

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5605
4-22 May 1956

and

CCOFI Cruise 5606
26 May - 25 June 1956

SIO Reference 60-34
20 April 1960

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5605
4-22 May 1956

and

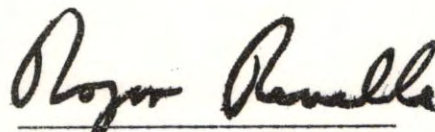
CCOFI CRUISE 5606
26 May - 25 June 1956

Sponsored by

Marine Research Committee

SIO Reference 60-34
20 April 1960

Approved for distribution:


Roger Revelle, Director

CONTENTS

INTRODUCTION	iii
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CRUISE 5605

List of Figures	v
Personnel	vii
Tabulated Data	130
Observations at 10 Meters (Net-Tow Stations)	130

CRUISE 5606

List of Figures	viii
Personnel	ix
Tabulated Data	143
Hydrographic Casts	143
Observations at 10 Meters (Net-Tow Stations)	188

DISTRIBUTION LIST	193
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INTRODUCTION

The data presented in this report were collected on the eighty-fourth and eighty-fifth consecutive cruises of the California Cooperative Oceanic Fisheries Investigations program. The R/V Black Douglas of the U. S. Fish and Wildlife Service, the R/V Spencer F. Baird and the R/V Stranger of the Scripps Institution participated in the eighty-fourth cruise and the R/V Black Douglas, the R/V Paolina-T and the R/V Spencer F. Baird participated in the eighty-fifth cruise.

The data are tabulated at observed depths, and the interpolated and computed values are tabulated at standard depths. They are accompanied by charts of horizontal distribution. The presentation of data in this report does not constitute publication; however, the data contained in this report have been carefully edited and no 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 . The interpolated values at 125 meters are not tabulated.

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

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

FOOTNOTES

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

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

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

Use of 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 standard footnotes, three special notations are used without footnotes because their meaning is always the same.

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

p: pretrip or posttrip.

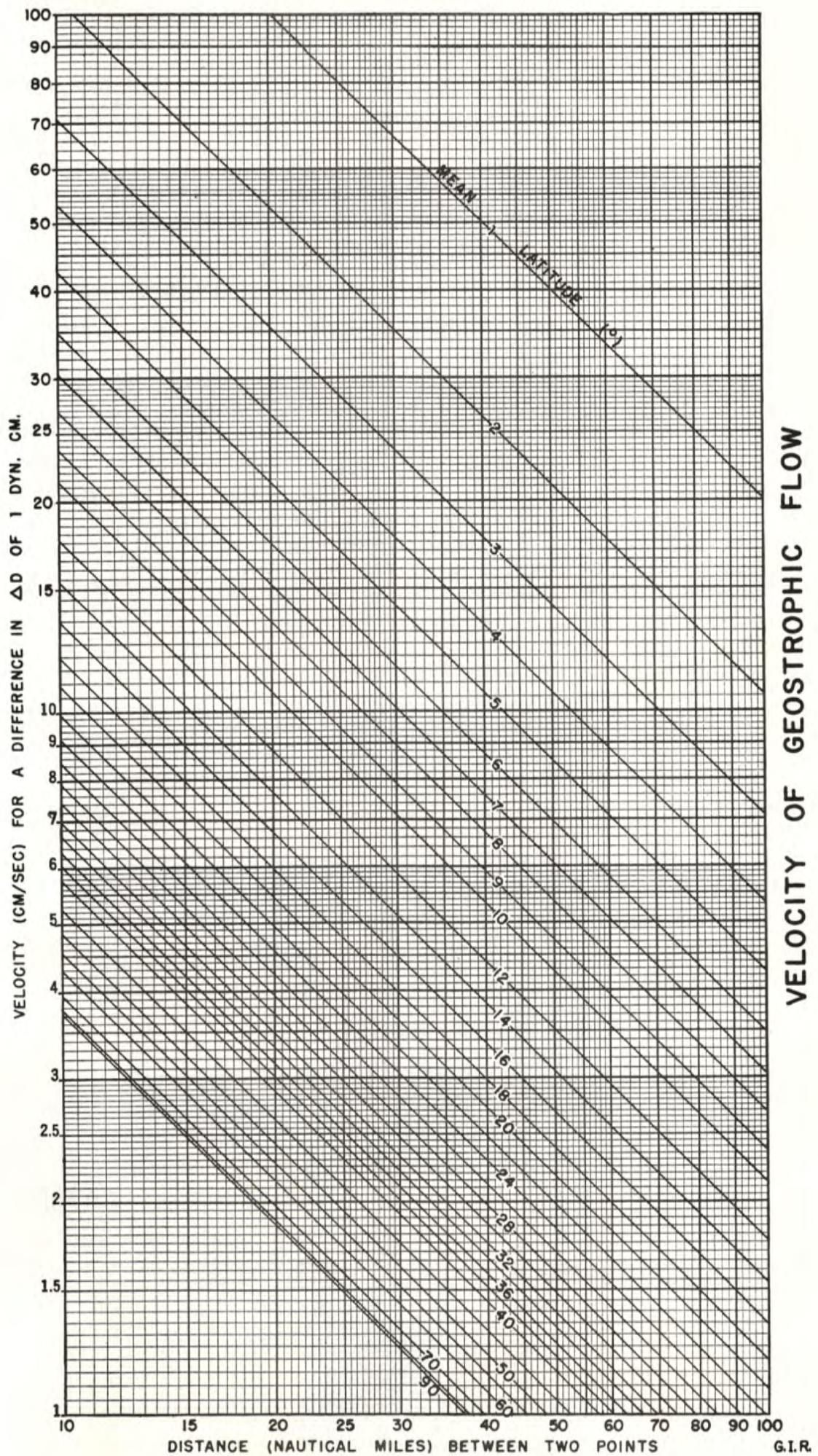
Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

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

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

FORMAT

These data are typed in the format of the University of California Press publication "Oceanic Observations of the Pacific." So that these pages can be used as copy for the 1956 volume, the first page of the Cruise 5605 data is numbered 130; the Cruise 5606 data, 143.



FIGURES

1. CCOFI Cruise 5606, station positions
2. Horizontal distribution of dynamic height anomaly (0 over 500 d-bar)
3. Surface currents measured by geomagnetic electrokinetograph (GEK)
4. Horizontal distribution of temperature at 10 meters
5. Horizontal distribution of salinity at 10 meters
6. Horizontal distribution of temperature at 200 meters
7. Horizontal distribution of salinity at 200 meters

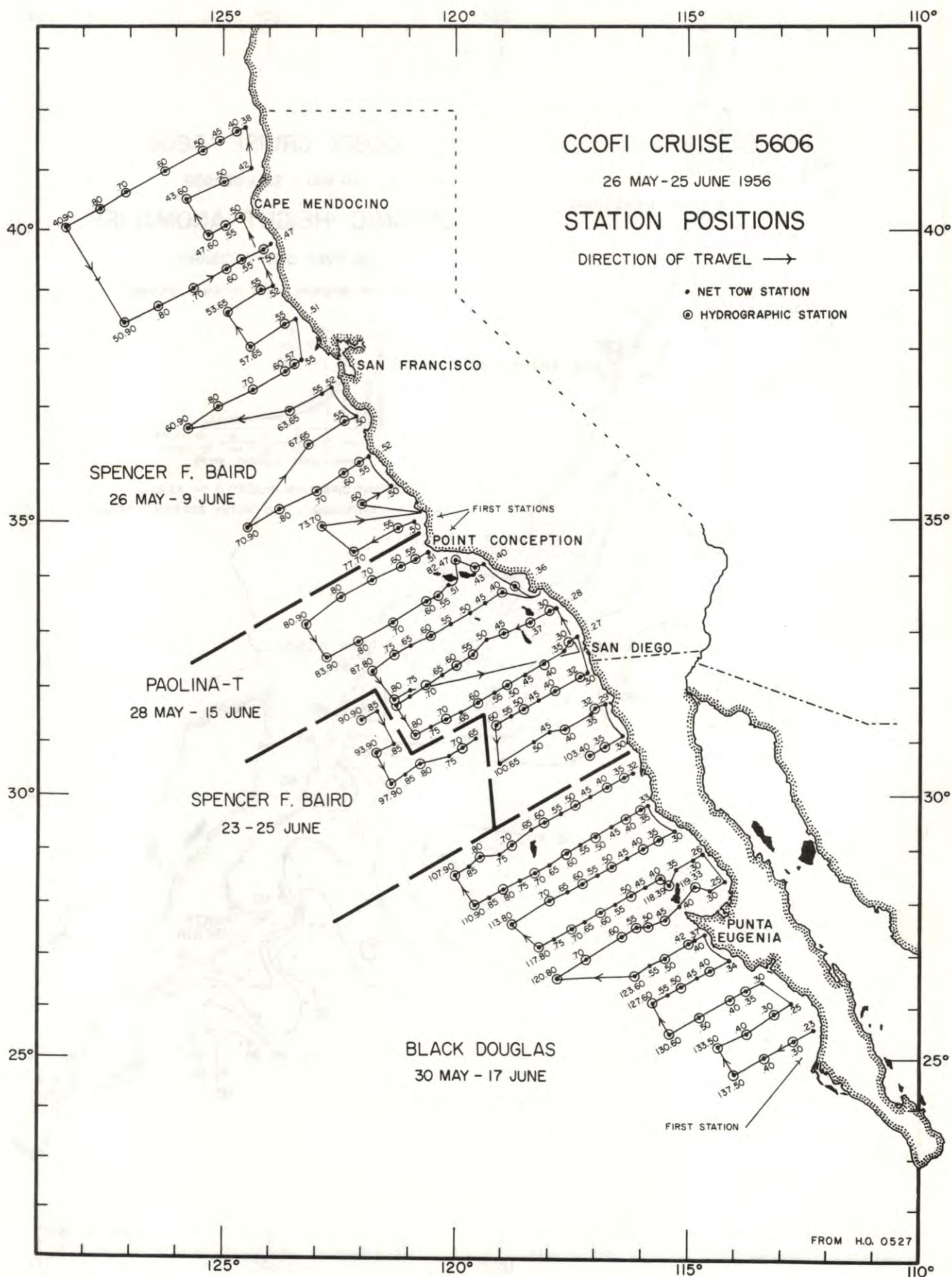


FIGURE 1

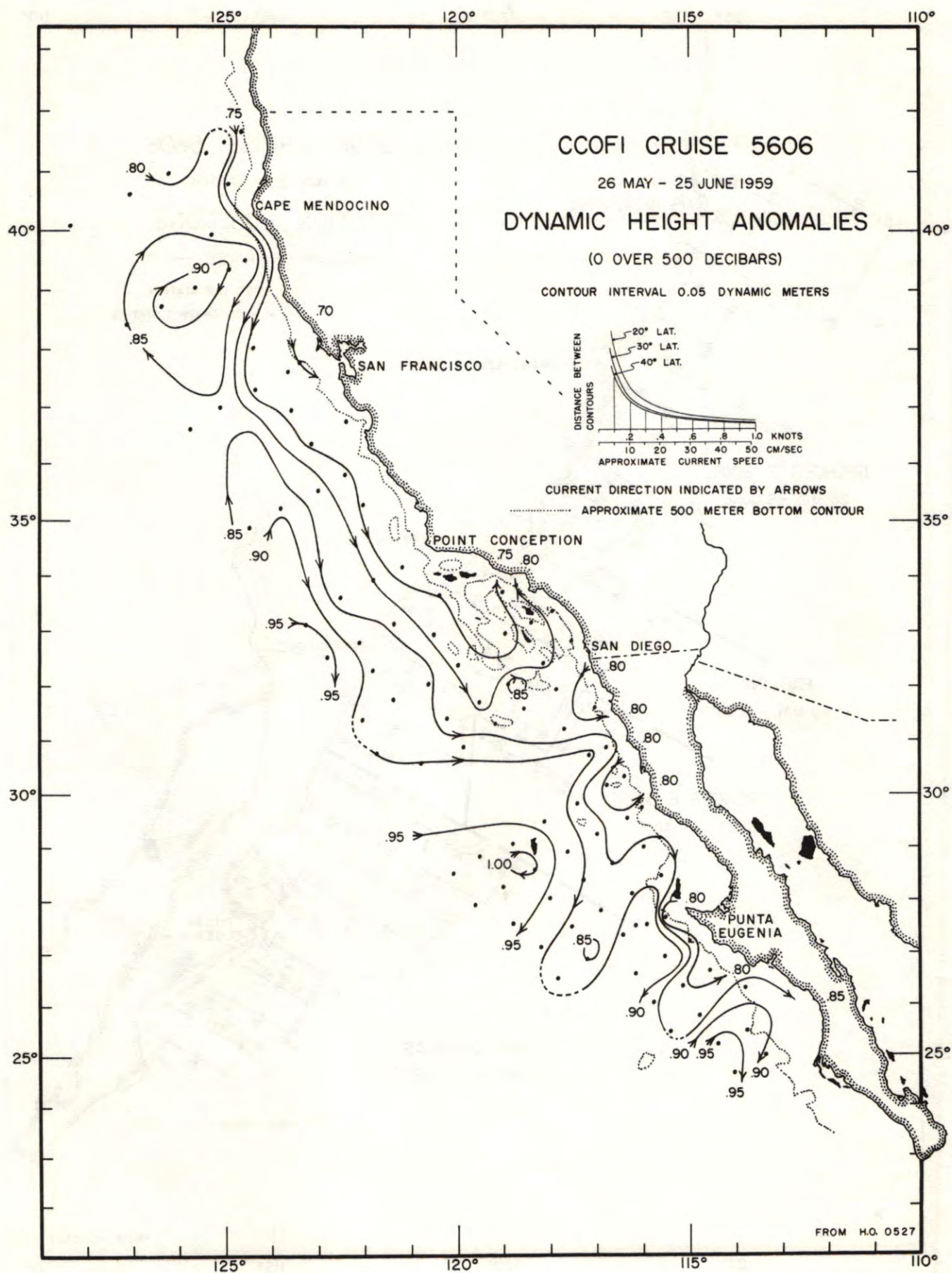


FIGURE 2

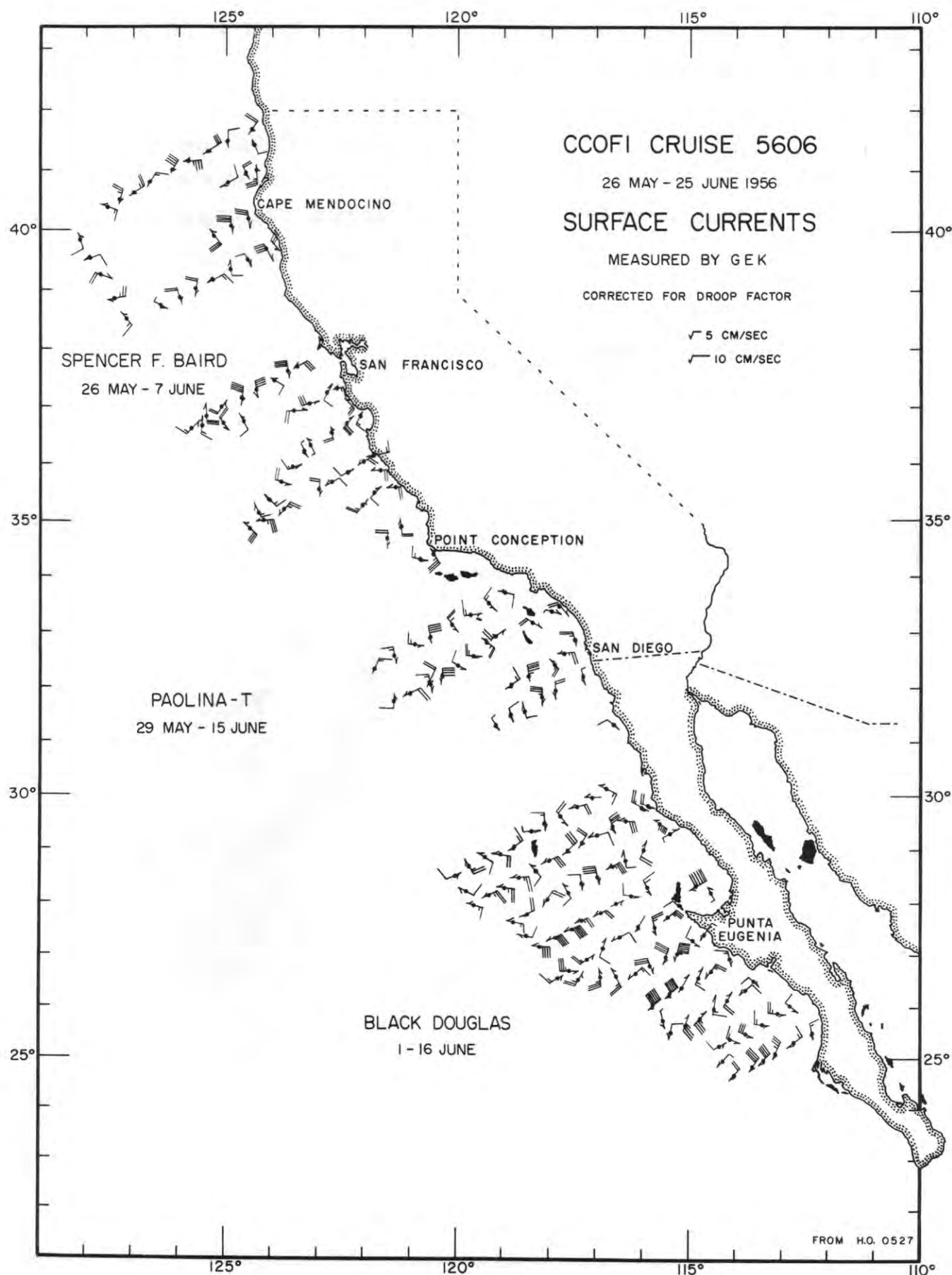


FIGURE 3

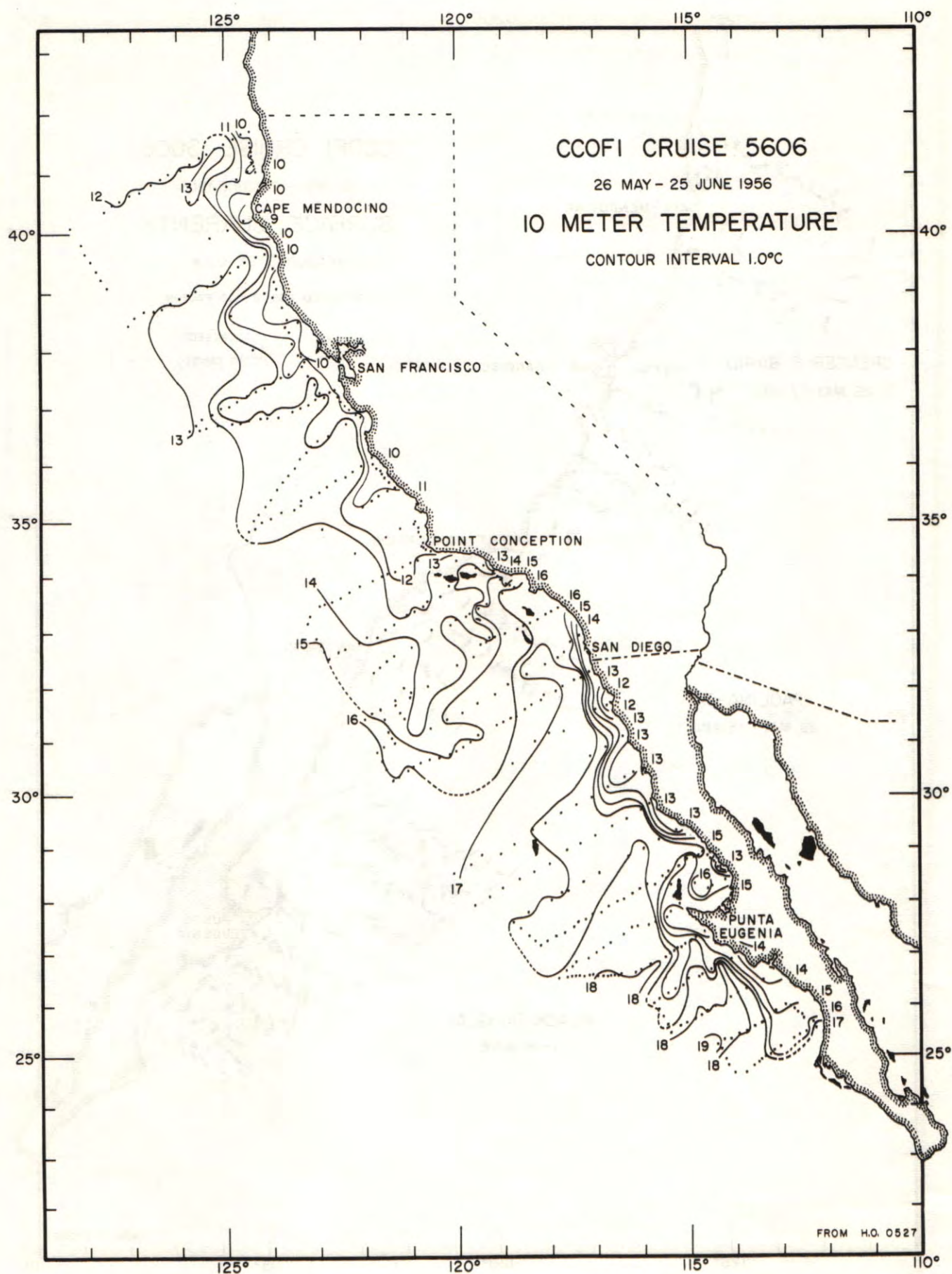


FIGURE 4

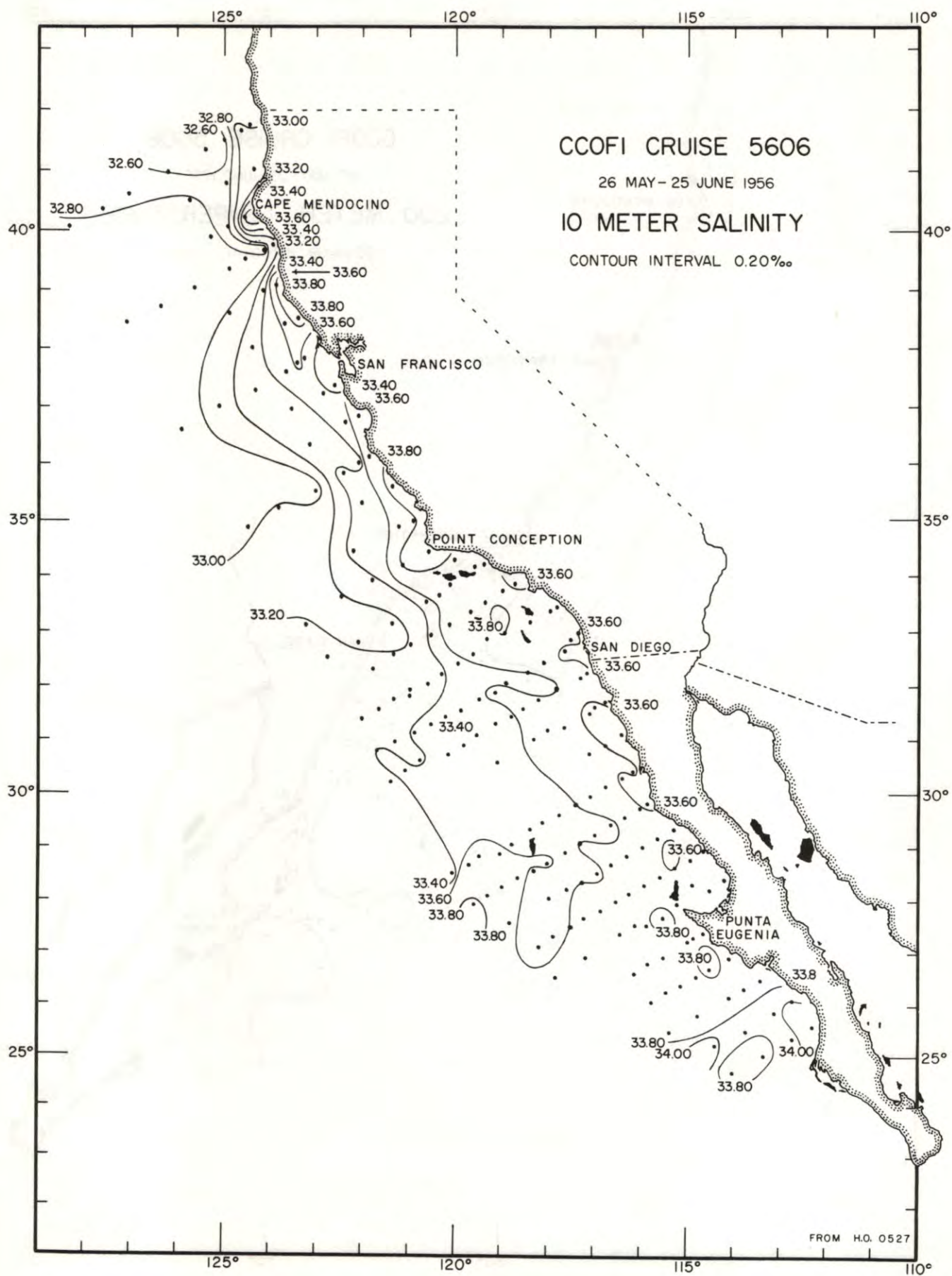


FIGURE 5

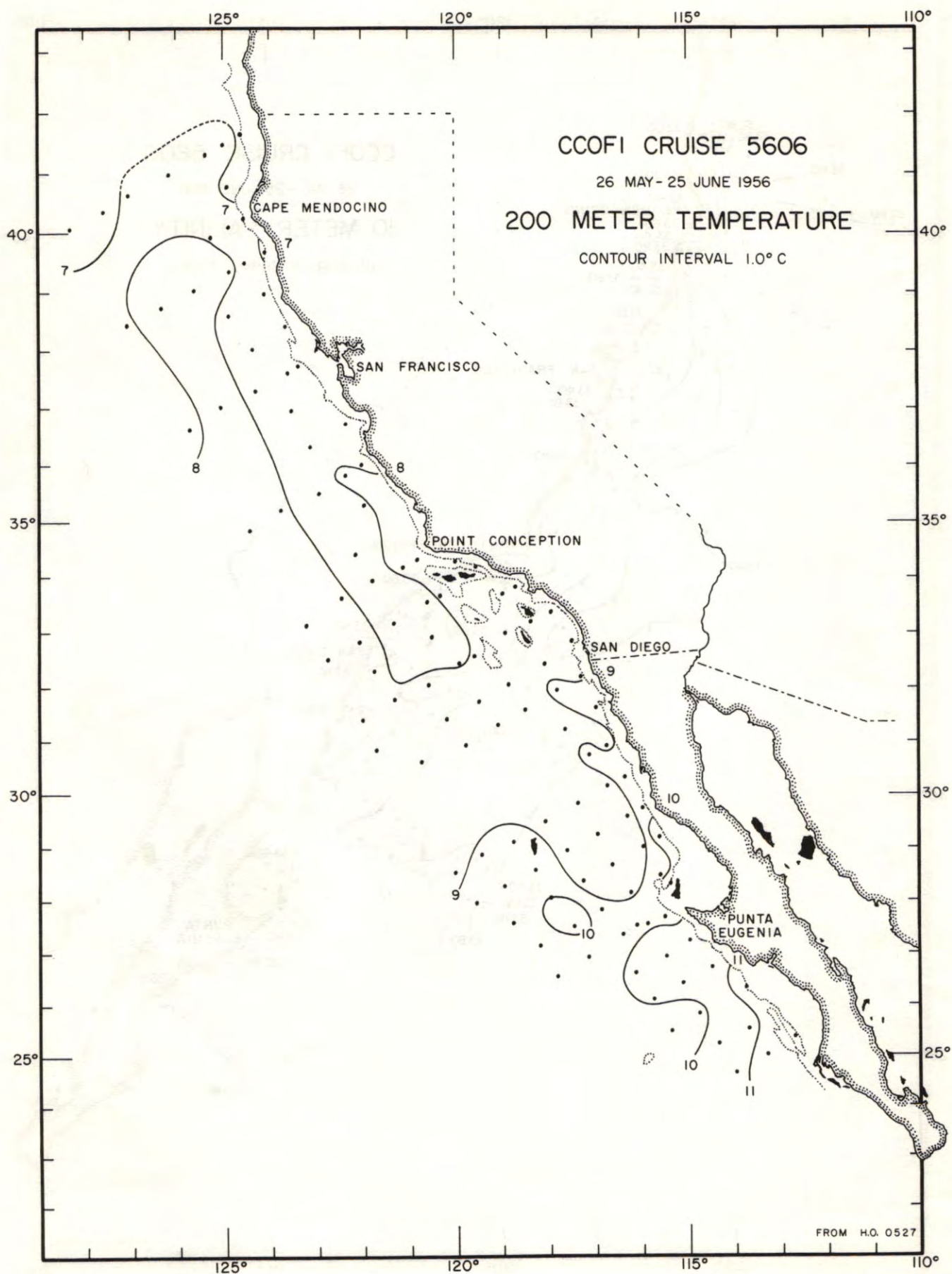


FIGURE 6

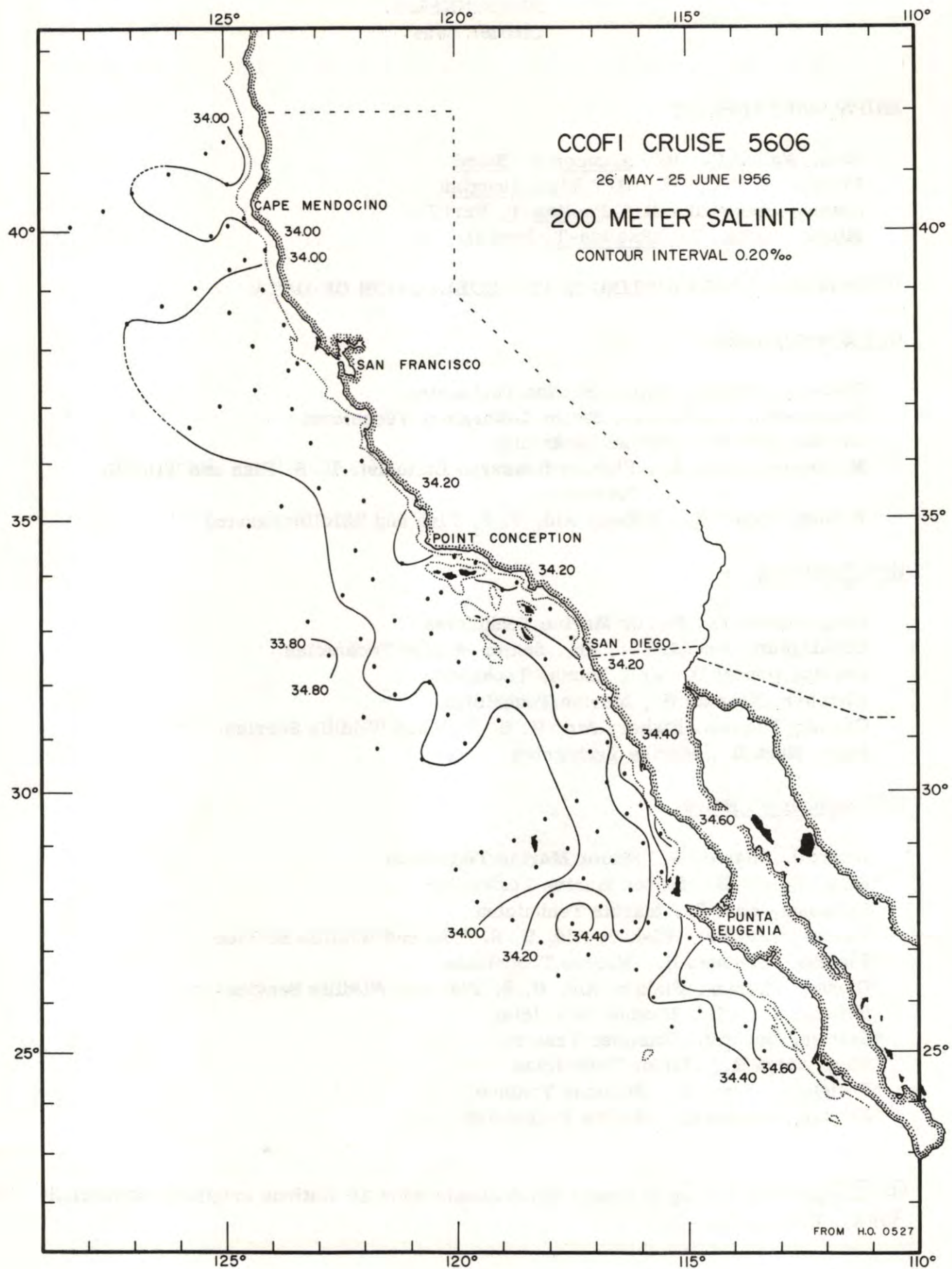


FIGURE 7

PERSONNEL
CRUISE 5606

SHIPS' CAPTAINS

Cole, Walter C., R/V Spencer F. Baird
Forster, Charles W., R/V Black Douglas
Haines, Robert B., R/V Paolina-T, Part I
Miller, Frank, R/V Paolina-T, Part II

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Black Douglas

Reith, A. Dougall, Senior Marine Technician
Greenbaum, Richard H., Senior Laboratory Technician
Jaynes, John M., Marine Technician
MacGregor, John L., Fishery Research Biologist, U. S. Fish and Wildlife
Service
Watson, Frank H., Fishery Aid, U. S. Fish and Wildlife Service

R/V Paolina-T

King, Robert D., Senior Marine Technician
Cunningham, Leonard J., Jr., Senior Marine Technician
Boykin, Robert D., Jr., Marine Technician
Fletcher, Kenneth H., Marine Technician
Gibson, Thomas, Fishery Aid, U. S. Fish and Wildlife Service
Kaye, Hugh R., Marine Technician

R/V Spencer F. Baird

Worrall, Charles G., Senior Marine Technician
*King, Robert D., Senior Marine Technician
Cunnison, Earl P., Marine Technician
Farrar, Lloyd J., Fishery Aid, U. S. Fish and Wildlife Service
*Fletcher, Kenneth H., Marine Technician
*Gibson, Thomas, Fishery Aid, U. S. Fish and Wildlife Service
Henson, Fred D., Marine Technician
*Justice, David K., Summer Trainee
*Kaye, Hugh R., Marine Technician
*Rollefson, Gerry C., Summer Trainee
*Shirley, Howard G., Marine Technician

*Participated in one leg of cruise which consisted of 10 stations originally scheduled for the R/V Paolina-T.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm ³ /g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm ³ /g	dyn. m

SIO
CCOFI
5606

SPENCER F. BAIRD; June 5, 1956; 0122 GCT; 41°43'N, 124°38'W; sounding, 410 fm; wind, 270°, force 1; weather, partly cloudy; sea, moderate; wire angle, 07°.

