UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA
CCOFI CRUISE 5509
(MLR 76)
10-25 September 1955

SIO Reference 59-47
19 May 1959

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 5509

(MLR 76)

10-25 September 1955

Sponsored by

Marine Research Committee

SIO Reference 59-47
19 May 1959

Approved for distribution:

Roger Revelle

Roger Revelle, Director

CONTENTS

List of Figures ii

Introduction iii

Personnel vi

Tabulated Data 173

Distribution List 191

FIGURES

1. CCOFI Cruise 5509 (MLR 76), station positions

2. Horizontal distribution of temperature and salinity at 10 meters

3. Horizontal distribution of temperature and salinity at 20 meters

INTRODUCTION

The data presented in this report were collected on the seventy-sixth consecutive cruise of the California Cooperative Oceanic Fisheries Investigations program. The R/V Black Douglas of the U. S. Fish and Wildlife Service, and the R/V Paolina-T of the Scripps Institution partcipated in this cruise.

The data are tabulated at observed depths; the interpolated and computed values are tabulated at standard depths and are accompanied by charts of horizontal distribution. The presentation of data in this report does not constitute publication; 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 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.

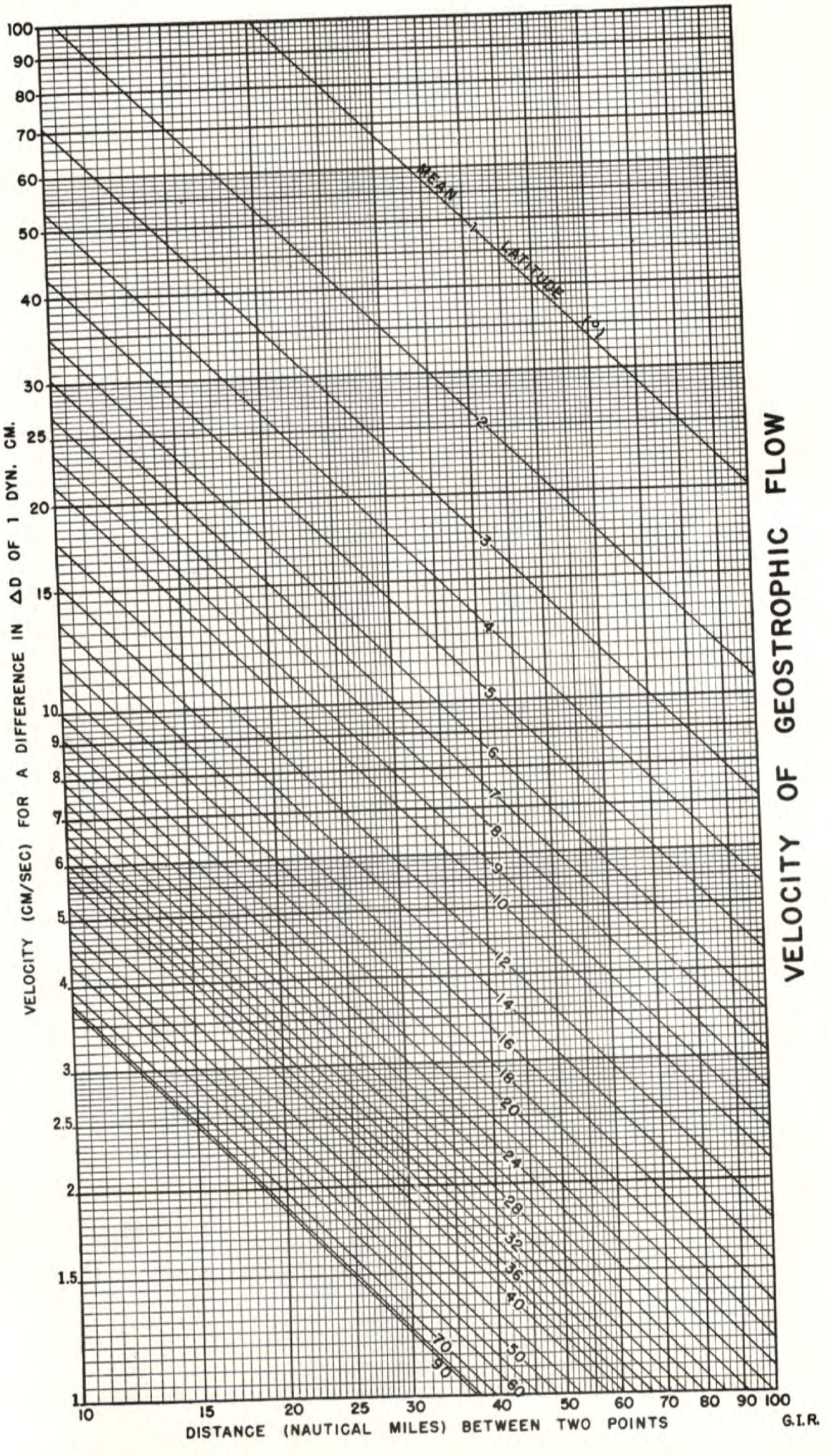
Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

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 1955 volume, the first page of the Cruise 5509 data is numbered 173.


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

CCOFI CRUISE 5509
(MLR 76)

10–25 SEPTEMBER 1955

STATION POSITIONS

DIRECTION OF TRAVEL ⟶

· NET TOW STATION
⊙ HYDROGRAPHIC STATION

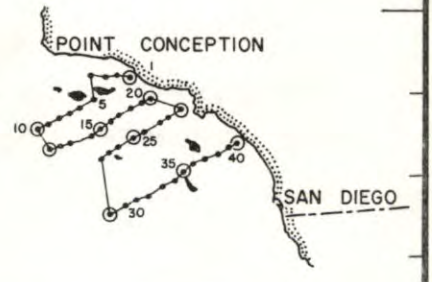
120°

35°

PAOLINA – T
10–17 SEPTEMBER

PAOLINA-T STATIONS

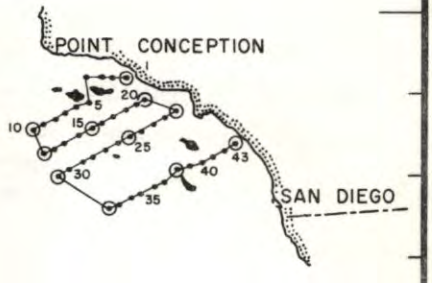
1. 83.40	15. 85.50	29. 90.55
2. 82.42	16. 85.47^5	30. 90.52^5
3. 82.44	17. 85.45	31. 90.50
4. 82.46	18. 85.42^5	32. 90.47^5
5. 83.48	19. 85.40	33. 90.45
6. 83.51	20. 85.39	34. 90.42^5
7. 83.52^5	21. 87.35	35. 90.40
8. 83.55	22. 87.37^5	36. 90.37^5
9. 83.57^5	23. 87.40	37. 90.35
10. 83.60	24. 87.42^5	38. 90.32^5
11. 85.60	25. 87.45	39. 90.30
12. 85.57^5	26. 87.47^5	40. 90.28
13. 85.55	27. 87.50	
14. 85.52^5	28. 87.52^5	



BLACK DOUGLAS
13–20 SEPTEMBER

BLACK DOUGLAS STATIONS

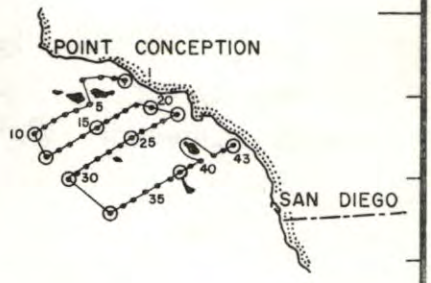
1. 83.40	16. 85.47^5	31. 87.60
2. 82.42	17. 85.47	32. 90.55
3. 82.44	18. 85.42^5	33. 90.52^5
4. 82.46	19. 85.40	34. 90.50
5. 83.48	20. 85.39	35. 90.47^5
6. 83.51	21. 87.35	36. 90.45
7. 83.52^5	22. 87.37^5	37. 90.42^5
8. 83.55	23. 87.40	38. 90.40
9. 83.57^5	24. 87.42^5	39. 90.37^5
10. 83.60	25. 87.45	40. 90.35
11. 85.60	26. 87.47^5	41. 90.32^5
12. 85.57^5	27. 87.50	42. 90.30
13. 85.55	28. 87.52^5	43. 90.28
14. 85.52^5	29. 87.55	
15. 85.50	30. 87.57^5	



