Irene Reid

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 6404
10 April - 1 May 1964

and

CCOFI Cruise 6407
15 June - 4 August 1964

SIO Reference 66-20
September 1, 1966

UNIVERSITY OF CALIFORNIA

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CCOFI Cruise 6404
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Sponsored by

Marine Research Committee

SIO Reference 66-20
September 1, 1966

Approved for distribution:

W. A. Nierenberg

W. A. Nierenberg, Director

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INTRODUCTION

The data presented in this report were collected by the RV Black Douglas of the Bureau of Commercial Fisheries and by the RV Alexander Agassiz of the Scripps Institution of Oceanography on Cruises 6404 and 6407 of the California Cooperative Oceanic Fisheries Investigations program.

On Cruise 6404 the RV Alexander Agassiz made three-bottle casts in the mixed layer for temperature, salinity, and inorganic phosphate-phosphorus at each net haul station. These data are reported with the net haul information.

The close grid stations near Point Arguello on Cruise 6407 were occupied as part of an environmental study which was supported in part by AEC Contract AT (11-1)-34, Project 111. The first two figures in this cruise numbering system represent the year of the cruise; the last two figures, the month. The cruises preceding these in the series are 6401 (Scripps Institution report, SIO Ref. 65-7) and 6410 (SIO Ref. 65-18).

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/] 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 values recorded "have a reproducibility of $\pm 0.04‰$ salinity at the 95 per cent probability level, and a probable

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

accuracy of ±0.01‰ salinity or better at the same level of probability."[2/] 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.

Tabulated Data

The data tabulated are of the same type as have previously appeared in these reports; the column headings from the computer are explained as follows:

Z	Depth in meters	
T	Temperature	°C
S	Salinity	‰
OXY	Oxygen	ml/L
PHO	Phosphate	µg at/L
SIL	Silicate	µg at/L
NIT	Nitrite	µg at/L
D*T	δ_T	cl/ton
SIG*T	σ_t	g/L
DD	ΔD	dyn m

Extrapolated values and values between remote observations are not indicated but can be determined from the tabulation of observed depths. A hyphen is used to indicate a missing observed or interpolated 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 and a significant change in position during a multiple cast is listed similarly. Multiple casts are indicated by a footnote letter following all observed depths of each cast except the cast originating at the surface.

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.

[2/] Quotation from Department of Oceanography, University of Washington, Tech. Rep. No. 66, UW Ref. 60-18, October 1960.

FOOTNOTES

Laboratory personnel 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.

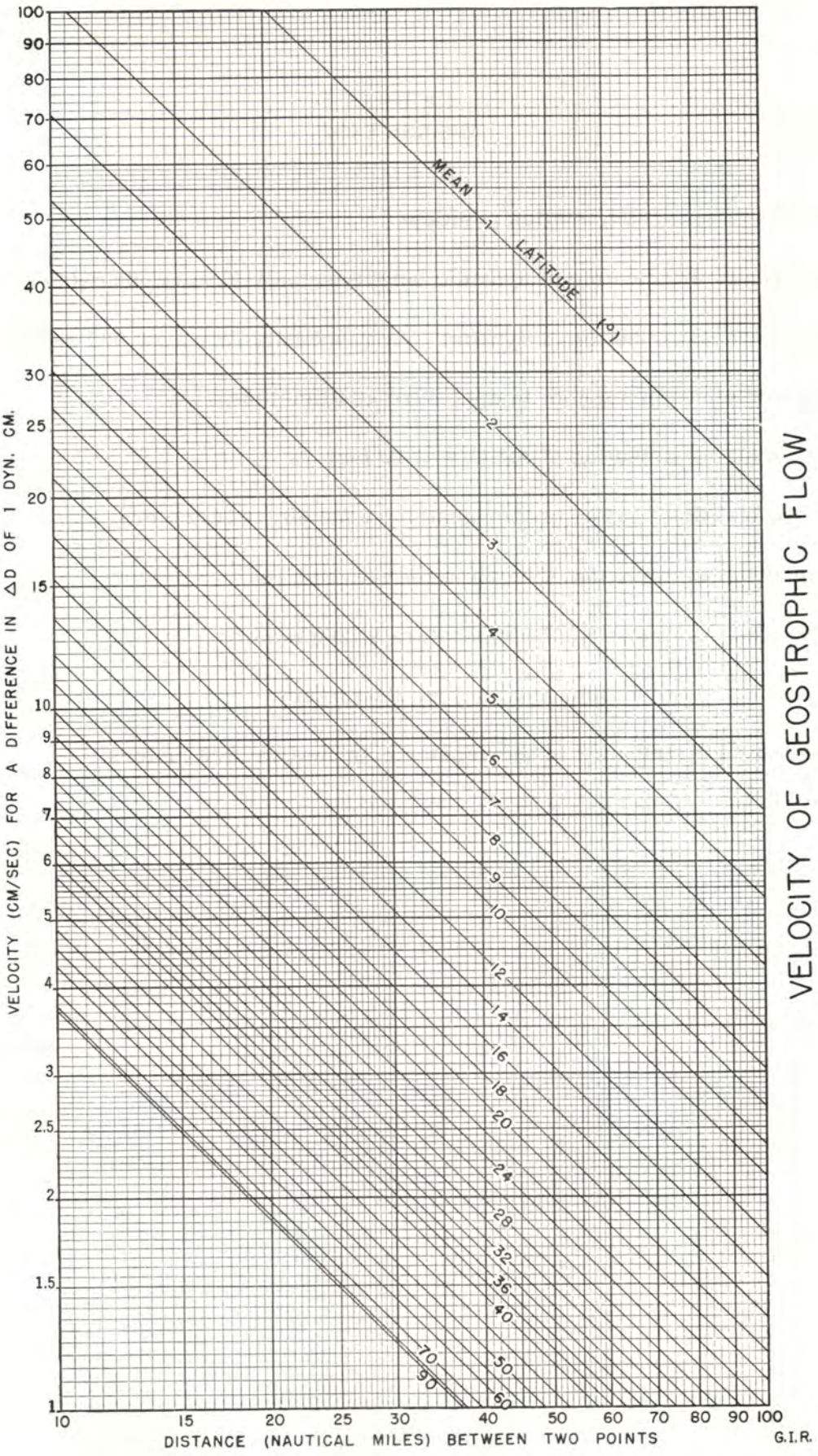
In addition to footnotes, a special notation is used without a footnote because its meaning is always the same.

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

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

FORMAT

These data were collected in part by personnel of and processed completely by the Data Collection and Processing Group (DCPG, MLR), Scripps Institution of Oceanography.


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)
1
2
3
4
5
6
7
8
9
10
12
14
16
18
20
24
28
32
36
40
50
60
70
90
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
G.I.R.

FIGURES
CRUISE 6404

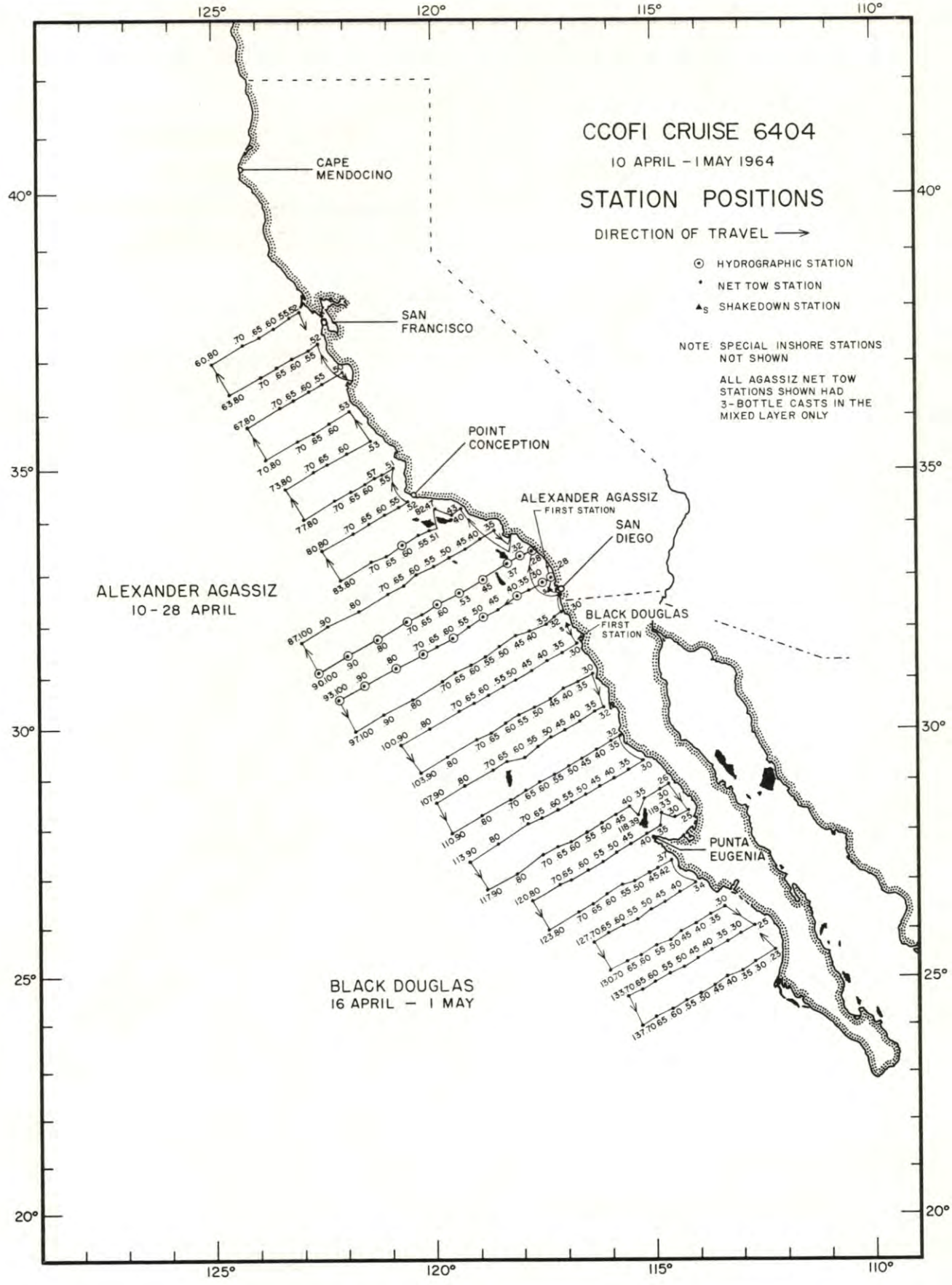

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
STATION POSITIONS
DIRECTION OF TRAVEL ⟶
⊙ HYDROGRAPHIC STATION
• NET TOW STATION
▲S SHAKEDOWN STATION
NOTE: SPECIAL INSHORE STATIONS NOT SHOWN
ALL AGASSIZ NET TOW STATIONS SHOWN HAD 3-BOTTLE CASTS IN THE MIXED LAYER ONLY
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
ALEXANDER AGASSIZ
FIRST STATION
SAN DIEGO
BLACK DOUGLAS
FIRST STATION
PUNTA EUGENIA
ALEXANDER AGASSIZ
10 - 28 APRIL
BLACK DOUGLAS
16 APRIL – 1 MAY
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 1

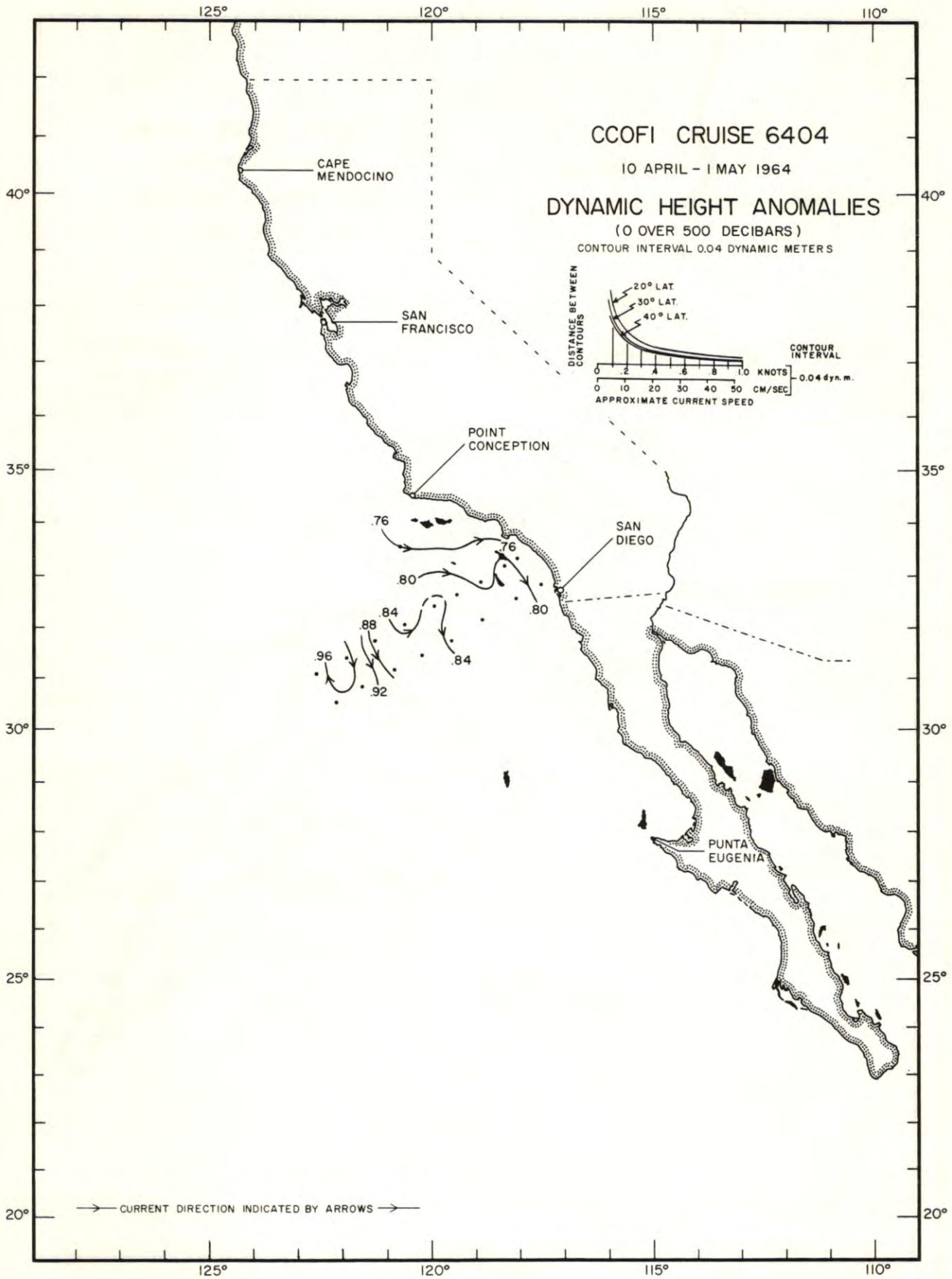

CCOFI CRUISE 6404
10 APRIL - 1 MAY 1964
DYNAMIC HEIGHT ANOMALIES
(0 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.04 DYNAMIC METERS
DISTANCE BETWEEN CONTOURS
20° LAT.
30° LAT.
40° LAT.
CONTOUR INTERVAL
0 .2 .4 .6 .8 1.0 KNOTS
0.04 dyn. m.
0 10 20 30 40 50 CM/SEC
APPROXIMATE CURRENT SPEED
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
.76
.76
.80
.80
.84
.88
.84
.96
.92
CURRENT DIRECTION INDICATED BY ARROWS
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 2

