

**FISHERIES RESEARCH BOARD
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(OCEANOGRAPHIC and LIMNOLOGICAL)**

No. 17

**Physical, Chemical and Plankton
Data Record**

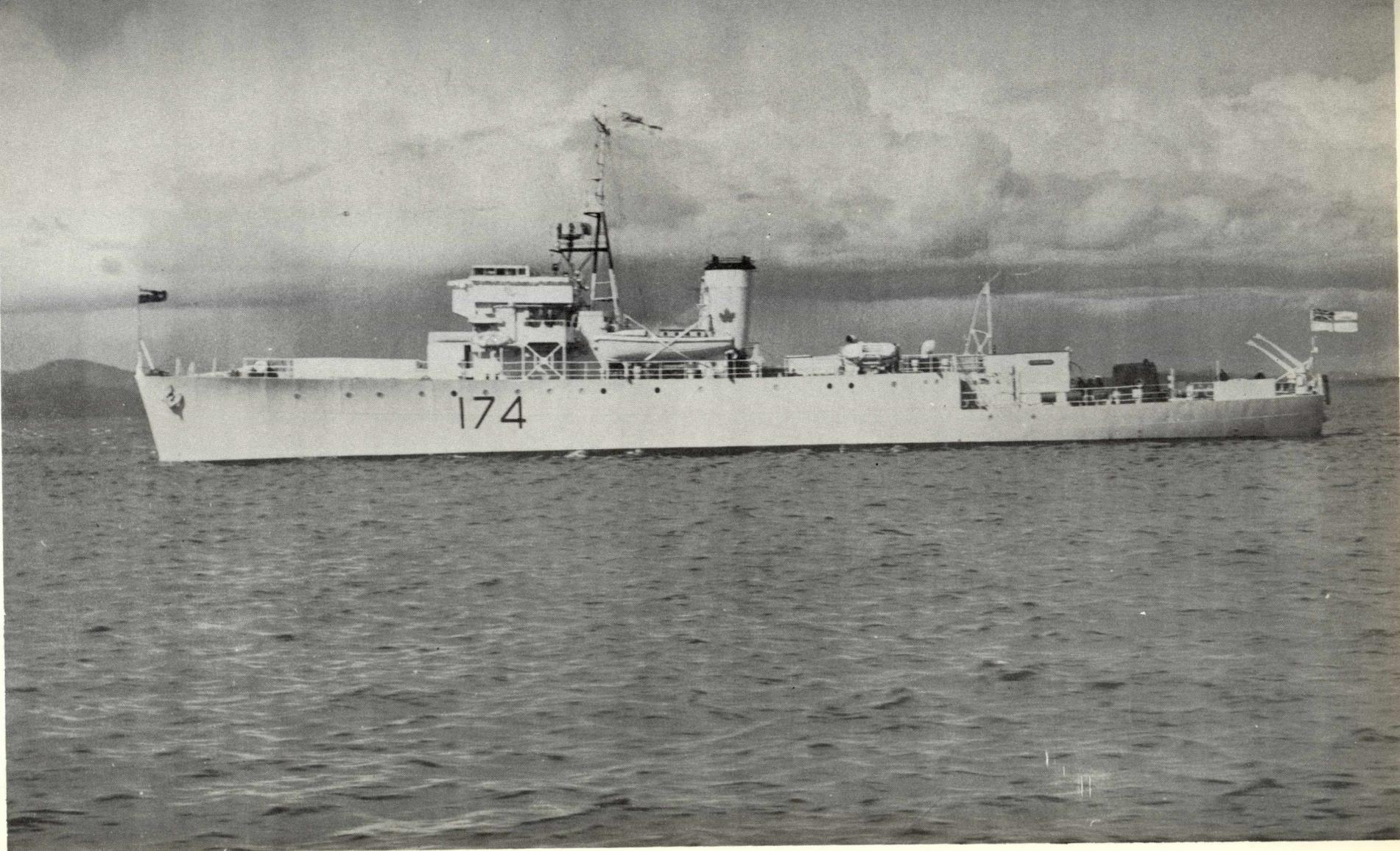
**Coastal Surveys
April 25 to December 17, 1957**

**Pacific Oceanographic Group
Nanaimo, B.C.**

July 1, 1958

**Programmed
by**

THE CANADIAN JOINT COMMITTEE ON OCEANOGRAPHY



A photograph of the oceanographic vessel H.M.C.S. Oshawa.