40.40

3	11.56	32.79	6.76	299	0	(11.56)	(32.79)	(6.76)	(24.98)	(299)	(0.00)
13	9.12	33.15	5.83	232	10	9.75	33.04	6.09	25.49	250	0.03
32	7.80	33.35	5.17	198	20	8.50	33.24	5.60	25.84	217	0.05
41	7.86	33.47	4.79	191	30	7.81	33.34	5.18	26.03	199	0.07
51	7.81	33.50	4.68	188	50	7.81	33.50	4.68	26.14	188	0.11
60	7.73	33.56a)	4.53	182	75	7.62	33.59	4.56	26.24	178	0.16
71	7.62	33.58	4.57	180	100	7.58	33.90	3.24	26.49	155	0.20
83	7.59	33.78	4.04	164	150	7.27	33.99	2.55	26.60	144	0.27
98	7.59	33.89	3.26	156	200	6.93	34.04	2.10	26.69	135	0.34
112	7.45	33.93	2.94	151	250	6.62	34.07	1.82	26.76	129	0.41
136	7.26	33.94	2.81	147	300	6.31	34.11	1.58	26.84	122	0.48
164	7.28	34.03	2.46	141	400	5.88	34.20	0.82	26.96	111	0.60
196	6.94	34.04	2.11	136	500	5.60	34.24	0.68	27.03	104	0.71
244	6.68	34.07	1.85	130							
320	6.18	34.13	1.44	120							
415	5.87	34.20	0.80	110							
541	5.42	34.25	0.62	102							

SPENCER F. BAIRD; June 5, 1956; 0427 GCT; 41°33'N, 125°00.5'W; sounding, 650 fm; wind, 270°, force 1; weather, partly cloudy; sea, moderate; wire angle, 09°.

40.45

1	13.36	32.54	6.24	350	0	(13.36)	(32.54)	(6.24)	(24.44)	(350)	(0.00)
11	12.96	32.55	6.18	341	10	12.98	32.55	6.18	24.52	342	0.03
31	11.80	32.52	6.65	323	20	12.49	32.53	6.33	24.61	334	0.07
40	10.42	32.71	6.98	286	30	11.81	32.52	6.65	24.72	323	0.10
50	9.40	32.75	6.54	266	50	9.40	32.75	6.54	25.32	266	0.16
59	8.77	32.78	6.20	254	75	8.10	32.93	6.02	25.66	234	0.22
68	8.25	32.84	6.17	243	100	8.01	33.24	5.30	25.91	210	0.28
82	8.01	33.03	5.84	226	150	7.82	33.81	3.12	26.39	164	0.37
96	7.98	33.17	5.45	214	200	7.36	33.97	2.68	26.57	147	0.45
110	8.18	33.39	4.67	201	250	6.80	34.01	2.23	26.69	136	0.52
132	8.02	33.66	3.58	179	300	6.25	34.06	1.82	26.79	126	0.59
159	7.76	33.87	3.01	159	400	5.80	34.15	1.10	26.94	113	0.72
191	7.45	33.95	2.79	149	500	5.42	34.22	0.69	27.03	104	0.83
238	6.96	34.00	2.34	139							
313	6.16	34.07	1.70	124							
407	5.78	34.16	1.06	112							
533	5.32	34.24	0.55	101							

SPENCER F. BAIRD; June 5, 1956; 0744 GCT; 41°23'N, 125°23'W; sounding, 1700 fm; wind, 320°, force 2; weather, drizzle; sea, rough; wire angle, 20°.

40.50

0	13.33	-	6.17	-	0	13.33	(32.48)	6.17	(24.40)	(354)	(0.00)
9	12.88	32.48	6.20	345	10	12.87	32.48	6.21	24.50	344	0.03
28	11.79	32.66	6.79	312	20	12.32	32.57	6.50	24.67	328	0.07
47	10.11	32.72	6.61	280	30	11.68	32.66	6.79	24.85	310	0.10
55	9.20	32.82	6.21	258	50	9.74	32.75	6.45	25.27	271	0.16
64	8.49	32.89	6.07	243	75	8.20	32.98	5.89	25.68	232	0.22
77	8.19	32.99	5.88	231	100	8.08	33.46	4.62	26.07	195	0.28
89	8.02	33.26	5.00	209	150	7.84	33.84	3.13	26.41	163	0.37
119	8.20	33.65	3.88	182	200	7.20	33.97	2.73	26.59	145	0.44
145	7.94	33.82	3.20	165	250	6.78	34.02	2.08	26.70	135	0.52
177	7.46	33.94	2.79	150	300	6.48	34.06	1.80	26.77	128	0.58
238	6.86	34.00	2.17	138	400	5.90	34.14	1.21	26.91	115	0.71
327	6.32	34.09	1.62	124	500	5.40	34.19	0.81	27.02	105	0.82
437	5.70	34.16	1.02	111	600	5.00	34.24	0.57	27.09	98	0.93
571	5.12	34.23	0.64	100	700	4.54	34.29	0.41	27.19	89	1.03
751	4.30	34.31	0.38	85	800	4.18	34.33	0.40	27.26	82	1.12
991	3.66	34.44	0.44	69	1000	(3.62)	(34.44)	(0.44)	(27.40)	(68)	(1.29)

a) Loose bottle cap; value falls on property curve.

SIO

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5606

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_{3-5}	Z	T	S	O ₂	σ_t	δT_{3-5}	ΔD
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

40.60

SPENCER F. BAIRD; June 5, 1956; 1331 GCT; 41°01.5'N, 126°12.5'W; sounding, 1700 fm; wind, 160°, force 4; weather, drizzle, sea, rough; wire angle, 09°.

5	12.00	32.60	6.73	320	0	12.0	(32.60)		(24.75)	(320)	(0.00)
15	11.53	32.61	6.72	311	10	11.79	32.60	6.72	24.79	316	0.03
35	8.90	32.84	6.51	252	20	11.00	32.65	6.72	24.97	300	0.06
59	8.34	32.90	6.17	240	30	9.18	32.81	6.57	25.40	258	0.09
68	8.28	33.08	5.74	226	50	8.50	32.88	6.33	25.56	243	0.14
78	7.88	33.19	5.47	212	75	8.02	33.15	5.60	25.84	217	0.20
97	8.29	33.47	4.34	197	100	8.29	33.48	4.30	26.06	196	0.25
112	8.16	33.57	3.88	188	150	7.57	33.89	2.90	26.48	156	0.34
144	7.60	33.86	2.93	158	200	7.02	34.01	2.49	26.66	139	0.41
172	7.38	33.96	2.74	148	250	6.60	34.04	2.18	26.74	131	0.48
215	6.85	34.02	2.38	136	300	6.22	34.07	1.84	26.80	125	0.55
281	6.40	34.06	1.99	127	400	5.41	34.11	1.22	26.95	112	0.67
394	5.44	34.11	1.23	112	500	5.00	34.19	1.12	27.06	101	0.78
531	4.92	34.22	1.10	98	600	4.68	34.26		27.15	93	0.88
687	4.43a)	34.32	-	86	700	4.39	34.34		27.24	84	0.98
892	3.95	34.43	-	72	800	4.18	34.39		27.30	78	1.07
1152	3.26	34.52	-	60	1000	3.66	34.47		27.42	67	1.22

40.70

SPENCER F. BAIRD; June 5, 1956; 1855 GCT; 40°38'N, 127°02.5'W; sounding, 1650 fm; wind, 290°, force 4; weather, partly cloudy; sea, moderate; wire angle, 17°.

3	12.71	32.72	6.47	324	0	(12.71)	(32.72)	(6.47)	(24.71)	(324)	(0.00)
12	12.62	32.72	6.43	323	10	12.64	32.72	6.44	24.72	323	0.03
31	11.01	32.71	7.06	295	20	12.03	32.72	6.64	24.83	313	0.06
54	10.16	32.82	6.39	273	30	11.06	32.71	7.05	25.00	296	0.09
62	9.81	32.84	6.42	266	50	10.29	32.80	6.44	25.22	276	0.15
71	9.07	32.86	6.34	253	75	8.84	32.89	6.22	25.51	248	0.22
89	8.46	33.08	5.73	228	100	8.39	33.26	5.12	25.88	213	0.28
103	8.34	33.33	4.97	208	150	7.75	33.87	3.05	26.44	160	0.37
133	7.62	33.76	3.41	166	200	7.56	34.00	2.36	26.57	147	0.45
160	7.80	33.92	2.82	156	250	6.97	34.03	2.11	26.69	136	0.52
200	7.56	34.00	2.36	147	300	6.40	34.07	1.80	26.80	126	0.59
264	6.78	34.04	2.03	134	400	5.72	34.16	1.13	26.95	112	0.71
370	5.87	34.14	1.35	115	500	5.26	34.22	0.59	27.05	102	0.82
500	5.26	34.22	0.59	102	600	4.81	34.27	0.43	27.14	93	0.92
648	4.62	34.29	0.41	90	700	4.43	34.31		27.22	86	1.02
845	3.90	34.39	0.67u	75	800	4.05	34.37		27.30	78	1.11
1098	3.27	34.48	0.59	62	1000	3.45	34.45		27.43	66	1.27

40.80

SPENCER F. BAIRD; June 5, 1956; 2310 GCT; 40°22.5'N, 127°36.5'W; sounding, 800 fm; wind, 290°, force 5; weather, overcast; sea, rough; wire angle, 43°.

6	13.02	32.79	6.53	325	0	13.1	(32.79)		(24.69)	(326)	(0.00)
14	12.98	32.79	6.61	324	10	13.01	32.79	6.55	24.70	325	0.03
28	12.95	32.80	6.41	323	20	12.98	32.79	6.60	24.71	324	0.06
46	12.47	32.84	6.43	312	30	12.94	32.80	6.41	24.72	323	0.10
55	11.46	32.81	6.14	296	50	12.22	32.83	6.38	24.89	307	0.16
61	10.02	32.79	6.52	273	75	8.94	32.87	5.93	25.49	250	0.23
75	8.94	32.87	5.93	250	100	8.29	33.31	4.80	25.92	209	0.29
85	8.70	33.01	5.52	236	150	7.46	33.85	3.10	26.47	157	0.38
106	8.14	33.40	4.44	200	200	6.80	33.97	2.41	26.66	139	0.46
126	7.81	33.71	3.42	172	250	6.30	34.00	2.19	26.74	131	0.52
157	7.39	33.88	2.99	154							
205	6.74	33.98	2.36	138							
289	6.01	34.02	2.04	126							

a) Mean value of 4.38 and 4.48°C.

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

SIO

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SPENCER F. BAIRD; June 6, 1956; 0400 GCT; 40°04'N, 128°20'W; sounding, 2450 fm; wind, 340°, force 4; weather, overcast; sea, rough; wire angle, 20°.

40.90

2	12.89	32.82	6.21	321	0	(12.89)	(32.82)	(6.21)	(24.75)	(321)	(0.00)
11	12.88	32.81	6.12	321	10	12.88	32.81	6.13	24.75	321	0.03
34	12.87	32.81	6.11	321	20	12.88	32.81	6.12	24.75	321	0.06
56	11.11	32.77	6.34	293	30	12.88	32.81	6.11	24.75	321	0.10
65	10.21	32.78	6.26	277	50	12.00	32.80	6.24	24.90	306	0.16
73	9.83	32.84	6.13	266	75	9.78	32.85	6.11	25.34	264	0.23
91	8.76	33.13	5.09	228	100	8.40	33.30	4.50	25.90	211	0.29
109	8.18	33.48	4.01	194	150	7.57	33.83	3.08	26.44	160	0.38
139	7.73	33.75	3.22	168	200	6.86	33.96	2.45	26.64	140	0.46
168	7.25	33.91	2.79	150	250	6.32	34.01	2.04	26.75	130	0.53
212	6.76	33.98	2.34	138	300	5.87	34.05	1.70	26.84	122	0.59
285	6.00	34.04	1.80	124	400	5.23	34.13	1.04	26.98	109	0.71
384	5.37	34.11	1.12	111	500	4.80	34.23	0.62	27.11	96	0.82
518	4.70	34.25	0.57	94	600	4.42	34.30	0.43	27.21	87	0.92
671	4.18	34.33	0.38	82	700	4.10	34.34	0.38	27.28	80	1.01
876	3.62	34.45	0.46	68	800	3.80	34.41	0.43	27.36	73	1.09
1144	2.98	34.54	0.72	55	1000	3.32	34.49	0.54	27.47	62	1.24

SPENCER F. BAIRD; June 4, 1956; 1434 GCT; 40°49'N, 124°56'W; sounding, 1600 fm; wind, 330°, force 3; weather, partly cloudy; sea, rough; wire angle, 10°.

43.50

5	12.02	32.71	6.62	313	0	12.1	(32.71)		(24.81)	(314)	(0.00)
15	10.64	32.83	6.47	280	10	11.30	32.77	6.54	25.01	296	0.03
36	8.83	32.91	6.05	246	20	10.17	32.85	6.38	25.27	270	0.06
44	8.52	32.99	5.80	236	30	9.20	32.89	6.18	25.46	253	0.08
55	8.52	33.30a)	4.34	212	50	8.52	33.17	5.00	25.79	222	0.13
64	8.23	33.46	3.81	197	75	8.03	33.57	3.38	26.16	186	0.18
73	8.04	33.57	3.38	186	100	7.80	33.81	3.18	26.39	164	0.23
87	7.91	33.74	3.38	171	150	7.38	33.97	2.69	26.58	147	0.31
100	7.80	33.81	3.18	164	200	6.75	34.00	2.35	26.69	136	0.38
115	7.64	33.87	3.02	158	250	6.45	34.06	1.81	26.77	128	0.44
138	7.41	33.95	2.81	149	300	5.73	34.05	1.76	26.86	120	0.51
166	7.23	34.00	2.47	142	400	5.20	34.09	1.03	26.96	111	0.63
198	6.76	34.00	2.36	136	500	5.10	34.23	0.66	27.07	100	0.74
245	6.50	34.06	1.82	129							
320	5.44	34.04	1.72	118							
417	5.18	34.14	0.95	107							
541	5.06	34.27	0.47	96							

SPENCER F. BAIRD; June 4, 1956; 0905 GCT; 40°31'N, 125°46'W; sounding, 1600 fm; wind, 320°, force 5; weather, cloudy; sea, rough; wire angle, 13°.

43.60

5	14.83r	32.81	5.95	-	0	13.0	(32.81)		(24.72)	(323)	(0.00)
14	13.01	32.83	6.01	322	10	13.01	32.82	6.00	24.73	322	0.03
39	12.99	32.81a)	6.10	323	20	13.00	32.82	6.08	24.73	322	0.06
48	12.90	32.82	6.01	320	30	13.00	32.82	6.09	24.73	322	0.10
63	12.56	32.85	6.12	312	50	12.89	32.82	6.03	24.75	320	0.16
72	11.82	32.86	6.12	298	75	11.65	32.86	6.17	25.02	295	0.24
79	11.43	32.85	6.20	292	100	9.73	33.01	6.18	25.47	252	0.31
99	9.76	33.01	6.19	253							
117	9.22	33.20	5.20	230							

a) Loose bottle cap; value falls on property curve.

SIO

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5606

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	$\frac{10^{-5}}{10 \text{ cm/g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5}}{10 \text{ cm/g}}$	dyn. m

47.50

SPENCER F. BAIRD; June 3, 1956; 1937 GCT; 40°13.5'N, 124°34'W; sounding, 190 fm; wind, 020°, force 3; weather, drizzle; sea, moderate; wire angle, 16°.

2	8.36	33.61	4.60	187	0	(8.36)	(33.61)	(4.60)	(26.15)	(187)	(0.00)
11	8.26	33.60	4.45	187	10	8.27	33.60	4.46	26.15	187	0.02
30	8.19	33.62	4.48	184	20	8.21	33.60	4.46	26.16	186	0.04
50	8.14	33.68	4.23	179	30	8.19	33.62	4.48	26.18	184	0.06
73	8.04	33.69	4.24	177	50	8.14	33.68	4.23	26.23	179	0.09
96	7.64	33.82	3.49	162	75	8.01	33.70	4.22	26.27	176	0.14
118	7.43	33.94	3.48	150	100	7.61	33.84	3.48	26.44	160	0.18
148	7.02	33.96	3.07	143	150	7.03	33.97	3.02	26.63	142	0.26
181	7.27	34.10	1.74	136	200	7.24	34.10	1.70	26.70	135	0.32
225	7.20	34.10	1.48	135							

47.55

SPENCER F. BAIRD; June 3, 1956; 2244, 2307 GCT; 40°03.5'N, 124°54.5'W; sounding, 700 fm; wind, 320°, force 5; weather, overcast; sea, rough; wire angle, 20°, 18°.

5	12.69	32.80		318	0	12.7	(32.80)		(24.78)	(318)	(0.00)
14	12.66	32.79		318	10	12.68	32.80		24.78	318	0.03
38	12.20	32.81		309	20	12.56	32.79		24.79	317	0.06
47	12.17	32.83		306	30	12.33	32.80		24.84	312	0.09
61	12.03	32.84		304	50	12.15	32.83		24.90	306	0.16
71	10.32	32.86		272	75	9.38	32.89		25.43	256	0.23
					100	9.11	33.18		25.70	230	0.29
79	9.19	32.90		252	150	7.90	33.68		26.28	175	0.39
98	9.14	33.15		233	200	7.51	33.86		26.48	156	0.47
112	8.88	33.33		216							
126	8.58	33.53		196							
148	7.94	33.66		178							
183	7.61	33.82		161							
218	7.34	33.91		150							

47.60

SPENCER F. BAIRD; June 4, 1956; 0231, 0250, 0316 GCT; 39°54'N, 125°19'W; sounding, 1725 fm; wind, 320°, force 5; weather, cloudy; sea, rough; wire angle, 33°, 16°, 47°.

4	12.80	32.86	6.17	316	0	12.8	(32.86)		(24.80)	(316)	(0.00)
12	12.77	32.86	6.19	315	10	12.78	32.86	6.18	24.81	315	0.03
41	12.31	32.88	6.19	306	20	12.63	32.86	6.19	24.83	312	0.06
53	11.20	32.96	6.08	280	30	12.47	32.87	6.19	24.87	309	0.09
62	9.79	33.06	5.71	249	50	12.20	32.89	6.18	24.94	303	0.16
					75	9.22	33.11	5.45	25.62	237	0.22
81	9.09	33.12	5.35	234	100	8.82	33.41	4.53	25.92	209	0.28
101	8.81	33.41	4.51	209	150	8.42	33.86	2.65	26.33	170	0.37
118	8.87	33.66	3.58	191	200	7.96	34.06	1.90	26.57	148	0.46
131	8.51	33.76	3.23	178	250	7.55	34.09	1.74	26.65	140	0.53
153	8.41	33.87	2.63	169	300	6.77	34.05	1.89	26.72	133	0.60
188	7.98	33.99	2.28	153	400	5.60	34.06	1.56	26.88	118	0.73
223	7.88	34.10	1.77	144	500	5.02	34.13	0.87	27.01	106	0.84
276	7.17	34.07	1.72	136							
343	6.08	34.02	2.16	126							
441	5.37	34.09	1.13	113							
574	4.78	34.17	0.61	100							

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	$\delta T_{10^{-5} \text{ cm}^3/\text{g}}$	Z	T	S	O ₂	σ_t	$\delta T_{10^{-5} \text{ cm}^3/\text{g}}$	ΔD	
m	°C	‰	ml/L		m	°C	‰	ml/L	g/L		dyn. m	

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5606

SPENCER F. BAIRD; June 7, 1956; 1640 GCT; 39°39.5'N, 124°06'W; sounding, 440 fm; wind, 360°, force 3; weather, partly cloudy; sea, moderate; wire angle, 28°.

50.50

0	12.60	32.75	6.30	320	0	12.60	32.75	6.30	24.76	320	0.00
9	12.50	32.75	6.42	319	10	12.50	32.75	6.42	24.77	319	0.03
27	12.16	32.87	6.26	303	20	12.35	32.80	6.36	24.84	312	0.06
41	11.04	32.88	6.25	283	30	12.02	32.87	6.26	24.96	301	0.09
50	10.14	32.88	5.75	268	50	10.14	32.88	5.75	25.30	268	0.15
58	9.56	32.95	5.70	254	75	8.82	33.09	5.63	25.67	233	0.21
66	9.28	33.03	5.72	244	100	8.14	33.40	4.85	26.02	200	0.27
81	8.58	33.13	5.46	226	150	7.78	33.85	3.45	26.43	161	0.36
91	8.55	33.31	5.08	212	200	6.95	33.96	3.15	26.63	142	0.44
100	8.14	33.40	4.85	200	250	7.46	34.14	1.54	26.70	135	0.51
116	7.90	33.57	4.26	184	300	7.10	34.20	1.22	26.80	125	0.58
133	7.94	33.74	4.01	172	400	6.43	34.24	0.86	26.91	115	0.70
157	7.68	33.87	3.40	158							
194	7.07	33.96	3.23	143							
251	7.46	34.14	1.54	135							
329	6.87	34.22	1.08	121							
447	6.19	34.25	0.72	110							

SPENCER F. BAIRD; June 7, 1956; 1246, 1327 GCT; 39°30'N, 124°32'W; sounding, 1300 fm; wind, 360°, force 3; weather, partly cloudy; sea, moderate; wire angle, 17°, 16°.

50.55

5	13.06	32.89	6.24	319	0	13.1	(32.89)		(24.76)	(320)	(0.00)
14	13.06	32.89	6.19	319	10	13.06	32.89	6.20	24.77	319	0.03
33	12.87	32.88	6.22	315	20	13.01	32.88	6.20	24.78	318	0.06
48	12.62	32.88	6.29	311	30	12.92	32.88	6.21	24.80	316	0.10
58	12.32	32.87	6.34	306	50	12.60	32.88	6.29	24.85	311	0.16
					75	9.85	32.89	6.18	25.35	263	0.23
66	10.48	32.92	6.33	271	100	9.26	33.01	5.76	25.54	245	0.29
75	9.85	32.89	6.18	263	150	8.49	33.65	4.24	26.16	186	0.40
93	9.40	32.95	5.91	251	200	7.79	33.92	3.47	26.48	156	0.49
107	9.11	33.14	5.53	233	250	7.00	33.93	3.43	26.60	145	0.57
121	8.88	33.30	4.87	218	300	6.34	33.95	3.06	26.70	135	0.64
142	8.58	33.60a)	4.35	191	400	5.57	34.08	1.30	26.90	116	0.77
169	8.30	33.75	3.92	176	500	5.06	34.15	0.86	27.01	106	0.88
205	7.68	33.93	3.44	154							
255	6.90	33.93	3.41	143							
335	5.93	33.97	2.43	128							
433	5.40	34.11	1.01	112							
573	4.68	34.18	0.76	99							

SPENCER F. BAIRD; June 7, 1956; 0915 GCT; 39°20'N, 124°53'W; sounding, 1550 fm; wind, 330°, force 3; weather, cloudy; sea, rough; wire angle, 10°.

50.60

0	13.24	32.88	6.17	323	0	13.24	32.88	6.17	24.72	323	0.00
10	13.22	32.88	6.20	322	10	13.22	32.88	6.20	24.73	322	0.03
30	13.07	32.90	6.18	318	20	13.19	32.89	6.19	24.75	321	0.06
54	12.40	32.90	6.30	306	30	13.07	32.90	6.18	24.78	318	0.10
64	12.31	32.93	6.22	302	50	12.49	32.90	6.30	24.88	308	0.16
74	10.64	32.91	6.36	275	75	10.62	32.91	6.35	25.24	274	0.23
93	9.43	32.94	6.14	253	100	9.40	32.95	6.09	25.48	251	0.30
107	9.30	33.04	5.93	243	150	8.54	33.63	3.68	26.14	188	0.41
139	9.01	33.53	4.22	203	200	8.19	33.99	2.41	26.47	157	0.50
166	8.50	33.82	2.95	174	250	7.73	34.07	1.87	26.60	144	0.58
206	8.14	34.00	2.29	155	300	7.02	34.05	1.81	26.69	136	0.65
268	7.55	34.07	1.78	141	400	5.55	33.99	1.91	26.83	123	0.78
376	5.65	33.98	1.97	124	500	5.08	34.11	0.88	26.99	108	0.90
506	5.04	34.14	0.83	106	600	4.70	34.20	0.52	27.10	97	1.01
654	4.48	34.25	0.46	91	700	4.38	34.28	0.46	27.20	88	1.11
853	3.86	34.42	0.44	72	800	4.01	34.37	0.44	27.31	77	1.20
1109	3.26	34.48	0.55	62	1000	3.52	34.45	0.48	27.40	69	1.36

a) Loose bottle cap; value falls on property curve.

SIO

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5606

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_{-5}^{+3}	Z	T	S	O ₂	σ_t	δT_{-5}^{+3}	ΔD
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

50.70

SPENCER F. BAIRD; June 7, 1956; 0325, 0346 GCT; 39°00'N, 125°37'W; sounding, 2050 fm; wind, 250°, force 2; weather, partly cloudy; sea, moderate; wire angle, 20°, 19°.

0	13.35	32.85	6.20	327	0	13.35	32.85	6.20	24.68	327	0.00
9	13.30	32.85	6.03	326	10	13.29	32.85	6.03	24.69	326	0.03
28	12.91	32.81	6.13	321	20	13.11	32.83	6.09	24.72	324	0.06
47	12.36	32.81	6.15	312	30	12.87	32.81	6.13	24.75	320	0.10
57	12.29	32.81	6.07	310	50	12.34	32.81	6.13	24.85	311	0.16
68	11.68	32.94	6.09	290	75	11.23	32.94	6.08	25.15	282	0.23
					100	10.04	33.02	5.74	25.42	257	0.30
77	11.10	32.94	6.08	280	150	8.84	33.46	4.55	25.96	206	0.42
90	10.47	32.95	5.95	268	200	8.47	33.89	2.68	26.35	168	0.51
119	9.38	33.25	5.25	229	250	7.86	34.04	2.07	26.56	148	0.59
145	8.87	33.45	4.66	206	300	7.42	34.11	1.69	26.68	137	0.67
179	8.71	33.81	2.95	177	400	6.62	34.18	1.10	26.84	122	0.80
238	8.00	34.02	2.17	152	500	5.98	34.23	0.72	26.97	109	0.92
328	7.21	34.14	1.50	132	600	5.28	34.28	0.52	27.09	98	1.03
440	6.36	34.20	0.92	116	700	4.60	34.31	0.48	27.20	88	1.13
574	5.48	34.27	0.53	101	800	4.05	34.36	0.41	27.29	79	1.22
753	4.26	34.33	0.43	83	1000	(3.77)	(34.47)	(0.38)	(27.41)	(68)	(1.38)
984	3.79	34.47	0.38	68							

50.80

SPENCER F. BAIRD; June 6, 1956; 2207 GCT; 38°43'N, 126°21'W; sounding, 2320 fm; wind, 300°, force 3; weather, partly cloudy; sea, moderate; wire angle, 18°.

5	13.36	32.93	6.02	321	0	13.5	(32.93)		(24.71)	(324)	(0.00)
14	13.24	32.94	5.96	318	10	13.26	32.94	5.97	24.76	319	0.03
34	13.17	32.92	5.98	318	20	13.22	32.94	5.97	24.78	318	0.06
49	12.63	32.90	6.08	310	30	13.20	32.93	5.97	24.78	318	0.10
59	11.94	32.94	6.26	294	50	12.60	32.90	6.10	24.87	309	0.16
70	10.75	32.99	6.11	270	75	10.59	32.98	6.10	25.30	268	0.23
82	10.40	32.97	6.07	266	100	9.58	33.02	5.18	25.50	249	0.30
94	9.72	32.98	5.46	254	150	9.01	33.77	3.50	26.17	186	0.40
122	-	33.40	4.44	-	200	8.75	33.95	1.60	26.36	167	0.49
145	9.06	33.73	3.74	189	250	8.36	34.05	1.33	26.50	154	0.58
178	8.84	33.91	2.26	172	300	7.95	34.10	1.40	26.59	145	0.65
237	8.46	34.04	1.30	157	400	7.04	34.14	1.29	26.76	130	0.80
326	7.73	34.11	1.42	141	500	6.20	34.20	0.79	26.92	114	0.92
437	6.72	34.16	1.15	124	600	5.55	34.28	0.43	27.06	101	1.04
573	5.68	34.26	0.48	104	700	5.02	34.34	0.35	27.17	91	1.14
762	4.80	34.37	0.34	86	800	4.66	34.38	0.35	27.24	84	1.23
1007	3.93	34.47	0.43	69	1000	3.95	34.47	0.43	27.39	70	1.40

50.90

SPENCER F. BAIRD; June 6, 1956; 1654 GCT; 38°26.5'N, 127°06'W; sounding, 2350 fm; wind, 320°, force 3; weather, overcast; sea, moderate; wire angle, 12°.

2	12.93	32.86	6.38	318	0	(12.93)	(32.86)	(6.38)	(24.77)	(318)	(0.00)
12	12.90	32.84	6.45	319	10	12.91	32.84	6.43	24.76	319	0.03
37	11.42	32.93	6.46	286	20	12.50	32.87	6.46	24.86	310	0.06
62	10.78	32.95	5.84	273	30	11.94	32.92	6.46	25.00	296	0.09
71	10.16	33.15	5.51	249	50	10.78	32.91	6.00	25.22	276	0.15
81	9.69	33.17	5.15	240	75	9.88	33.16	5.33	25.55	244	0.22
101	9.32	33.43	4.46	215	100	9.34	33.42	4.48	25.86	215	0.27
119	8.89	33.68	3.66	190	150	8.61	33.85	3.47	26.30	173	0.37
154	-	33.86	3.45	-	200	7.98	34.00	2.22	26.52	152	0.45
181	8.36	34.01	1.89	158	250	7.32	34.03	2.43	26.64	141	0.53
225	7.45	33.99	2.60	146	300	7.16	34.14	1.47	26.74	131	0.60
299	7.17	34.14	1.45	131	400	6.27	34.16	1.02	26.87	119	0.73
399	6.27	34.16	1.02	119	500	5.80	34.21	0.78	26.96	111	0.85
533	5.63	34.27	0.51	103	600	5.19	34.29	0.44	27.12	95	0.96
693	4.52	34.33	0.38	86	700	4.46	34.33	0.38	27.23	85	1.05
924	3.97	34.45	0.37	71	800	4.08	34.42	0.37	27.33	75	1.14
1200	3.44	34.56	0.68	58	1000	3.80	34.50	0.45	27.43	66	1.29

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m	

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5606

SPENCER F. BAIRD; June 3, 1956; 0530, 0550 GCT; 38°58'N, 124°07.5'W; sounding, 640 fm; wind, 300°, force 6; weather, partly cloudy; sea, rough; wire angle, 35°, 38°.

