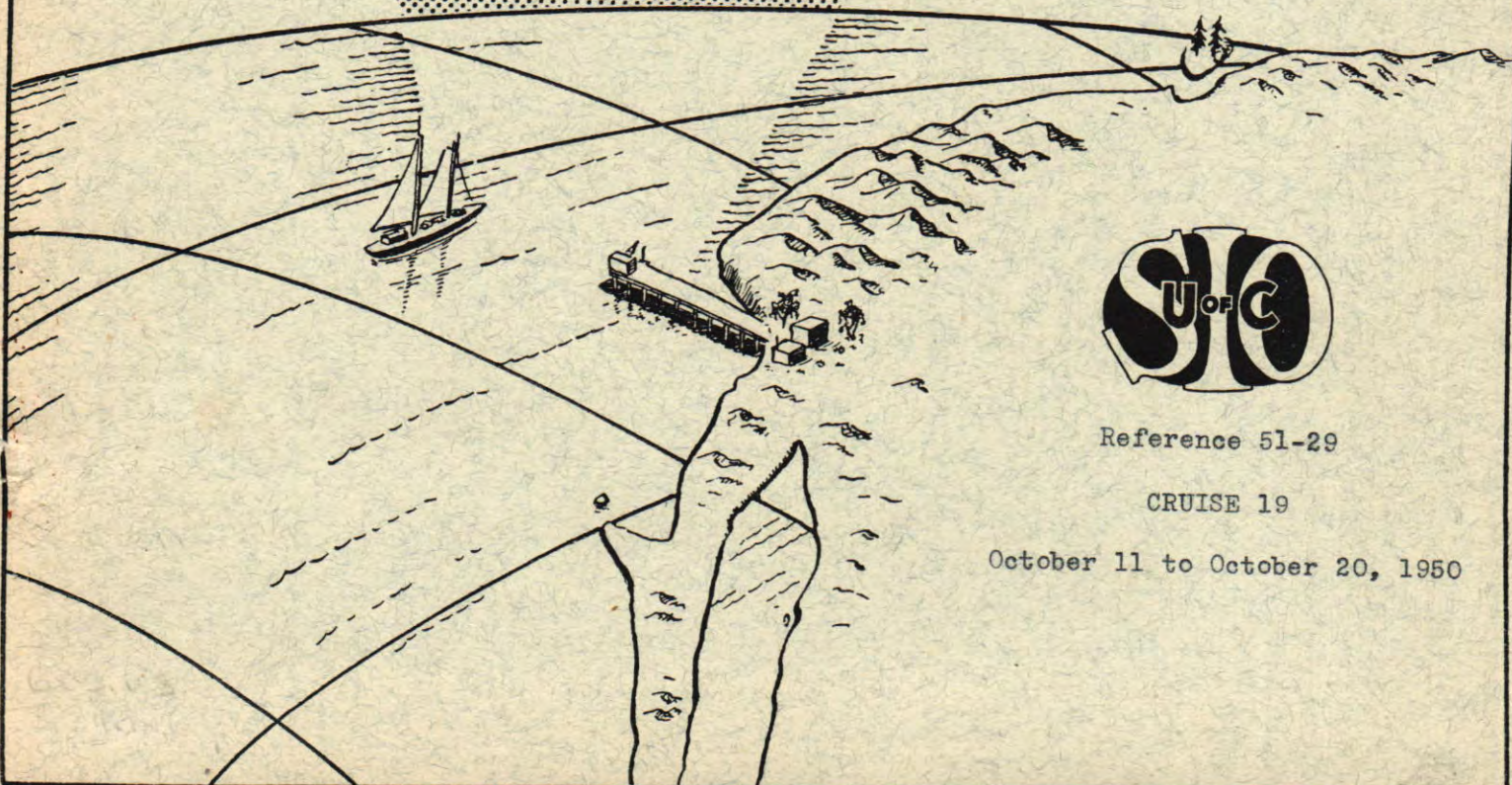


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UNIVERSITY OF CALIFORNIA  
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

MARINE LIFE RESEARCH PROGRAM  
DIVISION OF OCEANOGRAPHY



Reference 51-29

CRUISE 19

October 11 to October 20, 1950



UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTE OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CRUISE 19 - October 11 to October 20, 1950

MARINE LIFE RESEARCH PROGRAM

Report prepared September 12, 1951

Physical and Chemical Data Report No. 19



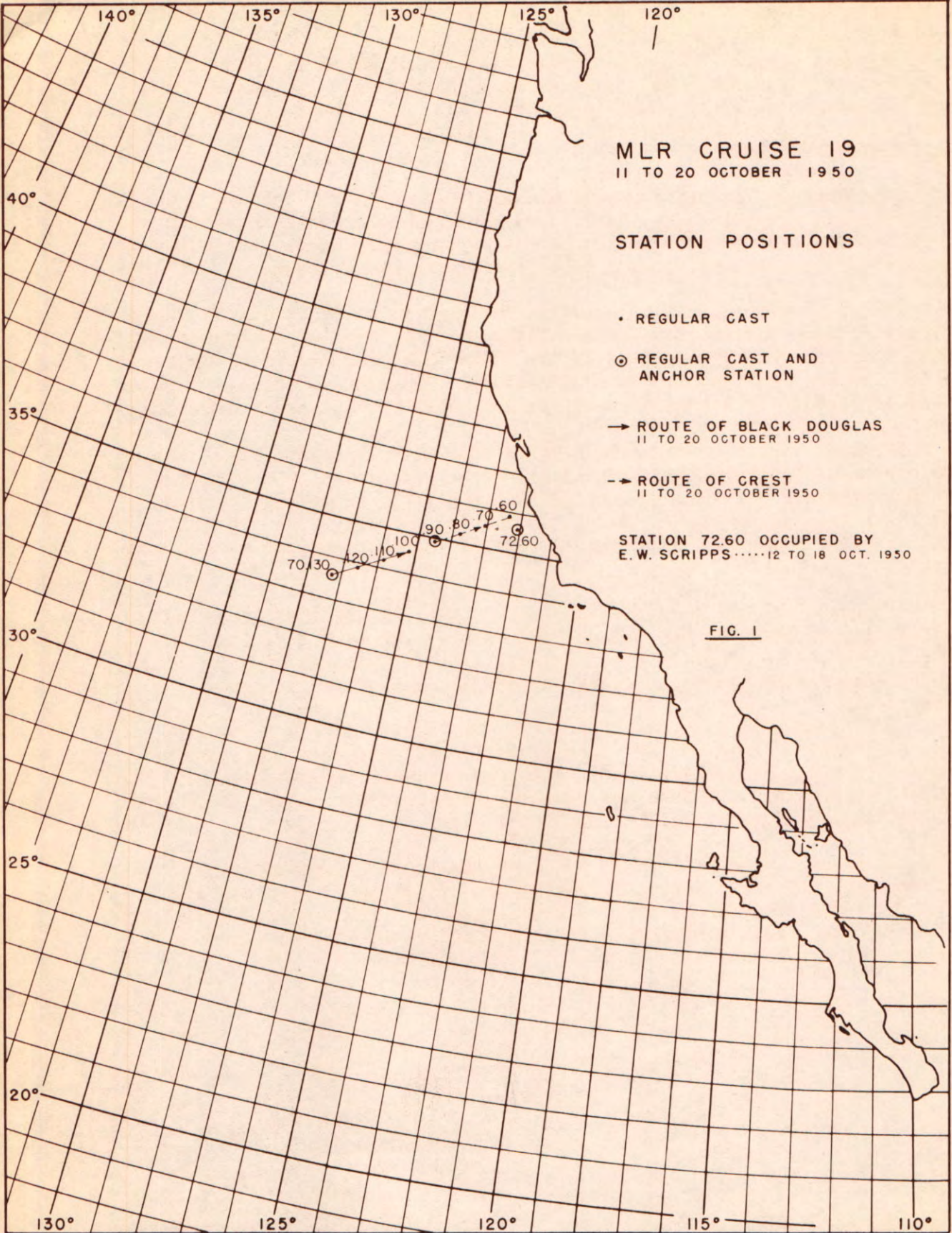
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MLR CRUISE 19  
11 TO 20 OCTOBER 1950

STATION POSITIONS

- REGULAR CAST
- ⊙ REGULAR CAST AND ANCHOR STATION

- ROUTE OF BLACK DOUGLAS  
11 TO 20 OCTOBER 1950
- - - ROUTE OF CREST  
11 TO 20 OCTOBER 1950

STATION 72.60 OCCUPIED BY  
E.W. SCRIPPS 12 TO 18 OCT. 1950

FIG. 1



## INTRODUCTION

The data presented in this report were collected on the nineteenth full-scale cruise in the Marine Life Research Program. The three ships participating were the MV CREST and the MV E.W. SCRIPPS of the Scripps Institution of Oceanography, and the MV BLACK DOUGLAS of the U.S. Fish and Wildlife Service.

The task of the cruise was to measure the variation with time of oceanographic properties on three fixed stations so that these variations might be analyzed for oscillatory effects (especially tidal) and the results used in evaluating data taken on the regular cruises.

The ships were spaced 160 and 120 nautical miles apart almost in a straight line. Simultaneous observations were to have been taken every three hours for eight days, two of the daily hydrographic casts being to 1000 meters and the others to 300 meters. The BLACK DOUGLAS and CREST completed all assigned work; the E.W. SCRIPPS finished nearly all.

For each vessel the dynamic heights are plotted against time, as are the depths of isotherms and isochalines. These figures show a variation of approximately semi-diurnal period, the amplitude not being the same for all ships and the period evidently varying somewhat with the ship. Data are also presented in the usual form of tabulated values at standard depths.

Because of Nansen bottle pre-tripping on the BLACK DOUGLAS on casts K-1, 7, 19, 21, 41, 43, 44, 50, and 54, CREST 70, 80, and E.W. SCRIPPS K-13, 19, 39, 42, and 49 it was difficult to obtain depths of observation. In processing such casts an effort is made to correct for the pre-tripping.

The original data and the data as modified during various steps in processing are on file with the Division of Oceanography. Copies may be made available. The data are processed on the six standard forms of this division and one special form.

The presentation of data in these Physical and Chemical Data Reports does not constitute publication, and this information may be subject to modification as the program continues. Results of various phases of the investigations will be published in scientific journals for general distribution.



## PERSONNEL

Roger R. Revelle, Director of the Scripps Institution  
of Oceanography

Oceanographers

Horrer, Paul L., Assistant Oceanographer  
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Reid, Joseph L., Jr., Associate in Oceanography  
Wooster, Warren S., Associate in Oceanography

Marine Superintendent

Stose, Clemens W.

Ships' Captains

Brandal, G., MV CREST  
Joelson, S. M., MV BLACK DOUGLAS  
Ekberg, P. R., MV E. W. SCRIPPS

## PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

MV BLACK DOUGLAS

Thraillkill, James R., Marine Biologist in Charge  
Colter, John C., Chemistry Aid  
Edwards, Frank H., Jr., Marine Technician,  
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Marquardt, Robert L., Marine Technician, Scripps Institution  
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MV CREST

Beckwith, Warren W., Jr., Senior Marine Technician  
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Arthur, David K., Student  
Bedke, Hazen H., Student



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- Cunningham, Leonard M., Marine Technician
- Eby, Lorraine L., Engineering Aid
- Edwards, Frank H., Jr., Marine Technician
- Forshaw, Andrew W., Engineering Aid
- Gilkey, Robert W., Marine Technician
- Gossett, David A., Senior Marine Technician
- Haddow, Robert W., Marine Technician
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- Haulman, Doris V., Engineering Aid
- Hazelbaker, Bernard R., Engineering Aid
- Herreshoff, Karl F., Marine Technician, Chemical
- Hutchins, Dorsey M., Typist-Clerk
- Jennings, Feenan D., Research Assistant
- Kartrude, Robert C., Senior Engineering Aid
- Matheny, Gladys K., Engineering Aid
- Kirk, Robert W., Laboratory Technician
- Klein, Hans T., Principal Laboratory Technician
- Mao, Han-Lee, Research Assistant
- McCoy, Willis M., Engineering Aid
- Mead, Richard V., Principal Marine Technician
- Miller, Bernadette L., Engineering Aid
- Payne, Miles M., Laboratory Assistant Trainee
- Propsner, Ruth O., Engineering Aid
- Ratty, Donald K., Marine Technician
- Shippey, Henry G., Marine Technician
- Simmons, Charles V., Laboratory Assistant Trainee
- Smith, Alan C., Senior Marine Technician
- Squire, Mary C., Laboratory Technician
- Trent, Luz F., Laboratory Technician
- Veitzer, Leonard M., Marine Technician
- Wheeler, Marshall L., Jr., Laboratory Technician
- Whitney, Alice D., Engineering Aid
- Wilburn, Virginia A., Statistician
- Wilkes, Frances C., Engineering Aid
- Winchell, Perrin, Marine Technician, Chemical



TIME VARIATION OF  
DYNAMIC HEIGHT ANOMALIES  
O OVER 300 DECIBARS

MLR CRUISE 19  
OCT. 11-20, 1950

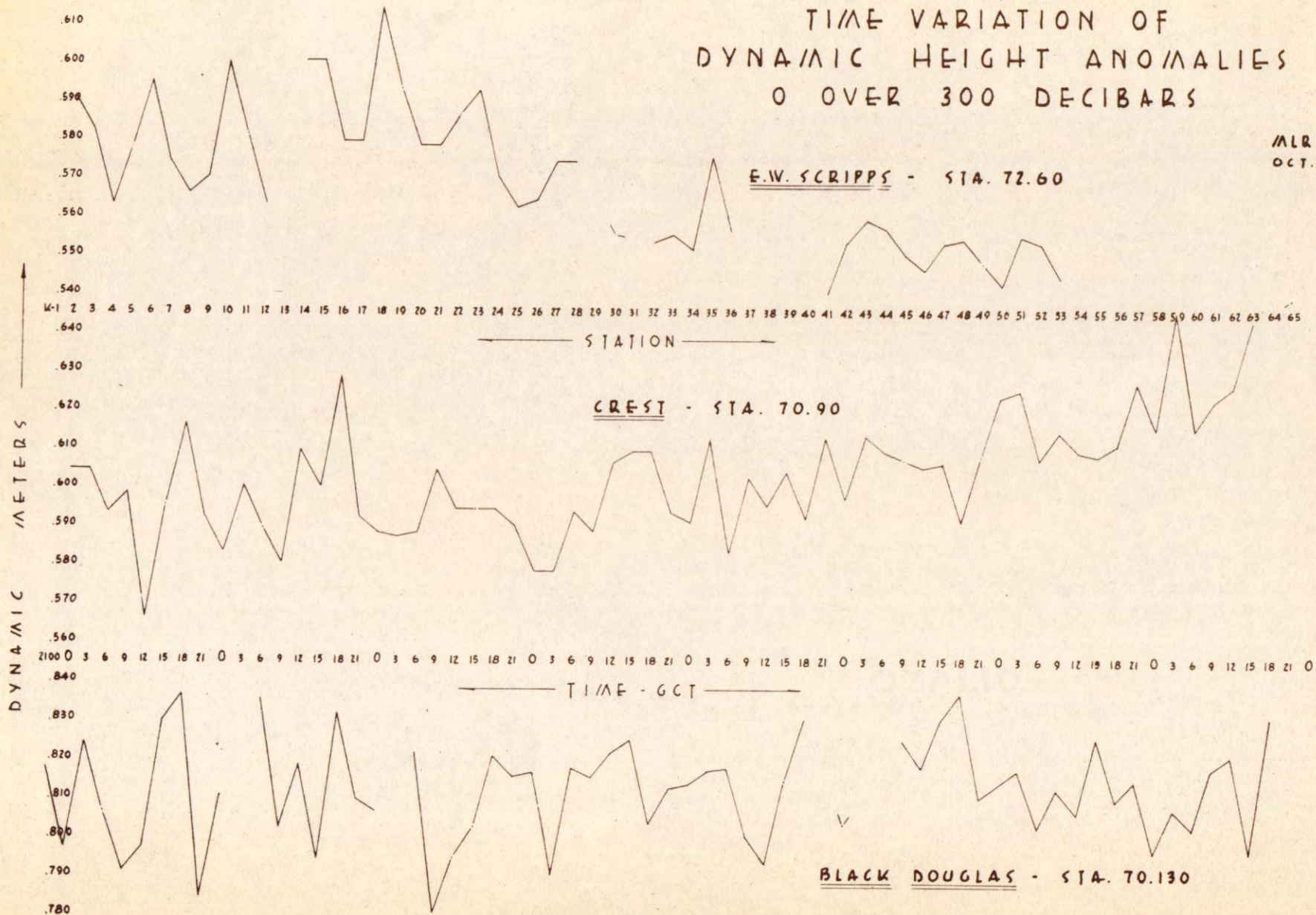


FIGURE 2



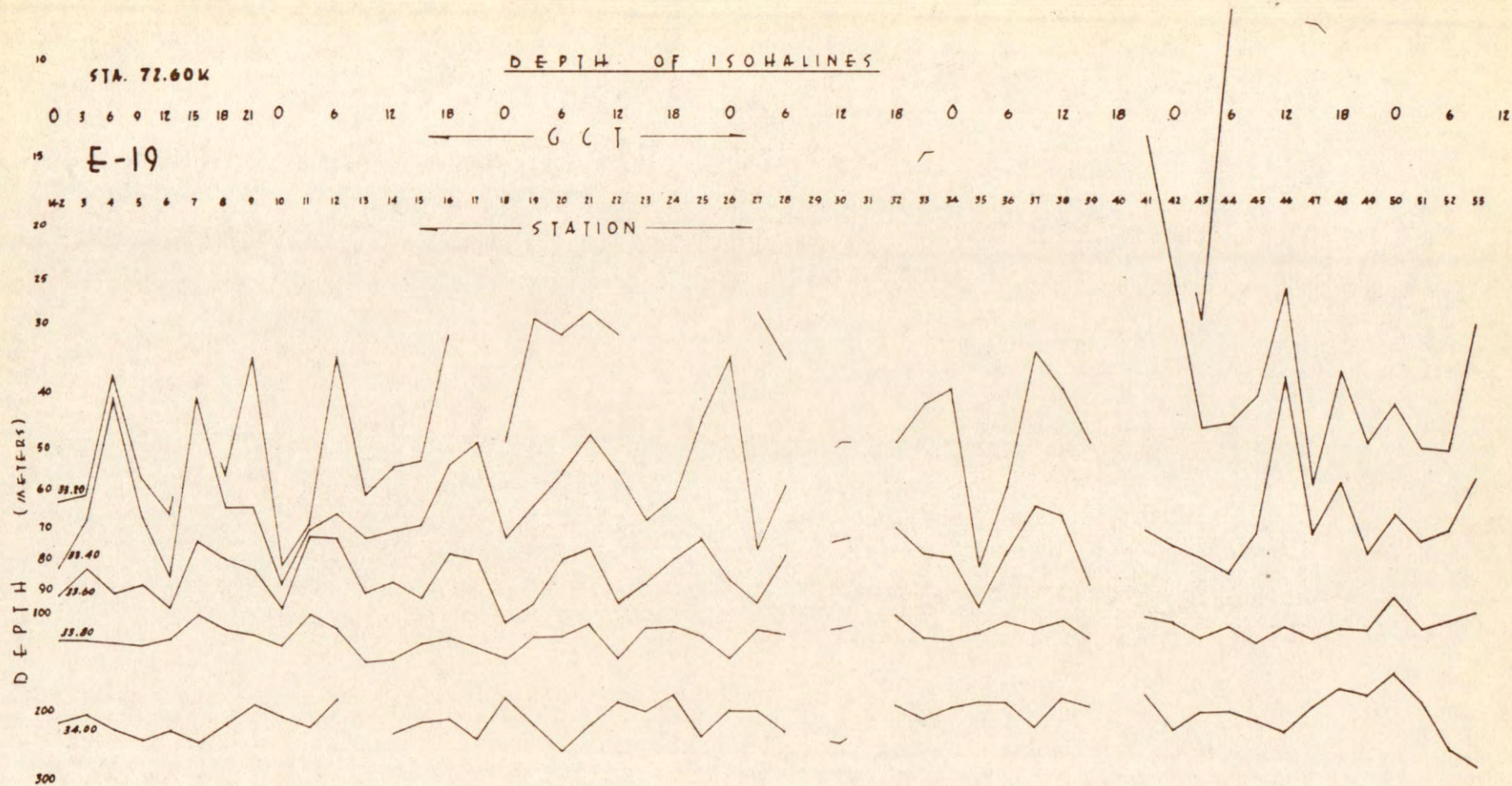


FIGURE 3











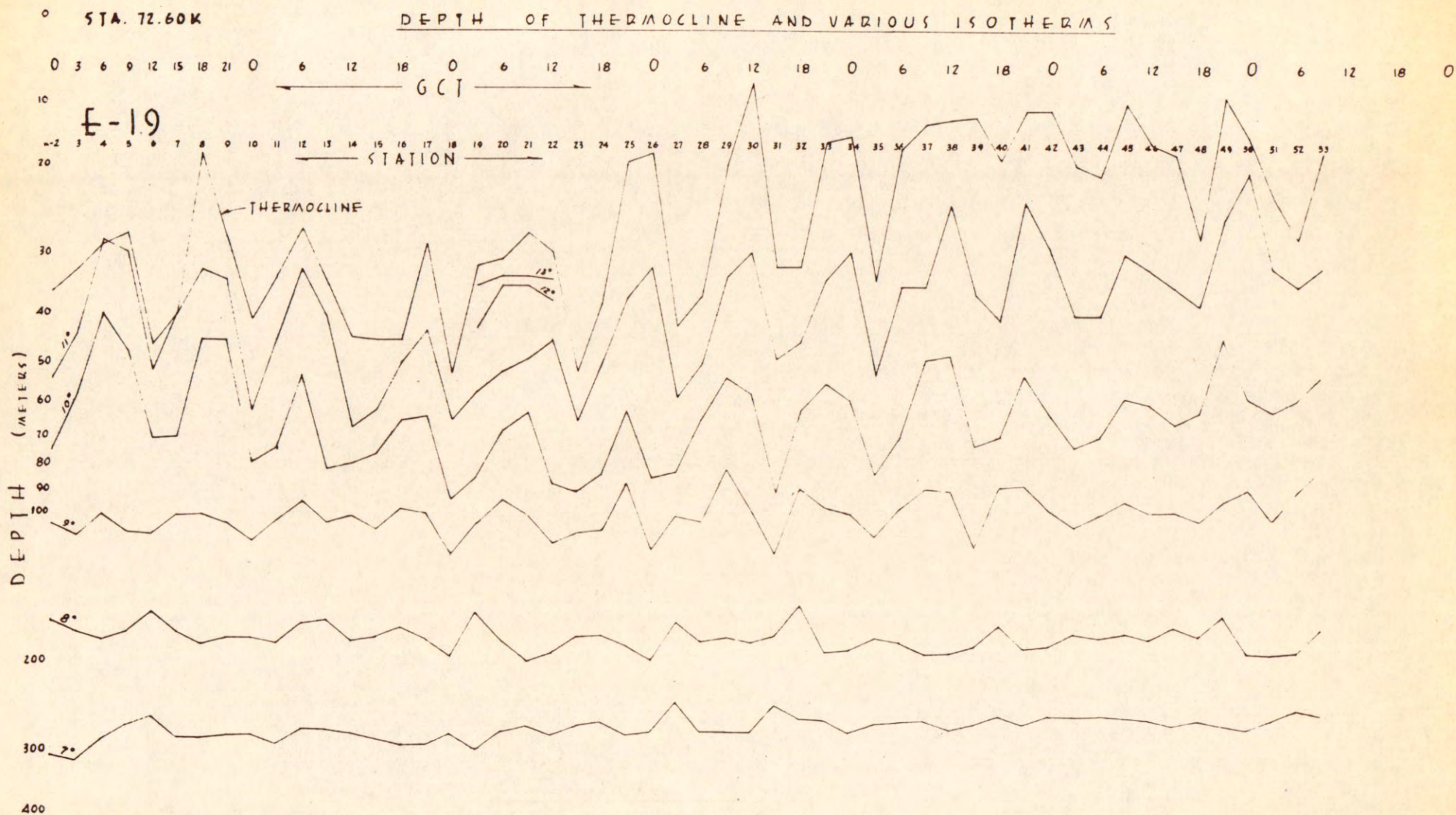


FIGURE 6







B-19

STA. 70.130 K

DEPTH OF THERMOCLINE AND VARIOUS ISOTHERMS

GCT

STATION

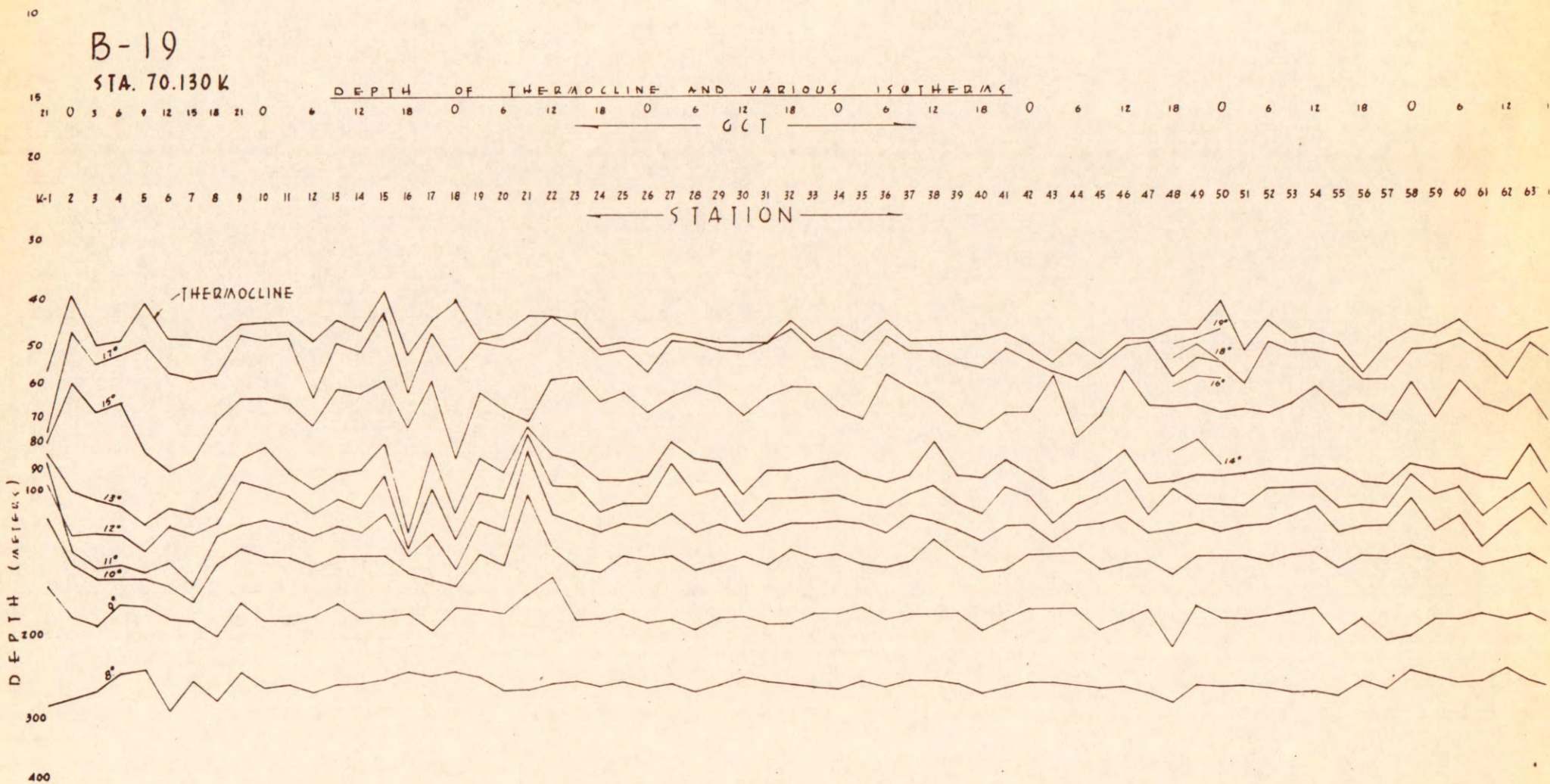


FIGURE 8



Observed depth values of temperature, salinity, and oxygen for this cruise will be presented as an appendix in a separate binder.