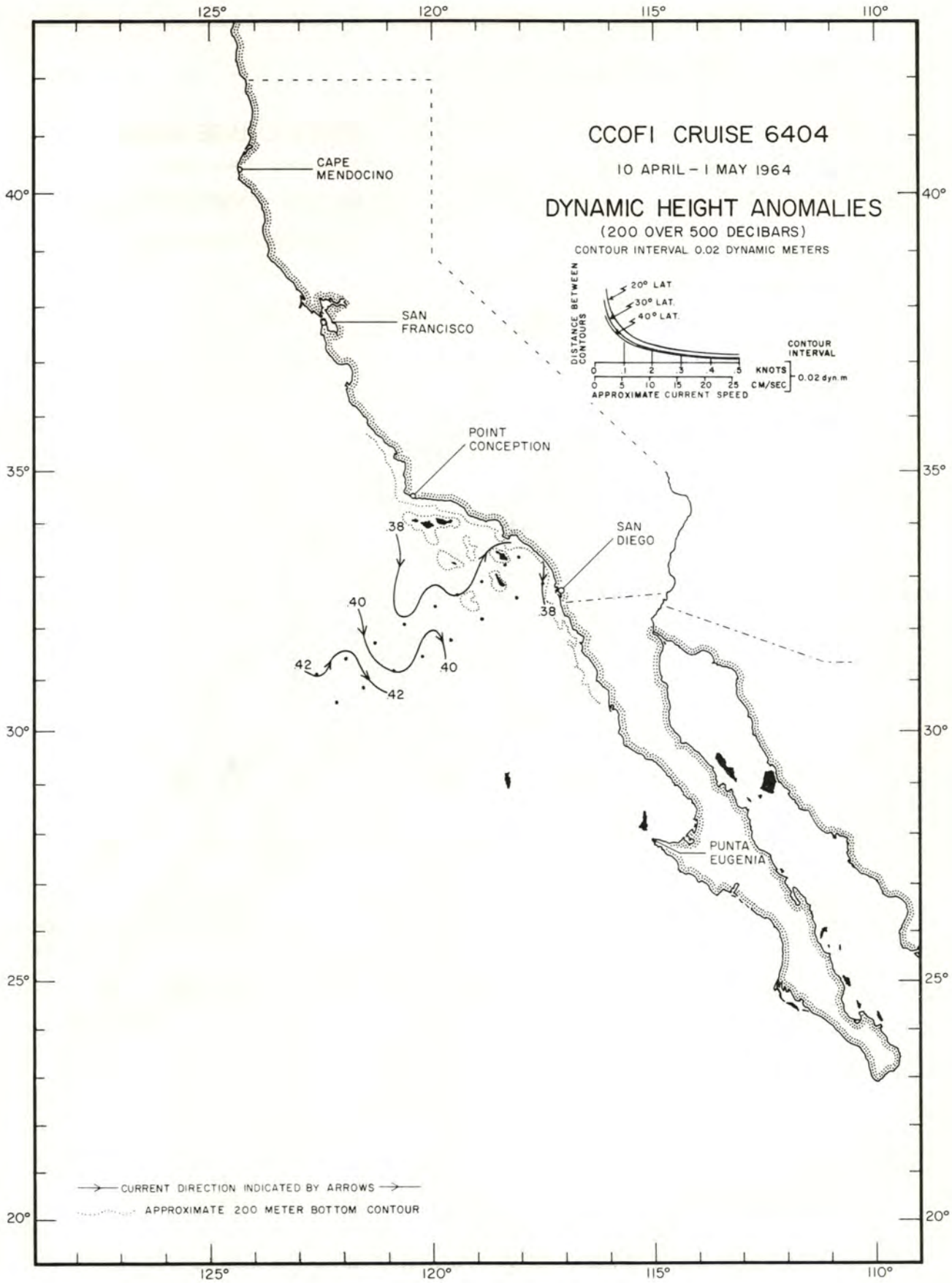

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
DYNAMIC HEIGHT ANOMALIES
(200 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.02 DYNAMIC METERS
DISTANCE BETWEEN CONTOURS
20° LAT.
30° LAT.
40° LAT.
CONTOUR INTERVAL
KNOTS
CM/SEC
0.02 dyn.m
APPROXIMATE CURRENT SPEED
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
38
40
42
CURRENT DIRECTION INDICATED BY ARROWS
APPROXIMATE 200 METER BOTTOM CONTOUR
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 3

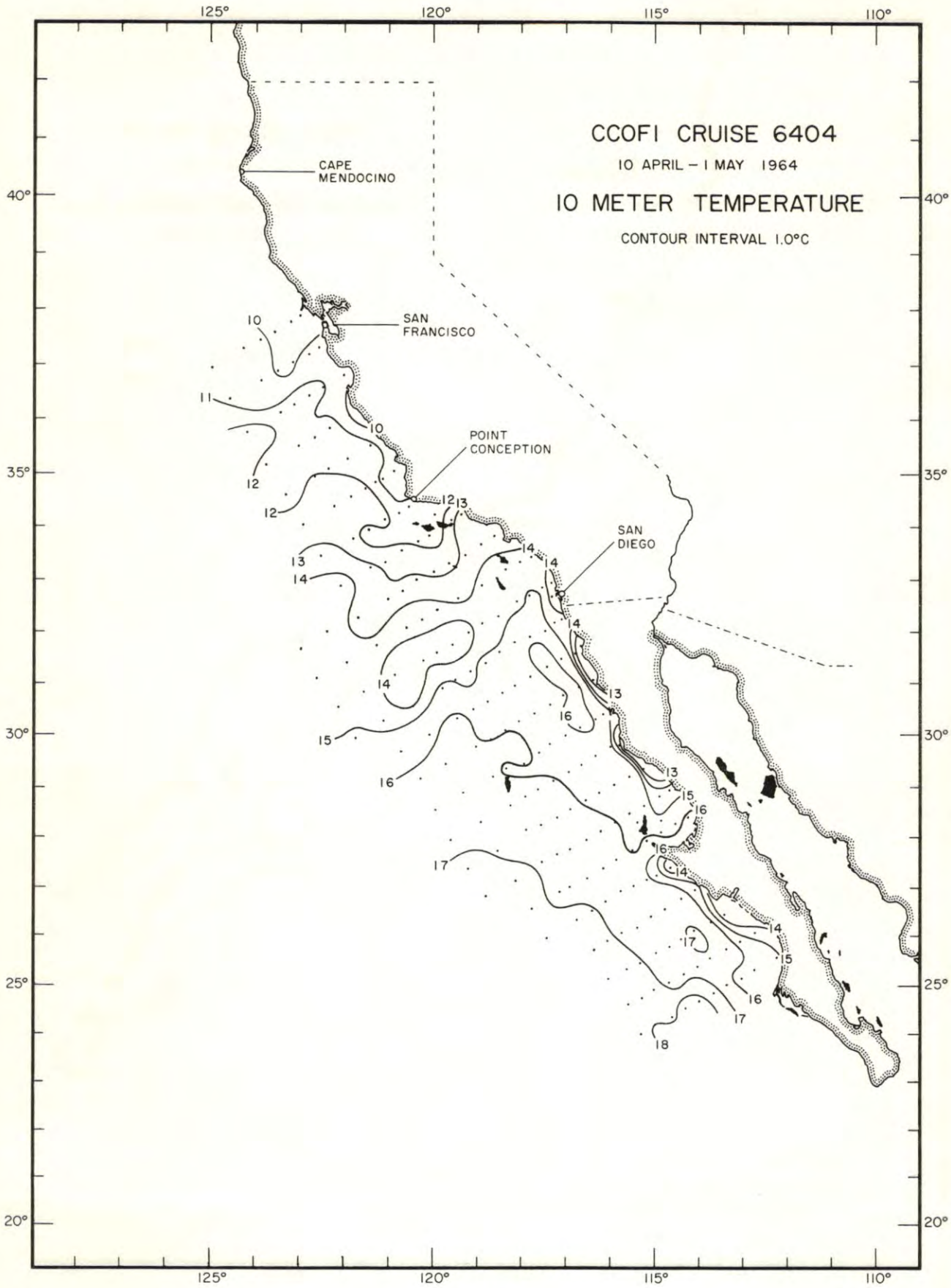

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 4

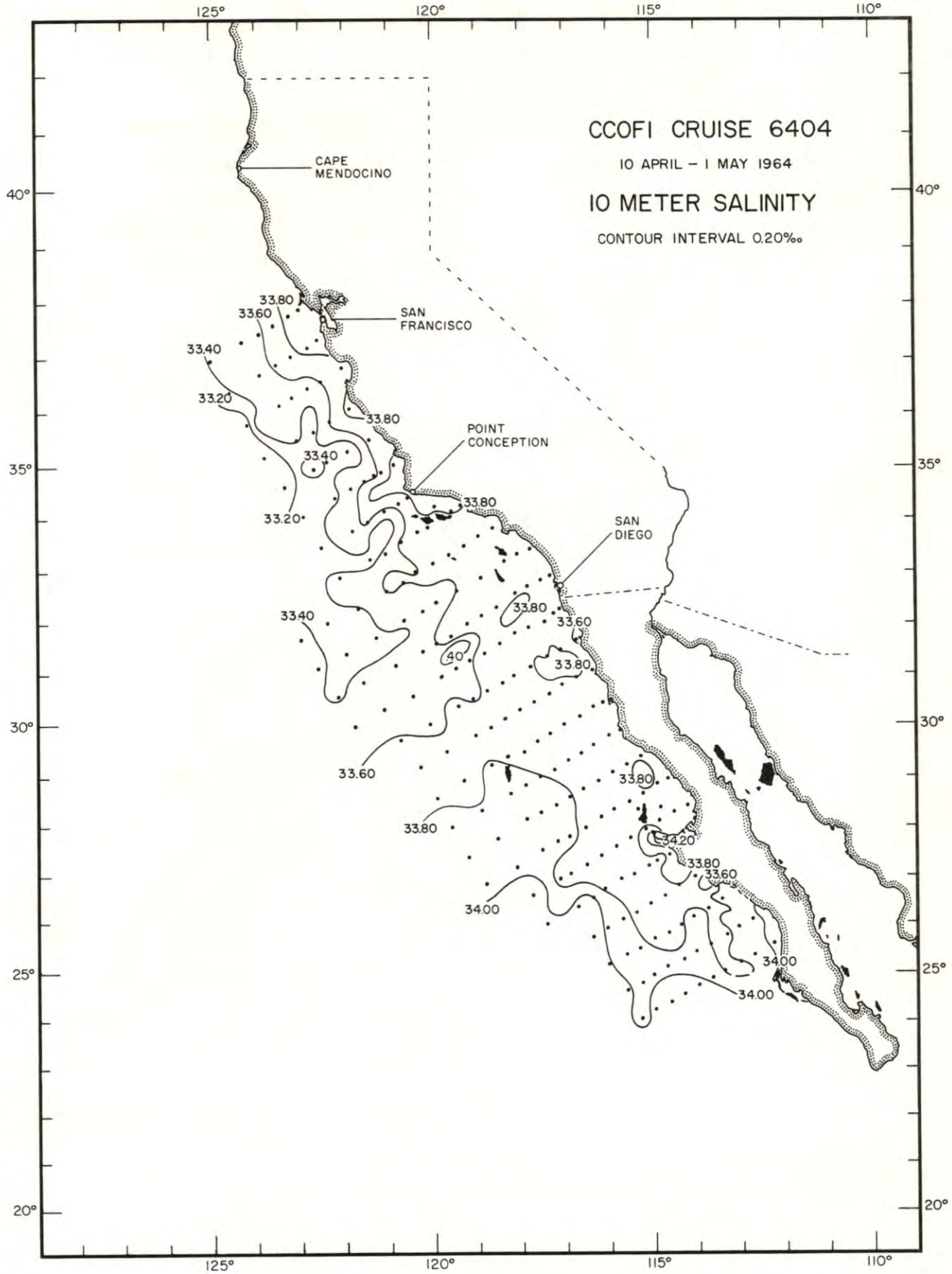

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
10 METER SALINITY
CONTOUR INTERVAL 0.20‰
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
125°
120°
115°
110°
40°
35°
30°
25°
20°
33.80
33.60
33.40
33.20
33.80
33.40
33.20
33.80
33.60
33.40
.40
33.80
33.60
33.80
33.80
34.20
33.80
33.60
34.00
34.00
34.00

FIGURE 5

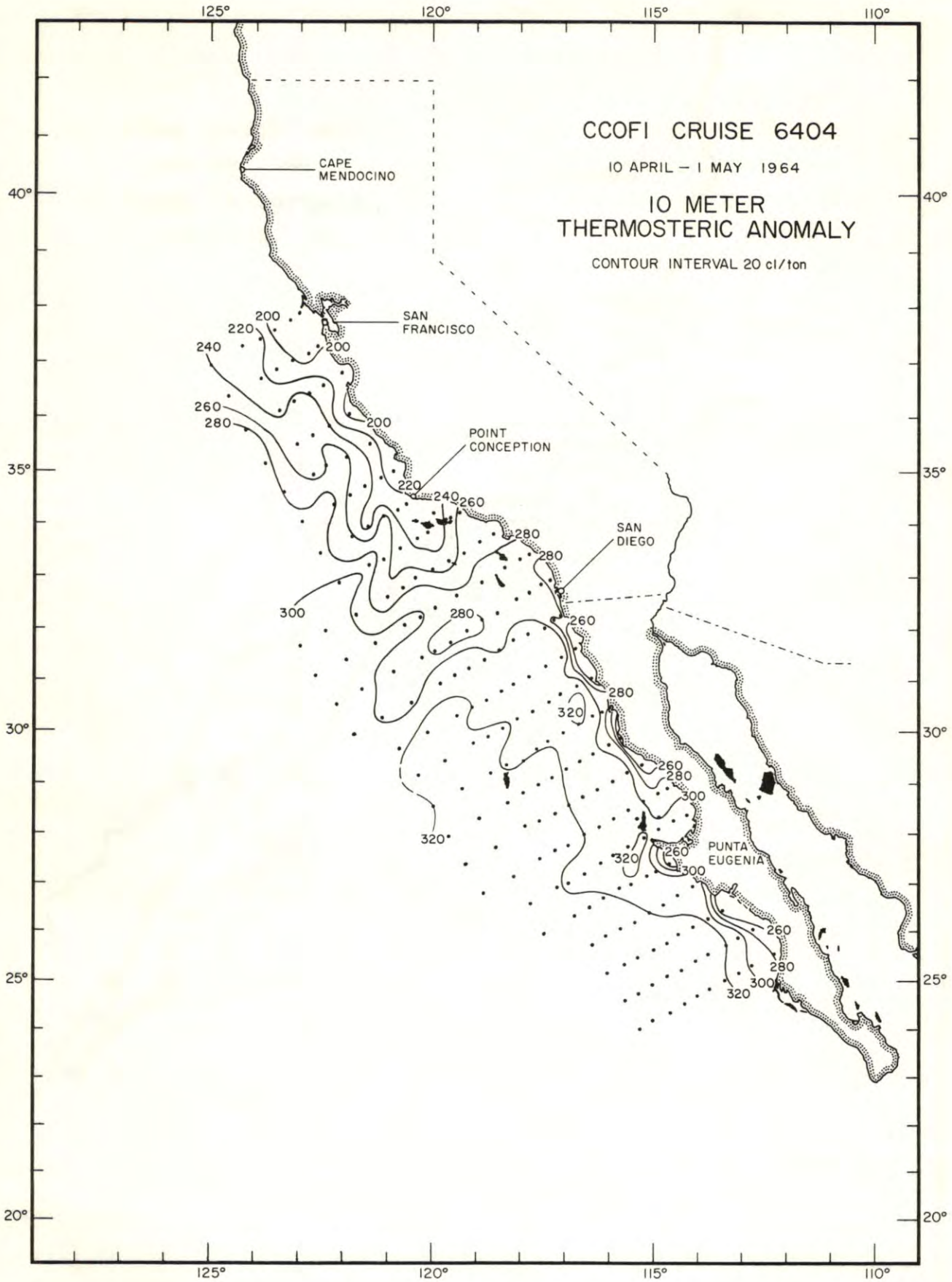

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
10 METER
THERMOSTERIC ANOMALY
CONTOUR INTERVAL 20 cl/ton
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
200
220
240
260
280
300
320

FIGURE 6

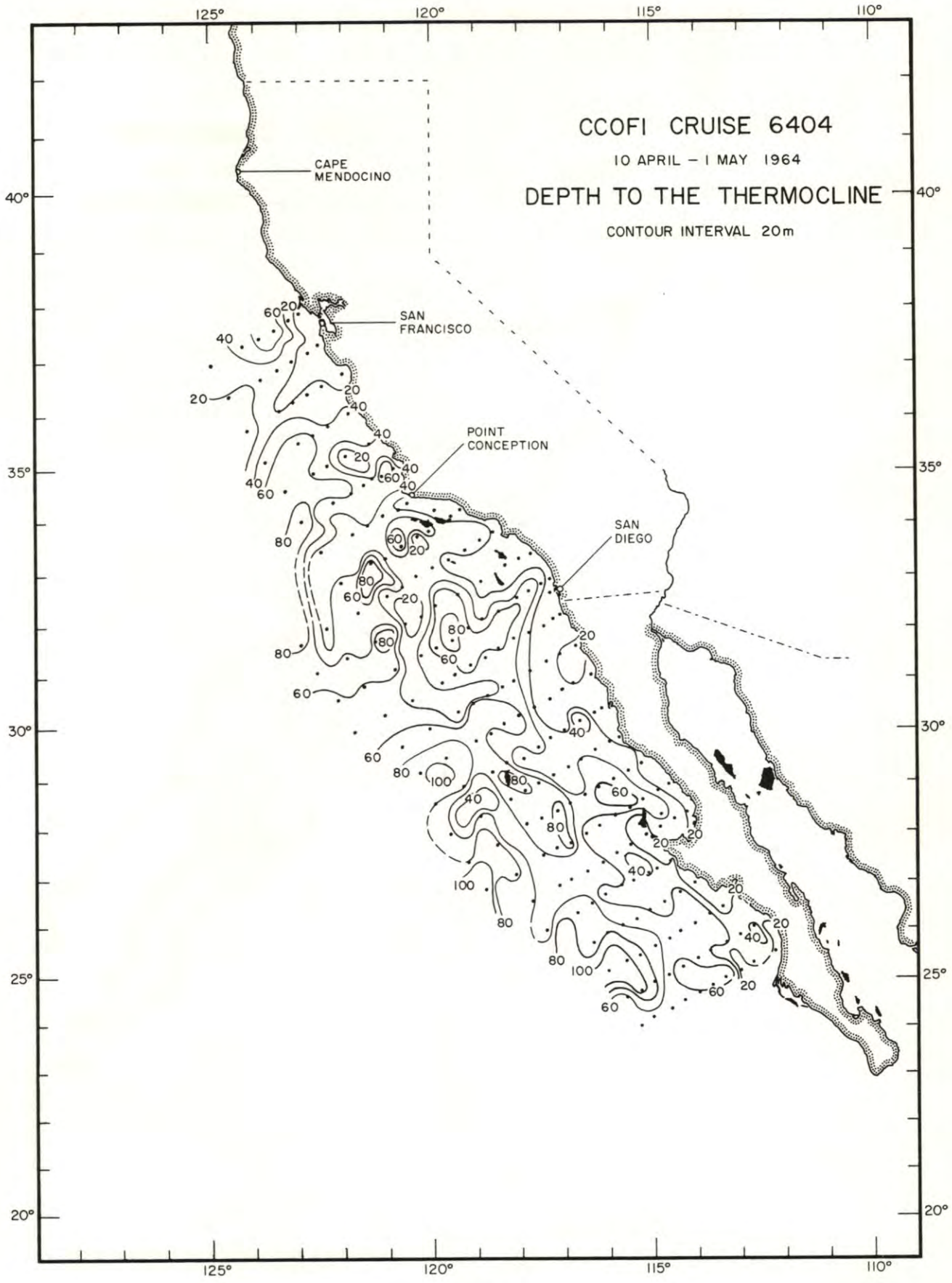

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
DEPTH TO THE THERMOCLINE
CONTOUR INTERVAL 20m
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 7

