68
236	8.46	34.03	300	7.70	34.10	26.63	142	0.76
303	7.66	34.10	400	6.92	34.21	26.83	123	0.89
422	6.80	34.24	500	6.21	34.31	27.00	107	1.02
563	5.86	34.34	600	5.73	34.35	27.09	98	1.12
707	5.32	34.37	700	5.32	34.37	27.16	92	1.23

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

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PAOLINA-T; October 16, 1954; 1626 GCT; 28°51'N, 119°38'W; sounding, 2100 fm;
wind, 340°, force 4; weather, cloudy; sea, moderate; wire angle, 20°.

20
(106.83)

0	18.85	33.37	0	18.85	33.37	23.84	407	0.00
10	18.86	33.33	10	18.86	33.33	23.80	411	0.04
25	18.86	33.36	20	18.86	33.35	23.82	409	0.08
39	18.83	33.38	30	18.85	33.37	23.84	407	0.12
53	17.70	33.25	50	18.35	33.29	23.90	402	0.20
67	14.04	33.09	75	13.38	33.08	24.85	311	0.29
81	12.81	33.08	100	10.88	33.12	25.36	262	0.37
94	11.07	33.07	150	9.33	33.82	26.16	186	0.48
116	10.34	33.33	200	8.81	33.99	26.38	166	0.57
143	9.41	33.78	250	8.36	34.21	26.62	143	0.65
186	8.96	33.94	300	7.92	34.32	26.77	128	0.72
239	8.45	34.18	400	7.31	34.39	26.92	114	0.84
333	7.69	34.37	500	6.64	34.41	27.02	105	0.96
445	7.05	34.39						
571	6.01	34.45						

PAOLINA-T; October 17, 1954; 1629 GCT; 29°22'N, 120°56'W; sounding, 2200 fm;
wind, 020°, force 6; weather, partly cloudy; sea, moderate; wire angle, 05°.

21
(101.94)

0	18.91	33.30	0	18.91	33.30	23.77	414	0.00
10	18.89	33.31	10	18.89	33.31	23.78	413	0.04
26	18.91	33.32	20	18.89	33.32	23.79	412	0.08
41	18.83	33.36	30	18.91	33.33	23.79	412	0.12
58	16.79	33.05	50	18.20	33.18	23.85	406	0.21
73	15.01	33.11	75	14.73	33.11	24.60	335	0.30
87	13.62	33.11	100	12.76	33.02	24.93	303	0.38
103	12.56	33.01	150	9.86	33.32	25.69	231	0.52
127	11.16	33.09	200	8.50	33.78	26.26	177	0.62
157	9.56	33.40	250	7.71	33.97	26.53	151	0.70
205	8.37	33.82	300	7.38	34.06	26.65	140	0.78
265	7.57	34.00	400	6.91	34.18	26.81	125	0.92
372	7.08	34.16	500	5.92	34.22	26.97	110	1.04
492	5.97	34.22	600	5.22	34.32	27.13	94	1.15
618	5.11	34.34						

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