PAOLINA – T
18–23 SEPTEMBER

PAOLINA-T STATIONS

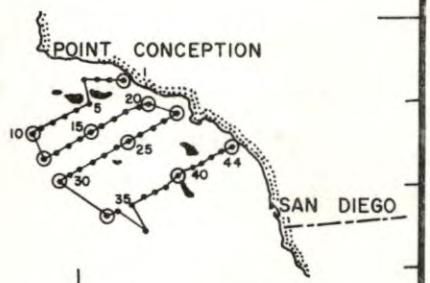
1. 83.40	16. 85.47^5	31. 87.60
2. 82.42	17. 85.45	32. 90.55
3. 82.44	18. 85.42^5	33. 90.52^5
4. 82.46	19. 85.40	34. 90.50
5. 83.48	20. 85.39	35. 90.47^5
6. 83.51	21. 87.35	36. 90.45
7. 83.52^5	22. 87.37^5	37. 90.42^5
8. 83.55	23. 87.40	38. 90.40
9. 83.57^5	24. 87.42^5	39. 90.37^5
10. 83.60	25. 87.45	40. 90.35
11. 85.60	26. 87.47^5	41. 90.32^5
12. 85.57^5	27. 87.50	42. 90.30
13. 85.55	28. 87.52^5	43. 90.28
14. 85.52^5	29. 87.55	
15. 85.50	30. 87.57^5	



BLACK DOUGLAS
21–25 SEPTEMBER

BLACK DOUGLAS STATIONS

1. 83.40	16. 85.47^5	31. 87.60
2. 82.42	17. 85.45	32. 90.55
3. 82.44	18. 85.42^5	33. 90.52^5
4. 82.46	19. 85.40	34. 90.50
5. 83.48	20. 85.39	35. 90.47^5
6. 83.51	21. 87.35	36. 90.45
7. 83.53	22. 87.37^5	37. 90.42^5
8. 83.55	23. 87.40	38. 90.40
9. 83.57	24. 87.42^5	39. 90.37^5
10. 83.60	25. 87.45	40. 90.35
11. 85.60	26. 87.47^5	41. 90.32^5
12. 85.57^5	27. 87.50	42. 90.30
13. 85.55	28. 87.52^5	43. 90.28
14. 85.52^5	29. 87.55	
15. 85.50	30. 87.57^5	



120°

FIGURE 1

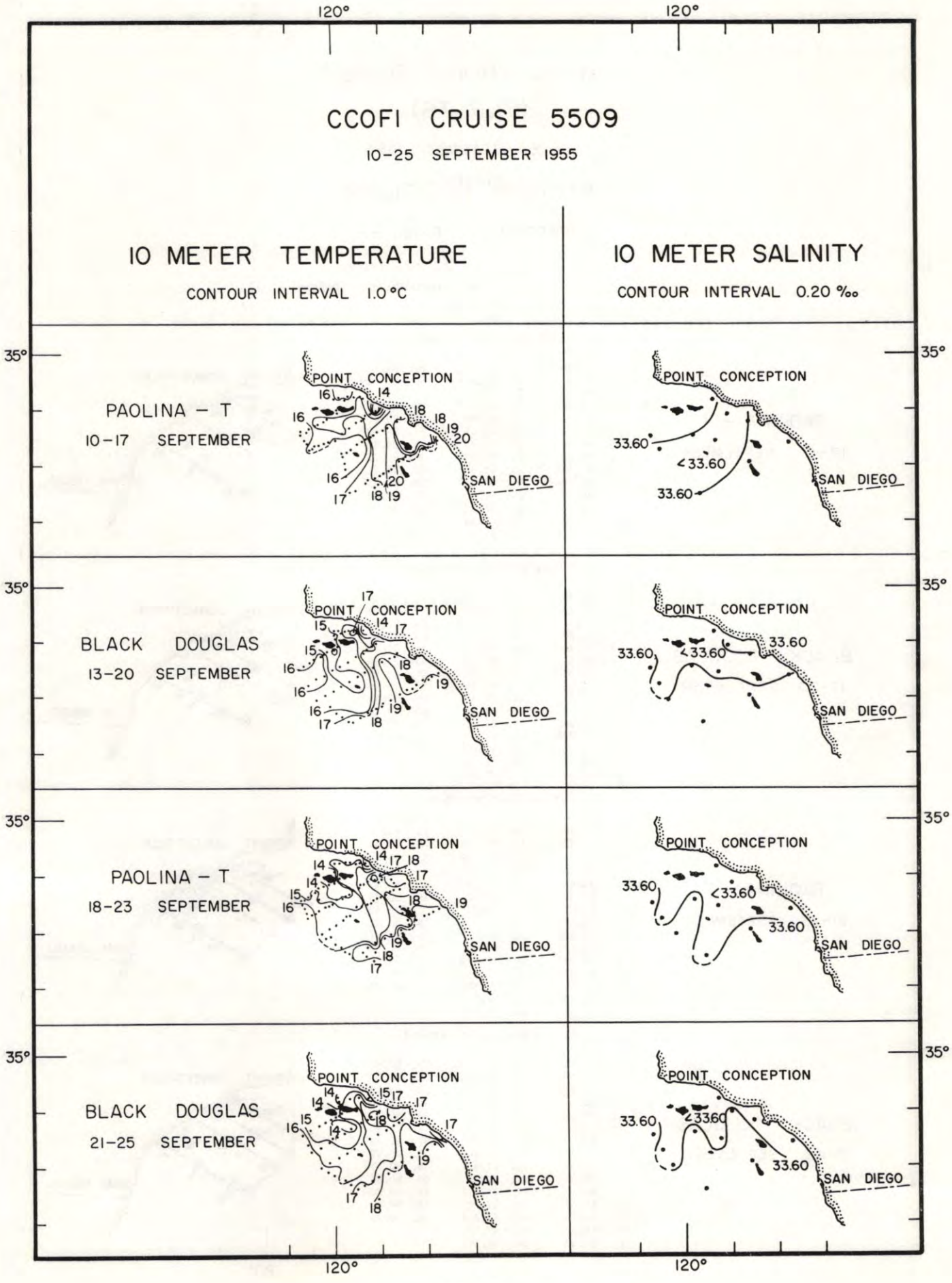

120°
120°
CCOFI CRUISE 5509
10-25 SEPTEMBER 1955
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0 °C
10 METER SALINITY
CONTOUR INTERVAL 0.20 ‰
35°
PAOLINA - T
10-17 SEPTEMBER
POINT CONCEPTION
SAN DIEGO
33.60
<33.60
BLACK DOUGLAS
13-20 SEPTEMBER
PAOLINA - T
18-23 SEPTEMBER
BLACK DOUGLAS
21-25 SEPTEMBER
120°
120°

