

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 6008
10-22 August 1960

CCOFI Cruise 6009
9-21 September 1960

CCOFI Cruise 6009-10
22 September - 22 October 1960

SIO Reference 62-10
17 May 1962

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

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CCOFI CRUISE 6008
10-22 August 1960

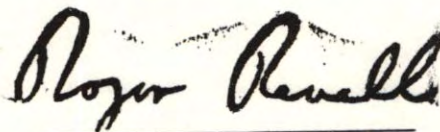
CCOFI CRUISE 6009
9-21 September 1960

CCOFI CRUISE 6009-10
22 September - 22 October 1960

Sponsored by
Marine Research Committee

SIO Reference 62-10
17 May 1962

Approved for distribution:



Roger Revelle, Director

UNIVERSITY OF CALIFORNIA
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Roger Revelle Director

INTRODUCTION

The data presented in this report were collected by the RV Black Douglas of the Bureau of Commercial Fisheries on Cruise 6008, the RV Black Douglas and the RV Hugh M. Smith on Cruise 6009, and the RV Black Douglas, the RV Hugh M. Smith and the RV Spencer F. Baird of the Scripps Institution of Oceanography on Cruise 6009-10 of the California Cooperative Oceanic Fisheries Investigations program. The first two figures in this cruise numbering system represent the year of the cruise; the last two figures, the month. In the case of quarterly cruises the last figures are hyphenated. The cruises preceding this one in the series are 6005 (Scripps Institution report, SIO Ref. 62-7), 6006 (SIO Ref. 62-8) and 6007-8 (SIO Ref. 62-9).

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. The salinity values obtained by salinometer are recorded to three decimal places, provided they meet accepted standards. The third decimal place has been offset to emphasize that the accuracy of the observations is not to one unit in that

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

place, but that the values recorded "have a reproducibility of $\pm 0.004\%$ salinity at the 95 percent probability level, and a probable accuracy of $\pm 0.01\%$ salinity or better at the same level of probability."^{1/} The values are recorded to two decimal places when obtained by chlorinity titration, or by salinometer where only one determination per sample was obtained, or where there is doubt concerning the accuracy of a particular sample, or of all samples on a station. The accuracy of all samples obtained by salinometer and recorded to two decimal places is believed to be equal to or better than those obtained by manual titration.

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.

On stations where more than one cast is lowered, the various property curves may not agree perfectly. This discrepancy may be caused by changes in geographical position, real property changes with time, slight error in measurement, or a combination of these factors. Stations with overlapping casts have the following footnote: Overlapping casts; reconciliation of property curves when necessary.

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.

^{1/}Quotation from Department of Oceanography, University of Washington, Tech. Rep. No. 66, UW Ref. 60-18, October 1960.

Use of the 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.

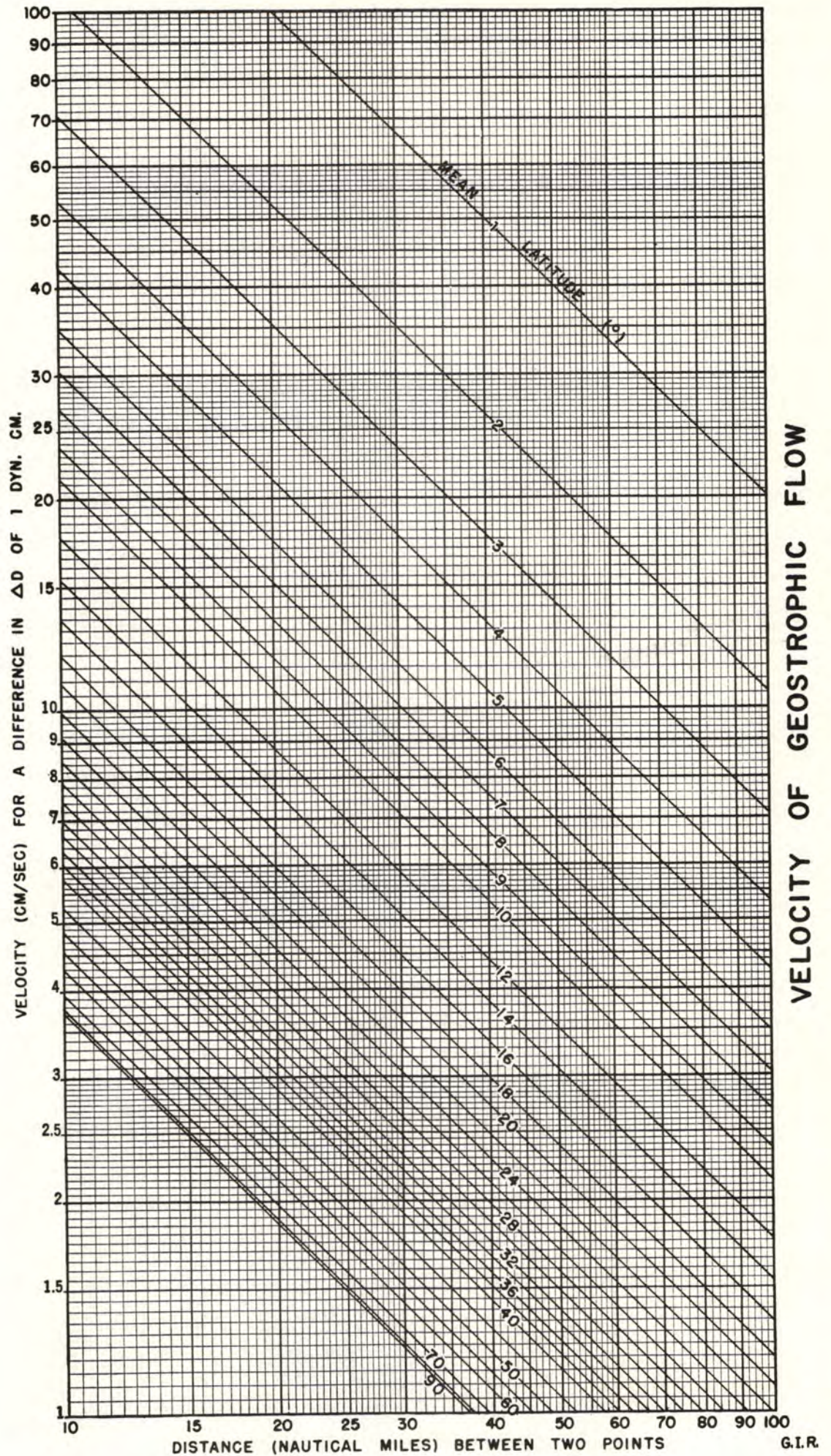
Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