## STATION 72.60K-2 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 0000 GCT Wire angle: 0°  
 Sounding: 1,000 fms. Depth of observation: 1,052 m. Weather: fog Sea: very  
 rough Wind: 200°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	16.20	33.28	24.40	353.7	.0000	6.24	-
10	15.03	33.24	24.63	332.1	.0344	6.44	-
20	14.33	33.24	24.78	318.2	.0671	5.89	-
30	13.88	33.22	24.86	311.0	.0987	5.55	-
50	11.45	33.10	25.24	275.2	.1576	5.26	-
75	9.97	33.32	25.67	234.7	.2217	4.54	-
100	9.12	33.72	26.12	192.2	.2754	3.30	-
150	8.27	33.85	26.35	170.8	.367	2.97	-
200	7.57	33.98	26.56	151.9	.448	2.31	-
250	7.03	34.02	26.66	142.3	.522	2.04	-
300	7.01	34.13	26.75	134.6	.592	1.38	-
400	6.09	34.13	26.88	123.8	.722	.44	-
500	5.68	34.22	27.00	113.1	.842	.33	-
600	5.38	34.33	27.12	102.4	.950	.32	-
700	4.91	34.33	27.18	97.6	1.051	.44	-
800	4.43	34.35	27.25	91.3	1.147	-	-
1000	3.74	34.42	27.37	79.7	1.320	-	-

## STATION 72.60K-3 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 0300 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 319 m. Weather: fog Sea: rough  
 Wind: 240°, force 1

0	15.40	33.30	24.60	335.2	.0000	5.86	-
10	14.55	33.28	24.76	319.4	.0329	5.83	-
20	14.29	33.26	24.80	315.9	.0648	5.81	-
30	13.97	33.20	24.82	314.2	.0964	5.76	-
50	10.28	33.06	25.41	258.4	.1539	5.32	-
75	9.62	33.53	25.89	213.6	.2133	3.93	-
100	9.25	33.70	26.08	195.7	.2648	3.51	-
150	8.42	33.90	26.37	169.3	.357	2.69	-
200	7.61	33.98	26.55	152.5	.438	2.46	-
250	7.18	34.03	26.65	143.6	.512	1.93	-
300	7.08	34.10	26.72	137.8	.583	1.42	-



## STATION 72.60K-4 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 0600 GCT  
 Wire angle: 0° Sounding: 1,080 fms. Depth of observation: 319 m.  
 Weather: fog Sea: very rough Wind: 220°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	10 <sup>5</sup> $\delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.10	33.27	24.64	331.1	.0000	5.83	-
10	14.18	33.20	24.78	317.8	.0326	5.89	-
20	12.75	33.06	24.96	300.9	.0636	5.75	-
30	10.80	33.04	25.31	268.1	.0922	5.47	-
50	9.64	33.51	25.87	214.9	.1407	4.64	-
75	9.49	33.48	25.87	215.3	.1948	3.88	-
100	9.00	33.67	26.10	194.1	.2463	3.39	-
150	8.35	33.92	26.39	166.8	.337	2.45	-
200	7.68	33.98	26.54	153.5	.418	2.73	-
250	7.38	34.03	26.62	146.4	.493	1.89	-
300	6.89	34.10	26.75	135.2	.564	1.48	-

## STATION 72.60K-5 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 0900 GCT  
 Wire angle: 0° Sounding: 1,080 fms. Depth of observation: 323 m.  
 Weather: fog Sea: very rough Wind: 320°, force 2

0	15.90	33.28	24.47	347.2	.0000	5.94	-
10	14.96	33.24	24.65	330.7	.0340	6.06	-
20	13.68	33.14	24.84	312.7	.0663	5.87	-
30	10.83	33.12	25.36	262.7	.0952	5.51	-
50	9.93	33.13	25.53	247.6	.1465	5.28	-
75	9.46	33.51	25.90	212.6	.2043	3.91	-
100	9.14	33.65	26.06	197.7	.2560	3.41	-
150	8.49	33.84	26.31	174.7	.350	2.92	-
200	7.63	33.95	26.52	155.0	.433	2.68	-
250	7.19	34.02	26.64	144.5	.508	2.13	-
300	6.71	34.05	26.73	136.5	.579	1.57	-



## STATION 72.60K-6 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 1200 GCT  
 Wire angle: 0° Sounding: 1,080 fms. Depth of observation: 1,051 m.  
 Weather: fog Sea: very rough Wind: 320°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	10 <sup>5</sup> $\delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.00	33.28	24.45	349.4	.0000	5.68	-
10	15.25	33.26	24.60	335.3	.0343	5.68	-
20	14.45	33.18	24.71	325.0	.0675	5.71	-
30	13.90	33.12	24.78	318.7	.0998	5.71	-
50	11.93	33.10	25.15	283.7	.1604	5.18	-
75	9.91	33.27	25.64	237.4	.2259	4.41	-
100	9.31	33.63	26.02	201.8	.2811	3.81	-
150	8.17	33.92	26.42	164.1	.373	2.67	-
200	7.51	33.96	26.55	152.6	.453	2.12	-
250	7.09	34.05	26.68	140.9	.527	2.13	-
300	6.59	34.09	26.78	131.9	.596	1.36	-
400	5.97	34.18	26.93	118.5	.722	1.34	-
500	5.59	34.26	27.04	109.0	.837	.88	-
600	5.32	34.31	27.11	103.1	.944	.34	-
700	5.00	34.36	27.19	96.5	1.044	.28	-
800	4.59	34.40	27.27	89.5	1.138	.30	-
1000	3.77	34.48	27.42	75.6	1.305	.57	-

## STATION 72.60K-7 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 1500 GCT  
 Wire angle: 1° Sounding: 1,080 fms. Depth of observation: 319 m.  
 Weather: fog Sea: very rough Wind: 320°, force 3

0	14.90	33.28	24.69	326.3	.0000	5.73	-
10	14.89	33.27	24.68	327.1	.0328	5.57	-
20	14.80	33.23	24.67	328.4	.0657	5.59	-
30	13.93	33.22	24.85	312.0	.0978	5.52	-
50	10.12	33.53	25.81	221.1	.1514	4.33	-
75	9.79	33.60	25.92	211.1	.2057	3.73	-
100	9.02	33.78	26.18	186.3	.2557	3.04	-
150	8.30	33.91	26.39	166.8	.345	2.37	-
200	7.62	33.92	26.50	157.1	.426	2.44	-
250	7.30	34.01	26.62	146.7	.503	1.83	-
300	6.82	34.04	26.71	138.7	.575	1.42	-



## STATION 72.60K-8 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 1800 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 320 m. Weather: fog Sea: high  
 Wind: 320°, force 3-4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.00	33.29	24.68	327.6	.0000	5.84	-
10	14.88	33.28	24.69	326.1	.0328	5.88	-
20	13.75	33.24	24.90	306.7	.0646	5.67	-
30	11.40	33.20	25.32	266.5	.0934	5.33	-
50	9.88	33.15	25.55	245.3	.1448	5.01	-
75	9.73	33.56	25.89	213.1	.2024	3.83	-
100	9.03	33.70	26.12	192.3	.2534	3.20	-
150	8.27	33.94	26.42	164.1	.343	2.41	-
200	7.60	33.98	26.55	152.4	.423	2.60	-
250	7.31	34.07	26.66	142.4	.497	1.86	-
300	6.81	34.06	26.73	137.1	.567	1.33	-

## STATION 72.60K-9 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 12, 1950 2100 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 313 m. Weather: fog Sea: high  
 Wind: 320°, force 4

0	15.80	33.28	24.49	345.1	.0000	5.84	-
10	15.50	33.30	24.57	357.6	.0343	5.68	-
20	13.94	33.24	24.86	310.4	.0668	5.64	-
30	11.90	33.19	25.22	276.0	.0962	5.60	-
50	9.94	33.24	25.61	239.6	.1481	4.92	-
75	9.84	33.52	25.84	217.8	.2056	4.02	-
100	9.12	33.74	26.13	190.8	.2570	3.29	-
150	8.46	33.91	26.37	169.1	.348	2.55	-
200	7.57	34.01	26.58	149.7	.428	2.54	-
250	7.33	34.08	26.67	142.0	.501	1.65	-
300	6.75	34.09	26.76	134.1	.571	1.34	-



## STATION 72.60K-10 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 0000 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 1,050 m. Weather: cloudy Sea: high  
 Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	15.40	33.26	24.56	338.1	.0000	5.80	-
10	15.15	33.26	24.62	333.2	.0337	5.90	-
20	14.50	33.22	24.73	323.1	.0666	5.88	-
30	14.12	33.21	24.80	316.4	.0987	5.79	-
50	12.25	33.21	25.17	281.3	.1588	5.43	-
75	10.09	33.13	25.50	250.7	.2257	4.97	-
100	9.55	33.61	25.96	207.1	.2833	4.18	-
150	8.32	33.92	26.40	166.3	.377	2.36	-
200	7.49	33.98	26.57	150.8	.457	2.62	-
250	7.31	34.07	26.66	142.4	.531	1.54	-
300	6.78	34.07	26.74	135.9	.601	.63	-
400	6.09	34.16	26.90	121.6	.731	.54	-
500	5.76	34.25	27.01	111.9	.849	.47	-
600	5.39	34.31	27.10	104.0	.958	.43	-
700	4.89	34.36	27.20	95.2	1.058	.40	-
800	4.40	34.39	27.28	88.0	1.151	.44	-
1000	3.79	34.43	27.38	79.5	1.320	1.26	-

## STATION 72.60K-11 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 0300 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 320 m. Weather: partly cloudy  
 Sea: high Wind: 320°, force 5

0	15.20	33.30	24.64	331.0	.0000	5.75	-
10	14.93	33.22	24.64	331.6	.0333	5.46	-
20	14.39	33.23	24.76	320.1	.0660	5.65	-
30	13.60	33.23	24.92	304.8	.0973	5.70	-
50	10.56	33.03	25.34	265.2	.1546	4.88	-
75	9.97	33.66	25.93	209.6	.2143	3.75	-
100	9.12	33.78	26.17	187.8	.2643	3.34	-
150	8.37	33.91	26.38	167.8	.354	2.37	-
200	7.70	33.97	26.53	154.5	.435	2.37	-
250	7.41	34.05	26.63	145.3	.510	1.86	-
300	6.90	34.05	26.71	139.1	.582	1.37	-



## STATION 72.60K-12 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 0600 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 319 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 5

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.00	33.22	24.62	332.7	.0000	5.83	-
10	14.64	33.22	24.70	325.7	.0330	5.38	-
20	13.80	33.20	24.86	310.6	.0650	5.10	-
30	11.65	33.19	25.27	271.6	.0942	4.89	-
50	10.05	33.23	25.58	242.1	.1458	4.52	-
75	9.49	33.62	25.98	204.9	.2020	3.63	-
100	8.90	33.73	26.16	188.1	.2515	3.06	-
150	8.34	33.90	26.38	168.1	.341	2.33	-
200	7.53	34.03	26.60	147.7	.421	2.62	-
250	7.20	34.04	26.66	143.1	.494	1.77	-
300	6.71	34.07	26.75	135.0	.564	1.07	-

## STATION 72.60K-13 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 0900 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 176m. Weather: partly cloudy  
 Sea: high Wind: 320°, force 5

0	15.40	33.30	24.60	335.2	.0000	4.93	-
10	15.15	33.24	24.60	334.6	.0336	5.22	-
20	14.53	33.22	24.72	323.7	.0667	4.87	-
30	13.91	33.18	24.82	314.5	.0987	4.25	-
50	10.16	33.06	25.43	256.5	.1561	3.94	-
75	10.11	33.42	25.72	229.6	.2172	3.95	-
100	9.15	33.65	26.06	197.9	.2710	2.89	-
150	8.30	33.81	26.32	174.2	.365	2.42	-



## STATION 72.60K-14 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 1200 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 1,058 m. Weather: partly cloudy  
 Sea: high Wind: 320°, force 4-5

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.80	33.22	24.45	349.5	.0000	5.17	-
10	15.53	33.24	24.52	342.6	.0347	5.66	-
20	15.40	33.22	24.53	341.6	.0691	5.85	-
30	13.82	33.20	24.86	311.2	.1019	5.81	-
50	12.25	33.17	25.14	284.3	.1617	5.38	-
75	10.33	33.43	25.69	232.4	.2267	4.36	-
100	9.05	33.69	26.11	193.4	.2802	3.33	-
150	8.40	33.86	26.34	171.9	.372	2.43	-
200	7.67	33.95	26.52	155.6	.455	2.88	-
250	7.35	34.04	26.64	145.2	.530	1.88	-
300	6.77	34.07	26.74	135.8	.601	1.28	-
400	6.07	34.13	26.88	123.5	.732	.73	-
500	5.60	34.17	26.97	115.8	.853	.51	-
600	5.20	34.22	27.06	108.3	.966	.40	-
700	4.86	34.29	27.15	100.0	1.071	.32	-
800	4.51	34.36	27.25	91.5	1.167	.33	-
1000	3.82	34.41	27.36	81.4	1.342	.51	-

## STATION 72.60K-15 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 1500 GCT Wire angle:  
 0°, Sounding: 1,080 fms. Depth of observation: 320 m. Weather: cloudy  
 Sea: high Wind: 320°, force 4-5

0	15.80	33.23	24.45	348.8	.0000	5.74	-
10	15.55	33.23	24.51	343.7	.0348	6.13	-
20	15.48	33.22	24.52	343.3	.0693	6.00	-
30	13.87	33.21	24.85	311.5	.1021	5.72	-
50	12.40	33.18	25.12	286.3	.1622	5.45	-
75	10.07	33.44	25.74	227.4	.2268	4.28	-
100	9.29	33.64	26.03	200.8	.2806	3.26	-
150	8.36	33.88	26.36	169.9	.374	2.38	-
200	7.58	33.95	26.53	154.3	.456	2.61	-
250	7.36	34.06	26.65	143.9	.531	1.83	-
300	6.83	34.07	26.73	136.6	.601	1.39	-



## STATION 72.60K-16 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 1800 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 320 m. Weather: cloudy  
 Sea: high Wind: 320°, force 4-5

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.80	33.22	24.45	349.5	.0000	5.32	-
10	15.57	33.21	24.49	345.6	.0349	5.46	-
20	13.89	33.18	24.83	313.8	.0680	5.55	-
30	13.74	33.19	24.86	310.4	.0993	5.44	-
50	10.91	33.35	25.53	247.5	.1554	4.77	-
75	9.69	33.58	25.92	211.0	.2130	3.92	-
100	8.93	33.67	26.11	193.0	.2639	3.27	-
150	8.28	33.89	26.38	167.9	.355	2.27	-
200	7.54	33.98	26.56	151.5	.435	2.48	-
250	7.33	34.08	26.67	142.0	.509	1.83	-
300	6.97	34.05	26.70	140.0	.580	1.42	-

## STATION 72.60K-17 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 13, 1950 2100 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 317 m. Weather: overcast  
 Sea: very rough Wind: 310°, force 4

0	15.80	33.26	24.48	346.6	.0000	5.34	-
10	15.56	33.21	24.49	345.4	.0347	4.71	-
20	14.70	33.21	24.60	327.8	.0685	4.99	-
30	13.93	33.24	24.86	310.5	.1006	4.97	-
50	10.55	33.40	25.63	237.8	.1557	4.32	-
75	9.69	33.57	25.91	211.7	.2122	3.70	-
100	9.02	33.68	26.10	193.7	.2632	3.16	-
150	8.30	33.96	26.43	163.1	.353	2.17	-
200	7.62	33.95	26.53	154.9	.433	2.19	-
250	7.37	34.06	26.65	144.0	.508	1.63	-
300	6.90	34.05	26.71	139.1	.580	1.40	-



## STATION 72.60K-18 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 0000 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,051m. Weather: haze  
 Sea: high Wind: 310°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.30	33.24	24.57	337.5	.0000	5.42	-
10	15.12	33.21	24.59	336.2	.0338	5.02	-
20	14.27	33.21	24.77	319.2	.0667	5.02	-
30	14.08	33.21	24.81	315.7	.0986	4.97	-
50	13.99	33.20	24.82	315.1	.1620	4.38	-
75	10.55	33.40	25.63	238.3	.2315	3.93	-
100	9.72	33.53	25.87	215.7	.2886	3.52	-
150	8.57	33.83	26.29	176.7	.387	2.40	-
200	7.93	34.04	26.55	152.6	.470	1.98	-
250	7.35	34.07	26.66	143.0	.545	1.25	-
300	6.74	34.09	26.76	133.9	.615	1.35	-
400	6.05	34.13	26.88	123.3	.744	.71	-
500	5.58	34.21	27.00	112.6	.863	.71	-
600	5.17	34.28	27.11	103.4	.972	.77	-
700	4.80	34.33	27.19	96.4	1.073	.52	-
800	4.45	34.37	27.26	90.1	1.167	.33	-
1000	3.82	34.45	27.39	78.4	1.338	.53	-

## STATION 72.60K-19 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 0300 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 263 m. Weather: clear  
 Sea: high Wind: 340°, force 4

0	15.80	33.19	24.42	351.7	.0000	5.34	-
10	15.25	33.19	24.54	340.4	.0347	4.66	-
20	14.45	33.19	24.72	324.2	.0681	4.98	-
30	13.62	33.20	24.90	307.3	.0998	5.03	-
50	11.37	33.33	25.43	256.9	.1565	4.00	-
75	10.27	33.44	25.71	230.7	.2178	2.88	-
100	9.35	33.63	26.01	202.5	.2723	3.02	-
150	8.06	33.89	26.41	164.8	.365	1.84	-
200	7.80	33.98	26.52	155.2	.445	1.78	-
250	7.44	34.02	26.61	148.0	.522	1.44	-
300	(6.98)	(34.05)	(26.69)	(140.1)	(.594)	-	-



## STATION 72.60K-20 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 0600 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 320 m. Weather: partly cloudy  
 Sea: high Wind: 320°, force 5

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	10 <sup>5</sup> $\delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	15.11	33.26	24.63	332.1	.0000	6.04	-
10	15.16	33.22	24.59	336.3	.0336	5.68	-
20	14.05	33.19	24.80	316.3	.0663	5.66	-
30	13.36	33.19	24.94	303.1	.0974	5.57	-
50	11.15	33.33	25.47	253.0	.1533	4.92	-
75	9.70	33.57	25.91	211.9	.2117	3.82	-
100	8.80	33.67	26.13	191.1	.2624	3.24	-
150	8.28	33.92	26.41	165.7	.352	2.66	-
200	7.52	33.97	26.56	152.0	.432	2.17	-
250	7.11	33.99	26.63	145.6	.507	2.01	-
300	6.81	34.02	26.69	140.1	.579	1.52	-

## STATION 72.60K-21 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 0900 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 317 m. Weather: partly cloudy  
 Sea: high Wind: 320°, force 6

0	15.00	33.19	24.60	334.9	.0000	5.58	-
10	14.40	33.19	24.73	323.0	.0330	5.73	-
20	14.25	33.19	24.76	320.2	.0653	5.65	-
30	13.52	33.21	24.92	304.7	.0967	5.41	-
50	10.86	33.42	25.59	241.5	.1516	4.64	-
75	9.61	33.59	25.94	209.0	.2082	3.84	-
100	9.02	33.70	26.12	192.2	.2587	3.38	-
150	8.32	33.91	26.39	167.1	.349	2.57	-
200	7.99	33.98	26.50	157.9	.431	2.10	-
250	7.18	34.02	26.64	144.3	.507	1.97	-
300	6.81	34.01	26.69	140.8	.579	1.58	-



## STATION 72.6OK-22 (Interpolated Values at Standard Depths)

E.W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 1200 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,052 m. Weather: overcast  
 Sea: high Wind: 320°, force 6

Depth (m)	T (°C)	S (‰)	$\sigma_t$ ( $\text{mg}/\text{cm}^3$ )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	14.11	33.19	24.79	316.9	.0000	6.35	-
10	13.78	33.19	24.86	310.7	.0315	5.92	-
20	13.76	33.17	24.84	312.0	.0628	5.87	-
30	13.57	33.19	24.90	307.1	.0938	5.79	-
50	10.79	33.37	25.57	244.0	.1492	4.46	-
75	10.28	33.47	25.73	228.6	.2086	4.24	-
100	9.61	33.62	25.96	207.3	.2635	3.61	-
150	8.46	33.82	26.30	175.8	.360	2.87	-
200	7.92	34.01	26.53	154.7	.443	2.26	-
250	7.29	34.08	26.68	141.4	.518	1.91	-
300	6.84	34.13	26.78	132.3	.587	1.40	-
400	6.12	34.21	26.94	118.2	.713	.83	-
500	5.58	34.23	27.02	111.1	.829	.50	-
600	5.18	34.25	27.08	105.8	.938	.35	-
700	4.82	34.31	27.17	98.0	1.041	.36	-
800	4.48	34.37	27.26	90.4	1.136	.40	-
1000	3.82	34.46	27.40	77.7	1.306	.57	-

## STATION 72.6OK-23 (Interpolated Values at Standard Depths)

E.W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 1500 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: high Wind: 320°, force 6

0	14.01	33.22	24.83	312.7	.0000	4.81	-
10	13.84	33.22	24.87	309.7	.0312	4.17	-
20	13.75	33.22	24.88	308.2	.0623	4.62	-
30	13.70	33.22	24.90	307.4	.0932	4.71	-
50	13.53	33.22	24.93	304.6	.1547	4.31	-
75	10.60	33.49	25.69	232.5	.2222	3.93	-
100	9.51	33.66	26.01	202.7	.2769	3.33	-
150	8.24	33.93	26.42	164.4	.369	1.69	-
200	7.67	33.99	26.55	152.6	.449	1.90	-
250	7.13	34.06	26.68	140.7	.523	1.44	-
300	6.74	34.06	26.74	136.2	.593	1.03	-



## STATION 72.60K-24 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 1800 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 318 m. Weather: overcast  
 Sea: rough Wind: 300°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	14.00	33.24	24.85	311.1	.0000	6.23	-
10	13.79	33.24	24.89	307.2	.0310	5.04	-
20	13.74	33.23	24.89	307.2	.0619	4.89	-
30	13.70	33.22	24.90	307.4	.0927	4.76	-
50	10.97	33.25	25.44	255.9	.1494	3.73	-
75	10.16	33.56	25.82	220.0	.2092	3.74	-
100	9.31	33.69	26.06	197.4	.2617	2.60	-
150	8.24	33.99	26.47	160.0	.352	2.39	-
200	7.68	34.04	26.59	149.0	.429	1.98	-
250	7.13	34.07	26.69	139.9	.502	1.57	-
300	6.70	34.10	26.77	132.7	.571	1.20	-

## STATION 72.60K-25 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 14, 1950 2100 GCT Wire  
 angle: 0° Sounding: 1,080 fms. Depth of observation: 319 m. Weather:  
 overcast Sea: very rough Wind: 340°, force 3

0	14.11	33.18	24.78	317.7	.0000	5.96	-
10	13.73	33.21	24.88	308.2	.0314	4.35	-
20	13.20	33.26	25.03	294.6	.0617	5.00	-
30	11.55	33.34	25.40	258.8	.0895	5.02	-
50	10.52	33.42	25.65	235.8	.1392	4.20	-
75	9.53	33.60	25.96	207.0	.1948	2.73	-
100	8.78	33.73	26.18	186.3	.2443	2.87	-
150	8.26	33.88	26.38	168.4	.334	2.54	-
200	7.83	33.96	26.50	157.1	.416	2.20	-
250	7.32	34.02	26.62	146.3	.492	1.80	-
300	6.78	34.07	26.74	135.9	.563	1.44	-



## STATION 72.60K-26 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 0000 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,058 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> P <sub>i</sub> ( $\mu$ g at/L)
0	13.51	33.24	24.95	301.5	.0000	5.78	-
10	13.08	33.24	25.04	293.6	.0299	5.66	-
20	12.15	33.31	25.27	271.5	.0582	5.60	-
30	11.12	33.38	25.51	248.4	.0843	5.42	-
50	10.33	33.44	25.70	231.2	.1325	4.33	-
75	10.16	33.52	25.79	223.0	.1896	4.17	-
100	9.58	33.69	26.02	201.6	.2430	3.58	-
150	8.52	33.82	26.29	176.7	.338	2.83	-
200	7.96	34.00	26.52	156.0	.422	2.32	-
250	7.26	34.09	26.69	140.3	.497	2.32	-
300	6.83	34.13	26.78	132.2	.565	1.44	-
400	6.04	34.07	26.83	127.6	.696	.97	-
500	5.43	34.13	26.96	116.7	.819	.60	-
600	5.01	34.26	27.11	103.0	.930	.37	-
700	4.68	34.32	27.19	95.6	1.030	.34	-
800	4.46	34.36	27.25	90.9	1.125	.39	-
1000	3.86	34.46	27.39	78.1	1.295	.63	-

## STATION 72.60K-27 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 0300 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4-5

0	13.40	33.24	24.97	299.4	.0000	5.87	-
10	13.15	33.19	24.98	298.6	.0300	6.44	-
20	13.13	33.19	24.99	298.4	.0600	6.34	-
30	13.12	33.20	25.00	297.8	.0899	6.15	-
50	11.79	33.31	25.34	265.7	.1465	5.60	-
75	10.27	33.39	25.67	234.4	.2094	4.36	-
100	9.05	33.65	26.07	196.3	.2636	3.44	-
150	8.16	33.89	26.40	166.2	.355	2.56	-
200	7.38	33.99	26.59	148.5	.434	2.40	-
250	6.96	34.06	26.71	138.4	.506	1.73	-
300	6.66	34.09	26.77	132.9	.575	1.35	-



## STATION 72.60K-28 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 0600 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.91	33.21	24.84	311.5	.0000	6.83	-
10	13.54	33.19	24.90	306.0	.0310	6.16	-
20	13.51	33.17	24.90	307.2	.0618	6.16	-
30	13.49	33.18	24.91	306.3	.0926	6.12	-
50	10.95	33.29	25.47	252.6	.1487	5.00	-
75	9.66	33.58	25.92	210.5	.2070	3.73	-
100	9.09	33.64	26.06	197.7	.2583	3.30	-
150	8.17	33.95	26.45	161.9	.349	2.63	-
200	7.65	33.94	26.51	156.0	.429	2.30	-
250	7.22	34.04	26.65	143.4	.504	1.79	-
300	6.74	34.07	26.74	135.4	.575	1.46	-

## STATION 72.60K-29 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 0900 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 319 m. Weather: clear  
 Sea: very rough Wind: 320°, force 3

0	13.80	-	-	-	-	4.23	-
10	13.33	-	-	-	-	4.12	-
20	13.05	-	-	-	-	4.38	-
30	11.21	-	-	-	-	4.40	-
50	10.17	-	-	-	-	3.45	-
75	9.16	-	-	-	-	2.92	-
100	8.67	-	-	-	-	1.90	-
150	8.22	-	-	-	-	1.81	-
200	7.75	-	-	-	-	1.75	-
250	7.21	-	-	-	-	1.34	-
300	6.80	-	-	-	-	1.19	-