FIGURE 2

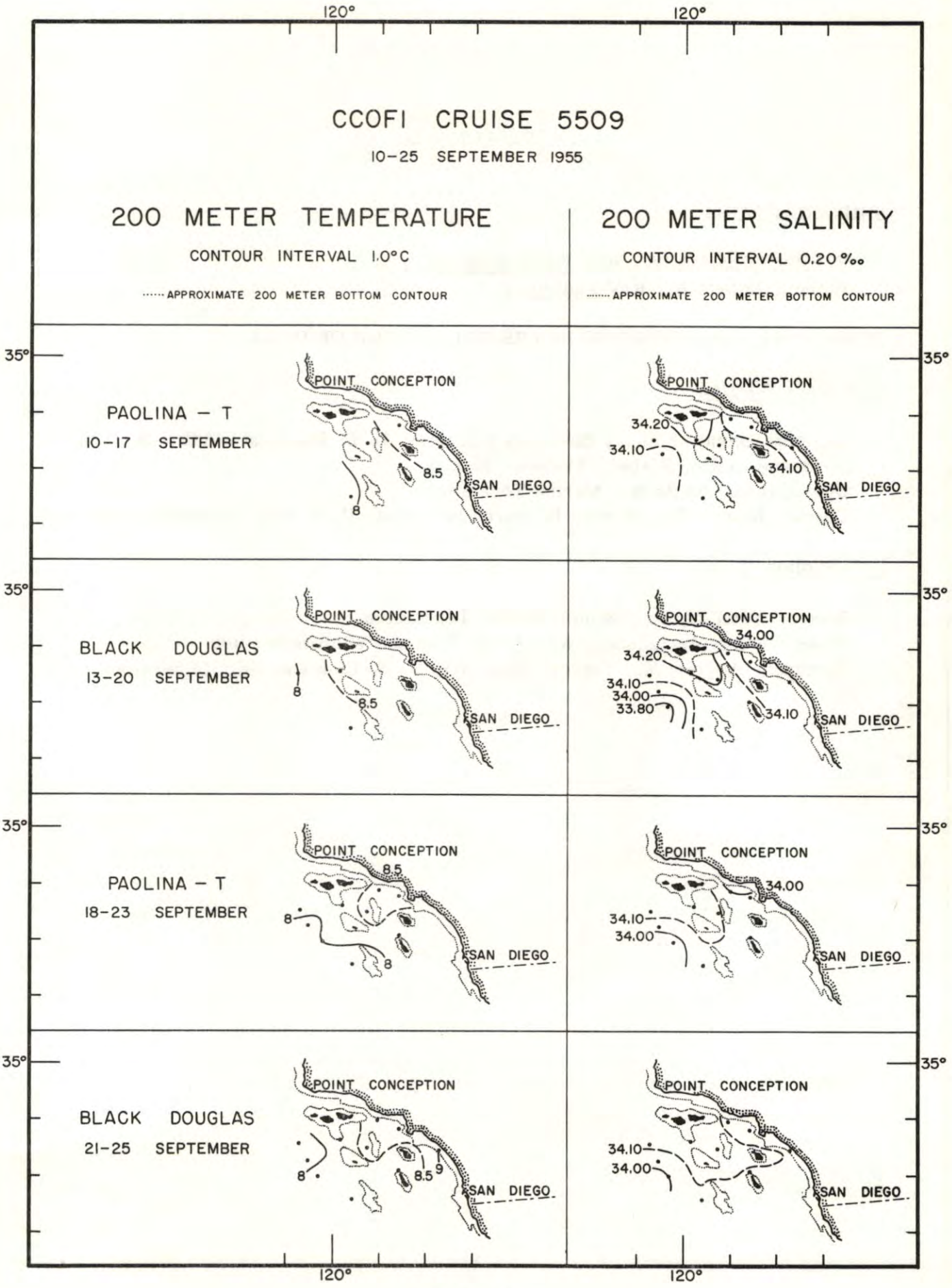

120°
120°
CCOFI CRUISE 5509
10–25 SEPTEMBER 1955
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
APPROXIMATE 200 METER BOTTOM CONTOUR
200 METER SALINITY
CONTOUR INTERVAL 0.20 ‰
APPROXIMATE 200 METER BOTTOM CONTOUR
35°
PAOLINA – T
10–17 SEPTEMBER
POINT CONCEPTION
SAN DIEGO
8
8.5
34.20
34.10
BLACK DOUGLAS
13–20 SEPTEMBER
34.00
33.80
PAOLINA – T
18–23 SEPTEMBER
9
BLACK DOUGLAS
21–25 SEPTEMBER
120°

FIGURE 3

PERSONNEL

SHIPS' CAPTAINS

Forster, Charles W., R/V Black Douglas
Haines, Robert B., R/V Paolina-T

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Black Douglas

Kramer, David, Fishery Research Biologist, U. S. Fish and Wildlife Service
Berdegue, Julio, Fishery Trainee, Mexico
Christiansen, Neils B., Marine Technician
Counts, Robert C., Fishery Research Biologist, U. S. Fish and Wildlife Service

R/V Paolina-T

Stover, Allan J., Jr., Senior Marine Technician
Grom, Robert A., Fishery Aid, U. S. Fish and Wildlife Service
Vrooman, Andrew M., Fishery Biologist, U. S. Fish and Wildlife Service

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

PAOLINA-T; September 12, 1955; 0625 GCT; 34°14'N, 119°22'W; sounding, 13 fm; wind, 300°, force 1; weather, fog; sea, slight; wire angle, 00°. 83.40a)

0	16.4	33.60	335	0	16.4	33.60
10	16.03	33.62	325	10	16.03	33.62
20	14.7	-	-	20	14.7	

PAOLINA-T; September 13, 1955; 1731 GCT; 33°35.5'N, 120°43'W; sounding, 840 fm; wind, 330°, force 5; weather, overcast; sea, very rough; wire angle, 05°. 83.60

0	15.9	33.62	322	0	15.9	33.62
26	-	33.64	-	10		33.63
61	-	33.74	-	20		33.63
106	-	33.88	-	30		33.65
211	7.86	34.18	138	50		33.70
310	7.08	34.25	122	75		33.78
				100		33.86
				150		34.01
				200		34.15
				250		34.22
				300		34.25

PAOLINA-T; September 14, 1955; 1825 GCT; 33°59'N, 119°05.5'W; sounding, 400 fm; wind, 320°, force 3; weather, clear; sea, moderate; wire angle, 10°. 85.39

0	14.5	33.53	300	0	14.5	33.53
25	-	33.58	-	10		33.55
59	-	33.51	-	20		33.57
102	-	33.69	-	30		33.58
206	8.90	34.07	161	50		33.53
305	8.21	34.27	144	75		33.54
				100		33.67
				150		33.88
				200		34.05
				250		34.17
				300		34.26

PAOLINA-T; September 14, 1955; 0651 GCT; 33°35.5'N, 119°49'W; sounding, 260 fm; wind, 300°, force 6; weather, clear; sea, rough; wire angle, 25°. 85.50

0	17.5	33.67	354	0	17.5	33.67
23	-	33.57	-	10		33.60
53	-	33.63	-	20		33.57
95	-	33.89	-	30		33.57
190	8.22	34.22	140	50		33.62
281	7.78	34.29	130	75		33.75
				100		33.92
				150		34.13
				200		34.23
				250		34.27

PAOLINA-T; September 13, 1955; 2142 GCT; 33°20'N, 120°31.5'W; sounding, 640 fm; wind, 330°, force 5; weather, cloudy; sea, rough; wire angle, 22°. 85.60

0	16.3	33.58	334	0	16.3	33.58
23	-	33.57	-	10		33.58
56	-	33.48	-	20		33.58
97	-	33.67	-	30		33.56
196	7.77	34.01	149	50		33.49
290	6.86	34.12	129	75		33.54
				100		33.69
				150		33.88
				200		34.02
				250		34.08

a) Because the same station pattern was repeated several times on Cruise 5509, the stations are grouped by tracks. The stations of each track are presented in numerical order. As a result, stations of the same number will not appear together.

SIO

CCOFI
5509

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

87.35 PAOLINA-T; September 15, 1955; 1847 GCT; 33°50'N, 118°38'W; sounding, 390 fm; wind, 270°, force 2; weather, clear; sea, moderate; wire angle, 06°.

0	17.8	33.61	366	0	17.8	33.61
26	15.4	33.57	316	10	17.4	33.60
60	11.1	33.51	238	20	16.9	33.58
104	9.7	33.64	205	30	13.9	33.56
210	8.56	34.10	154	50	11.6	33.52
308	8.14	34.29	141	75	10.5	33.53
				100	9.8	33.62
				150	9.0	33.84
				200	8.7	34.06
				250	8.5	34.19
				300	8.2	34.28

87.45 PAOLINA-T; September 16, 1955; 0343 GCT; 33°30.5'N, 119°19'W; sounding, 900 fm; wind, 270°, force 5; weather, clear; sea, rough; wire angle, 15°.