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 1960 volume, the first page of Cruise 6008 is numbered 314; Cruise 6009, 324; Cruise 6009-10, 332.



VELOCITY OF GEOSTROPHIC FLOW

G.I.R.

FIGURES

1. CCOFI Cruise 6009, station positions
2. Horizontal distribution of temperature at 10 meters
3. Horizontal distribution of salinity at 10 meters

Station	Latitude	Longitude	Temp (C)	Salinity
01	33.00	121.00	15.5	35.2
02	33.00	121.00	15.5	35.2
03	33.00	121.00	15.5	35.2
04	33.00	121.00	15.5	35.2
05	33.00	121.00	15.5	35.2
06	33.00	121.00	15.5	35.2
07	33.00	121.00	15.5	35.2
08	33.00	121.00	15.5	35.2
09	33.00	121.00	15.5	35.2
10	33.00	121.00	15.5	35.2
11	33.00	121.00	15.5	35.2
12	33.00	121.00	15.5	35.2
13	33.00	121.00	15.5	35.2
14	33.00	121.00	15.5	35.2
15	33.00	121.00	15.5	35.2
16	33.00	121.00	15.5	35.2
17	33.00	121.00	15.5	35.2
18	33.00	121.00	15.5	35.2
19	33.00	121.00	15.5	35.2
20	33.00	121.00	15.5	35.2
21	33.00	121.00	15.5	35.2
22	33.00	121.00	15.5	35.2
23	33.00	121.00	15.5	35.2
24	33.00	121.00	15.5	35.2
25	33.00	121.00	15.5	35.2
26	33.00	121.00	15.5	35.2
27	33.00	121.00	15.5	35.2
28	33.00	121.00	15.5	35.2
29	33.00	121.00	15.5	35.2
30	33.00	121.00	15.5	35.2
31	33.00	121.00	15.5	35.2
32	33.00	121.00	15.5	35.2
33	33.00	121.00	15.5	35.2
34	33.00	121.00	15.5	35.2
35	33.00	121.00	15.5	35.2
36	33.00	121.00	15.5	35.2
37	33.00	121.00	15.5	35.2
38	33.00	121.00	15.5	35.2
39	33.00	121.00	15.5	35.2
40	33.00	121.00	15.5	35.2
41	33.00	121.00	15.5	35.2
42	33.00	121.00	15.5	35.2
43	33.00	121.00	15.5	35.2
44	33.00	121.00	15.5	35.2
45	33.00	121.00	15.5	35.2
46	33.00	121.00	15.5	35.2
47	33.00	121.00	15.5	35.2
48	33.00	121.00	15.5	35.2
49	33.00	121.00	15.5	35.2
50	33.00	121.00	15.5	35.2
51	33.00	121.00	15.5	35.2
52	33.00	121.00	15.5	35.2
53	33.00	121.00	15.5	35.2
54	33.00	121.00	15.5	35.2
55	33.00	121.00	15.5	35.2
56	33.00	121.00	15.5	35.2
57	33.00	121.00	15.5	35.2
58	33.00	121.00	15.5	35.2
59	33.00	121.00	15.5	35.2
60	33.00	121.00	15.5	35.2
61	33.00	121.00	15.5	35.2
62	33.00	121.00	15.5	35.2
63	33.00	121.00	15.5	35.2
64	33.00	121.00	15.5	35.2
65	33.00	121.00	15.5	35.2
66	33.00	121.00	15.5	35.2
67	33.00	121.00	15.5	35.2
68	33.00	121.00	15.5	35.2
69	33.00	121.00	15.5	35.2
70	33.00	121.00	15.5	35.2
71	33.00	121.00	15.5	35.2
72	33.00	121.00	15.5	35.2
73	33.00	121.00	15.5	35.2
74	33.00	121.00	15.5	35.2
75	33.00	121.00	15.5	35.2
76	33.00	121.00	15.5	35.2
77	33.00	121.00	15.5	35.2
78	33.00	121.00	15.5	35.2
79	33.00	121.00	15.5	35.2
80	33.00	121.00	15.5	35.2
81	33.00	121.00	15.5	35.2
82	33.00	121.00	15.5	35.2
83	33.00	121.00	15.5	35.2
84	33.00	121.00	15.5	35.2
85	33.00	121.00	15.5	35.2
86	33.00	121.00	15.5	35.2
87	33.00	121.00	15.5	35.2
88	33.00	121.00	15.5	35.2
89	33.00	121.00	15.5	35.2
90	33.00	121.00	15.5	35.2
91	33.00	121.00	15.5	35.2
92	33.00	121.00	15.5	35.2
93	33.00	121.00	15.5	35.2
94	33.00	121.00	15.5	35.2
95	33.00	121.00	15.5	35.2
96	33.00	121.00	15.5	35.2
97	33.00	121.00	15.5	35.2
98	33.00	121.00	15.5	35.2
99	33.00	121.00	15.5	35.2
100	33.00	121.00	15.5	35.2