53.55

1	10.47	33.21	5.83	249	0	(10.47)	(33.21)	(5.83)	(25.50)	(249)	(0.00)
9	10.41	33.25	5.71	246	10	10.41	33.26	5.71	25.53	246	0.02
25	9.98	33.44	5.72	224	20	10.16	33.38	5.71	25.69	232	0.05
38	9.38	33.54	5.36	208	30	9.74	33.48	5.60	25.83	218	0.07
47	9.20	33.62	5.25	199	50	9.10	33.66	5.19	26.08	194	0.11
54	8.98	33.69	5.09	190	75	8.62	33.80	3.52	26.26	177	0.16
63	8.60	33.71	4.74	183	100	8.36	33.93	2.53	26.40	163	0.20
78	8.62	33.82	3.13	175	150	7.82	34.00	2.08	26.53	151	0.28
88	8.51	33.86	2.64	171	200	7.32	34.03	2.07	26.63	141	0.35
98	8.37	33.93	2.54	164							
119	8.17	33.98	2.18	157							
145	7.86	33.99	2.10	152							
179	7.58	34.02	2.06	146							
223	7.04	34.05	2.08	136							

SPENCER F. BAIRD; June 2, 1956; 2159, 2224, 2243 GCT; 38°35.5'N, 124°51'W; sounding, 2100 fm; wind, 330°, force 5; weather, fog; sea, rough; wire angle, 34°, 30°, 41°.

53.65

2	11.04	33.02	6.08	273	0	(11.04)	(33.02)	(6.08)	(25.25)	(273)	(0.00)
10	10.96	33.01	6.79	272	10	10.96	33.01	6.79	25.26	272	0.03
27	11.08	33.13	6.13	265	20	11.03	33.08	6.35	25.30	268	0.05
39	10.53	33.44	5.39	233	30	10.95	33.25	5.95	25.45	254	0.08
48	10.27	33.49	5.42	226	50	10.22	33.49	5.41	25.76	224	0.13
55	10.02	33.53	5.10	219	75	9.77	33.59	5.16	25.91	210	0.18
					100	9.40	33.65	4.82	26.02	200	0.24
79	9.72	33.60	5.18	208	150	8.01	33.92	2.60	26.45	159	0.32
91	9.58	33.64	5.16	203	200	7.25	34.02	2.49	26.64	141	0.40
					250	6.92	34.08	1.80	26.73	132	0.47
94	9.42	33.64	4.86	201	300	6.65	34.11	1.38	26.79	126	0.54
106	9.29	33.67	4.61	197							
116	8.63	33.75	3.94	181							
131	8.17	33.84	3.05	167							
158	7.88	33.96	2.39	154							
199	7.26	34.02	2.50	142							
266	6.82	34.09	1.56	130							
378	6.20	34.17	0.97	117							

SPENCER F. BAIRD; June 2, 1956; 0955, 1008 GCT; 38°22.5'N, 123°39.5'W; sounding, 75 fm; wind, 300°, force 5; weather, partly cloudy; sea, rough; wire angle, 18°, 20°.

57.55

4	10.26	33.60	5.58	217	0	10.3	(33.60)		(25.83)	(218)	(0.00)
14	10.18	33.62	5.50	214	10	10.21	33.61	5.55	25.85	216	0.02
					20	9.70	33.62	4.88	25.95	206	0.04
31	9.01	33.62	3.58	197	30	9.02	33.62	3.60	26.05	197	0.06
51	8.86	33.93	2.53	170	50	8.87	33.93	2.54	26.32	171	0.10
73	8.42	34.00	2.21	159	75	8.41	34.01	2.16	26.45	159	0.14
95	8.36	34.07	1.88	153	100	8.34	34.09	1.84	26.53	151	0.18
118	8.27	34.11	1.79	149	150	8.08	34.13	1.72	26.60	144	0.25
153	8.04	34.14	1.69	143	200	7.71	34.14	1.58	26.67	138	0.33
191	-	34.14	1.62	-	250	7.48	34.19	1.32	26.73	132	0.40
237	7.56	34.18	1.39	133							
284	7.37	34.20	1.21	129							

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

57.65 SPENCER F. BAIRD; June 2, 1956; 1514 GCT; 38°00.5'N, 124°22'W; sounding, 2150 fm; wind, 330°, force 5; weather, cloudy; sea, rough; wire angle, 06°.

10	12.15	33.24	6.90	276	0	12.2	(33.24)		(25.21)	(277)	(0.00)
18	12.11	33.24	6.50	275	10	12.15	33.24	6.90	25.22	276	0.03
41	10.69	33.35	5.95	242	20	12.09	33.24	6.48	25.23	275	0.06
54	8.81	33.51	4.27	201	30	11.78	33.27	6.33	25.31	267	0.08
65	8.46	33.59	4.11	191	50	9.20	33.47	4.62	25.91	210	0.13
74	8.28	33.67	3.69	182	75	8.27	33.67	3.68	26.21	182	0.18
84	8.17	33.76	3.49	174	100	8.12	33.87	3.10	26.39	164	0.22
102	8.10	33.88	3.08	163	150	7.56	34.04	2.30	26.61	144	0.30
116	7.71	33.92	3.46	155	200	7.10	34.10	1.85	26.72	133	0.37
130	7.50	33.94	3.42	151	250	6.98	34.18	1.25	26.80	125	0.44
153	7.58	34.09	1.89	140	300	6.72	34.20	1.00	26.85	121	0.50
181	7.22	34.09	2.05	136	400	5.91	34.22	0.81	26.97	109	0.62
218	7.02	34.12	1.49	131	500	5.22	34.25	0.61	27.08	99	0.73
267	6.95	34.19	1.18	124	600	(4.82)	(34.33)	(0.31)	(27.19)	(89)	(0.82)
350	6.30	34.21	0.83	115							
450	5.50	34.23	0.76	104							
593	4.85	34.33	0.31	89							

60.57 SPENCER F. BAIRD; June 2, 1956; 0125 GCT; 37°43'N, 123°24.5'W; sounding, 1100 fm; wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 26°.

4	12.19	33.60		250	0	12.3	(33.60)		(25.47)	(252)	(0.00)
13	10.42	33.68		214	10	10.82	33.65		25.78	222	0.02
31	9.56	33.78		192	20	10.04	33.72		25.96	205	0.04
43	9.14	33.84		182	30	9.57	33.78		26.09	192	0.06
52	8.94	33.88		175	50	8.97	33.87		26.27	176	0.10
60	8.81	33.89		173	75	8.61	33.97		26.40	164	0.14
69	8.68	33.96		166	100	8.35	34.04		26.49	155	0.19
81	8.50	34.00		160	150	7.96	34.09		26.58	146	0.26
97	8.36	34.04		155	200	7.60	34.16		26.69	136	0.33
110	8.33	34.04		155	250	7.17	34.18		26.77	128	0.40
130	8.11	34.07		150	300	6.84	34.21		26.84	122	0.46
155	7.94	34.09		145	400	6.46	34.28		26.95	112	0.58
187	7.74	34.15		138	500	5.98	34.28		27.02	105	0.70
234	7.27	34.17		131							
307	6.82	34.22		121							
401	6.46	34.28		112							
539	5.74	34.28		103							

60.60 SPENCER F. BAIRD; June 1, 1956; 2154, 2217 GCT; 37°35.5'N, 123°37'W; sounding, 1900 fm; wind, 320°, force 4; weather, partly cloudy; sea, moderate; wire angle, 30°, 31°.

1	12.16	33.41	5.91	264	0	(12.16)	(33.41)	(5.91)	(25.34)	(264)	(0.00)
11	10.68	33.51	5.23	231	10	10.80	33.50	5.29	25.67	233	0.02
29	9.55	33.71	4.07	198	20	9.94	33.62	4.52	25.91	210	0.05
					30	9.53	33.72	4.08	26.04	197	0.07
52	9.24	33.85	4.14	183	50	9.27	33.84	4.13	26.19	184	0.10
61	9.01	33.86	3.04	178	75	8.83	33.92	2.55	26.32	171	0.15
71	8.88	33.91	2.77	172	100	8.61	34.00	1.93	26.42	162	0.19
89	8.74	33.96	2.18	167	150	8.22	34.07	1.69	26.53	151	0.27
102	8.60	34.01	1.91	161	200	7.84	34.14	1.53	26.65	140	0.34
133	8.36	34.05	1.79	154	250	7.55	34.19	1.30	26.72	132	0.41
158	8.18	34.09	1.65	149	300	7.05	34.18	1.18	26.79	127	0.48
195	7.89	34.14	1.56	141	400	6.12	34.18	0.88	26.91	115	0.60
254	7.52	34.19	1.28	132	500	5.61	34.24	0.61	27.02	105	0.72
357	6.44	34.17	1.03	120	600	5.22	34.33	0.49	27.14	94	0.82
486	5.70	34.22	0.63	107	700	4.90	34.37	0.44	27.21	86	0.92
625	5.19	34.34	0.47	92	800	4.54	34.41	0.42	27.29	80	1.01
819	4.46	34.42	0.41	78	1000	3.88	34.48	0.46	27.41	68	1.17
1072	3.66	34.51	0.48	64							

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD	
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m	

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SPENCER F. BAIRD; June 1, 1956; 1625 GCT; 37°16.5'N, 124°18'W; sounding, 2200 fm; wind, 350°, force 3; weather, overcast; sea, moderate; wire angle, 34°.

60.70

2	12.18	33.22	6.30	278	0	(12.18)	(33.22)	(6.30)	(25.20)	(278)	(0.00)
10	11.55	33.37	6.06	256	10	11.55	33.37	6.06	25.43	256	0.03
27	10.41	33.58	5.48	221	20	10.82	33.51	5.74	25.67	233	0.05
48	10.30	33.63	5.35	216	30	10.39	33.60	5.42	25.82	219	0.07
56	10.24	33.64	5.32	214	50	10.28	33.63	5.34	25.85	215	0.12
64	10.22	33.66	5.19	212	75	9.28	33.77	3.36	26.13	189	0.17
78	9.12	33.80	3.08	184	100	8.83	33.91	2.45	26.31	172	0.21
88	8.93	33.87	2.75	176	150	8.17	34.04	1.73	26.52	152	0.30
110	8.75	33.93	2.18	169	200	7.73	34.13	1.64	26.65	140	0.37
131	8.30	33.98	2.08	159	250	7.00	34.11	1.58	26.74	131	0.44
161	8.08	34.07	1.69	149	300	6.35	34.10	1.42	26.82	124	0.50
209	7.62	34.13	1.63	138	400	5.99	34.21	0.70	26.96	111	0.62
288	6.40	34.09	1.47	125	500	5.32	34.25	0.45	27.07	100	0.73
387	6.04	34.20	0.73	112	600	4.95	34.32	0.32	27.17	91	0.83
507	5.30	34.25	0.44	100	700	4.68	34.37	0.30	27.23	85	0.93
675	4.77	34.36	0.28	86	800	4.40	34.40	0.33	27.29	79	1.02
910	4.03	34.43	0.39	73	1000	(3.88)	(34.45)		(27.39)	(70)	(1.18)

SPENCER F. BAIRD; June 1, 1956; 1035 GCT; 36°57'N, 125°04'W; sounding, 2350 fm; wind, 340°, force 3; weather, overcast; sea, moderate; wire angle, 13°.

60.80

2	12.63	33.08	6.34	297	0	(12.63)	(33.08)	(6.34)	(25.00)	(297)	(0.00)
12	11.52	33.07	6.61	277	10	11.59	33.07	6.60	25.19	278	0.03
31	11.29	33.10	6.24	271	20	11.34	33.09	6.53	25.25	273	0.06
55	11.30	33.10	6.18	271	30	11.30	33.10	6.30	25.27	271	0.08
66	9.52	33.00	5.65	249	50	11.30	33.10	6.20	25.27	271	0.14
74	8.94	33.11	5.59	232	75	8.92	33.11	5.58	25.68	232	0.20
93	8.80	33.40	4.85	209	100	8.98	33.50	4.50	25.97	204	0.26
107	9.06	33.58	4.26	200	150	8.66	33.89	2.70	26.32	171	0.35
138	8.75	33.82	2.96	177	200	8.33	34.02	1.92	26.48	156	0.43
164	8.61	33.93	2.45	167	250	7.86	34.09	1.67	26.60	145	0.51
205	8.27	34.02	1.85	156	300	7.45	34.13	1.46	26.69	136	0.58
269	7.68	34.11	1.60	140	400	6.75	34.19	0.95	26.84	122	0.72
380	6.92	34.18	1.05	125	500	5.98	34.25	0.51	26.99	108	0.84
512	5.86	34.26	0.47	106	600	5.39	34.32	0.38	27.11	96	0.94
663	5.06	34.35	0.35	90	700	4.95	34.41	0.35	27.26	82	1.04
864	4.25	34.47	0.41	73	800	4.32	34.47	0.40	27.35	73	1.12
1125	3.50	34.52	0.67	61	1000	3.80	34.50	0.57	27.44	65	1.27

SPENCER F. BAIRD; June 1, 1956; 0450 GCT; 36°35.5'N, 125°45.5'W; sounding, 2500 fm; wind, 300°, force 1; weather, partly cloudy; sea, moderate; wire angle, 11°.

60.90

1	13.89	32.94	5.38	331	0	13.89	32.94	5.38	24.64	331	0.00
10	12.84	32.97	5.58	309	10	12.84	32.97	5.58	24.87	309	0.03
29	12.74	32.95	6.05	308	20	12.77	32.96	6.00	24.88	308	0.06
49	12.66	32.97	6.04	305	30	12.73	32.95	6.05	24.89	308	0.09
58	9.96	33.04	6.01	253	50	12.64	32.97	6.03	24.91	305	0.15
67	9.40	33.15	5.39	237	75	9.27	33.20	5.60	25.69	231	0.22
81	9.19	33.27	5.82	225	100	8.74	33.61	3.97	26.09	193	0.28
93	8.82	33.51	4.32	201	150	8.27	33.92	3.00	26.40	163	0.36
126	8.53	33.82	3.23	174	200	7.54	34.04	2.70	26.61	144	0.44
152	8.26	33.92	2.99	163	250	6.95	34.03	2.24	26.69	136	0.52
188	7.69	34.04	2.77	146	300	6.63	34.08	1.65	26.76	129	0.58
251	6.94	34.03	2.23	136	400	5.91	34.16	1.10	26.93	114	0.71
345	6.44	34.16	1.26	120	500	4.95	34.17	0.68	27.05	102	0.82
463	5.16	34.16	0.94	105	600	4.71	34.30	0.48	27.17	90	0.92
604	4.70	34.30	0.47	90	700	4.37	34.31	0.40	27.21	87	1.02
795	3.95	34.38	0.40	76	800	3.94	34.38	0.41	27.32	76	1.10
1040	3.35	34.49	0.63	62	1000	3.41	34.47	0.60	27.45	64	1.26

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_{10}^{-5}	Z	T	S	O ₂	σ_t	δT_{10}^{-5}	ΔD
m	°C	‰	ml/L	cm/g	m	°C	‰	ml/L	g/L	cm/g	dyn. m

63.65 SPENCER F. BAIRD; May 31, 1956; 1715 GCT; 36°53.5'N, 123°32.5'W; sounding, 2000 fm; wind, 160°, force 2; weather, overcast; sea, moderate; wire angle, 03°.

1	12.81	33.07	6.22	300	0	(12.81)	(33.07)	(6.22)	(24.96)	(300)	(0.00)
11	12.28	33.29	6.11	275	10	12.30	33.29	6.12	25.23	275	0.03
31	9.60	33.15	5.33	240	20	11.20	33.23	5.89	25.38	260	0.06
46	9.06	33.29	4.80	221	30	9.62	33.15	5.36	25.59	240	0.08
55	8.92	33.34	4.72	215	50	9.00	33.31	4.76	25.82	218	0.12
66	8.66	33.47	4.31	205	75	8.58	33.54	4.28	26.07	195	0.18
76	8.56	33.55	4.25	195	100	8.54	33.81	3.24	26.28	175	0.22
95	8.59	33.78	3.26	178	150	7.88	33.95	2.88	26.49	155	0.31
109	8.43	33.86	3.00	170	200	7.39	34.05	2.20	26.64	141	0.38
122	8.38	33.96	2.69	162	250	7.18	34.17	1.30	26.76	129	0.45
146	7.94	33.95	2.90	156	300	6.95	34.24	0.90	26.85	121	0.51
174	7.64	34.01	2.45	148	400	6.21	34.28	0.64	26.97	109	0.63
211	7.24	34.07	2.08	138	500	5.59	34.32	0.47	27.09	98	0.74
264	7.12	34.20	1.03	126	600	(5.18)	(34.35)		(27.17)	(91)	(0.84)
343	6.64	34.27	0.78	115							
443	5.92	34.29	0.55	104							
584	5.20	34.35	0.38	92							

67.55 SPENCER F. BAIRD; May 31, 1956; 0402 GCT; 36°43'N, 122°21.5'W; sounding, 800 fm; wind, 180°, force 2; weather, partly cloudy; sea, slight; wire angle, 18°.

1	12.96	33.54	5.85	268	0	(12.96)	(33.54)	(5.85)	(25.30)	(268)	(0.00)
11	12.88	33.55	6.08	266	10	12.89	33.55	6.06	25.31	267	0.03
29	10.23	33.58	4.80	218	20	11.75	33.57	5.63	25.54	245	0.05
42	9.11	33.61	3.85	198	30	10.18	33.58	4.75	25.84	217	0.08
52	8.82	33.71	3.74	187	50	8.88	33.68	3.78	26.12	190	0.12
61	8.63	33.77	3.18	180	75	8.71	33.88	2.80	26.31	172	0.16
70	8.74	33.86	2.93	174	100	8.38	33.97	2.34	26.43	161	0.20
87	8.55	33.94	2.53	166	150	8.05	34.09	1.67	26.57	147	0.28
99	8.38	33.97	2.34	161	200	7.65	34.14	1.52	26.67	138	0.35
113	8.28	34.00	2.27	157	250	7.54	34.20	1.27	26.73	132	0.42
135	8.08	34.05	1.93	151	300	7.41	34.21	1.14	26.76	129	0.49
160	8.04	34.11	1.62	145	400	6.78	34.24	0.86	26.87	119	0.62
195	7.72	34.14	1.52	139	500	6.16	34.28	0.59	26.99	108	0.73
243	7.56	34.20	1.29	132							
325	7.32	34.22	1.03	127							
416	6.62	34.24	0.81	117							
555	5.88	34.31	0.47	102							

67.65 SPENCER F. BAIRD; May 30, 1956; 2217, 2239 GCT; 36°19'N, 123°10'W; sounding, 1800 fm; wind, 160°, force 3; weather, cloudy; sea, moderate; wire angle, 10°, 09°.

4	12.22	33.33	6.17	271	0	12.3	(33.33)		(25.25)	(273)	(0.00)
14	11.76	33.35	6.06	260	10	11.82	33.34	6.06	25.35	263	0.03
34	11.75	33.42	6.08	255	20	11.75	33.38	6.07	25.40	258	0.05
48	10.42	33.65	4.63	216	30	11.75	33.41	6.08	25.43	256	0.08
59	9.74	33.68	3.87	203	50	10.32	33.66	4.48	25.87	214	0.12
68	9.35	33.75	3.61	191	75	9.35	33.82	3.05	26.16	186	0.18
77	9.35	33.84	3.00	185	100	8.42	33.83	3.14	26.31	172	0.22
96	8.54	33.82	3.14	174	150	7.85	34.00	2.27	26.53	151	0.30
110	8.25	33.86	3.08	167	200	7.35	34.07	1.76	26.66	139	0.37
					250	6.81	34.07	1.64	26.73	132	0.44
124	8.12	33.96	2.60	158	300	6.39	34.11	1.31	26.82	124	0.51
147	7.87	34.00	2.29	152	400	5.84	34.23	0.68	26.99	108	0.63
175	7.56	34.07	1.82	142	500	5.39	34.30	0.41	27.10	97	0.74
211	7.21	34.07	1.73	137	600	(5.00)	(34.34)		(27.18)	(90)	(0.83)
265	6.64	34.07	1.58	130							
345	6.14	34.18	0.94	115							
443	5.63	34.27	0.53	102							
587	5.06	34.34	0.28	91							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

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SPENCER F. BAIRD; May 29, 1956; 1117, 1145 GCT; 36°01.5'N, 122°03.5'W; sounding, 1000 fm; wind, 290°, force 2; weather, cloudy; sea, rough; wire angle, 10°, 10°.

70.55

11	12.77	33.30	6.03	283	0	12.8	(33.30)		(25.14)	(283)	(0.00)
21	12.74	33.30	6.05	283	10	12.8	(33.30)		(25.14)	(283)	(0.03)
41	12.76	33.30	6.03	283	20	12.75	33.30	6.05	25.14	283	(0.06)
65	10.18	33.49	4.93	224	30	12.75	33.30	6.05	25.14	283	(0.08)
					50	10.80	33.41	5.36	25.60	239	(0.14)
74	9.74	33.65	4.01	205	75	9.70	33.65	4.00	25.96	205	(0.19)
84	9.22	33.73	3.42	192	100	8.80	33.82	3.15	26.25	178	(0.24)
93	8.96	33.79	3.25	182	150	8.18	33.99	2.19	26.48	156	(0.33)
107	8.63	33.85	3.04	174	200	7.52	34.06	1.84	26.62	142	(0.40)
121	8.47	33.89	2.88	168	250	7.50	34.20	1.29	26.74	131	(0.47)
140	8.28	33.97	2.33	159	300	7.34	34.27	1.15	26.82	124	(0.54)
158	8.07	34.01	2.08	153	400	6.19	34.23	0.80	26.95	112	(0.66)
181	7.80	34.07	1.94	145							
202	7.50	34.06	1.81	142							
250	7.50	34.20	1.29	131							
324	7.13	34.27	1.03	121							
420	5.98	34.22	0.74	110							

SPENCER F. BAIRD; May 29, 1956; 1542, 1608 GCT; 35°50.5'N, 122°23.5'W; sounding, 1870 fm; wind, 320°, force 2; weather, overcast; sea, rough; wire angle, 12°, 11°.

70.60

5	12.45	33.46	5.88	265	0	12.5	(33.46)		(25.32)	(266)	(0.00)
15	12.44	33.46	5.91	265	10	12.44	33.46	5.91	25.33	265	0.03
35	12.43	33.46	5.91	265	20	12.43	33.46	5.91	25.33	265	0.05
60	11.34	33.50	5.42	243	30	12.43	33.46	5.91	25.33	265	0.08
					50	12.41	33.46	5.90	25.34	264	0.13
70	9.98	33.60	4.46	212	75	9.88	33.63	4.38	25.92	209	0.19
80	9.78	33.68	4.22	204	100	9.37	33.77	3.64	26.12	190	0.24
99	9.38	33.77	3.65	190	150	8.61	34.06	1.96	26.46	158	0.33
113	9.26	33.89	2.95	180	200	8.23	34.18	1.48	26.62	143	0.41
145	8.68	34.04	2.02	160	250	7.74	34.21	1.32	26.72	133	0.48
173	8.39	34.14	1.62	148	300	7.24	34.25	1.12	26.81	125	0.54
214	8.13	34.20	1.42	140	400	6.59	34.31	0.66	26.96	111	0.66
280	7.42	34.23	1.22	128	500	6.02	34.36	0.50	27.07	100	0.77
392	6.62	34.31	0.69	112	600	5.43	34.39	0.44	27.16	92	0.88
526	5.88	34.37	0.46	98	700	4.88	34.42	0.42	27.25	83	0.97
678	4.99	34.41	0.42	84	800	4.59	34.47	0.43	27.32	76	1.05
878	4.38	34.50	0.45	71	1000	4.02	34.51	0.54	27.42	67	1.21
1128	3.68	34.52	0.66	63							

SPENCER F. BAIRD; May 29, 1956; 2046 GCT; 35°33'N, 122°57.5'W; sounding, 2120 fm; wind, 320°, force 2; weather, overcast; sea, rough; wire angle, 19°.

70.70

0	12.96	33.00	5.97	308	0	12.96	33.00	5.97	24.88	308	0.00
10	12.59	32.99	6.47	302	10	12.59	32.99	6.47	24.94	302	0.03
28	12.56	33.01	6.30	300	20	12.57	33.00	6.40	24.95	301	0.06
51	10.46	33.03	5.86	262	30	12.50	33.01	6.27	24.98	299	0.09
60	9.94	33.10	5.57	249	50	10.48	33.03	5.87	25.35	263	0.15
69	9.61	33.18	5.58	238	75	9.45	33.24	5.49	25.69	231	0.21
88	9.59	33.40	4.78	221	100	8.86	33.48	4.32	25.98	204	0.26
100	8.86	33.48	4.32	204	150	8.48	33.92	2.83	26.37	166	0.36
130	8.52	33.77	3.65	178	200	7.67	34.03	2.14	26.58	146	0.44
157	8.46	33.96	2.48	163	250	7.28	34.10	1.88	26.69	136	0.51
194	7.78	34.02	2.18	148	300	6.86	34.13	1.56	26.77	128	0.58
255	7.24	34.11 ^{a)}	1.85	135	400	6.06	34.18	0.94	26.92	114	0.70
360	6.35	34.16	1.14	119	500	5.43	34.25	0.60	27.05	102	0.81
487	5.52	34.24	0.61	103	600	5.00	34.34	0.51	27.18	90	0.92
632	4.88	34.37	0.49	86	700	4.66	34.40	0.45	27.26	82	1.01
833	4.27	34.46	0.43	74	800	4.38	34.45	0.43	27.33	75	1.09
1095	3.54	34.51	0.75	63	1000	3.80	34.50	0.61	27.43	66	1.24

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

70.80

SPENCER F. BAIRD; May 30, 1956; 0315, 0335, 0400 GCT; 35°13'N, 123°47.5'W; sounding, 2250 fm; wind, 320°, force 2; weather, cloudy; sea, rough; wire angle, 22°, 21°, 21°.

5	12.57	32.99	5.75	302	0	(12.57)	(32.99)		(24.95)	(302)	(0.00)
14	12.22	33.04	5.81	292	10	12.33	33.02	5.78	25.02	295	0.03
32	12.12	33.06	5.89	289	20	12.16	33.05	5.84	25.06	290	0.06
					30	12.12	33.06	5.89	25.08	289	0.09
55	12.12	33.12	5.71u	284	50	12.12	33.11	5.95	25.12	285	0.14
65	12.08	33.12	5.97	284	75	12.02	33.12	5.89	25.14	283	0.22
73	12.04	33.12	5.90	283	100	10.37	33.05	5.69	25.39	260	0.28
90	10.90	33.00	5.58	272	150	8.64	33.53	4.54	26.04	198	0.40
102	10.26	33.07	5.71	256	200	8.08	33.87	3.39	26.39	164	0.49
					250	7.58	34.06	2.10	26.62	143	0.57
130	9.05	33.35	5.05	217	300	7.06	34.08	1.72	26.70	135	0.64
157	8.55	33.59	4.34	192	400	6.10	34.12	1.08	26.87	119	0.77
196	8.12	33.84	3.47	167	500	5.61	34.23	0.62	27.02	105	0.89
255	7.53	34.06 ^{a)}	2.01	142	600	5.32	34.32	0.39	27.12	95	1.00
357	6.46	34.09	1.38	126	700	4.98	34.37	0.36	27.20	87	1.09
480	5.66	34.22	0.64	106	800	4.43	34.41	0.36	27.29	79	1.18
624	5.25	34.34	0.37	92	1000	3.79	34.47	0.58	27.42	67	1.34
816	4.36	34.42	0.36	77							
1070	3.61	34.49	0.69	65							

70.90

SPENCER F. BAIRD; May 30, 1956; 0930 GCT; 34°53'N, 124°29'W; sounding, 2400 fm; wind, 250°, force 2; weather, cloudy; sea, rough; wire angle, 04°.

1	12.76	32.97	5.94	306	0	(12.76)	(32.97)	(5.94)	(24.90)	(306)	(0.00)
11	12.74	32.96	5.97	307	10	12.75	32.96	5.96	24.89	307	0.03
31	12.67	32.95	5.97	306	20	12.72	32.96	5.97	24.90	306	0.06
55	11.98	32.99	6.01	291	30	12.67	32.95	5.97	24.90	306	0.09
65	11.29	32.99	6.04	280	50	12.19	32.98	5.99	25.01	296	0.15
75	10.75	33.02	5.93	268	75	10.75	33.02	5.93	25.30	268	0.22
94	9.31	33.15	5.32	235	100	9.22	33.17	5.27	25.67	233	0.29
108	9.14	33.24	5.12	226	150	8.45	33.64	4.11	26.16	186	0.39
140	8.58	33.58	4.14	193	200	8.29	33.95	2.56	26.43	161	0.48
168	8.32	33.77	4.08	175	250	7.78	34.05	1.85	26.59	146	0.56
210	8.26	34.00	2.21	157	300	7.19	34.13	1.48	26.73	132	0.63
275	7.46	34.08	1.64	140	400	6.41	34.23	0.90	26.92	114	0.76
387	6.51	34.22	0.93	117	500	6.00	34.28	0.58	27.01	106	0.87
524	5.84	34.29	0.51	104	600	5.45	34.33	0.44	27.11	96	0.98
681	5.00	34.37	0.41	88	700	4.85	34.38	0.41	27.22	86	1.08
856	4.13	34.43	0.47	74	800	4.40	34.41	0.44	27.30	78	1.17
993	3.73	34.49	0.64	66	1000	(3.70)	(34.50)	(0.64)	(27.43)	(65)	(1.32)

73.60

SPENCER F. BAIRD; May 28, 1956; 2255 GCT; 35°18'N, 122°01'W; sounding, 1420 fm; wind, 320°, force 3; weather, overcast; sea, rough; wire angle, 09°.

0	10.94	33.57	5.79	230	0	10.94	33.57	5.79	25.70	230	0.00
10	10.89	33.58	5.52	229	10	10.89	33.58	5.52	25.71	229	0.02
30	10.81	33.62	5.38	225	20	10.85	33.60	5.47	25.73	227	0.04
44	10.63	33.68	5.09	217	30	10.81	33.62	5.38	25.76	225	0.07
53	9.78	33.80	3.72	195	50	9.98	33.77	3.94	26.01	200	0.11
64	9.63	33.86	3.64	188	75	9.29	33.86	3.00	26.20	182	0.16
73	9.35	33.86	3.09	183	100	8.88	34.01	2.15	26.38	165	0.20
91	8.88	33.93	2.40	171	150	8.04	34.01	2.20	26.51	153	0.28
104	8.88	34.03	2.09	164	200	7.76	34.07	1.80	26.59	145	0.36
118	8.75	34.01	2.01	163	250	7.60	34.21	1.20	26.73	132	0.43
142	8.17	34.01	2.22	155	300	7.40	34.29	1.01	26.82	123	0.49
168	7.86	34.03	2.06	149	400	6.68	34.31	0.74	26.94	112	0.62
204	7.71	34.09	1.75	142	500	6.10	34.35	0.55	27.05	102	0.73
256	7.59	34.22	1.17	131							
346	7.10	34.31	0.85	118							
435	6.44	34.31	0.66	109							
579	5.77	34.39	0.40	95							

a) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

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SPENCER F. BAIRD; May 27, 1956; 1425 GCT; 34°55'N, 122°52'W; sounding, 2500 fm; wind, 340°, force 7; weather, cloudy; sea, high; wire angle, 20°.

77.70

7	13.18	33.40
27	13.1	33.42
40	12.48	33.51
65	10.4	33.67
100	8.98	33.80
118a)	8.62	33.91b)
135	8.49	33.96
196a)	7.70	34.10
299a)	6.86	34.23
420a)	6.23	34.29

SPENCER F. BAIRD; May 26, 1956; 2229 GCT; 34°54.5'N, 121°12.5'W; sounding, 320 fm; wind, 330°, force 3; weather, overcast; sea, moderate; wire angle, 06°.