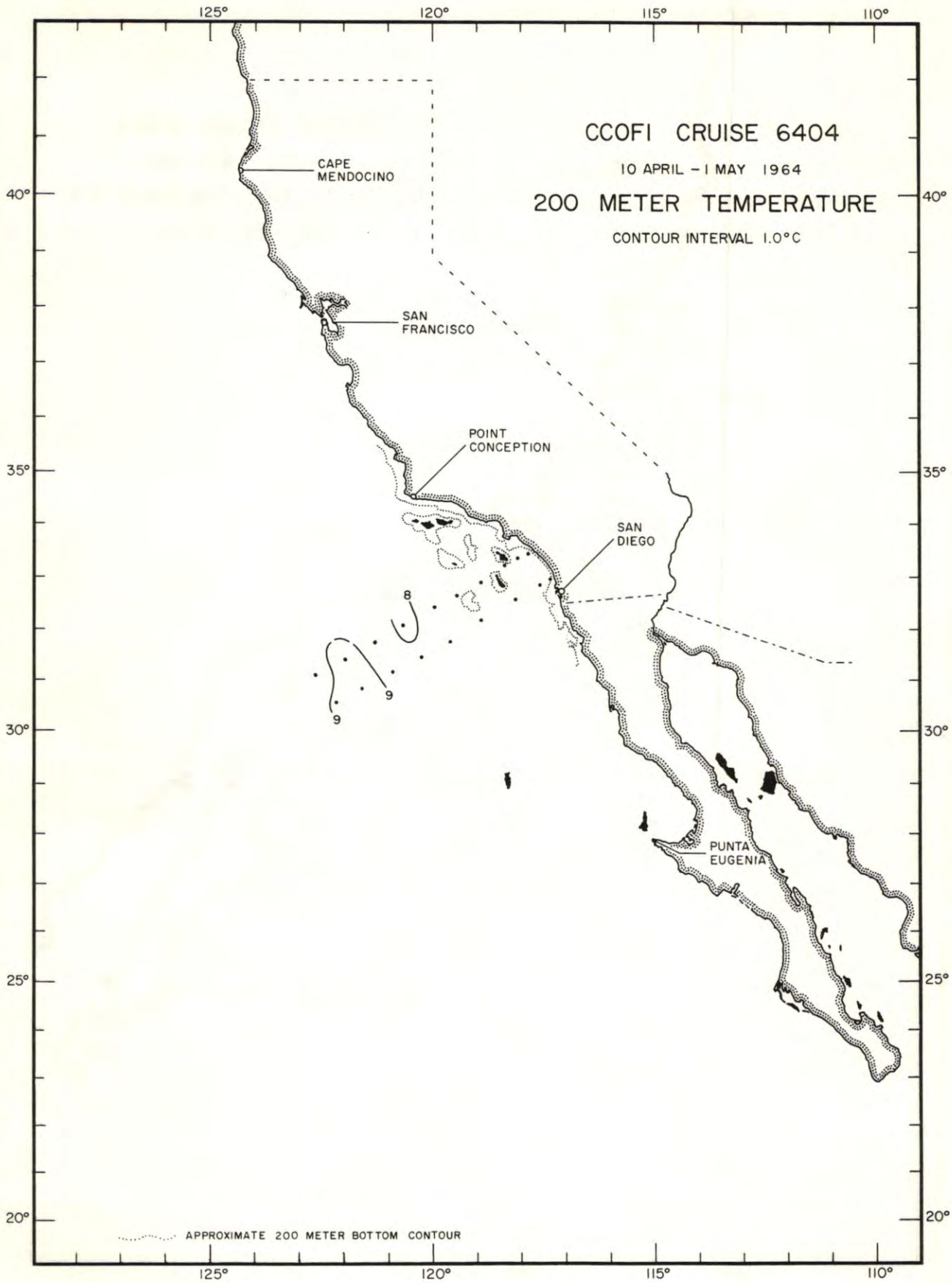

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
8
9
9
125°
120°
115°
110°
40°
35°
30°
25°
20°
APPROXIMATE 200 METER BOTTOM CONTOUR

FIGURE 8

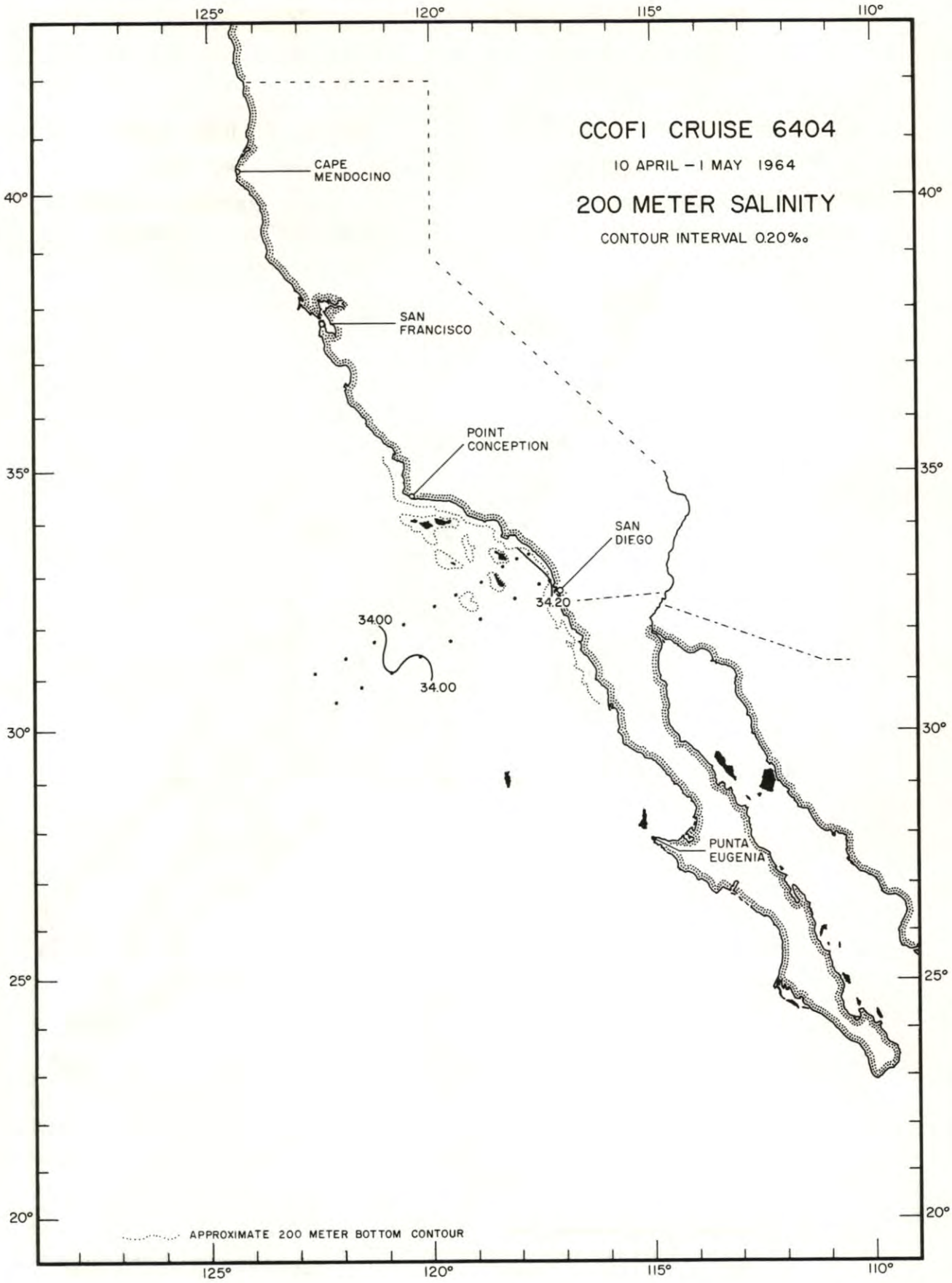

CCOFI CRUISE 6404
10 APRIL – 1 MAY 1964
200 METER SALINITY
CONTOUR INTERVAL 0.20‰
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
34.20
34.00
34.00
PUNTA EUGENIA
APPROXIMATE 200 METER BOTTOM CONTOUR
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 9

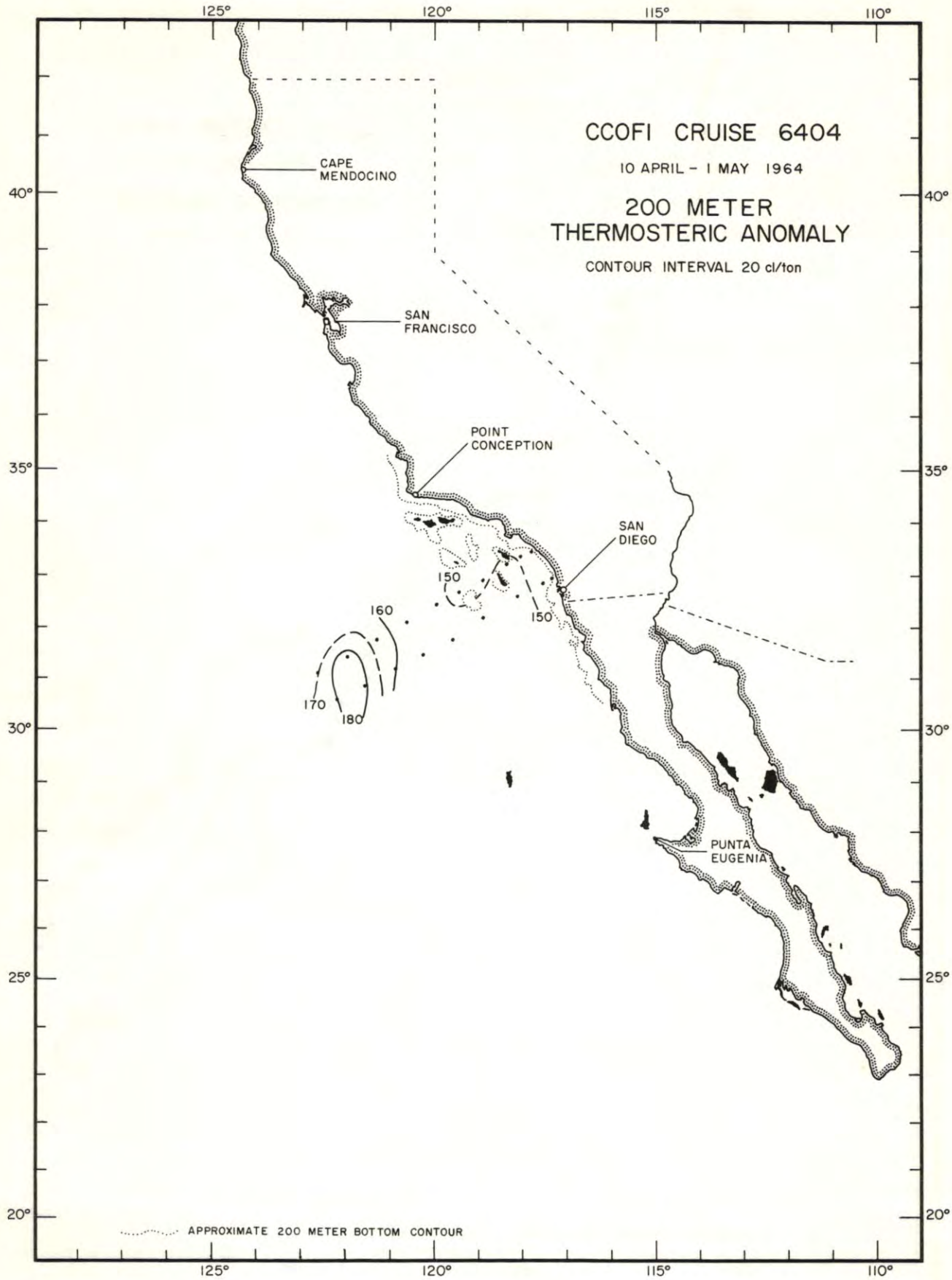

CCOFI CRUISE 6404
10 APRIL - 1 MAY 1964
200 METER
THERMOSTERIC ANOMALY
CONTOUR INTERVAL 20 cl/ton
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
150
150
160
170
180
125°
120°
115°
110°
40°
35°
30°
25°
20°
APPROXIMATE 200 METER BOTTOM CONTOUR

FIGURE 10

PERSONNEL
CRUISE 6404

SHIPS' CAPTAINS

Forster, Charles W., RV Black Douglas
Miller, Frank, RV Alexander Agassiz

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

RV Alexander Agassiz

Hart, Joe T., Senior Marine Technician (in charge)
*Burns, William A., Marine Technician
*Ferreira, Simon M., Marine Technician
**Kling, Stanley A., Graduate Student
**Matsui, Tetsuo, Postgraduate Research Biologist
*Muus, David A., Marine Technician
Snideman, R. Lawrence II, Marine Technician
Wagner, Vaughn M., Fisheries Technician, Bureau of Commercial Fisheries

RV Black Douglas

Metoyer, Jack D., Fishery Technician (in charge), Bureau of Commercial Fisheries
Wirth, David, Marine Technician

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
83.60					CCOFI CRUISE 6404								83.60	

ALEXANDER AGASSIZ, APRIL 21 1964, 1619 GCT, 33 34N 120 45W, SOUNDING 796 FM, WIND 330 FORCE 4, WEATHER CLOUDY, SEA ROUGH, WIRE ANGLE 33.

0	12.24	33.610	6.55	0.70	-	-	250.5	0	12.24	33.61	6.55	25.48	250.5	0
9	12.22	33.608	6.55	0.71	-	-	250.3	10	12.22	33.61	6.55	25.49	250.2	.025
31	11.19	33.661	5.82	0.74	-	-	228.2	20	11.80	33.63	6.27	25.58	241.2	.050
40	10.89	33.674	5.43	-	-	-	222.1	30	11.24	33.66	5.87	25.71	229.1	.073
52	10.16	33.661	4.35	-	-	-	211.0	50	10.28	33.66	4.50	25.88	213.0	.118
65	9.81	33.695	3.87	-	-	-	202.9	75	9.56	33.77	3.62	26.09	193.4	.169
86	9.08	33.825	3.45	-	-	-	181.9	100	8.90	33.89	3.37	26.29	174.4	.215
103	8.87	33.899	3.35	-	-	-	173.3	125	8.67	33.95	3.05	26.37	166.5	.258
119	8.72	33.938	3.12	-	-	-	168.2	150	8.40	34.01	2.84	26.46	158.1	.299
145	8.48	34.008	2.86	-	-	-	159.4	200	7.91	34.08	2.31	26.59	145.9	.377
170	8.12	34.033	2.74	-	-	-	152.4	250	7.47	34.14	1.66	26.70	135.4	.449
204	7.88	34.082	2.24	-	-	-	145.4	300	7.22	34.20	1.21	26.78	127.6	.517
229	7.60	34.122	1.82	-	-	-	138.5	400	6.50	34.26	.70	26.92	113.8	.643
271	7.36	34.169	1.46	-	-	-	131.8	500	5.93	34.30	.58	27.03	103.8	.758
328	7.04	34.231	.99	-	-	-	122.9	600	5.32	34.34	-	27.14	93.7	.864
420	6.35	34.264	.66	-	-	-	111.6							
506	5.89	34.302	.57	-	-	-	103.2							
580	5.45	34.334	.53	-	-	-	95.7							

90.28					CCOFI CRUISE 6404								90.28	

ALEXANDER AGASSIZ, APRIL 17 1964, 0122 GCT, 33 28.5N 117 47W, SOUNDING 208 FM, WIND 160 FORCE 3, WEATHER OVERCAST, SEA SLIGHT, WIRE ANGLE 02.

0	15.66	33.748	6.67	0.31	-	-	307.9	0	15.66	33.75	6.67	24.88	307.8	0
10	14.70	33.741	7.32	0.26	-	-	288.4	10	14.70	33.74	7.32	25.09	288.5	.030
30	12.14	33.765	5.19	1.01	-	-	237.3	20	12.71	33.76	5.79	25.51	248.1	.057
45	10.97	33.825	-	-	-	-	212.3	30	12.14	33.76	5.19	25.62	237.7	.081
60	10.15	33.932	-	-	-	-	190.8	50	10.70	33.86	-	25.96	205.2	.126
75	9.92	33.961	-	-	-	-	185.0	75	9.92	33.96	-	26.17	185.0	.175
90	9.66	34.018	-	-	-	-	176.6	100	9.47	34.05	-	26.32	171.3	.220
111	9.31	34.077	-	-	-	-	166.8	125	9.15	34.10	-	26.41	162.6	.262
136	9.04	34.130	1.95	-	-	-	158.7	150	8.94	34.15	1.91	26.48	155.7	.302
156	8.90	34.155	1.89	-	-	-	154.8	200	8.55	34.21	1.45	26.59	145.5	.379
201	8.54	34.209	1.45	-	-	-	145.4	250	8.34	34.24	1.28	26.65	140.2	.453
236	8.44	34.228	1.35	-	-	-	142.5	300	8.02	34.26	1.15	26.71	134.1	.524
271	8.17	34.253	1.13	-	-	-	136.8							
311	7.97	34.261	1.18	-	-	-	133.3							

90.32					CCOFI CRUISE 6404								90.32	

ALEXANDER AGASSIZ, APRIL 17 1964, 0336 GCT, 33 21N 118 01.5W, SOUNDING 380 FM, WIND 210 FORCE 2, WEATHER OVERCAST, SEA SLIGHT, WIRE ANGLE 04.