## STATION 72.60K-30 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 1200 GCT Wire angle:  
7° Sounding: 1,080 fms. Depth of observation: 1,055 m. Weather: overcast  
Sea: high Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	10 <sup>5</sup> $\delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	13.80	33.27	24.91	305.0	.0000	5.08	-
10	12.88	33.27	25.10	287.6	.0297	5.23	-
20	11.70	33.35	25.39	260.5	.0573	5.04	-
30	10.97	33.39	25.55	245.1	.0826	4.65	-
50	10.18	33.40	25.69	231.7	.1306	4.06	-
75	9.55	33.60	25.96	207.3	.1857	3.37	-
100	8.94	33.74	26.16	188.0	.2355	3.13	-
150	8.29	33.89	26.38	168.1	.325	2.74	-
200	7.84	33.99	26.53	155.0	.406	2.24	-
250	7.42	34.00	26.59	149.2	.483	2.22	-
300	7.13	34.07	26.69	140.7	.556	2.02	-
400	6.88	34.11	26.76	135.8	.695	1.45	-
500	6.14	34.18	26.91	122.1	.825	.91	-
600	5.21	34.37	27.17	97.3	.936	.34	-
700	4.74	34.43	27.27	88.1	1.030	.37	-
800	4.48	34.43	27.30	86.0	1.118	.50	-
1000	3.85	34.49	27.42	75.8	1.281	.56	-

## STATION 72.60K-31 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 1500 GCT Wire angle:  
0° Sounding: 1,080 fms. Depth of observation: 319 m. Weather: overcast  
Sea: rough Wind: 310°, force 3

0	13.00	-	-	-	-	4.37	-
10	12.92	-	-	-	-	5.12	-
20	12.91	-	-	-	-	5.26	-
30	12.15	-	-	-	-	5.23	-
50	10.85	-	-	-	-	4.91	-
75	10.20	-	-	-	-	4.61	-
100	9.81	-	-	-	-	3.40	-
150	8.40	-	-	-	-	2.67	-
200	7.44	-	-	-	-	2.02	-
250	6.94	-	-	-	-	1.51	-
300	6.46	-	-	-	-	1.10	-



## STATION 72.60K-32 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 1800 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 320 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.20	33.24	25.01	295.6	.0000	6.20	-
10	12.98	33.23	25.05	292.4	.0295	6.08	-
20	12.95	33.24	25.06	291.4	.0588	5.85	-
30	12.90	33.26	25.09	289.2	.0880	5.55	-
50	10.53	33.40	25.63	237.4	.1409	4.76	-
75	9.42	33.63	26.00	203.1	.1963	3.72	-
100	8.77	33.78	26.22	182.5	.2448	3.00	-
150	8.03	33.96	26.47	159.1	.331	2.59	-
200	7.70	34.00	26.55	152.3	.409	2.19	-
250	7.11	34.02	26.65	143.4	.484	1.90	-
300	6.77	34.04	26.72	138.0	.554	1.61	-

## STATION 72.60K-33 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 15, 1950 2100 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 318 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 3

0	13.11	33.23	25.02	294.6	.0000	5.98	-
10	12.94	33.19	25.02	294.6	.0296	5.92	-
20	12.25	33.25	25.20	277.7	.0583	5.55	-
30	11.15	33.36	25.49	250.4	.0848	4.80	-
50	10.12	33.42	25.72	229.2	.1330	4.06	-
75	9.55	33.58	25.94	208.8	.1881	3.58	-
100	8.91	33.69	26.13	191.3	.2384	3.10	-
150	8.39	33.88	26.36	170.3	.329	2.56	-
200	7.87	33.99	26.52	155.4	.411	2.39	-
250	7.15	34.08	26.70	139.5	.486	2.02	-
300	6.72	33.99	26.68	141.1	.556	1.57	-



## STATION 72.60K-34 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 0000 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,059 m. Weather: overcast  
 Sea: rough Wind: 320°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.80	33.26	24.91	305.7	.0000	7.37	-
10	13.08	33.26	25.05	292.1	.0300	6.73	-
20	11.72	33.31	25.35	263.8	.0579	5.80	-
30	10.85	33.35	25.54	246.0	.0835	4.95	-
50	10.15	33.44	25.73	228.2	.1312	4.30	-
75	9.46	33.58	25.95	207.4	.1859	3.74	-
100	9.01	33.69	26.11	192.8	.2363	3.05	-
150	8.36	33.93	26.40	166.2	.327	2.59	-
200	7.80	34.00	26.54	153.7	.407	2.24	-
250	7.35	34.04	26.64	145.2	.482	1.93	-
300	6.70	34.11	26.78	131.9	.552	1.33	-
400	6.08	34.13	26.88	123.7	.681	.86	-
500	5.60	34.22	27.01	112.1	.800	.59	-
600	5.17	34.31	27.13	101.2	.908	.39	-
700	4.78	34.36	27.21	93.8	1.006	.33	-
800	4.44	34.39	27.28	88.5	1.098	.35	-
1000	3.83	34.42	27.36	80.7	1.269	.56	-

## STATION 72.60K-35 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 0300 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: rough Wind: calm

0	13.50	(33.30)	25.00	296.9	.0000	5.64	-
10	13.08	33.28	25.07	290.6	.0295	5.87	-
20	12.88	33.23	25.07	290.8	.0587	5.68	-
30	12.84	33.24	25.08	289.5	.0878	5.22	-
50	11.11	33.39	25.52	247.9	.1418	4.42	-
75	10.23	33.38	25.67	234.5	.2025	3.90	-
100	9.40	33.63	26.00	203.2	.2575	3.23	-
150	8.38	33.92	26.39	167.2	.351	2.27	-
200	7.74	34.02	26.56	151.4	.431	1.90	-
250	7.16	34.02	26.65	144.1	.505	1.70	-
300	6.64	34.03	26.73	137.0	.576	1.37	-



## STATION 72.60K-36 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 0600 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 318 m. Weather: drizzle  
 Sea: moderate Wind: calm

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.60	33.28	24.96	300.3	.0000	4.62	-
10	13.13	33.25	25.03	293.8	.0298	5.45	-
20	12.82	33.31	25.14	283.8	.0588	5.20	-
30	11.30	33.34	25.45	254.5	.0858	4.72	-
50	10.42	33.35	25.61	239.3	.1355	4.35	-
75	9.75	33.57	25.90	212.7	.1923	4.04	-
100	8.92	33.74	26.17	187.7	.2426	2.96	-
150	8.37	33.98	26.44	162.6	.331	2.40	-
200	7.77	34.01	26.55	152.5	.410	2.16	-
250	7.13	33.99	26.63	145.9	.485	1.99	-
300	6.61	34.02	26.72	137.4	.557	1.52	-

## STATION 72.60K-37 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 0900 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 138 m. Weather: cloudy  
 Sea: very rough Wind: 040°, force 2

0	13.70	33.25	24.92	304.5	.0000	5.54	-
10	13.20	33.24	25.01	295.8	.0301	5.65	-
20	11.85	33.30	25.32	266.8	.0584	5.30	-
30	11.25	33.37	25.48	251.4	.0844	4.53	-
50	9.93	33.53	25.84	218.0	.1316	3.86	-
75	9.26	33.64	26.03	199.8	.1841	3.36	-
100	8.81	33.73	26.18	186.8	.2327	3.01	-
150	8.32	33.96	26.43	163.4	.321	2.52	-
200	7.89	33.97	26.50	157.2	.402	2.09	-
250	7.15	34.02	26.65	143.9	.477	2.11	-
300	(6.60)	-	-	-	-	-	-



## STATION 72.60K-38 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 1200 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,057 m. Weather: drizzle  
 Sea: very rough Wind: 090°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.70	33.24	24.91	305.2	.0000	6.25	-
10	13.08	33.30	25.08	289.2	.0298	6.13	-
20	11.80	33.32	25.34	264.5	.0576	5.32	-
30	10.80	33.35	25.55	245.2	.0832	4.55	-
50	9.95	33.49	25.80	221.3	.1301	4.07	-
75	9.35	33.64	26.02	201.2	.1832	3.45	-
100	8.79	33.75	26.19	185.0	.2318	3.16	-
150	8.37	33.95	26.42	164.8	.320	2.31	-
200	7.81	34.04	26.57	150.9	.399	2.24	-
250	7.20	34.04	26.66	143.1	.473	1.93	-
300	6.79	34.09	26.75	134.6	.543	1.41	-
400	6.05	34.11	26.87	124.8	.674	.94	-
500	5.74	34.20	26.97	115.4	.795	.60	-
600	5.40	34.30	27.10	104.9	.906	.37	-
700	4.93	34.36	27.20	95.7	1.007	.32	-
800	4.49	34.39	27.27	89.1	1.101	.34	-
1000	3.78	34.44	27.39	78.7	1.270	.56	-

## STATION 72.60K-39 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 1500 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 200 m. Weather: rain  
 Sea: very rough Wind: 100°, force 3-4

0	13.40	33.24	24.97	299.4	.0000	6.07	-
10	13.02	33.28	25.08	289.5	.0296	6.36	-
20	12.45	33.31	25.21	276.9	.0580	5.93	-
30	11.93	33.34	25.33	265.5	.0852	5.44	-
50	10.72	33.40	25.60	240.6	.1361	4.62	-
75	9.95	33.55	25.85	217.4	.1937	4.03	-
100	9.37	33.62	26.00	203.5	.2466	3.49	-
150	8.52	33.95	26.39	167.1	.340	2.49	-
200	7.75	34.00	26.55	153.0	.420	2.05	-



## STATION 72.60K-40 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 1800 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 317 m. Weather: overcast  
 Sea: very rough Wind: 130°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ ( $\text{mg}/\text{cm}^3$ )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at}/\text{L}$ )
0	13.40	-	-	-	-	6.17	-
10	13.14	-	-	-	-	6.47	-
20	13.08	-	-	-	-	6.29	-
30	11.90	-	-	-	-	5.70	-
50	10.60	-	-	-	-	4.56	-
75	9.65	-	-	-	-	3.98	-
100	8.73	-	-	-	-	3.22	-
150	8.28	-	-	-	-	2.44	-
200	7.57	-	-	-	-	2.36	-
250	7.04	-	-	-	-	1.97	-
300	6.69	-	-	-	-	1.69	-

## STATION 72.60K-41 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 16, 1950 2100 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 319 m. Weather: fog  
 Sea: moderate Wind: 120°, force 1

0	13.70	33.26	24.93	303.7	.0000	6.52	-
10	13.03	33.35	25.13	284.5	.0295	6.20	-
20	11.32	33.46	25.54	245.7	.0562	5.79	-
30	10.58	33.49	25.70	231.2	.0801	5.26	-
50	10.05	33.51	25.80	221.4	.1256	4.36	-
75	9.36	33.62	26.00	202.9	.1789	3.86	-
100	8.70	33.77	26.22	182.2	.2273	3.12	-
150	8.30	33.91	26.39	166.8	.315	2.42	-
200	7.80	34.04	26.57	150.7	.395	2.06	-
250	7.16	33.98	26.62	147.0	.470	1.47	-
300	6.63	34.06	26.75	134.7	.541	1.11	-



## STATION 72.60K-42 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 0000 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,066 m. Weather: drizzle  
 Sea: rough Wind: 160°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.70	33.28	24.94	302.3	.0000	5.62	-
10	13.25	33.30	25.05	292.4	.0299	6.31	-
20	12.50	33.36	25.24	274.2	.0583	4.60	-
30	10.93	33.42	25.58	242.2	.0842	4.18	-
50	10.22	33.51	25.77	224.2	.1310	3.91	-
75	9.67	33.59	25.93	209.9	.1857	3.43	-
100	8.98	33.73	26.15	189.4	.2359	2.83	-
150	8.42	33.87	26.34	171.5	.327	2.06	-
200	7.72	33.91	26.48	159.2	.419	1.58	-
250	7.04	34.07	26.70	138.7	.485	1.20	-
300	6.75	34.08	26.75	134.8	.554	1.08	-
400	6.00	34.15	26.90	121.2	.683	.77	-
500	5.53	34.23	27.02	110.5	.800	.44	-
600	5.06	34.35	27.18	96.9	.904	.30	-
700	4.63	34.40	27.26	89.0	.998	.30	-
800	4.33	34.42	27.31	84.9	1.086	.36	-
1000	(3.86)	(34.42)	27.36	81.1	1.254	-	-

## STATION 72.60K-43 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 0300 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: rough Wind: 160°, force 1

0	13.60	33.22	24.92	304.7	.0000	5.55	-
10	13.28	33.26	25.01	295.9	.0302	4.23	-
20	13.15	33.21	25.00	297.3	.0599	4.40	-
30	11.42	33.20	25.32	266.9	.0883	4.38	-
50	10.65	33.44	25.64	236.5	.1388	3.73	-
75	9.95	33.55	25.85	217.4	.1959	3.03	-
100	9.20	33.82	26.18	186.1	.2466	2.75	-
150	8.30	33.90	26.39	167.5	.336	2.28	-
200	7.55	34.00	26.58	150.2	.416	1.89	-
250	7.03	34.01	26.66	143.0	.489	1.64	-
300	6.70	34.05	26.73	136.4	.560	1.25	-



## STATION 72.60K-44 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 0600 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 320 m. Weather: cloudy  
 Sea: very rough Wind: 140°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.70	33.17	24.86	310.3	.0000	6.68	-
10	13.35	33.28	25.01	295.8	.0304	7.03	-
20	13.02	33.31	25.10	287.5	.0597	6.77	-
30	11.75	33.33	25.36	263.1	.0873	5.93	-
50	10.58	33.42	25.64	236.8	.1376	4.72	-
75	9.85	33.53	25.85	217.3	.1947	4.31	-
100	9.00	33.71	26.13	191.1	.2460	3.28	-
150	8.25	33.93	26.42	164.6	.336	2.87	-
200	7.66	33.97	26.54	153.9	.416	2.76	-
250	7.05	34.09	26.72	137.4	.489	2.09	-
300	6.61	34.05	26.74	135.2	.558	1.64	-

## STATION 72.60K-45 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 0900 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: very rough Wind: 180°, force 1

0	13.70	33.23	24.90	305.9	.0000	6.19	-
10	13.06	33.26	25.05	291.7	.0300	5.67	-
20	11.93	33.31	25.31	267.5	.0581	5.40	-
30	10.99	33.35	25.51	248.4	.0840	5.19	-
50	10.28	33.44	25.71	230.3	.1321	4.13	-
75	9.35	33.62	26.00	202.7	.1865	3.46	-
100	8.87	33.73	26.17	187.7	.2356	3.03	-
150	8.24	33.85	26.36	170.3	.326	2.47	-
200	7.59	33.96	26.54	153.7	.407	2.34	-
250	7.07	34.02	26.66	142.8	.482	1.91	-
300	6.55	34.08	26.78	132.1	.551	1.39	-



## STATION 72.60K-46 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 1200 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 1,055 m. Weather: fog  
 Sea: high Wind: calm

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \sigma$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.50	33.30	25.00	296.9	.0000	6.24	-
10	12.92	33.21	25.04	292.8	.0296	6.11	-
20	11.75	33.27	25.31	267.3	.0577	5.41	-
30	11.05	33.50	25.62	238.4	.0831	4.81	-
50	10.35	33.66	25.87	215.2	.1287	4.13	-
75	9.50	33.64	25.99	203.6	.1813	3.34	-
100	8.97	33.70	26.13	191.4	.2310	3.33	-
150	8.22	33.89	26.39	167.1	.321	2.77	-
200	7.65	33.96	26.53	154.5	.402	2.41	-
250	7.07	34.02	26.66	142.8	.477	1.93	-
300	6.66	34.05	26.74	135.8	.547	1.43	-
400	5.95	34.13	26.89	122.0	.677	.72	-
500	5.62	34.23	27.01	111.6	.795	.50	-
600	5.38	34.33	27.12	102.4	.903	.37	-
700	5.00	34.38	27.21	95.0	1.003	.37	-
800	4.45	34.41	27.29	87.1	1.095	.40	-
1000	3.78	34.46	27.40	77.2	1.261	.59	-

## STATION 72.60K-47 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 1500 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 320 m. Weather: cloudy  
 Sea: high Wind: calm

0	13.50	33.17	24.90	306.5	.0000	5.81	-
10	13.15	33.22	25.01	296.4	.0303	5.70	-
20	12.90	33.33	25.14	283.8	.0594	5.47	-
30	11.35	33.35	25.45	254.6	.0864	5.15	-
50	10.45	33.32	25.59	242.0	.1363	4.58	-
75	9.72	33.62	25.94	208.5	.1930	3.51	-
100	8.97	33.74	26.16	188.5	.2429	2.93	-
150	8.25	33.96	26.44	162.3	.331	2.33	-
200	7.75	34.00	26.55	153.0	.411	2.03	-
250	7.17	34.06	26.68	141.2	.485	1.78	-
300	6.62	34.05	26.74	135.3	.554	1.50	-



## STATION 72.60K-48 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 1800 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 322 m. Weather: cloudy  
 Sea: high Wind: calm

Depth (m)	T (°C)	S (‰)	$\sigma_t$ <sup>3</sup> (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.62	33.24	24.93	303.6	.0000	5.05	-
10	13.14	33.24	25.02	294.7	.0300	5.43	-
20	13.15	33.22	25.01	296.6	.0597	5.38	-
30	12.00	33.22	25.23	275.6	.0884	5.06	-
50	10.32	33.58	25.81	220.7	.1383	3.65	-
75	9.77	33.62	25.93	209.3	.1924	3.06	-
100	9.05	33.70	26.11	192.6	.2429	2.62	-
150	8.50	33.97	26.41	165.3	.333	2.25	-
200	7.78	34.06	26.59	149.0	.412	1.66	-
250	7.11	34.06	26.68	140.4	.485	1.70	-
300	6.64	34.05	26.74	135.6	.555	1.54	-

## STATION 72.60K-49 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 17, 1950 2100 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 186 m. Weather: partly cloudy  
 Sea: very rough Wind: 340°, force 1

0	14.80	33.24	24.68	327.1	.0000	4.47	-
10	13.12	33.24	25.03	294.3	.0312	4.88	-
20	11.60	33.28	25.35	263.9	.0592	4.56	-
30	10.60	33.33	25.57	243.3	.0847	3.96	-
50	9.91	33.40	25.74	227.3	.1320	3.46	-
75	9.73	33.57	25.90	212.4	.1873	3.07	-
100	8.80	33.73	26.18	186.7	.2374	2.82	-
150	8.15	33.89	26.40	166.1	.326	1.57	-



## STATION 72.60K-50 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 18, 1950 0000 GCT Wire angle: 0°  
 Sounding: 1,080 fms. Depth of observation: 1,056 m. Weather: partly cloudy  
 Sea: very rough Wind: 340°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	14.20	(33.21)	(24.78)	(317.2)	(.0000)	(6.52)	-
10	13.17	33.21	24.99	297.5	.0309	6.15	-
20	11.04	33.24	25.42	257.2	.0587	5.37	-
30	10.60	33.31	25.55	244.8	.0839	5.00	-
50	10.22	33.46	25.73	227.9	.1314	4.65	-
75	9.35	33.66	26.03	199.8	.1852	3.32	-
100	8.81	33.82	26.25	180.1	.2329	3.14	-
150	8.20	33.94	26.43	163.1	.319	2.35	-
200	7.87	34.06	26.58	150.3	.398	2.11	-
250	7.22	34.02	26.64	144.9	.473	1.84	-
300	6.65	34.05	26.74	135.7	.543	1.45	-
400	6.15	34.12	26.86	125.3	.675	.68	-
500	5.59	34.20	26.99	113.5	.795	.44	-
600	5.22	34.26	27.09	105.6	.906	.40	-
700	4.88	34.31	27.16	98.7	1.009	.37	-
800	4.54	(34.35)	(27.23)	(92.6)	(1.105)	(.38)	-
1000	3.87	(34.40)	(27.34)	(82.7)	(1.283)	(.64)	-

## STATION 72.60K-51 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 18, 1950 0300 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 320 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 2

0	13.80	33.28	24.92	304.2	.0000	6.08	-
10	13.38	33.24	24.98	299.3	.0303	6.19	-
20	12.90	33.24	25.07	290.4	.0599	5.88	-
30	11.10	33.25	25.42	257.7	.0874	5.26	-
50	10.30	33.39	25.67	234.4	.1369	4.46	-
75	9.70	33.60	25.93	209.7	.1927	3.66	-
100	9.05	33.69	26.11	193.4	.2434	3.41	-
150	8.22	33.95	26.44	162.6	.333	2.55	-
200	7.86	34.04	26.56	151.6	.412	2.19	-
250	7.12	34.03	26.66	142.8	.486	1.89	-
300	6.70	34.06	26.74	135.6	.556	1.54	-



## STATION 72.60K-52 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 18, 1950 0600 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 317 m. Weather: clear  
 Sea: very rough Wind: 320°, force 3-4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.90	33.24	24.87	309.1	.0000	5.81	-
10	13.45	33.24	24.96	300.6	.0306	6.14	-
20	12.95	33.24	25.06	291.4	.0603	6.07	-
30	12.25	33.25	25.20	277.9	.0889	5.82	-
50	10.25	33.39	25.67	233.6	.1403	4.74	-
75	9.52	33.62	25.98	205.4	.1955	3.58	-
100	8.76	33.76	26.21	183.8	.2444	3.08	-
150	8.26	33.95	26.43	163.2	.332	2.53	-
200	7.75	34.04	26.58	150.0	.411	2.17	-
250	6.97	34.01	26.66	142.2	.484	1.87	-
300	6.50	34.03	26.74	135.2	.554	1.51	-

## STATION 72.60K-53 (Interpolated Values at Standard Depths)

E. W. SCRIPPS: 35°35.5'N 122°07.5'W October 18, 1950 0900 GCT Wire angle:  
 0° Sounding: 1,080 fms. Depth of observation: 318 m. Weather: clear  
 Sea: very rough Wind: 320°, force 4

0	13.80	33.22	24.87	308.6	.0000	6.11	-
10	13.26	33.22	24.98	298.5	.0305	6.14	-
20	12.13	33.30	25.27	271.8	.0591	5.80	-
30	11.10	33.39	25.53	247.3	.0852	4.82	-
50	10.11	33.55	25.82	219.4	.1321	4.05	-
75	9.15	33.69	26.09	194.4	.1841	3.37	-
100	8.63	33.79	26.25	179.6	.2312	2.87	-
150	8.17	33.89	26.40	166.4	.318	2.44	-
200	7.65	33.98	26.55	153.1	.399	2.21	-
250	7.02	33.96	26.62	146.6	.474	1.86	-
300	6.54	34.04	26.75	135.0	.545	1.52	-



## STATION 70.90K-1 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°33'W October 11, 1950 2100, 2115 GCT Wire angle: 0°;  
 0° Sounding: 2,400 fms. Depth of observation: 317 m. Weather: overcast  
 Sea: high Wind: 160°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	17.59	33.30	24.09	383.2	.0000	5.68	-
10	16.98	33.30	24.24	369.7	.0378	5.35	-
20	16.97	33.31	24.25	369.1	.0749	5.10	-
30	12.07	33.34	25.31	268.0	.1069	4.89	-
50	10.16	33.42	25.71	229.9	.1569	4.35	-
75	9.81	33.70	25.99	204.0	.2115	3.16	-
100	9.31	33.86	26.20	184.8	.2604	2.38	-
150	8.79	33.96	26.36	170.4	.350	1.85	-
200	8.55	34.05	26.47	161.0	.433	1.58	-
250	8.22	34.08	26.54	154.7	.513	1.32	-
300	7.93	34.13	26.62	147.6	.589	1.18	-

## STATION 70.90K-2 (Interpolated Values at Standard Depths)

CREST: 34°47'N 124°34'W October 12, 1950 0000 GCT Wire angle: 5°  
 Sounding: 2,400 fms. Depth of observation: 1,036 m. Weather: overcast  
 Sea: high Wind: 140°, force 1

0	17.24	33.28	24.16	376.7	.0000	5.49	-
10	16.98	33.26	24.21	372.7	.0376	5.52	-
20	16.98	33.28	24.22	371.5	.0750	5.43	-
30	16.15	33.32	24.44	350.6	.1112	5.23	-
50	10.01	33.40	25.72	228.9	.1695	4.43	-
75	9.86	33.72	26.00	203.4	.2238	3.24	-
100	9.36	33.82	26.16	188.5	.2731	2.47	-
150	8.83	33.95	26.34	171.7	.364	1.83	-
200	8.61	34.00	26.42	165.6	.449	1.52	-
250	8.29	34.11	26.55	153.6	.529	1.36	-
300	7.99	34.13	26.61	148.5	.605	1.22	-
400	7.46	34.16	26.71	140.2	.751	.94	-
500	6.74	34.20	26.85	128.7	.886	.73	-
600	5.91	34.23	26.98	116.6	1.010	.43	-
700	5.23	34.30	27.12	103.9	1.121	.31	-
800	4.69	34.34	27.21	95.2	1.222	.28	-
1000	4.10	34.36	27.29	88.4	1.408	.33	-



## STATION 70.90K-3 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°32.5'W October 12, 1950 0300 GCT Wire angle: 2°  
 Sounding: 2,380 fms. Depth of observation: 316 m. Weather: overcast  
 Sea: high Wind: 360°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	17.12	33.25	24.17	376.2	.0000	5.53	-
10	16.81	33.27	24.25	368.1	.0374	5.48	-
20	16.81	33.28	24.26	367.7	.0743	5.38	-
30	16.78	33.29	24.28	366.6	.1112	5.25	-
50	10.72	33.31	25.53	247.2	.1729	4.87	-
75	9.79	33.50	25.84	218.5	.2314	4.12	-
100	9.54	33.82	26.13	191.4	.2830	2.69	-
150	8.79	34.01	26.40	166.7	.373	1.87	-
200	8.46	34.10	26.52	155.9	.454	1.49	-
250	8.13	34.13	26.59	149.7	.531	1.27	-
300	7.87	34.17	26.66	143.8	.605	1.11	-

## STATION 70.90K-4 (Interpolated Values at Standard Depths)

CREST: 34°50'N 124°32'W October 12, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 317 m. Weather: overcast  
 Sea: high Wind: calm

0	17.11	33.22	24.14	378.2	.0000	5.37	-
10	16.73	33.24	24.25	368.5	.0375	5.26	-
20	16.68	33.27	24.28	365.5	.0743	5.13	-
30	16.63	33.31	24.33	361.8	.1109	4.99	-
50	10.48	33.42	25.66	235.1	.1708	4.68	-
75	9.65	33.78	26.08	195.6	.2250	2.88	-
100	9.27	33.87	26.21	183.4	.2727	2.44	-
150	8.74	34.03	26.42	164.4	.360	1.84	-
200	8.47	34.04	26.47	160.5	.442	1.42	-
250	8.06	34.12	26.60	149.4	.520	1.27	-
300	7.78	34.14	26.65	144.7	.594	1.17	-



## STATION 70.90K-5 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°30'W October 12, 1950 0900 GCT Wire angle: 0°  
 Sounding: 2,380 fms. Depth of observation: 316 m. Weather: overcast  
 Sea: missing Wind: variable, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 s$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.55	33.19	24.25	367.9	.0000	5.53	-
10	16.48	33.15	24.24	369.6	.0370	5.37	-
20	16.47	33.18	24.26	367.5	.0740	5.15	-
30	16.20	33.23	24.36	358.2	.1105	4.89	-
50	10.29	33.40	25.68	233.5	.1699	4.38	-
75	9.63	33.74	26.05	198.2	.2242	2.87	-
100	9.19	33.86	26.22	182.9	.2721	2.32	-
150	8.73	33.96	26.37	169.5	.361	1.85	-
200	8.44	34.05	26.48	159.3	.444	1.44	-
250	8.18	34.07	26.54	154.9	.523	1.30	-
300	7.83	34.12	26.63	146.9	.599	1.13	-