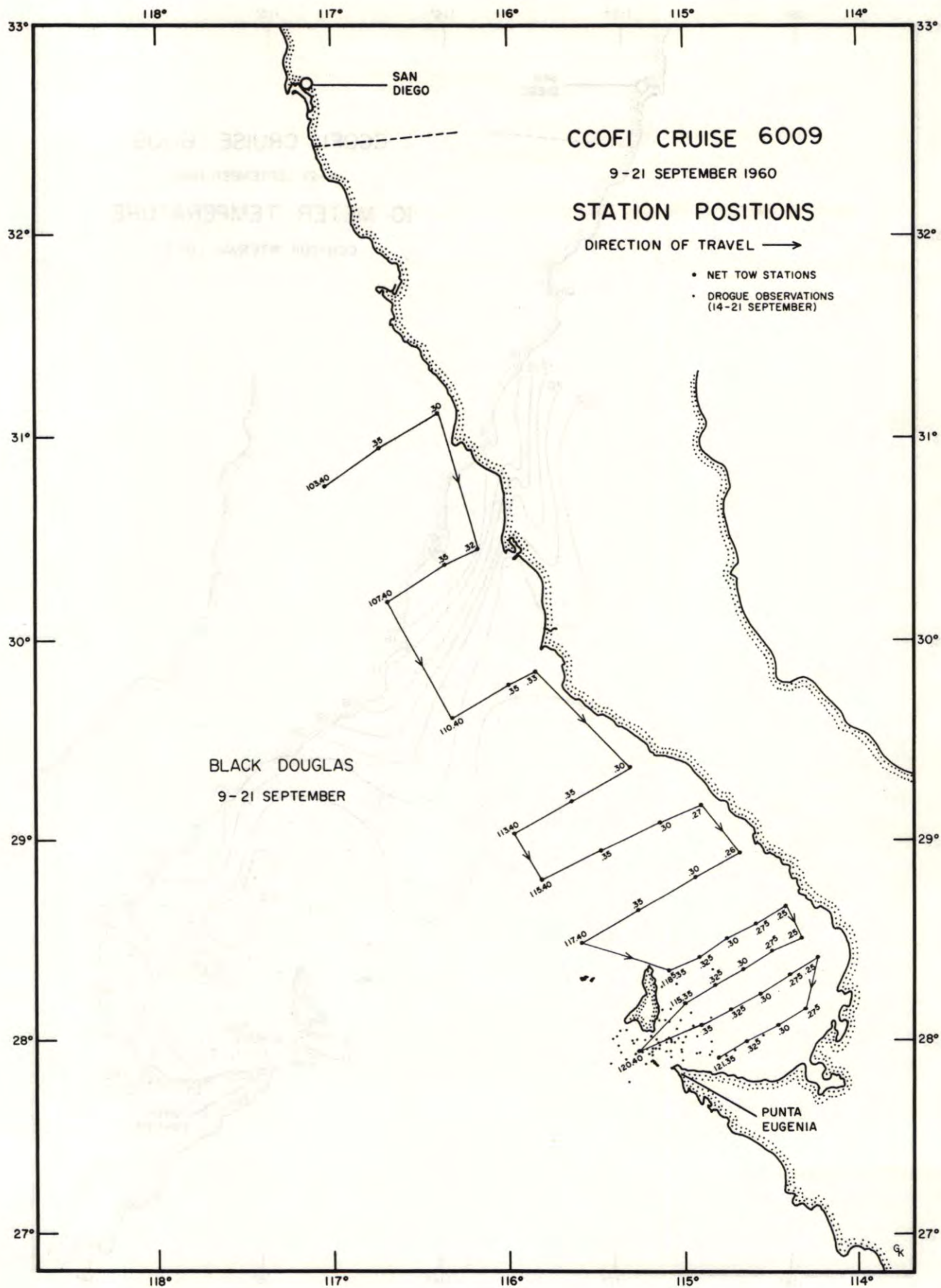


FIGURE 1

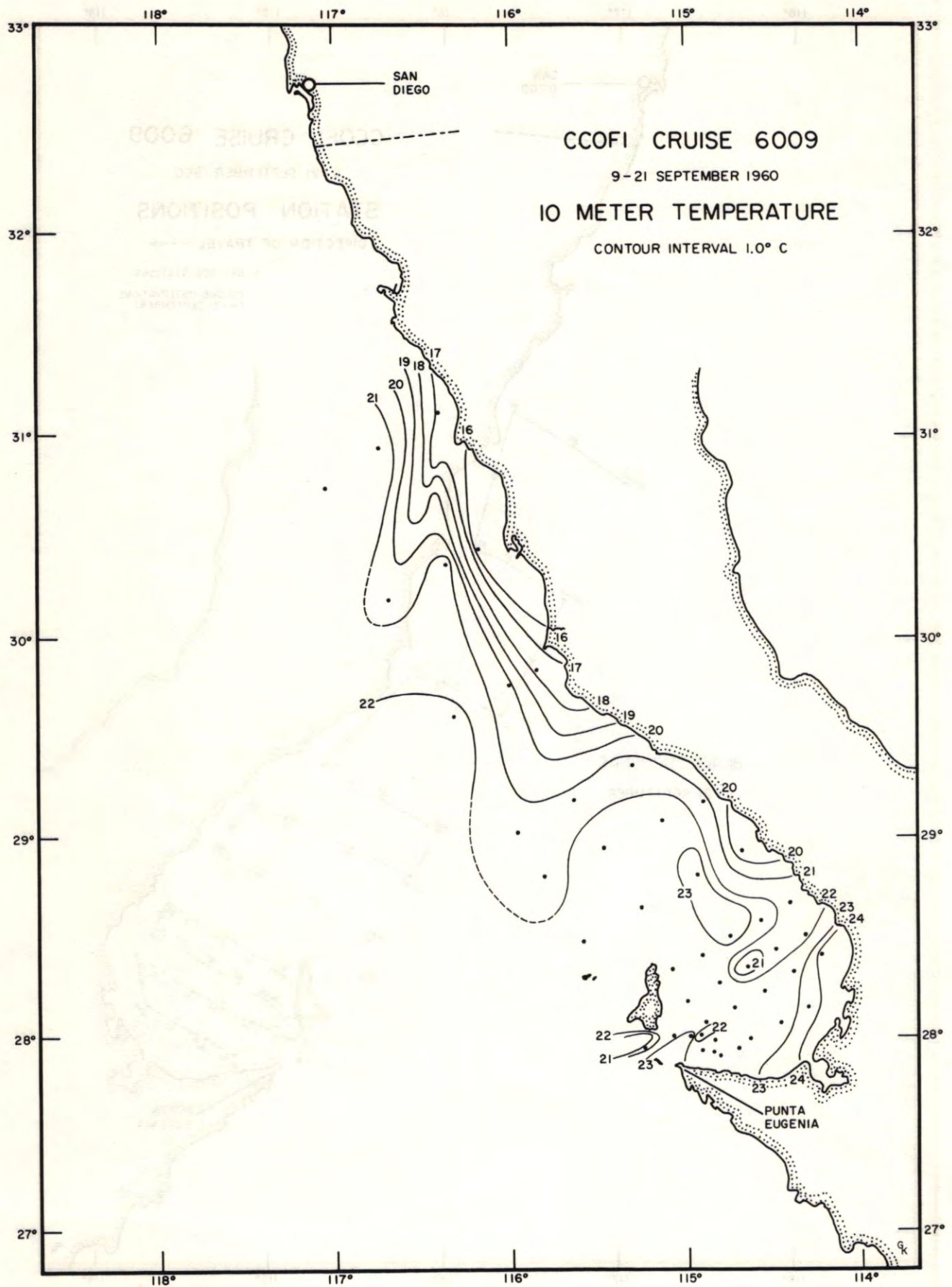


FIGURE 2

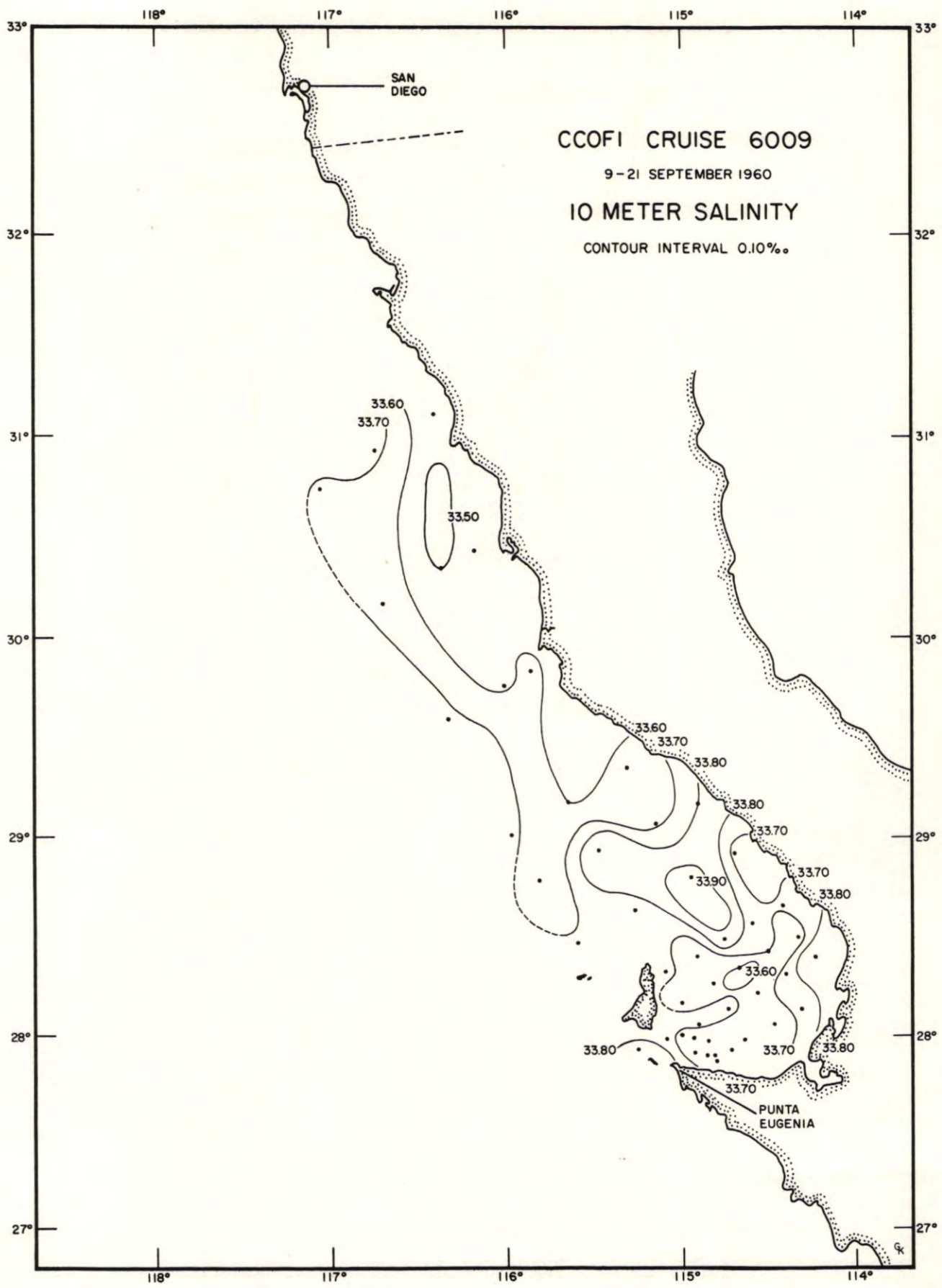


FIGURE 3

PERSONNEL
Cruise 6009

SHIP'S CAPTAIN

Forster, Charles W., RV Black Douglas

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Ahlstrom, Dr. Elbert H., Director, Biological Laboratory, La Jolla,
Bureau of Commercial Fisheries

Counts, Robert C., Fishery Biologist, Bureau of Commercial Fisheries

Kramer, David, Fishery Biologist, Bureau of Commercial Fisheries

Perkins, Herbert C., Fishery Aid, Bureau of Commercial Fisheries

Wagner, Vaughn M., Fishery Aid, Bureau of Commercial Fisheries

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
103.30-B	IX-9	1455	31°06.0'	116°24.5'	39	270°	1	partly cloudy	moderate	16.80	33.51	12.19	33.66