77.55

0	12.18	33.68	244	0	12.18	33.68	25.56	244	0.00
10	11.51	33.66	234	10	11.51	33.66	25.66	234	0.02
30	10.64	33.73	214	20	11.00	33.69	25.78	222	0.05
40	10.34	33.85	199	30	10.64	33.73	25.87	214	0.07
50	9.87	33.89	189	50	9.87	33.89	26.13	189	0.11
59	9.50	33.89	183	75	8.90	33.99	26.37	167	0.15
69	8.99	33.96	170	100	8.78	34.06	26.44	160	0.20
83	8.83	34.03	163	150	8.56	34.11	26.51	153	0.27
97	8.78	34.06	160						
112	8.74	34.07	158						
135	8.58	-	-						
164	8.54	34.14	150						
198	8.35	34.07u	-						

SPENCER F. BAIRD; May 27, 1956; 0717 GCT; 34°25.5'N, 122°11'W; sounding, 500 fm; wind, 310°, force 5; weather, overcast; sea, rough; wire angle, 13°.

77.70

0	13.64	33.43	5.86	290	0	13.64	33.43	5.86	25.07	290	0.00
10	13.62	33.42	5.88	290	10	13.62	33.42	5.88	25.07	290	0.03
28	13.58	33.42	5.97	289	20	13.60	33.42	5.94	25.07	290	0.06
38	11.57	33.51	5.63	245	30	13.56	33.42	5.97	25.08	289	0.09
47	10.50	33.58	5.52	222	50	10.22	33.59	5.33	25.84	217	0.14
56	9.83	33.62	4.72	209	75	9.26	33.73	3.98	26.10	192	0.19
64	9.63	33.69	4.23	200	100	8.56	33.85	2.88	26.31	172	0.24
78	9.17	33.75	3.88	189	150	7.88	34.05	2.01	26.57	148	0.32
92	8.77	33.78	3.26	180	200	7.52	34.09	1.70	26.66	139	0.39
109p	8.37	33.92	2.54	164	250	7.08	34.12	1.45	26.73	132	0.46
134p	8.01	34.01	2.18	152	300	6.53	34.13	1.37	26.82	123	0.52
163p	7.79	34.07	1.89	145	400	5.62	34.18	0.98	26.98	109	0.64
205p	7.48	34.05u	1.95u	-							
271p	6.86	34.13	1.40	128							
354p	5.90	34.14	1.29	115							
464p	5.43	34.24	0.62	102							

- a) Pretrip; depth too uncertain for interpolation.
b) Loose bottle cap.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

80.55

PAOLINA-T; May 29, 1956; 2239 GCT; 34°18'N, 120°49.5'W; sounding, 414 fm; wind, 280°, force 2; weather, overcast; sea, moderate; wire angle, 10°.

0	12.81		3.96u		0	12.81					
10	12.12		3.69u		10	12.12					
30	11.71		5.42		20	11.94					
40	10.38		3.54		30	11.71		5.42			
49	9.97		-		50	9.96		2.94			
59	9.72		-		75	9.22		1.94			
69	9.41		2.18		100	8.86		1.70			
83	8.98		-		150	8.61		1.57			
98	8.88		1.70		200	8.32		1.17			
111	8.74		1.71		250	8.09		0.99			
135	8.72		-		300	7.75		0.89			
164	8.51		1.30		400	7.21		0.72			
197	8.33		1.18		500	6.52		0.52			
245	8.10		1.00								
324	7.60		0.86								
422	7.10		0.69								
552	6.11		0.41								

80.60

PAOLINA-T; May 30, 1956; 0206 GCT; 34°10.5'N, 121°08'W; sounding, 1310 fm; wind, 240°, force 2; weather, partly cloudy; sea, moderate; wire angle, 10°.

0	12.98	33.82a)	5.49	249	0	12.98	33.82	5.49	25.50	249	0.00
10	11.79	33.80a)	5.56	229	10	11.79	33.80	5.56	25.72	229	0.02
30	11.36	33.80	5.20	221	20	11.50	33.80	5.34	25.77	223	0.05
40	11.30	33.82	5.12	218	30	11.36	33.80	5.20	25.79	221	0.07
50	11.21	33.78u	5.05	-	50	11.21	33.84	5.05	25.86	215	0.11
60	10.02	33.96	-	186	75	9.53	33.91	2.60	26.21	182	0.16
69	9.67	33.89	2.79	186	100	8.92	33.99	2.28	26.37	167	0.21
85	9.22	33.95	-	175	150	8.55	34.10	1.68	26.51	153	0.29
98	8.93	33.99	2.30	167	200	8.30	34.20	1.64	26.62	143	0.36
113	8.84	33.98u	2.27	-	250	7.82	34.27	1.05	26.74	130	0.43
138	8.64	34.06	1.83	158	300	7.40	34.31	0.67	26.85	121	0.50
167	8.40	34.16	1.47	147	400	6.38	34.33	0.60	27.00	107	0.61
201	8.30	34.20	1.64	143	500	5.80	34.38	0.49	27.11	96	0.72
249	7.84	34.27	1.07	131							
326	7.16	34.33	0.56	117							
425	6.16	34.33	0.61	104							
556	5.64	34.41	0.42	92							

80.70

PAOLINA-T; May 30, 1956; 0809, 0836 GCT; 33°54.5'N, 121°48'W; sounding, 1950 fm; wind, 270°, force 3; weather, clear; sea, moderate; wire angle, 08°, 07°.

0	13.56	33.35	5.89	294	0	13.56	33.35	5.89	25.03	294	0.00
10	13.42	33.35	5.89	292	10	13.42	33.35	5.89	25.05	292	0.03
29	13.37	33.37	5.82	289	20	13.40	33.36	5.85	25.07	290	0.06
50	11.08	33.28	5.72	255	30	13.36	33.37	5.81	25.08	289	0.09
60	10.91	33.43	5.52	240	50	11.08	33.28	5.72	25.44	255	0.14
69	10.73	33.53	5.17	230	75	10.48	33.58	4.99	25.78	223	0.20
83	10.18	33.64	4.74	213	100	9.85	33.68	4.17	25.97	204	0.26
98	9.90	33.68	4.27	206	150	8.37	33.93	2.46	26.40	163	0.35
					200	7.65	34.02	2.43	26.57	147	0.43
133	8.63	33.85	3.18	173	250	7.12	34.07	2.00	26.69	135	0.50
162	8.20	33.97	2.33	158	300	6.72	34.13	1.40	26.80	125	0.56
201	7.64	34.02	2.44	147	400	6.18	34.23	0.79	26.95	111	0.69
269	6.94	34.10	1.67	131	500	5.58	34.34	0.61	27.11	96	0.80
372	6.34	34.20	0.82	116	600	5.09	34.36	0.45	27.18	89	0.89
498	5.59	34.34	0.62	96	700	4.71	34.39	0.41	27.25	83	0.98
650	4.87	34.37	0.41	86	800	4.35	34.45	0.42	27.33	75	1.07
850	4.15	34.47	0.42	71	1000	3.65	34.51	0.58	27.45	64	1.24
1103	3.39	34.52	0.69	60							

a) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

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PAOLINA-T; May 30, 1956; 1501 GCT; 33°38'N, 122°29'W; sounding, 2000+ fm; wind, 270°, force 2; weather, overcast; sea, moderate; wire angle, 15°.

80.80

0	13.23	33.21	6.03	298	0	13.23	33.21	6.03	24.99	298	0.00
10	13.12	33.19	5.99	297	10	13.12	33.19	5.99	24.99	297	0.03
29	13.03	33.20	6.18	295	20	13.09	33.19	6.14	25.00	297	0.06
48	11.18	33.08	5.94	271	30	13.00	33.20	6.17	25.02	295	0.09
58	10.70	33.08	5.95	263	50	10.80	33.05	5.94	25.31	267	0.15
68	10.94	33.25	5.95	254	75	10.82	33.35	5.82	25.55	245	0.21
82	10.64	33.39	5.70	239	100	9.00	33.34	5.00	25.84	217	0.27
96	9.17	33.30	5.09	222	150	8.92	33.91	2.83	26.30	173	0.37
128	9.38	33.78	4.24	190	200	8.18	34.04	2.31	26.51	153	0.45
155	8.82	33.93	2.63	170	250	7.38	34.05	2.13	26.64	141	0.52
191	8.30	34.03	2.33	155	300	6.90	34.12	1.60	26.76	129	0.59
255	7.30	34.05	2.11	140	400	6.21	34.21	0.86	26.93	114	0.72
351	6.52	34.18	1.10	120	500	5.60	34.27	0.61	27.05	102	0.82
471	5.78	34.25	0.69	106	600	5.02	34.32	0.43	27.15	92	0.93
614	4.97	34.33	0.42	90	700	4.69	34.37	0.44	27.23	85	1.03
808	4.32	34.43	0.51	76	800	4.35	34.43	0.51	27.31	77	1.12
1060	3.66	34.52	0.69	63	1000	3.79	34.51	0.67	27.44	65	1.27

PAOLINA-T; May 30, 1956; 2305 GCT; 33°08'N, 123°13'W; sounding, 2320 fm; wind, 280°, force 2; weather, overcast; sea, moderate; wire angle, 16°.

80.90

0	14.94	33.26	5.63	328	0	14.94	33.26	5.63	24.66	329	0.00
9	14.66	33.22	5.79	326	10	14.66	33.22	5.80	24.69	326	0.03
28	14.57	33.21	5.83	325	20	14.59	33.21	5.82	24.71	325	0.07
53	14.54	33.23	5.70	323	30	14.57	33.21	5.78	24.71	325	0.10
67	14.50	33.21	5.62	323	50	14.55	33.23	5.70	24.72	323	0.16
81	12.44	33.03	5.97	297	75	12.93	33.06	5.84	24.93	303	0.24
95	12.09	33.10	6.28	285	100	11.98	33.12	6.23	25.16	282	0.32
119	11.34	33.22	5.74	263	150	9.63	33.36	5.54	25.76	225	0.44
146	9.74	33.34	5.64	228	200	8.48	33.88		26.35	168	0.54
170	9.10	33.59	4.16	200	250	7.76	34.01		26.55	149	0.63
202	8.46	33.89	-	168	300	7.24	34.07		26.68	137	0.70
257	7.68	34.02	-	147	400	6.39	34.17	1.01	26.87	119	0.83
356	6.68	34.14	1.37	125	500	5.80	34.23	0.52	27.00	107	0.95
476	5.95	34.22	0.60	110	600	5.18	34.32	0.40	27.14	93	1.06
622	5.04	34.33	0.38	92	700	4.67	34.39	0.34	27.25	83	1.15
815	4.22	34.45	0.33	74	800	4.30	34.45	0.33	27.34	75	1.24
1063	3.64	34.52	0.54	63	1000	3.75	34.51	0.48	27.44	65	1.39

PAOLINA-T; June 1, 1956; 1055, 1115 GCT; 34°15'N, 119°58'W; sounding, 316 fm; wind, 320°, force 3; weather, clear; sea, moderate; wire angle, 06°, 07°.

82.47

0	13.78	33.80	6.31	266	0	13.78	33.80	6.31	25.32	266	0.00
10	13.52	33.76	6.43	263	10	13.52	33.76	6.43	25.35	263	0.03
30	11.32	33.80	4.44	220	20	11.84	33.79	4.92	25.70	230	0.05
50	10.06	33.82	2.91	197	30	11.32	33.80	4.44	25.80	220	0.07
76	9.19	33.93	2.36	176	50	10.06	33.82	2.91	26.05	197	0.12
98	9.17	34.06	1.87	166	75	9.19	33.93	2.37	26.27	176	0.16
124	9.04	34.14	1.64	158	100	9.17	34.07	1.80	26.38	165	0.21
163	8.61	34.14	1.24	151	150	8.74	34.14	1.32	26.51	153	0.29
202	8.30a)	34.18	1.18	144	200	8.33	34.18	1.19	26.60	144	0.36
					250	7.94	34.22	1.27	26.69	136	0.43
250	7.94	34.22	1.27	136	300	7.64	34.23	0.88	26.74	131	0.50
296	7.68	34.23	0.90	132	400	7.06	34.25	0.54	26.85	121	0.63
402	7.03	34.25	0.53	121							

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

83.43

PAOLINA-T; June 1, 1956; 1504 GCT; 34°07.5'N, 119°34'W; sounding, 122 fm; wind, 320°, force 3; weather, clear; sea, slight; wire angle, 08°.

0	14.27	33.72	6.83	281	0	14.27	33.72	6.83	25.16	281	0.00
10	14.10	33.73	6.59	277	10	14.10	33.73	6.59	25.21	277	0.03
30	12.40	33.75	5.37	243	20	13.40	33.74	5.97	25.37	262	0.06
50	11.62	33.75	4.83	229	30	12.40	33.75	5.37	25.57	243	0.08
74	9.58	33.91	2.43	183	50	11.62	33.75	4.83	25.71	229	0.13
98	9.12	33.99	1.83	170	75	9.56	33.92	2.35	26.20	183	0.18
123	9.02	34.14a)	1.76	158	100	9.11	34.00	1.80	26.33	170	0.22
162	8.73	34.25	1.20	145	150	8.82	34.24	1.29	26.58	147	0.30
205	8.49	34.22	1.12	144	200	8.55	34.23	1.14	26.61	144	0.38

83.55

PAOLINA-T; June 1, 1956; 0220, 0235 GCT; 33°37.5'N, 120°20'W; sounding, 650 fm; wind, 280°, force 3; weather, clear; sea, moderate; wire angle, 25°, 30°.

0	14.31	33.71	6.12	283	0	14.31	33.71	6.12	25.15	283	0.00
9	13.24	33.65	6.25	266	10	13.23	33.65	6.23	25.33	265	0.03
27	12.40	33.68	5.91	248	20	12.72	33.67	6.01	25.44	255	0.05
36	11.80	33.69	5.92	237	30	12.20	33.69	5.92	25.55	244	0.08
					50	10.00	33.62	4.40	25.89	211	0.12
44	10.60	33.64	4.81	220	75	9.48	33.80	3.26	26.12	190	0.17
52	9.95	33.62	4.37	211	100	9.04	33.91	2.87	26.29	174	0.22
61	9.85	33.68	4.03	205	150	8.55	34.06	2.48	26.47	157	0.30
73	9.50	33.80	3.48	190	200	8.28	34.16	1.76	26.59	145	0.38
85	9.41	33.79	3.16	189	250	7.90	34.21	1.71	26.69	135	0.45
97	9.08	33.90	2.99	176	300	7.50	34.27	1.58	26.79	127	0.52
116	8.74	33.98	2.45	165	400	6.79	34.33	1.01	26.95	112	0.64
140	8.56	34.04	2.51	158	500	(6.12)	(34.34)		(27.04)	(103)	(0.75)
168	8.50	34.11	2.06	152							
207	8.21	34.18	1.74	143							
272	7.74	34.23	1.68	132							
356	7.08	34.32	1.21	117							
478	6.25	34.34	0.68	105							

83.60

PAOLINA-T; May 31, 1956; 2322 GCT; 33°31.5'N, 120°37.5'W; sounding, 650 fm; wind, 280°, force 3; weather, clear; sea, moderate; wire angle, 15°.

0	12.83	33.21	6.10	290	0	12.83	33.21	6.10	25.07	290	0.00
10	12.92	33.49	6.10	272	10	12.92	33.49	6.10	25.26	272	0.03
30	12.81	33.60	5.99	269	20	12.90	33.50	6.01	25.27	271	0.06
40	11.56	33.37	5.85	256	30	12.81	33.60	5.99	25.29	269	0.08
51	10.30	33.30	5.63	240	50	10.30	33.30	5.62	25.60	240	0.13
60	10.19	33.52	4.94	222	75	10.17	33.56	4.61	25.82	219	0.19
71	10.18	33.55	4.63	220	100	9.38	33.66	4.22	26.03	199	0.24
86	10.04	33.60	4.59	213	150	8.42	33.93	2.69	26.39	164	0.34
99	9.39	33.66	4.28	199	200	7.65	34.06		26.61	144	0.41
115	9.02	33.77	3.61	185	250	7.12	34.13		26.74	131	0.48
139	8.61	33.89	2.81	170	300	6.65	34.15		26.81	124	0.55
168	8.11	34.00	2.54	155	400	5.92	34.20		26.96	111	0.67
202	7.64	34.06	1.13u	144	500	5.58					
250	7.12	34.13	1.69u	131							
328	6.42	34.15	2.22u	121							
426	5.76	34.22	0.93	108							
555	5.52	34.34u	0.45	-							

a) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

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PAOLINA-T; May 31, 1956; 1806 GCT; 33°08.5'N, 121°19.5'W; sounding, 2050 fm; wind, 280°, force 3; weather, overcast; sea, moderate; wire angle, 20°.

83.70

0	13.84	33.08	5.61	319	0	13.84	33.08	5.61	24.77	319	0.00
9	13.11	33.12	5.53	303	10	13.11	33.13	5.53	24.95	302	0.03
29	13.26	33.24	5.57	297	20	13.20	33.19	5.54	24.97	299	0.06
38	13.16	33.23	5.55	295	30	13.26	33.24	5.54	25.00	297	0.09
47	12.00	33.06	5.84	286	50	11.30	32.98	5.77	25.17	280	0.15
56	10.80	32.95	5.57	274	75	10.23	33.06	5.10	25.42	257	0.22
66	10.54	32.99	5.03	266	100	9.37	33.26	5.19	25.72	228	0.28
80	10.04	33.10	5.17	251	150	8.84	33.90	3.27	26.31	172	0.38
94	9.58	33.22	5.38	234	200	7.80	34.04	2.30	26.57	147	0.46
107	9.14	33.30	4.81	222	250	7.31	34.10	1.72	26.69	136	0.53
130	9.32	33.64	4.10	200	300	6.90	34.13	1.38	26.77	129	0.60
157	8.62	33.96	3.03	165	400	6.06	34.19	0.75	26.94	113	0.73
187	8.01	34.01	2.55	152	500	5.40	34.23	0.53	27.04	103	0.84
233	7.46	34.09	1.84	139							
306	6.82	34.13	1.34	127							
400	6.06	34.19	0.75	113							
525	5.23	34.24	0.50	100							

PAOLINA-T; May 31, 1956; 1158 GCT; 32°49'N, 122°05'W; sounding, 2000+ fm; wind, 270°, force 2; weather, overcast; sea, moderate; wire angle, 02°.

83.80

0	14.08	33.16	6.04	318	0	14.08	33.16	6.04	24.77	318	0.00
10	14.07	33.19	6.06	316	10	14.07	33.19	6.06	24.80	316	0.03
30	13.69	33.13	6.14	313	20	13.90	33.17	6.11	24.82	314	0.06
40	13.52	33.11	5.83	311	30	13.69	33.13	6.14	24.83	313	0.09
50	13.40	33.13	5.28	307	50	13.40	33.13	5.28	24.89	307	0.16
60	12.68	33.17	5.61	291	75	11.77	33.24	5.57	25.29	269	0.23
70	12.04	33.24	5.79	274	100	10.94	33.35	4.72	25.52	247	0.29
86	11.20	33.24	5.00	260	150	9.17	33.65	3.77	26.06	196	0.41
101	10.93	33.35	4.72	247	200	8.26	33.95	2.53	26.43	160	0.50
115	10.22	33.48	4.69	225	250	7.65	34.13	1.93	26.67	138	0.57
138	9.44	33.59	4.11	205	300	7.12	34.12	1.42	26.73	132	0.64
167	8.76	33.78	3.30	180	400	6.25	34.21	0.83	26.92	115	0.77
201	8.25	33.96	2.50	160	500	5.72	34.27	0.53	27.04	103	0.88
250	7.65	34.20a)	1.93	133							
328	6.81	34.12	1.17	128							
426	6.08	34.23	0.69	111							
555	5.48	34.30	0.41	98							

PAOLINA-T; May 31, 1956; 0537 GCT; 32°31'N, 122°46'W; sounding, 2230 fm; wind, 220°, force 4; weather, overcast; sea, moderate; wire angle, 05°.

83.90

0	15.28	33.27	6.20	335	0	15.28	33.27	6.20	24.60	335	0.00
10	14.96	33.24	5.18u	330	10	14.96	33.24		24.65	330	0.03
30	14.75	33.26	5.73	325	20	14.85	33.25		24.68	327	0.07
60	13.03	33.10	6.22	302	30	14.75	33.26	5.73	24.70	325	0.10
71	12.61	33.08	6.01	296	50	14.65	33.30	5.74	24.75	320	0.16
80	12.07	33.08	6.00	287	75	12.38	33.08	6.00	25.05	292	0.24
96	11.58	33.08	6.25	278	100	11.53	33.09	6.25	25.21	277	0.31
111	11.54	33.12	6.27	274	150	10.22	33.42	4.92	25.70	230	0.44
125	11.39	33.21	5.73	265	200	8.99	33.76	3.59	26.18	185	0.55
144	10.42	33.39	5.14	235	250	8.13	33.97	2.83	26.47	157	0.64
164	9.78	33.50	4.39	217	300	7.45	34.05	2.25	26.63	142	0.71
192	9.16	33.69	3.87	193	400	6.50	34.16	1.21	26.85	121	0.85
216	8.68	33.85	3.23	174	500	5.89	34.23	0.74	26.99	108	0.97
278	7.73	34.03	2.51	147	600	(5.20)	(34.29)	(0.47)	(27.11)	(97)	(1.08)
351	6.87	34.09	1.62	131							
457	6.14	34.21	0.83	113							
594	5.23	34.28	0.47	98							

a) Loose bottle cap; value does not fall on property curve.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m	

87.36 PAOLINA-T; June 1, 1956; 2307 GCT; 33°48'N, 118°43.5'W; sounding, 440 fm; wind, 290°, force 3; weather, partly cloudy; sea, moderate; wire angle, 27°.

0	16.93	33.66	5.95	342	0	16.93	33.66	5.95	24.53	342	0.00
9	15.95	33.58	5.68	326	10	15.90	33.58	5.66	24.69	325	0.03
27	12.52	33.56	5.45	259	20	14.19	33.56	5.52	25.06	291	0.06
36	11.24	33.57	4.94	236	30	12.00	33.57	5.28	25.49	249	0.09
44	10.54	33.58	3.94	223	50	10.22	33.61	3.80	25.85	216	0.14
53	10.11	33.62	3.73	213	75	9.54	33.76	3.06	26.08	194	0.19
62	9.95	33.66	3.27	208	100	9.15	33.93	2.67	26.28	175	0.24
75	9.54	33.76	3.06	194	150	8.93	34.13	1.53	26.48	157	0.32
89	9.32	33.81	2.71	186	200	8.70	34.21	1.45	26.57	147	0.40
101	9.14	33.93	2.63	175	250	8.35	34.23	1.09	26.64	141	0.47
123	8.88	34.00	2.17	166	300	8.08	34.25	0.98	26.69	135	0.54
149	8.93	34.13	1.50	157	400	7.47	34.31	0.79	26.84	122	0.67
180	8.84	34.18	1.58	152	500	6.68	34.33	0.56	26.96	111	0.80
226	8.50	34.23	1.16	143							
298	8.09	34.25	0.98	136							
392	7.52	34.31	0.81	123							
516	6.56	34.33	0.53	109							

87.40 PAOLINA-T; June 2, 1956; 1925 GCT; 33°42.5'N, 118°58.5'W; sounding, 490 fm; wind, 270°, force 2; weather, overcast; sea, moderate; wire angle, 05°.

0	17.14	33.68	5.77	345	0	17.14	33.68	5.77	24.49	345	0.00
10	16.32	33.70	5.45	326	10	16.32	33.70	5.45	24.69	326	0.03
30	11.48	33.66	3.81	233	20	14.83	33.69	4.90	25.02	295	0.06
40	10.94	33.68	3.97	222	30	11.48	33.66	3.81	25.66	233	0.09
51	10.11	33.78	3.47	202	50	10.17	33.77	3.51	25.97	203	0.13
60	9.68	33.80	2.76	193	75	9.22	33.84	2.72	26.20	183	0.18
71	9.28	33.82	2.82	185	100	8.90	33.93	2.65	26.32	171	0.23
84	9.12	33.91	2.36	176	150	8.59	34.12	2.04	26.52	153	0.31
99	8.91	33.93	2.66	171	200	8.36	34.20	1.54	26.61	143	0.38
113	8.70	33.94	2.51	168	250	8.09	34.27	1.18	26.71	134	0.46
138	8.50	34.08	2.38	154	300	7.68	34.31	0.87	26.80	126	0.52
168	8.68	34.18	1.64	150	400	6.92	34.33	0.54	26.93	114	0.65
201	8.35	34.20	1.52	143	500	6.35	34.34	0.38	27.01	105	0.76
251	8.06	34.27	1.14	134							
329	7.44	34.32	0.74	122							
427	6.69	34.33	0.48	111							
556	6.10	34.35	0.35	102							

87.60 PAOLINA-T; June 3, 1956; 1022 GCT; 32°56'N, 120°31'W; sounding, 850 fm; wind, 300°, force 5; weather, fog; sea, rough; wire angle, 30°.

0	13.86	33.41	5.91	296	0	13.86	33.41	5.91	25.01	296	0.00
8	13.32	33.42	6.00	284	10	13.20	33.41	6.00	25.14	283	0.03
30	12.51	33.31	6.00	278	20	12.78	33.35	6.00	25.18	280	0.06
39	12.36	33.42	5.92	267	30	12.51	33.31	6.00	25.20	278	0.08
52	12.74	33.62	5.95	259	50	12.74	33.62	5.93	25.39	259	0.14
60	11.11	33.33	5.74	251	75	10.60	33.46	4.89	25.67	233	0.20
70	11.03	33.43	5.37	242	100	9.25	33.63	3.77	26.03	199	0.26
86	9.63	33.50	4.13	214	150	8.51	33.92	2.62	26.37	166	0.35
102	9.23	33.64	3.77	198	200	7.72	34.06	2.10	26.60	144	0.42
115	9.12	33.77	3.42	187	250	7.08	34.18	1.66	26.79	127	0.49
134	8.69	33.87	2.83	173	300	6.55	34.17	0.80	26.85	121	0.56
163	8.33	33.96	2.47	161	400	6.11	34.27	0.62	26.99	108	0.68
189	7.90	34.02	2.18	150	500	5.85	34.35	0.43	27.08	99	0.78
234	7.22	34.18	1.89	129							
302	6.53	34.17	0.74	121							
397	6.12	34.27	0.66	108							
534	5.79	34.36	0.40	98							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_{-5}^{+3}	Z	T	S	O ₂	σ_t	δT_{-5}^{+3}	ΔD
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

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PAOLINA-T; June 3, 1956; 1852, 1910 GCT; 32°35.5'N, 121°18'W; sounding, 2250 fm; wind, 330°, force 5; weather, cloudy; sea, rough; wire angle, 13°, 13°.

87.75

0	14.66	33.23	5.83	325	0	14.66	33.23	5.83	24.70	325	0.00
4	14.53	33.24	6.00	322	10	14.42	33.27	6.13	24.78	317	0.03
28	14.25	33.31	6.21	311	20	14.31	33.30	6.19	24.83	313	0.06
38	13.10	33.30	6.33	289	30	14.18	33.31	6.24	24.87	309	0.09
52	12.33	33.39	6.32	267	50	12.40	33.38	6.32	25.27	271	0.15
62	11.89	33.39	5.75	261	75	11.48	33.46	5.63	25.51	248	0.22
71	11.61	33.44	5.69	252	100	10.63	33.55	5.12	25.73	227	0.28
					150	(9.39)	(33.71)	(3.79)	(26.07)	(195)	(0.38)
126	9.84	33.62	4.44	209							
149	9.40	33.71	3.81	195							

PAOLINA-T; June 4, 1956; 0038 GCT; 32°16.5'N, 121°48.5'W; sounding, 2000+ fm; wind, 320°, force 6; weather, overcast; sea, rough; wire angle, 25°.

87.80

0	-	33.30	5.37	-	0	(14.66)	33.30	5.37	(24.75)	(321)	(0.00)
10	14.66	33.25	5.95	323	10	14.66	33.25	5.95	24.72	323	0.03
35	13.90	33.25	5.98	308	20	14.42	33.25	5.95	24.77	319	0.06
44	12.73	33.33	5.86	280	30	14.04	33.25	5.96	24.85	311	0.10
59	11.73	33.41	5.21	256	50	12.21	33.37	5.59	25.30	268	0.15
68	11.41	33.44	5.45	248	75	11.22	33.50	5.41	25.59	241	0.22
78	11.16	33.53	5.38	237	100	10.52	33.60	4.40	25.79	221	0.28
97	10.62	33.58	4.60	224	150	9.06	33.87	2.57	26.25	178	0.38
116	9.94	33.68	3.61	206	200	8.38	34.05	2.36	26.50	154	0.46
130	9.40	33.81	2.99	188	250	7.80	34.12		26.64	141	0.54
153	9.00	33.89	2.53	176	300	7.30	34.15		26.73	132	0.61
191	8.47	34.04	2.41	157	400	6.00	34.18		26.93	113	0.73
229	7.98	34.10	2.03	145	500	5.45	34.27	0.58	27.07	100	0.84
286	7.47	34.15	0.49u	135	600	4.98	34.33	0.41	27.18	90	0.95
371	6.23	34.16	1.87u	118							
482	5.56	34.25	0.62	103							
630	4.82	34.35	0.39	88							

PAOLINA-T; June 8, 1956; 0441 GCT; 33°23.5'N, 117°54.5'W; sounding, 360 fm; wind, 260°, force 2; weather, missing; sea, slight; wire angle, 00°.

90.30

10	16.44	33.71	5.49	328	0	17.4	(33.71)	(5.49)	(24.45)	(349)	(0.00)
30	13.13	33.62	5.29	266	10	16.44	33.71	5.49	24.67	328	0.03
40	12.20	33.57	4.79	253	20	14.80	33.69	5.47	25.02	295	0.06
50	11.94	33.57	4.93	248	30	13.13	33.62	5.29	25.32	266	0.09
60	11.1	33.53	4.68	236	50	11.94	33.57	4.93	25.51	248	0.14
70	10.52	33.58	4.27	223	75	10.25	33.61	3.91	25.85	216	0.20
85	9.82	33.69	3.36	204	100	9.42	33.77	3.16	26.11	192	0.25
101	9.42	33.77	3.14	192	150	8.86	34.00	2.39	26.37	166	0.34
114	9.22	33.90	2.77	179	200	8.60	34.18	1.72	26.56	148	0.42
138	9.04	33.96	2.44	171	250	8.51	34.27	1.37	26.65	140	0.50
167	8.62	34.07	2.32	157	300	7.75	34.28	1.12	26.77	129	0.57
201	8.60	34.18	1.71	148	400	7.10	34.35	0.61	26.92	114	0.69
249	8.52	34.27	1.48	140	500	6.55	34.37	0.43	27.00	107	0.81
326	7.41	34.28	0.97	124							
424	7.00	34.37	0.57	112							
554	6.18	34.36	0.34	102							

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m

90.37

PAOLINA-T; June 8, 1956; 1015 GCT; 33°10.5'N, 118°23'W; sounding, 640 fm; wind, 280°, force 3; weather, missing; sea, slight; wire angle, 00°.

0	16.48	33.69	4.74r	330	0	16.48	33.69		24.65	330	0.00
10	16.46	33.68	6.75	330	10	16.46	33.68	6.75	24.65	330	0.03
30	13.51	33.59	7.07	276	20	15.00	33.63	6.92	24.94	303	0.06
40	12.63	-	6.20	-	30	13.51	33.59	7.07	25.22	276	0.09
51	11.84	33.64	4.81	241	50	11.90	33.64	4.83	25.57	242	0.15
61	10.87	33.61	4.90	226	75	10.2	33.66	4.49	25.89	212	0.20
70	10.5	33.65	4.58	-	100	9.50	33.78	3.48	26.10	192	0.25
85	10.06	33.71	3.92	206	150	8.80	34.00	3.01	26.43	161	0.34
101	9.48	33.78	3.46	192	200	8.02	34.15	2.13	26.62	143	0.42
114	9.16	33.86	3.20	180	250	7.49	34.18	2.18	26.72	133	0.49
139	8.84	33.93	3.06	170	300	7.41	34.26	1.08	26.80	125	0.56
168	8.67	34.14	1.97	153	400	6.89	34.33	0.67	26.94	113	0.68
201	8.01	34.15	2.13	142	500	6.20	34.37	0.56	27.05	102	0.79
250	7.49	34.18	2.18	133							
327	7.36	34.31	0.92	121							
425	6.67	34.34	0.64	110							
554	5.86	34.39	0.50	96							

90.45

PAOLINA-T; June 8, 1956; 1531 GCT; 32°58'N, 118°57.5'W; sounding, 900 fm; wind, 250°, force 3; weather, overcast; sea, slight; wire angle, 10°.