0	14.74	33.751	7.38	0.21	-	-	288.5	0	14.74	33.75	7.38	25.09	288.6	0
10	14.62	33.750	7.49	0.27	-	-	286.1	10	14.62	33.75	7.49	25.11	286.1	.029
30	11.90	33.763	4.42	0.37	-	-	233.1	20	13.03	33.75	5.57	25.44	254.9	.056
40	11.28	33.779	4.00	-	-	-	221.1	30	11.90	33.76	4.42	25.67	233.4	.080
50	10.85	33.785	3.36	-	-	-	213.3	50	10.85	33.78	3.36	25.87	213.6	.125
65	10.54	33.845	3.16	-	-	-	203.6	75	10.23	33.90	2.94	26.07	194.5	.177
80	10.08	33.924	2.83	-	-	-	190.3	100	9.74	34.00	2.55	26.24	179.2	.224
100	9.74	33.999	2.55	-	-	-	179.3	125	9.38	34.08	2.24	26.36	167.6	.268
125	9.38	34.079	2.24	-	-	-	167.7	150	9.10	34.14	2.00	26.45	158.9	.309
145	9.14	34.124	2.04	-	-	-	160.7	200	8.46	34.18	1.71	26.58	146.4	.387
176	8.84	34.177	1.76	-	-	-	152.2	250	8.25	34.23	1.31	26.65	139.6	.461
205	8.40	34.179	1.70	-	-	-	145.6	300	7.86	34.26	1.12	26.73	131.9	.531
235	8.34	34.220	1.39	-	-	-	141.7	400	7.03	34.30	.65	26.88	117.6	.661
275	8.06	34.243	-	-	-	-	135.9	500	6.27	34.34	.48	27.02	105.0	.779
335	7.58	34.273	.94	-	-	-	127.0							
410	6.96	34.305	.61	-	-	-	116.3							
483	6.38	34.331	.50	-	-	-	107.0							
563	5.90	34.358	.41	-	-	-	99.1							

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD

90.37 CCOFI CRUISE 6404 90.37

ALEXANDER AGASSIZ, APRIL 17 1964, 0758 GCT, 33 11N 118 22.5W, SOUNDING 635 FM, WIND 220 FORCE 2, WEATHER OVERCAST, SEA SLIGHT, WIRE ANGLE 11.

0	14.90	33.730	6.14	0.33	-	-	293.3	0	14.90	33.73	6.14	25.04	293.3	0
10	14.82	33.730	6.18	0.30	-	-	291.7	10	14.82	33.73	6.18	25.05	291.7	.029
30	13.60	33.710	6.00	0.62	-	-	268.8	20	14.70	33.73	6.17	25.08	289.2	.058
40	13.35	33.703	5.73	-	-	-	264.4	30	13.60	33.71	6.00	25.29	268.8	.086
50	12.26	33.703	4.89	-	-	-	244.0	50	12.26	33.70	4.89	25.55	244.3	.138
64	11.21	33.732	3.86	-	-	-	223.3	75	11.10	33.76	3.73	25.81	219.4	.196
79	10.74	33.772	3.54	-	-	-	212.4	100	10.00	33.90	3.06	26.11	190.8	.248
98	10.05	33.897	3.09	-	-	-	191.8	125	9.49	33.97	2.73	26.25	177.5	.294
123	9.52	33.966	2.77	-	-	-	178.3	150	9.17	34.05	2.39	26.37	166.6	.338
143	9.24	34.026	2.50	-	-	-	169.5	200	8.78	34.18	1.67	26.53	151.1	.419
172	8.98	34.122	2.09	-	-	-	158.4	250	8.39	34.23	1.33	26.63	141.6	.494
201	8.77	34.187	1.66	-	-	-	150.4	300	7.90	34.26	1.06	26.73	132.4	.565
229	8.59	34.212	1.44	-	-	-	145.9	400	6.91	34.27	.62	26.88	118.3	.696
268	8.20	34.247	1.22	-	-	-	137.6	500	6.13	34.33	.47	27.03	104.0	.814
325	7.65	34.269	.94	-	-	-	128.3							
399	6.92	34.273	.63	-	-	-	118.2							
472	6.31	34.320	.50	-	-	-	106.9							
551	5.86	34.349	.43	-	-	-	99.3							

90.45 CCOFI CRUISE 6404 90.45

ALEXANDER AGASSIZ, APRIL 17 1964, 1223 GCT, 32 54N 118 55W, SOUNDING 918 FM, WIND 320 FORCE 2, WEATHER OVERCAST, SEA SLIGHT, WIRE ANGLE 10.

0	14.36	33.736	6.26	0.51	-	-	281.9	0	14.36	33.74	6.26	25.16	281.6	0
10	14.34	33.735	6.27	0.49	-	-	281.6	10	14.34	33.74	6.27	25.16	281.2	.028
30	12.44	33.673	5.69	0.82	-	-	249.5	20	12.79	33.68	5.86	25.43	255.5	.055
39	12.16	33.666	5.38	-	-	-	245.0	30	12.44	33.67	5.69	25.49	249.8	.080
49	11.69	33.671	5.21	-	-	-	236.2	50	11.60	33.67	5.17	25.65	234.7	.129
64	10.42	33.686	4.09	-	-	-	213.4	75	10.07	33.73	3.81	25.97	204.5	.184
78	9.96	33.756	3.73	-	-	-	200.8	100	9.45	33.83	3.40	26.15	187.2	.234
98	9.48	33.825	3.43	-	-	-	188.1	125	9.07	33.95	2.93	26.31	172.5	.279
123	9.09	33.946	2.93	-	-	-	173.1	150	8.86	33.96	2.93	26.35	168.6	.322
143	8.92	33.955	2.94	-	-	-	169.9	200	8.52	34.16	1.93	26.56	148.7	.403
172	8.66	34.046	2.50	-	-	-	159.3	250	8.33	34.24	1.24	26.65	140.0	.478
202	8.51	34.164	1.91	-	-	-	148.3	300	7.70	34.25	1.03	26.75	130.4	.548
232	8.48	34.227	1.38	-	-	-	143.2	400	6.76	34.28	.60	26.91	115.6	.676
272	8.08	34.244	1.14	-	-	-	136.1	500	6.08	34.34	.47	27.04	102.6	.791
331	7.30	34.253	.91	-	-	-	124.7							
405	6.72	34.287	.59	-	-	-	114.6							
477	6.22	34.326	.47	-	-	-	105.4							
557	5.76	34.349	.44	-	-	-	98.1							

90.53 CCOFI CRUISE 6404 90.53

ALEXANDER AGASSIZ, APRIL 17 1964, 1637 GCT, 32 39N 119 28.5W, SOUNDING 710 FM, WIND 320 FORCE 2, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 12.

0	13.89	33.594	6.15	0.42	-	-	282.9	0	13.89	33.59	6.15	25.14	283.2	0
6	13.88	33.595	6.15	0.43	-	-	282.7	10	13.84	33.60	6.15	25.16	281.5	.028
26	13.39	33.609	6.16	0.50	-	-	272.1	20	13.50	33.61	6.16	25.24	274.2	.056
56	12.93	33.614	5.78	-	-	-	263.0	30	13.34	33.61	6.14	25.27	271.1	.083
65	12.30	33.605	5.37	-	-	-	252.0	50	13.04	33.61	5.90	25.33	265.4	.137
80	11.50	33.667	4.56	-	-	-	233.1	75	11.60	33.66	4.68	25.64	235.4	.200
95	10.88	33.685	4.18	-	-	-	221.2	100	10.87	33.69	4.18	25.80	220.6	.258
109	10.52	33.757	3.72	-	-	-	209.8	125	10.08	33.82	3.38	26.04	198.0	.311
133	9.60	33.885	3.07	-	-	-	185.5	150	9.18	33.99	2.68	26.32	171.2	.357
152	9.15	34.000	2.65	-	-	-	170.0	200	8.12	34.11	2.04	26.58	146.7	.439
181	8.32	34.086	2.27	-	-	-	151.3	250	7.76	34.20	1.36	26.70	134.9	.511
210	8.04	34.131	1.93	-	-	-	144.0	300	7.54	34.26	.98	26.78	127.4	.579
239	7.81	34.184	1.50	-	-	-	136.8	400	6.76	34.30	.59	26.92	114.1	.705
287	7.62	34.253	1.05	-	-	-	129.0	500	5.91	34.33	.49	27.06	101.3	.819
340	7.23	34.271	.80	-	-	-	122.4	600	5.34	34.35	-	27.14	93.2	.923
420	6.61	34.305	.54	-	-	-	111.8							
502	5.89	34.331	.49	-	-	-	101.0							
587	5.40	34.351	.56	-	-	-	93.8							

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
90.60							CCOFI CRUISE 6404						90.60	

ALEXANDER AGASSIZ, APRIL 17 1964, 2025 GCT, 32 25.5N 119 57.5W, SOUNDING 440 FM, WIND 310 FORCE 4, WEATHER CLOUDY, SEA ROUGH, WIRE ANGLE 15.

0	14.50	33.537	6.07	0.34	-	-	299.3	0	14.50	33.54	6.07	24.97	299.1	0
10	14.36	33.536	6.09	0.34	-	-	296.5	10	14.36	33.54	6.09	25.00	296.2	.030
29	13.94	33.545	6.08	0.38	-	-	287.5	20	14.14	33.54	6.09	25.05	291.8	.059
58	13.77	33.576	5.98	-	-	-	281.9	30	13.93	33.55	6.08	25.10	287.0	.088
68	12.87	33.498	5.57	-	-	-	270.4	50	13.80	33.57	6.00	25.14	282.9	.145
82	11.80	33.511	5.25	-	-	-	249.9	75	12.50	33.50	5.44	25.35	263.4	.214
96	10.15	33.565	4.20	-	-	-	218.0	100	10.02	33.59	4.11	25.87	214.0	.274
111	9.76	33.683	3.88	-	-	-	203.0	125	9.31	33.83	3.45	26.17	185.1	.325
135	9.02	33.910	3.19	-	-	-	174.7	150	8.94	33.93	3.23	26.31	172.0	.370
155	8.92	33.930	3.24	-	-	-	171.7	200	8.30	34.04	2.52	26.50	154.5	.453
185	8.58	34.021	2.68	-	-	-	159.9	250	7.47	34.07	2.16	26.64	140.6	.529
212	8.07	34.049	2.42	-	-	-	150.5	300	6.97	34.10	1.75	26.74	131.7	.599
242	7.57	34.063	2.22	-	-	-	142.5	400	6.38	34.21	.84	26.90	116.0	.728
290	7.10	34.089	1.86	-	-	-	134.3	500	5.89	34.25	.63	27.00	107.1	.846
344	6.48	34.128	1.29	-	-	-	123.4	600	5.60	34.36	-	27.12	95.4	.954
425	6.34	34.247	.68	-	-	-	112.8							
507	5.86	34.254	.62	-	-	-	106.4							
589	5.62	34.343	.42	-	-	-	96.9							

90.70							CCOFI CRUISE 6404						90.70	

ALEXANDER AGASSIZ, APRIL 18 1964, 0222 0553 GCT, 32 03.5N 120 39W, SOUNDING 2065 FM, WIND 320 FORCE 5, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 18 27.

C	14.61	33.518	5.98	0.34	2	0.05	302.9	0	14.61	33.52	5.98	24.94	302.8	0
9	14.60	33.518	5.97	0.39	2	0.00	302.7	10	14.60	33.52	5.97	24.94	302.6	.030
27	13.82	33.484	6.09	0.44	3	0.05	289.6	20	14.60	33.52	5.97	24.94	302.6	.061
36	13.30	33.518	6.08	0.52	4	0.10	277.1	30	13.40	33.50	6.08	25.17	280.3	.090
49	12.85	33.574	5.97	0.62	5	0.19	264.4	50	12.84	33.58	5.96	25.35	263.8	.144
62	12.62	33.600	5.89	0.74	6	0.22	258.2	75	12.41	33.60	5.73	25.44	254.4	.210
84	11.66	33.598	5.04	1.07	10	0.43	241.0	100	10.45	33.62	4.17	25.82	218.8	.269
102	10.20	33.622	4.03	1.59	19	0.01	214.6	125	9.25	33.80	3.61	26.16	186.4	.320
120	9.34	33.774	3.67	1.79	25	0.01	189.7	150	8.80	33.93	3.18	26.33	169.9	.366
137	9.03	33.875	3.41	1.93	28	0.01	177.5	200	7.97	34.03	2.57	26.54	150.5	.447
163	8.58	33.975	2.96	2.16	35	0.01	163.4	250	7.23	34.05	2.17	26.66	138.9	.521
194	8.08	34.026	2.62	2.26	40	0.00	152.4	300	6.73	34.08	1.70	26.75	130.1	.591
219	7.63	34.039	2.45	2.38	44	-	145.1	400	6.03	34.15	.92	26.90	116.2	.719
262	7.10	34.062	2.05	2.62	52	0.00	136.3	500	5.54	34.24	.63	27.03	103.7	.834
309	6.66	34.086	1.62	2.84	59	-	128.8	600	5.15	34.32	.52	27.14	93.3	.939
380	6.16	34.140	1.02	3.04	69	0.00	118.6	700	4.78	34.38	.50	27.23	84.8	1.036
453	5.66	34.219	.64	3.22	81	-	106.7	800	4.44	34.43	.59	27.31	77.5	1.125
472A	5.75	34.189	.78	3.07	82	-	110.0	1000	3.82	34.49	.71	27.42	66.8	1.285
527	5.54	34.315	.47	3.33	88	0.00	98.1	1200	3.37	34.53	.99	27.50	59.5	1.429
665A	4.90	34.349	.56	3.25	101	-	88.4	1500	2.78	34.57	1.37	27.58	51.4	1.623
711	4.76	34.393	.46	3.38	102	-	83.6	2000	2.07	34.63	2.12	27.69	41.2	1.901
858A	4.29	34.447	.59	3.35	111	-	74.7	2500	1.78	34.65	2.60	27.73	37.5	2.144
909	4.08	34.472	.69	3.38	114	0.00	70.7	3000	1.64	34.67	2.92	27.76	35.0	2.375
1053A	3.68	34.498	.74	3.15	128	-	64.8							
1244A	3.29	34.536	1.04	3.21	139	-	58.4							
1437A	2.90	34.564	1.30	3.21	148	-	52.8							
1630A	2.56	34.584	1.50	3.13	153	-	48.5							
1824A	2.26	34.611	1.84	3.06	162	-	44.0							
2018A	2.05	34.632	2.13	3.03	167	-	40.8							
2212A	1.91	34.643	2.36	2.93	167	-	39.0							
2408A	1.82	34.652	2.54	2.85	170	-	37.6							
2604A	1.74	34.657	2.67	2.78	167	-	36.7							
2799A	1.68	34.664	2.76	2.78	170	-	35.7							
2947A	1.67	34.668	2.91	2.79	170	-	35.3							
3095A	1.63	34.670	2.94	2.79	170	-	34.9							
3242A	1.61	34.671	2.95	-	170	-	34.7							
3391A	1.59	34.674	3.06	2.77	170	-	34.3							
3540A	1.57	34.676	3.14	2.77	171	-	34.0							
3689A	1.57	34.679	3.17	2.77	171	-	33.8							
3789A	1.58	34.680	3.18	2.77	171	-	33.8							