R.C.N. Photo

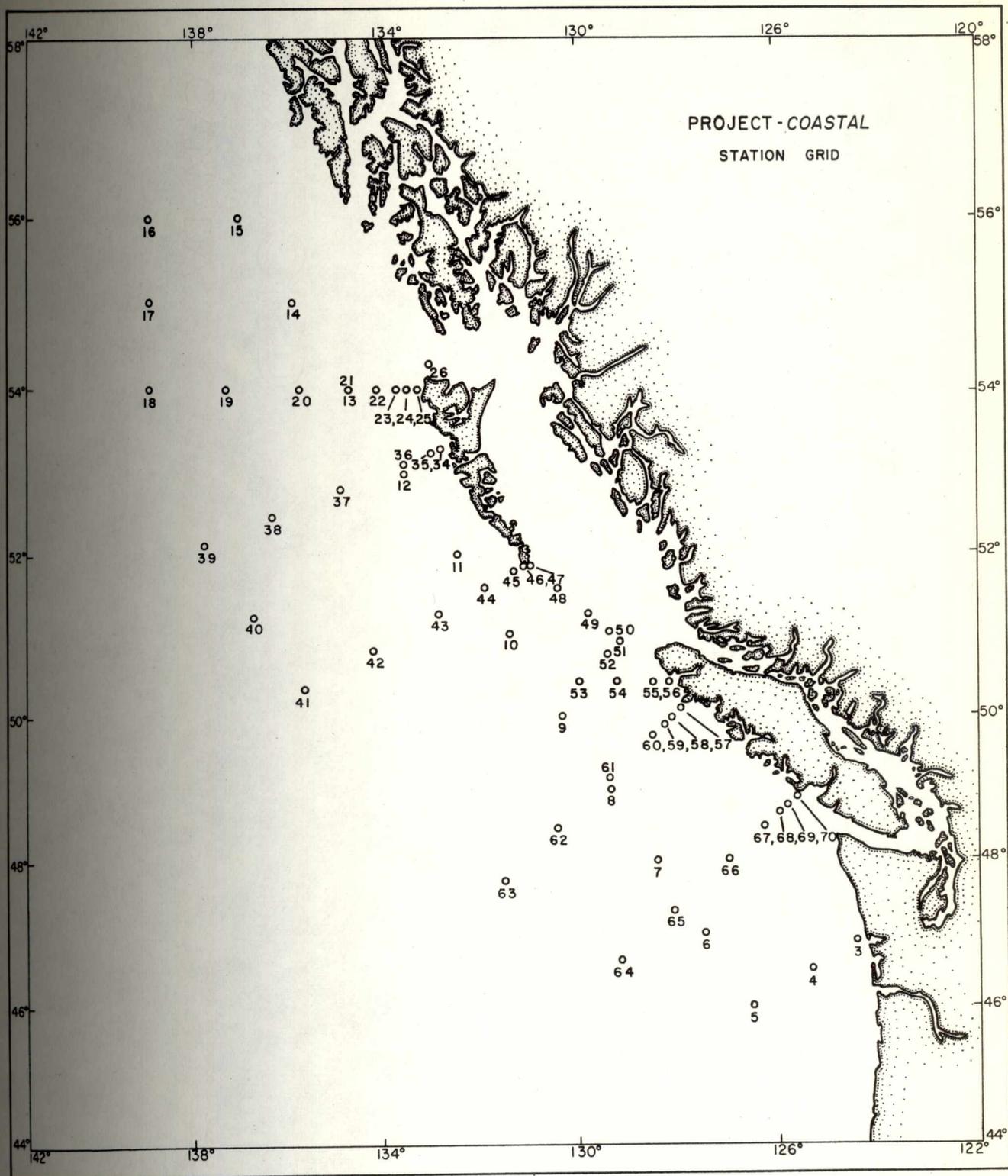


Fig. 1. Chart showing positions in the standard station grid, and general region of the surveys.

Introduction:

As part of the observational program of the Pacific Oceanographic Group during the year 1957, surveys were carried out in the approaches to the Canadian West Coast. The waters surveyed were those to 200 miles seaward and between latitudes 46° N and 56° N (Fig. 1).

Four surveys were carried out (Table I) the intention being to obtain data at the standard positions indicated in Figure I. For various reasons it was not possible to occupy all the stations on each cruise. The number and position of the stations occupied on the individual cruises are indicated in the introductory figure to each cruise.

Table I. Number and period of each cruise.

Cruise No.	Dates, 1957
C-57-1	April 24 - May 15
C-57-2	July 2 - 12
C-57-3	Sept 18 - Oct 2
C-57-4	Nov 25 - Dec 18

The data presented include meteorological observations, serial cast data, bathythermograms, various computed data from serial observations and plankton observations.

Oceanographic data obtained during specific studies are also included in this report, there being two such groups of data (Table II).

Table II. Periods of specific cruise data presented in report.

Cruise No.	Dates, 1957	Vessel	Stations Occupied
S-10-57	October 10-18	H.M.C.S. <u>Oshawa</u>	3
S-10-57	October 10-18	H.M.C.S. <u>Jonquiere</u>	8
S-11-57	November 7-13	H.M.C.S. <u>Ste. Therese</u>	11

Personnel:

The names of those participating in each cruise are indicated in the introductory page to each cruise. Other members of the staff of the

Pacific Oceanographic Group assisting with the analyses of the water samples and compilation of the data record include:-

N.P. Fofonoff
H.J. Hollister
M.A. Smith (Mrs.)

Plankton analyses were carried out by R.J. LeBrasseur of the Biological Station, Nanaimo, B.C.

General:

There are four principal sections in this record, one for each cruise, in which serial data, bathythermograms and plankton data are presented. The stations are listed in a chronological order; Pacific Standard Time is used throughout. Station numbers do not always occur consecutively and only serve to locate the approximate position of each station with reference to the appropriate cruise plan.

It is to be noted that there has been little attempt to adjust observed values of temperature and salinity at those stations where sampling errors might have occurred.

The presentation of data in this report is subject to modification and possible correction at a later date. The original data are on file at the Pacific Oceanographic Group, Fisheries Research Board of Canada, Nanaimo, B.C.

Program of Observations:

1. Standard depths (Sverdrup et al, 1942) for serial casts were employed with the addition of a sampling bottle at 125 meters and occasionally at 175 (Cruise 4) and 350 meters. For various reasons depths below 2000 meters were seldom sampled.
2. Generally two casts were made, a shallow to 300 meters depth and an intermediate (45 to 60 minutes later) with reversing bottles attached at 400 meters and deeper depths.
3. Surface samples were obtained using a metal bucket except on cruise C-57-1 when a canvas bucket was used.
4. Samples were drawn for dissolved oxygen and salinity determinations, and on some of the cruises for dissolved inorganic phosphate and inorganic nitrite (C-57-1). On those cruises (C-57-1 and 2) where the salinity samples were returned to base for titration the samples were preserved in 8 oz. medicine bottles stoppered with a waxed cork and sealed with wax (McCracken, 1956).

5. Temperatures at depth were obtained using reversing thermometers; generally one being attached to each sampling bottle.

Unprotected thermometers were used on the intermediate depth casts, generally at three depths. The observed depths were estimated using both the thermometric depth and wire angle calculations.

6. A bathythermograph lowering was made on each station and usually mid-way between stations. A surface observation (salinity and temperature) was made with these between-station lowerings.

7. A secchi disk observation was made at some stations.

8. Plankton samples were obtained at each station by hauling vertically a standard Norpac net (Motoda et al, 1957) through the top 150 meters.

9. Weather observations were made by the ship's officers. A wind speed and direction indicator was not used.

10. Considerable fishing effort using troll-type lures was expended by members of the ship's company while the vessel drifted on station. Pomfret (Pinckard, 1957) were frequently caught and appeared to be distributed over much of the area seaward of the continental shelf. Records concerning fishing effort and catches were not kept.

11. Whale sightings were recorded and the information forwarded to the Biological Station, Nanaimo, B.C.

The Survey Ship:

The ship used was the Algerine class minesweeper H.M.C.S. Oshawa (frontispiece). The commanding officer was Lt.-Cdr. G.H. Barrick.

H.M.C.S. Oshawa is twin screw, oil burning steam, length about 230 feet. With the exception of a somewhat limited cruising range, the vessel has proved to be a capable and seaworthy oceanographic platform, having adequate deck, laboratory and storage space for most requirements.

Most of the overside work is done on the starboard side, the main hydrographic position being located on the main deck just below the bridge. As with most vessels of similar type, it is most practical, when occupying stations, to manoeuvre so that the wind is on the stern or quarter, in this case the starboard quarter.