0	15.89	33.82	6.18	308	0	15.89	33.82	6.18	24.89	308	0.00
10	15.52	33.80	6.18	301	10	15.52	33.80	6.18	24.95	301	0.03
30	10.38	33.80	4.23	204	20	13.80	33.80	5.79	25.32	266	0.06
40	9.99	33.81	3.58	197	30	10.38	33.80	4.23	25.97	204	0.08
50	9.56	33.84	3.11	188	50	9.56	33.84	3.11	26.14	188	0.12
59	9.17	33.89	2.75	178	75	8.86	33.97	2.57	26.36	167	0.17
69	8.95	33.96	2.63	170	100	8.56	34.04	2.23	26.46	158	0.21
84	8.70	33.99	2.47	164	150	8.18	34.14	1.91	26.59	145	0.28
99	8.56	34.04	2.24	158	200	8.28	34.30	1.24	26.70	135	0.35
114	8.30	34.09	2.12	151	250	7.70	34.28	1.34	26.77	128	0.42
139	8.14	34.11	2.13	147	300	7.35	34.31	1.03	26.85	121	0.48
166	8.22	34.17	1.68	144	400	6.59	34.33	0.61	26.97	109	0.60
199	8.29	34.30	1.23	135	500	6.07	34.35	0.56	27.05	102	0.71
248	7.72	34.28	1.36	128							
326	7.17	34.32	0.84	118							
423	6.44	34.34	0.60	107							
552	5.80	34.35	0.57	98							

90.55

PAOLINA-T; June 8, 1956; 2309 GCT; 32°34.5'N, 119°37'W; sounding, 310 fm; wind, 340°, force 3; weather, overcast; sea, rough; wire angle, 14°.

0	14.88	33.69	6.10	296	0	14.88	33.69	6.10	25.01	296	0.00
10	14.13	33.67	6.33	282	10	14.13	33.67	6.33	25.15	282	0.03
30	13.92	33.69	6.21	276	20	14.01	33.68	6.28	25.19	279	0.06
50	12.05	33.43	6.08	260	30	13.92	33.69	6.21	25.22	276	0.08
73	10.36	33.55	4.78	222	50	12.05	33.43	6.08	25.38	260	0.14
97	9.18	33.66	3.87	196	75	10.20	33.55	4.72	25.81	219	0.20
120	8.70	33.96	2.71	166	100	9.10	33.69	3.78	26.10	193	0.25
158	8.26	34.09	2.10	150	150	8.33	34.07	2.22	26.52	152	0.34
197	8.12	34.16	1.52	143	200	8.09	34.16	1.51	26.63	142	0.41
245	7.24	34.17	1.50	130	250	7.22	34.19	1.45	26.76	129	0.48
294	7.42	34.34	0.84	120	300	(7.41)	(34.36)	(0.80)	(26.87)	(119)	(0.54)

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

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PAOLINA-T; June 9, 1956; 0510 GCT; 32°24'N, 119°57'W; sounding, 600 fm; wind, 320°, force 6; weather, missing; sea, rough; wire angle, 20°.

90.60

0	13.48	33.44	-	286	0	13.48	33.44		25.11	286	0.00
10	13.48	33.47	6.78	284	10	13.48	33.47	6.78	25.13	284	0.03
28	11.97	33.30	6.19	268	20	12.70	33.38	6.41	25.22	276	0.06
43	11.24	33.26	6.26	259	30	11.90	33.29	6.19	25.31	267	0.08
52	10.76	33.29	5.81	248	50	10.80	33.28	5.96	25.49	250	0.14
61	10.74	33.46	5.67	236	75	10.49	33.45	5.28	25.68	232	0.20
71	10.62	33.44	5.20	235	100	9.62	33.60	4.73	25.94	207	0.25
89	9.94	33.52	5.78	218	150	8.59	33.94	2.86	26.37	166	0.35
104	9.51	33.63	4.44	203	200	7.97	34.06	2.20	26.57	148	0.43
118	9.27	33.69	4.80	195	250	7.71	34.25	1.27	26.75	130	0.50
140	8.63	33.86	2.94	173	300	7.58	34.27	1.21	26.81	124	0.56
166	8.54	33.96	-	164	400	6.50	34.37	0.64	27.02	105	0.68
201	7.95	34.06	2.16	148	500	5.92	34.38	0.59	27.10	97	0.79
249	7.71	34.25	1.28	130							
325	7.18	34.29	1.10	120							
422	6.32	34.38	0.59	102							
559	5.73	34.38	0.59	96							

PAOLINA-T; June 9, 1956; 1429 GCT; 32°01.5'N, 120°36'W; sounding, 2000+ fm; wind, 300°, force 4; weather, overcast; sea, very rough; wire angle, 14°.

90.70

0	13.71	33.21a)	6.24	308	0	13.71	33.21	6.24	24.88	308	0.00
10	13.68	33.22	6.27	306	10	13.68	33.22	6.27	24.90	306	0.03
29	13.68	33.22	6.11	306	20	13.68	33.22	6.27	24.90	306	0.06
58	12.72	33.30	6.02	282	30	13.67	33.22	6.10	24.90	306	0.09
73	11.68	33.31	5.81	263	50	13.48	33.26	6.07	24.97	300	0.15
92	10.96	33.42	6.03	242	75	11.62	33.32	5.84	25.38	261	0.22
107	10.13	33.58a)	4.96	217	100	10.45	33.51	5.62	25.73	227	0.28
130	9.58	33.73	3.48	196	150	9.40	33.85	2.87	26.17	185	0.39
159	9.28	33.90	2.69	179	200	8.24	34.00	2.44	26.47	157	0.47
187	8.50	33.96	2.54	163	250	7.50	34.08	2.03	26.65	140	0.55
220	7.90	34.05	2.29	148	300	7.03	34.13	1.54	26.75	130	0.62
287	7.10	34.11	1.65	133	400	6.61	34.25	0.73	26.90	116	0.75
391	6.67	34.24	0.80	118	500	5.78	34.27	0.44	27.03	104	0.86
529	5.52	34.29	0.43	99	600	5.18	34.36	0.43	27.17	91	0.96
690	4.91	34.42	0.43	83							

PAOLINA-T; June 4, 1956; 0655, 0726 GCT; 31°44'N, 121°19'W; sounding, 2000+ fm; wind, 330°, force 5; weather, overcast; sea, rough; wire angle, 20°, 22°.

90.80

0	-	33.33	5.86	-	0	(14.66)	33.33	5.86	(24.78)	(317)	(0.00)
9	14.66	33.30	5.94	320	10	14.66	33.30	5.97	24.76	320	0.03
28	14.58	33.36	5.87	314	20	14.63	33.33	5.95	24.79	317	0.06
44p	14.14	33.28	6.00	311	30	14.56	33.36	5.86	24.83	313	0.10
72p	11.49	33.36	5.28	256	50	13.80	33.28	5.94	24.93	303	0.16
87p	10.84	33.44	4.96	239	75	11.36	33.37	5.19	25.47	252	0.23
121p	9.57	33.66	3.88	202	100	10.32	33.52	4.58	25.76	224	0.29
150p	8.79	33.90	3.09	172	150	8.79	33.90	3.09	26.31	172	0.39
					200	8.10	34.01	2.58	26.51	153	0.47
208	8.00	34.03	2.50	151	250	7.43	34.08	2.00	26.65	139	0.54
273	7.12	34.11	1.79	133	300	6.85	34.14	1.52	26.79	127	0.61
386	6.20	34.24	1.01	112	400	6.15	34.25	0.91	26.97	109	0.74
524	5.67	34.34	0.48	98	500	5.74	34.32	0.50	27.07	100	0.84
680	4.99	34.45	0.34	82	600	5.35	34.38	0.36	27.16	91	0.95
887	4.28	34.51	0.56	70	700	4.91	34.45	0.37	27.27	81	1.04
1142	3.60	34.59	0.75	57	800	4.60	34.48	0.47	27.33	75	1.12
					1000	3.96	34.55	0.67	27.45	63	1.27

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

90.80

PAOLINA-T; June 9, 1956; 2135, 2201 GCT; 31°40'N, 121°16.5'W; sounding, 2120 fm; wind, 320°, force 5; weather, cloudy; sea, very rough; wire angle, 12°, 20°.

1	14.44	33.26	6.19	319	0	(14.44)	(33.26)	(6.19)	(24.77)	(319)	(0.00)
10	14.40	33.28	6.02	316	10	14.40	33.28	6.02	24.80	316	0.03
28	14.34	33.26	6.09	316	20	14.38	33.27	6.05	24.80	316	0.06
57	12.92	33.30	6.21	286	30	14.28	33.26	6.13	24.81	315	0.10
72	12.50	33.42	6.04	269	50	13.25	33.29	6.21	25.04	293	0.16
91	11.52	33.37	5.95	255	75	12.32	33.41	6.04	25.31	267	0.23
104	10.65	33.46	5.36	234	100	10.86	33.43	5.57	25.59	241	0.29
128	9.95	33.67	4.01	207	150	9.48	33.80	2.90	26.14	189	0.40
156	9.37	33.87	2.75	183	200	9.08	34.03	2.40	26.39	165	0.49
					250	8.02	34.10	2.33	26.59	146	0.57
182	9.16	33.97	2.54	172	300	7.27	34.18	2.38	26.76	130	0.64
215	8.90	34.11	2.06	158	400	6.65	34.33	0.81	26.96	111	0.76
280	7.48	34.13	2.48	137	500	6.01	34.35	0.53	27.07	100	0.87
382	6.79	34.32	0.85	113	600	5.43	34.39	0.53	27.17	91	0.98
519	5.86	34.36	0.52	98	700	5.01	34.44	0.54	27.25	83	1.07
673	5.09	34.43	0.55	85	800	4.65	34.47	0.54	27.32	76	1.16
879	4.34	34.51	0.54	70	1000	3.92	34.54	0.66	27.45	64	1.31
1139	3.60	34.56	0.81	59							

90.90

SPENCER F. BAIRD; June 23, 1956; 1901 GCT; 31°26'N, 122°00'W; sounding, 2000+ fm; wind, 320°, force 3; weather, overcast; sea, rough; wire angle, 15°.

0	15.77	33.33	5.30	341	0	15.77	33.33	5.30	24.54	341	0.00
10	15.73	33.34	5.25	339	10	15.73	33.34	5.25	24.55	339	0.03
28	15.71	33.37	5.23	337	20	15.72	33.36	5.25	24.57	338	0.07
47	14.96	33.30	5.48	326	30	15.71	33.37	5.25	24.58	337	0.10
57	12.63	33.24	5.93	285	50	14.30	33.27	5.67	24.81	315	0.17
65	12.00	33.24	5.86	274	75	11.41	33.28	5.58	25.38	260	0.24
79	11.22	33.30	5.47	256	100	10.25	33.40	4.89	25.68	232	0.30
92	10.60	33.36	5.08	241	150	8.84	33.76	3.50	26.20	183	0.41
123	9.53	33.52	4.42	211	200	8.10	33.98	2.61	26.48	156	0.49
149	8.85	33.75	3.53	184	250	7.69	34.07	2.10	26.61	143	0.57
183	8.24	33.94	2.82	161	300	7.12	34.13	1.60	26.74	131	0.64
244	7.72	34.06	2.13	145	400	6.35	34.27	1.04	26.96	111	0.77
336	6.75	34.18	1.30	123	500	5.78	34.33	0.62	27.08	99	0.88
450	6.07	34.31	0.86	105	600	5.20	34.37	0.41	27.17	91	0.98
587	5.27	34.36	0.41	92	700	4.80	34.41	0.42	27.25	83	1.07
772	4.60	34.44	0.46	78	800	4.53	34.45	0.50	27.32	76	1.16
1012	3.85	34.52	0.75	65	1000	3.89	34.52	0.74	27.44	65	1.31

93.30

PAOLINA-T; June 11, 1956; 1736 GCT; 32°49.5'N, 117°30.5'W; sounding, 400 fm; wind, 310°, force 3; weather, fog; sea, slight; wire angle, 02°.

0	17.71	33.68	6.04	358	0	17.71	33.68	6.04	24.35	358	0.00
10	16.38	33.68	6.03	329	10	16.38	33.68	6.03	24.66	329	0.03
30	12.77	33.47	5.73	270	20	14.50	33.57	5.89	25.00	297	0.07
40	11.63	33.48	5.51	250	30	12.77	33.47	5.73	25.28	270	0.10
50	11.46	33.52	4.94	243	50	11.46	33.52	4.94	25.56	243	0.15
61	10.82	33.57	4.34	229	75	10.19	33.64	3.80	25.88	213	0.20
70	10.41	33.61	3.99	219	100	9.53	33.82	2.91	26.13	189	0.25
85	9.80	33.69	3.47	203	150	8.97	34.01	2.44	26.37	166	0.34
101	9.53	33.82	2.90	189	200	8.78	34.13	2.14	26.49	155	0.42
114	9.14	33.84	2.93	182	250	8.44	34.22	1.49	26.62	143	0.50
139	8.89	33.95	2.57	170	300	8.01	34.24	1.09	26.70	135	0.57
168	9.12	34.15	2.15	159	400	7.32	34.28	0.98	26.83	123	0.70
202	8.78	34.13	2.14	154	500	6.71	34.31	0.73	26.95	112	0.83
250	8.44	34.22	1.49	143							
328	7.75	34.25	1.02	131							
425	7.18	34.29	0.96	120							
555	6.32	34.33	0.59	106							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	dyn. m

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PAOLINA-T; June 11, 1956; 0955 GCT; 32°25.5'N, 118°03'W; sounding, 1010 fm; wind, 340°, force 3; weather, missing; sea, moderate; wire angle, 00°.

93.40

0	17.88	33.66	5.82	364	0	17.88	33.66	5.82	24.29	364	0.00
10	17.16	33.65	6.08	347	10	17.16	33.65	6.08	24.47	347	0.04
30	12.09	33.53	5.57	254	20	15.98	33.63	6.03	24.72	323	0.07
40	11.60	33.53	4.97	245	30	12.09	33.53	5.57	25.45	254	0.10
51	10.94	33.57	4.17	230	50	10.95	33.57	4.19	25.69	231	0.15
61	10.43	33.64	3.80	217	75	9.98	33.77	3.14	26.02	199	0.20
70	10.03	33.73	3.25	204	100	9.33	33.89	2.76	26.22	181	0.25
85	9.82	33.83	3.03	193	150	8.95	34.13	2.16	26.47	157	0.33
100	9.33	33.89	2.76	181	200	8.70	34.25	1.56	26.60	145	0.41
114	9.08	33.96	2.48	172	250	8.32	34.32	1.03	26.71	134	0.48
139	9.02	34.10	2.25	161	300	7.75	34.31	0.88	26.79	127	0.55
169	8.80	34.16	1.99	152	400	7.09	34.35	0.61	26.92	115	0.67
201	8.67	34.25	1.56	144	500	6.57	34.39	0.48	27.02	105	0.79
250	8.32	34.32	1.03	134							
328	7.47	34.31	0.79	123							
426	6.98	34.36	0.57	112							
555	6.22	34.40	0.42	100							

PAOLINA-T; June 11, 1956; 0148 GCT; 32°01.5'N, 118°51'W; sounding, 550 fm; wind, 310°, force 5; weather, partly cloudy; sea, very rough; wire angle, 13°.

93.50

0	15.98	33.60	6.03	325	0	15.98	33.60	6.03	24.70	325	0.00
10	15.98	33.58	6.12	327	10	15.98	33.58	6.12	24.68	327	0.03
29	15.70	33.58	6.05	321	20	15.89	33.58	6.08	24.70	325	0.07
44	13.88	33.48	5.84	291	30	15.70	33.58	6.03	24.75	321	0.10
53	12.65	33.46	5.90	269	50	13.05	33.46	5.89	25.22	276	0.16
63	11.72	33.49	5.47	250	75	11.00	33.53	4.67	25.66	234	0.22
73	11.03	33.53	4.67	235	100	10.03	33.59	4.37	25.87	214	0.28
93	10.26	33.56	4.69	220	150	9.12	33.87	2.83	26.24	179	0.38
107	9.80	33.64	3.68	207	200	8.28	34.03	2.44	26.49	155	0.46
121	9.40	33.72	3.41	195	250	7.70	34.09	2.13	26.63	142	0.54
146	9.18	33.84	2.86	182	300	7.32	34.16	1.50	26.73	132	0.61
174	8.68	33.99	2.46	164	400	6.80	34.29	0.68	26.91	115	0.74
212	8.10	34.05	2.43	151	500	6.08	34.35	0.47	27.05	102	0.85
266	7.56	34.11a)	1.94	139							
380p	6.96	34.28	0.72	118							
526p	5.87	34.36	0.41	98							

PAOLINA-T; June 10, 1956; 1830 GCT; 31°41.5'N, 119°30'W; sounding, 1831 fm; wind, 320°, force 6; weather, overcast; sea, high; wire angle, 35°.

93.60

1	15.40	33.58	5.96	315	0	(15.40)	(33.58)	(5.96)	(24.81)	(315)	(0.00)
7	15.37	33.57	6.14	314	10	15.32	33.57	6.11	24.82	313	0.03
27	14.96	33.55	5.90	308	20	15.15	33.56	5.98	24.85	311	0.06
36	13.38	33.49	6.18	280	30	14.60	33.53	5.94	24.95	301	0.09
47	11.41	33.53	5.08	242	50	11.22	33.55	4.90	25.63	237	0.15
56	10.93	33.57	4.56	230	75	9.97	33.59	3.82	25.88	213	0.20
64	10.46	33.57	4.12	223	100	9.26	33.77	3.15	26.14	188	0.26
80	9.76	33.61	3.70	208	150	8.70	33.98	2.56	26.39	165	0.34
96	9.37	33.76	3.23	191	200	8.05	34.05	2.14	26.55	149	0.42
107	9.10	33.80	3.03	184	250	7.55	34.15	1.57	26.70	135	0.50
127	8.98	33.86	2.96	178	300	7.15	34.20	1.29	26.79	127	0.56
158	8.59	34.00	2.42	162	400	6.53	34.34	0.61	26.99	108	0.68
189	8.12	34.04	2.22	152	500	6.00	34.34	0.52	27.06	101	0.79
238	7.66	34.14	1.68	138							
310	7.06	34.21	1.21	125							
407	6.50	34.34	0.60	108							
540	5.78	34.34	0.51	99							

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

93.70

PAOLINA-T; June 10, 1956; 1115 GCT; 31°25'N, 120°11'W; sounding, 2040 fm; wind, 320°, force 6; weather, fog; sea, rough; wire angle, 12°.

0	15.20	33.57	5.74	311	0	15.20	33.57	5.74	24.85	311	0.00	
10	15.20	33.57	5.32	311	10	15.20	33.57	5.32	24.85	311	0.03	
29	15.19	33.56	6.11	312	20	15.20	33.57	5.73	24.85	311	0.06	
45	13.44	33.53	5.90	279	30	15.19	33.56	6.11	24.84	312	0.09	
54	12.34	33.51	6.01	260	50	12.80	33.51	5.99	25.31	267	0.15	
64	11.54	33.53	5.44	244	75	10.87	33.57	4.60	25.71	229	0.21	
74	10.88	33.57	4.61	230	100	9.81	33.68	3.83	25.97	204	0.27	
94	10.05	33.65	3.94	210	150	8.80	34.03	2.50	26.41	162	0.36	
108	9.49	33.71	3.69	197	200	8.33	34.13	1.87	26.57	148	0.44	
123	8.89	33.80	3.53	181	250	7.68	34.17	1.51	26.69	135	0.51	
148	8.80	34.02a)	2.59	163	300	7.15	34.23	1.06	26.81	125	0.58	
177	8.61	34.14	1.96	152	400	6.52	34.29	0.75	26.95	112	0.70	
216	8.13	34.13	1.79	145	500	6.07	34.34	0.75	27.05	102	0.81	
272	7.40	34.20	1.31	130	600	(5.42)	(34.42)	(0.76)	(27.19)	(89)	(0.91)	
354	6.75	34.26	0.75	117								
456	6.25	34.49r	1.04r	-								
599	5.42	34.42	0.76	89								

93.80

PAOLINA-T; June 10, 1956; 0328 GCT; 31°07'N, 120°53'W; sounding, 2000+ fm; wind, 310°, force 5; weather, overcast; sea, very rough; wire angle, 20°.

0	14.06	33.41	6.10	299	0	14.06	33.41	6.10	24.97	299	0.00	
9	14.07	33.42	6.06	298	10	14.06	33.42	6.07	24.98	298	0.03	
28	14.02	33.45	6.13	296	20	14.04	33.43	6.13	24.99	297	0.06	
43	13.14	33.46	6.11	278	30	14.00	33.45	6.12	25.02	295	0.09	
51	12.32	33.39	5.92	268	50	12.45	33.40	5.96	25.29	269	0.15	
61	11.68	33.30	5.76	263								

93.90

SPENCER F. BAIRD; June 24, 1956; 0518, 0537 GCT; 30°50.5'N, 121°42.5'W; sounding, 2350 fm; wind, 360°, force 4; weather, missing; sea, rough; wire angle, 07°, 04°.

0	16.11	33.39	5.77	343	0	16.11	33.39	5.77	24.51	343	0.00	
10	16.10	33.40	6.07	343	10	16.10	33.40	6.07	24.52	343	0.03	
30	16.10	33.39	5.92	343	20	16.10	33.39	5.95	24.51	343	0.07	
					30	16.10	33.39	5.92	24.51	343	0.10	
60	12.84	33.24	6.18	289	50	16.08	33.39	5.92	24.51	343	0.17	
70	12.17	33.21	6.31	279	75	11.90	33.21	6.06	25.24	274	0.25	
81	11.63	33.22	5.82	268	100	10.65	33.38	5.29	25.59	240	0.31	
95	10.84	33.33a)	5.41	247	150	9.05	33.71	3.60	26.13	190	0.42	
109	10.40	33.44	5.04	231	200	8.20	33.98	2.73	26.47	157	0.51	
122	10.07	33.50	4.59	222	250	7.45	34.08	2.07	26.65	140	0.59	
141	9.42	33.62	4.01	202	300	6.99	34.14	1.50	26.77	129	0.66	
159	8.69	33.81	3.26	177	400	6.22	34.21	0.92	26.92	114	0.78	
187	8.32	33.93	2.89	163	500	5.65	34.27	0.61	27.05	102	0.90	
214	8.05	34.02	2.44	152	600	(5.35)	(34.36)		(27.15)	(92)	(1.00)	
260	7.28	34.09	1.95	137								
339	6.68	34.18	1.20	122								
444	5.92	34.23	0.74	109								
585	5.38	34.36	0.41	93								

a) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

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PAOLINA-T; June 12, 1956; 2208 GCT; 32°12'N, 117°16.5'W; sounding, 770 fm; wind, 320°, force 4; weather, clear; sea, rough; wire angle, 16°.

97.32

0	17.68	33.68	5.65	358	0	17.68	33.68	5.65	24.36	358	0.00
10	17.33	33.66	5.67	351	10	17.33	33.66	5.67	24.43	351	0.04
30	12.33	33.49	5.84	261	20	15.50	33.58	5.73	24.79	317	0.07
39	11.40	33.50	4.92	244	30	12.33	33.49	5.84	25.37	261	0.10
49	11.09	33.49	4.54	239	50	11.08	33.49	4.51	25.61	239	0.15
59	10.57	-	3.93	-	75	10.05	33.79	3.10	26.03	199	0.20
68	10.25	33.72	3.51	208	100	9.68	33.98	2.36	26.22	181	0.25
82	9.90	33.84	2.77	194	150	9.34	34.12	1.90	26.41	163	0.34
97	9.73	33.96	2.36	182	200	8.98	34.26	1.60	26.57	147	0.42
111	9.56	34.02	2.37	175	250	8.73	34.35	1.04	26.66	137	0.49
134	9.36	34.07	2.16	168	300	8.38	34.39	0.81	26.76	129	0.56
163	9.42	34.22	1.67	158	400	7.50	34.39	0.59	26.88	118	0.68
196	8.98	34.25	1.66	149	500	6.75	34.38	0.49	26.99	108	0.80
243	8.81	34.35	1.08	139							
319	8.25	34.40	0.72	127							
415	7.38	34.38	0.59	116							
541	6.43	34.38	0.43	104							

PAOLINA-T; June 13, 1956; 0322 GCT; 31°56.5'N, 117°49'W; sounding, 825 fm; wind, 300°, force 5; weather, clear; sea, rough; wire angle, 22°.

97.40

0	16.80	33.61	5.75	343	0	16.80	33.61	5.75	24.52	343	0.00
9	16.76	33.60	5.57	342	10	16.75	33.60	5.57	24.53	342	0.03
28	15.82	33.58	5.78	324	20	16.27	33.59	5.66	24.62	333	0.07
42	14.57	33.55	6.01	299	30	15.69	33.58	5.81	24.75	321	0.10
52	12.10	33.48	5.96	258	50	12.60	33.49	6.00	25.32	266	0.16
61	11.31	33.54	4.85	239	75	10.50	33.63	3.82	25.82	219	0.22
70	10.71	33.61	4.07	224	100	9.64	33.82	2.81	26.11	191	0.27
89	9.98	33.68	3.20	206	150	9.37	34.15	2.00	26.41	162	0.36
102	9.62	33.83	2.76	190	200	9.12	34.25	1.57	26.54	151	0.44
116	9.50	33.96	2.42	178	250	8.85	34.31	1.20	26.63	143	0.52
140	9.36	34.07	2.35	168	300	8.47	34.31	1.02	26.68	137	0.59
167	9.39	34.22	1.79	157	400	7.35	34.31	0.72	26.85	121	0.72
204	9.09	34.25	1.54	151	500	6.35	34.34	0.53	27.02	105	0.84
255	8.80	34.31	1.17	142							
333	8.16	34.31	0.91	132							
432	6.98	34.31	0.65	116							
571	5.93	34.38	0.49	98							

PAOLINA-T; June 13, 1956; 1110 GCT; 31°36'N, 118°29'W; sounding, 1200 fm; wind, 300°, force 5; weather, missing; sea, rough; wire angle, 05°.

97.50

0	16.63	33.68	5.61	334	0	16.63	33.68	5.61	24.61	334	0.00
10	16.59	33.66	5.80	334	10	16.59	33.66	5.80	24.61	334	0.03
30	15.62	33.58	5.94	320	20	16.25	33.63	5.87	24.66	329	0.07
45	12.31	33.36	5.92	270	30	15.62	33.58	5.94	24.76	320	0.10
55	11.72	33.48	5.69	251	50	12.01	33.42	5.83	25.38	260	0.16
66	11.08	33.48	5.22	240	75	10.80	33.51	4.76	25.67	232	0.22
75	10.80	33.51	4.76	232	100	9.96	33.63	3.98	25.92	209	0.28
94	10.18	33.59	4.17	216	150	8.60	33.93	2.85	26.37	167	0.37
110	9.53	33.73	3.60	196	200	8.06	34.02	2.39	26.52	153	0.45
124	9.04	33.83	3.21	181	250	7.55	34.14	1.82	26.69	136	0.52
148	8.61	33.93	2.85	167	300	7.36	34.25	1.09	26.79	126	0.59
176	8.41	34.00	2.54	159	400	6.77	34.31	0.67	26.94	113	0.72
215	7.86	34.04	2.30	148	500	6.00	34.34	0.45	27.06	101	0.83
268	7.46	34.18	1.59	132	600	(5.59)	(34.40)	(0.30)	(27.16)	(92)	(0.93)
350	7.22	34.29	0.85	121							
452	6.24	34.32	0.52	106							
595	5.60	34.40	0.30	92							

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

97.60

PAOLINA-T; June 13, 1956; 1900 GCT; 31°17.5'N, 119°07'W; sounding, 1100 fm; wind 290°, force 6; weather clear; sea, rough; wire angle, 28°.

0	15.57	33.57	5.83	319	0	15.57	33.57	5.83	24.77	319	0.00
9	15.55	33.59	5.79	317	10	15.54	33.59	5.80	24.79	317	0.03
27	15.45	33.60	5.90	314	20	15.50	33.60	5.84	24.80	315	0.06
40	13.46	33.37	6.14	291	30	15.25	33.59	5.97	24.85	311	0.09
49	12.57	33.28	6.07	281	50	12.56	33.28	6.04	25.17	281	0.15
57	12.15	33.31	5.85	271	75	11.40	33.37	5.64	25.46	253	0.22
66	11.85	33.33	5.78	264	100	10.22	33.55	4.49	25.80	220	0.28
84	10.94	33.42	5.44	242	150	8.92	33.87	3.13	26.27	176	0.38
97	10.37	33.51	4.80	225	200	8.06	33.95	2.92	26.46	158	0.47
111	9.80	33.68	3.76	204	250	7.38	34.16	1.97	26.73	133	0.54
132	9.43	33.73	3.49	195	300	7.15	34.21	1.43	26.80	125	0.61
157	8.78	33.89	3.06	172	400	6.55	34.31	0.98	26.96	111	0.73
191	8.22	33.91	3.00	163	500	6.04	34.35	0.76	27.07	101	0.84
237	7.48	34.13	2.19	136							
313	7.11	34.22	1.37	124							
405	6.50	34.31	0.95	110							
540	5.87	34.37	0.69	98							

97.70

SPENCER F. BAIRD; June 24, 1956; 2339 GCT; 30°56'N, 119°51'W; sounding, 2050 fm; wind, 330°, force 4; weather, overcast; sea, very rough; wire angle, 20°.

0	15.40	33.39	5.96	329	0	15.40	33.39	5.96	24.66	329	0.00
9	15.34	33.41	6.16	326	10	15.3	33.41	6.18	24.69	326	0.03
28	15.1	33.39	6.28	322	20	15.2	33.40	6.25	24.71	324	0.07
42	14.86	33.49	6.01	310	30	15.1	33.39	6.26	24.73	322	0.10
52	14.45	33.48	6.11	303	50	14.58	33.49	6.07	24.92	304	0.16
61	12.97	33.33	6.44	284	75	11.77	33.25	5.96	25.29	269	0.23
70	11.97	33.24	6.05	273	100	10.68	33.34	5.37	25.56	243	0.30
88	11.32	33.30	5.79	257	150	9.05	33.78	3.59	26.18	184	0.40
100	10.68	33.34	5.37	243	200	8.30	34.03	2.56	26.49	155	0.49
115	10.04	33.45	5.00	225	250	7.79	34.16	1.80	26.67	138	0.57
135	9.39	33.62	4.14	202	300	7.47	34.22	1.47	26.76	129	0.63
160	8.90	33.83	3.38	179	400	6.55	34.26	0.93	26.93	114	0.76
193	8.39	34.00	2.64	159	500	5.91	34.33	0.51	27.06	101	0.87
241	7.84	34.14	1.83	141							
314	7.34	34.23	1.36	127							
407	6.47	34.27	0.88	113							
543	5.72	34.36	0.40	97							

97.80

SPENCER F. BAIRD; June 24, 1956; 1652 GCT; 30°38.5'N, 120°48'W; sounding, 2200 fm; wind, 330°, force 4; weather, overcast; sea, rough; wire angle, 15°.

0	15.82	33.35	5.70	340	0	15.82	33.35	5.70	24.54	340	0.00
10	15.81	33.37	5.87	339	10	15.81	33.37	5.87	24.55	339	0.03
29	15.81	33.35	5.86	340	20	15.81	33.35	5.86	24.55	339	0.07
39	15.80	33.35	5.57	340	30	15.81	33.35	5.86	24.54	340	0.10
48	14.34	33.25	6.21	317	50	14.20	33.25	6.19	24.82	314	0.17
58	13.77	33.31	6.14	301	75	12.28	33.22	6.04	25.17	280	0.24
69	12.80	33.22	6.40	289	100	11.45	33.36	5.72	25.44	255	0.31
82	11.99	33.24	5.81	273	150	9.18	33.71	3.82	26.10	192	0.42
97	11.62	33.35	5.76	258	200	8.20	34.00	2.63	26.48	156	0.51
111	10.54	33.36	5.31	240	250	7.59	34.08	2.11	26.64	141	0.59
134	9.58	33.53	4.67	212	300	7.14	34.14	1.71	26.75	130	0.66
160	8.94	33.81	3.31	181	400	6.41	34.23	1.06	26.92	115	0.78
191	8.34	33.98	2.77	160	500	5.98	34.33	0.79	27.05	102	0.90
235	7.74	34.06	2.28	145							
308	7.05	34.15	1.64	129							
399	6.41	34.23	1.06	115							
522	5.85	34.34	0.70	100							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

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SPENCER F. BAIRD; June 24, 1956; 1034, 1050, 1108 GCT; 30°17'N, 121°23'W; sounding, 2250 fm; wind, 340°, force 4; weather, overcast; sea, rough; wire angle, 35°, 27°, 15°.