0	16.2	33.67	325	0	16.2	33.67
24	15.3	33.49	320	10	16.2	33.57
58	10.7	33.62	223	20	16.0	33.50
101	9.9	33.80	196	30	13.9	33.50
203	8.26	34.16	145	50	11.0	33.58
299	7.94	34.29	138	75	10.3	33.70
				100	9.9	33.80
				150	9.0	33.99
				200	8.3	34.15
				250	8.0	34.24
				300	(7.9)	(34.29)

87.60 BLACK DOUGLAS; September 18, 1955; 1311 GCT; 33°00'N, 120°22'W; sounding, 440 fm; wind, 320°, force 6; weather, cloudy; sea, very rough; wire angle, 12°.

MOVE To * p. 176

0	15.7	33.57	322	0	15.7	33.57
10	15.67	33.60	317	10	15.67	33.60
59	-	33.48	-	20	15.6	(33.59)
103	-	33.52	-	30	15.5	(33.56)
205	8.46	33.80	175	50	12.5	(33.50)
303	7.76	34.08	143	75		33.48
				100		33.52
				150		33.63
				200		33.78
				250		33.93
				300		34.07

90.28 PAOLINA-T; September 18, 1955; 0425 GCT; 33°29'N, 117°46'W; sounding, 250 fm; wind, 260°, force 1; weather, cloudy; sea, slight; wire angle, 00°.

0	20.9	33.68	435	0	20.9	33.68
25	13.3	33.58	262	10	20.9	33.64
61	10.5	33.46	230	20	14.5	33.60
107	9.3	33.66	198	30	12.5	33.56
211	8.98	34.11	159	50	11.1	33.48
310	8.20	34.31	133	75	10.0	33.49
				100	9.4	33.62
				150	8.8	33.88
				200	8.9	34.08
				250	8.9	34.20
				300	8.4	34.29

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

PAOLINA-T; September 17, 1955; 1055 GCT; 33°06'N, 118°36.5'W; sounding, 500 fm; wind, 320°, force 4; weather, overcast; sea, rough; wire angle, 10°. 90.40

0	20.1	33.71	414	0	20.1	33.71
25	18.0	33.51	378	10	20.1	33.62
59	11.3	33.44	246	20	20.1	33.55
102	9.2	33.71	192	30	15.9	33.49
207	8.20	34.14	146	50	12.0	33.44
293	7.92	34.31	129	75	10.3	33.50
				100	9.2	33.69
				150	8.7	33.96
				200	8.3	34.12
				250	8.0	34.23

PAOLINA-T; September 16, 1955; 1848 GCT; 32°31.5'N, 119°39'W; sounding, 280 fm; wind, 270°, force 7; weather, missing; sea, very rough; wire angle, 21°. 90.55

0	17.2	33.64	350	0	17.2	33.64
24	17.0	33.55	352	10	17.2	33.60
56	11.1	33.49	239	20	17.2	33.57
98	9.1	33.66	195	30	15.6	33.53
197	7.88	34.16	140	50	11.6	33.49
289	7.30	34.26	124	75	10.0	33.55
				100	9.0	33.67
				150	8.2	33.93
				200	7.8	34.17
				250	7.5	34.24

BLACK DOUGLAS; September 15, 1955; 0205 GCT; 34°14'N, 119°22'W; sounding, 11 fm; wind, 320°, force 2; weather, missing; sea, moderate; wire angle, 10°. 83.40

0	16.8	33.57	346	0	16.8	33.57
10	13.20	33.55	273	10	13.20	33.55
20	12.82	33.53	267	20	12.82	33.53

BLACK DOUGLAS; September 15, 1955; 2227 GCT; 33°34'N, 120°45'W; sounding, 720 fm; wind, 320°, force 4; weather, clear; sea, rough; wire angle, 12°. 83.60

0	15.74	33.66	316	0	15.74	33.66
98	9.74	33.73	199	10	15.7	(33.66)
200	8.0	34.14	142	20	15.7	(33.67)
244	7.8	34.23	133	30	15.7	(33.67)
279	7.52	34.28	126	50	13.6	(33.69)
303	-	34.26	-	75	10.3	(33.70)
				100	9.7	33.74
				150	8.0	33.93
				200	8.0	34.14
				250	7.8	34.24
				300		34.27

BLACK DOUGLAS; September 17, 1955; 0029 GCT; 33°59'N, 119°06'W; sounding, 360 fm; wind, 320°, force 2; weather, clear; sea, slight; wire angle, 17°. 85.39

0	19.1	33.60	397	0	19.1	33.60
10	17.63	33.62	360	10	17.63	33.62
57	-	33.51	-	20		(33.61)
100	-	33.67	-	30		(33.58)
201	8.84	34.07	160	50		(33.52)
296	8.50	34.25	143	75		33.57
				100		33.67
				150		33.87
				200		34.07
				250		34.17

SIO

CCOFI
5509

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

85.50 BLACK DOUGLAS; September 16, 1955; 1041, 1118 GCT; 33°37'N, 119°52'W; sounding, 200 fm; wind, 300°, force 6; weather, clear; sea, very rough; wire angle, 15°, 15°.

0	15.9	33.59	324	0	15.9	33.59	
10	15.80	33.60	322	10	15.80	33.60	
58	10.0	33.62	212	20	15.7	(33.60)	
101	9.2	33.97	173	30	12.4	(33.61)	
203	8.56	34.21	145	50	10.9	(33.61)	
				75	9.4	33.75	
299	8.14	34.25	136	100	9.2	33.96	
				150	8.8	34.10	
				200	8.6	34.20	
				250	8.4	34.24	
				300	(8.1)	(34.25)	

85.60 BLACK DOUGLAS; September 16, 1955; 0155 GCT; 33°17'N, 120°33'W; sounding, 760 fm; wind, 300°, force 5; weather, partly cloudy; sea, very rough; wire angle, 28°.

0	16.4	33.58	336	0	16.4	33.58
88	10.05	33.58	215	10		(33.58)
181	-	34.02	-	20		(33.58)
221	-	34.06	-	30		(33.58)
252	7.24	34.09	136	50		(33.58)
278	6.96	34.14	128	75		(33.58)
				100		33.60
				150		33.86
				200		34.05
				250		34.09

87.35 BLACK DOUGLAS; September 17, 1955; 1802 GCT; 33°50'N, 118°37.5'W; sounding, 300 fm; wind, 270°, force 1; weather, partly cloudy; sea, slight; wire angle, 00°.

0	18.2	33.60	376	0	18.2	33.60
10	17.27	33.60	354	10	17.27	33.60
60	-	33.53	-	20		(33.59)
105	-	33.68	-	30		(33.58)
210	8.69	34.00	163	50		(33.54)
310	8.34	34.25	139	75		33.56
				100		33.66
				150		33.83
				200		33.97
				250		34.11
				300		34.23

87.45 BLACK DOUGLAS; September 18, 1955; 0129, 0140 GCT; 33°30'N, 119°19'W; sounding, 900 fm; wind, 270°, force 5; weather, partly cloudy; sea, very rough; wire angle, 10°, 10°.

0	17.7	33.66	360	0	17.7	33.66
10	15.52	33.57	318	10	15.52	33.57
				20		(33.54)
59	-	33.51	-	30		(33.53)
103	-	33.82	-	50		(33.51)
207	8.55	34.25	142	75		33.58
305	7.83	34.27	130	100		33.80
				150		34.05
				200		34.24
				250		34.26
				300		34.27

87.60
* SEE P 174

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

87.60

PAOLINA-T; September 21, 1955; 2256 GCT; 33°00'N, 120°15.5'W; sounding, 250+ fm; wind, 320°, force 5; weather, overcast; sea, very rough; wire angle, missing.