Oceanographic Equipment:

The reversing sampling bottles employed were either of the Fjarlie design (Fjarlie, 1953) or the Nansen design, the latter being obtained

from Bergen Nautik. On cruises C-57-1 and 2 the Fjarlie type were used and on C-57-3 and 4 the Nansen type.

The reversing thermometers were almost exclusively of Richter and Wiese manufacture.

Electronic aids such as Loran and radar were available for estimation of position.

Bathymetric data in deep water was obtained using an E.D.O. and Precision Depth Recorder (trade names). Both hull-mounted and towed transducers were available.

Methods of Analyses and Processing:

The determination of salinity for those samples obtained on Cruises 57-1 and 57-2 was carried out in the base laboratory according to methods outlined by Strickland (1957). All other salinity determinations were carried out aboard ship using a salinometer (Bradshaw and Schleicher, 1956; Strickland, 1957).

Determination of dissolved inorganic phosphate, dissolved oxygen and inorganic nitrite were carried out aboard ship using methods described by Strickland (1957).

Calculations based on the observed depths, temperature and salinity data were carried out using the computational facilities of the University of British Columbia, according to procedures consistent with those used by the Division of Oceanography of the U.S.N. Hydrographic Office.

Bathythermograms:

The bathythermograms have been drawn on standard grids which were pre-printed on multilith masters. In general, the trace was positioned so as to obtain the best fit with the reversing thermometer temperatures, which are also plotted on the bathythermogram. The temperature setting for the between-station BT was obtained by using that for the previous station.

The time-date group and position co-ordinates or station numbers are noted below each bathythermogram. The observed surface salinity values are noted below the notations for the between-station bathythermograms.

Bathythermograms obtained during specific studies are not presented.

Plankton Analyses:

The net used is the standard Norpac net (Motoda et al, 1957) - nylon, 45 cm. in diameter with a mesh aperture of about 0.33 mm. It was

hauled at a speed of approximately 1 meter per second, as recommended by the Norpac Meeting held in Honolulu, February 1956.

In processing the plankton data the nets have been presumed 100% efficient in filtering the water. Organisms larger than 1 1/2 inches in length have been excluded from the samples before determination of the weight. Large tunicates, fish, medusae, ctenophora, salpa and coelenterata have been omitted from the record of the plankton constituents, except in C-57-1, where medusae and ctenophora have been included in some individual analyses. When a group of organisms represent less than 1% of the total wet weight of the sample, they are reported as a trace. Those constituents listed in the miscellaneous column occurred in trace amounts. The wet weight of the individual constituents in each sample has been converted from wet weight per haul to wet weight per 1,000 cm³. The total wet weight values are the sum of the phytoplankton and zooplankton weights, and does not include the weight of eggs or larvae that are listed in the miscellaneous column.

List of abbreviations used in plankton data record:

larv	-	larvae	Med	-	Medusae
tr	-	trace	Myct	-	Myctophidae
Ann	-	Annelida	Mys	-	Mysidacia
Cirre	-	Cirrepedia	Naup	-	Naupulii
Cran	-	Craniata	Nem	-	Nematoda
Ct	-	Ctenophora	Oik	-	Oikopleura
Dec	-	Decapod	Ost	-	Ostracoda
Det	-	Detritus	Pt	-	Pteropoda
Dia	-	Diatom	Radio	-	Radiolaria
Dino	-	Dinoflagellate	Sipho	-	Siphonophore
frag	-	fragment	Tom	-	Tomopteris
Gast	-	Gastropoda	Vell	-	Vellela
Glob	-	Globerina			

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1955a. Physical and chemical data record, Hecate Project, 1954. MS Rept., Joint Committee on Oceanography.

1955b. Physical and chemical data record, Hecate Project, with Appendix I, current observations, 1955. MS Rept., Joint Committee on Oceanography.

Explanation of Data Record Headings

Observed and computed values at observed depths:

- Station: Approximate position of each station with reference to the appropriate grid, arranged in a chronological order.
- Time: (P.S.T.) at which the shallow cast messenger was released.
- Date: Day, month, year.
- Lat: Estimated position of the ship during the period of observation.
Long:
- Sounding: Depth in fathoms as obtained from echo sounder observations.
- Weather: Reported in code as tabulated in Table III.
- Wind: True direction from which the wind was blowing and speed reported in knots.
- Air Temp: Temperature obtained from instruments mounted on the ship's bridge, expressed in degrees Fahrenheit.
Dry, Wet:
- Baro: Reading of ship's barometer in millibars.
- Cloud: Type of predominating clouds (Table III) and sky coverage in tenths.
- Sea: True direction from which the sea and swell were coming and height given in code in Table III.
Swell:
- Secchi Disc: Depth in meters at which a white disc 30 cm. in diameter disappears from sight.
- Depth: Depth in meters of the sampling bottle at time of reversal as estimated from thermometric and wire angle data.
m.
- Temp: Temperatures observed from reversing thermometers read to 0.01°C. Temperature values marked with an asterisk have been interpolated using three-point parabolic interpolation. Surface temperature (0 meters) were obtained using a chemical thermometer. They are reported to two places to facilitate machine computations.
°C

$\frac{S}{\text{‰}}$	Salinity as defined by $S = 0.03 + 1.805 \text{ Cl } \text{‰}$. Salinity values marked with an asterisk have been interpolated using three-point parabolic interpolation.
σ_t	"Sigma-T". The density as defined by: (specific gravity - 1) x 1000 expressed as milligrams per cm^3 .
$\frac{S/V}{\text{ft/sec}}$	Speed of sound as calculated using Del Grosso's (1952) formula at zero pressure and corrected for pressure utilizing Kuwahara's tables (1939).
$\frac{O_2}{\text{mg.at/l}}$	Dissolved oxygen content expressed as milligram-atoms per litre.
$\frac{PO_4}{\mu\text{g.at/l}}$	Dissolved inorganic phosphate expressed in microgram-atoms per litre.
$\frac{NO_2}{\mu\text{g.at/l}}$	Dissolved inorganic nitrite expressed in microgram-atoms per litre.