97.90

0	16.12	33.39	5.74	344	0	16.12	33.39	5.74	24.50	344	0.00
8	16.10	33.37	5.76	345	10	16.10	33.37	5.90	24.50	345	0.03
					20	16.11	33.37	5.90	24.50	345	0.07
24	16.11	33.37	5.77	345	30	16.12	33.36	5.88	24.48	346	0.10
					50	15.95	33.36	5.98	24.53	342	0.17
36	16.12	33.35	5.80	346							
46	16.10	33.37	5.86	345							
55	14.71	33.26	6.21	324							

PAOLINA-T; June 15, 1956; 0358 GCT; 31°34.5'N, 116°58.5'W; sounding, 600 fm; wind, 320°, force 5; weather, clear; sea, very rough; wire angle, 17°.

100.33

0	14.61	33.60	6.88	297	0	14.61	33.60	6.88	25.00	297	0.00
10	13.92	33.57	6.48	285	10	13.92	33.57	6.48	25.12	285	0.03
29	11.34	33.55	4.73	239	20	12.65	33.55	5.74	25.35	263	0.06
43	10.91	33.69	4.11	221	30	11.30	33.55	4.71	25.61	239	0.08
52	10.25	33.70	3.58	210	50	10.40	33.70	3.62	25.89	212	0.13
60	9.97	33.74	3.43	202	75	9.83	33.92	2.70	26.16	187	0.18
70	9.84	33.88	2.85	190	100	9.61	34.03	2.16	26.28	175	0.22
89	9.72	33.98	2.24	180	150	9.62	34.25	1.43	26.45	159	0.31
103	9.58	34.04	2.15	174	200	9.49	34.33	1.25	26.54	151	0.38
116	9.53	34.12	1.82	167	250	9.23	34.34	1.16	26.59	146	0.46
139	9.58	34.20	1.55	162	300	8.91	34.37	0.96	26.66	139	0.53
167	9.65	34.29	1.38	156	400	8.00	34.40	0.77	26.83	123	0.67
203	9.44	34.33	1.24	150	500	7.03	34.39	0.51	26.95	111	0.79
254	9.21	34.34	1.12	146							
333	8.65	34.40	0.86	133							
432	7.68	34.40	0.72	119							
573	6.35	34.37	0.22	104							

PAOLINA-T; June 14, 1956; 2035 GCT; 31°11.5'N, 117°38'W; sounding, 980 fm; wind, 310°, force 7; weather, cloudy; sea, high; wire angle, 35°.

100.40

0	17.18	33.64	5.71	349	0	17.18	33.64	5.71	24.45	349	0.00
9	17.16	33.68	5.63	345	10	17.15	33.68	5.63	24.49	345	0.03
26	13.99	33.49	6.16	292	20	15.39	33.56	6.02	24.80	316	0.07
48	11.65	33.47	5.20	250	30	13.40	33.48	5.99	25.16	282	0.10
57	11.50	33.44	5.14	250	50	11.60	33.47	5.17	25.49	250	0.15
65	10.96	33.53	4.80	234	75	10.78	33.58	4.34	25.73	227	0.21
82	10.66	33.62	4.07	222	100	10.00	33.76	3.23	26.01	201	0.26
96	10.12	33.73	3.33	205	150	8.97	34.07	2.10	26.42	161	0.36
123	9.42	33.96	2.78	177	200	8.90	34.24	1.69	26.56	148	0.43
149	8.97	34.07	2.13	162	250	(8.19)	(34.20)	(1.61)	(26.64)	(141)	(0.51)
186	9.03	34.24	1.78	150	300	(7.78)	(34.25)	(1.20)	(26.74)	(131)	(0.58)
244	8.24	34.20	1.62	142	400	(7.20)	(34.31)	(0.66)	(26.87)	(118)	(0.71)
469	6.80	34.37	0.42	109	500	6.55	34.38	0.38	27.02	105	(0.82)
612	5.74	34.42	0.35	92	600	5.81	34.42	0.35	27.14	93	(0.93)
806	4.82	34.52	0.40	75	700	5.30	34.47	0.36	27.24	84	(1.02)
1060	3.94	34.57	0.72	62	800	4.85	34.52	0.40	27.33	75	(1.11)
					1000	4.10	34.56	0.65	27.45	64	(1.26)

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

103.35

PAOLINA-T; June 15, 1956; 1628, 1646 GCT; 30°55'N, 116°45'W; sounding, 900 fm; wind, 300°, force 7; weather, clear; sea, very rough; wire angle, 20°, 34°.

0	16.69	33.59	5.65	342	0	16.69	33.59	5.65	24.52	342	0.00
8	16.68	33.60	5.67	341	10	16.68	33.60	5.69	24.53	341	0.03
31	14.55	33.43	6.24	308	20	16.66	33.60	5.69	24.53	341	0.07
40	13.44	33.39	6.23	289	30	15.00	33.46	6.17	24.81	315	0.10
54	12.66	33.39	5.76	275	50	12.90	33.39	5.92	25.19	279	0.16
					75	11.90	33.40	5.41	25.39	260	0.23
64	12.21	33.40	5.56	266	100	10.52	33.53	4.59	25.73	227	0.29
73	11.95	33.40	5.44	260	150	9.25	33.87	2.83	26.22	181	0.39
91	11.07	33.48	4.87	240	200	8.40	34.01	2.49	26.46	158	0.48
108	10.08	33.56	4.39	217	250	8.12	34.16	1.99	26.62	143	0.56
121	9.66	33.63	4.01	206	300	7.79	34.22	1.41	26.71	133	0.63
142	9.38	33.84	3.03	185	400	7.01	34.27	0.75	26.87	119	0.76
176	8.75	33.94	2.60	168	500	6.31	34.30	0.58	26.98	109	0.88
211	8.30	34.04	2.44	155	600	(5.71)	(34.31)	(0.56)	(27.07)	(100)	(0.99)
264	8.04	34.18	1.70	140							
343	7.42	34.25	1.08	127							
449	6.62	34.29	0.61	113							
593	5.75	34.31	0.56	101							

103.40

PAOLINA-T; June 15, 1956; 2103 GCT; 30°44.5'N, 117°05'W; sounding, 840 fm; wind, 320°, force 6, weather, partly cloudy; sea, very rough; wire angle, 19°.

0	17.20	33.68	5.67	347	0	17.20	33.68	5.67	24.47	347	0.00
10	17.18	33.64	5.64	349	10	17.18	33.64	5.64	24.45	349	0.03
33	17.10	33.65	5.61	347	20	17.15	33.65	5.62	24.46	348	0.07
62	14.00	33.53	6.05	290	30	17.12	33.65	5.61	24.47	347	0.10
72	12.47	33.44	5.37	267	50	17.15	33.65	5.61	24.50	345	0.17
86	11.62	33.43	5.16	253	75	12.25	33.43	5.29	25.35	264	0.25
96	10.94	33.44	4.94	240	100	10.79	33.45	4.77	25.63	237	0.31
115	10.42	33.51	4.22	226	150	9.77	33.88	2.68	26.14	188	0.42
129	10.16	33.73	3.25	206	200	9.06	34.07	2.29	26.40	164	0.51
148	9.78	33.88	2.68	189	250	8.13	34.13	1.98	26.59	145	0.59
172	9.46	34.05	2.31	171	300	7.58	34.17	1.70	26.70	135	0.66
200	9.06	34.07	2.29	164	400	6.75	(34.24)	0.58	(26.87)	(119)	(0.79)
227	8.46	34.10	2.13	153	500	6.55	(34.36)	0.50	(27.00)	(107)	(0.91)
283	7.75	34.16	1.81	138	600	5.55	(34.40)	0.34	(27.16)	(92)	(1.02)
366	6.86	34.20	1.13	123							
474	6.72	34.16r	0.55	-							
618	5.37	34.40	0.32	90							

107.35

BLACK DOUGLAS; June 16, 1956; 2318 GCT; 30°20'N, 116°23'W; sounding, 1100 fm; wind, 270°, force 2; weather, overcast; sea, rough; wire angle, 14°.

0	13.9	33.51	5.52	289	0	13.9	33.51	5.52	25.08	289	0.00
9	12.86	33.46	5.20	273	10	12.75	33.47	5.13	25.28	270	0.03
33	11.63	33.64	4.40	237	20	12.60	33.54	5.03	25.37	262	0.05
42	11.06	33.62	4.29	229	30	12.10	33.63	4.68	25.53	246	0.08
56	9.88	33.58	3.87	212	50	10.22	33.59	4.10	25.83	218	0.13
65	10.00	33.75	3.15	202	75	9.84	33.88	2.45	26.12	190	0.18
73	9.86	33.85	2.64	192	100	9.67	34.04	2.08	26.27	175	0.22
91	9.75	34.02	2.10	178	150	9.72	34.41	1.10	26.56	148	0.30
108	9.61	34.06	2.07	172	200	9.42	34.43	0.86	26.63	142	0.38
121	9.56	34.20	1.78	161	250	9.08	34.43	0.88	26.68	137	0.45
142	9.66	34.36	1.35	151	300	8.97	34.46	0.79	26.72	133	0.52
176	9.76	34.47	0.84	145	400	8.06	34.43	0.52	26.84	122	0.65
211	9.29	34.42	0.88	141	500	7.00	34.40	0.43	26.97	109	0.77
262	9.03	34.44	0.88	136							
340	8.78	34.48	0.52	129							
440	7.58	34.40	0.52	117							
572	6.37	34.42	0.32	100							

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

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BLACK DOUGLAS; June 16, 1956; 1906, 1958 GCT; 30°10.5'N, 116°43.5'W; sounding, 1550 fm; wind, 310°, force 4; weather, overcast; sea, rough; wire angle, 18°, 15°.

107.40

0	13.25	33.49	5.64	278	0	13.25	33.49	5.64	25.20	278	0.00
9	13.22	33.52	5.71	275	10	13.21	33.52	5.71	25.23	275	0.03
28	12.55	33.57	4.09	259	20	12.90	33.55	4.83	25.32	266	0.05
42	12.04	33.62	4.11	246	30	12.50	33.58	4.11	25.41	258	0.08
51	11.62	33.62	3.87	239	50	11.64	33.62	3.88	25.60	239	0.13
60	10.91	33.62	3.35	226	75	10.61	33.67	3.18	25.83	218	0.19
70	10.72	33.66	3.22	220	100	9.85	33.85	2.42	26.10	192	0.24
					150	9.04	34.04	2.10	26.38	165	0.33
91	10.16	33.75	2.76	204	200	8.62	34.20	1.78	26.57	147	0.41
102	9.80	33.87	2.39	190	250	8.37	34.29	1.16	26.68	137	0.48
138	9.29	34.02	2.14	171	300	8.01	34.30	1.06	26.74	131	0.55
165	8.76	34.08	2.04	158	400	7.20	34.36	0.15	26.91	115	0.68
200	8.62	34.20	1.78	147	500	6.46	34.35	0.15	27.00	107	0.79
249	8.37	34.29	1.16	137							
324	7.82	34.31	1.01	127							
418	7.06	34.36	0.07	113							
551	6.12	34.34	0.20	103							

BLACK DOUGLAS; June 16, 1956; 1331 GCT; 29°50.5'N, 117°23.5'W; sounding, 1500 fm; wind, 340°, force 5; weather, overcast; sea, very rough; wire angle, 12°.

107.50

0	16.7	33.60	5.39	342	0	16.7	33.60	5.39	24.52	342	0.00
9	16.7	33.60	4.93	342	10	16.7	33.60	4.92	24.52	342	0.03
29	16.63	33.60	4.56	340	20	16.7	33.60	4.80	24.52	342	0.07
43	15.98	33.57	5.15	328	30	16.63	33.60	4.56	24.55	340	0.10
52	15.16	33.57	5.24	310	50	15.35	33.57	5.23	24.84	312	0.17
61	12.87	33.46	5.56	272	75	11.62	33.48	5.12	25.50	249	0.24
70	12.06	33.48	5.42	257	100	10.15	33.61	4.82	25.86	214	0.30
86	10.82	33.49	4.63	234	150	9.34	33.90	3.95	26.23	180	0.40
101	10.14	33.61	4.82	214	200	8.25	34.02	2.45	26.49	155	0.48
115	9.82	33.71	4.19	202	250	7.68	34.14	1.82	26.67	138	0.56
136	9.43	33.84	4.12	186	300	7.10	34.15	1.69	26.76	129	0.63
162	9.20	33.95	3.30	174	400	6.39	34.25	0.72	26.93	113	0.75
196	8.34	34.01	2.59	157	500	5.95	34.35	0.48	27.07	100	0.86
244	7.74	34.14	1.84	139							
317	6.92	34.16	1.62	126							
411	6.33	34.26	0.66	112							
543	5.77	34.38	0.39	96							

BLACK DOUGLAS; June 16, 1956; 0631 GCT; 29°31'N, 118°03'W; sounding, 2000+ fm; wind, 330°, force 6; weather, missing; sea, very rough; wire angle, 07°.

107.60

0	16.3	33.50	5.44	341	0	16.3	33.50		24.54	341	0.00
10	16.30	33.49	4.31	341	10	16.30	33.49		24.54	341	0.03
29	16.31	33.46	4.85	343	20	16.30	33.48		24.53	342	0.07
44	16.19	33.44	5.20	342	30	16.31	33.46		24.52	343	0.10
52	14.46	33.36	5.30	312	50	14.58	33.37		24.83	313	0.17
62	14.12	33.33	5.89	307	75	13.14	33.27		25.05	292	0.24
71	13.38	33.26	5.78	298	100	12.03	33.31		25.29	269	0.32
90	12.37	33.33	4.53	274	150	9.77	33.62		25.93	208	0.44
103	11.89	33.30	5.15	267	200	8.40	33.99		26.44	160	0.53
117	11.09	33.37	3.97	248	250	7.67	34.05		26.59	145	0.61
139	10.22	33.54	4.36	221	300	6.98	34.09		26.72	133	0.68
166	9.16	33.72	3.28	191	400	6.21	34.20		26.92	115	0.81
201	8.39	33.99	3.08	160	500	5.83	34.32		27.06	101	0.92
251	7.66	34.05	2.90	145							
326	6.62	34.11	2.07	126							
421	6.12	34.24	0.98	110							
556	5.70	34.36	0.44	96							

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

107.70

BLACK DOUGLAS; June 15, 1956; 2204 GCT; 29°05'N, 118°45'W; sounding, 2000+ fm; wind, 340°, force 5; weather, cloudy; sea, very rough; wire angle, 05°.

0	-	33.57	5.37	-	0	(17.12)	33.57	5.37	(24.42)	(352)	(0.00)
10	17.12	33.56	5.42	354	10	17.12	33.56	5.42	24.40	354	0.04
29	17.12	33.57	5.52	352	20	17.12	33.57	5.45	24.41	352	0.07
44	17.04	33.69	5.39	342	30	17.12	33.57	5.52	24.41	352	0.10
53	15.72	-	5.62	-	50	15.82	33.51	5.60	24.66	329	0.17
63	15.48	33.47a)	5.86	324	75	15.63	33.59	5.66	24.77	319	0.25
72	15.63	33.57a)	5.66	320	100	14.05	33.39	5.66	24.96	300	0.33
90	14.60	33.48	5.93	306	150	11.30	33.63	4.73	25.67	233	0.47
104	13.82	33.37	5.59	298	200	9.18	33.86	3.69	26.22	181	0.57
118	13.06	33.48	5.59	275	250	8.12	34.05	2.92	26.53	152	0.66
141	11.8b)	33.56	5.25	246	300	7.4	34.11	2.42	26.68	137	0.73
167	10.42	33.76	3.84	208	400	6.5	34.23	1.35	26.90	116	0.87
203	9.08	33.87	3.67	179	500	5.86	34.33	0.73	27.07	100	0.98
252	8.10	34.05	2.91	151							
329	7.1b)	34.13	2.17	130							
424	6.28	34.25	1.13	112							
559	5.62	34.38	0.56	94							

107.80

BLACK DOUGLAS; June 15, 1956; 1430 GCT; 28°51.5'N, 119°22.5'W; sounding, 2100 fm; wind, 360°, force 6; weather, overcast; sea, high; wire angle, 06°.

0	-	33.64	-	-	0	(17.27)	33.64		(24.43)	(351)	(0.00)
10	17.27	33.66		350	10	17.27	33.66		24.44	350	0.04
29	17.28	33.65		350	20	17.28	33.66		24.44	350	0.07
43	17.26	33.67		348	30	17.28	33.65		24.44	350	0.10
53	16.90	33.69		339	50	17.12	33.69		24.50	344	0.17
62	15.84	33.58		324	75	15.11	33.50		24.82	314	0.26
72	15.11	33.47		317	100	15.06	33.81		25.06	291	0.33
91	15.10	33.70		300	150	10.8	33.60		25.73	227	0.46
105	15.02	33.86		286	200	9.12	33.87		26.24	179	0.57
119	13.06	33.55		270	250	8.15	34.03		26.51	153	0.65
142	11.5b)	33.57		240	300	7.8	34.15		26.67	138	0.73
168	9.98	33.68		206	400	7.1	34.31		26.88	118	0.86
204	9.01	33.89		176	500	6.39	34.36		27.02	105	0.98
253	8.08	34.04		152							
329	7.6b)	34.22		132							
424	6.91	34.33		113							
556	5.88	34.36		99							

107.90

BLACK DOUGLAS; June 15, 1956; 0733 GCT; 28°31.5'N, 120°01'W; sounding, 2200 fm; wind, 340°, force 5; weather, cloudy; sea, very rough; wire angle, 08°.

0	16.7	33.37	5.20	358	0	16.7	33.37	5.20	24.35	358	0.00
10	16.67	33.37	5.22	357	10	16.67	33.37	5.22	24.36	357	0.04
34	16.65	33.45	4.63	351	20	16.66	33.39	5.00	24.38	356	0.07
43	15.76	33.45	4.85	332	30	16.66	33.42	4.80	24.40	354	0.11
57	14.58	33.33	5.34	316	50	15.18	33.39	5.10	24.71	324	0.17
67	14.42	33.35	5.91	312	75	13.70	33.23	5.58	24.91	305	0.25
77	13.40	33.19	5.44	303	100	12.88	33.37	4.70	25.17	280	0.33
96	12.80	33.31	4.92	283	150	10.1	33.59	4.22	25.86	215	0.45
115	12.02	33.40	4.53	262	200	8.83	33.86	3.03	26.27	176	0.55
128	11.23	33.45	4.82	244	250	8.10	34.07	2.25	26.54	150	0.64
151	10.1b)	33.59	4.21	215	300	7.4	34.11	1.88	26.68	137	0.71
187	9.10	33.78	3.42	186	400	6.3	34.17	0.85	26.88	118	0.84
222	8.45	33.96	2.48	162	500	5.79	34.33	0.48	27.07	100	0.96
275	7.75	34.10	2.07	142	600	(5.27)	(33.36)	(0.32)	(27.16)	(92)	(1.06)
355	6.6b)	34.11	1.55	126							
459	6.02	34.29	0.59	106							
599	5.28	34.36	0.32	92							

a) Broken bottle cap; value falls on property curve.

b) Temperature inferred from pressure-thermometer and wire depth.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

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BLACK DOUGLAS; June 13, 1956; 0733 GCT; 29°46.5'N, 116°00'W; sounding, 500 fm; wind, 260°, force 2; weather, clear; sea, moderate; wire angle, 15°.

110.35

0	16.76	33.59	5.41	343	0	16.76	33.59	5.41	24.51	343	0.00
9	16.31	33.65	4.85	329	10	16.28	33.65	4.88	24.67	328	0.03
28	15.07	33.57	5.46	309	20	16.21	33.65	4.92	24.68	327	0.07
42	13.08	33.52	5.24	273	30	14.80	33.56	5.46	24.91	305	0.10
52	11.62	33.57	4.18	242	50	11.83	33.56	4.33	25.53	246	0.15
61	10.90	33.62	3.70	226	75	10.54	33.67	3.47	25.85	216	0.21
70	10.67	33.64	3.49	221	100	9.62	33.80	3.30	26.10	192	0.26
88	10.10	33.82	2.26u	198	150	9.41	34.16	2.31	26.41	162	0.35
102	9.60	33.80	3.27	192	200	9.50	34.38	1.10	26.57	147	0.43
115	9.76	34.00	2.57	179	250	9.76	34.59	0.38	26.69	135	0.50
137	9.53	34.13	2.35	166	300	9.20	34.53	0.40	26.74	131	0.57
163	9.17	34.17	2.17	157	400	8.17	34.45	0.36	26.84	121	0.70
197	9.44	34.34	1.15	149	500	7.07	34.41	0.30	26.97	110	0.82
245	9.80	34.59	0.38	136							
318	8.98	34.51	0.41	129							
410	8.06	34.45	0.34	120							
541	6.57	34.40	0.29	104							

BLACK DOUGLAS; June 13, 1956; 1046 GCT; 29°36.5'N, 116°19.5'W; sounding, 1250 fm; wind, 320°, force 2; weather, clear; sea, moderate; wire angle, 05°.

110.40

0	16.73	33.66	5.04	338	0	16.73	33.66	5.04	24.57	338	0.00
10	16.67	33.62	5.44	339	10	16.67	33.62	5.44	24.55	339	0.03
29	15.77	33.63	5.56	319	20	16.65	33.62	5.44	24.56	339	0.07
53	11.24	33.62	4.60	232	30	15.76	33.63	5.55	24.77	319	0.10
62	10.78	33.68	3.94	220	50	11.65	33.62	4.74	25.60	240	0.16
72	10.50	33.72	2.73	212	75	10.41	33.74	2.67	25.91	210	0.21
90	9.92	33.86	2.51	192	100	9.81	33.86	2.44	26.11	191	0.26
104	9.78	33.86	2.34	190	150	9.18	34.13	1.88	26.43	161	0.35
136	9.21	34.11	2.14	162	200	8.78	34.24	1.57	26.59	146	0.43
163	9.05	34.18	1.69	155	250	8.21	34.26	1.34	26.68	137	0.50
204	8.70	34.25	1.52	145	300	7.83	34.31	1.02	26.78	128	0.57
266	8.00	34.27	1.21	133	400	7.43	34.43	0.66	26.93	114	0.70
374	7.66	34.43	0.76	116	500	6.41	34.42	0.50	27.06	101	0.81
503	6.38	34.42	0.50	100	600	5.79	34.42	0.27	27.14	93	0.91
652	5.49	34.42	0.16	90	700	5.32	34.43	0.21	27.20	87	1.01
848	4.68	34.46	0.44	78	800	4.88	34.45	0.37	27.27	81	1.10
1096	3.65	34.57	0.60	59	1000	4.08	34.51	0.57	27.41	67	1.26

BLACK DOUGLAS; June 13, 1956; 1710 GCT; 29°16.5'N, 116°59'W; sounding, 1700 fm; wind, 300°, force 2; weather, partly cloudy; sea, very rough; wire angle, 07°.

110.50

0	16.73	33.69	5.16	335	0	16.73	33.69	5.16	24.60	335	0.00
10	16.60	33.68	5.52	333	10	16.60	33.68	5.52	24.62	333	0.03
29	16.39	33.68	5.33	329	20	16.50	33.68	5.43	24.64	331	0.07
53	13.43	33.41	5.71	287	30	16.38	33.68	5.33	24.66	329	0.10
62	12.72	33.40	5.51	275	50	13.80	33.43	5.69	25.04	293	0.16
72	11.88	33.41	5.14	258	75	11.67	33.42	5.04	25.45	254	0.23
105	10.05	33.57	4.12	216	100	10.28	33.54	4.25	25.78	222	0.29
137	9.16	33.78	3.24	186	150	8.95	33.85	3.04	26.25	178	0.39
164	8.78	33.90	2.87	172	200	8.50	34.12	2.24	26.53	152	0.48
204	8.47	34.13	2.15	150	250	8.17	34.20	1.69	26.64	141	0.55
267	8.02	34.22	1.48	137	300	7.78	34.23	1.28	26.72	133	0.62
376	7.13	34.27	0.79	121	400	6.98	34.29	0.68	26.89	117	0.75
506	6.22	34.40	0.39	100	500	6.25	34.40	0.40	27.07	101	0.86
654	5.52	34.43	0.28	89	600	5.78	34.42	0.29	27.15	92	0.97
850	4.60	34.52	0.40	72	700	5.30	34.45	0.28	27.23	85	1.06
1095	3.72	34.54	0.70	62	800	4.82	34.50	0.36	27.32	76	1.15
					1000	4.02	34.53	0.58	27.43	66	1.30

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	dyn. m

110.60

BLACK DOUGLAS; June 14, 1956; 0017 GCT; 28°57'N, 117°37'W; sounding, 2000 fm; wind, 320°, force 6; weather, partly cloudy; sea, very rough; wire angle, 22°.

0	16.62	33.51	4.98	346	0	16.62	33.51	4.98	24.48	346	0.00
9	16.62	33.54	4.85	344	10	16.60	33.55	4.77	24.51	343	0.03
31	16.38	33.57	4.55	337	20	16.55	33.56	4.67	24.53	341	0.07
53	14.83	33.48	4.92	310	30	16.39	33.57	4.55	24.58	337	0.10
62	14.66	33.49	5.27	306	50	14.93	33.48	4.88	24.84	312	0.17
70	14.68	33.56	4.44	302	75	14.59	33.59	4.44	24.99	298	0.24
87	14.20	33.60	4.50	288	100	13.35	33.60	4.75	25.26	272	0.32
104	12.96	33.60	4.87	264	150	9.83	33.62	3.73	25.92	209	0.44
133	10.58	33.49	3.84	230	200	8.62	33.92	3.04	26.35	168	0.53
162	9.47	33.73	3.64	195	250	7.79	34.01	2.48	26.55	149	0.62
204	8.54	33.93	3.00	166	300	7.34	34.13	1.82	26.71	134	0.69
277	7.41	34.06	2.17	140	400	7.12	34.32	0.75	26.89	117	0.82
374	7.25	34.31	0.82	120	500	6.30	34.37	0.69	27.04	103	0.93
506	6.26	34.38	0.69	102	600	5.60	34.47	0.91	27.20	87	1.04
655	5.31	34.49	0.96	82	700	5.08	34.50	0.88	27.29	79	1.12
853	4.47	34.52	0.50	71	800	4.70	34.51	0.55	27.34	74	1.21
1103	3.76	34.52	0.79	64	1000	3.95	34.52	0.68	27.43	66	1.36

110.70

BLACK DOUGLAS; June 14, 1956; 0830 GCT; 28°36.5'N, 118°18'W; sounding, 2000+ fm; wind, 340°, force 6; weather, clear; sea, very rough; wire angle, 10°.

0	17.19	33.60	5.54	352	0	17.19	33.60	5.54	24.42	352	0.00
10	17.18	33.58	5.36	353	10	17.18	33.58	5.36	24.40	353	0.04
29	17.18	33.58	5.46	353	20	17.18	33.58	5.40	24.40	353	0.07
53	17.20	33.80	5.38	338	30	17.19	33.58	5.45	24.40	353	0.11
62	16.66	33.64	5.49	337	50	17.20	33.79	5.39	24.55	339	0.18
72	16.20	33.58	5.73	332	75	15.97	33.55	5.79	24.67	328	0.26
91	14.86	33.46	5.86	312	100	14.84	33.59	5.83	24.95	302	0.34
105	14.80	33.66	5.68	296	150	11.40	33.53	4.83	25.58	242	0.48
137	12.66	33.58	5.09	260	200	9.30	33.84	3.25	26.19	184	0.59
164	10.21	33.49	4.50	224	250	8.68	34.12	2.37	26.50	154	0.67
205	9.22	33.88	3.12	180	300	8.01	34.17	1.87	26.64	141	0.75
268	8.47	34.16	2.17	148	400	6.61	34.20	1.00	26.86	120	0.88
377	6.76	34.18	1.25	123	500	6.43	34.39	0.45	27.04	103	1.00
509	6.42	34.40	0.44	102	600	5.82	34.41	0.38	27.13	94	1.11
659	5.35	34.42	0.37	88	700	5.15	34.43	0.40	27.23	85	1.20
855	4.58	34.46	0.51	76	800	4.77	34.45	0.49	27.29	79	1.29
1101	3.83	34.53	0.61	64	1000	4.14	34.50	0.58	27.40	69	1.46

110.80

BLACK DOUGLAS; June 14, 1956; 1540 GCT; 28°16.5'N, 118°57.5'W; sounding, 2000+ fm; wind, 340°, force 6; weather, partly cloudy; sea, high; wire angle, 28°.

0	17.30	33.71	5.38	347	0	17.30	33.71	5.38	24.47	347	0.00
9	17.29	33.71	5.30	347	10	17.29	33.71	5.30	24.47	347	0.03
26	17.31	33.71	5.49	347	20	17.31	33.71	5.39	24.47	347	0.07
47	17.19	33.82	5.47	336	30	17.29	33.72	5.49	24.48	346	0.10
55	17.18	-	-	-	50	17.18	33.85	5.47	24.61	334	0.17
62	16.09	33.69	5.64	322	75	15.35	33.60	5.78	24.84	312	0.25
78	15.11	33.57	5.80	309	100	13.29	33.42	5.50	25.13	284	0.33
88	13.95	33.42	5.74	297	150	10.71	33.56	4.49	25.73	227	0.46
116	12.37	33.42	5.16	267	200	9.36	33.87	3.40	26.20	182	0.56
140	11.01	33.49	4.83	238	250	8.21	34.01	3.09	26.48	156	0.65
174	10.05	33.73	3.53	204	300	7.49	34.07	2.51	26.64	141	0.73
229	8.59	33.98	3.28	163	400	6.75	34.18	1.25	26.83	122	0.86
324	7.25	34.09	2.21	136	500	6.2	34.31	0.50	27.00	106	0.98
439	6.56	34.22	0.98	118	600	5.7	34.39	0.31	27.13	94	1.09
571	5.9a)	34.38	0.31	97	700	5.2	34.42	0.31	27.22	86	1.19
751	4.97	34.43	0.31	83	800	4.80	34.44	0.36	27.28	80	1.28
987	4.07	34.51	0.60	68	1000	(4.00)	(34.52)	(0.60)	(27.43)	(66)	(1.44)

a) Temperature inferred from pressure-thermometer and wire depth.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

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BLACK DOUGLAS; June 14, 1956; 1753 GCT;^{a)} 28°16.5'N, 118°57.5'W; sounding, 2000+ fm; wind, 340°, force 6; weather, partly cloudy; sea, high; wire angle, 18°.

110.80

799	4.72	34.45	0.37	97
813	4.69	34.45	0.42	97
826	4.62	34.45	0.54	96
839	4.54	34.47	0.42	91
852	4.52	34.47	0.35	90
865	4.47	34.47	0.42	89
878	4.40	34.51	0.40	82
891	4.35	34.50	0.54	82
903	4.27	34.51	0.30	79
916	4.24	34.49	0.49	82
930	4.21	34.52	0.57	77
942	4.16	34.50	0.57	78
955	4.1b)	34.51	0.56	76
969	4.08	34.54	0.57	71
982	4.04	34.53	0.64	72

BLACK DOUGLAS; June 15, 1956; 0035 GCT; 27°56.5'N, 119°36'W; sounding, 2100 fm; wind, 330°, force 6; weather, cloudy; sea, very rough; wire angle, 22°.

110.90

0	17.77	33.86	4.34	347	0	17.77	33.86	4.34	24.47	347	0.00
9	17.78	33.84	4.38	348	10	17.77	33.84	4.39	24.46	348	0.03
31	17.69	33.98	4.46	336	20	17.74	33.93	4.43	24.53	341	0.07
53	15.75	33.58	4.70	322	30	17.69	33.98	4.46	24.59	336	0.10
62	16.01	33.69	4.28	319	50	15.84	33.59	4.45	24.71	324	0.17
71	15.54	33.60	3.64	316	75	15.41	33.59	3.59	24.81	315	0.25
88	15.16	33.62	3.50	307	100	15.28	33.86		25.05	292	0.33
105	14.28	33.82	3.30	272	150	11.90	33.74	3.50	25.65	235	0.46
136	13.01	33.77	3.37	253	200	9.4	33.93	3.20	26.24	179	0.56
166	10.71	33.72	3.65	216	250	8.5	34.07	2.71	26.49	155	0.65
209	9.2b)	33.98	3.06	172	300	8.00	34.19	2.36	26.65	139	0.73
282	8.18	34.13	2.59	146	400	7.42	34.41	0.84	26.91	115	0.86
382	7.55	34.41	0.89	116	500	6.62	34.39	0.70	27.01	106	0.98
517	6.48	34.39	0.69	104	600	5.79	34.42	0.60	27.14	93	1.08
669	5.28	34.45	0.54	85	700	5.05	34.45	0.47	27.25	83	1.17
871	4.42	34.52	0.20	70	800	4.65	34.50	0.25	27.34	75	1.26
1127	3.65	34.57	0.47	59	1000	4.00	34.55	0.29	27.45	64	1.41

BLACK DOUGLAS; June 12, 1956; 1826 GCT; 29°12'N, 115°39'W; sounding, 800 fm; wind, 320°, force 3; weather, overcast; sea, moderate; wire angle, 00°.