## STATION 70.90K-6 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°30'W October 12, 1950 1200 GCT Wire angle: 5°  
 Sounding: 2,380 fms. Depth of observation: 1,049m. Weather: overcast  
 Sea: missing Wind: 360°, force 1

0	16.85	33.22	24.21	372.4	.0000	5.68	-
10	16.59	33.22	24.27	366.9	.0371	5.21	-
20	12.10	33.26	25.24	274.2	.0693	4.97	-
30	10.82	33.33	25.53	247.0	.0955	4.56	-
50	10.20	33.53	25.79	222.4	.1426	3.24	-
75	9.55	33.76	26.08	195.5	.1952	2.71	-
100	9.22	33.85	26.20	184.2	.2429	2.19	-
150	8.81	34.00	26.39	167.7	.331	1.82	-
200	8.52	34.07	26.49	159.1	.414	1.47	-
250	8.22	34.12	26.57	151.8	.492	1.21	-
300	7.89	34.14	26.64	146.3	.567	1.12	-
400	7.40	34.22	26.77	135.0	.709	.87	-
500	6.61	34.21	26.87	126.2	.841	.64	-
600	5.86	34.23	26.98	116.0	.963	.44	-
700	5.18	34.28	27.11	104.7	1.074	.40	-
800	4.73	34.34	27.20	95.7	1.175	.47	-
1000	4.10	34.38	27.30	86.9	1.360	.50	-



## STATION 70.90K-7 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°29'W October 12, 1950 1500 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.62	33.15	24.21	372.4	.0000	5.40	-
10	16.45	33.18	24.27	366.8	.0371	4.78	-
20	16.44	33.22	24.30	363.9	.0738	4.53	-
30	13.75	33.27	24.92	304.7	.1073	4.38	-
50	10.43	33.40	25.65	235.8	.1617	4.18	-
75	9.88	33.67	25.95	207.4	.2174	3.10	-
100	9.40	33.82	26.15	189.2	.2673	2.37	-
150	8.80	33.97	26.36	169.8	.358	1.80	-
200	8.50	34.06	26.48	159.5	.441	1.37	-
250	8.24	34.09	26.54	154.3	.520	1.24	-
300	7.94	34.13	26.62	147.8	.596	1.11	-

## STATION 70.90K-8 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°28'W October 12, 1950 1800 GCT Wire angle: 7°  
 Sounding: 2,370 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: rough Wind: 320°, force 2

0	17.35	33.31	24.16	377.0	.0000	5.08	-
10	17.16	33.35	24.23	370.1	.0375	4.93	-
20	17.13	33.33	24.22	371.2	.0747	4.92	-
30	15.00	33.29	24.67	328.4	.1098	4.92	-
50	11.10	33.22	25.39	260.3	.1690	4.92	-
75	10.08	33.44	25.74	227.6	.2303	4.15	-
100	9.45	33.78	26.11	192.9	.2832	2.60	-
150	8.90	33.94	26.33	173.5	.375	1.91	-
200	8.60	34.02	26.43	164.0	.460	1.55	-
250	8.25	34.09	26.54	154.4	.541	1.34	-
300	7.94	34.13	26.62	147.8	.617	1.18	-



## STATION 70.90K-9 (Interpolated Values at Standard Depths)

CREST: 34°55.5'N 124°26.5'W October 12, 1950 2100 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 317 m. Weather: cloudy  
 Sea: moderate Wind: 310°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	17.45	33.37	24.18	374.9	.0000	5.38	-
10	17.00	33.31	24.24	369.4	.0374	5.38	-
20	17.00	33.29	24.22	371.2	.0745	5.34	-
30	16.80	33.30	24.28	366.3	.1116	5.20	-
50	10.41	33.33	25.60	240.6	.1726	4.62	-
75	9.67	33.76	26.06	197.4	.2276	2.83	-
100	9.21	33.91	26.25	179.6	.2750	2.20	-
150	8.76	34.04	26.43	164.0	.362	1.78	-
200	8.48	34.10	26.52	156.2	.442	1.46	-
250	8.12	34.13	26.59	149.6	.519	1.20	-
300	7.84	34.19	26.68	141.9	.593	1.06	-

## STATION 70.90K-10 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°38'W October 13, 1950 0000 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 1,047 m. Weather: cloudy  
 Sea: very rough Wind: 310°, force 3

0	17.50	33.35	24.15	377.5	.0000	3.53	-
10	17.04	33.34	24.25	368.2	.0374	3.02	-
20	17.03	33.37	24.28	366.1	.0743	3.02	-
30	15.43	33.41	24.67	328.6	.1092	3.03	-
50	10.26	33.55	25.80	221.9	.1645	3.06	-
75	9.55	33.80	26.11	192.5	.2166	1.92	-
100	9.17	33.91	26.26	178.9	.2633	1.72	-
150	8.79	34.03	26.41	165.2	.350	1.50	-
200	8.47	34.09	26.51	156.8	.431	1.05	-
250	8.19	34.09	26.55	153.6	.509	1.04	-
300	7.94	34.20	26.68	142.6	.584	.99	-
400	7.45	34.23	25.99	208.9	.761	.74	-
500	6.65	34.25	26.90	123.7	.929	.56	-
600	6.00	34.29	27.01	113.4	1.048	.37	-
700	5.23	34.33	27.14	101.6	1.157	.30	-
800	4.78	34.37	27.22	94.1	1.256	.29	-
1000	4.10	34.42	27.34	84.0	1.436	.40	-



## STATION 70.90K-11 (Interpolated Values at Standard Depths)

CREST: 34°50.5'N 124°40'W October 13, 1950 0300 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 318 m. Weather: cloudy  
 Sea: very rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	17.20	33.35	24.22	370.7	.0000	5.31	-
10	17.06	33.32	24.23	370.1	.0372	5.68	-
20	17.06	33.37	24.27	366.7	.0742	5.57	-
30	17.00	33.44	24.34	360.6	.1107	5.03	-
50	10.24	33.57	25.82	220.1	.1690	3.91	-
75	9.60	33.77	26.08	195.5	.2213	2.70	-
100	9.22	33.89	26.24	181.2	.2687	2.19	-
150	8.94	33.93	26.31	174.9	.358	1.94	-
200	8.59	34.04	26.45	162.3	.443	1.56	-
250	8.29	34.08	26.53	155.8	.523	1.38	-
300	8.00	34.10	26.59	150.9	.601	1.21	-

## STATION 70.90K-12 (Interpolated Values at Standard Depths)

CREST: 34°52.5'N 124°32'W October 13, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 318 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 3

0	16.45	33.13	24.23	370.1	.0000	5.42	-
10	16.43	33.19	24.28	365.6	.0369	5.33	-
20	16.42	33.25	24.33	361.3	.0734	5.16	-
30	12.40	33.31	25.22	276.3	.1054	4.94	-
50	10.30	33.44	25.70	230.7	.1564	4.42	-
75	9.65	33.75	26.06	197.8	.2102	2.87	-
100	9.23	33.86	26.21	183.6	.2582	2.33	-
150	8.82	33.98	26.37	169.3	.347	1.82	-
200	8.58	34.00	26.42	165.1	.431	1.52	-
250	8.30	34.06	26.51	157.4	.512	1.39	-
300	7.99	34.11	26.60	150.0	.590	1.18	-



## STATION 70.90K-13 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°28.5'W October 13, 1950 0900 GCT Wire angle: 2°  
 Sounding: 2,350 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: missing Wind: 320°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	$10^5 \delta$ ( $\mu\text{g at/L}$ )
0	16.30	33.17	24.29	363.9	.0000	5.42	-
10	16.25	33.17	24.31	363.1	.0365	5.37	-
20	16.22	33.20	24.34	360.6	.0728	5.20	-
30	11.80	33.24	25.28	270.6	.1045	4.99	-
50	10.16	33.40	25.70	231.4	.1550	4.40	-
75	9.81	33.69	25.98	204.8	.2098	3.15	-
100	9.38	33.84	26.17	187.4	.2591	2.53	-
150	8.76	34.01	26.40	166.2	.348	1.80	-
200	8.48	34.11	26.52	155.5	.429	1.50	-
250	8.13	34.12	26.58	150.5	.506	1.22	-
300	7.89	34.15	26.64	145.6	.581	1.12	-

## STATION 70.90K-14 (Interpolated Values at Standard Depths)

CREST: 34°56.5'N 124°25.5'W October 13, 1950 1200 GCT Wire angle: 10°  
 Sounding: 2,380 fms. Depth of observation: 1,106 m. Weather: overcast  
 Sea: missing Wind: 320°, force 4

0	16.04	33.10	24.30	363.4	.0000	4.12	-
10	16.04	33.08	24.28	365.2	.0366	4.47	-
20	16.02	33.08	24.29	365.0	.0732	4.44	-
30	13.50	33.09	24.84	313.1	.1073	4.34	-
50	9.05	33.12	25.66	234.7	.1623	4.03	-
75	9.99	33.47	25.78	223.9	.2200	3.04	-
100	9.48	33.71	26.05	198.6	.2731	1.82	-
150	8.83	33.89	26.30	176.2	.367	1.38	-
200	8.49	34.00	26.44	163.8	.453	1.14	-
250	8.17	34.06	26.53	155.5	.533	1.08	-
300	7.93	34.12	26.61	148.4	.610	.90	-
400	7.20	34.14	26.74	138.0	.754	.80	-
500	6.50	34.18	26.86	126.9	.888	.61	-
600	5.84	34.23	26.99	115.7	1.010	.39	-
700	5.23	34.28	27.10	105.3	1.122	.31	-
800	4.68	34.33	27.20	95.8	1.223	.32	-
1000	3.97	34.40	27.33	83.9	1.405	.43	-



## STATION 70.90K-15 (Interpolated Values at Standard Depths)

CREST: 34°50'N 124°25'W October 13, 1950 1500 GCT Wire angle: 5°  
 Sounding: 2,360 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.22	33.17	24.31	362.2	.0000	5.46	-
10	16.22	33.17	24.31	362.5	.0364	5.40	-
20	16.21	33.14	24.29	364.7	.0729	5.25	-
30	13.00	33.10	24.94	302.8	.1064	4.90	-
50	9.20	32.99	25.54	246.6	.1616	3.65	-
75	9.99	33.52	25.82	220.2	.2203	2.71	-
100	9.55	33.80	26.11	193.0	.2723	2.46	-
150	8.87	33.97	26.35	170.8	.364	1.82	-
200	8.50	34.06	26.48	159.5	.447	1.50	-
250	8.23	34.12	26.57	151.9	.525	1.26	-
300	7.96	34.15	26.63	146.6	.601	1.12	-

## STATION 70.90K-16 (Interpolated Values at Standard Depths)

CREST: 34°54.5'N 124°29.5'W October 13, 1950 1800 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 320 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 3

0	16.86	33.13	24.13	379.2	.0000	5.47	-
10	16.99	33.31	24.24	369.2	.0376	5.53	-
20	16.99	33.29	24.23	371.0	.0747	5.53	-
30	16.98	33.16	24.13	380.5	.1125	5.52	-
50	9.76	32.92	25.39	260.5	.1769	5.43	-
75	10.06	33.40	25.71	230.2	.2386	4.35	-
100	9.76	33.70	26.00	203.7	.2932	3.18	-
150	8.88	33.95	26.34	172.5	.388	1.98	-
200	8.51	34.01	26.44	163.4	.472	1.48	-
250	8.21	34.09	26.55	153.9	.552	1.39	-
300	7.97	34.11	26.60	149.7	.629	1.26	-



## STATION 70.90K-17 (Interpolated Values at Standard Depths)

CREST: 34°56.5'N 124°28'W October 13, 1950 2100 GCT Wire angle: 5°  
 Sounding: 2,360 fms. Depth of observation: 318 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.54	33.06	24.155	377.2	.0000	5.55	-
10	16.62	33.15	24.21	372.7	.0376	5.39	-
20	15.20	33.22	24.58	337.4	.0733	5.17	-
30	10.40	33.27	25.56	244.5	.1025	4.96	-
50	10.54	33.32	25.57	243.5	.1515	4.61	-
75	9.90	33.64	25.93	209.9	.2085	3.39	-
100	9.35	33.78	26.13	191.3	.2590	2.41	-
150	8.76	33.92	26.33	172.9	.351	1.79	-
200	8.49	33.99	26.43	164.5	.436	1.50	-
250	8.23	34.04	26.51	157.8	.517	1.26	-
300	7.90	34.19	26.67	142.8	.593	1.09	-

## STATION 70.90K-18 (Interpolated Values at Standard Depths)

CREST: 34°53.5'N 124°27'W October 14, 1950 0000 GCT Wire angle: 14°  
 Sounding: 2,360 fms. Depth of observation: 1,109 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

0	16.21	33.15	24.30	363.4	.0000	5.18	-
10	16.15	33.17	24.33	361.0	.0364	4.79	-
20	16.03	33.20	24.38	356.5	.0724	4.68	-
30	15.89	33.25	24.45	350.1	.1078	4.64	-
50	9.57	33.43	25.82	219.7	.1651	4.56	-
75	9.85	33.72	26.00	203.2	.2183	3.07	-
100	9.17	33.87	26.23	181.9	.2667	2.25	-
150	8.69	34.01	26.41	165.2	.354	1.77	-
200	8.40	34.05	26.49	158.8	.436	1.35	-
250	8.13	34.09	26.56	152.7	.514	1.28	-
300	7.84	34.13	26.64	146.3	.589	1.12	-
400	7.39	34.17	26.73	138.5	.733	.87	-
500	6.51	34.20	26.88	125.5	.866	.68	-
600	5.90	34.25	26.99	115.0	.987	.42	-
700	5.23	34.33	27.14	101.6	1.097	.30	-
800	4.68	34.36	27.23	93.6	1.195	.29	-
1000	3.94	34.38	27.32	85.0	1.376	.61	-



## STATION 70.90K-19 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°28'W October 14, 1950 0300 GCT Wire angle: 3°  
 Sounding: 2,350 fms. Depth of observation: 322 m. Weather: overcast  
 Sea: very rough, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.34	33.12	24.25	368.4	.0000	5.13	-
10	16.25	33.12	24.27	366.8	.0369	5.45	-
20	16.08	33.15	24.33	361.2	.0734	5.34	-
30	11.30	33.21	25.35	264.0	.1048	4.97	-
50	10.13	33.44	25.73	227.9	.1543	4.13	-
75	9.69	33.82	26.10	193.3	.2072	2.89	-
100	9.31	33.80	26.15	189.2	.2553	2.36	-
150	8.87	33.95	26.34	172.3	.346	1.85	-
200	8.54	34.02	26.44	163.1	.431	1.56	-
250	8.29	34.07	26.52	156.5	.511	1.34	-
300	7.92	34.11	26.61	149.0	.588	1.16	-

## STATION 70.90K-20 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°27'W October 14, 1950 0600 GCT Wire angle: 7°  
 Sounding: 2,360 fms. Depth of observation: 315 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

0	16.10	33.12	24.30	363.2	.0000	5.52	-
10	16.10	33.15	24.32	361.3	.0364	5.47	-
20	16.00	33.14	24.34	360.2	.0726	5.38	-
30	10.14	33.12	25.48	251.3	.1033	5.27	-
50	9.55	33.08	25.55	245.3	.1532	4.97	-
75	9.85	33.84	26.09	194.3	.2085	3.08	-
100	9.26	33.82	26.17	187.0	.2564	2.38	-
150	8.87	33.95	26.34	172.3	.347	1.79	-
200	8.59	34.03	26.44	163.1	.431	1.52	-
250	8.31	34.08	26.53	156.1	.512	1.36	-
300	8.00	34.12	26.60	149.4	.589	1.16	-



## STATION 70.90K-21 (Interpolated Values at Standard Depths)

CREST: 34°55'N 124°31.5'W October 14, 1950 0900 GCT Wire angle: 0°  
 Sounding: 2,350 fms. Depth of observation: 318 m. Weather: partly cloudy  
 Sea: missing Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	16.84	33.15	24.15	377.2	.0000	5.02	-
10	16.83	33.13	24.14	378.8	.0380	5.34	-
20	16.82	33.15	24.16	377.4	.0759	5.28	-
30	11.50	33.18	25.29	269.7	.1084	5.10	-
50	10.23	33.28	25.59	241.4	.1598	4.44	-
75	9.81	33.66	25.96	207.0	.2161	2.96	-
100	9.39	33.77	26.11	192.7	.2664	2.42	-
150	8.87	33.90	26.30	176.0	.359	1.82	-
200	8.57	33.99	26.42	165.7	.445	1.53	-
250	8.23	34.04	26.51	157.8	.527	1.30	-
300	8.00	34.10	26.59	150.9	.605	1.18	-

## STATION 70.90K-22 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°32'W October 14, 1950 1200 GCT Wire angle: 7°  
 Sounding: 2,350 fms. Depth of observation: 1,036 m. Weather: overcast  
 Sea: missing Wind: 320°, force 4-5

0	16.31	33.11	24.25	368.5	.0000	5.35	-
10	16.30	33.08	24.22	370.8	.0371	5.23	-
20	16.11	33.10	24.28	365.5	.0741	5.13	-
30	13.70	33.14	24.83	313.3	.1081	5.02	-
50	10.60	33.33	25.57	243.8	.1641	4.77	-
75	9.70	33.76	26.06	197.9	.2196	2.80	-
100	9.28	33.86	26.20	184.3	.2677	2.27	-
150	8.81	33.99	26.38	168.5	.357	1.78	-
200	8.57	34.05	26.46	161.3	.440	1.60	-
250	8.22	34.09	26.55	154.0	.519	1.33	-
300	7.99	34.14	26.62	147.8	.595	1.23	-
400	7.50	34.19	26.73	138.6	.739	1.00	-
500	6.69	34.18	26.84	129.5	.874	.69	-
600	5.85	34.23	26.98	115.8	.998	.37	-
700	5.18	34.27	27.10	105.4	1.110	.38	-
800	4.68	34.32	27.19	96.6	1.212	.47	-
1000	4.03	34.39	27.32	85.3	1.396	.54	-



## STATION 70.90K-23 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°28.5'W October 14, 1950 1500 GCT Wire angle: 10°  
 Sounding: 2,350 fms. Depth of observation: 317 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (ng/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	16.03	33.13	24.32	361.0	.0000	5.46	-
10	16.04	33.17	24.35	358.6	.0361	5.41	-
20	16.05	33.16	24.34	359.8	.0722	5.32	-
30	12.42	33.13	25.08	289.9	.1048	5.20	-
50	9.75	33.08	25.52	248.5	.1589	4.88	-
75	9.86	33.73	26.00	202.6	.2156	3.14	-
100	9.46	33.80	26.13	191.6	.2652	2.49	-
150	8.87	33.95	26.34	172.3	.357	1.88	-
200	8.53	34.04	26.46	161.4	.441	1.58	-
250	8.23	34.12	26.57	151.9	.520	1.38	-
300	7.96	34.14	26.63	147.3	.595	1.19	-

## STATION 70.90K-24 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°30'W October 14, 1950 1800 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 4

0	16.61	33.17	24.22	370.7	.0000	5.36	-
10	16.60	33.21	24.26	367.9	.0371	5.34	-
20	16.60	33.24	24.28	366.0	.0739	5.25	-
30	12.10	33.26	25.24	274.5	.1061	5.12	-
50	10.51	33.31	25.57	243.7	.1581	4.54	-
75	10.05	33.64	25.90	212.3	.2155	3.47	-
100	9.47	33.80	26.12	191.8	.2663	2.54	-
150	8.88	33.98	26.36	170.3	.357	1.88	-
200	8.52	34.03	26.45	162.0	.441	1.50	-
250	8.21	34.10	26.56	153.1	.520	1.30	-
300	7.90	34.18	26.67	143.5	.595	1.12	-



## STATION 70.90K-25 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°31'W October 14, 1950 2110 GCT Wire angle: 2°  
 Sounding: 2,360 fms. Depth of observation: 320 m. Weather: overcast  
 Sea: missing Wind: 320°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	16.55	33.17	24.24	369.4	.0000	5.40	-
10	16.25	33.15	24.29	364.6	.0368	5.38	-
20	16.07	33.16	24.34	360.2	.0732	5.30	-
30	11.80	33.20	25.25	273.5	.1050	5.16	-
50	10.56	33.33	25.57	243.1	.1570	4.64	-
75	9.80	33.71	26.00	203.1	.2131	3.12	-
100	9.38	33.80	26.14	190.3	.2626	2.47	-
150	8.86	33.97	26.35	170.7	.353	1.84	-
200	8.58	34.06	26.47	160.7	.437	1.57	-
250	8.31	34.13	26.57	152.4	.516	1.39	-
300	7.99	34.14	26.62	147.8	.591	1.17	-

## STATION 70.90K-26 (Interpolated Values at Standard Depths)

CREST: 34°55.5'N 124°26'W October 15, 1950 0000 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 1,048 m. Weather: partly cloudy  
 Sea: missing Wind: 320°, force 3

0	16.34	33.12	24.25	368.4	.0000	5.28	-
10	16.03	33.13	24.32	361.3	.0366	5.52	-
20	15.00	33.17	24.58	336.9	.0717	5.47	-
30	10.40	33.22	25.52	248.2	.1011	5.28	-
50	10.28	33.37	25.65	235.5	.1497	4.59	-
75	9.64	33.78	26.08	195.4	.2038	2.94	-
100	9.15	33.86	26.22	182.3	.2514	2.16	-
150	8.78	33.97	26.37	169.5	.340	1.78	-
200	8.51	34.03	26.46	161.9	.423	1.49	-
250	8.22	34.10	26.56	153.3	.503	1.34	-
300	7.95	34.13	26.62	147.9	.579	1.17	-
400	7.53	34.18	26.72	139.8	.724	.96	-
500	6.72	34.20	26.85	128.4	.859	.73	-
600	6.02	34.23	26.96	118.1	.983	.53	-
700	5.26	34.30	27.11	104.2	1.095	.38	-
800	4.63	34.38	27.25	91.5	1.194	.34	-
1000	4.00	34.43	27.35	82.0	1.370	.51	-



## STATION 70.90K-27 (Interpolated Values at Standard Depths)

CREST: 34°50.5'N 124°33'W October 15, 1950 0300 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 317 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	16.26	33.17	24.30	363.0	.0000	5.52	-
10	16.13	33.15	24.32	362.0	.0364	5.28	-
20	14.00	33.17	24.79	316.7	.0705	5.03	-
30	10.10	33.21	25.56	244.0	.0986	4.80	-
50	10.21	33.36	25.66	235.1	.1468	4.38	-
75	9.63	33.78	26.08	195.3	.2009	2.76	-
100	9.23	33.82	26.18	186.5	.2489	2.30	-
150	8.85	33.95	26.34	172.0	.339	1.89	-
200	8.60	34.03	26.44	163.2	.424	1.53	-
250	8.29	34.11	26.55	153.6	.503	1.39	-
300	8.02	34.15	26.62	147.5	.579	1.21	-

## STATION 70.90K-28 (Interpolated Values at Standard Depths)

CREST: 34°54.5'N 124°31'W October 15, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 317 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 1

0	16.15	33.13	24.30	363.6	.0000	5.32	-
10	16.17	33.10	24.27	366.5	.0367	5.80	-
20	16.17	33.12	24.29	365.3	.0734	5.72	-
30	10.40	33.18	25.49	251.1	.1043	5.42	-
50	10.46	33.37	25.62	238.5	.1535	4.76	-
75	9.95	33.64	25.92	210.7	.2100	3.43	-
100	9.44	33.78	26.11	192.8	.2608	2.55	-
150	8.77	33.92	26.33	173.0	.353	1.93	-
200	8.59	34.04	26.45	162.3	.437	1.57	-
250	8.25	34.07	26.53	155.9	.517	1.31	-
300	7.96	34.11	26.60	149.6	.594	1.12	-



## STATION 70.90K-29 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°32.5'W October 15, 1950 0900, 0918 GCT Wire angle: 0°,  
 0° Sounding: 2,360 fms. Depth of observation: 100, 319 m. Weather:  
 overcast Sea: missing Wind: 320°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	16.20	33.12	24.28	365.4	.0000	5.18	-
10	16.09	33.13	24.31	362.6	.0365	5.19	-
20	14.40	33.17	24.71	324.7	.0710	5.10	-
30	10.42	33.23	25.52	247.8	.0998	4.94	-
50	10.29	33.38	25.66	234.9	.1483	4.29	-
75	10.01	33.64	25.91	211.7	.2044	3.46	-
100	9.50	33.77	26.10	194.4	.2555	2.47	-
150	8.95	33.92	26.30	175.8	.349	1.87	-
200	8.54	34.04	26.46	161.6	.434	1.58	-
250	8.20	34.08	26.54	154.4	.513	1.23	-
300	7.90	34.15	26.64	145.7	.589	1.07	-

## STATION 70.90K-30 (Interpolated Values at Standard Depths)

CREST: 34°54.5'N 124°29'W October 15, 1950' 1200 GCT Wire angle: 5°  
 Sounding: 2,350 fms. Depth of observation: 1,041 m. Weather: overcast  
 Sea: missing Wind: 320°, force 1

0	16.22	33.15	24.30	363.6	.0000	5.48	-
10	16.21	33.14	24.29	364.4	.0365	5.36	-
20	15.90	33.14	24.36	358.1	.0728	5.23	-
30	12.40	33.15	25.10	288.0	.1052	5.11	-
50	10.84	33.23	25.45	255.2	.1598	4.89	-
75	10.40	33.44	25.69	232.8	.2212	3.87	-
100	9.73	33.71	26.01	202.5	.2759	2.96	-
150	8.83	33.94	26.34	172.5	.370	1.97	-
200	8.46	34.05	26.48	159.6	.454	1.48	-
250	8.20	34.12	26.57	151.5	.532	1.32	-
300	7.95	34.18	26.66	144.2	.607	1.19	-
400	7.29	34.22	26.79	133.4	.747	.97	-
500	6.40	34.23	26.91	121.8	.875	.63	-
600	5.77	34.27	27.03	111.8	.993	.42	-
700	5.19	34.32	27.14	101.9	1.101	.42	-
800	4.72	34.36	27.22	94.1	1.200	.47	-
1000	4.04	34.42	27.34	83.2	1.379	.58	-



## STATION 70.90K-31 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°29'W October 15, 1950 1500 GCT Wire angle: 0°  
 Sounding: 2,340 fms. Depth of observation: 319 m. Weather: overcast  
 Sea: moderate Wind: 320°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	16.20	33.17	24.32	361.8	.0000	5.70	-
10	16.20	33.17	24.32	362.0	.0363	5.54	-
20	16.13	33.18	24.34	360.1	.0726	5.50	-
30	15.90	33.20	24.41	354.0	.1084	5.47	-
50	10.05	33.28	25.62	238.4	.1680	5.29	-
75	10.30	33.49	25.74	227.5	.2265	4.33	-
100	9.45	33.74	26.08	195.9	.2798	2.82	-
150	8.77	33.95	26.35	170.8	.372	1.90	-
200	8.47	34.03	26.46	161.3	.456	1.50	-
250	8.17	34.09	26.56	153.3	.535	1.40	-
300	7.89	34.14	26.64	146.3	.610	1.20	-