103.35-B	9	1220	30°56.0'	116°45.0'	900	360°	2	partly cloudy	moderate	21.34	33.77	14.24	33.44
103.40-B	9	0920	30°44.0'	117°03.5'	1050	-	-	clear	rough	21.36	33.69	14.44	33.46
107.32-B	9	1947	30°26.0'	116°11.0'	265	270°	1	clear	rough	15.37	33.54	12.52	33.57
107.35-B	9	2140	30°21.5'	116°22.5'	900	250°	2	partly cloudy	rough	21.02	33.50	13.45	33.54
107.40-B	10	0005	30°11.0'	116°42.0'	1300	260°	1	partly cloudy	rough	20.31	33.68	14.40	33.58
110.33-B	10	0805	29°50.0'	115°52.0'	40	320°	2	partly cloudy	moderate	17.52	33.64	12.78	33.56
110.35-B	10	0635	29°46.0'	116°00.0'	620	360°	2	partly cloudy	moderate	20.62	33.58	14.48	33.55
110.40-B	10	0420	29°36.5'	116°19.5'	1280	180°	2	clear	rough	22.30	33.76	16.10	33.48
113.30-B	10	1330	29°22.0'	115°18.0'	39	300°	4	cloudy	slight	21.42	33.69	12.62	33.68
113.35-B	10	1550	29°11.5'	115°38.0'	540	300°	4	cloudy	moderate	21.22	33.60	14.71	33.55
113.40-B	10	1805	29°02.0'	115°57.0'	980	300°	3	partly cloudy	moderate	21.66	33.71	14.00	33.54
115.27-B	11	0305	29°11.0'	114°55.0'	43	300°	3	clear	moderate	21.26	33.80	12.70	33.66
115.30-B	11	0125	29°05.0'	115°08.0'	52	300°	5	cloudy	rough	22.28	33.69	13.30	33.53
115.35-B	10	2258	28°57.0'	115°28.0'	600	300°	4	cloudy	moderate	22.92	33.82	15.35	33.55
115.40-B	10	2030	28°47.0'	115°48.0'	700	300°	3	partly cloudy	moderate	21.51	33.64	14.06	33.50
117.26-B	11	0522	28°56.0'	114°41.5'	40	300°	3	clear	slight	19.44	33.66	12.68	33.69
117.30-B	11	0717	28°48.0'	114°56.5'	55	300°	4	clear	slight	23.33	33.91	12.20	33.66
117.35-B	11	1000	28°38.0'	115°16.0'	110	290°	3	clear	moderate	22.56	33.76	15.89	33.58