Interpolated and Calculated Values at Standard Depths:

$\frac{\text{Depth}}{\text{m.}}$	Standard depth in meters.
$\frac{\text{Temp}}{\text{°C}}$	Interpolated value.
$\frac{S}{\text{‰}}$	Interpolated value.
σ_t	"Sigma-T". Density as defined by: (specific gravity - 1) x 1000 expressed as milligrams per cm^3 . Calculated from the interpolated temperature and salinity values.
$\sigma_{s,t,p}$	Density in situ as defined by $\sigma_{s,t,p} = 10^3 (\rho_{s,t,p} - 1)$.
P:	Pressure in decibars.
$10^5 \delta$	Specific volume anomaly.
ΔD	Anomaly of dynamic height, in dynamic meters, of the sea surface relative to the indicated pressure surface. The calculations have been carried out using actual pressures in decibars rather than assuming that pressure in decibars = depth in meters.

Table III

Meteorological Codes used in Data Record

STATE OF WEATHER
(Abstracted from H.O. Pub. No. 606C)

CLOUD TYPES

<u>Code</u>	<u>Description</u>	<u>Name</u>	<u>Code</u>
<u>00</u>	Cloud development not observable	Stratocumulus	Sc
<u>01</u>	Clouds generally dissolving	Stratus	St
<u>02</u>	State of sky unchanged	Fractostratus	Fs
<u>03</u>	Clouds developing	Nimbostratus	Ns
<u>04</u>	Smoke haze	Cumulus	Cu
<u>05</u>	Dry haze	Cumulonimbus	Cb
<u>10</u>	Light fog, vis. 1100 yds. or more	Fractocumulus	Fc
<u>11</u>	Shallow fog in patches	Altostratus	As
<u>13</u>	Lightning visible	Alto cumulus	Ac
<u>16</u>	Precipitation near ship	Cirrus	Ci
<u>18</u>	Squall(s)	Cirrocumulus	Cc
<u>41</u>	Fog in patches	Cirrostratus	Cs
<u>43</u>	Fog, thinning in last hour		
<u>45</u>	Fog, unchanging in last hour		
<u>47</u>	Fog, thicker in last hour, no sky		
<u>50</u>	Drizzle		
<u>57</u>	Drizzle, freezing		
<u>60</u>	Rain, slight, intermittent		
<u>62</u>	Rain, moderate, intermittent		
<u>63</u>	Rain, moderate, continuous		
<u>67</u>	Rain, freezing, moderate		
<u>69</u>	Rain and snow mixed, moderate		
<u>72</u>	Snow, moderate, intermittent		
<u>63</u>	Snow, moderate, continuous		
<u>81</u>	Rain shower(s), moderate		
<u>84</u>	Shower of rain and snow		
<u>86</u>	Snow shower(s), moderate		
<u>88</u>	Hail showers, moderate		
<u>95</u>	Thunderstorm, slight		
<u>97</u>	Thunderstorm, heavy		

STATE OF SEA AND SWELL	
<u>Code</u>	<u>Approx. Height</u>
<u>0</u>	0
<u>1</u>	Less than 1 foot
<u>2</u>	1 to 3 feet
<u>3</u>	3 to 5 feet
<u>4</u>	5 to 8 feet
<u>5</u>	8 to 12 feet
<u>6</u>	12 to 20 feet
<u>7</u>	20 to 40 feet
<u>8</u>	40 feet and over
<u>9</u>	Confused

Cruise Number C-57-1

April 24 - May 15, 1957

Personnel: F.G. Barber
R.H. Herlinveaux
M.P. Sinclair
W.W. Anderson
J.D.H. Strickland
K.H. Austin

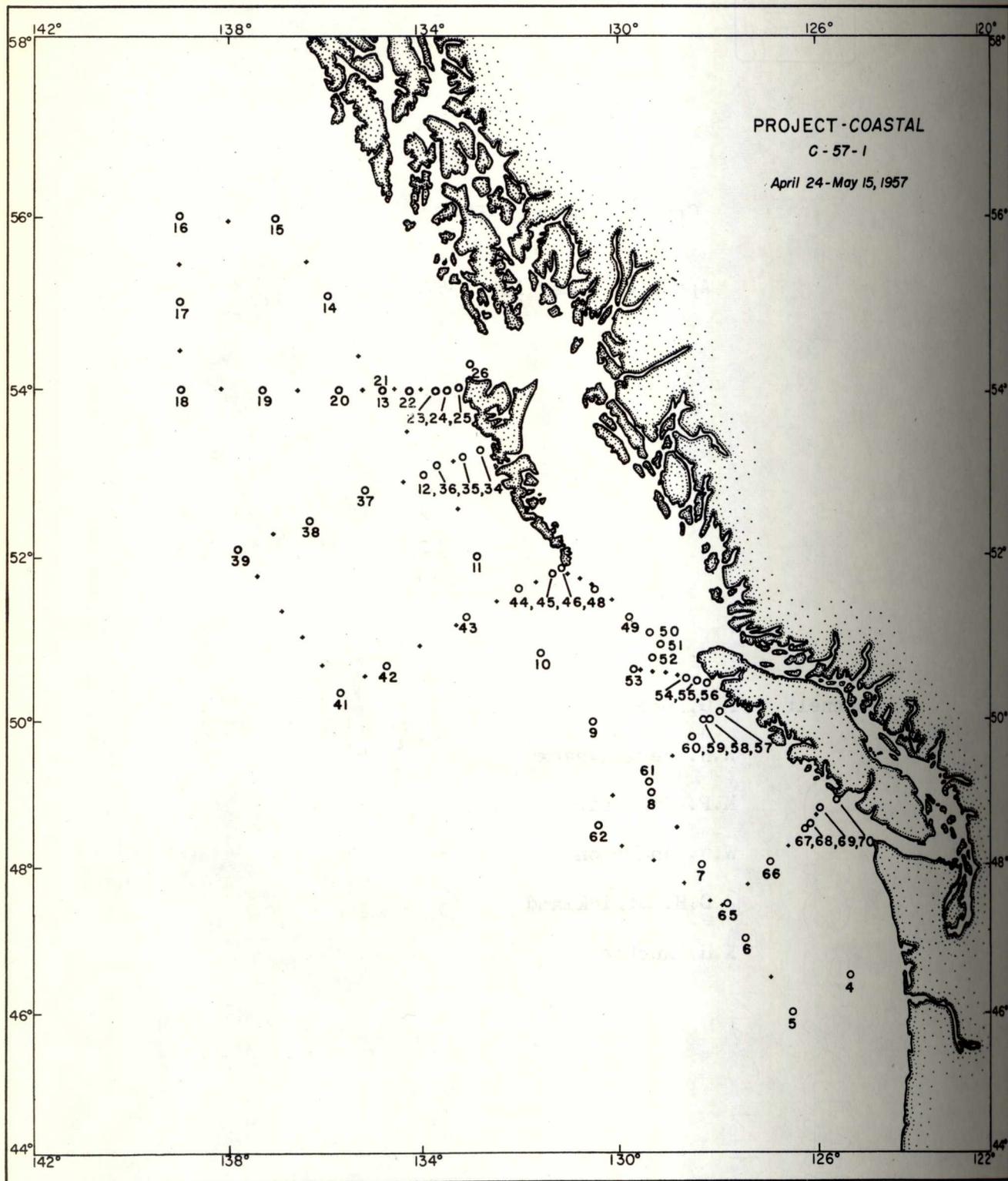


Fig. 2. Approximate positions of stations and bathythermograph lowerings (crosses) for cruise C-57-1, April 24-May 15, 1957.