## STATION 70.90K-32 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°29'W October 15, 1950 1800 GCT Wire angle: 0°  
 Sounding: 2,350 fms. Depth of observation: 319 m. Weather: cloudy  
 Sea: moderate Wind: calm,

0	16.38	33.13	24.24	368.6	.0000	4.47	-
10	16.09	33.13	24.31	362.6	.0367	4.40	-
20	15.69	33.15	24.42	352.8	.0726	4.27	-
30	13.00	33.17	25.00	297.7	.1053	4.09	-
50	10.42	33.28	25.56	244.5	.1598	3.64	-
75	10.30	33.50	25.75	226.8	.2190	3.33	-
100	9.70	33.70	26.01	202.8	.2730	2.44	-
150	8.80	33.91	26.32	174.2	.368	1.62	-
200	8.48	33.99	26.43	164.4	.453	1.04	-
250	8.20	34.09	26.55	153.7	.533	.97	-
300	7.98	34.12	26.61	149.1	.610	.90	-



## STATION 70.90K-33 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°24'W October 15, 1950 2117 GCT Wire angle: 2°  
 Sounding: 2,350 fms. Depth of observation: 318 m. Weather: partly cloudy  
 Sea: rough Wind: 180°, force 1

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.15	33.14	24.07	384.9	.0000	5.42	-
10	16.40	33.21	24.30	363.5	.0376	5.25	-
20	14.54	33.23	24.73	323.1	.0720	5.12	-
30	10.60	33.24	25.50	250.0	.1008	5.00	-
50	10.66	33.26	25.50	249.9	.1510	4.78	-
75	10.07	33.60	25.87	215.6	.2096	3.40	-
100	9.55	33.78	26.10	194.5	.2612	2.81	-
150	8.75	33.98	26.38	168.3	.352	1.86	-
200	8.49	34.00	26.44	163.8	.436	1.47	-
250	8.20	34.05	26.52	156.7	.517	1.32	-
300	7.96	34.11	26.60	149.6	.594	1.19	-

## STATION 70.90K-34 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°30.5'W October 16, 1950 0000 GCT Wire angle: 11°  
 Sounding: 2,350 fms. Depth of observation: 1,025 m. Weather: overcast  
 Sea: rough Wind: 140°, force 2

0	16.69	33.12	24.17	376.1	.0000	5.82	-
10	16.16	33.13	24.30	364.1	.0372	5.56	-
20	15.85	33.17	24.40	354.8	.0732	5.21	-
30	12.30	33.22	25.17	281.0	.1052	4.96	-
50	10.22	33.38	25.67	233.8	.1569	4.31	-
75	9.68	33.73	26.04	199.7	.2114	2.78	-
100	9.21	33.86	26.21	183.3	.2596	2.22	-
150	8.82	33.93	26.33	173.0	.349	1.87	-
200	8.53	34.01	26.44	163.7	.434	1.54	-
250	8.23	34.05	26.51	157.1	.515	1.40	-
300	7.97	34.10	26.59	150.4	.592	1.20	-
400	7.44	34.14	26.70	141.4	.739	.95	-
500	6.49	34.19	26.87	126.0	.874	.72	-
600	5.71	34.22	26.99	114.7	.996	.60	-
700	5.15	34.28	27.11	104.3	1.106	.50	-
800	4.71	34.33	27.20	96.2	1.208	.48	-
1000	4.05	34.42	27.34	83.4	1.389	.53	-



## STATION 70.90K-35 (Interpolated Values at Standard Depths)

CREST: 34°56'N 124°28'W October 16, 1950 0300 GCT Wire angle: 9°  
 Sounding: 2,350 fms. Depth of observation: 316 m. Weather: drizzle  
 Sea: rough Wind: 180°, force 5

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	16.88	33.22	24.20	373.0	.0000	5.24	-
10	16.87	33.22	24.20	373.1	.0375	5.48	-
20	16.85	33.23	24.21	372.2	.0749	5.37	-
30	15.40	33.24	24.55	340.4	.1106	5.11	-
50	10.72	33.30	25.52	248.0	.1698	4.55	-
75	10.13	33.58	25.84	218.1	.2284	3.80	-
100	9.43	33.80	26.13	191.1	.2798	2.51	-
150	8.95	33.94	26.32	174.3	.372	1.98	-
200	8.59	34.03	26.44	163.1	.457	1.71	-
250	8.33	34.10	26.54	154.9	.537	1.62	-
300	8.04	34.13	26.61	149.2	.613	1.47	-

## STATION 70.90K-36 (Interpolated Values at Standard Depths)

CREST: 34°52.5'N 124°30'W October 16, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 319 m. Weather: partly cloudy  
 Sea: rough Wind: 180°, force 2

0	16.50	33.12	24.21	371.9	.0000	5.51	-
10	16.46	33.17	24.26	367.7	.0371	5.62	-
20	16.25	33.25	24.37	357.6	.0735	5.57	-
30	12.40	33.34	25.25	274.0	.1052	5.30	-
50	10.15	33.57	25.83	218.6	.1548	3.86	-
75	9.60	33.77	26.08	195.5	.2068	2.80	-
100	9.21	33.87	26.22	182.5	.2544	2.17	-
150	8.87	33.96	26.35	171.6	.343	1.86	-
200	8.54	34.02	26.44	163.1	.428	1.60	-
250	8.22	34.07	26.53	155.5	.508	1.40	-
300	7.93	34.14	26.63	146.9	.584	1.07	-



## STATION 70.90K-37 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°30'W October 16, 1950 0900 GCT Wire angle: 3°  
 Sounding: 2,350 fms. Depth of observation: 319 m. Weather: partly cloudy  
 Sea: missing Wind: 220°, force 3

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	16.82	33.21	24.20	372.4	.0000	4.58	-
10	16.82	33.21	24.20	372.7	.0374	5.37	-
20	16.53	33.22	24.28	365.9	.0745	5.23	-
30	13.40	33.24	24.97	300.2	.1079	4.75	-
50	10.34	33.35	25.63	238.0	.1620	3.73	-
75	9.80	33.71	26.00	203.1	.2175	2.76	-
100	9.41	33.82	26.15	189.3	.2668	2.50	-
150	8.97	33.94	26.31	174.6	.358	2.03	-
200	8.63	34.00	26.41	165.9	.444	1.54	-
250	8.38	34.08	26.52	157.1	.525	1.32	-
300	8.07	34.13	26.60	149.7	.603	1.14	-

## STATION 70.90K-38 (Interpolated Values at Standard Depths)

CREST: 34°52.5'N 124°29'W October 16, 1950 1200 GCT Wire angle: 5°  
 Sounding: 2,350 fms. Depth of observation: 1,045 m. Weather: partly cloudy  
 Sea: missing Wind: 220°, force 3

0	16.48	33.13	24.22	370.8	.0000	5.43	-
10	16.42	33.17	24.27	366.8	.0370	5.48	-
20	16.28	33.20	24.32	361.9	.0736	5.39	-
30	13.25	33.22	24.99	298.8	.1068	5.24	-
50	10.42	33.28	25.56	244.5	.1614	4.74	-
75	9.75	33.69	25.99	203.8	.2177	3.07	-
100	9.25	33.80	26.16	188.3	.2670	2.07	-
150	8.78	33.97	26.37	169.5	.357	1.62	-
200	8.48	34.09	26.51	157.0	.439	1.61	-
250	8.33	34.06	26.51	157.9	.519	1.38	-
300	7.87	34.11	26.62	148.2	.596	1.14	-
400	7.40	34.16	26.72	139.4	.741	.92	-
500	6.59	34.23	26.89	124.4	.874	.66	-
600	5.82	34.25	27.00	114.0	.994	.46	-
700	5.14	34.29	27.12	103.5	1.104	.38	-
800	4.65	34.33	27.21	95.5	1.204	.38	-
1000	4.02	34.36	27.30	87.4	1.389	.51	-



## STATION 70.90K-39 (Interpolated Values at Standard Depths)

CREST: 34°50'N 124°31'W October 16, 1950 1500 GCT Wire angle: 2°  
 Sounding: 2,360 fms. Depth of observation: 320 m. Weather: rain  
 Sea: rough Wind: 220°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	16.87	33.19	24.18	375.0	.0000	5.33	-
10	16.82	33.17	24.18	375.6	.0377	4.76	-
20	16.25	33.19	24.32	362.0	.0747	4.50	-
30	15.45	33.24	24.54	341.5	.1100	4.34	-
50	10.20	33.39	25.68	232.7	.1677	4.10	-
75	9.82	33.71	26.00	203.5	.2226	3.20	-
100	9.34	33.80	26.15	189.7	.2720	2.36	-
150	8.89	33.91	26.30	175.6	.364	1.86	-
200	8.53	34.04	26.46	161.4	.449	1.58	-
250	8.31	34.08	26.53	156.1	.529	1.39	-
300	8.00	34.15	26.63	147.2	.605	1.21	-

## STATION 70.90K-40 (Interpolated Values at Standard Depths)

CREST: 34°53.5'N 124°27'W October 16, 1950 1800 GCT Wire angle: 7°  
 Sounding: 2,370 fms. Depth of observation: 317 m. Weather: cloudy  
 Sea: rough Wind: 220°, force 4

0	16.64	33.12	24.18	375.0	.0000	5.12	-
10	16.55	33.12	24.20	373.3	.0376	5.18	-
20	16.27	33.14	24.28	366.0	.0747	5.10	-
30	12.28	33.18	25.14	283.6	.1073	4.96	-
50	10.26	33.33	25.63	238.2	.1597	4.35	-
75	9.68	33.70	26.01	202.0	.2151	2.67	-
100	9.19	33.84	26.20	184.4	.2637	2.18	-
150	8.77	33.94	26.35	171.5	.353	1.66	-
200	8.49	34.04	26.47	160.8	.437	1.50	-
250	8.22	34.07	26.53	155.5	.517	1.30	-
300	7.96	34.11	26.60	149.6	.593	1.08	-



## STATION 70.90K-41 (Interpolated Values at Standard Depths)

CREST: 34°49'N 124°35'W October 16, 1950 2100 GCT Wire angle: 9°  
 Sounding: 2,400 fms. Depth of observation: 312 m. Weather: cloudy  
 Sea: missing Wind: 200°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.11	33.21	24.14	379.0	.0000	4.24	-
10	16.95	33.17	24.14	378.5	.0380	4.78	-
20	16.77	33.18	24.19	374.1	.0758	4.77	-
30	15.00	33.22	24.62	333.5	.1113	4.63	-
50	11.30	33.32	25.44	256.4	.1706	3.94	-
75	10.06	33.50	25.79	222.8	.2309	2.97	-
100	9.44	33.74	26.08	195.7	.2835	2.28	-
150	8.82	33.93	26.33	173.0	.376	1.57	-
200	8.52	34.03	26.45	162.0	.461	1.39	-
250	8.26	34.16	26.60	149.4	.539	1.11	-
300	8.01	34.14	26.62	148.1	.614	1.04	-

## STATION 70.90K-42 (Interpolated Values at Standard Depths)

CREST: 34°33.5'N 124°37.5'W October 16, 1950 2400 GCT Wire angle: 23°  
 Sounding: 2,400 fms. Depth of observation: 984 m. Weather: cloudy  
 Sea: missing Wind: 260°, force 4

0	17.13	33.19	24.12	380.8	.0000	4.95	-
10	16.47	33.12	24.22	371.6	.0378	5.68	-
20	16.36	33.14	24.26	368.0	.0749	5.55	-
30	14.50	33.21	24.72	324.1	.1096	5.10	-
50	10.03	33.41	25.73	228.5	.1652	4.18	-
75	9.65	33.74	26.05	198.5	.2188	2.77	-
100	9.40	33.79	26.13	191.4	.2679	2.40	-
150	8.82	33.97	26.36	170.1	.359	1.80	-
200	8.56	34.07	26.48	159.7	.442	1.59	-
250	8.29	34.09	26.54	155.0	.521	1.41	-
300	8.03	34.14	26.62	148.4	.598	1.24	-
400	7.45	34.18	26.73	138.6	.742	.92	-
500	6.70	34.23	26.87	125.9	.876	.78	-
600	5.90	34.25	26.99	115.0	.997	.49	-
700	5.24	34.33	27.14	101.8	1.107	.34	-
800	4.72	34.39	27.25	91.9	1.204	.38	-
1000	(4.13)	(34.45)	(27.36)	(82.1)	(1.380)	(.50)	-



## STATION 70.90K-43 (Interpolated Values at Standard Depths)

CREST: 34°50'N 124°30'W October 17, 1950 0300 GCT Wire angle: 12°  
 Sounding: 2,370 fms. Depth of observation: 314 m. Weather: partly cloudy  
 Sea: very rough Wind: 270°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.36	33.32	24.16	376.5	.0000	5.11	-
10	17.35	33.28	24.13	379.5	.0380	5.31	-
20	16.90	33.27	24.23	370.4	.0756	5.27	-
30	15.40	33.26	24.56	339.0	.1112	5.15	-
50	11.80	33.26	25.30	269.6	.1724	4.80	-
75	9.85	33.57	25.88	214.3	.2332	3.80	-
100	9.32	33.75	26.11	193.1	.2844	2.83	-
150	8.73	33.95	26.36	170.2	.376	1.86	-
200	8.40	34.04	26.48	159.5	.459	1.48	-
250	8.18	34.08	26.55	154.1	.538	1.29	-
300	7.93	34.14	26.63	146.9	.614	1.16	-

## STATION 70.90K-44 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°25'W October 17, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,350 fms. Depth of observation: 318 m. Weather: partly cloudy  
 Sea: very rough Wind: 270°, force 4

0	17.27	33.25	24.13	379.6	.0000	5.04	-
10	17.15	33.24	24.15	377.9	.0380	4.88	-
20	16.03	33.25	24.42	352.8	.0747	4.83	-
30	15.60	33.26	24.52	343.2	.1096	4.80	-
50	10.83	33.30	25.50	249.8	.1692	4.80	-
75	9.85	33.62	25.92	210.6	.2271	3.57	-
100	9.36	33.77	26.12	192.3	.2778	2.70	-
150	8.80	33.96	26.36	170.5	.369	1.79	-
200	8.43	34.03	26.47	160.7	.452	1.48	-
250	8.18	34.04	26.51	157.1	.533	1.25	-
300	7.94	34.09	26.59	150.7	.610	1.12	-



## STATION 70.90K-45 (Interpolated Values at Standard Depths)

CREST: 34°53.5'N 124°32'W October 17, 1950 0900 GCT Wire angle: 0°  
 Sounding: 2,400 fms. Depth of observation: 319 m. Weather: partly cloudy  
 Sea: high Wind: 260°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ ( $\text{mg}/\text{cm}^3$ )	$10^5 \sigma$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	17.35	33.22	24.09	383.6	.0000	4.65	-
10	17.33	33.22	24.09	383.4	.0385	4.82	-
20	16.70	33.23	24.25	368.9	.0763	4.77	-
30	15.60	33.26	24.52	343.2	.1120	4.60	-
50	10.25	33.33	25.63	238.0	.1704	4.10	-
75	9.75	33.58	25.91	212.0	.2270	2.98	-
100	9.37	33.80	26.14	190.2	.2776	2.19	-
150	8.78	33.96	26.36	170.2	.368	1.72	-
200	8.50	34.03	26.46	161.7	.452	1.43	-
250	8.22	34.07	26.53	155.5	.532	1.32	-
300	7.95	34.12	26.61	148.7	.608	1.11	-

## STATION 70.90K-46 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°32.5'W October 17, 1950 1201 GCT Wire angle: 8°  
 Sounding: 2,350 fms. Depth of observation: 1,124 m. Weather: partly cloudy  
 Sea: high Wind: 260°, force 3

0	17.25	33.26	24.14	378.4	.0000	5.13	-
10	17.24	33.24	24.13	379.9	.0381	5.39	-
20	16.65	33.26	24.28	365.6	.0755	5.32	-
30	15.00	33.30	24.68	327.7	.1103	5.14	-
50	10.26	33.42	25.70	231.5	.1665	4.45	-
75	9.74	33.60	25.92	210.3	.2220	3.57	-
100	9.40	33.79	26.13	191.4	.2726	2.69	-
150	8.93	33.94	26.32	174.0	.365	1.97	-
200	8.59	34.02	26.44	163.8	.450	1.63	-
250	8.23	34.07	26.53	155.6	.530	1.36	-
300	7.94	34.17	26.65	144.8	.606	1.20	-
400	7.50	34.18	26.72	139.4	.749	.90	-
500	6.79	34.20	26.84	129.4	.884	.69	-
600	5.93	34.26	27.00	114.7	1.008	.50	-
700	5.32	34.32	27.12	103.5	1.118	.39	-
800	4.74	34.36	27.22	94.4	1.218	.40	-
1000	3.95	34.42	27.35	82.2	1.396	.39	-



## STATION 70.90K-47 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°32'W October 17, 1950 1500 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 321 m. Weather: cloudy  
 Sea: rough Wind: 270°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \sigma_t$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/ L)
0	17.13	33.24	24.16	377.2	.0000	5.07	-
10	17.02	33.24	24.18	375.0	.0378	5.39	-
20	16.70	33.25	24.26	367.4	.0750	5.36	-
30	14.60	33.27	24.75	321.7	.1096	5.24	-
50	10.83	33.31	25.51	249.1	.1670	4.83	-
75	9.90	33.57	25.87	215.1	.2253	3.81	-
100	9.35	33.82	26.16	188.4	.2761	2.37	-
150	8.85	33.98	26.36	169.8	.366	1.89	-
200	8.53	34.04	26.46	161.4	.450	1.53	-
250	8.23	34.05	26.51	157.1	.530	1.38	-
300	7.95	34.11	26.60	149.4	.607	1.18	-

## STATION 70.90K-48 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°32.5'W October 17, 1950 1800 GCT Wire angle: 0°  
 Sounding: 2,370 fms. Depth of observation: 315 m. Weather: partly cloudy  
 Sea: very rough Wind: 270°, force 2

0	16.87	33.19	24.18	375.0	.0000	4.78	-
10	16.72	33.17	24.20	373.4	.0376	5.19	-
20	16.53	33.20	24.26	367.3	.0748	5.07	-
30	15.20	33.26	24.61	334.8	.1100	4.60	-
50	10.13	33.48	25.76	224.9	.1663	3.64	-
75	9.50	33.85	26.16	188.0	.2182	2.55	-
100	9.12	33.82	26.20	184.8	.2651	2.08	-
150	8.74	33.96	26.37	169.6	.354	1.61	-
200	8.45	34.05	26.48	159.5	.437	1.34	-
250	8.15	34.08	26.55	153.7	.516	1.22	-
300	7.90	34.13	26.63	147.2	.592	1.11	-



## STATION 70.90K-49 (Interpolated Values at Standard Depths)

CREST: 34°55'N 124°31'W October 17, 1950 2100 GCT Wire angle: 5°  
 Sounding: 2,350 fms. Depth of observation: 320 m. Weather: partly cloudy  
 Sea: very rough Wind: 270°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 s$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.65	33.28	24.06	386.1	.0000	4.49	-
10	17.35	33.28	24.13	379.5	.0384	4.54	-
20	16.90	33.30	24.25	368.2	.0760	4.51	-
30	14.70	33.33	24.77	319.3	.1105	4.43	-
50	10.45	33.41	25.66	235.4	.1662	4.07	-
75	9.95	33.55	25.85	217.4	.2231	3.38	-
100	9.29	33.75	26.11	192.6	.2747	2.77	-
150	8.79	33.95	26.35	171.1	.366	1.70	-
200	8.44	34.01	26.45	162.3	.450	1.42	-
250	8.22	34.04	26.51	157.7	.531	1.29	-
300	8.00	34.07	26.56	153.1	.609	1.10	-

## STATION 70.90K-50 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°30'W October 18, 1950 0000 GCT Wire angle: 3°  
 Sounding: 2,350 fms. Depth of observation: 1,033 m. Weather: partly cloudy  
 Sea: missing Wind: 270°, force 1

0	17.84	33.28	24.02	390.4	.0000	5.09	-
10	17.30	33.28	24.15	378.4	.0386	5.31	-
20	17.06	33.28	24.20	373.3	.0763	5.28	-
30	16.62	33.28	24.30	363.8	.1133	5.15	-
50	10.71	33.28	25.51	249.3	.1749	4.76	-
75	10.01	33.51	25.81	221.3	.2341	3.88	-
100	9.46	33.68	26.03	200.5	.2872	3.24	-
150	8.87	33.91	26.31	175.3	.382	1.93	-
200	8.48	34.02	26.45	162.2	.467	1.51	-
250	8.17	34.02	26.50	158.4	.547	1.31	-
300	7.93	34.14	26.63	146.9	.624	1.18	-
400	7.44	34.18	26.73	138.5	.768	.90	-
500	6.66	34.23	26.88	125.4	.901	.87	-
600	5.78	34.25	27.01	113.4	1.022	.50	-
700	5.18	34.32	27.14	101.7	1.130	.40	-
800	4.74	34.38	27.24	92.9	1.229	.40	-
1000	4.04	34.40	27.33	84.7	1.408	.56	-



## STATION 70.90K-51 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°26.5'W October 18, 1950 0300 GCT Wire angle: 0°  
 Sounding: 2,360 fms. Depth of observation: 321 m. Weather: partly cloudy  
 Sea: rough Wind: 270°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.72	33.28	24.04	387.7	.0000	5.41	-
10	17.26	33.24	24.12	380.4	.0386	5.36	-
20	17.22	33.22	24.12	381.3	.0768	5.32	-
30	16.95	33.22	24.18	375.5	.1148	5.31	-
50	12.30	33.21	25.16	282.3	.1809	5.26	-
75	10.25	33.49	25.75	226.7	.2449	4.35	-
100	9.39	33.75	26.10	194.2	.2978	3.05	-
150	8.76	33.96	26.36	169.9	.3894	1.90	-
200	8.44	34.03	26.47	160.8	.473	1.60	-
250	8.16	34.10	26.56	152.4	.552	1.31	-
300	7.89	34.16	26.65	144.8	.626	1.27	-

## STATION 70.90K-52 (Interpolated Values at Standard Depths)

CREST: 34°52'N 124°30'W October 18, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,350 fms. Depth of observation: 318 m. Weather: clear  
 Sea: rough Wind: 270°, force 1

0	17.63	33.24	24.04	388.5	.0000	4.78	-
10	16.97	33.20	24.16	376.8	.0384	5.22	-
20	16.14	33.20	24.35	358.8	.0753	5.20	-
30	13.00	33.22	25.04	294.0	.1081	5.08	-
50	10.64	33.28	25.52	248.1	.1626	4.70	-
75	9.98	33.51	25.81	220.8	.2215	3.70	-
100	9.36	33.75	26.10	193.7	.2737	2.94	-
150	8.83	33.91	26.31	174.7	.366	1.71	-
200	8.47	33.99	26.43	164.2	.452	1.40	-
250	8.18	34.07	26.54	154.9	.532	1.20	-
300	7.92	34.12	26.62	148.2	.608	1.10	-



## STATION 70.90K-53 (Interpolated Values at Standard Depths)

CREST: 34°49'N 124°32.5'W October 18, 1950 0900 GCT Wire angle: 1°  
 Sounding: 2,360 fms. Depth of observation: 319 m. Weather: clear  
 Sea: rough Wind: 270°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.52	33.30	24.11	381.6	.0000	5.58	-
10	17.10	33.21	24.14	379.0	.0382	5.29	-
20	16.68	33.22	24.24	369.2	.0757	5.09	-
30	15.10	33.25	24.62	333.4	.1110	4.92	-
50	10.66	33.31	25.54	246.2	.1693	4.60	-
75	9.98	33.51	25.81	220.8	.2280	3.81	-
100	9.45	33.69	26.04	199.6	.2809	2.90	-
150	8.87	33.94	26.33	173.1	.375	1.77	-
200	8.57	34.02	26.44	163.5	.459	1.49	-
250	8.24	34.09	26.54	154.3	.539	1.31	-
300	7.97	34.14	26.62	147.5	.615	1.18	-

## STATION 70.90K-54 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°30'W October 18, 1950 1200 GCT Wire angle: 9°  
 Sounding: 2,350 fms. Depth of observation: 1,041 m. Weather: clear  
 Sea; rough Wind: 270°, force 2

0	17.57	33.30	24.10	382.8	.0000	5.51	-
10	17.43	33.30	24.13	379.9	.0383	5.40	-
20	17.18	33.27	24.17	376.7	.0763	5.38	-
30	12.14	33.20	25.19	279.6	.1092	5.35	-
50	9.82	32.98	25.43	257.0	.1631	5.32	-
75	9.61	33.50	25.87	215.7	.2225	4.05	-
100	9.35	33.72	26.08	195.8	.2743	3.06	-
150	8.80	33.93	26.33	172.7	.367	1.94	-
200	8.54	34.00	26.43	164.5	.452	1.58	-
250	8.28	34.08	26.53	155.6	.533	1.48	-
300	8.03	34.11	26.59	150.6	.610	1.21	-
400	7.47	34.16	26.71	140.4	.756	.92	-
500	6.73	34.18	26.83	130.0	.893	.66	-
600	5.97	34.25	26.99	115.9	1.017	.43	-
700	5.29	34.31	27.12	103.9	1.128	.43	-
800	4.76	34.36	27.22	94.6	1.228	.48	-
1000	4.07	34.41	27.33	84.4	1.409	.58	-



## STATION 70.90K-55 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°34'W October 18, 1950 1500 GCT Wire angle: 3°  
 Sounding: 2,360 fms. Depth of observation: 320 m. Weather: clear  
 Sea: rough Wind: 270°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.56	33.30	24.10	382.5	.0000	5.25	-
10	17.47	33.30	24.12	380.8	.0383	5.25	-
20	17.37	33.28	24.13	380.3	.0765	5.23	-
30	14.70	33.21	24.68	328.1	.1121	5.21	-
50	9.66	32.96	25.44	255.9	.1708	5.17	-
75	9.74	33.48	25.83	219.2	.2305	4.17	-
100	9.34	33.68	26.05	198.6	.2831	2.98	-
150	8.72	34.02	26.42	164.9	.375	1.73	-
200	8.45	34.06	26.49	158.8	.456	1.50	-
250	8.19	34.11	26.57	152.1	.534	1.31	-
300	7.94	34.15	26.64	146.3	.609	1.20	-

## STATION 70.90K-56 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°35'W October 18, 1950 1800 GCT Wire angle: 2°  
 Sounding: 2,300 fms. Depth of observation: 317 m. Weather: clear  
 Sea: rough Wind: 270°, force 1

0	17.70	33.28	24.05	387.2	.0000	4.56	-
10	17.50	33.31	24.12	380.8	.0386	4.75	-
20	17.50	33.30	24.11	381.8	.0768	4.73	-
30	17.09	33.27	24.19	375.0	.1148	4.67	-
50	10.41	33.22	25.51	248.7	.1775	4.41	-
75	9.57	33.49	25.87	215.8	.2359	3.40	-
100	9.24	33.75	26.12	191.9	.2872	2.69	-
150	8.66	34.00	26.41	165.4	.377	1.65	-
200	8.44	34.05	26.48	159.3	.459	1.48	-
250	8.21	34.12	26.57	151.6	.537	1.05	-
300	7.97	34.15	26.63	146.7	.612	1.02	-