0	16.0	33.58	327	0	16.0	33.58
32	15.4	33.85	295	10	15.8	(33.69)
67	11.4	33.44	248	20	15.7	(33.80)
101p	10.04	33.58	217	30	15.5	(33.85)
112	9.2	33.58	199	50	13.9	33.67
216	7.86	34.02	150	75	11.4	33.45
				100	10.2	33.53
				150	8.5	33.73
				200	8.0	33.95

MOVE TO P 179

90.28

BLACK DOUGLAS; September 20, 1955; 2045 GCT; 33°28.5'N, 117°46.5'W; sounding, 290 fm; wind, 270°, force 1; weather, clear; sea, slight; wire angle, 07°.

0	19.9	33.62	415	0	19.9	33.62
10	18.41	33.60	380	10	18.41	33.60
60	-	33.47	-	20	16.1	(33.57)
104	-	33.60	-	30	14.0	(33.54)
209	9.09	34.07	164	50	12.0	(33.49)
309	7.88a)	34.26	132	75		33.50
				100		33.59
				150		33.80
				200		34.03
				250		34.16
				300		34.25

90.40

BLACK DOUGLAS; September 19, 1955; 0755 GCT; 33°05'N, 118°36'W; sounding, 350 fm; wind, 290°, force 3; weather, missing; sea, slight; wire angle, 05°.

0	19.6	33.68	403	0	19.6	33.68
10	19.83	33.68	409	10	19.83	33.68
60	11.3	33.40	249	20	15.4	(33.64)
105	-	33.68	-	30	13.0	(33.57)
209	8.17	34.14	145	50	11.7	(33.43)
309	7.62	34.22	132	75		33.46
				100		33.64
				150		33.91
				200		34.11
				250		34.20
				300		34.22

90.55

BLACK DOUGLAS; September 18, 1955; 2120 GCT; 32°35'N, 119°37'W; sounding, 620 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 10°.

0	17.6	33.68	356	0	17.6	33.68
10	17.62	33.68	356	10	17.62	33.68
59	10.8	33.46	236	20	17.6	(33.65)
103	9.4	33.58	220	30	15.3	(33.60)
207	8.15	34.16	144	50	11.6	(33.49)
305	7.34	34.20	129	75	10.2	33.48
				100	9.5	33.57
				150	8.6	33.83
				200	8.2	34.13
				250	7.8	34.20
				300	7.4	34.20

83.40

PAOLINA-T; September 19, 1955; 0240 GCT; 34°13.5'N, 119°22.5'W; sounding, 11 fm; wind, 270°, force 5; weather, clear; sea, moderate; wire angle, 00°.

0	16.3	-	-	0	16.3	
10	13.50	33.52	280	10	13.50	33.52

a) Alternate value, 8.34°C.

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

83.60 PAOLINA-T; September 20, 1955; 0220 GCT; 33°33.5'N, 120°43'W; sounding, 750 fm; wind, 290°, force 5; weather, cloudy; sea, very rough; wire angle, 10°.

0	15.9	33.63	322	0	15.9	33.63
25	15.8	33.64	319	10	15.9	33.64
59	11.2	33.50	240	20	15.9	33.64
103	8.7	33.75	182	30	15.8	33.64
208	8.06	34.16	142	50	13.0	33.54
306	7.38	34.22	128	75	9.7	33.55
				100	8.7	33.72
				150	8.4	33.97
				200	8.1	34.14
				250	7.8	34.20
				300	7.4	34.22

85.39 PAOLINA-T; September 20, 1955; 2251 GCT; 33°56.5'N, 119°02.5'W; sounding, 400+ fm; wind, 020°, force 3; weather, clear; sea, slight; wire angle, 23°.

0	19.0	33.62	393	0	19.0	33.62
23	15.5	33.50	323	10	17.5	33.56
55	11.1	33.47	240	20	16.0	33.51
97	9.6	33.62	205	30	14.4	33.49
193	8.70	33.98	165	50	11.5	33.47
285	8.42	34.23	142	75	10.2	33.52
				100	9.5	33.63
				150	8.9	33.84
				200	8.7	34.00
				250	8.6	34.14

85.50 PAOLINA-T; September 20, 1955; 1422 GCT; 33°38.5'N, 119°50'W; sounding, missing; wind, 300°, force 3; weather, clear; sea, rough; wire angle, 05°.

0	14.5	33.61	294	0	14.5	33.61
25	11.4	33.68	230	10	14.0	33.64
60	9.7	33.73	198	20	12.5	33.67
105	8.7	33.98	165	30	10.4	33.69
211	8.23	34.21	141	50	9.8	33.71
311	7.98	34.23	136	75	9.4	33.80
				100	8.8	33.95
				150	8.2	34.10
				200	8.3	34.19
				250	8.1	34.23
				300	8.0	34.23

85.60 PAOLINA-T; September 20, 1955; 0547 GCT; 33°17'N, 120°33.5'W; sounding, 800 fm; wind, 290°, force 5; weather, clear; sea, very rough; wire angle, 05°.

0	16.2	33.55	334	0	16.2	33.55
25	16.0	33.55	330	10	16.2	33.55
60	11.2	33.47	242	20	16.1	33.55
106	9.2	33.66	206	30	16.0	33.54
209	7.50	34.05	142	50	12.5	33.49
309	6.69	34.18	122	75	10.3	33.50
				100	9.3	33.63
				150	8.2	33.85
				200	7.6	34.02
				250	7.2	34.12
				300	6.8	34.17

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

87.35

PAOLINA-T; September 21, 1955; 0225 GCT; 33°49'N, 118°36.5'W; sounding, 250 fm; wind, 280°, force 5; weather, clear; sea, rough; wire angle, 20°.

0	17.7	33.58	366	0	17.7	33.58	
23	16.5	33.53	342	10	17.6	33.56	
56	11.6	33.49	248	20	17.5	33.54	
99	9.8	33.64	207	30	14.6	33.52	
197	8.65	34.00	163	50	12.0	33.49	
292	8.94	34.02	165	75	10.7	33.54	
				100	9.8	33.64	
				150	9.0	33.85	
				200	8.7	34.01	
				250	8.8	34.02	

87.45

PAOLINA-T; September 21, 1955; 1143 GCT; 33°31.5'N, 119°19'W; sounding, 920 fm; wind, 290°, force 4; weather, fog; sea, rough; wire angle, 05°.

0	16.6	33.55	353	0	16.6	33.55	
26	13.4	33.44	284	10	16.6	33.50	
61	10.4	33.43	232	20	14.5	33.46	
106	8.9	33.68	190	30	12.8	33.44	
209	8.51	34.15	149	50	11.0	33.43	
311	8.04	34.25	135	75	9.8	33.47	
				100	9.0	33.63	
				150	8.8	33.90	
				200	8.6	34.12	
				250	8.3	34.21	
				300	8.1	34.25	

87.60
SEE P177

90.28

PAOLINA-T; September 23, 1955; 0933 GCT; 33°28.5'N, 117°46.5'W; sounding, 95 fm; wind, 290°, force 1; weather, overcast; sea, moderate; wire angle, 00°.

0	19.5	33.64	404	0	19.5	33.64	
25	14.2	33.50	296	10	19.5	33.57	
60	10.75	33.48	234	20	15.1	33.51	
105	9.87	33.59	212	30	13.5	33.49	
				50	11.4	33.48	
				75	10.4	33.51	
				100	10.0	33.57	

90.40

PAOLINA-T; September 22, 1955; 1824 GCT; 33°05.5'N, 118°36'W; sounding, 350 fm; wind, 280°, force 3; weather, overcast; sea, moderate; wire angle, 03°.