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
117.40-B	IX-11	1245	28°28.0'	115°35.5'	450	300°	4	clear	moderate	22.54	33.71	14.39	33.53
118 ⁵ .25-B	12	0632	28°40.5'	114°25.5'	46	270°	4	clear	moderate	21.25	33.71	12.68	33.61
118 ⁵ .27 ⁵ -B	12	0505	28°35.5'	114°35.5'	50	270°	4	clear	moderate	22.95	33.78	11.84	33.71
118 ⁵ .30-B	12	0330	28°30.5'	114°45.5'	60	270°	4	partly cloudy	moderate	23.48	33.89	12.80	33.60
118 ⁵ .32 ⁵ -B	12	0150	28°25.5'	114°55.0'	68	290°	4	partly cloudy	moderate	22.06	33.64	14.82	33.56
118 ⁵ .35-B	12	0015	28°20.5'	115°05.0'	52	320°	6	partly cloudy	moderate	22.15	33.71	15.00	33.57
119.25-B	12	0805	28°31.5'	114°20.5'	47	270°	4	clear	moderate	21.42	33.69	13.16	33.58
119.27 ⁵ ₈ -B	12	0940	28°26.5'	114°30.0'	52	290°	3	clear	moderate	21.61	33.70	13.14	33.71
119.30-B	12	1110	28°21.5'	114°39.5'	55	280°	2	clear	moderate	20.62	33.60	14.00	33.55
119.32 ⁵ -B	12	1235	28°16.5'	114°49.5'	60	280°	2	clear	moderate	22.20	33.64	14.86	33.57
119.35-B	12	1355	28°11.5'	114°59.5'	53	320°	3	partly cloudy	missing	22.44	33.65	14.68	33.53
119.35-B	20	0440	28°11.5'	114°59.5'	55	330°	6	clear	rough	22.60	33.69	18.83	33.58
119.36 ² -B	20	0540	28°09.0'	115°04.0'	47	330°	5	clear	rough	22.64	33.69	16.26	33.55
119 ⁵ .35-B	20	0330	28°07.5'	114°57.0'	45	230°	5	clear	rough	22.64	33.70	17.91	33.58
119 ⁵ .36 ² ₂₀ -B	20	0650	28°05.0'	114°01.5'	44	180°	2	clear	moderate	22.34	33.71	16.94	33.55
120.25-B	13	0120	28°25.5'	114°15.0'	28	320°	4	partly cloudy	moderate	24.44	33.93	14.00	33.58
120.27 ⁵ ₈ -B	12	2353	28°18.0'	114°24.5'	47	320°	4	partly cloudy	slight	22.74	33.77	13.71	33.57
120.30-B	12	2245	28°13.0'	114°34.0'	50	320°	4	partly cloudy	slight	22.36	33.68	14.60	33.58
120.32 ⁵ -B	12	2100	28°08.0'	114°44.0'	48	360°	1	clear	slight	22.64	33.73	15.94	33.57

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
120.35-B	IX-12	1912	28°03.0'	114°54.0'	47	270°	2	clear	slight	22.80	33.73	15.03	33.59
120.35-B	14	0225	28°03.0'	114°54.0'	47	240°	4	clear	moderate	22.92	33.69	15.08	33.55
120.35-B	20	0230	28°03.0'	114°54.0'	46	020°	5	clear	rough	22.55	33.69	16.45	33.55
120.35 ⁵ / ₆ -B	14	0540	28°01.0'	114°56.0'	37	090°	4	clear	slight	21.90	33.67	13.83	33.62
120.36 ² / ₆ -B	14	0320	28°00.5'	114°59.0'	43	240°	5	clear	moderate	23.08	33.66	14.36	33.58
120.36 ² / ₆ -B	20	0755	28°00.5'	114°58.5'	39	240°	2	clear	moderate	22.08	33.69	15.88	33.60
120.37 ⁵ / ₈ -B	12	1754	27°59.5'	115°04.0'	37	270°	2	clear	slight	22.29	33.74	15.10	33.71
120.37 ⁵ / ₈ -B	14	0420	27°58.0'	115°04.0'	32	340°	2	clear	slight	24.02	33.85	13.84	33.57
120.40-B	12	1625	27°56.5'	115°14.0'	21	270°	4	clear	slight	20.02	33.82	15.74	33.68
120 ⁵ / ₄ .33 ⁸ / ₄ -B	14	0820	27°56.0'	114°56.0'	43	080°	2	clear	slight	22.87	33.69	16.52	33.57
120 ⁵ / ₄ .35-B	14	0705	27°58.5'	114°51.0'	42	090°	3	clear	slight	22.52	33.68	14.86	33.57
120 ⁵ / ₄ .35-B	20	0130	27°58.5'	114°51.0'	43	020°	5	clear	rough	22.16	33.71	16.14	33.56
120 ⁵ / ₄ .36 ² / ₆ -B	20	0915	27°56.0'	114°56.0'	32	220°	2	clear	moderate	22.71	33.69	15.22	33.55
120 ⁵ / ₄ .37 ⁵ / ₈ -B	20	1015	27°53.5'	115°00.5'	23	var.	2	clear	moderate	24.16	33.89	16.94a)	33.69a)
120 ⁸ / ₁ .35 ⁶ / ₆ -B	14	1255	27°55.0'	114°52.0'	33	340°	1	partly cloudy	slight	22.68	33.66	14.81	33.54
121.27 ⁵ / ₈ -B	13	0325	28°09.0'	114°19.0'	22	270°	4	clear	rough	23.42	33.73	15.91b)	33.58b)

a) Depth, 40 meters.