## STATION 70.90K-57 (Interpolated Values at Standard Depths)

CREST: 34°55'N 124°27'W October 18, 1950 2100 GCT Wire angle: 5°  
 Sounding: 2,350 fms. Depth of observation: 317 m. Weather: partly cloudy  
 Sea: missing Wind: 360°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	17.90	33.25	23.98	394.0	.0000	4.92	-
10	17.44	33.31	24.13	379.4	.0388	5.00	-
20	16.99	33.30	24.23	370.3	.0765	5.03	-
30	16.05	33.29	24.44	350.6	.1126	5.05	-
50	12.05	33.26	25.25	274.0	.1754	4.92	-
75	10.26	33.46	25.73	229.1	.2387	3.91	-
100	9.54	33.62	25.97	206.2	.2934	2.86	-
150	8.79	33.94	26.34	171.8	.389	1.84	-
200	8.44	34.02	26.46	161.6	.473	1.41	-
250	8.19	34.10	26.56	152.8	.552	1.22	-
300	7.96	34.11	26.60	149.6	.628	1.10	-

## STATION 70.90K-58 (Interpolated Values at Standard Depths)

CREST: 34°52.5'N 124°25.5'W October 19, 1950 0000 GCT Wire angle: 7°  
 Sounding: 2,350 fms. Depth of observation: 1,029 m. Weather: partly cloudy  
 Sea: rough Wind: 360°, force 2

0	17.62	33.21	24.02	390.5	.0000	5.00	-
10	17.00	33.21	24.16	376.7	.0385	5.48	-
20	16.56	33.21	24.26	367.3	.0759	5.45	-
30	15.84	33.22	24.44	351.2	.1119	5.35	-
50	11.18	33.22	25.38	261.7	.1735	5.08	-
75	9.97	33.50	25.82	221.4	.2342	4.08	-
100	9.32	33.75	26.11	193.1	.2864	2.89	-
150	8.71	33.93	26.35	171.4	.378	1.98	-
200	8.47	34.02	26.45	162.0	.462	1.61	-
250	8.16	34.12	26.58	150.9	.541	1.35	-
300	7.93	34.14	26.63	146.9	.616	1.26	-
400	7.32	34.20	26.77	135.3	.758	.89	-
500	6.46	34.22	26.90	123.4	.889	.61	-
600	5.56	34.20	27.00	114.3	1.008	.50	-
700	4.97	34.26	27.11	103.6	1.118	.43	-
800	4.57	34.35	27.23	93.0	1.218	.42	-
1000	4.03	34.41	27.34	83.9	1.397	.51	-



## STATION 70.90K-59 (Interpolated Values at Standard Depths)

CREST: 34°50.5'N 124°28'W October 19, 1950 0300 GCT Wire angle: 0°  
 Sounding: 2,300 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: rough Wind: 360°, force 3

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	17.21	33.16	24.07	384.8	.0000	5.14	-
10	16.75	33.16	24.18	374.8	.0381	5.37	-
20	16.50	33.14	24.23	371.1	.0756	5.44	-
30	16.33	33.12	24.25	369.1	.1127	5.49	-
50	12.90	33.06	24.93	304.4	.1804	5.48	-
75	10.31	33.35	25.63	238.0	.2486	4.45	-
100	9.69	33.60	25.93	210.0	.3050	3.32	-
150	8.96	33.85	26.25	181.1	.403	2.37	-
200	8.50	34.03	26.46	161.7	.490	1.57	-
250	8.21	34.08	26.54	154.6	.569	1.35	-
300	7.99	34.13	26.61	148.5	.646	1.22	-

## STATION 70.90K-60 (Interpolated Values at Standard Depths)

CREST: 34°49.5'N 124°28'W October 19, 1950 0600 GCT Wire angle: 0°  
 Sounding: 2,300 fms. Depth of observation: 318 m. Weather: cloudy  
 Sea: rough Wind: 360°, force 3

0	17.42	33.21	24.06	385.9	.0000	5.33	-
10	16.98	33.21	24.17	376.3	.0383	5.12	-
20	16.79	33.21	24.21	372.4	.0758	5.01	-
30	15.50	33.21	24.50	344.7	.1118	4.92	-
50	10.86	33.22	25.44	256.2	.1722	4.80	-
75	10.01	33.49	25.79	222.8	.2324	4.03	-
100	9.59	33.69	26.02	201.8	.2859	3.14	-
150	8.71	33.97	26.38	168.4	.379	1.74	-
200	8.40	34.02	26.47	161.0	.462	1.49	-
250	8.12	34.09	26.56	152.5	.541	1.24	-
300	7.89	34.14	26.64	146.3	.616	1.09	-



## STATION 70.9OK-61 (Interpolated Values at Standard Depths)

CREST: 34°54'N 124°29'W October 19, 1950 0900 GCT Wire angle: 0°  
 Sounding: 2,300 fms. Depth of observation: 320 m. Weather: partly cloudy  
 Sea: rough Wind: 360°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	17.73	33.30	24.06	386.4	.0000	4.91	-
10	17.45	33.33	24.15	378.2	.0384	5.11	-
20	17.01	33.31	24.24	370.0	.0759	5.08	-
30	16.50	33.27	24.32	361.9	.1127	4.97	-
50	11.39	33.19	25.32	267.5	.1759	4.68	-
75	9.93	33.40	25.74	228.1	.2382	3.97	-
100	9.37	33.64	26.02	202.0	.2923	3.19	-
150	8.71	33.98	26.39	167.7	.385	1.83	-
200	8.43	34.03	26.47	160.7	.468	1.47	-
250	8.20	34.09	26.55	153.7	.547	1.23	-
300	7.98	34.13	26.61	148.4	.623	1.11	-

## STATION 70.9OK-62 (Interpolated Values at Standard Depths)

CREST: 34°53'N 124°29'W October 19, 1950 1200 GCT Wire angle: 2°  
 Sounding: 2,300 fms. Depth of observation: 1,044 m. Weather: partly cloudy  
 Sea: rough Wind: 360°, force 3

0	17.44	33.22	24.07	385.6	.0000	5.40	-
10	17.41	33.28	24.12	380.9	.0385	5.29	-
20	17.23	33.29	24.17	376.4	.0765	5.19	-
30	16.71	33.29	24.29	365.0	.1137	5.08	-
50	10.79	33.30	25.51	249.1	.1754	4.81	-
75	9.90	33.39	25.73	228.4	.2355	4.11	-
100	9.35	33.60	25.99	204.7	.2899	3.50	-
150	8.79	33.92	26.33	173.3	.385	1.88	-
200	8.44	34.02	26.46	161.6	.469	1.53	-
250	8.22	34.05	26.52	157.0	.550	1.39	-
300	7.98	34.12	26.61	149.1	.627	1.20	-
400	7.41	34.16	26.72	139.5	.772	.91	-
500	6.61	34.16	26.83	129.9	.908	.78	-
600	5.88	34.22	26.97	117.0	1.033	.62	-
700	5.11	34.26	27.10	105.3	1.145	.49	-
800	4.50	34.28	27.18	97.3	1.247	.42	-
1000	4.00	34.39	27.32	85.0	1.431	.49	-



## STATION 70.90K-63 (Interpolated Values at Standard Depths)

CREST: 34°50'N 124°29'W October 19, 1950 1500 GCT Wire angle: 4°  
 Sounding: 2,300 fms. Depth of observation: 318 m. Weather: partly cloudy  
 Sea: rough Wind: 270°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	17.30	33.19	24.08	384.6	.0000	5.20	-
10	17.19	33.21	24.12	381.0	.0384	5.38	-
20	16.56	33.22	24.27	366.5	.0760	5.31	-
30	16.08	33.22	24.38	356.4	.1123	5.19	-
50	13.03	33.24	25.05	293.6	.1776	4.83	-
75	10.38	33.37	25.64	237.7	.2444	4.37	-
100	9.76	33.53	25.87	216.3	.3015	3.67	-
150	8.92	33.86	26.26	179.7	.401	2.24	-
200	8.51	34.02	26.45	162.6	.487	1.59	-
250	8.21	34.07	26.53	155.3	.567	1.32	-
300	7.97	34.12	26.61	149.0	.644	1.17	-

## STATION 70.90K-64 (Interpolated Values at Standard Depths)

CREST: 34°51'N 124°34'W October 19, 1950 1800 GCT Wire angle: 12°  
 Sounding: 2,300 fms. Depth of observation: 312 m. Weather: partly cloudy  
 Sea: very rough Wind: 270°, force 2

0	17.42	33.21	24.06	385.9	.0000	5.25	-
10	17.10	33.22	24.15	378.3	.0384	5.25	-
20	16.69	33.21	24.23	370.1	.0759	5.24	-
30	16.34	33.20	24.31	363.5	.1128	5.22	-
50	13.20	33.17	24.96	302.0	.1796	5.14	-
75	10.34	33.32	25.60	240.7	.2479	4.43	-
100	9.88	33.54	25.85	217.5	.3055	3.65	-
150	8.89	33.86	26.26	179.3	.405	2.28	-
200	8.49	34.00	26.44	163.8	.492	1.57	-
250	8.22	34.04	26.51	157.7	.573	1.30	-
300	7.95	34.10	26.60	150.1	.650	1.12	-



## STATION 70.130K-1 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 11, 1950 2100 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 321 m. Weather: overcast  
 Sea: very rough Wind: 10°, force 3

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.36	33.13	23.52	437.4	.0000	5.23	-
10	19.35	33.13	23.53	437.5	.0439	5.55	-
20	19.34	33.14	23.54	436.8	.0878	5.53	-
30	19.34	33.15	23.54	436.4	.1316	5.47	-
50	19.28	33.18	23.58	433.4	.2191	5.30	-
75	17.20	33.20	24.11	383.9	.3218	6.27	-
100	10.79	33.21	25.44	256.8	.4024	5.78	-
150	9.12	33.07	25.61	241.3	.528	5.52	-
200	8.74	33.50	26.01	204.6	.640	4.95	-
250	8.34	33.89	26.37	170.6	.734	3.91	-
300	7.84	33.95	26.49	159.6	.818	3.83	-

## STATION 70.130K-2 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 0000 GCT Wire angle:  
 9° Sounding: 2,415 fms. Depth of observation: 756 m. Weather: overcast  
 Sea: very rough Wind: 10°, force 2

0	19.54	33.21	23.54	436.0	.0000	5.21	-
10	19.38	33.21	23.58	432.4	.0436	5.44	-
20	19.37	33.18	23.56	434.7	.0871	5.60	-
30	19.36	33.12	23.52	439.1	.1310	5.75	-
50	16.40	33.03	24.16	377.8	.2131	6.00	-
75	13.73	32.97	24.70	327.5	.3017	6.28	-
100	13.03	33.23	25.04	295.6	.3801	5.81	-
150	9.70	33.12	25.56	246.6	.517	5.30	-
200	8.81	33.71	26.16	190.1	.627	4.37	-
250	8.46	33.95	26.40	167.9	.717	3.79	-
300	7.47	33.95	26.55	154.3	.798	3.24	-
400	6.10	33.95	26.73	137.3	.945	2.18	-
500	5.22	34.04	26.91	120.8	1.075	1.06	-
600	4.78	(34.13)	(27.03)	(109.8)	(1.191)	.56	-
700	4.43	(34.22)	(27.14)	(100.0)	(1.297)	.40	-



## STATION 70.130K-3 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 0300 GCT Wire angle:  
6° Sounding: 2,415 fms. Depth of observation: 318 m. Weather: overcast  
Sea: very rough Wind: 030°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ ( $\mu\text{g at/L}$ )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.37	33.16	23.54	435.4	.0000	5.50	-
10	19.36	33.15	23.54	436.3	.0438	5.31	-
20	19.37	33.16	23.54	436.1	.0876	5.32	-
30	19.38	33.18	23.56	435.2	.1313	5.33	-
50	19.30	33.19	23.58	433.2	.2186	5.35	-
75	14.44	33.03	24.59	337.2	.3154	6.20	-
100	13.62	33.20	24.90	309.1	.3967	5.61	-
150	10.40	33.17	25.48	254.3	.539	5.43	-
200	8.98	33.66	26.09	196.4	.652	4.23	-
250	8.29	33.92	26.40	167.6	.744	3.89	-
300	7.50	33.96	26.55	154.0	.825	3.45	-

## STATION 70.130K-4 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 0600 GCT Wire angle:  
5° Sounding: 2,415 fms. Depth of observation: 316 m. Weather: overcast  
Sea: high Wind: calm

0	19.32	33.16	23.56	434.2	.0000	5.23	-
10	19.32	33.15	23.55	435.3	.0436	5.03	-
20	19.32	33.17	23.56	434.2	.0873	4.98	-
30	19.33	33.19	23.58	433.3	.1308	4.96	-
50	18.80	33.24	23.75	417.5	.2163	4.92	-
75	14.47	33.01	24.57	339.3	.3115	5.90	-
100	13.40	33.24	24.97	301.9	.3921	5.40	-
150	10.25	33.24	25.56	246.7	.530	4.90	-
200	8.47	33.70	26.20	185.7	.639	4.28	-
250	7.95	33.90	26.44	164.1	.727	4.22	-
300	7.40	33.95	26.56	153.4	.807	2.88	-



## STATION 70.130K-5 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 0900 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 313 m. Weather: overcast  
 Sea: high Wind: 340°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	19.30	33.17	23.57	433.0	.0000	4.63	-
10	19.30	33.19	23.58	431.9	.0434	4.95	-
20	19.30	33.25	23.63	427.9	.0866	5.06	-
30	19.30	33.34	23.70	421.7	.1292	5.13	-
50	17.07	33.40	24.29	365.7	.2084	5.24	-
75	15.30	33.38	24.68	329.4	.2957	5.68	-
100	13.76	33.31	24.95	303.8	.3754	5.19	-
150	10.48	33.31	25.57	245.3	.514	5.14	-
200	8.56	33.63	26.14	192.2	.624	4.65	-
250	7.91	33.90	26.44	163.5	.713	3.85	-
300	7.15	33.97	26.61	148.4	.792	1.82	-

## STATION 70.130K-6 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 1200 GCT Wire  
 angle: 4° Sounding: 2,415 fms. Depth of observation: 1,041 m. Weather:  
 partly cloudy Sea: very rough Wind: 330°, force 2

0	19.53	33.24	23.56	433.6	.0000	4.98	-
10	19.53	33.25	23.57	433.2	.0435	5.11	-
20	19.54	33.26	23.58	433.0	.0870	5.17	-
30	19.55	33.34	23.63	427.8	.1302	5.06	-
50	18.50	33.46	23.99	394.4	.2128	4.79	-
75	15.80	33.42	24.60	337.0	.3048	5.24	-
100	14.00	33.32	24.91	307.8	.3859	5.18	-
150	10.42	33.42	25.67	236.2	.523	4.40	-
200	8.71	33.76	26.21	184.9	.629	4.05	-
250	7.93	33.86	26.41	166.8	.717	3.15	-
300	7.32	33.94	26.56	153.0	.798	2.75	-
400	6.13	33.98	26.75	135.4	.943	1.95	-
500	5.34	34.02	26.88	123.7	1.074	1.30	-
600	4.81	34.09	27.00	113.2	1.193	.85	-
700	4.44	34.19	27.12	102.3	1.302	.58	-
800	4.17	34.29	27.23	92.6	1.401	.47	-
1000	3.71	34.39	27.35	81.5	1.577	.66	-



## STATION 70.130K-7 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 1500 GCT Wire angle:  
2° Sounding: 2,415 fms. Depth of observation: 259 m. Weather: partly cloudy  
Sea: very rough Wind: 340°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.25	33.16	23.57	432.5	.0000	3.99	-
10	19.25	33.12	23.54	435.8	.0436	4.73	-
20	19.24	33.14	23.56	434.4	.0873	4.67	-
30	19.24	33.25	23.65	426.7	.1305	4.52	-
50	18.70	33.42	23.91	402.0	.2138	4.27	-
75	16.04	33.34	24.48	348.1	.3081	4.73	-
100	14.63	33.42	24.85	313.2	.3913	4.27	-
150	11.36	33.23	25.35	266.3	.537	4.57	-
200	8.75	33.59	26.08	198.0	.654	3.74	-
250	8.04	33.81	26.36	172.1	.747	2.95	-
300	(7.52)	(33.93)	(26.52)	(156.5)	(.830)	-	-

## STATION 70.130K-8 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 1800 GCT Wire angle: 3°  
Sounding: 2,415 fms. Depth of observation: 318 m. Weather: partly cloudy  
Sea: very rough Wind: 320°, force 1

0	19.44	33.19	23.55	435.0	.0000	5.31	-
10	19.36	33.19	23.57	433.4	.0436	5.32	-
20	19.35	33.19	23.57	433.4	.0871	5.29	-
30	19.34	33.18	23.57	434.3	.1307	5.25	-
50	19.25	33.17	23.58	433.4	.2179	5.18	-
75	14.60	33.01	24.55	341.9	.3153	6.31	-
100	13.15	33.12	24.93	305.9	.3968	5.87	-
150	9.88	33.00	25.43	258.4	.539	5.50	-
200	9.08	33.48	25.94	211.2	.657	4.49	-
250	8.40	33.85	26.33	174.4	.754	2.86	-
300	7.72	33.98	26.54	155.7	.837	2.39	-



## STATION 70.130K-9 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 12, 1950 2100 GCT Wire angle: 3°  
 Sounding: 2,415 fms. Depth of observation: 315 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 1

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.45	33.15	23.52	438.1	.0000	5.10	-
10	19.35	33.17	23.56	434.6	.0438	5.15	-
20	19.34	33.14	23.54	436.8	.0876	5.35	-
30	19.34	33.07	23.48	442.2	.1317	5.55	-
50	16.55	32.99	24.10	384.0	.2147	5.84	-
75	14.13	33.06	24.68	328.8	.3043	5.83	-
100	11.78	32.95	25.06	293.2	.3826	5.81	-
150	9.58	33.30	25.72	231.4	.515	5.07	-
200	8.59	33.73	26.21	185.3	.620	3.29	-
250	7.94	33.95	26.48	160.3	.707	3.19	-
300	7.40	34.00	26.60	149.7	.785	2.52	-

## STATION 70.130K-10 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 0000 GCT Wire angle: 1°  
 Sounding: 2,415 fms. Depth of observation: 1,033 m. Weather: partly cloudy  
 Sea: very rough Wind: 320°, force 1

0	19.85	33.15	23.41	448.0	.0000	5.26	-
10	19.35	33.15	23.54	436.0	.0444	5.11	-
20	19.34	33.12	23.52	438.3	.0883	5.13	-
30	19.33	33.06	23.48	442.7	.1325	5.29	-
50	16.89	32.97	24.00	393.0	.2165	5.72	-
75	14.39	33.03	24.61	336.2	.3081	5.79	-
100	11.94	32.95	25.03	296.0	.3877	5.73	-
150	9.69	33.12	25.56	246.5	.524	5.19	-
200	8.85	33.60	26.07	198.8	.636	4.25	-
250	8.19	33.87	26.38	169.8	.729	2.77	-
300	7.50	33.97	26.56	153.3	.811	2.37	-
400	6.18	33.99	26.75	135.3	.956	1.77	-
500	5.42	34.03	26.88	124.0	1.087	1.06	-
600	4.95	34.17	27.05	108.9	1.204	.51	-
700	4.60	34.23	27.13	101.3	1.310	.34	-
800	4.31	34.27	27.20	95.8	1.410	.31	-
1000	3.78	34.40	27.35	81.6	1.589	.44	-



## STATION 70.130K-11 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 0300 GCT Wire angle: 4°  
 Sounding: 2,415 fms. Depth of observation: 324 m. Weather: overcast  
 Sea: very rough Wind: 320°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.65	-	-	-	-	4.47	-
10	19.32	-	-	-	-	4.71	-
20	19.31	-	-	-	-	4.90	-
30	19.31	-	-	-	-	5.11	-
50	16.56	-	-	-	-	5.40	-
75	14.30	-	-	-	-	5.35	-
100	12.24	-	-	-	-	5.34	-
150	9.75	-	-	-	-	4.90	-
200	8.81	-	-	-	-	3.64	-
250	8.10	-	-	-	-	2.69	-
300	7.59	-	-	-	-	2.08	-

## STATION 70.130K-12 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 0600 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 318 m. Weather: overcast  
 Sea: rough Wind: 320°, force 1

0	19.49	33.10	23.47	442.7	.0000	5.38	-
10	19.30	33.12	23.53	437.0	.0442	5.22	-
20	19.30	33.12	23.53	437.3	.0881	5.22	-
30	19.30	33.12	23.53	437.6	.1320	5.22	-
50	19.03	33.10	23.58	433.2	.2195	5.23	-
75	14.80	32.97	24.47	348.9	.3178	6.06	-
100	13.05	33.03	24.88	310.6	.4008	4.70	-
150	9.86	33.02	25.45	256.6	.544	6.06	-
200	8.82	33.56	26.04	201.3	.659	3.68	-
250	8.23	33.83	26.34	173.4	.753	2.84	-
300	7.62	33.95	26.53	156.5	.836	2.28	-



## STATION 70.130K-13 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 0900 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 314 m. Weather: overcast  
 Sea: rough Wind: 310°, force 1

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.42	33.06	23.46	443.9	.0000	5.58	-
10	19.40	33.12	23.51	439.4	.0443	5.49	-
20	19.40	33.12	23.51	439.7	.0885	5.55	-
30	19.40	33.12	23.51	440.1	.1326	5.71	-
50	16.91	33.12	24.11	382.5	.2153	6.05	-
75	14.04	33.00	24.66	331.4	.3050	6.28	-
100	12.60	33.01	24.95	303.7	.3849	6.06	-
150	9.64	33.10	25.55	247.2	.524	5.23	-
200	8.61	33.69	26.17	188.5	.633	3.70	-
250	8.10	33.92	26.43	164.8	.722	2.76	-
300	7.51	33.96	26.55	154.2	.803	2.53	-

## STATION 70.130K-14 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 1200 GCT Wire angle: 2°  
 Sounding: 2,415 fms. Depth of observation: 1,039 m. Weather: overcast  
 Sea: rough Wind: 310°, force 1

0	19.39	33.12	23.51	438.8	.0000	5.05	-
10	19.34	33.10	23.51	439.4	.0441	5.17	-
20	19.33	33.08	23.49	440.9	.0883	5.27	-
30	19.33	33.06	23.48	442.7	.1326	5.36	-
50	18.08	33.03	23.77	415.7	.2189	5.57	-
75	14.09	33.03	24.67	330.2	.3127	6.16	-
100	12.60	32.96	24.91	307.3	.3929	5.98	-
150	9.77	33.00	25.45	256.6	.535	5.35	-
200	8.69	33.66	26.14	192.0	.648	4.58	-
250	8.14	33.89	26.40	167.6	.738	2.85	-
300	7.35	33.93	26.55	154.1	.819	3.04	-
400	6.16	34.00	26.76	134.3	.965	1.79	-
500	5.40	34.08	26.92	120.0	1.093	1.05	-
600	4.85	34.16	27.05	108.4	1.208	.52	-
700	4.46	34.28	27.19	95.9	1.311	.37	-
800	4.19	34.37	27.29	87.0	1.404	.38	-
1000	3.76	34.43	27.38	79.2	1.572	.58	-



## STATION 70.130K-15 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 1500 GCT Wire angle: 3°  
 Sounding: 2,415 fms. Depth of observation: 317 m. Weather: cloudy  
 Sea: rough Wind: 310°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	19.30	33.12	23.53	436.7	.0000	4.67	-
10	19.30	33.11	23.52	437.7	.0439	5.25	-
20	19.30	33.08	23.50	440.2	.0880	5.70	-
30	19.30	33.03	23.46	444.2	.1324	6.20	-
50	15.96	32.97	24.22	372.6	.2144	6.78	-
75	13.55	33.12	24.85	313.0	.3006	6.10	-
100	11.70	32.94	25.07	292.5	.3768	5.80	-
150	9.69	33.06	25.51	250.9	.514	5.49	-
200	8.72	33.64	26.12	193.9	.626	3.77	-
250	8.07	33.94	26.45	162.9	.715	3.62	-
300	7.34	33.95	26.57	152.5	.794	3.04	-

## STATION 70.130K-16 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 1800 GCT Wire angle: 4°  
 Sounding: 2,415 fms. Depth of observation: 318 m. Weather: intermittent  
 light drizzle Sea: rough Wind: 310°, force 1

0	19.34	33.15	23.54	435.4	.0000	4.45	-
10	19.32	33.12	23.53	437.5	.0438	4.32	-
20	19.32	33.12	23.53	437.8	.0878	4.38	-
30	19.32	33.13	23.53	437.4	.1317	4.50	-
50	19.24	33.17	23.58	433.2	.2192	4.75	-
75	15.07	32.97	24.41	354.5	.3182	4.95	-
100	14.12	33.26	24.84	314.6	.4024	3.76	-
150	10.08	33.13	25.50	252.0	.545	3.68	-
200	8.56	33.54	26.07	198.9	.659	3.99	-
250	7.95	33.86	26.41	167.1	.751	3.45	-
300	7.42	33.94	26.55	154.4	.832	3.16	-



## STATION 70.13OK-17 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 13, 1950 2100 GCT Wire angle: 10°  
 Sounding: 2,415 fms. Depth of observation: 318 m. Weather: intermittent  
 light drizzle Sea: rough Wind: 310°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.46	33.15	23.51	438.4	.0000	5.38	-
10	19.35	33.10	23.50	439.7	.0441	5.53	-
20	19.35	33.08	23.49	441.4	.0883	5.67	-
30	19.35	33.07	23.48	442.5	.1327	5.82	-
50	16.23	33.00	24.18	376.3	.2150	6.11	-
75	13.63	32.92	24.68	329.2	.3036	6.29	-
100	12.11	32.94	24.99	299.8	.3828	6.10	-
150	10.19	33.24	25.57	245.7	.520	5.48	-
200	9.02	33.54	25.99	205.9	.634	4.45	-
250	7.99	33.82	26.37	170.6	.729	3.79	-
300	7.31	33.93	26.55	153.6	.810	3.23	-

## STATION 70.13OK-18 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 0000 GCT Wire angle: 7°  
 Sounding: 2,415 fms. Depth of observation: 1,010 m. Weather: overcast  
 Sea: rough Wind: 320°, force 2

0	19.46	33.16	23.52	437.6	.0000	5.21	-
10	19.45	33.15	23.52	438.5	.0440	5.35	-
20	19.45	33.20	23.55	435.2	.0878	5.49	-
30	19.45	33.26	23.60	431.1	.1313	5.62	-
50	17.55	33.37	24.15	378.8	.2127	5.83	-
75	15.54	33.33	24.59	338.1	.3028	5.90	-
100	14.30	33.36	24.88	310.9	.3845	5.80	-
150	10.90	33.31	25.50	252.4	.526	5.65	-
200	8.52	33.66	26.17	189.4	.638	4.57	-
250	7.93	33.88	26.43	165.3	.727	4.65	-
300	7.18	33.92	26.57	152.5	.807	4.52	-
400	6.04	34.07	26.83	127.6	.948	1.90	-
500	5.30	34.06	26.92	120.3	1.073	1.07	-
600	4.80	34.15	27.05	108.6	1.188	.66	-
700	4.50	34.24	27.15	99.3	1.293	.41	-
800	4.28	34.31	27.23	92.5	1.390	.40	-
1000	3.74	34.42	27.37	79.7	1.564	.57	-



## STATION 70.130K-19 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 0300 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 176 m. Weather: overcast  
 Sea: moderate Wind: 310°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.41	33.16	23.53	436.4	.0000	5.18	-
10	19.41	33.17	23.54	436.0	.0438	5.30	-
20	19.42	33.14	23.52	438.8	.0877	5.52	-
30	19.42	33.06	23.46	444.9	.1321	5.77	-
50	16.62	32.95	24.05	388.4	.2158	6.09	-
75	13.90	33.03	24.71	326.5	.3057	6.06	-
100	12.20	32.91	24.95	303.7	.3850	5.98	-
150	9.70	33.07	25.52	250.3	.524	4.79	-