0	19.2	33.78	384	0	19.2	33.78	
25	16.5	33.51	344	10	19.2	33.66	
60	11.9	33.38	261	20	18.3	33.55	
105	9.4	33.73	194	30	15.4	33.48	
210	8.02	34.07	148	50	12.8	33.39	
310	7.60	34.24	130	75	10.8	33.45	
				100	9.5	33.69	
				150	8.6	33.91	
				200	8.1	34.05	
				250	7.8	34.15	
				300	7.6	34.23	

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OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
90.55	PAOLINA-T; September 22, 1955; 0452 GCT; 32°35'N, 119°36'W; sounding, 600 fm; wind, 300°, force 5; weather, cloudy; sea, rough; wire angle, 08°.										
0	17.0	33.57		350	0	17.0	33.57				
25	17.0	33.58		349	10	17.0	33.58				
59	11.5	33.44		250	20	17.0	33.58				
104	8.9	33.68		190	30	17.0	33.57				
209	7.84	34.11		153	50	11.5	33.48				
307	7.18	34.23		124	75	10.4	33.49				
					100	9.0	33.65				
					150	8.2	33.89				
					200	7.9	34.08				
					250	7.6	34.18				
					300	7.3	34.22				
83.40	BLACK DOUGLAS; September 21, 1955; 0912 GCT; 34°14'N, 119°20'W; sounding, 11 fm; wind, calm; weather, missing; sea, moderate; wire angle, 00°.										
0	15.8	33.58		323	0	15.8	33.58				
10	14.96	33.55		308	10	14.96	33.55				
20	13.30	33.53		276	20	13.30	33.53				
83.60	BLACK DOUGLAS; September 22, 1955; 0123 GCT; 33°34'N, 120°45'W; sounding, 750 fm; wind, 300°, force 4; weather, overcast; sea, very rough; wire angle, 10°.										
0	16.1	33.60		334	0	16.1	33.60				
10	16.01	33.64		323	10	16.01	33.64				
59	11.1	33.58		233	20	16.0	(33.63)				
103	8.8	33.79		180	30	15.9	(33.62)				
207	7.84	34.13		140	50	12.1	(33.58)				
306	7.30	34.27		124	75	10.0	33.64				
					100	8.8	33.77				
					150	8.3	33.96				
					200	7.9	34.11				
					250	7.6	34.20				
					300	7.3	34.26				
85.39	BLACK DOUGLAS; September 22, 1955; 2045 GCT; 33°59'N, 119°06'W; sounding, 350 fm; wind, 270°, force 1; weather, overcast; sea, slight; wire angle, 13°.										
0	18.2u	33.60		-	0	17.9	33.60				
10	17.70	33.62		362	10	17.70	33.62				
58	11.6	33.46		250	20	17.5	(33.61)				
102	9.4	33.65		200	30	14.0	(33.57)				
205	8.70	34.11		155	50	12.1	(33.48)				
302	8.20	34.26		137	75	10.7	33.51				
					100	9.5	33.64				
					150	9.0	33.89				
					200	8.7	34.09				
					250	8.5	34.20				
					300	8.21	34.26				
85.50	BLACK DOUGLAS; September 22, 1955; 1215 GCT; 33°37'N, 119°52'W; sounding, 120 fm; wind, 240°, force 1; weather, missing; sea, moderate; wire angle, 00°.										
0	14.2u	33.66		-	0	14.1	33.66				
10	14.10	33.75		276	10	14.10	33.75				
25	10.8	33.81		210	20	11.2	33.79				
60	9.7	34.26r		-	30	10.7	(33.89)				
105	8.65	33.96		165	50	10.1	(33.86)				
210	8.10	34.14		142	75	9.2	(33.91)				
					100	8.8	(33.95)				
					150	8.3	34.04				
					200	8.1	34.12				

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

BLACK DOUGLAS; September 22, 1955; 0443 GCT; 33°17'N, 120°33'W; sounding, 750 fm; wind, 280°, force 4; weather, missing; sea, rough; wire angle, 32°. 85.60

0	15.8u	33.57	-	0	16.0	33.57
8	16.01	33.58	330	10	16.0	(33.58)
51	11.7	33.47	251	20	16.0	(33.56)
90	9.6	33.61	206	30	15.9	(33.53)
178	8.07	33.98	156	50	11.8	(33.47)
263	7.16	34.07	136	75	10.2	33.55
				100	9.2	33.66
				150	8.4	33.87
				200	7.8	34.02
				250	7.3	34.06

BLACK DOUGLAS; September 23, 1955; 0021 GCT; 33°50'N, 118°37.5'W; sounding, 290 fm; wind, 270°, force 3; weather, cloudy; sea, moderate; wire angle, 15°. 87.35

0	17.8	33.59	367	0	17.8	33.59
10	17.82	33.57	368	10	17.82	33.57
58	11.8	33.48	252	20	14.9	(33.55)
101	9.7	33.66	204	30	14.8	(33.53)
203	8.86	34.07	161	50	12.7	(33.49)
299	8.22	34.25	138	75	10.4	33.54
				100	9.8	33.66
				150	9.3	33.87
				200	8.90	34.06
				250	8.5	34.17
				300	(8.2)	(34.25)

BLACK DOUGLAS; September 23, 1955; 0735 GCT; 33°30'N, 119°19'W; sounding, 920 fm; wind, 220°, force 1; weather, clear; sea, slight; wire angle, 15°. 87.45

0	16.8	33.58	345	0	16.8	33.58
10	16.76	33.57	345	10	16.76	33.57
58	11.4	33.42	250	20	16.4	(33.54)
101	9.7	33.58	210	30	13.5	(33.51)
203	8.64	34.17	150	50	11.8	(33.43)
299	7.98	34.31	140	75	10.5	33.45
				100	9.8	33.57
				150	8.9	33.86
				200	8.7	34.16
				250	8.4	34.26
				300	(7.9)	(34.31)

BLACK DOUGLAS; September 23, 1955; 1757 GCT; 33°00'N, 120°21'W; sounding, 390 fm; wind, 280°, force 2; weather, overcast; sea, slight; wire angle, 05°. 87.60

0	16.1	33.57	330	0	16.1	33.57
10	16.11	33.58	330	10	16.11	33.58
60	12.0	33.48	256	20	15.5	(33.57)
105	10.1	33.55	219	30	15.9	(33.54)
209	8.08	34.04	151	50	13.9	(33.50)
309	7.24	34.18	129	75	11.1	33.49
				100	10.3	33.54
				150	9.0	33.75
				200	8.2	34.00
				250	7.6	34.12
				300	7.3	34.17

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

90.28 BLACK DOUGLAS; September 25, 1955; 0535 GCT; 33°28.5'N, 117°47'W; sounding, 200 fm; wind, 260°, force 2; weather, clear; sea, moderate; wire angle, 00°.

0	19.1	33.67	392	0	19.1	33.67	
10	16.36	33.55	337	10	16.36	33.55	
60	11.2	33.46	243	20	15.2	(33.52)	
105	9.4	33.64	200	30	14.1	(33.50)	
210	8.89	34.12	157	50	11.9	(33.47)	
310	8.18	34.27	136	75	10.5	33.50	
				100	9.6	33.61	
				150	9.0	33.86	
				200	9.0	34.09	
				250	8.6	34.19	
				300	8.3	34.26	

90.40 BLACK DOUGLAS; September 24, 1955; 1800 GCT; 33°05'N, 118°38'W; sounding, 300 fm; wind, 300°, force 2; weather, overcast; sea, slight; wire angle, 03°.

0	18.1	33.70	366	0	18.1	33.70	
10	18.00	33.69	364	10	18.00	33.69	
60	11.4	33.44	248	20	17.9	(33.66)	
105	9.5	33.69	198	30	16.5	(33.60)	
210	8.09	34.11	146	50	12.0	(33.47)	
310	7.59	34.21	132	75	10.7	33.49	
				100	9.7	33.65	
				150	8.7	33.90	
				200	8.2	34.09	
				250	7.9	34.16	
				300	7.6	34.20	

90.55 BLACK DOUGLAS; September 24, 1955; 0000 GCT; 32°35'N, 119°37'W; sounding, 610 fm; wind, 300°, force 2; weather, overcast; sea, moderate; wire angle, 20°.