b) Depth, 30 meters.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
121.30-B	IX-13	0623	28°04.5'	114°28.5'	37	270°	3	clear	moderate	22.31	33.67	14.76	33.58
121.30-B		19 2030	28°04.5'	114°28.5'	37	320°	5	overcast	rough	22.64	-	16.08	-
121.31 ² -B		19 2130	28°02.0'	114°33.5'	38	320°	5	overcast	rough	22.29	33.72	15.02	33.55
121.32 ⁵ -B		13 0732	27°59.5'	114°38.5'	38	270°	3	clear	moderate	22.70	33.68	17.71a)	33.59a)
121.32 ⁵ -B		14 0935	27°59.5'	114°38.5'	37	080°	2	clear	slight	22.62	33.66	15.20	33.53
121.32 ⁵ -B		19 2225	27°59.5'	114°38.5'	38	320°	6	clear	rough	22.24	33.74	14.58	33.55
121.33 ⁸ ₄ -B		14 1050	27°57.0'	114°43.5'	33	090°	2	clear	slight	22.50	33.66	14.90	33.53
121.33 ⁸ ₄ -B		19 2325	27°57.0'	114°43.5'	35	320°	5	clear	very rough	22.43	33.73	14.92	33.58
121.35-B		13 0857	27°54.5'	114°48.5'	32	320°	1	clear	slight	22.96	33.69	14.06	33.61
121.35-B		14 1150	27°54.5'	114°48.5'	32	090°	2	clear	slight	22.64	33.66	14.38	33.59
121.35-B		20 0015	27°54.5'	114°48.5'	30	320°	5	clear	rough	22.16	33.71	14.44	33.57
D-25-B		20 1255	27°56.5'	115°01.0'	29	var.	2	clear	moderate	22.43	33.69	16.94a)	33.58a)
D-25-B		20 1740	27°58.5'	115°06.0'	30	180°	2	partly cloudy	moderate	22.44	33.71	16.29a)	33.57a)
D-25-B		20 2330	27°58.5'	115°08.5'	25	280°	4	clear	moderate	22.70	33.69	19.50b)	33.64b)
D-25-B		21 0345	28°00.5'	115°11.0'	22	020°	3	clear	moderate	22.72	33.69	21.76b)	33.69b)
D-25-B		21 0910	27°59.0'	115°16.5'	25	320°	5	clear	rough	22.12	33.72	20.32b)	33.69b)

a) Depth, 40 meters.

b) Depth, 30 meters.

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

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Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
D-32-B	IX-14	2215	27°56.0'	115°00.5'	31	-	-	clear	slight	22.75	33.66	16.38a)	33.78a)
D-32-B	15	0450	28°00.0'	115°05.0'	35	360°	2	clear	moderate	22.77	33.67	13.78	33.58
D-32-B	15	1320	28°05.0'	115°06.5'	42	100°	3	cloudy	slight	22.68	33.65	15.94	33.69
D-32-B	16	0525	28°15.5'	115°07.5'	53	270°	4	clear	rough	23.68	33.73	14.50	33.54
D-85-B	20	1635	27°56.5'	115°04.5'	26	var.	3	clear	moderate	22.74	33.68	16.13	33.66
D-85-B	20	2125	27°58.0'	115°13.0'	22	290°	6	clear	rough	23.18	33.73	18.80b)	33.61b)
D-87-B	14	1440	28°00.0'	115°02.5'	38	340°	1	partly cloudy	slight	22.86	33.66	15.04	33.58
D-87-B	14	1955	28°04.5'	115°05.0'	42	240°	2	cloudy	slight	22.70	33.68	14.68	33.58
D-87-B	15	1100	28°17.0'	115°02.5'	61	320°	4	clear	slight	23.02	33.53	15.14	33.66
D-87-B	16	0132	28°21.0'	114°50.5'	59	320°	5	partly cloudy	moderate	23.14	33.69	15.96	33.55
D-87-B	18	0235	27°55.5'	115°11.5'	22	320°	5	partly cloudy	rough	21.06	33.78	16.11b)	33.78b)
D-88-B	14	1530	27°59.5'	115°06.0'	30	240°	2	partly cloudy	slight	24.68	33.93	16.90b)	33.58b)
D-88-B	15	1435	27°57.0'	115°10.0'	18	150°	2	cloudy	slight	21.42	33.75	15.50b)	33.64b)
D-88-B	16	1442	27°54.0'	115°04.0'	20	320°	3	clear	moderate	20.68	33.78	17.34b)	33.73b)
D-88-B	17	1550	27°58.0'	115°17.5'	32	320°	4	cloudy	moderate	21.92	33.80	15.12	33.82
D-88-B	17	2315	27°56.0'	115°21.5'	55	320°	5	partly cloudy	rough	23.36	33.98	15.50	33.59

a) Depth, 40 meters.