STATION 4.

TIME: 0645 DATE: 24-IV-57 LAT: 46° 31' N LONG: 125° 17' W SOUNDING: fms.
 WEATHER: 50 WIND: Dir. 030° Speed 6 AIR TEMP: Dry 49° Wet 48° BARO: 1024.4 mb.
 CLOUD: Type Amt 10 SEA: Calm SWELL: 030° - 3 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	9.34*	32.46	25.10	4870.	0.627		
10.	9.19	32.45	25.12	4869.	.615		
49.	8.71	32.58	25.29	4866.	.606		
99.	8.30	33.39	25.99	4867.	.373		
148.	7.97	33.81	26.37	4867.	.269		
197.	7.42	33.87	26.49	4863.	.226		
246.	6.94	33.94	26.61	4860.	.195		
295.	6.33	34.01	26.75	4856.	.165		
386.	5.72	34.00	26.82	4853.	.124		
483.	5.23	34.05	26.92	4852.	.129		
580.	4.82	34.15	27.04	4853.	.053		
773.	4.19	34.22	27.17	4856.	.030		
968.	3.59	34.34	27.32	4860.	.035		
1452.	2.65	34.46	27.51	4876.	.072		
1744.	2.23	34.55	27.61	4887.	.102		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.34	32.46	25.10	25.10	0.0	287.1	0.000
10.	9.19	32.45	25.12	25.16	10.1	285.8	.029
20.	9.05	32.44	25.13	25.22	20.1	284.6	.057
30.	8.93	32.46	25.17	25.30	30.2	281.4	.086
50.	8.70	32.60	25.31	25.54	50.3	268.1	.141
75.	8.49	33.05	25.69	26.04	75.4	232.1	.204
100.	8.30	33.40	26.00	26.46	100.6	203.5	.259
150.	7.95	33.81	26.37	27.06	151.0	168.9	.353
200.	7.39	33.87	26.50	27.42	201.4	157.3	.435
250.	6.88	33.95	26.63	27.79	251.8	145.7	.511
300.	6.29	34.01	26.75	28.15	302.2	134.1	.582
400.	5.64	34.00	26.83	28.70	403.1	127.5	.714
500.	5.15	34.07	26.94	29.28	504.0	117.6	.837
600.	4.75	34.15	27.06	29.86	605.0	107.6	.951
700.	4.42	34.19	27.12	30.39	706.1	102.2	1.057
800.	4.10	34.24	27.19	30.94	807.2	95.5	1.157
1000.	3.52	34.35	27.34	32.02	1009.6	82.4	1.337
1200.	3.10	34.39	27.41	33.04	1212.1	75.6	1.497
1500.	2.57	34.47	27.53	34.56	1516.4	65.3	1.712

STATION 5.

TIME: 1527 DATE: 25-IV-57 LAT: 46° 00' N LONG: 126° 30' W SOUNDING: 1500 fms.
 WEATHER: 02 WIND: Dir. 350° Speed 8 AIR TEMP: Dry 50° Wet 49° BARO: 1026.0 mb.
 CLOUD: Type St Amt 10 SEA: 350° - 1 SWELL: 280° - 4 SECCHI DISC: 16 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	9.10	32.43	25.11	4867.	0.583	1.11	0.13
10.	8.79*	32.53	25.24	4864.	.623	1.00	.09
20.	8.59	32.53	25.27	4862.	.600	0.97	.06
30.	8.51	32.50	25.26	4862.	.599	0.97	.07
50.	7.99	32.53	25.36	4857.	.603	1.02	.07
75.	7.14	32.81	25.70	4848.	.559	1.46	.18
100.	6.75	33.15	26.02	4846.	.495	1.82	.05
150.	6.91	33.72	26.44	4853.	.365	2.17	.03
200.	6.87	33.94	26.62	4857.	.216	2.63	.02
250.	6.15	33.93	26.71	4850.	.220	2.65	
300.	5.55	33.98	26.82	4845.	.176	2.85	.04
407.	5.06	34.03	26.92	4845.	.098		
604.	4.35	34.15	27.10	4848.	.043	3.54	.07
800.	3.74	34.25	27.24	4851.	.029	3.39	.01
997.	3.33	34.39	27.39	4858.	.027		
1292.	2.75*	34.43	27.47	4867.	.050	3.27	.07
1783.	2.08	34.53	27.61	4887.	.102	3.16	.02

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s.t.p}$	P	10 ⁵ δ	ΔD
0.	9.10	32.43	25.11	25.11	0.0	285.8	0.000
10.	8.79	32.53	25.24	25.29	10.1	273.9	.028
20.	8.59	32.53	25.27	25.36	20.1	271.2	.056
30.	8.51	32.50	25.26	25.40	30.2	272.4	.083
50.	7.99	32.53	25.36	25.59	50.3	263.2	.137
75.	7.14	32.81	25.70	26.05	75.5	231.2	.199
100.	6.75	33.15	26.02	26.48	100.6	201.2	.253
150.	6.91	33.72	26.44	27.14	151.0	161.5	.345
200.	6.87	33.94	26.62	27.55	201.4	145.3	.422
250.	6.15	33.93	26.71	27.87	251.8	137.4	.493
300.	5.55	33.98	26.82	28.22	302.2	126.9	.560
400.	5.09	34.03	26.92	28.79	403.1	119.1	.684
500.	4.71	34.09	27.01	29.35	504.1	111.0	.800
600.	4.36	34.15	27.09	29.90	605.1	103.6	.909
700.	4.03	34.19	27.16	30.45	706.1	97.2	1.010
800.	3.74	34.25	27.24	30.99	807.2	90.6	1.105
1000.	3.32	34.39	27.39	32.08	1009.6	77.0	1.275
1200.	2.91	34.42	27.45	33.08	1212.2	71.8	1.425
1500.	2.42	34.47	27.53	34.57	1516.5	64.0	1.632

STATION 6.