0	17.1	33.64	337	0	17.1	33.64	
9	17.01	33.63	336	10	17.0	(33.63)	
56	12.1	33.52	255	20	15.7	(33.61)	
99	9.5	33.58	206	30	15.2	(33.58)	
197	8.17	34.08	150	50	12.2	(33.53)	
291	7.55	34.16	135	75	10.3	33.53	
				100	9.5	33.58	
				150	8.9	33.80	
				200	8.1	34.09	
				250	7.7	34.14	

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
FIRST TRACK											
83.42-P	IX-12	0930	34°15.0'	119°33.5'	58	300°	1	fog	slight	16.22	33.61
83.44-P	12	2245	34°14.0'	119°46.0'	148	280°	4	fog	moderate	16.07	33.62
83.46-P	13	0100	34°14.5'	120°00.0'	350	280°	4	fog	moderate	16.18	33.63
83.48-P	13	0400	33°58.5'	119°55.0'	50	300°	4	clear	slight	16.33	33.62
83.51-P	13	0820	33°52.0'	120°08.0'	123	260°	4	clear	rough	17.12	33.68
83.52^{5}-P	13	1030	33°47.5'	120°16.0'	180	270°	4	clear	moderate	17.17	33.68
83.55-P	13	1240	33°44.0'	120°24.0'	680	280°	4	missing	rough	17.18	33.65
83.57^{5}-P	13	1500	33°39.0'	120°34.5'	600	270°	4	overcast	rough	15.78	33.63
85.40-P	14	1650	33°57.5'	119°11.0'	48	320°	5	clear	moderate	16.10	33.55
85.42^{5}-P	14	1245	33°53.0'	119°21.0'	470	300°	1	clear	slight	17.22	33.65
85.45-P	14	1110	33°47.5'	119°30.5'	990	var.	1	partly cloudy	moderate	16.61	33.60
85.47^{5}-P	14	0900	33°41.5'	119°40.5'	990	320°	6	clear	very rough	16.90	33.68
85.52^{5}-P	14	0404	33°30.0'	119°58.5'	340	290°	5	clear	rough	15.98	33.68
85.55-P	14	0200	33°26.5'	120°12.0'	680	330°	6	clear	rough	16.44	33.68
85.57^{5}-P	13	2330	33°23.0'	120°24.5'	550	330°	5	clear	rough	16.47	33.58
87.37^{5}-P	15	2050	33°43.0'	118°51.5'	500	270°	3	clear	rough	19.45	33.70
87.40-P	15	2255	33°41.0'	118°56.5'	490	270°	5	clear	moderate	18.84	33.67
87.42^{5}-P	16	0120	33°35.5'	119°09.0'	143	270°	6	clear	rough	18.78	33.66

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
87.47.5-P	IX-16	0620	33°25.0'	119°29.5'	450	270°	6	clear	very rough	15.84	33.66
87.50-P	16	0930	33°19.0'	119°38.0'	39	270°	6	clear	very rough	15.53	33.64
87.52.5-P	16	1210	33°15.0'	119°49.5'	65	270°	6	clear	very rough	15.45	33.64
90.30-P	18	0231	33°24.5'	117°55.0'	340	240°	2	cloudy	moderate	17.62	33.58
90.32.5-P	18	0045	33°19.5'	118°05.0'	460	240°	3	cloudy	moderate	20.07	33.71
90.35-P	17	1500	33°16.0'	118°15.5'	105	290°	4	overcast	rough	17.86	33.60
90.37.5-P	17	1300	33°12.0'	118°27.0'	650	310°	3	overcast	rough	19.14	33.68
90.42.5-P	17	0820	32°59.0'	118°45.5'	720	290°	4	overcast	very rough	19.33	33.71
90.45-P	17	0620	32°54.0'	118°55.5'	930	300°	6	overcast	very rough	18.60	33.68
90.47.5-P	17	0403	32°48.5'	119°05.5'	600	270°	6	overcast	very rough	18.26	33.65
90.50-P	16	2350	32°45.0'	119°16.0'	135	300°	5	cloudy	very rough	17.66	33.64
90.52.5-P	16	2200	32°40.0'	119°25.0'	530	270°	6	cloudy	very rough	18.0a)	-
83.42-B	15	0530	34°14.0'	119°34.0'	50	280°	4	missing	rough	17.08	33.66
83.44-B	15	0740	34°14.0'	119°46.0'	137	280°	4	missing	rough	16.49	33.67
83.46-B	15	1000	34°14.0'	120°00.0'	320	220°	5	missing	rough	15.41	33.65
83.48-B	15	1210	33°58.0'	119°55.0'	50	270°	6	clear	rough	14.16	33.60
83.51-B	15	1500	33°52.0'	120°09.0'	200	300°	5	clear	rough	14.68	33.61

a) Temperature from bathythermograph.

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
83.52^{5}-B	IX-15	1650	33°48.0'	120°16.5'	400	300°	5	clear	very rough	16.16	33.62
83.55-B	15	1815	33°44.0'	120°24.5'	535	300°	4	clear	very rough	15.12	33.62
83.57^{5}-B	15	2015	33°39.0'	120°35.0'	740	300°	5	clear	rough	-	33.67
85.40-B	16	2318	33°57.0'	119°10.5'	480	300°	1	partly cloudy	slight	15.04	33.55
85.42^{5}-B	16	1953	33°52.0'	119°21.0'	400	300°	1	overcast	slight	18.48a)	33.64
85.45-B	16	1533	33°47.0'	119°31.0'	1020	300°	1	cloudy	slight	15.11	33.62
85.47^{5}-B	16	1300	33°42.0'	119°41.5'	900	320°	3	clear	moderate	15.79	33.64
85.52^{5}-B	16	0815	33°32.0'	120°02.0'	500	300°	6	missing	high	14.62	33.60
85.55-B	16	0610	33°27.0'	120°12.0'	640	300°	5	clear	very rough	16.24	33.62
85.57^{5}-B	16	0405	33°22.0'	120°23.0'	540	300°	5	clear	very rough	16.27	33.57
87.37^{5}-B	17	1955	33°45.0'	118°48.0'	500	270°	1	clear	slight	18.90	33.61
87.40-B	17	2123	33°40.0'	118°58.5'	480	270°	2	clear	moderate	19.94	33.66
87.42^{5}-B	17	2329	33°35.0'	119°09.0'	240	270°	3	clear	moderate	17.56	33.58
87.47^{5}-B	18	0415	33°25.0'	119°29.0'	450	310°	5	clear	very rough	14.34	33.64
87.50-B	18	0600	33°20.0'	119°39.0'	40	320°	5	missing	very rough	14.79	33.63
87.52^{5}-B	18	0750	33°15.0'	119°50.0'	60	320°	5	missing	very rough	15.14	33.60
87.55-B	18	0934	33°10.0'	120°00.0'	680	270°	5	cloudy	very rough	15.94	33.60

a) Alternate value, 18.02°C.

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
87.57^{5}-B	IX-18	1120	33°05.0'	120°11.0'	360	320°	8	missing	very rough	15.93	33.55
90.30-B	20	1915	33°24.5'	117°55.0'	330	270°	1	clear	slight	19.13	33.64
90.32^{5}-B	20	1750	33°19.5'	118°05.0'	420	270°	1	clear	slight	18.57	33.59
90.35-B	19	1150	33°15.0'	118°15.0'	250	calm		missing	slight	18.49	33.61
90.37^{5}-B	19	0950	33°10.0'	118°25.0'	680	280°	1	missing	slight	18.73	33.63
90.42^{5}-B	19	0552	32°59.0'	118°46.0'	750	300°	3	clear	moderate	16.82	33.58
90.45-B	19	0419	32°55.0'	118°56.0'	940	320°	3	cloudy	moderate	18.42	33.68
90.47^{5}-B	19	0237	32°50.0'	119°06.0'	750	300°	3	cloudy	moderate	17.32	33.63
90.50-B	19	0055	32°45.0'	119°17.0'	135	320°	4	partly cloudy	rough	16.00	33.61
90.52^{5}-B	18	2320	32°40.0'	119°26.0'	580	320°	5	partly cloudy	rough	17.43	33.58
SECOND TRACK											
83.42-P	19	0440	34°14.5'	119°33.0'	50	280°	4	clear	rough	15.64	33.68
83.44-P	19	0700	34°15.5'	119°47.0'	103	250°	2	clear	rough	14.63	33.58
83.46-P	19	1055	34°14.0'	120°02.0'	320	calm		clear	moderate	15.76	-
83.48-P	19	1340	33°58.5'	119°55.0'	60	300°	2	clear	slight	15.05	33.58
83.51-P	19	1800	33°51.5'	120°08.5'	95	270°	5	cloudy	rough	13.48	33.62
83.52^{5}-P	19	2025	33°49.0'	120°19.5'	400	290°	5	overcast	rough	14.67	33.59
83.55-P	19	2150	33°44.0'	120°25.0'	580	270°	4	cloudy	moderate	15.16	33.69
83.57^{5}-P	20	0000	33°38.0'	120°34.5'	650	290°	5	cloudy	rough	14.89	33.62