113.35

0	16.51	33.62	-	336	0	16.51	33.62		24.59	336	0.00
10	16.38	33.61	-	333	10	16.38	33.61		24.62	333	0.03
29	15.41	33.64	-	310	20	16.05	33.61		24.64	331	0.07
43	14.02	33.62	5.72	284	30	15.40	33.64		24.86	310	0.10
53	12.85	33.61	4.92	262	50	13.17	33.61	5.15	25.31	267	0.16
63	12.30	33.60	4.58	253	75	11.25	33.65	3.84	25.69	231	0.22
72	11.58	33.62	4.15	238	100	10.06	33.77	3.30	26.00	202	0.27
91	10.65	33.71	3.32	215	150	9.88	34.24	2.00	26.40	164	0.36
104	9.85	33.80	3.29	196	200	10.73	34.64	0.35	26.56	148	0.44
117	9.75	33.96	2.89	182	250	10.32	34.63	0.25	26.63	142	0.52
140	9.87	34.16	2.08	169	300	9.99	34.63	0.20	26.69	136	0.59
167	10.78	34.54	0.66	156	400	8.30	34.41	0.45	26.79	127	0.72
203	10.71	34.64	0.31	148	500	7.07	34.37	0.36	26.93	113	0.85
253	10.29	34.63	0.24	141							
330	9.74	34.63	0.18	132							
425	7.85	34.36	0.50	124							
558	6.60	34.38	0.24	106							

a) Special cast.

b) Temperature inferred from pressure-thermometer and wire depth.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

113.35

BLACK DOUGLAS; June 12, 1956; 1945 GCT;^{a)} 29°12'N, 115°39'W; sounding, 800 fm; wind, 320°, force 3; weather, overcast; sea, moderate; wire angle, 00°.

104	10.12	33.71		206
107	10.12	33.79		201
110	9.87	33.80		196
114	9.72	33.80		194
117	9.56	33.80		191
121	9.41	33.81		188
124	9.73	33.96		182
128	9.78	34.02		178
131	9.76	34.00		180
135	9.73	34.00		179
138	9.89	34.09		175
141	9.93	34.13		172
144	9.92	34.13		172
148	9.94	34.18		169
152	9.96	34.20		168
154	9.88	34.20		167

113.40

BLACK DOUGLAS; June 12, 1956; 1455 GCT; 29°01.5'N, 115°57.5'W; sounding, 1000 fm; wind, 340°, force 3; weather, cloudy; sea, rough; wire angle, 12°.

0	17.07	33.66	5.96	345	0	17.07	33.66	5.96	24.49	345	0.00
9	17.06	33.66	5.76	345	10	17.06	33.66	5.76	24.49	345	0.03
33	17.02	33.69	5.69	342	20	17.05	33.67	5.75	24.50	344	0.07
43	16.58	33.60	5.78	339	30	17.03	33.68	5.70	24.51	343	0.10
57	14.56	33.45	6.32	305	50	15.40	33.50	6.14	24.75	321	0.17
66	13.79	33.46	6.42	291	75	13.30	33.48	6.01	25.18	280	0.24
76	13.28	33.48	6.00	279	100	11.38	33.59	4.49	25.63	236	0.31
95	11.74	33.57	4.73	244	150	9.78	33.93	3.08	26.17	185	0.42
113	10.58	33.66	3.86	218	200	8.99	34.16	2.20	26.49	155	0.50
127	10.08	33.78	3.54	201	250	8.58	34.24	1.69	26.61	144	0.58
150	9.78	33.93	3.08	185	300	8.03	34.28	1.53	26.72	133	0.65
185	9.23	34.11	2.56	163	400	7.01	34.33	1.29	26.91	115	0.78
221	8.83	34.19	2.00	151	500	6.50	34.40	0.98	27.04	103	0.89
274	8.36	34.28	1.56	137	600	(5.90)	(34.45)	(0.66)	(27.15)	(92)	(1.00)
355	7.33	34.29	1.46	122							
460	6.68	34.38	1.07	107							
599	5.91	34.45	0.66	92							

113.50

BLACK DOUGLAS; June 12, 1956; 0750 GCT; 28°42'N, 116°37.5'W; sounding, 2000 fm; wind, 320°, force 2; weather, clear; sea, rough; wire angle, 18°.

0	-	33.63	5.67	335	0	16.5	33.63	5.67	24.60	335	0.00
9	16.48	33.62	5.67	335	10	16.47	33.62	5.67	24.60	335	0.03
27	15.31	33.56	5.85	314	20	16.45	33.62	5.69	24.60	335	0.07
42	13.30	33.48	5.66	280	30	14.80	33.53	5.85	24.91	305	0.10
50	12.62	33.48	5.38	267	50	12.62	33.48	5.38	25.31	267	0.16
60	11.75	33.48	4.78	251	75	11.19	33.53	4.15	25.62	238	0.22
69	11.36	33.51	4.25	242	100	10.38	33.70	3.30	25.89	212	0.28
88	10.78	33.60	3.89	226	150	9.28	33.93	2.85	26.26	177	0.38
101	10.37	33.70	3.30	212	200	8.58	34.11	2.16	26.51	153	0.46
113	9.88	33.71	3.52	203	250	7.94	34.13	1.96	26.63	142	0.54
135	9.51	33.82	3.09	189	300	7.74	34.22	1.28	26.72	133	0.61
160	9.16	34.00	2.63	170	400	6.92	34.29	0.60	26.89	116	0.74
195	8.64	34.11	2.19	154	500	6.08	34.35	0.47	27.05	102	0.85
243	7.98	34.13	2.00	143							
316	7.63	34.47b)	1.00	-							
409	6.81	34.30	0.57	115							
540	5.76	34.36	0.43	97							

a) Special cast.

b) Loose bottle cap; value does not fall on property curve.

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m	

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BLACK DOUGLAS; June 12, 1956; 0125 GCT; 28°22'N, 117°16.5'W; sounding, 2050 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 00°.

113.60

0	16.93	33.62	5.48	345	0	16.93	33.62	5.48	24.49	345	0.00
9	16.90	33.60	5.37	346	10	16.89	33.60	5.38	24.48	346	0.03
29	16.65	33.62	5.60	338	20	16.79	33.61	5.47	24.52	342	0.07
44	15.86	33.58	5.84	324	30	16.63	33.62	5.62	24.56	338	0.10
53	15.44	33.55	5.78	318	50	15.62	33.57	5.81	24.75	320	0.17
63	14.68	33.51	5.53	305	75	13.31	33.54	4.95	25.22	276	0.24
72	13.66	33.53	5.03	283	100	11.70	33.58	4.40	25.56	243	0.31
91	12.19	33.55	4.74	254	150	9.64	33.90	3.19	26.17	185	0.42
104	11.46	33.59	4.24	238	200	8.90	34.06	2.19	26.42	162	0.51
117	10.63	33.62	3.98	222	250	8.48	34.17	1.52	26.57	147	0.58
139	9.92	33.85	3.40	193	300	7.86	34.23	1.00	26.71	134	0.66
166	9.28	33.98	2.89	174	400	6.87	34.27	0.63	26.88	118	0.79
202	8.88	34.07	2.17	161	500	6.15	34.32	0.43	27.02	105	0.90
253	8.44	34.18	1.48	146							
329	7.50	34.25	0.82	128							
425	6.68	34.28	0.58	114							
558	5.70	34.36	0.32	96							

BLACK DOUGLAS; June 11, 1956; 1858 GCT; 28°02.5'N, 117°58.5'W; sounding, 2000+ fm; wind, 350°, force 3; weather, clear; sea, moderate; wire angle, 10°.

113.70

0	17.16	33.51	5.39	358	0	17.16	33.51	5.39	24.35	358	0.00
9	16.90	33.48	5.66	354	10	16.89	33.48	5.66	24.39	354	0.04
29	16.65	33.53	5.60	345	20	16.80	33.52	5.63	24.45	349	0.07
43	15.83	33.60	5.69	322	30	16.55	33.56	5.61	24.54	341	0.10
53	16.05	33.75	5.77	316	50	16.05	33.74	5.75	24.79	317	0.17
62	15.59	33.71	5.51	309	75	13.95	33.49	5.67	25.05	292	0.25
72	14.33	33.51	5.71	298	100	12.33	33.51	4.85	25.39	259	0.32
90	12.75	33.46	5.18	271	150	10.42	33.86	2.65	26.01	201	0.43
103	12.18	33.53	4.70	255	200	10.00	34.23	1.63	26.36	167	0.53
117	11.28	33.58	4.05	236	250	9.67	34.37	1.16	26.54	151	0.61
139	10.66	33.80	3.00	209	300	9.41	34.43	0.92	26.63	142	0.68
165	10.37	34.02	2.36	188	400	7.95	34.39	0.70	26.83	123	0.82
201	10.01	34.23	1.61	166	500	6.88	34.40	0.48	26.99	108	0.94
250	9.67	34.37	1.16	151							
326	9.25	34.44	0.74	139							
421	7.59	34.38	0.67	119							
553	6.48	34.42	0.34	102							

BLACK DOUGLAS; June 11, 1956; 1036 GCT; 27°36'N, 118°47'W; sounding, 2000+ fm; wind, 350°, force 5; weather, overcast; sea, very rough; wire angle, 08°.

113.80

0	16.96	33.62	5.51	345	0	16.96	33.62	5.51	24.49	345	0.00
10	16.95	33.62	5.51	345	10	16.95	33.62	5.51	24.49	345	0.03
35	16.96	33.62	5.53	345	20	16.95	33.62	5.52	24.49	345	0.07
43	16.88	33.63	5.54	343	30	16.96	33.62	5.53	24.49	345	0.10
57	16.03	33.63	5.73	324	50	16.55	33.63	5.59	24.55	340	0.17
66	15.40	33.57	5.83	315	75	14.67	33.57	5.94	24.97	300	0.25
75	14.67	33.57	5.94	300	100	12.56	33.54	4.98	25.37	261	0.32
93	13.16	33.55	5.37	272	150	10.30	33.81	2.82	26.00	202	0.44
111	11.84	33.53	4.47	249	200	9.82	34.10	2.29	26.30	173	0.54
124	11.30	33.58	4.10	236	250	9.28	34.26	1.53	26.51	153	0.62
146	10.42	33.77	3.09	207	300	8.83	34.31	1.13	26.62	143	0.70
182	9.85	34.02	2.30	180	400	7.47	34.33	0.66	26.84	122	0.84
218	9.19	34.11	2.22	162	500	6.80	34.37	0.40	26.98	109	0.96
271	9.31	34.32	1.32	149	600	(5.98)	(34.40)	(0.37)	(27.11)	(96)	(1.06)
351	7.90	34.29	0.94	130							
454	7.13	34.36	0.45	114							
593	6.02	34.40	0.37	97							

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m	

117.40

BLACK DOUGLAS; June 9, 1956; 1140 GCT; 28°28'N, 115°35.5'W; sounding, 400 fm; wind, 300°, force 3; weather, missing; sea, moderate; wire angle, 04°.

0	16.38	33.68	5.45	329	0	16.38	33.68	5.45	24.66	329	0.00
10	16.36	33.64	5.58	331	10	16.36	33.64	5.58	24.64	331	0.03
29	15.62	33.64	5.80	315	20	16.07	33.64	5.68	24.71	324	0.06
43	15.01	33.62	5.90	304	30	15.60	33.64	5.80	24.81	314	0.10
53	13.92	33.58a)	5.58	284	50	14.24	33.59	5.67	25.07	290	0.16
62	13.36	33.58	5.57	274	75	12.02	33.57	4.55	25.49	250	0.22
71	12.47	33.55	4.95	259	100	10.41	33.85	2.72	26.00	202	0.28
90	10.68	33.73	3.34	214	150	10.00	34.21	1.63	26.35	168	0.38
103	10.37	33.89	2.55	197	200	9.77	34.29	1.52	26.46	158	0.46
117	10.16	34.04	2.19	183	250	9.76	34.44	0.95	26.57	147	0.54
139	10.04	34.11	1.90	176	300	9.62	34.55	0.50	26.68	137	0.61
165	9.94	34.27	1.47	162	400	9.08	34.53	0.34	26.76	130	0.75
201	9.76	34.29	1.52	158	500	7.93	34.47	0.33	26.89	117	0.88
250	9.76	34.44	0.95	147							
326	9.50	34.55	0.43	135							
423	8.90	34.52	0.33	128							
561	6.88	34.42	0.34	107							

117.50

BLACK DOUGLAS; June 10, 1956; 0803 GCT; 28°08'N, 116°15'W; sounding, 2000+ fm; wind, 330°, force 4; weather, missing; sea, moderate; wire angle, 12°.

0	17.54	33.70	5.36	353	0	17.54	33.70	5.36	24.41	353	0.00
9	17.44	33.68	5.45	352	10	17.44	33.68	5.45	24.42	352	0.04
28	17.41	33.70	5.28	350	20	17.43	33.69	5.34	24.43	351	0.07
42	16.54	33.69	5.57	331	30	17.35	33.71	5.29	24.46	348	0.10
52	16.12	33.67	5.72	323	50	16.22	33.67	5.69	24.70	325	0.17
60	14.98	33.69	5.73	298	75	13.62	33.56	5.62	25.17	280	0.25
69	14.08	33.56	5.79	290	100	11.85	33.66	4.19	25.59	240	0.31
87	12.75	33.60	5.06	260	150	9.68	33.96	2.60	26.22	181	0.42
100	11.85	33.66	4.19	240	200	8.79	34.14	2.34	26.50	154	0.50
112	10.61	33.65	4.45	219	250	8.28	34.23	1.88	26.65	140	0.58
133	9.99	33.83	3.06	196	300	7.98	34.31	1.08	26.76	129	0.65
158	9.49	34.29r	2.50	-	400	7.42	34.41	0.42	26.92	114	0.78
192	8.89	34.12	2.36	157	500	6.75	34.49	0.29	27.08	100	0.89
238	8.35	34.21	1.98	142							
311	7.88	34.33	0.97	127							
404	7.41	34.42	0.40	114							
544	6.40	34.52	0.25	93							

117.60

BLACK DOUGLAS; June 10, 1956; 1518 GCT; 27°47.5'N, 116°54'W; sounding, 2000+ fm; wind, 330°, force 4; weather, overcast; sea, rough; wire angle, 17°.

0	-	33.71	5.52	-	0	(17.12)	33.71	5.52	(24.51)	(343)	(0.00)
9	17.12	33.73	5.50	341	10	17.12	33.73	5.50	24.53	341	0.03
33	17.13	33.71	5.34	343	20	17.12	33.72	5.42	24.52	342	0.07
42	16.72	33.69	5.52	335	30	17.12	33.71	5.34	24.51	343	0.10
56	14.13	33.48	5.26	295	50	15.20	33.57	5.38	24.85	311	0.17
65	13.03	33.40	5.22	280	75	11.73	33.43	5.07	25.44	255	0.24
74	11.74	33.43	5.08	255	100	10.19	33.60	4.39	25.85	216	0.30
91	10.68	33.54	4.71	229	150	8.89	33.94	2.73	26.33	170	0.40
108	9.78	33.66	4.04	205	200	9.25	34.32	0.82	26.56	148	0.48
121	9.37	33.75	3.31	192	250	9.21	34.46	0.58	26.68	137	0.55
142	9.00	33.90	2.94	175	300	8.50	34.43	0.41	26.77	129	0.62
176	8.62	34.07	0.92	157	400	7.17	34.37	0.36	26.93	114	0.74
210	9.40	34.39	0.78	145	500	6.26	34.38	0.34	27.05	102	0.86
262	9.08	34.46	0.53	135	600	(5.65)	(34.40)		(27.14)	(93)	(0.96)
340	7.88	34.39	0.34	122							
443	6.68	34.37	0.37	108							
584	5.76	34.40	0.27	94							

a) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m

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BLACK DOUGLAS; June 10, 1956; 2108 GCT; 27°29.5'N, 117°30.5'W; sounding, 2000+ fm; wind, 320°, force 3; weather, cloudy; sea, rough; wire angle, 14°.

117.70

0	16.86	33.64	4.93	342	0	16.86	33.64	4.93	24.53	342	0.00
9	16.78	33.60	5.02	343	10	16.77	33.60	5.03	24.51	343	0.03
33	14.83	33.37	5.30	318	20	16.70	33.59	5.05	24.52	342	0.07
42	14.51	33.37	5.45	312	30	14.97	33.38	5.26	24.75	320	0.10
57	13.69	33.26	5.56	304	50	14.18	33.33	5.52	24.88	308	0.16
66	13.04	33.30	5.48	288	75	13.01	33.37	4.82	25.15	282	0.24
75	13.01	33.37	4.82	282	100	11.35	33.52	4.37	25.58	241	0.30
93	11.68	33.46	4.66	252	150	10.45	34.16	1.90	26.24	179	0.41
112	10.85	33.64	3.64	224	200	10.21	34.44	0.72	26.50	154	0.49
124	10.38	33.82	2.75	203	250	9.46	34.44	0.67	26.63	142	0.57
148	10.46	34.14	1.93	181	300	8.71	34.39	0.71	26.71	134	0.64
180	10.35	34.39	0.96	160	400	7.42	34.37	0.52	26.88	118	0.77
214	10.06	34.62u	0.66	-	500	6.74	34.41	0.30	27.01	105	0.89
266	9.30	34.44	0.68	140	600	(5.77)	(34.41)		(27.14)	(93)	(0.99)
345	7.86	34.34	0.72	126							
448	7.15	34.40	0.36	112							
586	5.94	34.41	0.27	95							

BLACK DOUGLAS; June 11, 1956; 0335, 0355 GCT; 27°08'N, 118°11'W; sounding, 2150 fm; wind, 340°, force 4; weather, overcast; sea, very rough; wire angle, 18°, 16°.

117.80

0	16.66	33.62	5.59	339	0	16.66	33.62	5.59	24.56	339	0.00
9	16.66	33.57	5.62	342	10	16.66	33.57	5.62	24.52	342	0.03
32	16.72	33.62	5.57	341	20	16.67	33.58	5.61	24.52	342	0.07
					30	16.71	33.61	5.58	24.53	341	0.10
41	16.76	33.66	5.57	338	50	14.85	33.45	5.98	24.83	313	0.17
56	13.88	33.36	6.16	300	75	13.04	33.42	5.93	25.18	279	0.24
65	13.50	33.40	5.76	290	100	11.32	33.50	4.93	25.57	242	0.31
75	13.04	33.42	5.93	279	150	9.98	33.96	2.82	26.16	186	0.42
93	11.90	33.43	5.26	258	200	9.97	34.26	1.90	26.38	165	0.50
111	10.44	33.54	4.44	225	250	9.81	34.46	0.78	26.59	146	0.58
124	10.01	33.64	3.79	210	300	9.23	34.47	0.95	26.68	137	0.66
146	9.98	33.93	2.91	188	400	7.99	34.42	1.11	26.84	121	0.79
181	9.98	34.22	2.21	174	500	7.00	34.42	0.85	26.98	108	0.91
216	9.91	34.33	1.50	157	600	(5.83)	(34.42)	(0.97)	(27.14)	(94)	(1.02)
270	9.61	34.48	0.65	141							
350	8.54	34.42	1.39	130							
456	7.41	34.42	0.83	114							
596	5.90	34.42	0.97	94							

BLACK DOUGLAS; June 9, 1956; 1405 GCT; 28°18.5'N, 115°24'W; sounding, 160 fm; wind, 310°, force 2; weather, overcast; sea, moderate; wire angle, 18°.

118.39

0	14.42	33.68	5.92	287	0	14.42	33.68	5.92	25.10	287	0.00
9	14.44	33.68	5.94	288	10	14.43	33.68	5.93	25.10	287	0.03
27	13.16	33.68	5.33	263	20	13.73	33.68	5.65	25.24	274	0.06
45	11.36	33.68	4.05	230	30	12.82	33.68	5.16	25.43	256	0.08
66	10.64	33.73	3.13	214	50	11.12	33.69	3.79	25.75	225	0.13
88	10.24	33.95	1.75	191	75	10.46	33.80	2.60	25.95	206	0.18
108	10.05	34.05	1.67	180	100	10.13	34.00	1.69	26.17	185	0.24
143	10.16	34.31	1.33	163	150	10.19	34.32	1.25	26.41	162	0.32
177	10.24	34.42	1.18	156	200	10.06	34.44	1.00	26.52	152	0.40
221	9.82	34.45	0.92	147							

BLACK DOUGLAS; June 8, 1956; 1440 GCT; 28°19'N, 114°53'W; sounding, 60 fm; wind, 320°, force 3; weather, overcast; sea, moderate; wire angle, 14°.

119.33

0	16.11	33.69	5.22	322	0	16.11	33.69	5.22	24.73	322	0.00
9	16.08	33.69	5.77	321	10	16.07	33.69	5.76	24.74	321	0.03
28	15.98	33.69	5.54	319	20	16.04	33.69	5.62	24.75	320	0.06
47	15.70	33.68	5.68	314	30	15.94	33.69	5.55	24.77	318	0.10
71	11.40	33.71	3.60	228	50	15.45	33.68	5.62	24.88	308	0.16
94	9.92	34.04	2.08	179	75	11.00	33.72	3.25	25.81	220	0.22
					100	(9.90)	(34.10)	(2.06)	(26.29)	(174)	(0.28)

179

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10 ⁻⁵ cm/g	m	°C	‰	ml/L	g/L	10 ⁻⁵ cm/g	dyn. m

120.45

BLACK DOUGLAS; June 8, 1956; 0455 GCT; 27°40.5'N, 115°29.5'W; sounding, 1300 fm; wind, 340°, force 4; weather, missing; sea, moderate; wire angle, 12°.

0	14.73	33.86	6.88	280	0	14.73	33.86	6.88	25.17	280	0.00
9	13.84	33.86	5.40	262	10	13.83	33.86	5.39	25.37	262	0.03
33	13.07	33.88	4.32	246	20	13.53	33.87	4.92	25.43	256	0.05
42	11.83	33.93	2.99	220	30	13.20	33.88	4.48	25.50	249	0.08
56	10.70	33.98	2.43	196	50	10.96	33.95	2.56	25.99	203	0.12
65	10.32	34.05	2.19	185	75	10.26	34.11	2.14	26.24	179	0.17
74	10.26	34.11	2.15	179	100	10.40	34.27	1.55	26.33	170	0.22
92	10.30	34.18	1.88	175	150	9.60	34.27	1.56	26.46	158	0.30
110	10.49	34.37	1.33	164	200	9.17	34.30	1.31	26.57	148	0.38
123	10.43	34.36	1.24	164	250	8.42	34.26	1.37	26.65	140	0.45
145	9.73	34.27	1.58	159	300	8.50	34.34	0.90	26.70	135	0.52
179	9.62	34.34	1.20	152	400	7.92	34.41	0.38	26.85	121	0.65
213	8.90	34.29	1.37	145	500	6.92	34.39	0.33	26.97	109	0.77
265	8.55	34.29	1.21	139	600	(6.02)	(34.43)		(27.12)	(95)	(0.88)
343	8.44	34.43	0.37	128							
445	7.42	34.38	0.38	117							
584	6.08	34.42	0.27	96							

120.50

BLACK DOUGLAS; June 8, 1956; 0035 GCT; 27°33'N, 115°52'W; sounding, 2101 fm; wind, 330°, force 3; weather, overcast; sea, moderate; wire angle, 25°.

0	17.88	33.73	5.48	359	0	17.88	33.73	5.48	24.34	359	0.00
8	17.82	33.73	5.48	357	10	17.81	(33.73)	5.49	(24.37)	(357)	(0.04)
31	17.51	33.86a)	5.56	-	20	17.70	(33.73)	5.52	(24.40)	(354)	(0.07)
39	16.84	33.68	5.68	338	30	17.52	(33.72)	5.55	(24.43)	(351)	(0.11)
53	16.65	33.79	5.75	326	50	16.70	33.77	5.72	24.66	329	(0.17)
61	16.10	33.72	5.81	319	75	14.98	33.66	5.73	24.97	300	(0.25)
70	15.55	33.69	5.77	309	100	12.72	33.57		25.37	262	(0.32)
86	13.72	33.58	5.54	280	150	10.00	33.94	2.40	26.14	188	(0.44)
104	12.40	33.58	3.96u	256	200	9.98	34.27	1.60	26.41	163	(0.52)
115	11.46	33.64	4.66u	234	250	9.38	34.36	1.20	26.58	147	(0.60)
136	10.44	33.84	2.95	202	300	8.80	34.38	1.10	26.69	136	(0.68)
167	10.15	34.13	2.00	176	400	7.15	34.28	0.84	26.85	121	(0.81)
198	9.98	34.25	1.60	164	500	6.28	34.37	0.47	27.04	103	(0.93)
246	9.49	34.37	1.20	148							
319	8.31	34.34	1.10	132							
415	6.96	34.27	0.78	119							
547	6.10	34.43b)	0.37	96							

120.55

BLACK DOUGLAS; June 7, 1956; 2118 GCT; 27°32.5'N, 116°08.5'W; sounding, 2100 fm; wind, 330°, force 3; weather, overcast; sea, rough; wire angle, 14°.

0	17.83	33.74	5.68	356	0	17.83	33.74		24.37	356	0.00
9	17.78	33.77	5.81	353	10	17.78	33.77		24.41	353	0.04
28	17.74	33.81	3.37	349	20	17.76	33.79		24.43	351	0.07
50	16.72	33.82	3.51	326	30	17.73	33.82		24.46	348	0.10
59	16.10	33.78	4.23	315	50	16.72	33.82		24.69	326	0.17
68	15.36	33.65	4.87	309	75	14.63	33.58		24.98	299	0.25
86	13.75	33.56	5.66	283	100	12.83	33.63		25.39	260	0.32
99	12.87	33.63	5.46	260	150	9.88	33.89		26.12	190	0.44
129	10.35	33.65	4.62	215	200	9.38	34.14		26.40	163	0.52
155	9.82	33.93	3.05	186	250	8.92	34.25		26.57	148	0.60
195	9.40	34.13	2.70	164	300	8.26	34.28		26.69	136	0.68
256	8.84	34.26	1.74	146	400	7.08	34.35		26.92	115	0.81
360	7.43	34.31	1.02	122	500	6.41	34.40		27.05	102	0.93
488	6.49	34.40	0.70	103	600	5.80	34.42		27.14	93	1.02
632	5.60	34.43	0.33	90	700	5.21	34.47		27.25	83	1.12
824	4.70	34.52	0.48	73	800	4.80	34.51		27.33	75	1.21
1070	3.88	34.56	0.69	62	1000	4.08	34.55		27.44	65	1.36

a) Loose bottle cap; value does not fall on property curve.

b) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

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BLACK DOUGLAS; June 7, 1956; 1805 GCT; 27°22.5'N, 116°26'W; sounding, 2000+ fm; wind, 320°, force 3; weather, overcast; sea, rough; wire angle, 18°.

120.60

0	-	33.74	4.42u	353	0	(17.68)	33.74		(24.41)	(353)	(0.00)
9	17.68	33.78	5.50	351	10	17.68	33.78	5.50	24.43	351	0.04
28	17.66	33.84	5.50	346	20	17.67	33.80	5.50	24.45	349	0.07
51	15.97	33.61	5.56	324	30	17.66	33.84	5.50	24.49	345	0.10
60	15.98	33.70	5.58	318	50	15.98	33.61	5.56	24.70	325	0.17
69	15.06	-	5.64	-	75	14.78	33.55	5.66	24.92	304	0.25
88	14.15	33.52	5.62	294	100	13.22	33.51	5.38	25.21	277	0.32
102	13.13	33.98a)	5.34	-	150	9.80	33.70	4.30	25.99	202	0.44
134	10.44	33.60b)	4.77	220	200	9.07	34.11	2.40	26.43	161	0.54
162	9.96	33.89	2.90	191	250	8.28	34.13	2.09	26.57	148	0.62
202	9.05	34.11c)	2.40	160	300	7.82	34.21	1.52	26.70	135	0.69
264	8.08	34.14	1.97	144	400	7.35	34.35	0.58	26.88	118	0.82
372	7.53	34.33	0.79	122	500	6.50	34.43	0.24	27.06	101	0.93
500	6.50	34.43	0.24	101	600	5.95	34.47	0.23	27.16	91	1.04
648	5.63	34.48b)	0.23	87	700	5.41	34.49	0.26	27.24	84	1.13
841	4.66	34.51	0.37	74	800	4.87	34.51	0.35	27.32	76	1.22
1092	3.86	34.56c)	0.62	62	1000	4.14	34.54	0.55	27.43	66	1.37

BLACK DOUGLAS; June 7, 1956; 1147 GCT; 26°55.5'N, 117°10'W; sounding, 2000+ fm; wind, 330°, force 4; weather, missing; sea, rough; wire angle, 10°.

120.70

0	17.36	33.68	5.49	350	0	17.36	33.68	5.49	24.44	350	0.00
9	17.35	33.66	5.43	352	10	17.34	33.66	5.44	24.43	351	0.04
33	16.09	33.62	5.80	327	20	17.33	33.66	5.45	24.43	351	0.07
57	12.92	33.47	5.27	273	30	16.60	33.64	5.69	24.59	336	0.10
67	12.68	33.53	4.80	265	50	13.62	33.49	5.48	25.12	285	0.17
76	12.01	33.55	4.38	251	75	12.03	33.55	4.39	25.48	251	0.23
94	10.95	33.68	3.45	223	100	10.62	33.73	3.15	25.88	213	0.29
113	9.90	33.87	2.65	191	150	9.65	34.15		26.37	167	0.39
145	9.25	34.04	2.36	169	200	9.52	34.39	1.30	26.58	147	0.47
176	9.17	34.20	2.18	156	250	8.60	34.35	1.09	26.69	136	0.54
221	9.11	34.38	1.28	141	300	7.98	34.32	0.73	26.77	129	0.61
296	8.00	34.32	0.74	129	400	7.28	34.38	0.48	26.91	115	0.73
397	7.31	34.38	0.50	115	500	6.55	34.39	0.33	27.02	104	0.85
536	6.30	34.40	0.26	101	600	5.92	34.43	0.25	27.13	94	0.95
692	5.38	34.47	0.24	84	700	5.37	34.47	0.25	27.24	84	1.05
900	4.33	34.49	0.48	72	800	4.83	34.49	0.33	27.31	77	1.14
1162	3.59	34.55	0.77	60	1000	3.98	34.49	0.61	27.40	68	1.29

BLACK DOUGLAS; June 7, 1956; 0533 GCT; 26°32.5'N, 117°48.5'W; sounding, 2000+ fm; wind, 330°, force 4; weather, missing; sea, moderate; wire angle, 20°.

120.80

0	17.2	33.68	5.64	347	0	17.2	33.68	5.64	24.47	347	0.00
9	17.16	33.68	5.45	346	10	17.16	33.68	5.45	24.48	346	0.03
32	17.13	33.68	5.40	345	20	17.14	33.68	5.43	24.48	346	0.07
55	15.08	33.64	5.79	304	30	17.13	33.68	5.42	24.49	345	0.10
64	13.69	33.54	5.67	283	50	15.75	33.66	5.70	24.79	316	0.17
73	13.07	33.53	5.30	272	75	12.99	33.53	5.24	25.28	270	0.24
91	12.04	33.55	4.67	251	100	11.45	33.61	4.36	25.64	236	0.31
109	10.92	-	3.98	-	150	9.90	33.99	2.57	26.20	183	0.41
140	9.95	33.87	2.71	192	200	9.20	34.23	1.83	26.50	154	0.50
169	9.74	34.14	1.88	169	250	8.80	34.38	0.70	26.69	136	0.57
212	9.38	34.33	1.33	149	300	8.47	(34.44)	0.48	(26.78)	(127)	(0.64)
285	8.60	34.44	0.56	129	400	7.73	(34.45)	0.23	(26.91)	(115)	(0.77)
382	7.93	-	0.23	-	500	6.35	(34.40)	0.27	(27.06)	(101)	(0.88)
514	6.16	34.40	0.28	99	600	5.57	34.41	0.31	27.16	91	(0.98)
666	5.24	34.43	0.34	86	700	5.12	34.45	0.36	27.25	83	(1.07)
867	4.46	34.54	0.49	69	800	4.73	34.51	0.43	27.35	74	(1.16)
1131	3.64	34.56	0.78	60	1000	4.02	34.56	0.64	27.46	63	(1.31)

a) Loose bottle cap; value does not fall on property curve.

b) Loose bottle cap; value falls on property curve.

c) Salinity bottles from 202 to 1092 meters, inclusive, were recorded differently on the titration form from the original data sheet. Since standard handling and titrating procedures were used, the salinity values are assumed to be in the order listed.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	10 cm/g	m	°C	‰	ml/L	g/L	10 cm/g	dyn. m	

123.42

BLACK DOUGLAS; June 6, 1956; 0618 GCT; 27°14'N, 114°59'W; sounding, 820 fm; wind, 310°, force 5;
weather, clear; sea, rough; wire angle, 10°.