TIME: 0246 DATE: 26-IV-57 LAT: 47° 00' N LONG: 127° 29' W SOUNDING: 1500 fms.
 WEATHER: 00 WIND: Dir. 260° Speed 10 AIR TEMP: Dry 46° Wet 44° BARO: 1027.7 mb.
 CLOUD: Type Amt 0 SEA: 260° - 1 SWELL: 260° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.80	32.60	25.29	4864.	0.587		
10.	8.57	32.48	25.23	4861.	.608		
20.	8.51	32.48	25.24	4861.	.598		
30.	8.37	32.48	25.26	4860.	.598		
49.	7.10	32.53	25.48	4845.	.580		
74.	7.18	33.32	26.09	4851.	.374		
97.	7.07	33.48	26.23	4851.	.344		
121.	7.06	33.70	26.41	4854.	.290		
145.	6.88	33.79	26.50	4853.	.297		
193.	6.59	33.91	26.64	4853.	.212		
242.	5.91	33.91	26.72	4847.	.201		
290.	5.34	33.89	26.78	4842.	.181		
391.	4.77	33.98	26.92	4840.	.114		
489.	4.52	34.06	27.01	4843.	.069		
586.	4.28	34.17	27.12	4846.	.064		
783.	3.82	34.25	27.23	4852.	.022		
978.	3.42	34.41	27.40	4858.	.016		
1174.	2.99	34.44	27.46	4864.	.038		
1472.	2.49	34.49	27.55	4875.	.055		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ $\bar{\sigma}$	ΔD
0.	8.80	32.60	25.29	25.29	0.0	268.7	0.000
10.	8.57	32.48	25.23	25.28	10.1	274.5	.027
20.	8.51	32.48	25.24	25.34	20.1	273.8	.055
30.	8.37	32.48	25.26	25.40	30.2	271.9	.082
50.	7.11	32.57	25.52	25.75	50.3	248.1	.135
75.	7.17	33.33	26.10	26.45	75.5	193.2	.190
100.	7.08	33.51	26.26	26.72	100.6	178.3	.237
150.	6.87	33.81	26.52	27.22	151.0	154.4	.321
200.	6.49	33.91	26.65	27.58	201.4	142.5	.396
250.	5.80	33.90	26.73	27.90	251.8	135.1	.465
300.	5.27	33.90	26.79	28.20	302.2	129.6	.532
400.	4.75	33.99	26.92	28.80	403.1	118.1	.657
500.	4.49	34.07	27.02	29.36	504.1	109.6	.772
600.	4.25	34.17	27.13	29.94	605.1	100.4	.878
700.	4.01	34.21	27.18	30.46	706.2	96.1	.977
800.	3.79	34.27	27.25	31.00	807.3	89.7	1.071
1000.	3.37	34.41	27.40	32.09	1009.7	75.8	1.239
1200.	2.94	34.44	27.47	33.10	1212.3	70.0	1.386

STATION 7.

TIME: 1155 DATE: 26-IV-57 LAT: 48° 00' N LONG: 128° 20' W SOUNDING: 1450 fms.
 WEATHER: 50 WIND: Dir. 185° Speed 14 AIR TEMP: Dry 49° Wet 48° BARO: 1023.3 mb.
 CLOUD: Type St Amt 10 SEA: SWELL: 250° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.60	32.38	25.15	4861.	0.614	1.13	0.135
10.	8.25	32.43	25.24	4857.	.637	1.02	.115
30.	8.01	32.43	25.28	4855.	.638	1.00	.23
50.	7.45	32.48	25.40	4850.	.611	1.15	.165
75.	6.77	32.95	25.86	4844.	.522	1.65	.06
100.	6.81	33.24	26.08	4847.	.499	1.90	.07
125.	7.22	33.67	26.36	4856.	.308	2.23	.135
150.	7.22	33.82	26.48	4858.	.306	2.37	.07
200.	6.53	33.87	26.61	4852.	.242	2.58	.04
250.	6.13	33.91	26.70	4850.	.192	2.73	
300.	5.68	33.91	26.75	4847.	.154	2.77	.10
382.	5.27	34.01	26.88	4847.	.099		
477.	4.81	34.12	27.02	4847.	.062	3.15	
574.	4.41	34.17	27.11	4847.	.037		
769.	3.92	34.24	27.21	4852.	.005	3.31	.01
965.	3.42	34.34	27.34	4857.	.002	3.32	
1159.	2.97	34.43	27.46	4863.	.030	3.29	
1459.	2.47	34.56	27.60	4874.	0.65	3.23	.03

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	8.60	32.38	25.15	25.15	0.0	282.2	0.000
10.	8.25	32.43	25.24	25.29	10.1	273.6	.028
20.	8.17	32.42	25.25	25.34	20.1	273.1	.055
30.	8.01	32.43	25.28	25.42	30.2	270.6	.083
50.	7.45	32.48	25.40	25.63	50.3	259.6	.136
75.	6.77	32.95	25.86	26.21	75.5	216.0	.196
100.	6.81	33.24	26.08	26.55	100.6	195.2	.248
150.	7.22	33.82	26.48	27.18	151.0	158.2	.337
200.	6.53	33.87	26.61	27.54	201.4	146.1	.413
250.	6.13	33.91	26.70	27.86	251.8	138.7	.485
300.	5.68	33.91	26.75	28.15	302.2	133.7	.554
400.	5.18	34.04	26.91	28.78	403.1	119.5	.682
500.	4.71	34.13	27.04	29.38	504.1	107.7	.796
600.	4.35	34.18	27.12	29.93	605.1	101.2	.902
700.	4.09	34.21	27.17	30.45	706.1	96.6	1.002
800.	3.84	34.26	27.23	30.98	807.2	91.2	1.097
1000.	3.33	34.36	27.36	32.05	1009.6	79.6	1.269
1200.	2.89	34.45	27.48	33.11	1212.2	69.1	1.420

STATION 8.