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
85.40-P	IX-20	2050	33°58.0'	119°13.5'	420	020°	3	clear	moderate	18.0a)	-
85.42^{5}-P	20	1845	33°53.0'	119°23.0'	400	020°	3	clear	moderate	16.94	33.61
85.45-P	20	1739	33°49.5'	119°29.0'	700	020°	3	clear	moderate	16.28	33.58
85.47^{5}-P	20	1605	33°43.0'	119°39.5'	1000	calm		clear	rough	13.90	33.62
85.52^{5}-P	20	1200	33°32.5'	120°01.5'	400	320°	5	partly cloudy	very rough	15.40	33.62
85.55-P	20	1005	33°27.5'	120°12.0'	680	320°	6	clear	very rough	15.77	33.59
85.57^{5}-P	20	0755	33°22.0'	120°23.0'	500	300°	5	clear	very rough	15.98	33.57
87.37^{5}-P	21	0440	33°45.0'	118°48.0'	500	280°	5	clear	rough	17.51	33.59
87.40-P	21	0640	33°40.5'	118°59.5'	485	280°	3	clear	slight	16.96	33.59
87.42^{5}-P	21	0920	33°35.5'	119°09.5'	175	280°	3	clear	moderate	16.28	33.58
87.47^{5}-P	21	1340	33°27.5'	119°29.5'	425	290°	4	fog	rough	14.72	33.62
87.50-P	21	1532	33°20.5'	119°39.5'	45	290°	5	overcast	rough	15.04	33.59
87.52^{5}-P	21	1715	33°15.0'	119°48.5'	80	280°	5	overcast	very rough	15.26	33.60
87.55-P	21	1855	33°10.0'	119°57.5'	660	300°	5	overcast	very rough	15.82	33.58
87.57^{5}-P	21	2050	33°05.0'	120°06.5'	400	320°	5	overcast	moderate	15.95	33.55
90.30-P	23	0735	33°24.5'	117°55.0'	340	220°	4	overcast	moderate	19.12	33.68
90.32^{5}-P	23	0555	33°19.5'	118°05.0'	450	180°	3	overcast	moderate	19.06	33.68

a) Temperature from bathythermograph.

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Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
90.35-P	IX-22	2300	33°16.0'	118°15.0'	125	280°	3	cloudy	moderate	19.17	33.68
90.37^{5}-P	22	2050	33°11.5'	118°24.0'	650	290°	3	cloudy	moderate	17.79	33.60
90.42^{5}-P	22	1641	33°00.5'	118°45.0'	700	320°	2	overcast	moderate	17.21	33.64
90.45-P	22	1515	32°55.5'	118°55.5'	900+	320°	3	overcast	moderate	18.28	33.69
90.47^{5}-P	22	1340	32°50.5'	119°06.0'	650	320°	3	overcast	moderate	15.77	33.63
90.50-P	22	1202	32°45.5'	119°16.5'	210	320°	3	overcast	moderate	17.37	33.65
90.52^{5}-P	22	0645	32°40.5'	119°24.5'	650	280°	5	overcast	very rough	17.20	33.62
83.42-B	21	1050	34°14.0'	119°32.0'	47	calm		missing	slight	15.74a)	33.66
83.44-B	21	1230	34°14.0'	119°44.0'	95	220°	2	missing	slight	15.20	33.64
83.46-B	21	1439	34°14.0'	120°00.0'	320	270°	1	partly cloudy	slight	14.3b)	33.62
83.48-B	21	1717	33°58.0'	119°55.0'	100	270°	1	overcast	slight	15.12	33.58
83.51-B	21	1900	33°52.0'	120°08.0'	90	270°	2	overcast	rough	14.92	33.57
83.53-B	21	2040	33°48.0'	120°16.5'	400	290°	3	hazy	moderate	14.07	33.57
83.55-B	21	2200	33°44.0'	120°25.0'	580	290°	3	overcast	rough	14.3b)	33.60
83.57^{5}-B	21	2335	33°39.5'	120°35.0'	640	290°	3	cloudy	rough	14.7b)	33.58
85.40-B	22	1930	33°57.0'	119°10.5'	400	270°	2	overcast	slight	18.24	33.64

a) Alternate value, 17.80°C.

b) Temperature from bathythermograph.

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
85.42^{5}-B	IX-22	1753	33°52.0'	119°21.0'	400	270°	1	overcast	slight	17.08	33.61
85.45-B	22	1603	33°47.0'	119°31.0'	1000	270°	2	overcast	moderate	15.08	33.53
85.47^{5}-B	22	1400	33°42.0'	119°42.0'	900	270°	1	overcast	slight	13.92	33.64
85.52^{5}-B	22	1015	33°32.0'	120°02.5'	490	290°	1	missing	slight	14.90	33.58
85.55-B	22	0810	33°27.0'	120°13.0'	650	290°	2	missing	rough	15.22	33.58
85.57^{5}-B	22	0643	33°22.0'	120°23.0'	540	270°	3	missing	moderate	15.85	33.57
87.37^{5}-B	23	0221	33°45.0'	118°48.0'	500	270°	2	clear	moderate	17.18	33.59
87.40-B	23	0359	33°40.0'	118°58.5'	450	270°	2	clear	slight	16.20	33.57
87.42^{5}-B	23	0545	33°35.0'	119°08.5'	220	240°	1	clear	moderate	16.48	33.59
87.47^{5}-B	23	0920	33°25.0'	119°29.0'	450	270°	1	clear	slight	15.16	33.62
87.50-B	23	1050	33°20.0'	119°39.5'	48	270°	1	missing	slight	15.02	33.60
87.52^{5}-B	23	1245	33°15.0'	119°50.0'	100	270°	1	missing	moderate	15.94	33.58
87.55-B	23	1428	33°10.0'	120°00.0'	640	260°	2	cloudy	moderate	15.96	33.60
87.57^{5}-B	23	1559	33°05.0'	120°11.0'	270	270°	1	cloudy	moderate	15.94	33.58
90.30-B	25	0350	33°24.0'	117°55.0'	330	280°	2	clear	slight	19.04	33.64
90.32^{5}-B	25	0215	33°19.0'	118°05.5'	440	290°	2	clear	slight	19.07	33.66
90.35-B	25	0026	33°15.0'	118°15.5'	250	290°	2	clear	slight	18.78	33.66
90.37^{5}-B	24	2245	33°10.0'	118°25.0'	680	270°	1	partly cloudy	slight	18.52	33.60

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

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S
90.42.5-B	IX-24	1545	32°59.0'	118°46.0'	750	270°	2	overcast	moderate	17.73	33.65
90.45-B	24	1415	32°54.5'	118°56.0'	920	300°	2	cloudy	moderate	18.50	33.69
90.47.5-B	24	1233	32°50.0'	119°06.0'	720	320°	2	overcast	moderate	17.03	33.60
90.50-B	24	1055	32°44.5'	119°16.5'	150	330°	2	overcast	slight	16.32	33.66
91.5.50-B	24	0630	32°24.0'	119°07.5'	150	270°	2	overcast	slight	18.20	33.83
90.52.5-B	24	0150	32°39.5'	119°26.0'	680	300°	3	overcast	slight	17.16	33.60

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