0	16.43	33.75	5.14	324	0	16.43	33.75	5.14	24.71	324	0.00
9	16.42	33.73	6.00	326	10	16.42	33.73	6.00	24.69	326	0.03
33	12.52	33.73	4.17	247	20	16.43	33.73	6.00	24.69	326	0.06
43	11.76	33.72	3.73	234	30	13.80	33.73	4.72	25.27	271	0.10
57	10.78	33.69	3.72	219	50	11.25	33.71	3.72	25.74	226	0.14
66	10.48	33.75	3.50	210	75	10.78	33.94	2.40	26.01	201	0.20
74	10.79	33.93	2.43	202	100	10.98	34.24	1.25	26.22	181	0.25
93	10.94	34.18	1.56	185	150	10.74	34.42	0.70	26.39	164	0.33
111	11.00	34.32	1.18	176	200	10.40	34.56	0.37	26.56	149	0.41
124	10.95	34.40	0.92	169	250	9.80	34.49	0.27	26.62	143	0.49
146	10.77	34.41	0.80	166	300	9.59	34.56	0.16	26.70	135	0.56
180	10.72	34.59	0.34	152	400	8.85	34.55	0.04	26.82	124	0.69
215	10.14	34.52	0.39	147	500	7.84	34.53	0.06	26.95	112	0.82
268	9.74	34.52	0.25	141	600	(6.58)	(34.47)	(0.06)	(27.08)	(99)	(0.93)
349	9.24	34.58	0.03	128							
452	8.38	34.54	0.06	118							
597	6.62	34.47	0.06	100							

123.50

BLACK DOUGLAS; June 6, 1956; 1131 GCT; 26°56.5'N, 115°30.5'W; sounding, 2000 fm; wind, 310°, force 3;
weather, clear; sea, rough; wire angle, 00°.

0	17.73	33.71		356	0	17.73	33.71		24.37	356	0.00
10	17.68	33.73		354	10	17.68	33.73		24.40	354	0.04
33	17.69	33.69		357	20	17.68	33.71		24.38	356	0.07
43	17.30	33.79		341	30	17.69	33.69		24.36	357	0.11
57	16.30	33.72		324	50	16.79	33.75		24.63	332	0.18
66	15.98	33.72		316	75	15.29	33.69		24.92	304	0.26
75	15.29	33.69		304	100	13.59	33.64		25.25	273	0.33
93	14.27	33.67		285	150	10.39	33.87		26.03	199	0.45
111	12.30	33.59		253	200	10.26	34.32		26.39	164	0.54
125	11.30	33.61		234	250	9.65	34.42		26.58	146	0.62
147	10.40	33.86		200	300	8.79	34.41		26.72	133	0.69
183	10.26	34.22		171	400	7.93	34.42		26.85	121	0.82
220	9.91	34.34		157	500	7.18	34.42		26.97	110	0.95
274	9.16	34.41		139	600	5.95	34.42		27.12	95	1.05
356	8.20	34.42		125							
461	7.54	34.42		115							
601	5.95	34.42		95							

123.60

BLACK DOUGLAS; June 6, 1956; 1815 GCT; 26°38.5'N, 116°09'W; sounding, 2000 fm; wind, 320°, force 4;
weather, cloudy; sea, very rough; wire angle, 20°.

0	18.03	33.78	5.44	358	0	18.03	33.78	5.44	24.35	358	0.00
9	17.98	33.78	5.37	357	10	17.97	33.78	5.38	24.36	357	0.04
32	17.89	33.78	5.45	355	20	17.94	33.78	5.40	24.37	356	0.07
41	17.70	33.82	5.45	348	30	17.90	33.78	5.45	24.38	355	0.11
55	17.03	33.79	5.66	335	50	17.35	33.80	5.58	24.54	341	0.18
64	16.78	33.84	5.67	326	75	15.94	33.74	5.71	24.82	314	0.26
72	16.09	33.77	5.70	316	100	14.44	33.62	5.54	25.05	292	0.34
90	15.08	33.62	5.76	306	150	10.47	33.79	3.38	25.94	207	0.46
107	13.80	33.62	5.32	279	200	10.51	34.32	1.32	26.35	168	0.56
120	12.35	33.54	5.01	258	250	10.57	34.54	0.58	26.52	152	0.64
140	10.79	33.66	3.82	222	300	10.18	34.59	0.33	26.62	143	0.72
174	10.17	34.05	2.24	182	400	9.10	34.56	0.20	26.77	128	0.86
209	10.59	34.40	1.08	164	500	7.60	34.47	0.22	26.94	113	0.98
258	10.52	34.55	0.46	151							
334	9.80	34.59	0.28	136							
433	8.66	34.53	0.16	123							
567	6.30	34.39	0.34	101							

OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

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BLACK DOUGLAS; June 5, 1956; 0815 GCT; 26°42.5'N, 114°31'W; sounding, 2000 fm; wind, 340°, force 3; weather, clear; sea, rough; wire angle, 00°.

127.40

0	15.71	33.84		302	0	15.71	33.84		24.95	302	0.00
10	15.56	33.84		299	10	15.56	33.84		24.98	299	0.03
29	13.55	33.86		257	20	14.83	33.85		25.14	283	0.06
44	11.66	33.90		219	30	13.40	33.86		25.45	254	0.09
53	11.18	34.04		200	50	11.31	34.00		25.95	206	0.13
63	10.89	34.07		193	75	10.80	34.17		26.19	184	0.18
73	10.79	34.14		186	100	10.99	34.44		26.37	167	0.22
92	10.94	34.47u		-	150	11.03	34.62		26.49	155	0.31
106	10.99	34.47		165	200	10.80	34.69		26.59	145	0.38
120	11.06	34.52		162	250	10.19	34.68		26.69	136	0.45
143	11.01	34.60		156	300	9.63	34.64		26.75	130	0.52
170	11.10	34.69		151	400	8.58	34.55		26.86	120	0.65
206	10.73	34.69		144	500	7.52	34.53		27.00	107	0.77
255	10.12	34.68		135							
332	9.28	34.60		128							
429	8.25	34.54		117							
566	6.84	34.52		99							

BLACK DOUGLAS; June 5, 1956; 0120 GCT; 26°23.5'N, 115°08'W; sounding, 1850 fm; wind, 330°, force 2; weather, partly cloudy; sea, rough; wire angle, 00°.

127.50

0	17.51	33.66		355	0	17.51	33.66		24.39	355	0.00
10	16.90	33.65		342	10	16.90	33.65		24.52	342	0.03
29	15.45	33.66		310	20	16.20	33.65		24.69	326	0.07
43	13.88	33.63		280	30	15.42	33.66		24.86	310	0.10
53	12.36	33.64		251	50	12.88	33.64		25.39	260	0.16
63	11.56	33.61		238	75	11.06	33.66		25.74	226	0.22
72	11.22	33.65		230	100	11.02	34.02		26.03	199	0.27
91	11.06	33.87		210	150	10.78	34.54		26.48	156	0.36
104	10.97	34.07		194	200	10.52	34.63		26.59	145	0.44
119	10.01	34.05		180	250	9.99	34.67		26.72	133	0.51
140	10.79	34.49		160	300	9.26	34.63		26.81	125	0.58
167	10.84	34.61		152	400	8.12	34.57		26.95	112	0.70
203	10.44	34.63		144	500	7.15	34.56		27.07	100	0.81
252	9.95	34.67		133							
330	8.91	34.61		121							
427	7.80	34.56		109							
563	6.60	34.56		93							

BLACK DOUGLAS; June 4, 1956; 1814, 1853 GCT; 26°03'N, 115°46.5'W; sounding, 2200 fm; wind, 320°, force 2; weather, cloudy; sea, moderate; wire angle, 25°, 30°.

127.60

0	16.70	33.64		338	0	16.70	33.64		24.56	338	0.00
8	16.49	33.63		334	10	16.43	33.63		24.61	334	0.03
26	15.83	33.60		322	20	16.05	33.61		24.69	326	0.07
39	15.41	33.64		311	30	15.67	33.61		24.77	319	0.10
48	15.26	33.73		301	50	15.22	33.73		24.97	300	0.16
57	14.50	33.68		289	75	12.40	33.57		25.43	256	0.23
65	13.61	33.64		274	100	10.98	33.80		25.87	214	0.29
82	11.84	33.55		248	150	11.08	34.46		26.36	167	0.39
94	11.16	33.69		226	200	10.02	34.44		26.53	151	0.47
105	10.87	33.86		208	250	9.38	34.44		26.64	141	0.54
123	10.65	34.02		193	300	8.41	34.37		26.73	132	0.61
					400	7.68	34.45		26.90	116	0.74
140	10.90	34.37		171	500	(7.17)	(34.51)		(27.03)	(104)	(0.86)
168	11.06	34.54		161							
207	9.67	34.39		149							
272	8.85	34.37a)		138							
358	7.97	34.42		121							
490	7.20	34.50		105							

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	dyn. m

130.35

BLACK DOUGLAS; June 3, 1956; 1939, 2005 GCT; 26°19'N, 113°48.5'W; sounding, 300 fm; wind, calm;
weather, fog; sea, smooth; wire angle, 00°, 00°.

0	17.82	33.75		356	0	17.82	33.75		24.38	356	0.00
10	17.27	33.74		344	10	17.27	33.74		24.50	344	0.04
29	16.22	33.71		323	20	16.73	33.73		24.62	333	0.07
39	15.58	33.96r		-	30	16.18	33.71		24.74	322	0.10
48	15.26	33.68		304	50	15.17	33.67		24.93	303	0.16
58	13.94	33.63		281	75	12.15	33.65		25.53	246	0.23
67	12.69	33.63		257	100	11.26	34.10		26.04	198	0.29
81	11.80	33.68		238	150	11.74	34.67		26.41	163	0.38
94	11.24	33.96		207	200	11.16	34.71		26.54	150	0.46
					250	10.99	34.70		26.56	148	0.53
108	11.29	-		-	300	10.45	34.67		26.64	141	0.61
130	11.83	34.59		171	400	8.63	34.55		26.85	121	0.74
156	11.67	34.93r		-	500	(7.99)	(34.51)		(26.92)	(115)	(0.87)
186	11.32	34.71		153							
233	11.06	34.70		149							
279	10.76	34.69		145							
378	8.88	34.57		123							
479	8.08	34.52		116							

130.40

BLACK DOUGLAS; June 3, 1956; 2315 GCT; 26°09'N, 114°07.5'W; sounding, 1208 fm; wind 200°, force 2;
weather, cloudy; sea, slight; wire angle, 05°.

0	19.0	33.78		383	0	19.0	33.78		24.10	383	0.00
10	18.02	33.76		360	10	18.02	33.76		24.35	360	0.04
29	17.45	33.75		347	20	17.74	33.75		24.41	353	0.07
43	14.32	33.66		287	30	17.38	33.75		24.48	346	0.11
53	13.42	33.63		271	50	13.73	33.64		25.22	276	0.17
62	12.46	33.56		258	75	12.01	33.55		25.48	251	0.24
71	12.21	33.55		254	100	10.80	33.73		25.85	216	0.30
89	11.22	33.68		228							
103	10.67	33.75		213							

130.50

BLACK DOUGLAS; June 4, 1956; 0600 GCT; 25°49'N, 114°46'W; sounding, 2000 fm; wind, 320°, force 2;
weather, clear; sea, slight; wire angle, 10°.

0	18.19	33.75		364	0	18.19	33.75		24.29	364	0.00
9	18.13	33.74		364	10	18.12	33.74		24.30	364	0.04
28	17.59	33.78		348	20	17.82	33.77		24.40	354	0.07
52	13.58	33.62		275	30	17.55	33.78		24.47	347	0.11
62	12.48	33.60		256	50	14.00	33.63		25.15	282	0.17
70	11.68	33.59		242	75	11.33	33.60		25.65	235	0.23
88	10.80	33.66		222	100	10.55	33.80		25.94	207	0.29
102	10.52	33.82		205	150	9.78	34.16		26.35	168	0.39
133	10.07	34.09		178	200	9.40	34.34		26.55	149	0.47
160	9.66	34.19		164	250	8.11	34.24		26.68	137	0.54
199	9.41	34.34		149	300	7.95	34.30		26.75	130	0.61
261	7.89	34.23		134	400	7.72	34.49		26.94	113	0.73
368	8.05	34.49		117	500	6.62	34.45		27.06	101	0.84
499	6.62	34.45		101	600	5.97	34.47		27.17	91	0.95
647	5.70	34.48		88	700	5.42	34.49		27.24	84	1.04
840	4.72	34.50		75	800	4.95	34.49		27.30	78	1.13
1088	3.90	34.54		64	1000	4.17	34.53		27.42	67	1.29

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT	Z	T	S	O ₂	σ_t	δT	ΔD
m	°C	‰	ml/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5} \text{ cm}^3}{\text{g}}$	dyn. m

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BLACK DOUGLAS; June 4, 1956; 1215 GCT; 25°29'N, 115°24'W; sounding, 2150 fm; wind, 320°, force 2; weather, partly cloudy; sea, moderate; wire angle, 08°.

130.60

0	17.86	33.74		357	0	17.86	33.74		24.36	357	0.00
10	17.85	33.75		356	10	17.85	33.75		24.37	356	0.04
29	16.67	33.68		335	20	17.36	33.72		24.47	347	0.07
53	13.62	33.64		274	30	16.60	33.68		24.62	333	0.10
62	12.53	33.60		257	50	14.17	33.65		25.13	284	0.17
71	11.96	33.59		247	75	11.72	33.60		25.58	242	0.23
89	11.06	33.69		224	100	10.58	33.85		25.97	204	0.29
102	10.52	33.87		201	150	10.03	34.16		26.31	172	0.38
134	10.18	34.08		180	200	9.03	34.22		26.52	152	0.47
161	9.59	34.13		167	250	8.48	34.29		26.64	141	0.54
200	9.03	34.22		152	300	7.59	34.24		26.76	129	0.61
262	8.27	34.27		137	400	6.48	34.30		26.96	111	0.74
369	6.66	34.26		116	500	6.15	34.42		27.10	97	0.84
498	6.16	34.42		97	600	5.70	34.45		27.18	90	0.94
644	5.44	34.46		86	700	5.14	34.47		27.27	81	1.03
839	4.55	34.49		74	800	4.68	34.49		27.32	76	1.12
1085	3.72	34.56		61	1000	3.99	34.53		27.44	65	1.27

BLACK DOUGLAS; June 3, 1956; 0820 GCT; 25°54.5'N, 113°07.5'W; sounding, 106 fm; wind, calm; weather, clear; sea, smooth; wire angle, 06°.

133.30

0	16.19	33.88		310	0	16.19	33.88		24.86	310	0.00
10	14.74	33.93		275	10	14.74	33.93		25.23	275	0.03
29	14.23	33.96		263	20	14.47	33.95		25.29	269	0.06
47	11.40	34.07		202	30	14.22	33.96		25.36	262	0.08
70	11.16	34.28		182	50	11.27	34.11		26.05	197	0.13
91	11.18	34.49		167	75	11.16	34.35		26.25	177	0.18
112	11.67	34.56		170	100	11.18	34.50		26.37	166	0.22
137	11.55	34.66		161							

BLACK DOUGLAS; June 3, 1956; 0202 GCT; 25°30'N, 113°46'W; sounding, 2000 fm; wind, 290°, force 2; weather, cloudy; sea, very rough; wire angle, 17°.

133.40

0	18.79	34.02a)		359	0	18.79	34.02		24.34	359	0.00
9	18.06	33.85		354	10	18.05	33.85		24.40	354	0.04
28	17.97	33.86		351	20	18.01	33.85		24.41	353	0.07
42	17.58	33.93		337	30	17.95	33.86		24.43	351	0.11
51	17.18	33.93		328	50	17.19	33.93		24.67	328	0.17
59	16.96	33.92		324	75	16.47	33.89		24.81	315	0.25
68	16.82	33.93		320	100	14.00	33.67		25.18	279	0.33
85	15.66	33.78		306	150	10.12	33.85		26.06	196	0.45
98	14.17	33.68		282	200	10.48	34.45		26.46	158	0.54
111	12.38	33.58		256	250	10.38	34.61		26.61	144	0.62
131	10.78	33.63		224	300	9.52	34.51		26.68	137	0.69
156	10.04	33.91		191	400	7.92	34.45		26.88	118	0.83
190	10.48	34.38		163	500	7.01	34.51		27.05	102	0.94
236	10.46	34.61		146							
308	9.38	34.50		136							
399	7.92	34.45		118							
528	6.86	34.52		99							

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED			
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD	
m	°C	‰	ml/L	$10^{-5} \text{ cm}^3/\text{g}$	m	°C	‰	ml/L	g/L	$10^{-5} \text{ cm}^3/\text{g}$	dyn. m	

133.50

BLACK DOUGLAS; June 2, 1956; 2026 GCT; 25°14.5'N, 114°24'W; sounding, 2100 fm; wind, 340°, force 2;
weather, cloudy; sea, moderate; wire angle, 04°.

0	19.42	34.11		368	0	19.42	34.11		24.25	368	0.00
9	19.17	34.13		360	10	19.16	34.13		24.33	360	0.04
29	19.04	34.14		356	20	19.09	34.13		24.35	358	0.07
57	18.10	34.11		336	30	19.03	34.14		24.37	356	0.11
67	17.46	34.00		329	50	18.40	34.13		24.53	341	0.18
76	17.16	33.95		326	75	17.18	33.95		24.69	326	0.26
90	15.99	33.82		309	100	14.68	33.71		25.07	290	0.34
103	14.28	33.68		284	150	11.24	33.99		25.96	205	0.46
117	12.97	33.60		265	200	10.75	34.40		26.38	166	0.56
134	11.59	33.68		234	250	10.38	34.56		26.56	148	0.64
152	11.22	34.01		203	300	9.62	34.53		26.67	138	0.71
179	10.84	34.25		179	400	8.34	34.51		26.86	120	0.85
201	10.78	34.42		165	500	7.20	34.50		27.02	105	0.96
250	10.38	34.56		148							
327	9.24	34.52		133							
422	8.08	34.51		116							
557	6.56	34.49a)		97							

137.30

BLACK DOUGLAS; June 1, 1956; 2105 GCT; 25°20'N, 112°45.5'W; sounding, 180 fm; wind, 280°, force 3;
weather, clear; sea, moderate; wire angle, 10°.

0	16.28	33.96	4.76	306	0	16.28	33.96	4.76	24.90	306	0.00
10	15.85	33.91	4.90	300	10	15.85	33.91	4.90	24.96	300	0.03
28	15.29	33.93	4.76	287	20	15.53	33.93	4.84	25.05	292	0.06
46	11.80	33.87	2.16	223	30	15.18	33.93	4.71	25.13	284	0.09
69	11.80	34.26	0.48	195	50	11.65	33.88	1.95	25.81	220	0.14
92	11.74	34.58	0.37	170	75	11.79	34.40	0.47	26.19	184	0.19
114	11.77	34.54b)	0.29	-	100	11.75	34.62	0.32	26.36	168	0.24
151	11.84	34.67	0.15	165	150	11.85	34.67	0.15	26.38	165	0.32
188	11.36	34.69	0.20	155	200	11.26	34.69	0.17	26.51	153	0.40
236	10.95	34.65	0.09	151	250	10.83	34.63	0.10	26.54	150	0.48
281	10.56	34.61	0.10	147							

137.40

BLACK DOUGLAS; June 2, 1956; 0635 GCT; 25°00'N, 113°23.5'W; sounding, 1400 fm; wind, 270°, force 3;
weather, clear; sea, moderate; wire angle, 20°.

0	17.64	33.73a)		353	0	17.64	33.73		24.41	353	0.00
9	17.64	33.74		352	10	17.64	33.74		24.42	352	0.04
27	15.94	33.65		321	20	16.33	33.66		24.66	329	0.07
41	15.65	33.68a)		313	30	15.83	33.66		24.77	318	0.10
50	15.22	33.64		306	50	15.22	33.64		24.89	306	0.16
58	14.42	33.60		293	75	12.63	33.60		25.40	258	0.23
66	13.7	33.60		-	100	11.88	33.87		25.76	225	0.30
83	12.00	33.60		247	150	11.97	34.58		26.29	174	0.40
94	11.97	33.82		230	200	11.61	34.71		26.46	158	0.48
107	11.79	33.94		218	250	11.03	34.72		26.57	147	0.56
127	11.64	34.23		194	300	10.46	34.67		26.64	141	0.63
150	11.96	34.58		174	400	8.82	34.55		26.82	124	0.77
182	11.87	34.71		163	500	7.67	34.52		26.97	110	0.89
229	11.26	34.74		150							
300	10.46	34.67		141							
393	8.96	34.56		125							
525	7.44	34.51		107							

a) Loose bottle cap; value falls on property curve.

b) Loose bottle cap; value does not fall on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O ₂	δT_3	Z	T	S	O ₂	σ_t	δT_3	ΔD
m	°C	‰	ml/L	$\frac{10^{-5}}{cm/g}$	m	°C	‰	ml/L	g/L	$\frac{10^{-5}}{cm/g}$	dyn. m

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BLACK DOUGLAS; June 2, 1956; 1440, 1458 GCT; 24°40'N, 114°01.5'W; sounding, 2100 fm; wind, 330°, force 2; weather, clear; sea, moderate; wire angle, 08°, 08°.

137.50

0	17.92	33.80		354	0	17.92	33.80		24.39	354	0.00
10	17.87	33.78		354	10	17.87	33.78		24.39	354	0.04
29	17.47	33.77		346	20	17.72	33.77		24.43	351	0.07
43	16.59	33.73		329	30	17.46	33.77		24.48	346	0.10
53	16.54	33.79		324	50	16.55	33.77		24.70	325	0.17
62	16.08	33.68		322	75	15.55	33.65		24.83	313	0.25
71	15.74	33.66		316	100	13.20	33.55		25.25	273	0.33
89	14.62	33.60		297	150	10.79	33.74		25.86	215	0.45
					200	10.38	34.23		26.31	172	0.55
97	13.42	33.55		277	250	9.70	34.41		26.57	148	0.63
111	12.59	33.55		261	300	9.40	34.48		26.67	138	0.71
133	11.53	33.59		239	400	8.45	34.52		26.85	121	0.84
160	10.50	33.86		202	500	7.32	34.51		27.01	106	0.96
196	10.42	34.21		174							
246	9.74	34.40		150							
324	9.23	34.50		134							
421	8.21	34.52		117							
559	6.62	34.50		97							

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
40.38-F	VI-4	2340	41°47.0'	124°28.0'	80	270°	2	partly cloudy	moderate	9.30	32.88
43.42-F	4	1830	41°04.0'	124°20.5'	84	220°	2	partly cloudy	moderate	10.34	33.16
50.47-F	7	1900	39°46.5'	123°53.0'	38	360°	3	partly cloudy	moderate	10.48	33.15
53.52-F	3	0800	39°03.5'	123°51.5'	50	330°	4	fog	rough	8.81	33.80
57.51-F	2	0745	38°30.0'	123°22.0'	54	280°	5	partly cloudy	rough	10.24	33.94
60.55-F	2	0300	37°47.0'	123°16.5'	150	240°	4	partly cloudy	rough	11.80	33.55
63.52-F	V-31	1035	37°18.5'	122°37.5'	45	100°	2	overcast	moderate	11.06a)	33.30
63.55-F	31	1220	37°12.5'	122°49.5'	150	150°	2	overcast	moderate	12.99	33.53
67.50-F	31	0615	36°49.0'	122°04.0'	50	080°	1	partly cloudy	slight	-	33.77
70.52-F	29	0855	36°08.5'	121°50.5'	350	290°	2	cloudy	rough	9.97	33.73
73.50-F	29	0340	35°37.5'	121°17.0'	53	290°	3	cloudy	rough	10.55	33.87
77.50-F	26	1920	35°04.0'	120°52.5'	80	330°	3	overcast	moderate	11.76	33.76
80.51-P	29	1932	34°25.5'	120°31.5'	55	280°	4	overcast	moderate	11.14	33.83
83.40-P	VI-1	1713	34°13.5'	119°22.0'	12	320°	3	clear	slight	13.08	33.71
83.51-P	1	0615	33°51.5'	120°08.0'	73	320°	5	clear	moderate	13.91	33.75
87.45-P	2	2310	33°31.0'	119°19.0'	900	270°	3	overcast	moderate	14.04	33.77
87.50-P	3	0228	33°20.0'	119°40.0'	40	280°	3	overcast	moderate	14.00	33.71

a) Mean value of 10.93° and 11.20°C.

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
87.55-P	VI-3	0623	33°07.0'	120°07.0'	590	260°	5	fog	rough	14.48	33.73
87.65-P	3	1437	32°45.0'	120°55.5'	2000+	310°	4	overcast	rough	14.36	33.22
90.28-P	4	0240	33°28.0'	117°45.5'	27	calm		clear	calm	16.69	33.66
90.50-P	8	1915	32°51.0'	119°20.0'	280	240°	3	overcast	rough	14.08	33.68
90.65-P	9	0942	32°12.0'	120°18.0'	-	-	-	missing	missing	13.27	33.31
90.75-P	4	1050	31°53.0'	120°58.0'	1900	340°	7	overcast	very rough	14.39	33.27
90.75-P	9	1830	31°49.0'	120°58.5'	2180	320°	5	overcast	very rough	14.42	33.28
90.85-F	23	2135	31°36.0'	121°39.0'	2050	320°	3	overcast	rough	14.65	33.31
93.27-P	11	1947	32°55.5'	117°19.0'	82	310°	1	fog	slight	13.62	33.60
93.35-P	11	1400	32°37.5'	117°39.0'	620	360°	1	fog	moderate	16.18	33.58
93.45-P	11	0625	32°14.5'	118°26.0'	520	300	4	clear	moderate	17.08	33.60
93.55-P	10	2210	31°52.5'	119°08.5'	910	330°	6	overcast	very rough	15.76	33.64
93.65-P	10	1430	31°32.0'	119°51.0'	2000+	320°	7	overcast	high	15.21	33.57
93.75-P	10	0730	31°15.5'	120°32.0'	2000	330°	6	missing	high	14.48	33.48
93.85-F	24	0209	31°00.0'	121°19.5'	2300	320°	3	cloudy	rough	15.13	33.34
97.30-P	12	1936	32°15.0'	117°07.5'	27	320°	4	fog	rough	13.80	33.61
97.45-P	13	0730	31°46.5'	118°09.0'	900	290°	6	clear	rough	16.60	33.64
97.55-P	13	1530	31°26.5'	118°48.0'	520	300°	5	clear	rough	15.76	33.57
97.65-F	25	0200	31°06.0'	119°31.0'	1950	340°	4	overcast	rough	14.92	33.40

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
97.75-F	VI-24	2050	30°46.0'	120°09.0'	2200	340°	4	cloudy	rough	14.96	33.48
97.85-F	24	1319	30°27.5'	121°06.5'	2200	330°	4	overcast	rough	16.13	33.48
100.29-P	15	0730	31°41.5'	116°44.5'	143	330°	4	clear	rough	11.47	33.73
100.35-P	15	0200	31°31.0'	117°06.5'	630	320°	7	cloudy	very rough	13.35	33.57
100.45-P	14	1700	31°10.0'	117°58.5'	930	300°	7	cloudy	high	16.96	33.63
100.50-P	14	1300	31°01.5'	118°17.0'	740	320°	7	cloudy	high	16.89	33.62
100.65-P	14	0248	30°36.0'	119°03.0'	1800	320°	6	clear	high	16.00	33.49
103.30-P	15	1253	31°05.5'	116°25.0'	36	300°	4	clear	moderate	13.78	33.55
107.32-B	17	0145	30°26.0'	116°11.0'	400	270°	1	missing	rough	12.92	33.63
107.45-B	16	1605	30°00.0'	117°03.5'	1100	320°	5	missing	very rough	16.29	33.61
107.55-B	16	1005	29°40.0'	117°44.0'	1200	340°	5	overcast	very rough	16.20a)	33.55
107.65-B	16	0230	29°21.5'	118°22.0'	2000+	340°	5	cloudy	very rough	16.96	33.57
107.75-B	15	1810	28°55.0'	119°02.5'	2050	340°	5	partly cloudy	very rough	17.28	33.66
107.85-B	15	1055	28°41.5'	119°41.0'	2200	350°	6	cloudy	very rough	17.44	33.74
110.33-B	13	0535	29°50.5'	115°52.0'	50	320°	2	clear	moderate	13.94	33.48
110.45-B	13	1405	29°27.0'	116°39.0'	2000	320°	2	partly cloudy	very rough	16.50	33.58
110.55-B	13	2010	29°07.0'	117°17.5'	1900	320°	3	partly cloudy	very rough	16.42	33.60

a) Alternate value, 16.92°C.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	10 Meters T S	
110.65-B	VI-14	0445	28°47.0'	117°58.0'	2000	330°	6	missing	very rough	17.23	33.71
110.75-B	14	1155	28°26.5'	118°37.5'	2000	340°	4	clear	rough	17.10	33.61
110.85-B	14	2100	28°06.5'	119°17.0'	2100	320°	5	cloudy	very rough	17.31	33.64
113.30-B	12	2250	29°22.5'	115°17.5'	33	320°	1	overcast	smooth	12.42	33.62
113.45-B	12	1100	28°51.0'	116°19.0'	1600	320°	2	clear	moderate	16.94	33.68
113.55-B	12	0435	28°32.0'	116°57.0'	2000	340°	2	partly cloudy	rough	16.00	33.58
113.65-B	11	2150	28°12.0'	117°35.0'	2150	320°	3	partly cloudy	rough	16.45	33.52
117.26-B	9	0255	28°56.0'	114°41.0'	42	320°	3	cloudy	moderate	16.28	33.71
117.30-B	9	0500	28°48.0'	114°56.5'	56	280°	4	missing	moderate	15.69	33.69
117.35-B	9	0820	28°38.0'	115°16.0'	120	300°	3	missing	moderate	15.98	33.60
117.45-B	10	0435	28°18.0'	115°55.0'	2000+	330°	3	overcast	rough	16.94	33.63
117.55-B	10	1130	27°57.5'	116°34.5'	2000+	320°	4	missing	moderate	17.31	33.68
117.65-B	10	1805	27°39.0'	117°14.0'	2000+	320°	3	overcast	rough	16.90	33.66
117.75-B	10	2352	27°17.5'	117°51.5'	2000	320°	3	overcast	rough	16.75	33.49
120.25-B	8	2010	28°23.0'	114°14.5'	30	310°	3	cloudy	moderate	15.49	33.64
120.30-B	8	1700	28°13.0'	114°34.0'	50	320°	3	overcast	moderate	16.06	33.72
120.40-B	8	1055	27°56.5'	115°14.0'	20	340°	4	missing	moderate	14.94	33.75
123.37-B	5	1720	27°24.0'	114°39.5'	40	calm		clear	moderate	13.13	33.78
123.40-B	6	0420	27°18.0'	114°51.5'	310	310°	5	clear	rough	15.68	33.69

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

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	10 Meters	
						Dir	Force			T	S
123.55-B	VI-6	1430	26°48.0'	115°49.5'	2000	320°	4	partly cloudy	very rough	17.80	33.68
127.34-B	5	1150	26°55.5'	114°06.0'	42	020°	2	clear	moderate	14.18	33.67
127.45-B	5	0440	26°33.5'	114°48.5'	1850	330°	3	partly cloudy	rough	17.69	33.72
127.55-B	4	2145	26°14.0'	115°27.0'	2200	320°	2	cloudy	rough	15.76	33.62
130.30-B	3	1630	26°28.0'	113°25.0'	40	calm		cloudy	smooth	13.44	33.65
133.25-B	3	1130	26°04.0'	112°46.5'	40	calm		missing	smooth	-	34.00
137.23-B	1	1703	25°34.0'	112°18.5'	40	280°	1	cloudy	slight	17.17	34.11

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