## STATION 70.130K-20 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 0600 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 316 m. Weather: cloudy  
 Sea: moderate Wind: 310°, force 3

0	19.38	33.17	23.55	435.0	.0000	5.35	-
10	19.40	33.17	23.54	435.8	.0437	5.32	-
20	19.41	33.17	23.54	436.4	.0875	5.38	-
30	19.41	33.13	23.51	439.6	.1315	5.49	-
50	17.29	33.01	23.94	399.1	.2157	5.72	-
75	14.45	33.00	24.57	339.6	.3086	6.24	-
100	12.49	32.94	24.92	306.8	.3899	6.13	-
150	9.90	33.05	25.47	255.0	.531	5.45	-
200	8.80	33.56	26.04	201.0	.646	4.10	-
250	8.24	33.87	26.37	170.6	.740	2.82	-
300	7.56	33.96	26.54	.54.9	.822	2.59	-



## STATION 70.130K-21 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 0900 GCT Wire angle: 3°  
 Sounding: 2,415 fms. Depth of observation: 264 m. Weather: cloudy  
 Sea: moderate Wind: 280°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (mL/L)	PO <sub>4</sub> -P (µg at/L)
0	19.30	33.15	23.55	434.5	.0000	5.12	-
10	19.33	33.16	23.55	434.8	.0436	5.35	-
20	19.33	33.15	23.55	435.9	.0873	5.51	-
30	19.33	33.11	23.52	439.1	.1313	5.61	-
50	16.85	33.01	24.04	389.2	.2145	5.73	-
75	13.00	32.96	24.83	314.2	.3029	5.82	-
100	10.10	32.98	25.38	262.4	.3755	5.96	-
150	9.23	33.23	25.72	231.1	.500	4.65	-
200	8.66	33.64	26.13	193.0	.606	3.69	-
250	8.18	33.86	26.37	170.4	.698	3.26	-
300	(7.61)	(33.92)	(26.50)	(158.6)	(.781)	-	-

## STATION 70.130K-22 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 1200 GCT Wire angle: 15°  
 Sounding: 2,415 fms. Depth of observation: 1,021 m. Weather: overcast  
 Sea: moderate Wind: 280°, force 2

0	19.34	33.17	23.56	434.0	.0000	3.81	-
10	19.34	33.15	23.54	435.8	.0437	4.91	-
20	19.33	33.10	23.51	439.5	.0876	4.90	-
30	19.33	33.02	23.45	445.6	.1320	4.85	-
50	15.55	32.98	24.32	363.1	.2133	4.74	-
75	13.90	33.06	24.73	324.3	.2997	4.57	-
100	11.94	32.93	25.02	297.5	.3779	5.27	-
150	9.60	33.17	25.61	241.3	.514	4.07	-
200	8.78	33.60	26.08	197.8	.624	2.92	-
250	8.10	33.93	26.44	164.1	.715	2.97	-
300	7.58	33.98	26.56	153.7	.795	1.93	-
400	6.13	34.05	26.81	130.2	.938	1.60	-
500	5.30	34.10	26.95	117.3	1.063	.95	-
600	4.83	34.17	27.06	107.5	1.177	.55	-
700	4.52	34.26	27.16	98.1	1.280	.35	-
800	4.22	34.33	27.25	90.3	1.375	.33	-
1000	3.73	34.42	27.37	79.6	1.547	.56	-



## STATION 70.130K-23 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 1500 GCT Wire angle: 9°  
 Sounding: 2,415 fms. Depth of observation: 314 m. Weather: partly cloudy  
 Sea: moderate Wind: 310°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.35	33.13	23.53	437.1	.0000	5.24	-
10	19.35	33.19	23.57	433.1	.0437	5.40	-
20	19.35	33.18	23.56	434.2	.0872	5.59	-
30	19.36	33.12	23.52	439.1	.1311	5.76	-
50	16.25	33.03	24.20	374.5	.2128	6.05	-
75	13.69	33.01	24.75	323.8	.3006	6.20	-
100	12.07	33.04	25.08	291.7	.3780	5.95	-
150	9.98	33.01	25.42	259.2	.517	5.35	-
200	8.84	33.58	26.05	200.2	.632	2.71	-
250	8.09	33.94	26.45	163.2	.724	2.66	-
300	7.52	33.98	26.56	152.8	.803	2.32	-

## STATION 70.130K-24 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 1800 GCT Wire angle: 4°  
 Sounding: 2,415 fms. Depth of observation: 316 m. Weather: cloudy  
 Sea: moderate Wind: 310°, force 1

0	19.38	33.22	23.59	431.3	.0000	5.00	-
10	19.37	33.15	23.54	436.5	.0436	5.26	-
20	19.36	33.16	23.55	435.9	.0874	5.26	-
30	19.35	33.19	23.57	433.8	.1310	5.26	-
50	19.34	33.22	23.60	432.0	.2180	5.26	-
75	14.40	32.99	24.57	339.3	.3150	5.10	-
100	12.71	33.01	24.93	305.7	.3961	5.90	-
150	10.02	33.07	25.46	255.5	.537	5.47	-
200	8.80	33.65	26.11	194.4	.651	3.91	-
250	8.15	33.91	26.42	166.3	.741	2.87	-
300	7.58	34.02	26.59	150.7	.821	2.47	-



## STATION 70.130K-25 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 14, 1950 2100 GCT Wire angle: 4°  
 Sounding: 2,415 fms. Depth of observation: 317 m. Weather: cloudy  
 Sea: moderate Wind: 320°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ ( $\mu\text{g at/L}$ )	$10^5\delta$ ( $\mu\text{g at/L}$ )	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.55	33.17	23.50	439.1	.0000	5.41	-
10	19.37	33.15	23.54	436.5	.0440	5.36	-
20	19.37	33.15	23.54	436.8	.0878	5.35	-
30	19.37	33.16	23.54	436.4	.1316	5.36	-
50	19.24	33.17	23.58	433.2	.2190	5.39	-
75	14.28	32.97	24.58	338.4	.3160	6.20	-
100	12.78	33.01	24.92	307.0	.3972	5.82	-
150	9.70	33.12	25.56	246.6	.537	5.24	-
200	8.81	33.65	26.11	194.5	.648	3.86	-
250	8.09	33.97	26.47	161.0	.737	2.82	-
300	7.48	34.00	26.59	150.8	.816	2.40	-

## STATION 70.130K-26 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 0000 GCT Wire angle: 5°  
 Sounding: 2,415 fms. Depth of observation: 1,036 m. Weather: intermittent  
 slight drizzle Sea: moderate Wind: 230°, force 3

0	19.65	33.19	23.49	440.1	.0000	5.09	-
10	19.40	33.19	23.56	434.3	.0439	5.14	-
20	19.40	33.20	23.57	433.9	.0875	5.15	-
30	19.40	33.22	23.58	432.8	.1310	5.12	-
50	19.38	33.24	23.60	431.5	.2179	5.07	-
75	14.54	33.01	24.56	340.7	.3149	5.94	-
100	12.60	33.01	24.95	303.7	.3960	6.16	-
150	9.78	33.12	25.54	247.9	.535	5.33	-
200	8.88	33.66	26.11	194.8	.646	4.19	-
250	8.25	33.94	26.43	165.5	.737	2.79	-
300	7.50	33.98	26.57	152.6	.817	2.44	-
400	6.40	34.08	26.80	131.6	.960	1.37	-
500	5.50	34.15	26.96	116.1	1.085	.78	-
600	4.90	34.22	27.09	104.6	1.197	.59	-
700	4.51	34.30	27.20	95.0	1.297	.36	-
800	4.23	34.36	27.28	88.2	1.390	.32	-
1000	3.71	34.42	27.38	79.3	1.559	.61	-



## STATION 70.130K-27 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 0300 GCT Wire angle: 0°  
 Sounding: 2,415 fms. Depth of observation: 320 m. Weather: overcast  
 Sea: slight Wind: 230°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.59	33.17	23.50	440.1	.0000	5.24	-
10	19.40	33.22	23.58	432.2	.0438	5.25	-
20	19.40	33.19	23.56	434.7	.0873	5.34	-
30	19.40	33.12	23.51	440.1	.1312	5.52	-
50	16.83	33.03	24.06	387.3	.2144	6.05	-
75	13.77	33.01	24.72	325.4	.3039	6.31	-
100	11.30	33.04	25.22	278.1	.3799	5.94	-
150	9.76	33.18	25.59	243.1	.511	5.38	-
200	8.84	33.65	26.11	195.0	.621	4.22	-
250	8.15	33.93	26.43	164.8	.712	2.90	-
300	7.45	34.02	26.61	148.9	.791	2.25	-

## STATION 70.130K-28 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 0600 GCT Wire angle:  
 6° Sounding: 2,415 fms. Depth of observation: 318 m. Weather: partly  
 cloudy Sea: slight Wind: 200°, force 1

0	19.50	33.21	23.55	435.0	.0000	4.28	-
10	19.38	33.21	23.58	432.4	.0435	4.38	-
20	19.38	33.18	23.56	434.9	.0871	4.38	-
30	19.39	33.08	23.48	442.7	.1311	4.32	-
50	17.14	32.99	23.96	397.1	.2155	4.22	-
75	13.90	32.99	24.68	329.4	.3069	4.11	-
100	12.20	32.97	25.00	299.2	.3859	4.98	-
150	10.00	33.06	25.46	255.9	.526	4.69	-
200	9.00	33.55	26.00	204.8	.642	3.80	-
250	8.29	33.88	26.37	170.6	.736	3.24	-
300	7.59	33.99	26.56	153.1	.818	2.22	-



## STATION 70.130K-29 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 0900 GCT Wire angle: 0°  
 Sounding: 2,415 fms. Depth of observation: 317 m. Weather: partly cloudy  
 Sea: moderate Wind: 170°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.45	33.24	23.58	431.6	.0000	5.38	-
10	19.45	33.22	23.57	433.4	.0434	4.55	-
20	19.45	33.18	23.54	436.6	.0871	4.69	-
30	19.45	33.13	23.50	440.6	.1311	5.02	-
50	18.09	33.07	23.79	413.1	.2169	5.64	-
75	14.19	33.03	24.65	332.2	.3106	6.30	-
100	12.13	32.92	24.97	301.7	.3903	6.00	-
150	9.88	33.04	25.46	255.4	.531	5.36	-
200	8.80	33.63	26.10	195.8	.644	4.39	-
250	8.15	33.91	26.42	166.3	.735	3.42	-
300	7.50	33.98	26.57	152.6	.816	2.50	-

## STATION 70.130K-30 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 1200 GCT Wire angle:  
 5° Sounding: 2,415 fms. Depth of observation: 753 m. Weather: cloudy  
 Sea: rough Wind: 190°, force 2

0	19.44	33.15	23.52	437.9	.0000	5.25	-
10	19.44	33.18	23.54	436.0	.0439	5.38	-
20	19.45	33.18	23.54	436.6	.0877	5.41	-
30	19.45	33.18	23.54	436.9	.1315	5.42	-
50	19.29	33.16	23.56	435.1	.2192	5.44	-
75	14.70	33.01	24.52	344.0	.3171	6.13	-
100	13.20	32.98	24.81	317.2	.4003	6.18	-
150	9.69	33.10	25.54	247.9	.543	5.26	-
200	8.65	33.70	26.18	188.4	.652	3.65	-
250	8.01	33.90	26.43	165.0	.741	2.78	-
300	7.48	33.95	26.55	154.5	.822	2.33	-
400	6.40	34.04	26.76	134.5	.968	1.50	-
500	5.72	34.14	26.93	119.6	1.096	.71	-
600	5.23	34.20	27.04	110.1	1.212	.46	-
700	4.69	34.24	27.13	101.6	1.318	.36	-
800	(4.23)	(34.26)	27.20	95.6	1.418	-	-
1000	(3.70)	(34.28)	27.27	89.5	1.605	-	-



## STATION 70.130K-31 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 1500 GCT Wire angle: 7°  
 Sounding: 2,415 fms. Depth of observation: 317 m. Weather: overcast  
 Sea: rough Wind: 290°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.41	33.15	23.53	437.2	.0000	4.97	-
10	19.41	33.19	23.56	434.6	.0438	4.96	-
20	19.42	33.19	23.55	435.2	.0874	4.96	-
30	19.42	33.19	23.55	435.5	.1311	4.96	-
50	19.29	33.17	23.57	434.4	.2185	4.97	-
75	14.20	32.97	24.60	336.8	.3155	5.55	-
100	12.44	32.92	24.91	307.3	.3965	6.31	-
150	9.88	33.11	25.52	250.2	.537	4.87	-
200	8.94	33.62	26.07	198.7	.650	4.31	-
250	8.13	33.86	26.38	169.7	.743	2.34	-
300	7.49	33.94	26.54	155.4	.825	2.24	-

## STATION 70.130K-32 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 1800 GCT Wire angle:  
 8° Sounding: 2,415 fms. Depth of observation: 317 m. Weather: partly  
 cloudy Sea: rough Wind: 270°, force 3

0	19.66	33.28	23.56	433.8	.0000	5.12	-
10	19.65	33.24	23.53	436.8	.0437	5.39	-
20	19.65	33.18	23.49	441.5	.0878	5.67	-
30	19.65	33.09	23.42	443.4	.1325	5.97	-
50	16.28	32.99	24.16	378.1	.2155	6.33	-
75	14.03	32.99	24.65	331.9	.3048	6.16	-
100	12.42	33.03	25.00	298.9	.3841	5.95	-
150	9.67	33.11	25.55	246.9	.521	5.49	-
200	8.85	33.62	26.08	197.4	.633	3.95	-
250	8.14	33.93	26.43	164.7	.725	2.79	-
300	7.50	34.00	26.58	151.1	.804	2.75	-



## STATION 70.130K-33 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 15, 1950 2100 GCT Wire angle: 7°  
 Sounding: 2,415 fms. Depth of observation: 318 m. Weather: cloudy  
 Sea: rough Wind: 280°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.68	33.22	23.51	438.7	.0000	5.35	-
10	19.64	33.26	23.55	435.1	.0439	5.37	-
20	19.64	33.25	23.54	436.2	.0876	5.42	-
30	19.64	33.22	23.52	438.7	.1315	5.52	-
50	18.09	33.11	23.83	410.2	.2168	5.83	-
75	14.00	32.99	24.66	331.4	.3100	6.26	-
100	12.42	32.99	24.97	301.8	.3897	5.99	-
150	9.74	33.06	25.50	251.7	.529	5.00	-
200	8.75	33.66	26.13	192.9	.641	4.43	-
250	8.19	33.90	26.40	167.6	.732	3.46	-
300	7.56	33.96	26.54	154.9	.813	2.77	-

## STATION 70.130K-34 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 0000 GCT Wire angle:  
 16° Sounding: 2,415 fms. Depth of observation: 1,010 m. Weather: cloudy  
 Sea: very rough Wind: 300°, force 4

0	20.03	33.36	23.53	437.2	.0000	4.86	-
10	19.97	33.35	23.53	436.8	.0439	4.24	-
20	19.97	33.33	23.52	438.5	.0878	4.27	-
30	19.96	33.30	23.50	440.8	.1320	4.36	-
50	17.72	33.19	23.98	395.8	.2160	4.56	-
75	14.30	33.01	24.61	335.9	.3080	4.81	-
100	12.21	32.98	25.00	298.7	.3878	5.08	-
150	9.73	33.10	25.54	248.6	.526	5.19	-
200	8.80	33.56	26.04	201.0	.639	4.00	-
250	8.37	33.90	26.38	170.3	.732	3.70	-
300	7.49	33.93	26.53	156.1	.814	2.22	-
400	6.17	34.01	26.77	133.7	.961	1.67	-
500	5.35	34.06	26.91	120.9	1.089	.88	-
600	4.89	34.18	27.06	107.4	1.204	.52	-
700	4.52	34.24	27.15	99.6	1.309	.47	-
800	4.22	34.27	27.20	94.7	1.407	.55	-
1000	3.78	34.29	27.27	89.7	1.593	.80	-



## STATION 70.130K-35 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 0300 GCT Wire angle: 7°  
 Sounding: 2,415 fms. Depth of observation: 319 m. Weather: cloudy  
 Sea: rough Wind: 290°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	20.13	33.41	23.54	436.5	.0000	5.12	-
10	20.13	33.39	23.52	438.1	.0439	5.12	-
20	20.00	33.38	23.55	436.0	.0878	5.26	-
30	19.86	33.37	23.58	433.6	.1314	5.57	-
50	19.04	33.33	23.76	417.0	.2169	6.02	-
75	14.72	33.04	24.54	342.5	.3124	5.87	-
100	12.56	32.96	24.92	306.8	.3941	5.77	-
150	9.82	33.07	25.50	252.5	.535	5.05	-
200	8.90	33.68	26.12	193.9	.647	4.22	-
250	8.11	33.92	26.43	165.2	.738	2.75	-
300	7.37	33.95	26.56	152.9	.818	2.43	-

## STATION 70.130K-36 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 0600 GCT Wire angle: 9°  
 Sounding: 2,415 fms. Depth of observation: 315 m. Weather: overcast  
 Sea: rough Wind: 280°, force 3

0	19.74	33.28	23.54	435.8	.0000	5.24	-
10	19.74	33.24	23.51	439.0	.0439	5.30	-
20	19.65	33.12	23.44	445.9	.0883	5.38	-
30	19.47	33.05	23.43	446.9	.1332	5.48	-
50	16.10	32.99	24.20	374.2	.2157	5.70	-
75	14.08	32.99	24.64	332.9	.3046	6.24	-
100	12.87	33.07	24.95	304.3	.3847	5.95	-
150	9.93	33.02	25.44	257.7	.526	5.42	-
200	8.80	33.55	26.04	201.8	.642	4.20	-
250	8.16	33.86	26.38	170.1	.736	3.92	-
300	7.65	33.96	26.53	156.2	.818	2.96	-



## STATION 70.130K-37 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 0900 GCT Wire angle:  
13° Sounding: 2,415 fms. Depth of observation: 314 m. Weather: overcast  
Sea: very rough Wind: 220°, force 5

Depth (m)	T (°C)	S <sub>v</sub> (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.64	33.28	23.57	433.4	.0000	5.22	-
10	19.64	33.28	23.57	433.7	.0435	5.32	-
20	19.63	33.28	23.57	433.8	.0871	5.32	-
30	19.63	33.27	23.56	434.8	.1307	5.29	-
50	18.30	33.20	23.84	408.5	.2154	5.25	-
75	14.08	32.97	24.62	334.4	.3088	5.83	-
100	12.27	33.01	25.01	297.6	.3883	5.55	-
150	9.68	33.19	25.61	241.1	.524	4.80	-
200	8.69	33.66	26.14	192.0	.633	3.27	-
250	8.03	33.95	26.47	161.6	.722	2.77	-
300	7.42	33.98	26.58	151.4	.801	2.35	-

## STATION 70.130K-38 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 1200 GCT Wire angle:  
17° Sounding: 2,415 fms. Depth of observation: 999 m. Weather: cloudy  
Sea: very rough Wind: 270°, force 5

0	19.46	33.21	23.56	434.0	.0000	5.36	-
10	19.45	33.21	23.56	434.1	.0436	5.48	-
20	19.45	33.21	23.56	434.4	.0872	5.56	-
30	19.46	33.21	23.56	435.0	.1308	5.62	-
50	17.80	33.14	23.92	401.2	.2149	5.74	-
75	14.10	33.00	24.64	332.6	.3071	5.90	-
100	11.91	32.97	25.05	294.0	.3859	6.09	-
150	9.51	33.27	25.70	232.5	.518	5.20	-
200	8.77	33.69	26.15	190.9	.625	4.59	-
250	8.08	33.90	26.42	166.0	.715	2.84	-
300	7.43	34.02	26.61	148.6	.794	2.38	-
400	6.41	34.06	26.78	133.2	.936	1.38	-
500	5.72	34.15	26.94	118.8	1.063	.81	-
600	5.24	34.23	27.06	108.0	1.178	.47	-
700	4.60	34.29	27.18	96.8	1.281	.40	-
800	4.16	34.35	27.27	88.1	1.375	.44	-
1000	3.69	34.43	27.39	78.3	1.543	.64	-



## STATION 70.130K-39 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 1500 GCT Wire angle: 19°  
 Sounding: 2,415 fms. Depth of observation: 305 m. Weather: cloudy  
 Sea: very rough Wind: 270°, force 5

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.45	33.24	23.58	431.6	.0000	5.38	-
10	19.45	33.22	23.57	433.4	.0434	5.36	-
20	19.45	33.22	23.57	433.7	.0869	5.37	-
30	19.45	33.22	23.57	434.0	.1305	5.38	-
50	18.50	33.21	23.80	412.5	.2156	5.43	-
75	14.90	33.02	24.49	347.3	.3111	6.30	-
100	12.60	32.94	24.90	308.8	.3936	6.13	-
150	9.67	33.08	25.53	249.1	.534	5.32	-
200	8.79	33.68	26.14	192.0	.645	4.52	-
250	8.12	33.92	26.43	165.1	.735	3.20	-
300	7.46	33.99	26.58	151.2	.815	2.39	-

## STATION 70.130K-40 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 1800 GCT Wire angle:  
 15° Sounding: 2,415 fms. Depth of observation: 305 m. Weather: cloudy  
 Sea: very rough Wind: 270°, force 5

0	19.81	33.30	23.54	436.1	.0000	5.40	-
10	19.81	33.33	23.56	434.2	.0437	5.42	-
20	19.81	33.32	23.55	435.3	.0873	5.44	-
30	19.81	33.28	23.52	438.5	.1312	5.48	-
50	18.35	33.19	23.82	410.4	.2165	5.60	-
75	15.05	33.06	24.49	347.5	.3118	6.30	-
100	12.73	32.94	24.87	311.2	.3947	6.00	-
150	10.07	33.05	25.44	257.7	.538	5.55	-
200	9.01	33.53	25.99	206.5	.655	4.60	-
250	8.30	33.88	26.37	170.7	.750	2.98	-
300	7.60	33.99	26.56	153.2	.831	2.63	-



## STATION 70.130K-41 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 2100 GCT Wire angle:  
20° Sounding: 2,415 fms. Depth of observation: 233 m. Weather: cloudy  
Sea: high Wind: 270°, force 5

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	19.55	33.24	23.56	434.0	.0000	4.16	-
10	19.53	33.26	23.58	432.4	.0435	4.44	-
20	19.52	33.26	23.58	432.5	.0869	4.34	-
30	19.52	33.25	23.57	433.6	.1304	4.14	-
50	17.15	33.18	24.10	383.5	.2125	3.92	-
75	14.40	33.01	24.59	337.9	.3032	5.36	-
100	12.10	32.97	25.02	297.4	.3831	4.70	-
150	10.00	33.12	25.51	251.4	.521	4.48	-
200	8.85	33.59	26.06	199.6	.635	4.24	-

## STATION 70.130K-42 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 16, 1950 2400 GCT Wire angle:  
25° Sounding: 2,415 fms. Depth of observation: 630 m. Weather: partly  
cloudy Sea: high Wind: 280°, force 6

0	19.48	33.21	23.55	434.5	.0000	5.22	-
10	19.49	33.22	23.56	434.4	.0436	5.10	-
20	19.49	33.22	23.56	434.7	.0872	5.11	-
30	19.49	33.22	23.56	435.0	.1309	5.14	-
50	19.44	33.21	23.56	435.2	.2184	5.22	-
75	14.56	33.03	24.57	339.7	.3157	5.93	-
100	12.40	32.99	24.97	301.4	.3964	5.58	-
150	9.44	33.31	25.75	228.5	.530	4.87	-
200	8.71	33.71	26.18	188.6	.635	3.52	-
250	8.11	33.90	26.42	166.4	.724	2.82	-
300	7.49	34.00	26.58	150.9	.804	2.30	-
400	6.42	34.05	26.77	134.0	.948	1.63	-
500	5.65	34.12	26.92	120.2	1.076	.90	-
500	5.19	34.25	27.08	105.9	1.190	.42	-



## STATION 70.130K-43 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 0300 GCT Wire angle: 12°  
 Sounding: 2,415 fms. Depth of observation: 177 m. Weather: partly cloudy  
 Sea: very rough Wind: 280°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.46	33.22	23.57	433.3	.0000	4.18	-
10	19.48	33.22	23.56	434.1	.0435	5.99	-
20	19.49	33.22	23.56	434.7	.0872	5.98	-
30	19.49	33.22	23.56	435.0	.1308	5.92	-
50	19.50	33.23	23.56	435.2	.2183	5.60	-
75	13.73	33.06	24.77	320.9	.3133	5.03	-
100	13.04	33.08	24.92	306.8	.3923	5.30	-

## STATION 70.130K-44 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 0600 GCT Wire angle:  
 5° Sounding: 2,415 fms. Depth of observation: 231 m. Weather: partly  
 cloudy Sea: very rough Wind: 290°, force 4

0	19.67	33.24	23.53	437.0	.0000	5.23	-
10	19.68	33.22	23.51	439.0	.0440	5.21	-
20	19.69	33.22	23.51	439.6	.0881	5.23	-
30	19.69	33.22	23.51	439.9	.1322	5.29	-
50	19.65	33.21	23.51	440.3	.2207	5.44	-
75	15.60	32.94	24.28	367.8	.3223	6.23	-
100	12.73	33.01	24.93	306.1	.4071	5.95	-
150	9.50	32.96	25.46	255.3	.548	5.16	-
200	8.81	33.64	26.10	195.3	.662	4.39	-



## STATION 70.130K-45 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 0900 GCT Wire angle: 3°  
 Sounding: 2,415 fms. Depth of observation: 319 m. Weather: clear  
 Sea: very rough Wind: 280°, force 3

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.56	33.24	23.56	434.3	.0000	5.42	-
10	19.56	33.24	23.56	434.6	.0436	5.43	-
20	19.56	33.24	23.56	434.9	.0873	5.42	-
30	19.55	33.23	23.55	435.8	.1310	5.41	-
50	19.55	33.21	23.54	437.9	.2188	5.39	-
75	14.59	32.99	24.53	343.2	.3170	6.30	-
100	12.34	32.95	24.96	303.3	.3983	6.05	-
150	9.97	33.10	25.50	252.4	.538	5.43	-
200	8.99	33.62	26.06	199.5	.652	4.35	-
250	8.30	33.91	26.39	163.5	.745	3.93	-
300	7.48	33.95	26.55	154.5	.826	3.46	-

## STATION 70.130K-46 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 1200 GCT Wire angle:  
 0° Sounding: 2,415 fms. Depth of observation: 1,050 m. Weather: clear  
 Sea: very rough Wind: 280°, force 3

0	19.50	33.21	23.55	435.0	.0000	5.55	-
10	19.50	33.17	23.52	438.2	.0438	5.48	-
20	19.50	33.14	23.50	440.7	.0880	5.53	-
30	19.51	33.11	23.47	443.5	.1323	5.67	-
50	18.85	33.04	23.58	433.2	.2205	5.95	-
75	13.63	32.94	24.69	327.8	.3161	6.35	-
100	11.78	32.86	24.99	299.8	.3951	6.05	-
150	9.91	33.13	25.53	249.2	.533	5.44	-
200	8.96	33.63	26.07	198.3	.646	4.25	-
250	8.27	33.91	26.40	168.1	.738	3.84	-
300	7.24	33.91	26.55	154.1	.819	3.22	-
400	6.06	33.91	26.71	139.7	.967	1.99	-
500	5.33	33.98	26.85	126.6	1.102	1.00	-
600	4.79	34.12	27.02	110.7	1.221	.55	-
700	4.51	34.22	27.13	100.9	1.328	.38	-
800	4.25	34.29	27.22	93.6	1.426	.38	-
1000	3.76	34.33	27.30	86.6	1.609	.56	-