TIME: 2302 DATE: 26-IV-57 LAT: 49° 00' N LONG: 129° 21' W SOUNDING: 1244 fms.
 WEATHER: 05 WIND: Dir. 260° Speed 5 AIR TEMP: Dry 47° Wet 45° BARO: 1021.0 mb.
 CLOUD: Type Amt SEA: 260° - 1 SWELL: 270° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.50	32.48	25.25	4860.	0.597		
10.	7.98	32.48	25.32	4854.	.597		
20.	7.93	32.52	25.36	4854.	.590		
30.	7.53	32.58	25.46	4850.	.612		
49.	6.70	32.64	25.62	4841.	.572		
74.	6.55	32.69	25.68	4840.	.554		
99.	6.44	32.79	25.78	4841.	.522		
123.	6.24	33.07	26.02	4841.	.471		
148.	6.25	33.41	26.29	4843.	.443		
197.	6.11	33.77	26.59	4846.	.392		
246.	5.63	33.86	26.72	4843.	.265		
295.	5.23	33.87	26.78	4840.	.202		
383.	4.62	33.94	26.90	4838.	.126		
479.	4.38	34.06	27.02	4841.	.073		
575.	4.07	34.10	27.09	4842.	.066		
768.	3.65	34.24	27.24	4848.	.040		
960.	3.23	34.34*	27.36	4854.	.034		
1152.	2.88	34.39	27.43	4861.	.034		
1440.	2.42	34.49	27.55	4872.	.066		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.50	32.48	25.25	25.25	0.0	273.3	0.000
10.	7.98	32.48	25.32	25.37	10.1	266.2	.027
20.	7.93	32.52	25.36	25.45	20.1	262.7	.054
30.	7.53	32.58	25.46	25.60	30.2	252.9	.080
50.	6.67	32.64	25.63	25.86	50.3	237.4	.129
75.	6.54	32.69	25.69	26.04	75.5	232.4	.188
100.	6.43	32.80	25.78	26.25	100.6	223.5	.245
150.	6.25	33.43	26.31	27.00	151.0	174.4	.346
200.	6.09	33.78	26.60	27.53	201.4	147.0	.427
250.	5.59	33.86	26.73	27.89	251.8	135.5	.498
300.	5.19	33.87	26.78	28.18	302.2	130.7	.565
400.	4.55	33.96	26.92	28.80	403.1	117.9	.690
500.	4.32	34.08	27.04	29.38	504.1	107.5	.804
600.	4.00	34.11	27.10	29.92	605.1	102.0	.910
700.	3.77	34.18	27.18	30.47	706.1	95.2	1.010
800.	3.58	34.26	27.26	31.02	807.2	88.1	1.102
1000.	3.15	34.35	27.38	32.07	1009.6	78.0	1.270
1200.	2.80	34.41	27.45	33.08	1212.2	71.3	1.422

STATION 9.

TIME: 0836 DATE: 27-IV-57 LAT: 49° 58' N LONG: 130° 29' W SOUNDING: fms.
 WEATHER: 45 WIND: Dir. 270° Speed 12 AIR TEMP: Dry 48° Wet 48° BARO: 1019.3 mb.
 CLOUD: Type Amt 10 SEA: 270° - 1 SWELL: 270° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	8.10	32.40	25.24	4855.	0.586	1.12	0.145.
10.	7.76	32.45	25.33	4851.	.618	1.09	.135
20.	7.69	32.48	25.36	4851.	.603	1.12	.135
30.	7.45	32.50	25.41	4849.	.619	1.12	.141
50.	6.51	32.57	25.59	4838.	.585	1.32	.25
75.	6.33	32.88	25.86	4838.	.522	1.63	.08
99.	6.35	33.17	26.09	4841.	.446	1.84	.02
124.	6.35	33.57	26.40	4844.	.388	2.05	.04
149.	6.27	33.72	26.53	4845.	.343	2.23	.02
198.	5.80	33.86	26.70	4842.	.259	2.52	.03
248.	5.10	33.91	26.82	4836.	.202		.01
297.	4.75	33.96	26.90	4834.	.143		
386.	4.58	34.01	26.96	4838.	.112		.02
483.	4.41	34.06	27.02	4841.	.064		
580.	4.10	34.13	27.11	4843.	.048		
774.	3.70	34.29	27.27	4850.	.027	3.33	
967.	3.21	34.36	27.38	4854.	.028	3.37	
1162.	2.82	34.41	27.45	4861.	.049	3.31	
1456.	2.37	34.46	27.53	4872.	.062	3.27	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.10	32.40	25.24	25.24	0.0	273.6	0.000
10.	7.76	32.45	25.33	25.38	10.1	265.4	.027
20.	7.69	32.48	25.36	25.46	20.1	262.4	.054
30.	7.45	32.50	25.41	25.55	30.2	257.8	.080
50.	6.51	32.57	25.59	25.83	50.3	240.8	.130
75.	6.33	32.88	25.86	26.21	75.5	215.8	.187
100.	6.35	33.19	26.10	26.57	100.6	193.1	.239
150.	6.26	33.72	26.53	27.23	151.0	152.9	.326
200.	5.77	33.86	26.70	27.64	201.4	137.1	.399
250.	5.08	33.91	26.83	28.00	251.8	125.9	.465
300.	4.74	33.96	26.90	28.31	302.2	118.9	.527
400.	4.56	34.02	26.97	28.84	403.2	113.8	.645
500.	4.35	34.07	27.03	29.38	504.1	108.2	.757
600.	4.06	34.15	27.13	29.94	605.1	100.0	.862
700.	3.86	34.24	27.22	30.50	706.2	92.0	.959
800.	3.63	34.30	27.29	31.04	807.3	85.6	1.048
1000.	3.14	34.37	27.39	32.09	1009.7	76.5	1.212
1200.	2.75	34.42	27.47	33.10	1212.3	69.8	1.361

STATION 10.