b) Depth, 30 meters.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
D-88-B	IX-18	0405	27°53.0'	115°19.0'	52	320°	5	clear	rough	21.64	33.78	14.65	33.62
D-88-B	18	0610	27°46.5'	115°18.5'	63	300°	4	partly cloudy	moderate	21.80	33.82	15.47	33.55
D-89-B	15	0115	27°55.0'	114°46.5'	32	320°	2	clear	moderate	22.02	33.68	14.24a)	33.59a)
D-89-B	15	1758	27°59.0'	115°01.0'	36	360°	2	partly cloudy	moderate	22.99	33.69	15.82	33.61
D-89-B	16	0725	28°09.0'	115°07.5'	42	340°	2	clear	moderate	23.62	33.68	15.08	33.58
D-92-B	17	0450	27°58.0'	115°03.5'	10	320°	2	clear	moderate	19.92	33.68	-	-
D-92-B	17	2225	27°58.0'	115°17.5'	31	320°	6	partly cloudy	rough	23.56	33.75	15.93a)	33.73a)
D-92-B	18	0747	27°57.0'	115°22.5'	52	290°	6	clear	rough	22.46	33.69	15.53	33.58
D-92-B	18	1853	27°52.5'	115°25.0'	65	330°	5	partly cloudy	moderate	22.86	33.77	15.60	33.58
D-95-B	19	1435	28°08.0'	115°08.0'	42	020°	1	clear	moderate	22.38	33.71	16.33	33.66
D-96-B	19	1505	28°09.5'	115°05.0'	46	330°	2	clear	moderate	22.48	33.71	15.86	33.63
D-98-B	17	1800	28°02.5'	115°19.5'	40	330°	4	partly cloudy	moderate	21.87	33.71	15.25	33.78
D-98-B	18	0055	28°02.5'	115°22.0'	42	320°	5	partly cloudy	rough	22.64	33.69	15.56	33.62
D-98-B	18	0855	28°01.5'	115°23.0'	45	320°	5	clear	rough	22.12	33.71	15.32	33.65
D-98-B	18	2025	28°00.5'	115°24.0'	45	320°	5	partly cloudy	rough	22.26	33.73	15.30	33.60

a) Depth, 40 meters.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
D-3-M	IX-21	0100	28°00.0'	115°09.5'	16	090°	1	clear	slight	22.70	33.71	21.26a)	33.70a)
D-3-M	21	0340	28°00.0'	115°09.5'	15	090°	1	clear	calm	22.72	33.73	-	-
D-30-M	19	0015	28°06.5'	114°52.0'	46	340°	6	partly cloudy	moderate	22.82	33.74	-	-
D-88-M	17	0245	27°56.5'	115°06.5'	21	090°	3	clear	moderate	20.66	33.75	16.57b)	33.68b)
D-88-M	17	0500	27°58.0'	115°08.5'	16	200°	2	partly cloudy	moderate	18.92	33.68	-	-
D-88-M	17	0910	27°56.5'	115°14.0'	20	320°	4	partly cloudy	moderate	19.86	33.71	16.05b)	33.74b)
D-95-M	19	0325	28°03.0'	115°03.5'	36	calm		clear	slight	22.57c)	33.71	18.52b)	33.63b)
D-96-M	19	0130	28°04.0'	114°57.5'	44	340°	5	clear	moderate	22.62	33.74	20.48b)	33.67b)
D-96-M	19	0225	28°03.0'	115°03.5'	40	calm		clear	moderate	22.48	33.77	20.76b)	33.68b)
D-97-M	17	2325	27°57.0'	115°13.0'	21	320°	4	partly cloudy	moderate	22.66	33.76	16.99b)	33.78b)
D-99-M	17	0215	27°56.5'	115°06.5'	21	090°	3	clear	moderate	19.86	33.74	15.87a)	33.76a)
D-99-M	17	0635	27°57.0'	115°08.5'	19	200°	2	partly cloudy	moderate	23.30	33.85	15.96b)	33.66b)
D-99-M	17	1125	27°56.5'	115°09.5'	19	320°	1	partly cloudy	slight	20.17	33.73	15.81b)	33.70b)
D-99-M	17	1525	27°56.5'	115°09.0'	18	320°	2	partly cloudy	slight	22.60	33.80	16.86b)	33.64b)
D-99-M	17	1850	27°56.5'	115°09.5'	20	250°	2	partly cloudy	slight	23.12	33.74	17.46b)	33.68b)

a) Depth, 30 meters.

b) Depth, 25 meters.

c) Alternate value, 23.86°C.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters		50 Meters	
						Dir	Force			T	S	T	S
D-99-M	IX-17	2150	27°56.0'	115°10.5'	21	calm		partly cloudy	moderate	22.50	33.78	16.52a)	33.73a)
D-99-M		18 0405	27°55.0'	115°10.5'	17	050°	1	partly cloudy	slight	20.10	33.82	16.06a)	33.74a)
D-99-M		18 0802	27°56.0'	115°13.0'	21	320°	4	clear	moderate	23.32	33.77	16.34a)	33.72a)
D-99-M		18 1535	27°56.5'	115°17.0'	40	270°	4	clear	moderate	21.50	33.84	16.43a)	33.75a)

a) Depth, 25 meters.

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

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