A) OVERLAPPING CASTS, RECONCILIATION OF PROPERTY CURVES WHEN NECESSARY.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
90.80						CCOFI CRUISE 6404							90.80	
ALEXANDER AGASSIZ, APRIL 18 1964, 1050 GCT, 31 43N 121 19W, SOUNDING 1980 FM, WIND 330 FORCE 4, WEATHER OVERCAST, SEA ROUGH, WIRE ANGLE 38.														
2	14.10	33.336	6.14	0.35	-	-	306.0	0	14.10	33.34	6.14	24.90	305.7	0
10	14.08	33.335	6.11	0.39	-	-	305.7	10	14.08	33.34	6.11	24.91	305.3	.031
26	13.18	33.358	6.19	0.48	-	-	286.5	20	13.65	33.34	6.16	25.00	296.9	.061
50	12.89	33.420	6.15	-	-	-	276.5	30	13.10	33.37	6.18	25.13	284.1	.090
58	12.83	33.414	6.19	-	-	-	275.8	50	12.89	33.42	6.15	25.21	276.5	.146
69	12.71	33.409	6.12	-	-	-	274.0	75	12.60	33.41	6.07	25.26	271.8	.215
80	12.16	33.443	5.71	-	-	-	261.4	100	11.50	33.56	5.05	25.58	241.0	.280
91	11.81	33.545	5.26	-	-	-	247.6	125	9.79	33.65	4.24	25.95	205.9	.336
110	10.48	33.562	4.54	-	-	-	223.6	150	9.43	33.82	3.82	26.15	187.7	.386
124	9.80	33.645	4.25	-	-	-	206.4	200	8.63	33.95	3.33	26.38	165.9	.476
146	9.52	33.805	3.88	-	-	-	190.2	250	7.78	34.04	2.49	26.57	147.1	.556
166	9.00	33.859	3.61	-	-	-	178.2	300	6.97	34.07	2.02	26.71	134.0	.629
188	8.74	33.918	3.43	-	-	-	169.9	400	6.07	34.16	.97	26.90	116.0	.759
220	8.33	33.997	3.06	-	-	-	158.1	500	5.78	34.29	-	27.04	102.8	.874
258	7.62	34.050	2.39	-	-	-	144.2							
321	6.72	34.085	1.83	-	-	-	129.6							
389	6.13	34.155	1.03	-	-	-	117.1							
465	5.86	34.245	.69	-	-	-	107.1							
90.90						CCOFI CRUISE 6404							90.90	
ALEXANDER AGASSIZ, APRIL 18 1964, 1545 GCT, 31 25N 121 59W, SOUNDING 1985 FM, WIND 330 FORCE 4, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 28.														
1	14.21	33.320	6.08	0.37	-	-	309.4	0	14.21	33.32	6.08	24.87	309.4	0
10	14.20	33.318	6.08	0.47	-	-	309.3	10	14.20	33.32	6.08	24.87	309.2	.031
41	13.70	33.310	6.10	0.55	-	-	300.1	20	14.14	33.32	6.08	24.88	308.0	.062
68	13.16	33.337	6.05	-	-	-	287.7	30	14.00	33.31	6.09	24.90	305.9	.093
86	13.14	33.346	6.12	-	-	-	286.7	50	13.40	33.32	6.08	25.03	293.5	.153
99	13.06	33.356	6.08	-	-	-	284.4	75	13.15	33.34	6.08	25.10	287.3	.226
112	12.89	33.401	5.89	-	-	-	277.9	100	13.05	33.36	6.07	25.13	283.9	.298
130	12.48	33.436	5.86	-	-	-	267.7	125	12.63	33.42	5.87	25.26	271.7	.368
148	11.44	33.556	5.07	-	-	-	240.3	150	11.26	33.57	4.93	25.64	236.1	.432
175	9.72	33.744	3.87	-	-	-	197.8	200	9.26	33.88	3.60	26.22	180.6	.538
197	9.32	33.868	3.64	-	-	-	182.4	250	8.44	34.04	2.70	26.47	156.5	.624
220	8.80	33.962	3.21	-	-	-	167.6	300	7.79	34.08	2.29	26.60	144.3	.702
251	8.43	34.040	2.69	-	-	-	156.3	400	6.69	34.13	1.35	26.80	125.9	.842
288	7.92	34.068	2.39	-	-	-	147.0	500	6.11	34.26	.68	26.98	109.0	.966
334	7.42	34.117	2.0	-	-	-	136.4							
400	6.69	34.131	1.35	-	-	-	125.8							
483	6.20	34.238	.76	-	-	-	111.7							
569	5.70	34.309	.52	-	-	-	100.4							
90.100						CCOFI CRUISE 6404							90.100	
ALEXANDER AGASSIZ, APRIL 18 1964, 2048 GCT, 31 07.5N 122 38W, SOUNDING 2150 FM, WIND 320 FORCE 5, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 21.														
1	14.78	33.429	6.02	0.33	-	-	312.9	0	14.78	33.43	6.02	24.83	312.8	0
10	14.76	33.428	6.02	0.36	-	-	312.6	10	14.76	33.43	6.02	24.83	312.4	.031
34	14.72	33.427	6.03	0.35	-	-	311.8	20	14.74	33.43	6.02	24.84	312.0	.063
62	14.02	33.360	6.06	-	-	-	302.7	30	14.73	33.43	6.03	24.84	311.8	.094
71	13.98	33.428	6.16	-	-	-	296.9	50	14.45	33.40	6.04	24.88	308.3	.156
90	13.47	33.433	5.84	-	-	-	286.6	75	13.92	33.43	6.14	25.01	295.6	.232
104	13.14	33.465	5.87	-	-	-	277.9	100	13.20	33.46	5.86	25.18	279.4	.304
119	12.56	33.505	5.67	-	-	-	264.1	125	12.42	33.51	5.60	25.37	261.2	.373
147	10.38	33.605	4.28	-	-	-	218.7	150	10.17	33.63	4.15	25.87	213.5	.433
165	9.48	33.733	3.80	-	-	-	194.9	200	8.71	33.91	3.47	26.33	170.1	.530
192	8.84	33.879	3.55	-	-	-	174.3	250	8.30	34.07	2.63	26.52	152.2	.613
226	8.46	34.004	3.15	-	-	-	159.4	300	7.58	34.08	2.30	26.63	141.4	.689
254	8.26	34.077	2.58	-	-	-	151.1	400	6.74	34.21	1.00	26.85	120.6	.825
302	7.55	34.083	2.29	-	-	-	140.7	500	6.18	34.27	.64	26.97	109.1	.946
363	7.00	34.173	1.38	-	-	-	126.7	600	5.49	34.32	.56	27.10	97.2	1.056
458	6.40	34.247	.71	-	-	-	113.5							
546	5.91	34.291	.60	-	-	-	104.2							
622	5.28	34.326	.54	-	-	-	94.3							

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
93.28							CCOFI CRUISE 6404						93.28	
ALEXANDER AGASSIZ, APRIL 11 1964, 0343 GCT, 32 55N 117 22W, SOUNDING 270 FM, WIND 220 FORCE 1, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 03.														
0	14.68	33.736	6.89	0.33	-	-	288.4	0	14.68	33.74	6.89	25.09	288.1	0
10	13.64	33.725	6.86	0.33	-	-	268.4	10	13.64	33.72	6.86	25.29	268.8	.028
30	11.74	33.736	4.06	0.38	-	-	232.3	20	12.68	33.72	5.57	25.48	250.5	.054
45	10.61	33.841	3.25	-	-	-	205.1	30	11.74	33.74	4.06	25.68	232.0	.078
55	10.27	33.890	3.09	-	-	-	195.9	50	10.44	33.87	3.16	26.02	200.1	.121
70	9.95	33.944	2.87	-	-	-	186.7	75	9.87	33.96	2.82	26.18	184.2	.170
85	9.72	33.988	2.76	-	-	-	179.8	100	9.52	34.03	-	26.30	173.5	.215
100	9.52	34.031	-	-	-	-	173.4	125	9.25	34.09	2.27	26.39	164.9	.258
125	9.25	34.093	2.27	-	-	-	164.7	150	8.95	34.14	2.07	26.47	156.6	.299
145	9.02	34.136	2.11	-	-	-	158.0	200	8.26	34.20	1.57	26.63	142.0	.375
175	8.60	34.173	1.84	-	-	-	148.9	250	7.90	34.24	1.27	26.71	133.9	.446
205	8.22	34.202	1.53	-	-	-	141.3	300	7.57	34.27	1.06	26.78	127.1	.513
240	7.97	34.227	1.30	-	-	-	135.9	400	6.92	34.31	.57	26.91	115.4	.640
296	7.60	34.264	1.09	-	-	-	128.0							
350	7.26	34.289	.74	-	-	-	121.5							
411	6.84	34.311	.52	-	-	-	114.3							
93.30							CCOFI CRUISE 6404						93.30	
ALEXANDER AGASSIZ, APRIL 11 1964, 0603 GCT, 32 50.5N 117 31W, SOUNDING 460 FM, WIND 090 FORCE 2, WEATHER CLOUDY, SEA MISSING, WIRE ANGLE 09.														
0	15.00	33.743	6.32	0.35	-	-	294.4	0	15.00	33.74	6.32	25.02	294.7	0
10	14.84	33.736	6.48	0.36	-	-	291.6	10	14.84	33.74	6.48	25.06	291.4	.029
29	12.73	33.712	5.70	0.76	-	-	252.0	20	13.62	33.72	6.15	25.30	268.4	.057
54	11.09	33.780	3.62	-	-	-	217.7	30	12.69	33.71	5.68	25.48	251.4	.083
64	10.68	33.830	3.25	-	-	-	207.1	50	11.28	33.77	3.85	25.79	221.7	.131
73	10.45	33.872	3.10	-	-	-	200.2	75	10.38	33.89	3.04	26.04	197.7	.184
88	10.06	33.924	2.86	-	-	-	189.9	100	9.78	33.98	2.78	26.21	181.3	.232
103	9.70	33.989	2.77	-	-	-	179.4	125	9.34	34.06	2.52	26.35	168.5	.276
127	9.32	34.060	2.51	-	-	-	168.2	150	9.13	34.08	2.39	26.40	163.8	.318
146	9.18	34.077	2.43	-	-	-	164.8	200	8.55	34.18	1.91	26.57	147.7	.398
170	8.77	34.135	2.09	-	-	-	154.3	250	8.13	34.24	1.33	26.68	137.2	.471
199	8.56	34.175	1.92	-	-	-	148.2	300	7.68	34.27	1.06	26.77	128.6	.540
229	8.28	34.224	1.46	-	-	-	140.5	400	6.74	34.31	.57	26.93	113.1	.666
268	8.02	34.249	1.28	-	-	-	134.9	500	6.19	34.34	.54	27.03	104.0	.781
326	7.40	34.273	.89	-	-	-	124.6							
400	6.74	34.308	.57	-	-	-	113.3							
473	6.34	34.331	.57	-	-	-	106.5							
554	5.80	34.356	.46	-	-	-	98.1							

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
93.40						CCOFI CRUISE 6404							93.40	
ALEXANDER AGASSIZ, APRIL 11 1964, 1445 1218 GCT, 32 37N 118 08W, SOUNDING 1100 FM, WIND 220 FORCE 3, WEATHER OVERCAST, SEA MODERATE, WIRE ANGLE 11 11. A)														
1	14.79	33.761	6.23	0.32	2	0.07	288.8	0	14.79	33.76	6.23	25.08	288.9	0
10	14.80	33.760	6.06	0.35	1	0.01	289.1	10	14.80	33.76	6.06	25.08	289.1	.029
30	13.74	33.696	5.89	0.56	4	0.07	272.5	20	14.00	33.70	5.95	25.20	277.3	.057
60	12.14	33.703	4.4	1.23	13	0.17	241.9	30	13.74	33.70	5.89	25.26	272.2	.085
69	11.24	33.738	3.80	1.55	17	0.06	223.4	50	13.10	33.70	5.4	25.39	259.9	.138
84	10.58	33.814	3.54	1.61	22	0.10	206.6	75	10.88	33.77	3.69	25.86	214.9	.198
99	10.34	33.849	3.28	1.77	24	0.02	200.0	100	10.33	33.85	3.28	26.02	199.8	.250
114	10.14	33.903	3.07	1.92	24	0.00	192.8	125	9.90	33.95	2.92	26.17	185.5	.299
138	9.60	34.001	2.74	2.13	30	-	176.9	150	9.40	34.03	2.66	26.32	171.7	.344
158	9.28	34.048	2.59	2.22	32	0.00	168.5	200	8.71	34.14	2.05	26.51	153.0	.427
187	8.88	34.108	2.28	2.26	37	-	157.9	250	8.22	34.24	1.36	26.67	138.4	.502
217	8.52	34.191	1.75	2.57	42	0.00	146.4	300	7.77	34.25	1.05	26.74	131.3	.572
246	8.26	34.238	1.40	2.76	46	-	139.2	400	6.94	34.28	.70	26.88	117.9	.702
274B	7.90	34.242	1.18	2.74	50	-	133.8	500	6.19	34.32	.53	27.01	105.5	.820
295	7.82	34.251	1.09	2.88	51	0.00	132.0	600	5.56	34.37	.45	27.13	94.2	.927
350	7.34	34.267	.94	3.00	56	0.07	124.2	700	5.00	34.41	.44	27.23	84.9	1.024
388B	7.02	34.278	.68	3.07	65	-	119.1	800	4.49	34.45	.54	27.32	76.5	1.113
434	6.67	34.300	.68	3.15	67	0.08	113.0	1000	3.87	34.49	.77	27.42	67.3	1.274
475B	6.44	34.314	.52	3.22	73	-	109.0	1200	3.47	34.53	.99	27.49	60.5	1.419
518	6.00	34.336	.54	3.24	76	0.02	102.0	1500	2.84	34.57	1.28	27.58	51.9	1.616
574B	5.81	34.356	.44	3.33	87	-	98.2	2000	2.63	34.60	1.67	27.62	47.8	1.918
603	5.48	34.377	.45	3.33	87	0.00	92.8							
678B	5.16	34.397	.40	3.39	100	-	87.7							
776B	4.60	34.441	.51	3.41	110	-	78.3							
880B	4.20	34.473	.59	3.39	117	-	71.8							
979B	3.92	34.492	.73	3.24	121	-	67.6							
1083B	3.64	34.512	1.03	3.38	129	-	63.4							
1181B	3.49	34.530	.98	3.36	131	-	60.6							
1284B	3.32	34.544	1.06	3.34	140	-	58.0							
1398B	3.04	34.561	1.20	3.27	140	-	54.3							
1497B	2.85	34.574	1.28	3.27	147	-	51.6							
1610B	2.70	34.590	1.5	3.24	152	-	49.2							
1725B	2.62	34.598	1.56	3.23	154	-	47.9							
1825B	-	34.598	1.51	3.23	152	-	-							
1944B	2.62	34.596	1.53	3.21	154	-	48.1							
1994B	2.63	34.598	1.65	3.20	152	-	48.0							
93.50						CCOFI CRUISE 6404							93.50	
ALEXANDER AGASSIZ, APRIL 12 1964, 0531 GCT, 32 11N 118 53.5W, SOUNDING 730 FM, WIND 320 FORCE 5, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 28. C)														
2	14.15	33.716	5.98	0.48	-	-	279.1	0	14.15	33.72	5.98	25.19	278.9	0
11	14.16	33.714	5.92	0.46	-	-	279.5	10	14.16	33.71	5.93	25.18	279.8	.028
30	14.18	33.716	6.03	0.46	-	-	279.7	20	14.17	33.72	5.97	25.18	279.3	.056
58	12.20	33.678	4.34	-	-	-	244.8	30	14.18	33.72	6.03	25.18	279.5	.084
68	11.16	33.718	3.89	-	-	-	223.5	50	13.98	33.71	5.88	25.21	276.2	.140
81	10.74	33.783	3.51	-	-	-	211.6	75	10.92	33.75	3.69	25.84	217.0	.202
95	10.38	33.807	3.43	-	-	-	203.8	100	10.21	33.82	3.38	26.02	200.1	.254
109	9.96	33.881	3.18	-	-	-	191.5	125	9.79	33.94	2.93	26.18	184.4	.303
132	9.73	33.961	2.85	-	-	-	181.9	150	9.38	34.00	3.05	26.29	173.6	.348
150	9.38	33.997	3.05	-	-	-	173.8	200	8.66	34.14	2.12	26.52	152.3	.432
178	8.94	34.079	2.44	-	-	-	161.0	250	8.23	34.21	1.49	26.64	140.8	.507
204	8.61	34.144	2.06	-	-	-	151.2	300	7.80	34.25	1.16	26.74	131.8	.577
232	8.38	34.199	1.61	-	-	-	143.8	400	6.89	34.31	.57	26.91	115.0	.706
278	8.02	34.231	1.33	-	-	-	136.3	500	6.03	34.35	.47	27.06	101.3	.821
330	7.46	34.273	.99	-	-	-	125.4							
410	6.80	34.316	.54	-	-	-	113.4							
493	6.08	34.343	.47	-	-	-	102.4							
577	5.58	34.372	.43	-	-	-	94.3							