## STATION 70.130K-47 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 1500 GCT Wire angle: 0°  
 Sounding: 2,415 fms. Depth of observation: 316 m. Weather: partly cloudy  
 Sea: rough Wind: 280°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.44	33.17	23.53	436.4	.0000	4.96	-
10	19.44	33.17	23.53	436.8	.0438	4.08	-
20	19.43	33.14	23.51	439.0	.0878	4.16	-
30	19.43	33.07	23.46	444.4	.1321	4.63	-
50	17.85	32.99	23.79	413.3	.2184	5.19	-
75	14.56	32.99	24.54	342.6	.3134	5.19	-
100	12.92	32.97	24.86	312.6	.3958	5.55	-
150	9.78	33.02	25.47	255.3	.539	5.13	-
200	8.69	33.57	26.07	198.6	.653	2.86	-
250	8.47	33.85	26.32	175.5	.747	2.86	-
300	7.36	33.90	26.52	156.5	.831	2.62	-

## STATION 70.130K-48 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 1800 GCT Wire angle: 9°  
 Sounding: 2,415 fms. Depth of observation: 318 m. Weather: partly cloudy  
 Sea: rough Wind: 280°, force 2

0	19.40	33.12	23.51	439.1	.0000	5.34	-
10	19.39	33.17	23.55	435.5	.0439	5.45	-
20	19.39	33.19	23.56	434.4	.0876	5.46	-
30	19.39	33.19	23.56	434.7	.1312	5.43	-
50	19.06	33.18	23.64	428.1	.2179	5.36	-
75	14.47	32.97	24.54	342.2	.3148	6.30	-
100	12.20	32.97	25.00	299.2	.3955	6.11	-
150	10.13	33.08	25.45	256.5	.535	5.63	-
200	9.22	33.40	25.85	219.3	.655	4.60	-
250	8.49	33.86	26.33	175.0	.754	3.57	-
300	7.79	33.96	26.51	158.2	.838	3.70	-



## STATION 70.130K-49 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 17, 1950 2100 GCT Wire angle:  
14° Sounding: 2,415 fms. Depth of observation: 316 m. Weather: partly  
cloudy Sea: moderate Wind: 280°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	19.64	33.17	23.48	441.3	.0000	4.92	-
10	19.42	33.17	23.54	436.3	.0441	5.04	-
20	19.41	33.17	23.54	436.4	.0879	5.03	-
30	19.41	33.18	23.55	436.0	.1317	5.03	-
50	18.50	33.21	23.80	412.5	.2169	5.02	-
75	14.33	32.97	24.57	339.4	.3114	5.55	-
100	12.63	33.03	24.96	302.7	.3922	5.42	-
150	9.67	33.10	25.55	247.6	.531	5.02	-
200	8.62	33.67	26.16	190.2	.641	3.36	-
250	8.15	33.92	26.42	165.6	.731	2.69	-
300	7.39	33.95	26.56	153.2	.811	2.97	-

## STATION 70.130K-50 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 0000 GCT Wire angle:  
8° Sounding: 2,415 fms. Depth of observation: 904 m. Weather: partly  
cloudy Sea: rough Wind: 280°, force 3

0	19.73	33.19	23.47	442.1	.0000	5.36	-
10	19.43	33.19	23.55	435.1	.0440	5.30	-
20	19.42	33.19	23.55	435.2	.0877	5.33	-
30	19.42	33.19	23.55	435.5	.1314	5.40	-
50	18.71	33.19	23.73	419.0	.2173	5.66	-
75	14.13	33.17	24.77	320.8	.3103	6.22	-
100	12.55	33.01	24.96	302.7	.3887	5.96	-
150	9.70	33.11	25.55	247.4	.527	5.37	-
200	8.64	33.69	26.17	189.0	.637	3.66	-
250	8.11	33.88	26.40	167.9	.727	2.84	-
300	7.57	33.94	26.53	156.5	.809	2.35	-
400	6.29	34.04	26.78	133.1	.955	1.47	-
500	5.47	34.11	26.94	118.6	1.082	.92	-
600	4.90	34.16	27.04	109.0	1.196	.50	-
700	4.55	34.26	27.16	98.4	1.301	.40	-
800	4.25	34.35	27.27	89.1	1.396	.42	-
1000	(3.79)	(34.47)	27.41	76.6	1.563	-	-



## STATION 70.130K-51 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 0300 GCT Wire angle:  
 3° Sounding: 2,415 fms. Depth of observation: 320 m. Weather: partly  
 cloudy Sea: moderate Wind: 280°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	19.56	33.19	23.52	437.9	.0000	5.34	-
10	19.52	33.30	23.61	429.3	.0435	5.24	-
20	19.43	33.29	23.63	428.1	.0866	5.25	-
30	19.39	33.27	23.62	428.9	.1296	5.29	-
50	19.30	33.19	23.58	433.2	.2162	5.38	-
75	14.43	32.97	24.55	341.4	.3136	6.29	-
100	12.61	32.97	24.92	306.8	.3952	6.05	-
150	9.77	33.10	25.53	249.2	.535	5.43	-
200	8.80	33.67	26.13	192.9	.646	4.10	-
250	8.17	33.88	26.39	168.8	.737	2.89	-
300	7.51	33.99	26.57	152.0	.818	2.40	-

## STATION 70.130K-52 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 0600 GCT Wire angle:  
 0° Sounding: 2,415 fms. Depth of observation: 317 m. Weather: clear  
 Sea: moderate Wind: 280°, force 1

0	19.53	33.22	23.55	435.0	.0000	3.70	-
10	19.40	33.21	23.57	432.9	.0436	4.90	-
20	19.40	33.21	23.57	433.2	.0870	5.05	-
30	19.40	33.20	23.57	434.3	.1306	5.10	-
50	17.07	33.19	24.13	381.0	.2125	5.10	-
75	13.95	32.97	24.65	331.8	.3021	5.33	-
100	12.15	32.97	25.01	298.3	.3814	4.70	-
150	9.80	33.08	25.51	251.2	.520	4.40	-
200	8.79	33.66	26.12	193.5	.632	3.76	-
250	8.16	33.92	26.42	165.7	.722	2.30	-
300	7.62	33.97	26.54	155.0	.803	1.96	-



## STATION 70.130K-53 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 0900 GCT Wire angle:  
 0° Sounding: 2,415 fms. Depth of observation: 318 m. Weather: clear  
 Sea: moderate Wind: 260°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	19.46	33.21	23.56	434.0	.0000	5.21	-
10	19.47	33.17	23.53	437.5	.0438	4.67	-
20	19.47	33.15	23.51	439.3	.0878	4.73	-
30	19.47	33.13	23.50	441.1	.1320	4.93	-
50	18.65	33.10	23.68	424.1	.2189	5.35	-
75	13.70	32.95	24.69	328.4	.3135	5.85	-
100	12.20	32.94	24.97	301.5	.3927	5.41	-
150	9.65	33.20	25.63	239.9	.529	4.82	-
200	8.72	33.60	26.09	196.9	.639	4.05	-
250	8.27	33.90	26.39	168.8	.731	3.99	-
300	7.50	33.91	26.51	157.7	.813	3.20	-

## STATION 70.130K-54 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 1200 GCT Wire angle:  
 3° Sounding: 2,415 fms. Depth of observation: 775 m. Weather: clear  
 Sea: moderate Wind: 260°, force 1

0	19.46	33.18	23.54	436.2	.0000	5.23	-
10	19.43	33.21	23.57	433.6	.0437	5.26	-
20	19.43	33.19	23.55	435.4	.0873	5.32	-
30	19.44	33.14	23.51	439.6	.1312	5.44	-
50	17.65	33.03	23.87	405.8	.2162	5.89	-
75	13.70	32.95	24.69	328.4	.3085	6.42	-
100	12.10	32.95	25.00	298.9	.3874	5.80	-
150	9.65	33.09	25.54	248.0	.525	5.25	-
200	8.62	33.66	26.15	190.9	.636	3.70	-
250	8.15	33.90	26.41	167.0	.726	3.64	-
300	7.65	33.96	26.53	156.2	.807	3.37	-
400	6.05	33.99	26.77	133.7	.953	2.00	-
500	5.22	34.05	26.92	120.0	1.081	1.04	-
600	4.81	34.14	27.04	109.4	1.197	.70	-
700	4.48	34.24	27.15	99.1	1.302	.47	-
800	(4.19)	(34.33)	27.26	89.9	1.398	-	-
1000	(3.70)	(34.49)	27.43	74.0	1.563	-	-



## STATION 70.130K-55 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 1500 GCT Wire angle:  
7° Sounding: 2,415 fms. Depth of observation: 316 m. Weather: partly  
cloudy Sea: moderate Wind: 280°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.43	33.15	23.52	437.6	.0000	5.05	-
10	19.42	33.21	23.57	433.4	.0437	5.07	-
20	19.42	33.24	23.59	431.5	.0871	5.14	-
30	19.42	33.26	23.61	430.4	.1304	5.25	-
50	19.03	33.28	23.72	420.1	.2159	5.56	-
75	14.36	32.99	24.58	338.5	.3112	6.14	-
100	12.93	33.03	24.90	308.4	.3926	5.72	-
150	9.91	33.05	25.47	255.2	.534	5.05	-
200	9.07	33.62	26.05	200.7	.649	3.06	-
250	8.40	33.88	26.36	172.2	.743	3.34	-
300	7.60	33.94	26.52	156.9	.826	3.42	-

## STATION 70.130K-56 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 1800 GCT Wire angle:  
6° Sounding: 2,415 fms. Depth of observation: 315 m. Weather: partly  
cloudy Sea: moderate Wind: 270°, force 1

0	19.57	33.26	23.57	433.1	.0000	5.32	-
10	19.42	33.30	23.64	426.8	.0432	5.26	-
20	19.28	33.28	23.66	425.2	.0859	5.27	-
30	19.24	33.25	23.65	426.7	.1287	5.31	-
50	19.23	33.17	23.59	433.0	.2151	5.45	-
75	14.40	33.04	24.61	335.7	.3117	6.15	-
100	12.78	33.03	24.93	305.5	.3924	6.02	-
150	9.60	33.14	25.59	243.6	.531	5.27	-
200	8.89	33.65	26.10	195.7	.641	3.42	-
250	8.06	33.95	26.46	162.0	.731	2.90	-
300	7.30	33.96	26.58	151.2	.810	3.00	-



## STATION 70.130K-57 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 18, 1950 2100 GCT Wire angle:  
2° Sounding: 2,415 fms. Depth of observation: 319 m. Weather: partly cloudy  
Sea: moderate Wind: 270°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.87	33.22	23.46	443.4	.0000	5.36	-
10	19.46	33.37	23.68	422.7	.0435	5.41	-
20	19.45	33.35	23.67	424.3	.0860	5.41	-
30	19.45	33.31	23.64	427.5	.1288	5.40	-
50	19.40	33.23	23.59	432.7	.2152	5.35	-
75	14.72	33.15	24.63	334.1	.3116	5.33	-
100	12.90	33.08	24.95	304.1	.3919	6.16	-
150	9.78	33.08	25.51	250.9	.532	5.48	-
200	9.06	33.68	26.10	196.1	.644	4.25	-
250	8.33	33.95	26.42	166.0	.735	3.87	-
300	7.48	33.98	26.57	152.3	.815	3.47	-

## STATION 70.130K-58 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 0000 GCT Wire angle:  
0° Sounding: 2,415 fms. Depth of observation: 1,041 m. Weather: partly  
cloudy Sea: moderate Wind: calm

0	19.67	33.22	23.51	438.4	.0000	5.44	-
10	19.50	33.28	23.60	430.2	.0436	5.13	-
20	19.45	33.24	23.58	432.3	.0869	5.27	-
30	19.45	33.17	23.53	437.7	.1306	5.62	-
50	18.00	33.04	23.79	413.2	.2161	6.05	-
75	13.65	33.08	24.80	317.9	.3080	6.23	-
100	11.42	32.90	25.09	290.5	.3845	6.02	-
150	9.60	33.15	25.60	242.8	.519	5.25	-
200	9.07	33.69	26.10	195.6	.629	4.18	-
250	7.88	33.96	26.50	158.6	.718	3.67	-
300	7.25	33.91	26.55	154.2	.797	3.40	-
400	6.10	33.96	26.74	136.5	.944	2.10	-
500	5.25	34.06	26.92	119.6	1.073	1.10	-
600	4.83	34.16	27.05	108.2	1.188	.64	-
700	4.50	34.26	27.17	97.8	1.292	.40	-
800	4.22	34.34	27.26	89.5	1.386	.33	-
1000	3.73	34.43	27.38	78.8	1.557	.59	-



## STATION 70.130K-59 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 0300 GCT Wire angle:  
0° Sounding: 2,415 fms. Depth of observation: 316 m. Weather: partly  
cloudy Sea: moderate Wind: calm

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	20.05	33.20	23.40	449.3	.0000	-	-
10	19.53	33.24	23.56	433.9	.0443	-	-
20	19.53	33.21	23.54	436.4	.0880	-	-
30	19.53	33.14	23.49	441.8	.1321	-	-
50	17.45	33.03	23.92	401.2	.2168	-	-
75	14.27	32.97	24.58	338.2	.3098	-	-
100	12.62	33.03	24.96	302.6	.3904	-	-
150	9.72	33.03	25.48	253.6	.530	-	-
200	8.94	33.61	26.06	199.5	.644	-	-
250	7.98	34.08	26.58	151.2	.733	-	-
300	7.21	33.99	26.62	147.7	.808	-	-

## STATION 70.130K-60 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 0600 GCT Wire angle:  
2° Sounding: 2,415 fms. Depth of observation: 317 m. Weather: cloudy  
Sea: moderate Wind: 270°, force 1

0	19.95	33.15	23.39	450.4	.0000	5.35	-
10	19.49	33.21	23.55	435.1	.0445	5.42	-
20	19.47	33.18	23.53	437.1	.0882	5.54	-
30	19.47	33.10	23.47	443.2	.1324	5.71	-
50	16.75	32.97	24.04	389.9	.2162	6.13	-
75	13.84	33.03	24.72	325.3	.3060	6.35	-
100	12.18	32.94	24.98	301.1	.3848	6.13	-
150	9.65	33.11	25.56	246.6	.523	5.39	-
200	8.60	33.65	26.15	191.3	.633	4.55	-
250	8.09	33.88	26.40	167.6	.723	4.29	-
300	7.52	34.06	26.63	146.9	.803	3.84	-



## STATION 70.13OK-61 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 0900 GCT Wire angle:  
0° Sounding: 2,415 fms. Depth of observation: 316 m. Weather: partly  
cloudy Sea: moderate Wind: 270°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.78	33.17	23.45	444.8	.0000	5.36	-
10	19.50	33.21	23.55	435.3	.0442	4.70	-
20	19.50	33.21	23.55	435.7	.0879	4.72	-
30	19.50	33.20	23.54	436.7	.1317	4.78	-
50	19.45	33.18	23.54	437.6	.2196	4.95	-
75	14.35	32.97	24.57	339.8	.3173	5.55	-
100	12.75	33.12	25.01	298.4	.3976	5.50	-
150	9.80	33.20	25.60	242.3	.534	5.14	-
200	8.75	33.53	26.03	202.5	.646	4.39	-
250	8.08	33.94	26.45	163.0	.738	3.70	-
300	7.51	33.94	26.53	155.7	.818	3.32	-

## STATION 70.13OK-62 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 1200 GCT Wire angle:  
7° Sounding: 2,415 fms. Depth of observation: 1,032 m. Weather: partly  
cloudy Sea: moderate Wind: 270°, force 1

0	19.74	33.17	23.46	443.8	.0000	5.16	-
10	19.46	33.20	23.55	435.1	.0441	5.17	-
20	19.46	33.21	23.57	434.7	.0878	5.18	-
30	19.44	33.21	23.56	434.5	.1314	5.19	-
50	19.38	33.20	23.57	434.4	.2187	5.23	-
75	14.40	33.11	24.66	330.6	.3149	6.01	-
100	12.59	32.97	24.92	306.4	.3950	6.00	-
150	9.76	33.04	25.48	253.5	.536	5.49	-
200	8.82	33.60	26.07	198.4	.650	4.44	-
250	7.85	33.87	26.43	164.9	.741	3.73	-
300	7.24	33.91	26.55	154.1	.822	3.65	-
400	6.07	33.96	26.74	136.2	.968	2.05	-
500	5.34	34.03	26.89	123.0	1.099	1.15	-
600	4.84	34.13	27.03	110.6	1.216	.59	-
700	4.49	34.23	27.14	99.9	1.323	.48	-
800	4.21	34.35	27.27	88.7	1.418	.47	-
1000	3.78	34.65	27.55	63.1	1.571	.58	-



## STATION 70.130K-63 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 1500 GCT Wire angle:  
3° Sounding: 2,415 fms. Depth of observation: 317 m. Weather: partly  
cloudy Sea: moderate Wind: 270°, force 1

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	19.57	33.22	23.54	436.0	.0000	5.32	-
10	19.46	33.19	23.54	435.8	.0438	5.34	-
20	19.45	33.13	23.50	440.2	.0877	5.62	-
30	19.44	33.06	23.45	445.4	.1322	5.90	-
50	16.74	32.98	24.05	388.9	.2160	6.15	-
75	13.75	32.98	24.70	327.2	.3061	6.15	-
100	11.70	32.90	25.04	295.4	.3844	6.03	-
150	9.66	33.15	25.59	243.8	.520	5.28	-
200	8.63	33.66	26.15	191.1	.630	3.59	-
250	8.08	33.97	26.47	160.8	.718	3.64	-
300	7.44	33.96	26.56	153.2	.797	3.37	-

## STATION 70.130K-64 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°33'N 127°16.5'W October 19, 1950 1800 GCT Wire angle:  
3° Sounding: 2,415 fms. Depth of observation: 315 m. Weather: cloudy  
Sea: moderate Wind: 270°, force 1

0	19.64	33.22	23.52	437.7	.0000	4.90	-
10	19.47	33.24	23.58	432.4	.0437	4.85	-
20	19.45	33.22	23.57	433.7	.0872	4.88	-
30	19.45	33.19	23.55	436.2	.1308	4.96	-
50	18.66	33.12	23.69	422.9	.2172	5.20	-
75	15.16	32.99	24.41	354.9	.3149	5.77	-
100	13.19	33.04	24.86	312.6	.3989	6.00	-
150	9.81	33.06	25.49	252.8	.541	5.19	-
200	8.93	33.57	26.03	202.3	.656	4.69	-
250	8.18	33.85	26.37	171.2	.750	4.17	-
300	7.52	33.94	26.53	155.8	.832	3.44	-



## STATION 70.60 (Interpolated Values at Standard Depths)

CREST: 35°46'N 122°30.5'W October 20, 1950 0749 GCT Wire angle: 15°  
 Sounding: 1,800 fms. Depth of observation: 1,145 m. Weather: fog  
 Sea: rough Wind: 320°, force 4

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P (µg at/L)
0	13.80	33.21	24.87	309.3	.0000	5.07	-
10	13.80	33.21	24.87	309.6	.0311	6.05	-
20	13.53	33.18	24.90	306.8	.0620	5.72	-
30	11.90	33.19	25.22	276.0	.0913	5.08	-
50	10.30	33.40	25.67	233.6	.1425	4.41	-
75	9.05	33.62	26.05	198.1	.1968	3.66	-
100	8.42	33.76	26.26	178.8	.2442	3.43	-
150	8.07	34.01	26.51	156.0	.328	2.93	-
200	7.64	34.02	26.58	150.0	.405	2.23	-
250	7.04	34.03	26.67	141.7	.479	1.82	-
300	6.53	34.06	26.76	133.4	.548	1.53	-
400	6.02	34.16	26.91	120.7	.676	.81	-
500	5.69	34.22	27.00	113.3	.794	.50	-
600	5.27	34.28	27.10	104.7	.904	.39	-
700	4.85	34.32	27.18	97.6	1.006	.39	-
800	4.43	34.36	27.25	90.6	1.101	.41	-
1000	3.80	34.43	27.38	79.6	1.273	.69	-

## STATION 70.70 (Interpolated Values at Standard Depths)

CREST: 35°27.5'N 123°16'W October 20, 1950 0325 GCT Wire angle: 12°  
 Sounding: 2,095 fms. Depth of observation: 1,167 m. Weather: partly cloudy  
 Sea: rough Wind: 320°, force 2

0	15.20	33.17	24.54	340.5	.0000	4.65	-
10	15.15	33.35	24.69	326.6	.0335	5.27	-
20	14.91	33.23	24.65	330.7	.0665	5.80	-
30	14.10	33.23	24.82	314.6	.0989	5.83	-
50	12.20	33.32	25.27	272.3	.1579	5.00	-
75	9.96	33.36	25.70	231.6	.2212	4.19	-
100	8.51	33.46	26.01	202.3	.2758	3.95	-
150	8.22	33.76	26.29	176.7	.371	2.71	-
200	7.42	33.88	26.50	157.3	.455	2.60	-
250	7.08	33.97	26.62	146.7	.532	2.13	-
300	6.70	34.03	26.72	137.8	.604	1.57	-
400	5.77	34.06	26.86	124.9	.736	1.00	-
500	5.09	34.10	26.97	114.7	.857	.62	-
600	4.62	34.20	27.11	102.7	.966	.48	-
700	4.39	34.29	27.20	94.3	1.066	.42	-
800	4.20	34.35	27.27	88.6	1.158	.40	-
1000	3.76	34.43	27.38	79.2	1.328	.53	-



## STATION 70.80 (Interpolated Values at Standard Depths)

CREST: 35°08.5'N 123°55.5'W October 19, 1950 2257 GCT Wire angle: 11°  
 Sounding: 2,250 fms. Depth of observation: 1,188 m. Weather: partly cloudy  
 Sea: rough Wind: 320°, force 3

Depth (m)	T (°C)	S (%)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \delta$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu\text{g at/L}$ )
0	18.46	32.90	23.57	432.5	.0000	4.66	-
10	18.31	32.90	23.61	329.3	.0433	4.77	-
20	18.29	32.90	23.62	429.2	.0864	4.70	-
30	17.68	32.90	23.76	415.3	.1288	4.72	-
50	16.82	32.80	23.89	403.8	.2111	4.93	-
75	12.57	32.83	24.82	315.7	.3015	5.58	-
100	10.65	32.83	25.17	282.5	.3768	4.84	-
150	8.77	33.00	25.61	241.2	.509	4.34	-
200	8.14	33.48	26.08	197.1	.619	3.07	-
250	7.70	33.91	26.48	159.8	.709	2.29	-
300	7.18	33.99	26.62	147.3	.786	1.79	-
400	6.38	34.08	26.80	131.3	.927	1.09	-
500	5.74	34.14	26.93	119.8	1.053	.62	-
600	5.19	34.21	27.05	108.9	1.169	.41	-
700	4.70	34.27	27.15	99.5	1.274	.32	-
800	4.31	34.34	27.25	90.6	1.370	.33	-
1000	3.81	34.41	27.36	81.2	1.544	.50	-

## STATION 70.100 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 34°33'N 125°12'W October 20, 1950 0928 GCT Wire angle: 10°  
 Sounding: 2,480 fms. Depth of observation: 1,178 m. Weather: overcast  
 Sea: moderate Wind: 240°, force 2

0	17.83	33.22	23.97	394.6	.0000	5.46	-
10	17.37	33.17	24.04	388.0	.0393	5.80	-
20	16.79	33.23	24.23	370.9	.0774	5.61	-
30	16.04	33.23	24.40	354.8	.1138	5.59	-
50	13.18	33.03	24.85	311.9	.1808	5.68	-
75	9.93	32.97	25.40	259.9	.2527	5.17	-
100	10.09	33.54	25.82	220.9	.3132	4.16	-
150	8.91	33.85	26.25	180.3	.414	3.25	-
200	8.49	34.03	26.46	161.6	.500	1.96	-
250	7.92	34.10	26.60	148.9	.578	1.49	-
300	7.61	34.16	26.69	140.8	.651	1.18	-
400	6.87	34.22	26.84	127.5	.787	.88	-
500	5.90	34.17	26.93	119.7	.911	.90	-
600	5.45	34.33	27.11	103.3	1.024	.40	-
700	5.00	34.41	27.23	92.8	1.123	.30	-
800	4.58	34.42	27.28	87.9	1.214	.40	-
1000	3.94	34.43	27.36	81.3	1.385	.60	-



## STATION 70.110 (Interpolated Values at Standard Depths)

BLACK DOULGAS: 34°13'N 125°54'W October 20, 1950 0429 GCT Wire angle: 10°  
 Sounding: 2,120 fms. Depth of observation: 1.165 m. Weather: cloudy  
 Sea: moderate Wind: 270°, force 2

Depth (m)	T (°C)	S (‰)	$\sigma_t$ (mg/cm <sup>3</sup> )	$10^5 \sigma$	$\Delta D$ (dyn.m.)	O <sub>2</sub> (ml/L)	PO <sub>4</sub> -P ( $\mu$ g at/L)
0	19.49	33.13	23.49	440.6	.0000	5.42	-
10	18.95	33.19	23.67	423.4	.0434	5.46	-
20	18.85	33.21	23.71	419.9	.0857	5.55	-
30	18.78	33.22	23.74	417.8	.1278	5.58	-
50	16.18	33.20	24.34	360.6	.2060	4.88	-
75	11.50	32.82	25.01	297.3	.2887	6.13	-
100	9.96	32.75	25.22	277.2	.3609	5.85	-
150	9.40	33.49	25.89	214.5	.485	4.21	-
200	8.32	33.76	26.27	179.0	.584	3.89	-
250	7.76	33.87	26.44	163.6	.670	3.09	-
300	7.18	33.96	26.60	149.6	.749	2.32	-
400	5.75	34.08	26.88	123.2	.886	1.52	-
500	4.83	34.11	27.01	110.9	1.004	1.11	-
600	4.58	34.20	27.11	102.3	1.112	.52	-
700	4.33	34.36	27.26	88.4	1.208	.40	-
800	4.02	34.44	27.36	79.8	1.293	.39	-
1000	3.51	34.48	27.44	72.6	1.447	.58	-

## STATION 70.120 (Interpolated Values at Standard Depths)

BLACK DOUGLAS: 33°55'N 126°35.5'W October 19, 1950 2318 GCT Wire angle: 0°  
 Sounding: 2,415 fms. Depth of observation: 1,189 m. Weather: partly cloudy  
 Sea: moderate Wind: 270°, force 2

0	20.88	33.51	23.41	447.8	.0000	4.66	-
10	20.46	33.49	23.51	438.9	.0445	5.02	-
20	20.40	33.49	23.53	437.7	.0885	4.78	-
30	20.39	33.49	23.53	437.8	.1325	4.78	-
50	17.72	33.46	24.18	376.1	.2143	5.48	-
75	15.60	33.32	24.57	340.1	.3043	5.46	-
100	13.60	33.28	24.96	302.9	.3852	5.46	-
150	10.20	33.31	25.62	240.7	.522	4.49	-
200	8.45	33.68	26.19	186.9	.630	4.30	-
250	7.64	33.88	26.47	161.1	.717	3.79	-
300	7.14	33.95	26.59	149.7	.796	2.97	-
400	6.40	34.05	26.77	133.8	.938	1.37	-
500	5.69	34.13	26.93	119.9	1.066	.81	-
600	5.17	34.22	27.06	107.9	1.181	.46	-
700	4.77	34.29	27.16	98.9	1.286	.34	-
800	4.40	34.34	27.24	91.7	1.382	.34	-
1000	3.76	34.48	27.42	75.5	1.551	.53	-



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