A) SPECIAL CAST IN THE SAN CLEMENTE BASIN.
B) OVERLAPPING CASTS, RECONCILIATION OF PROPERTY CURVES WHEN NECESSARY.
C) AN ESTIMATED WIRE ANGLE OF 18 DEGREES WAS USED IN DEPTH DETERMINATION FOR THIS STATION.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
93.60						CCOFI CRUISE 6404							93.60	
ALEXANDER AGASSIZ, APRIL 12 1964, 1231 GCT, 31 46N 119 35.5W, SOUNDING 1220 FM, WIND 320 FORCE 6, WEATHER PARTLY CLOUDY, SEA VERY ROUGH, WIRE ANGLE 36.														
0	13.47	33.648	5.91	0.70	-	-	270.8	0	13.47	33.65	5.91	25.27	270.6	0
8	13.49	33.645	5.98	0.57	-	-	271.4	10	13.49	33.65	5.98	25.27	271.0	.027
30	13.50	33.652	6.03	0.61	-	-	271.1	20	13.50	33.65	6.01	25.27	271.2	.054
53	13.51	33.656	5.98	-	-	-	271.0	30	13.50	33.65	6.03	25.27	271.2	.081
62	13.36	33.654	6.01	-	-	-	268.2	50	13.51	33.65	5.99	25.27	271.4	.136
78	11.86	33.629	5.10	-	-	-	242.3	75	12.13	33.63	5.27	25.52	247.1	.201
89	10.98	33.585	4.64	-	-	-	230.2	100	10.08	33.65	4.03	25.91	210.5	.259
100	10.08	33.654	4.03	-	-	-	210.2	125	9.55	33.79	3.53	26.10	191.8	.310
124	9.58	33.782	-	-	-	-	192.8	150	9.23	33.96	2.96	26.29	174.2	.356
138	9.32	33.898	3.18	-	-	-	180.2	200	8.71	34.16	1.96	26.53	151.5	.439
160	9.19	34.020	2.73	-	-	-	169.2	250	8.17	34.20	1.57	26.64	140.7	.514
184	8.98	34.099	2.33	-	-	-	160.1	300	7.78	34.25	1.17	26.74	131.5	.585
207	8.62	34.170	1.87	-	-	-	149.5	400	6.98	34.29	.77	26.88	117.7	.715
244	8.22	34.198	1.64	-	-	-	141.6	500	6.13	34.31	.58	27.01	105.5	.833
298	7.80	34.243	1.21	-	-	-	132.3							
381	7.14	34.291	.81	-	-	-	119.7							
462	6.43	34.297	.65	-	-	-	110.2							
531	5.89	34.329	.54	-	-	-	101.2							
93.70						CCOFI CRUISE 6404							93.70	
ALEXANDER AGASSIZ, APRIL 12 1964, 1926 GCT, 31 29N 120 15W, SOUNDING 2000 FM, WIND 340 FORCE 5, WEATHER CLOUDY, SEA HIGH, WIRE ANGLE 36.														
0	13.92	33.511	6.05	0.45	-	-	289.6	0	13.92	33.51	6.05	25.07	289.7	0
8	13.88	33.509	6.03	0.46	-	-	289.0	10	13.88	33.51	6.02	25.08	288.9	.029
29	13.86	33.538	5.99	0.58	-	-	286.5	20	13.87	33.52	6.00	25.09	288.0	.058
53	13.72	33.580	5.95	-	-	-	280.6	30	13.86	33.54	5.98	25.11	286.3	.087
61	13.73	33.580	5.97	-	-	-	280.8	50	13.72	33.58	5.95	25.17	280.6	.144
77	12.68	33.484	5.53	-	-	-	267.9	75	12.90	33.50	5.62	25.27	270.8	.213
89	12.04	33.486	5.27	-	-	-	256.0	100	10.90	33.51	4.77	25.65	234.4	.276
100	10.90	33.510	4.77	-	-	-	234.4	125	10.10	33.59	4.28	25.86	215.3	.333
124	10.14	33.589	4.29	-	-	-	216.0	150	9.19	33.77	3.72	26.15	187.7	.384
139	9.52	33.687	4.00	-	-	-	198.9	200	8.28	34.00	3.02	26.47	157.1	.472
161	8.93	33.858	3.47	-	-	-	177.2	250	7.62	34.05	2.38	26.60	144.2	.549
188	8.47	33.983	3.14	-	-	-	161.2	300	7.16	34.10	1.80	26.71	134.2	.621
211	8.13	34.015	2.89	-	-	-	153.9	400	6.25	34.18	.92	26.89	116.7	.752
250	7.62	34.054	2.38	-	-	-	143.9	500	5.50	34.26	.61	27.05	101.8	.867
304	7.12	34.104	1.75	-	-	-	133.4							
388	6.35	34.165	1.00	-	-	-	119.0							
471	5.70	34.238	.65	-	-	-	105.7							
542	5.24	34.289	.58	-	-	-	96.7							
93.80						CCOFI CRUISE 6404							93.80	
ALEXANDER AGASSIZ, APRIL 13 1964, 0316 GCT, 31 11N 120 53W, SOUNDING 2000+ FM, WIND 340 FORCE 4, WEATHER CLEAR, SEA VERY ROUGH, WIRE ANGLE 20.														
1	13.82	33.493	6.05	0.38	-	-	289.0	0	13.82	33.49	6.05	25.08	289.2	0
10	13.79	33.491	6.10	0.39	-	-	288.5	10	13.79	33.49	6.10	25.08	288.6	.029
29	13.58	33.466	6.10	0.42	-	-	286.3	20	13.68	33.48	6.10	25.10	287.2	.058
58	13.32	33.471	6.04	-	-	-	280.9	30	13.57	33.47	6.10	25.11	285.8	.086
67	12.90	33.504	5.95	-	-	-	270.5	50	13.40	33.47	6.06	25.15	282.5	.143
81	12.66	33.567	5.77	-	-	-	261.4	75	12.83	33.53	5.91	25.31	267.3	.213
95	11.72	33.556	5.19	-	-	-	245.2	100	11.24	33.55	4.94	25.62	237.3	.276
108	10.54	33.547	4.60	-	-	-	225.7	125	9.98	33.62	4.08	25.90	211.2	.333
132	9.73	33.672	3.87	-	-	-	203.3	150	9.22	33.83	3.48	26.19	183.7	.383
149	9.23	33.824	3.49	-	-	-	184.3	200	8.48	34.00	2.93	26.44	160.0	.470
177	8.86	33.922	3.29	-	-	-	171.4	250	7.80	34.06	2.40	26.59	145.9	.549
204	8.43	34.006	2.87	-	-	-	158.9	300	7.15	34.10	1.95	26.71	134.1	.621
231	8.12	34.046	2.53	-	-	-	151.4	400	6.43	34.20	.89	26.89	117.4	.752
277	7.36	34.068	2.24	-	-	-	139.3	500	5.59	34.24	.64	27.02	104.3	.869
329	6.98	34.140	1.60	-	-	-	128.9							
409	6.36	34.204	.82	-	-	-	116.2							
491	5.66	34.233	.66	-	-	-	105.6							
575	5.24	34.289	.48	-	-	-	96.7							

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
			INPUT				COMPUTED				INPUT			COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
93.90					CCOFI CRUISE 6404								93.90	
ALEXANDER AGASSIZ, APRIL 13 1964, 0824 GCT, 30 51N 121 35W, SOUNDING 2175 FM, WIND 340 FORCE 4, WEATHER CLEAR, SEA VERY ROUGH, WIRE ANGLE 21.														
1	14.58	33.456	5.98	0.34	-	-	306.8	0	14.58	33.46	5.98	24.90	306.5	0
10	14.55	33.451	6.08	0.35	-	-	306.6	10	14.55	33.45	6.08	24.89	306.7	.031
29	14.53	33.449	6.00	0.44	-	-	306.3	20	14.54	33.45	6.04	24.90	306.5	.061
57	14.40	33.443	6.04	-	-	-	304.2	30	14.53	33.45	6.00	24.90	306.3	.092
66	14.08	33.430	6.29	-	-	-	298.7	50	14.46	33.45	6.02	24.91	304.9	.153
80	13.55	33.426	5.84	-	-	-	288.6	75	13.60	33.43	5.88	25.08	289.3	.228
94	13.00	33.459	5.63	-	-	-	275.7	100	12.78	33.48	5.60	25.28	270.0	.299
109	12.45	33.498	5.55	-	-	-	262.6	125	11.20	33.66	3.89	25.72	228.5	.362
131	11.02	33.708	3.45	-	-	-	221.8	150	10.88	33.90	2.38	25.96	205.3	.417
150	10.88	33.899	2.38	-	-	-	205.4	200	9.78	33.96	2.70	26.20	182.8	.515
178	10.56	34.018	1.94	-	-	-	191.2	250	9.39	34.18	1.89	26.43	160.4	.603
206	9.64	33.959	2.80	-	-	-	180.7	300	9.00	34.26	1.38	26.56	148.5	.683
234	9.43	34.090	2.31	-	-	-	167.7	400	7.53	34.27	.90	26.79	126.5	.827
281	9.24	34.262	1.44	-	-	-	152.0	500	6.43	34.30	.63	26.97	109.9	.952
334	8.50	34.262	1.28	-	-	-	140.9							
412	7.38	34.272	.84	-	-	-	124.4							
492	6.50	34.300	.64	-	-	-	110.8							
575	5.76	34.306	.55	-	-	-	101.3							
93.100					CCOFI CRUISE 6404								93.100	
ALEXANDER AGASSIZ, APRIL 13 1964, 2025 1702 GCT, 30 54N 122 11W, SOUNDING 2240 FM, WIND 360 FORCE 4, WEATHER CLEAR, SEA VERY ROUGH, WIRE ANGLE 22 18.														
0	14.40	33.369	6.00	0.44	3	0.00	309.6	0	14.40	33.37	6.00	24.87	309.5	0
9	14.20	33.371	6.01	0.46	3	0.00	305.4	10	14.19	33.37	6.01	24.91	305.3	.031
28	14.10	33.374	6.00	0.43	3	0.00	303.2	20	14.14	33.37	6.00	24.92	304.3	.061
55	13.70	33.367	6.03	0.40	3	0.03	295.9	30	14.08	33.37	6.00	24.93	303.1	.092
64	13.54	33.371	6.00	0.48	3	0.10	292.5	50	13.79	33.37	6.02	24.99	297.4	.152
79	13.28	33.387	6.01	0.58	4	0.09	286.3	75	13.34	33.38	6.01	25.09	288.0	.226
93	13.08	33.449	5.74	0.66	4	0.30	277.9	100	12.92	33.47	5.57	25.24	273.4	.296
106	12.70	33.479	5.39	0.79	6	0.07	268.6	125	11.70	33.49	4.90	25.49	249.7	.362
130	11.38	33.504	4.73	1.16	11	0.01	243.1	150	10.37	33.65	4.06	25.86	215.3	.421
148	10.44	33.637	4.12	1.52	16	0.01	217.4	200	9.02	33.84	3.56	26.23	179.9	.522
176	9.58	33.750	3.63	1.80	23	0.00	195.2	250	8.30	33.99	3.21	26.46	158.2	.608
203	8.95	33.863	3.53	1.92	28	-	177.2	300	7.62	34.05	2.53	26.60	144.2	.686
230	8.59	33.952	3.41	1.97	30	0.00	165.2	400	6.57	34.14	1.25	26.82	123.6	.825
276	8.03	34.021	2.96	2.23	38	-	152.0	500	5.97	34.23	.70	26.97	109.5	.948
327	7.22	34.077	2.03	2.62	48	0.00	136.7	600	5.46	34.30	.50	27.09	98.3	1.059
404	6.54	34.146	1.22	2.94	59	-	122.8	700	5.01	34.35	-	27.18	89.5	1.160
472A	6.15	34.195	.82	3.04	69	-	114.3	800	4.62	34.40	.57	27.26	81.6	1.254
483	6.04	34.224	.80	3.15	70	0.00	110.8	1000	3.97	34.48	.76	27.40	69.0	1.422
566	5.62	34.276	.55	3.27	79	-	102.0	1200	3.42	34.53	1.00	27.49	60.0	1.569
663	5.15	34.335	.42	3.39	88	0.00	92.2	1500	2.83	34.56	1.71	27.57	52.5	1.766
666A	5.18	34.334	.50	3.29	91	-	92.6	2000	2.14	34.63	2.26	27.69	41.7	2.048
764	4.76	34.389	-	3.39	98	-	83.9	2500	1.83	34.66	2.51	27.73	37.1	2.294
906A	4.27	34.445	.67	3.38	111	-	74.6	3000	1.64	34.67	2.84	27.76	35.0	2.524
1147A	3.53	34.519	.89	3.25	127	-	61.8	4000	1.58	34.68	3.20	27.77	33.8	2.984
1387A	3.04	34.552	1.47	3.25	138	-	54.9							
1629A	2.62	34.574	1.47U	3.25	147	-	49.7							
1869A	2.28	34.615	2.30	3.10	151	-	43.9							
2109A	2.04	34.640	2.24	3.05	159	-	40.2							
2304A	1.91	34.646	2.35	3.02	159	-	38.7							
2498A	1.83	34.657	2.51	2.94	159	-	37.3							
2693A	1.76	34.663	2.89	2.89	160	-	36.4							
2838A	1.68	34.667	2.72	2.77	162	-	35.5							
2985A	1.65	34.670	2.84	2.84	161	-	35.1							
3133A	1.64	34.673	2.91	2.88	163	-	34.8							
3281A	1.60	34.676	2.93	2.88	163	-	34.2							
3429A	1.58	34.675	2.96	2.83	161	-	34.2							
3577A	1.57	34.680	3.07	2.79	161	-	33.7							
3725A	1.56	34.681	3.10	2.79	161	-	33.6							
3874A	1.57	34.681	3.14	2.76	161	-	33.7							
3974A	1.58	34.680	3.19	2.74	161	-	33.8							

A) OVERLAPPING CASTS, RECONCILIATION OF PROPERTY CURVES WHEN NECESSARY.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
94.30							CCOFI CRUISE 6404						94.30	

ALEXANDER AGASSIZ, APRIL 10 1964, 2304 GCT, 32 39.5N 117 22.5W, SOUNDING 123 FM, WIND 200 FORCE 3, WEATHER CLEAR, SEA MODERATE, WIRE ANGLE 07. A)

0	14.95	33.736	6.72	0.55	-	-	293.9
5	14.73	33.733	6.78	0.44	-	-	289.6
10	13.94	33.720	6.92	0.47	-	-	274.7
15	13.68	33.723	6.57	-	-	-	269.4
20	13.12	33.721	5.97	-	-	-	258.7
25	12.44	33.717	4.98	-	-	-	246.3
30	12.16	33.711	4.51	-	-	-	241.6
35	11.59	33.744	3.88	-	-	-	229.0
40	10.99	33.783	3.42	-	-	-	215.8
45	10.79	33.811	3.34	-	-	-	210.3
50	10.34	33.872	3.11	-	-	-	198.3
55	10.13	33.908	3.00	-	-	-	192.3
60	9.96	33.937	2.91	-	-	-	187.4
65	9.87	33.957	2.87	-	-	-	184.5
70	9.86	33.972	2.76	-	-	-	183.2
75	9.70	33.991	2.67	-	-	-	179.2
79	9.64	34.008	2.69	-	-	-	177.0
84	9.49	34.033	2.61	-	-	-	172.8

A) SHAKEDOWN STATION.

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
60.50-G	IV-28	2125	37°57.5'	122°53.5'	24	170°	4	overcast	moderate	10	9.76	33.932					185
60.51-G	28	2045	37°55.5'	122°57.0'	32	160°	3	overcast	rough	10	9.64	33.919					184
60.52-G	28	2011	37°54.0'	123°02.0'	42	180°	3	overcast	rough	0	10.02	33.939		0.56			188
										10	9.60	33.937		1.14			182
60.55-G	28	1816	37°47.5'	123°15.0'	50	090°	2	overcast	rough	1	9.67	33.889		1.88			186
										11	9.52	33.883		1.85			184
										61	9.21	33.931		1.85			176
60.60-G	28	1547	37°37.0'	123°37.0'	1752	330°	4	overcast	very rough	1	9.64	33.726		1.75			198
										11	9.55	33.756		1.78			194
										31	9.38	33.758		1.80			192
60.65-G	28	1317	37°28.0'	123°57.0'	2000	320°	4	partly cloudy	high	1	10.36	33.505		1.38			226
										11	10.36	33.514		1.38			225
										40	10.38	33.511		1.38			226
60.70-G	28	1033	37°18.0'	124°19.5'	2132	330°	4	partly cloudy	high	1	10.68	33.585		1.24			225
										11	10.67	33.583		1.25			225
										21	10.62	33.588		1.35			224
60.80-G	28	0535	36°58.5'	125°01.0'	2290	330°	6	partly cloudy	very rough	1	10.94	33.440		1.11			240
										11	10.94	33.438		1.11			240
										31	10.44	33.453		1.17			231
63.50-G	27	0825	37°23.0'	122°28.5'	18	340°	1	overcast	moderate	10	9.46	33.716					196
63.51-G	27	0905	37°21.5'	122°31.5'	30	340°	1	overcast	rough	10	9.82	33.796					196
63.52-G	27	1002	37°18.5'	122°37.0'	46	320°	4	overcast	rough	1	10.90	33.516		0.57			234
										11	10.08	33.819		1.06			198
63.55-G	27	1140	37°12.5'	122°49.5'	142	330°	4	overcast	rough	1	10.16	33.881		0.70			195
										11	10.14	33.877		0.74			195

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
63.60-G	IV-27	1404	37°03.0'	123°12.0'	1322	340°	3	overcast	very rough	1	10.42	33.703		1.57			212
										11	9.96	33.750		1.39			201
63.65-G	27	1634	36°53.5'	123°32.0'	1940	330°	4	overcast	very rough	1	9.90	33.637		1.61			208
										11	9.88	33.641		1.61			208
										26	9.83	33.637		1.61			208
63.70-G	27	1858	36°43.0'	123°54.5'	2080	340°	5	overcast	high	1	10.34	33.529		1.38			224
										11	10.30	33.533		1.38			223
										26	10.31	33.529		1.39			223
63.80-G	27	2333	36°23.0'	124°38.0'	2230	340°	4	cloudy	very rough	0	10.97	33.358		1.14			247
										10	10.94	33.361		1.14			246
										30	10.86	33.409		1.15			241
67.47-G	26	1725	36°54.5'	121°53.0'	10	190°	2	partly cloudy	moderate	10	10.52	33.932					197
67.48-G	26	1655	36°53.5'	121°56.5'	16	160°	1	partly cloudy	moderate	10	10.61	33.926					199
67.49-G	26	1600	36°51.5'	122°00.5'	41	070°	1	partly cloudy	moderate	10	10.22	33.929					192
67.50-G	26	1520	36°49.0'	122°05.0'	65	360°	2	partly cloudy	moderate	0	10.24	33.752		1.32			206
										10	10.22	33.754		1.32			205
67.55-G	26	1204	36°36.0'	122°33.0'	1480	330°	3	cloudy	rough	0	11.05	33.589		0.73			231
										10	11.01	33.589		0.75			231
										25	10.78a)	33.651		0.90			222
67.60-G	26	0936	36°27.5'	122°51.0'	1638	330°	4	cloudy	rough	0	11.28	33.527		0.66			240
										10	11.26	33.530		0.66			239
67.65-G	26	0703	36°18.0'	123°11.0'	2185	320°	4	cloudy	rough	0	11.47	33.531		0.60			243
										10	11.46	33.529		0.60			243
										25	11.04	33.553		0.74			234

a) Alternate values: T, 10.12°C; delta-T, 211 cl/ton.

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
67.70-G	IV-26	0435	36°08.0'	123°30.0'	2080	330°	4	cloudy	rough	0	11.50	33.545		0.66			242
										10	11.18	33.554		0.77			236
										40	10.64	33.603		1.05			223
67.80-G	25	2359	35°46.5'	124°14.5'	2135	350°	3	partly cloudy	rough	0	12.48	33.114		0.58			292
										10	12.26	33.125		0.59			286
										40	11.04	33.182		0.83			261
70.50-G	25	0415	36°11.5'	121°44.0'	152	310°	1	clear	slight	10	9.83	33.880					190
70.51-G	25	0450	36°10.5'	121°45.5'	218	320°	3	clear	slight	10	10.10	33.832					198
70.52-G	25	0540	36°08.5'	121°50.0'	360	340°	4	clear	moderate	10	10.12	33.841					197
70.53-G	25	0644	36°06.5'	121°54.0'	560	330°	4	partly cloudy	moderate	0	10.71	33.830		1.25			207
										10	10.00	33.844		1.63			195
70.60-G	25	0954	35°51.0'	122°23.0'	1680	330°	3	partly cloudy	moderate	0	11.80	33.569		0.76			246
										10	11.77	33.567		0.76			245
										35	11.56	33.568		0.82			241
70.65-G	25	1222	35°39.5'	122°42.5'	1640	340°	3	partly cloudy	moderate	0	11.48	33.334		0.78			258
										10	11.46	33.334		0.87			257
										35	11.27	33.453		0.87			245
70.70-G	25	1508	35°31.0'	123°05.0'	2040	310°	3	clear	moderate	0	11.32	33.450		0.78			246
										10	11.29	33.451		0.78			245
										45	11.15	33.509		0.89			238
70.80-G	25	1921	35°11.0'	123°48.5'	2183	020°	3	cloudy	moderate	0	12.15	33.020		0.50			292
										10	11.86	33.025		0.50			287
										60	11.76	33.094		0.60			280
73.50-G	24	2225	35°37.0'	121°17.0'	52	300°	3	clear	moderate	10	10.38	33.774					206
73.50-G	24	2320	35°38.0'	121°13.5'	10	300°	4	clear	moderate	10	10.07	33.916					191

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DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
73.51-G	IV-24	2130	35°35.0'	121°21.5'	197	330°	4	clear	rough	10	11.36	33.647					232
73.53-G	24	2028	35°32.0'	121°28.0'	382	310°	3	clear	rough	0	11.50	33.696		0.79			231
										10	11.26	33.703		0.84			226
73.60-G	24	1714	35°18.0'	121°59.5'	1800	360°	3	partly cloudy	rough	1	11.84	33.346		0.74			263
										11	11.80	33.347		0.77			262
										46	11.76	33.416		0.80			256
73.65-G	24	1401	35°07.5'	122°25.0'	2000+	310°	5	cloudy	very rough	1	11.87	33.385		0.76			260
										11	11.84	33.385		0.72			260
										36	11.84	33.394		0.74			259
73.70-G	24	1129	34°58.0'	122°44.0'	2172	300°	5	cloudy	very rough	1	12.02	33.430		0.72			260
										11	12.01	33.437		0.72			259
										31	12.02	33.434		0.73			260
73.80-G	24	0650	34°38.0'	123°22.0'	2240	310°	4	cloudy	very rough	1	11.60	33.071		0.57			279
										11	11.58	33.071		0.57			278
										78	11.48	33.222		0.78			266
77.49-G	23	0810	35°06.0'	120°48.0'	39	320°	4	cloudy	rough	10	10.10	33.905					192
77.51-G	23	0952	35°02.0'	120°56.0'	142	320°	6	cloudy	rough	1	10.98	33.872		1.06			209
										11	10.96	33.872		1.06			209
										26	10.97	33.874		1.06			208
77.55-G	23	1221	34°54.0'	121°13.0'	300	330°	6	cloudy	very rough	1	11.57	33.648		1.19			236
										11	10.92	33.645		1.35			225
										59	10.80	33.741		1.21			216
77.57-G	23	1345	34°50.0'	121°21.0'	270	330°	6	cloudy	very rough	1	11.71	33.567		0.90			244
										11	11.68	33.566		0.90			244
										54	11.71	33.572		0.99			244

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
77.60-G	IV-23	1531	34°44.0'	121°33.5'	550	310°	4	partly cloudy	very rough	1	12.14	33.554		0.74			253
										11	12.12	33.552		0.75			252
										35	12.13	33.556		0.76			252
77.65-G	23	1804	34°34.0'	121°54.5'	2035	320°	5	partly cloudy	high	1	12.18	33.554		0.76			254
										11	12.16	33.549		0.76			254
										50	12.16	33.554		0.79			253
77.70-G	23	2034	34°24.5'	122°16.0'	2033	330°	5	cloudy	high	1	12.97	33.362		0.50			282
										11	12.94	33.358		0.50			282
										50	12.90	33.362		0.50			281
77.80-G	24	0056	34°04.0'	122°57.5'	2262	300°	5	partly cloudy	high	1	12.78	33.296		0.47			284
										11	12.78	33.295		0.48			284
										41	12.59	33.327		0.48			277
80.51-G	23	0325	34°26.0'	120°32.5'	50	320°	5	drizzle	very rough	10	11.52	33.830					221
80.52-G	23	0220	34°24.5'	120°36.0'	110	320°	4	overcast	very rough	0	11.44	33.796		0.90			223
										10	11.34	33.792		0.98			221
80.55-G	23	0022	34°19.0'	120°48.0'	432	320°	3	overcast	very rough	0	11.30	33.693		1.01			228
										10	11.23	33.704		0.97			226
										20	11.35	33.790		0.74			221
80.60-G	22	2202	34°10.0'	121°09.0'	1128	340°	4	overcast	very rough	1	12.59	33.545		0.67			262
										11	12.57	33.545		0.67			261
										36	12.56	33.545		0.69			261
80.65-G	22	1923	33°59.0'	121°30.0'	1800	320°	5	cloudy	very rough	1	11.74	33.658		0.78			238
										11	11.74	33.658		0.78			238
										21	11.72	33.661		0.80			237
80.70-G	22	1653	33°48.5'	121°51.0'	1947	340°	4	overcast	very rough	1	12.46	33.417		0.64			269
										11	12.43	33.417		0.64			268
										26	12.30	33.433		0.69			265

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DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
80.80-G	IV-22	1136	33°29.0'	122°33.0'	2040	330°	5	overcast	very rough	1	13.26	33.289		0.40			293
										11	13.25	33.292		0.40			292
										35	13.15	33.314		0.45			289
82.47-G	21	0748	34°15.0'	119°58.0'	160	180°	1	clear	moderate	0	11.68	33.809		1.10			226
										10	11.63	33.807		1.08			225
83.39-G	21	0220	34°15.5'	119°17.5'	8	140°	2	clear	slight	10	12.83	33.823					246
83.40-G	21	0311	34°14.0'	119°21.5'	12	100°	2	clear	slight	0	13.72	33.813		0.39			263
										10	13.58	33.812		0.45			260
83.43-G	21	0503	34°08.0'	119°34.0'	130	270°	4	clear	moderate	0	12.70	33.810		0.90			244
										10	12.68	33.810		0.90			244
83.51-G	21	1146	33°52.0'	120°07.5'	90	320°	6	clear	rough	0	11.92	33.796		1.08			231
										10	11.86	33.794		1.11			230
83.55-G	21	1329	33°44.0'	120°24.0'	518	320°	5	overcast	very rough	1	11.94	33.684		0.84			240
										11	11.92	33.683		0.83			239
										40	11.74	33.701		0.88			235
83.65-G	21	1916	33°21.0'	121°05.0'	1243	330°	5	cloudy	rough	1	12.45	33.460		0.75			266
										11	12.43	33.463		0.75			265
										50	12.24	33.531		0.81			256
83.70-G	21	2142	33°14.5'	121°26.0'	2045	330°	5	cloudy	rough	1	13.34	33.287		0.40			294
										11	13.32	33.285		0.42			294
										21	13.32	33.289		0.42			294
83.80-G	22	0248	32°54.0'	122°08.0'	2170	320°	5	cloudy	rough	1	14.53	33.498		0.32			303
										11	14.52	33.500		0.32			302
										64	14.63	33.527		0.32			303
87.32-G	20	1320	33°55.0'	118°27.0'	10	080°	3	partly cloudy	slight	10	13.74	33.781					266
87.33-G	20	1232	33°54.0'	118°30.0'	26	290°	3	partly cloudy	slight	10	13.60	33.770					264

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
87.34-G	IV-20	1135	33°52.0'	118°34.0'	38	270°	3	missing	slight	10	13.87	33.777					269
87.35-G	20	1032	33°50.0'	118°38.0'	367	280°	3	missing	moderate	0	13.48	33.747		0.58			264
										10	13.45	33.752		0.60			263
										25	13.14	33.744		0.72			257
87.40-G	20	0802	33°40.0'	118°58.0'	482	280°	4	missing	rough	0	13.74	33.743		0.61			269
										10	13.56	33.733		0.60			266
										20	13.40	33.726		0.67			264
87.45-G	20	0535	33°30.0'	119°19.0'	894	310°	4	partly cloudy	rough	0	13.74	33.743		0.59			269
										10	13.73	33.742		0.58			269
										15	13.72	33.745		0.58			268
87.50-G	20	0312	33°20.0'	119°39.5'	40	300°	4	clear	rough	0	12.38	33.649		0.87			250
										10	12.35	33.649		0.88			250
										35	11.78	33.705		1.12			235
87.55-G	20	0044	33°09.5'	120°00.0'	640	300°	4	clear	rough	0	12.78	33.661		0.87			257
										10	12.73	33.663		0.81			255
										25	12.51	33.649		0.83			252
87.60-G	19	2147	33°00.0'	120°25.0'	535	320°	4	partly cloudy	rough	0	13.37	33.589		0.58			273
										10	13.36	33.587		0.61			273
										35	13.22	33.589		0.62			270
87.65-G	19	1908	32°46.5'	120°43.0'	2045	320°	5	cloudy	rough	0	13.74	33.598		0.46			280
										10	13.72	33.599		0.46			279
										30	13.72	33.598		0.46			279
87.70-G	19	1619	32°38.0'	121°03.0'	2000+	300°	5	cloudy	rough	0	13.20	33.596		0.59			270
										10	13.10	33.596		0.63			268
										55	12.20	33.684		0.90			244
87.80-G	19	1151	32°17.0'	121°42.0'	2000+	260°	4	missing	missing	0	13.57	33.385		0.37			292
										10	13.57	33.388		0.39			292
										20	13.50	33.396		0.42			290

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
87.90-G	IV-19	0710	32°00.0'	122°26.0'	2040	310°	4	partly cloudy	very rough	0	14.44	33.348		0.35			312
										10	14.45	33.345		0.37			312
										67	14.34	33.440		0.38			303
87.100-G	19	0254	31°41.0'	122°59.5'	2145	300°	5	cloudy	very rough	1	14.74	33.449		0.34			311
										11	14.74	33.451		0.34			311
										62	14.30	33.419		0.34			304
90.28-G	17	0020	33°29.5'	117°45.0'	10	160°	3	overcast	slight	10	14.64	33.754					286
90.65-G	17	2308	32°14.0'	120°17.5'	2050	310°	4	cloudy	very rough	0	14.63	33.509		0.34			304
										10	14.49	33.511		0.36			301
										50	13.44	33.545		0.51			278
93.27-G	11	0130	32°57.0'	117°17.0'	10	230°	2	cloudy	moderate	10	14.05	-					
93.27-G	11	0205	32°56.0'	117°19.0'	50	220°	1	cloudy	moderate	10	13.56	-					
93.35-G	11	0851	32°40.5'	117°51.5'	340	220°	3	missing	missing	0	15.45	33.767		0.35			302
										10	15.05	33.767		0.33			294
										25	13.80	33.723		0.51			272
93.45-G	12	0240	32°20.0'	118°33.0'	937	300°	4	cloudy	rough	0	14.87	33.773		0.27			290
										10	14.80	33.772		0.30			288
										25	14.63	33.765		0.31			285
93.55-G	12	0835	32°00.5'	119°14.0'	840	320°	6	partly cloudy	rough	0	13.85	33.683		0.51			276
										10	13.84	33.683		0.50			276
										50	13.28	33.647		0.57			267
93.65-G	12	1534	31°36.5'	119°57.5'	2023	320°	6	cloudy	very rough	0	13.65	33.599		0.48			278
										9	13.66	33.598		0.47			278
										75	13.27	33.637		0.60			268
97.29-G	16	0530	32°17.5'	117°04.5'	25	260°	1	clear	slight	10	13.97	33.744					273

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
97.30-G	IV-16	0448	32°15.5'	117°09.0'	28	270°	2	clear	slight	0	15.35	33.740		0.33			302
										10	14.56	33.738		0.37			286
97.32-G	16	0209	32°11.5'	117°17.0'	355	040°	2	clear	moderate	0	15.94	33.754		0.32			313
										10	14.10	33.743		0.44			276
										20	12.81	33.745		0.96			251
97.35-G	16	0017	32°01.0'	117°27.5'	690	290°	4	clear	moderate	0	15.78	33.752		0.39			310
										10	15.68	33.754		0.32			308
										20	15.02	33.750		0.31			295
97.40-G	15	2150	31°56.5'	117°51.5'	378	290°	4	clear	moderate	0	16.15	33.772		0.37			317
										10	15.80	33.769		0.31			309
										48	14.20	33.728		0.49			279
97.45-G	15	1925	31°49.0'	118°10.5'	700	290°	3	clear	moderate	0	16.04	33.754		0.30			316
										10	15.60	33.753		0.31			306
										50	14.94	33.741		0.33			293
97.50-G	15	1703	31°37.0'	118°30.5'	1329	290°	4	clear	moderate	0	15.70	33.752		0.27			308
										10	15.20	33.745		0.31			298
										35	14.95	33.752		0.33			293
97.55-G	15	1435	31°25.0'	118°50.5'	321	290°	4	clear	moderate	0	15.59	33.754		0.30			306
										10	15.57	33.754		0.30			306
										20	14.92	33.756		0.33			192
97.60-G	15	1202	31°15.0'	119°11.0'	1820	300°	4	clear	moderate	0	14.67	33.531		0.38			303
										10	14.65	33.531		0.37			303
										45	14.12	33.624		0.36			285
97.65-G	15	0931	31°05.5'	119°31.0'	1930	320°	3	clear	moderate	0	15.04	33.505		0.32			313
										10	14.88	33.509		0.33			309
										35	14.24	33.469		0.33			299

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Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
97.70-G	IV-15	0657	30°55.5'	119°50.0'	2000+	300°	4	missing	rough	0	15.28	33.537		0.35			316
										10	15.26	33.536		0.28			315
										35	15.00	33.536		0.33			310
97.80-G	15	0240	30°34.0'	120°30.0'	2110	310°	3	clear	rough	0	14.58	33.474		0.35			305
										10	14.00	33.465		0.34			294
										40	13.55	33.518		0.50			282
97.90-G	14	2204	30°16.0'	121°10.0'	2050	340°	3	clear	rough	0	15.26	33.496		0.35			318
										10	14.35	33.505		0.35			298
										50	13.33	33.471		0.47			281
97.100-G	14	1737	29°58.0'	121°49.0'	2000+	340°	3	partly cloudy	rough	0	15.24	33.498		0.34			317
										10	15.14	33.494		0.34			316
										45	14.96	33.491		0.33			312
100.29-B	16	0410	31°42.0'	116°43.5'	55	290°	3	clear	moderate	10	12.50	33.783					243
100.30-B	16	0450	31°40.5'	116°46.5'	200	290°	3	clear	moderate	10	12.56	33.750					246
100.35-B	16	0725	31°30.5'	117°07.0'	650	300°	3	clear	moderate	10	15.90	33.782					310
100.40-B	16	1000	31°21.0'	117°27.0'	1000	290°	3	missing	moderate	10	16.06	33.802					312
100.45-B	16	1230	31°09.0'	117°49.5'	750	270°	4	missing	moderate	10	15.70	33.774					307
100.50-B	16	1515	30°58.0'	118°11.0'	900	280°	3	overcast	rough	10	15.47	33.757					303
100.55-B	16	1730	30°50.0'	118°27.5'	1340	290°	4	overcast	moderate	10	15.68	33.772					307
100.60-B	16	1950	30°40.5'	118°47.5'	1600	290°	4	overcast	moderate	10	15.44	33.683					308
100.65-B	16	2215	30°30.0'	119°08.0'	2000	290°	4	overcast	moderate	10	15.54	33.553					320
100.70-B	17	0030	30°20.5'	119°27.5'	2000	300°	4	cloudy	rough	10	16.26	33.669					326
100.80-B	17	0500	30°01.0'	120°08.0'	1950	290°	3	cloudy	rough	10	15.78	33.530					326

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
100.90-B	IV-17	0925	29°40.5'	120°47.0'	2000	320°	4	overcast	moderate	10	15.78	33.627					319
103.29-B	18	1840	31°07.0'	116°21.0'	16	320°	3	overcast	moderate	10	12.73	33.743					250
103.29-B	18	1910	31°08.0'	116°19.0'	12	320°	3	overcast	moderate	10	13.30	33.751					260
103.30-B	18	1800	31°05.0'	116°24.5'	41	320°	3	overcast	moderate	10	12.65	33.748					248
103.35-B	18	1540	30°56.0'	116°45.0'	900	320°	3	partly cloudy	moderate	10	16.12	33.778					315
103.40-B	18	1300	30°46.0'	117°05.5'	1000	280°	3	cloudy	moderate	10	15.85	33.767					310
103.45-B	18	1035	30°36.0'	117°24.0'	1000	280°	3	missing	slight	10	15.94	33.767					312
103.50-B	18	0810	30°25.5'	117°45.0'	1400	270°	3	missing	slight	10	15.61	33.646					314
103.55-B	18	0545	30°16.0'	118°05.0'	1200	340°	3	overcast	moderate	10	15.15	33.539					312
103.60-B	18	0315	30°06.0'	118°25.0'	1700	330°	3	overcast	rough	10	16.00	33.652					322
103.65-B	18	0035	29°56.5'	118°45.0'	1700	330°	4	cloudy	rough	10	16.00	33.650					322
103.70-B	17	2210	29°46.5'	119°04.0'	2000	340°	2	cloudy	rough	10	16.05	33.675					322
103.80-B	17	1740	29°25.5'	119°44.0'	1950	340°	2	partly cloudy	rough	10	16.30	33.691					326
103.90-B	17	1340	29°09.0'	120°20.5'	2050	330°	3	overcast	rough	10	16.12	33.626					326
107.30-B	18	2330	30°30.0'	116°03.5'	8	280°	3	partly cloudy	slight	10	13.42	33.752					262
107.31-B	19	0005	30°28.0'	116°07.0'	23	290°	4	partly cloudy	moderate	10	14.45	33.735					284
107.32-B	19	0055	30°26.0'	116°11.0'	170	320°	4	partly cloudy	moderate	10	15.33	33.749					300
107.35-B	19	0240	30°20.0'	116°23.0'	850	300°	4	overcast	moderate	10	15.90	33.778					311
107.40-B	19	0500	30°10.0'	116°43.0'	1500	320°	4	overcast	moderate	10	16.31	33.773					320

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Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δT cl/ton
107.45-B	IV-19	0725	30°00.0'	117°03.0'	1150	320°	4	overcast	moderate	10	15.52	33.642					312
107.50-B	19	0945	29°50.0'	117°23.5'	1200	280°	4	clear	moderate	10	15.67	33.612					318
107.55-B	19	1205	29°39.0'	117°40.5'	1800	290°	4	clear	rough	10	15.79	33.637					318
107.60-B	19	1425	29°27.5'	117°57.5'	1800	320°	4	cloudy	rough	10	16.06	33.698					320
107.65-B	19	1700	29°21.0'	118°21.0'	2050	320°	5	cloudy	rough	10	15.88	33.661					319
107.70-B	19	1945	29°11.0'	118°41.0'	1500	320°	4	cloudy	rough	10	16.84	33.857					326
107.80-B	20	0005	28°51.5'	119°20.5'	2000	340°	5	partly cloudy	rough	10	16.30	33.723					324
107.90-B	20	0435	28°32.0'	119°59.0'	2050	320°	3	partly cloudy	moderate	10	16.26	33.756					320
110.32-B	21	1410	29°52.0'	115°48.0'	13	320°	4	overcast	moderate	10	12.19	33.740					240
110.35-B	21	1230	29°46.0'	116°00.0'	700	340°	5	cloudy	rough	10	15.08	33.753					296
110.40-B	21	0955	29°36.0'	116°19.5'	1200	340°	6	cloudy	rough	10	15.64	33.777					305
110.45-B	21	0720	29°25.5'	116°39.5'	700	330°	6	cloudy	very rough	10	15.86	33.732					313
110.50-B	21	0445	29°16.5'	116°59.0'	1950	340°	5	cloudy	rough	10	15.76	33.638					318
110.55-B	21	0205	29°06.5'	117°19.0'	2000	340°	5	partly cloudy	rough	10	16.02	33.656					322
110.60-B	20	2330	28°56.5'	117°39.0'	2000	340°	5	partly cloudy	moderate	10	16.92	33.841					328
110.65-B	20	2105	28°47.0'	117°58.0'	2000	340°	5	partly cloudy	moderate	10	16.84	33.859					326
110.70-B	20	1820	28°36.5'	118°17.5'	1750	010°	4	cloudy	moderate	10	16.84	33.850					326
110.80-B	20	1315	28°17.5'	118°57.5'	2000	330°	4	cloudy	moderate	10	16.72	33.809					326
110.90-B	20	0845	27°56.5'	119°35.5'	2000	330°	4	cloudy	moderate	10	16.84	33.880					324

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
113.28-B	IV-21	1905	29°25.0'	115°11.5'	9	340°	6	partly cloudy	rough	10	12.66	33.738					249
113.29-B	21	1935	29°24.0'	115°13.0'	13	300°	6	partly cloudy	rough	10	13.12	33.747					256
113.30-B	21	2035	29°22.0'	115°18.0'	36	300°	6	partly cloudy	very rough	10	12.99	33.699					258
113.35-B	21	2305	29°11.5'	115°38.0'	600	320°	6	partly cloudy	very rough	10	15.72	33.757					308
113.40-B	22	0140	29°02.0'	115°57.0'	1000	330°	5	cloudy	rough	10	15.84	33.738					312
113.45-B	22	0400	28°52.0'	116°17.0'	860	330°	6	overcast	rough	10	15.90	33.729					314
113.50-B	22	0630	28°41.5'	116°36.5'	1950	330°	6	overcast	very rough	10	15.83	33.726					313
113.55-B	22	0900	28°31.5'	116°56.0'	1800	320°	5	cloudy	rough	10	16.52	33.836					320
113.60-B	22	1115	28°23.0'	117°14.5'	2000	320°	5	partly cloudy	rough	10	16.74	33.862					323
113.65-B	22	1340	28°14.5'	117°34.0'	2000	340°	5	overcast	rough	10	16.90	33.845					328
113.70-B	22	1630	28°05.5'	117°54.5'	2050	320°	3	overcast	rough	10	16.94	33.872					327
113.80-B	22	2110	27°42.0'	118°33.5'	2000	320°	4	overcast	moderate	10	16.96	33.880					327
113.90-B	23	0140	27°22.0'	119°12.0'	2100	330°	5	cloudy	rough	10	17.12	33.913					328
117.25-B	24	1605	28°58.0'	114°37.0'	30	310°	4	overcast	moderate	10	13.64	33.735					268
117.25-B	24	1630	28°58.5'	114°36.5'	10	320°	3	overcast	moderate	10	13.32	33.718					263
117.26-B	24	1525	28°56.0'	114°41.5'	40	310°	4	overcast	moderate	10	14.52	33.707					287
117.30-B	24	1320	28°48.0'	114°56.5'	55	300°	4	partly cloudy	moderate	10	14.41	33.726					283
117.35-B	24	1050	28°38.0'	115°16.0'	120	280°	3	overcast	moderate	10	15.30	33.756					300
117.40-B	24	0610	28°28.0'	115°35.5'	500	320°	3	cloudy	moderate	10	15.71	33.760					308

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DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
117.45-B	IV-24	0340	28°17.0'	115°55.0'	1700	320°	3	cloudy	moderate	10	16.01	33.750					315
117.50-B	24	0110	28°08.0'	116°15.0'	2000	320°	4	cloudy	moderate	10	16.07	33.706					319
117.55-B	23	2245	27°57.5'	116°34.5'	2000	280°	3	overcast	moderate	10	16.18	33.731					320
117.60-B	23	2005	27°45.0'	116°55.5'	1800	280°	4	overcast	moderate	10	16.76	33.876					322
117.65-B	23	1745	27°39.5'	117°14.5'	2050	300°	4	cloudy	rough	10	16.83	33.858					325
117.70-B	23	1515	27°29.5'	117°33.5'	2000	330°	5	overcast	rough	10	16.90	33.870					326
117.80-B	23	1035	27°08.0'	118°10.5'	2000	320°	4	overcast	moderate	10	17.28	33.984					326
117.90-B	23	0600	26°47.5'	118°50.0'	2050	320°	3	overcast	moderate	10	17.14	33.919					328
118.39-B	24	0810	28°18.5'	115°23.5'	140	320°	3	cloudy	moderate	10	15.90	33.762					312
119.33-B	25	0320	28°19.0'	114°53.0'	62	320°	5	partly cloudy	rough	10	15.06	33.741					296
120.22-B	24	2045	28°28.0'	114°04.0'	8	290°	4	clear	slight	10	16.26	33.765					320
120.23-B	24	2115	28°27.0'	114°06.5'	12	290°	4	clear	slight	10	16.42	33.769					323
120.24-B	24	2155	28°25.0'	114°10.5'	18	290°	5	clear	slight	10	16.52	33.792					324
120.25-B	24	2240	28°22.5'	114°15.0'	32	300°	5	clear	slight	10	16.05	33.757					315
120.30-B	25	0050	28°13.0'	114°34.0'	50	320°	5	clear	moderate	10	15.87	33.743					313
120.35-B	25	0520	28°03.0'	114°54.0'	43	330°	5	partly cloudy	rough	10	15.86	33.748					312
120.40-B	25	0725	27°56.5'	115°14.0'	20	320°	6	partly cloudy	rough	10	16.68	33.825					325
120.45-B	25	1000	27°43.0'	115°33.0'	1600	330°	5	cloudy	very rough	10	15.98	33.788					312
120.50-B	25	1220	27°32.5'	115°54.5'	2100	330°	5	cloudy	rough	10	16.08	33.776					315

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
120.55-B	IV-25	1445	27°21.5'	116°14.0'	1900	330°	5	cloudy	rough	10	16.12	33.783					315
120.60-B	25	1705	27°11.0'	116°32.5'	2050	340°	5	overcast	rough	10	16.10	33.740					318
120.65-B	25	1930	27°00.0'	116°51.0'	2050	340°	4	cloudy	moderate	10	16.14	33.752					318
120.70-B	25	2130	26°53.0'	117°10.0'	2100	350°	4	cloudy	moderate	10	16.28	33.749					321
120.80-B	26	0135	26°32.5'	117°49.0'	2100	320°	5	cloudy	rough	10	17.76	34.129					327
123.35-B	27	0410	27°24.0'	114°32.0'	10	320°	3	partly cloudy	slight	10	13.48	33.839					257
123.36-B	27	0330	27°26.0'	114°36.0'	25	320°	3	partly cloudy	slight	10	13.34	33.836					254
123.37-B	27	0250	27°24.0'	114°40.0'	40	300°	5	partly cloudy	moderate	10	13.62	33.826					260
123.42-B	27	0025	27°14.0'	114°59.0'	800	320°	5	partly cloudy	rough	10	15.61	33.769					305
123.45-B	26	2250	27°08.0'	115°10.5'	2100	330°	5	cloudy	moderate	10	16.18	33.769					318
123.50-B	26	2015	26°58.0'	115°30.5'	1900	330°	5	cloudy	moderate	10	16.26	33.771					319
123.55-B	26	1800	26°53.0'	115°49.0'	2050	340°	5	cloudy	moderate	10	16.05	33.745					317
123.60-B	26	1535	26°41.0'	116°09.0'	2050	340°	5	cloudy	moderate	10	16.28	33.747					321
123.65-B	26	1300	26°30.5'	116°27.5'	2050	320°	5	cloudy	rough	10	17.27	34.007					324
123.70-B	26	1015	26°19.5'	116°47.0'	2000	340°	4	overcast	rough	10	17.50	34.071					325
123.80-B	26	0545	25°59.0'	117°25.5'	2050	340°	4	cloudy	moderate	10	17.65	34.020					332
127.33-B	27	0820	26°58.5'	114°00.5'	10	330°	3	cloudy	slight	10	12.90	33.942					238
127.33-B	27	0845	26°57.5'	114°02.0'	34	330°	3	cloudy	slight	10	13.16	33.876					248
127.34-B	27	0930	26°55.0'	114°06.5'	44	330°	3	cloudy	slight	10	15.88	33.756					312

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δT cl/ton
127.40-B	IV-27	1225	26°43.5'	114°29.0'	1600	320°	4	overcast	moderate	10	16.34	33.798					319
127.45-B	27	1450	26°33.0'	114°48.5'	1750	340°	5	overcast	rough	10	16.18	33.788					316
127.50-B	27	1710	26°23.0'	115°07.0'	1950	320°	4	overcast	rough	10	16.25	33.758					320
127.55-B	27	1940	26°12.5'	115°26.0'	1950	330°	4	cloudy	rough	10	16.56	33.777					325
127.60-B	27	2205	26°03.5'	115°46.5'	2000	300°	4	cloudy	rough	10	16.74	33.825					326
127.65-B	28	0025	25°53.5'	116°05.5'	2000	330°	4	cloudy	rough	10	17.28	33.926					330
127.70-B	28	0235	25°44.0'	116°24.5'	2050	320°	3	cloudy	moderate	10	17.86	34.138					328
130.25-B	29	0515	26°38.0'	113°11.0'	9	320°	5	clear	moderate	10	13.48	34.001					245
130.26-B	29	0450	26°37.0'	113°13.0'	17	320°	5	clear	moderate	10	14.28	33.967					263
130.28-B	29	0345	26°33.0'	113°21.0'	30	300°	5	partly cloudy	rough	10	14.63	33.867					277
130.30-B	29	0240	26°29.0'	113°29.0'	42	280°	6	partly cloudy	rough	10	13.38	33.992					244
130.35-B	29	0015	26°19.0'	113°48.0'	240	320°	5	cloudy	rough	10	16.09	33.785					315
130.40-B	28	2145	26°09.0'	114°06.5'	1200	320°	5	partly cloudy	rough	10	17.22	33.925					329
130.45-B	28	1905	25°58.5'	114°26.5'	1975	340°	5	partly cloudy	rough	10	16.62	33.782					326
130.50-B	28	1645	25°48.0'	114°42.0'	2050	330°	5	cloudy	rough	10	16.40	33.761					323
130.55-B	28	1435	25°39.5'	115°00.0'	2000	340°	5	cloudy	rough	10	16.49	33.764					325
130.60-B	28	1155	25°29.0'	115°21.0'	2000	320°	4	cloudy	moderate	10	17.06	33.854					331
130.65-B	28	0930	25°19.5'	115°41.0'	2000	320°	4	cloudy	moderate	10	17.08	33.838					333
130.70-B	28	0655	25°09.0'	116°01.5'	2050	330°	4	cloudy	moderate	10	17.70	34.012					334

DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
133.19-B	IV-29	1015	26°13.5'	112°26.0'	9	270°	4	cloudy	slight	10	14.21	34.090					253
133.21-B	29	1110	26°12.5'	112°32.5'	27	300°	4	cloudy	moderate	10	14.68	34.123					260
133.23-B	29	1220	26°08.5'	112°40.0'	38	300°	5	cloudy	rough	10	14.01	34.120					247
133.25-B	29	1325	26°04.5'	112°48.0'	44	320°	5	partly cloudy	rough	10	14.75	33.938					275
133.30-B	29	1600	25°54.0'	113°07.0'	106	320°	5	partly cloudy	rough	10	15.92	33.904					302
133.35-B	29	1815	25°43.5'	113°26.0'	320	320°	5	partly cloudy	rough	10	16.50	33.784					324
133.40-B	29	2040	25°34.5'	113°44.5'	1400	320°	5	partly cloudy	rough	10	16.84	33.803					330
133.45-B	29	2305	25°23.5'	114°03.0'	2000	320°	4	partly cloudy	rough	10	16.84	33.811					329
133.50-B	30	0140	25°14.5'	114°24.0'	2000	320°	4	partly cloudy	moderate	10	16.94	33.808					331
133.55-B	30	0400	25°04.5'	114°43.0'	2050	340°	5	partly cloudy	rough	10	16.86	33.806					330
133.60-B	30	0620	24°54.5'	115°02.0'	2050	330°	4	cloudy	moderate	10	17.32	33.941					330
133.65-B	30	0840	24°44.5'	115°20.5'	2000	320°	4	overcast	moderate	10	17.40	33.933					333
133.70-B	30	1050	24°34.5'	115°39.0'	2000	300°	4	drizzle	rough	10	17.64	34.026					331
137.20-B	V-1	1655	25°40.0'	112°07.0'	7	320°	5	clear	moderate	10	14.32	34.144					251
137.21-B	1	1615	25°38.0'	112°11.0'	15	320°	5	clear	moderate	10	14.92	34.081					268
137.22-B	1	1535	25°36.0'	112°15.0'	30	320°	5	clear	rough	10	14.90	34.040					271
137.23-B	1	1450	25°34.0'	112°19.0'	40	320°	5	clear	rough	10	15.20	34.029					277
137.30-B	1	1145	25°20.0'	112°45.5'	170	320°	6	partly cloudy	rough	10	15.82	33.921					299
137.35-B	1	0905	25°09.5'	113°03.5'	700	320°	4	cloudy	moderate	10	15.66	33.775					306

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DATA AT NET TOW STATIONS

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	Z m	T °C	S ‰	O_2 ml/L	PO_4-P µg at/L	SiO_3-Si µg at/L	NO_2-N µg at/L	δ_T cl/ton
137.40-B	V-1	0620	25°00.0'	113°23.5'	1800	330°	5	clear	rough	10	16.32	33.749					322
137.45-B	1	0345	24°50.0'	113°42.0'	1750	340°	5	partly cloudy	rough	10	17.23	33.894					332
137.50-B	1	0115	24°40.0'	114°02.0'	2050	340°	5	partly cloudy	rough	10	18.06	34.148					332
137.55-B	IV-30	2245	24°30.0'	114°20.5'	2000	330°	4	cloudy	moderate	10	18.08	34.169					331
137.60-B	30	2015	24°20.0'	114°39.5'	2000	330°	5	cloudy	rough	10	17.92	34.142					330
137.65-B	30	1735	24°11.0'	115°00.0'	1950	340°	5	overcast	rough	10	18.00	34.187					328
137.70-B	30	1510	24°00.0'	115°18.0'	2000	330°	5	cloudy	rough	10	17.42	33.929					333

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