TIME: 1835 DATE: 27-IV-57 LAT: 50° 49' N LONG: 131° 33' W SOUNDING: 1500 fms.
 WEATHER: 60 WIND: Dir. 180° Speed 15 AIR TEMP: Dry 47° Wet 47° BARO: 1012.5 mb.
 CLOUD: Type Amt 10 SEA: 180° - 2 SWELL: 270° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	8.20	32.14	25.02	4855.	0.624		
10.	7.75	32.28	25.20	4850.	.624		
20.	7.66	32.39	25.30	4850.	.624		
30.	6.89	32.43	25.43	4841.	.592		
50.	6.41	32.58	25.61	4837.	.571		
75.	6.70	32.83	25.77	4843.	.476		
100.	6.78	33.29	26.12	4847.	.348		
124.	6.89	33.58	26.34	4851.	.274		
149.	6.82	33.75	26.48	4852.	.226		
199.	6.45	33.86	26.62	4851.	.220		
249.	6.04	33.91	26.71	4849.	.177		
299.	5.68	33.98	26.81	4847.	.155		
395.	5.05	34.01	26.91	4844.	.102		
494.	4.52	34.01	26.97	4843.	.083		
594.	4.19	34.13	27.10	4845.	.064		
792.	3.74	34.29	27.27	4851.	.031		
991.	3.30	34.37	27.38	4857.	.027		
1189.	2.83	34.41	27.45	4862.	.041		
1486.	2.39	34.49	27.55	4874.	.062		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,\rho}$	P	$10^5 \delta$	ΔD
0.	8.20	32.14	25.02	25.02	0.0	294.4	0.000
10.	7.75	32.28	25.20	25.24	10.1	277.9	.029
20.	7.66	32.39	25.30	25.39	20.1	268.7	.056
30.	6.89	32.43	25.43	25.57	30.2	255.8	.083
50.	6.41	32.58	25.61	25.85	50.3	238.9	.132
75.	6.70	32.83	25.77	26.12	75.5	224.1	.191
100.	6.78	33.29	26.12	26.59	100.6	191.1	.243
150.	6.81	33.75	26.48	27.18	151.0	157.8	.331
200.	6.44	33.86	26.62	27.55	201.4	145.6	.407
250.	6.03	33.91	26.71	27.88	251.8	137.3	.479
300.	5.67	33.98	26.81	28.21	302.2	128.4	.546
400.	5.02	34.01	26.91	28.78	403.1	119.7	.671
500.	4.50	34.02	26.98	29.32	504.1	113.9	.789
600.	4.18	34.14	27.10	29.92	605.1	102.3	.898
700.	3.95	34.23	27.20	30.48	706.1	93.9	.997
800.	3.72	34.29	27.27	31.03	807.3	87.1	1.088
1000.	3.28	34.37	27.38	32.07	1009.6	77.8	1.255
1200.	2.81	34.41	27.46	33.09	1212.2	70.8	1.406

STATION 11.

TIME: 0412 DATE: 28-IV-57 LAT: 52° 00' N LONG: 132° 40' W SOUNDING: fms.
 WEATHER: 00 WIND: Dir. 240° Speed 25 AIR TEMP: Dry 44° Wet 44° BARO: 1007.4 mb.
 CLOUD: Type Amt SEA: 240° - 3 SWELL: 240° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.20	32.28	25.27	4843.	0.583		
9.	6.95	32.29	25.32	4840.	.604		
27.	6.95	32.31	25.33	4841.	.589		
44.	6.35	32.34	25.43	4834.	.584		
67.	6.08	32.45	25.55	4833.	.533		
89.	5.96	32.55	25.65	4833.	.471		
111.	6.03	32.71	25.76	4836.	.443		
133.	6.23	32.93	25.91	4840.	.394		
177.	7.30	33.58	26.28	4859.	.277		
222.	7.31	33.75	26.41	4863.	.215		
266.	7.06	33.84	26.52	4863.	.199		
393.	5.41	33.89	26.77	4849.	.149		
491.	4.82	34.01	26.93	4847.	.102		
590.	4.47	34.06	27.01	4848.	.071		
787.	3.91	34.20	27.18	4853.	.042		
985.	3.45	34.30	27.31	4859.	.047		
1184.	3.04	34.37	27.40	4865.	.034		
1483.	2.50	34.41	27.48	4875.	.045		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.20	32.28	25.27	25.27	0.0	270.5	0.000
10.	6.97	32.29	25.31	25.36	10.1	266.9	.027
20.	7.03	32.30	25.31	25.41	20.1	267.0	.054
30.	6.82	32.31	25.35	25.49	30.2	263.7	.081
50.	6.27	32.37	25.47	25.70	50.3	252.9	.133
75.	6.01	32.48	25.58	25.93	75.5	241.9	.195
100.	5.98	32.62	25.70	26.17	100.6	231.1	.254
150.	6.77	33.24	26.08	26.78	151.0	195.5	.362
200.	7.34	33.68	26.35	27.28	201.3	171.2	.454
250.	7.17	33.81	26.48	27.64	251.7	159.7	.537
300.	6.52	33.84	26.59	27.99	302.2	149.4	.615
400.	5.36	33.90	26.78	28.65	403.0	131.7	.757
500.	4.79	34.01	26.94	29.28	504.0	117.5	.883
600.	4.44	34.07	27.02	29.83	605.0	110.4	.998
700.	4.14	34.14	27.11	30.39	706.0	102.3	1.105
800.	3.88	34.21	27.19	30.94	807.1	95.3	1.205
1000.	3.42	34.31	27.31	32.00	1009.5	84.3	1.387
1200.	3.01	34.37	27.41	33.03	1212.1	75.9	1.549

STATION 12

TIME: 1919 DATE: 28-IV-57 LAT: 53° 00'N LONG: 133° 43.4'W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 240° Speed 16 AIR TEMP: Dry 44° Wet 42° BARO: 1015.6 mb.
 CLOUD: Type Sc Amt 9 SEA: 225° - 1 SWELL: 225° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	6.70	32.24	25.31	4836.	0.633	1.38	0.30
10.	6.68	32.17	25.26	4836.	.626	1.44	.27
20.	6.65	32.19	25.28	4836.	.624	.142	.28
30.	6.59	32.19	25.28	4836.	.573	.144	.29
50.	6.74	32.24	25.30	4840.	.597	.169	.34
75.	5.81	32.34	25.50	4829.	.561	.171	.09
100.	6.12	32.76	25.79	4836.	.496	.177	.03
125.	6.47	33.08	26.00	4844.	.411	2.02	.
150.	6.66	33.38	26.21	4849.	.333	2.25	.01
200.	6.54	33.75	26.52	4852.	.245	2.54	.03
250.	6.10	33.84	26.65	4849.	.214	2.65	.
300.	5.76	33.91	26.74	4848.	.177	.	.01
382.	5.20	34.00	26.88	4846.	.134	2.89	.
478.	4.81	34.01	26.93	4846.	.097	.	.01
574.	4.50	34.08	27.02	4848.	.072	.	.
766.	3.89	34.20	27.18	4851.	.041	3.23	.
949.	3.41	34.29	27.30	4856.	.034	3.28	.
1150.	2.97	34.36	27.40	4862.	.032	.	.
1452.	2.45	34.44	27.51	4873.	.060	3.33	.

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	6.70	32.24	25.31	25.31	0.0	267.2	0.000
10.	6.68	32.17	25.26	25.30	10.1	272.3	.027
20.	6.65	32.19	25.28	25.37	20.1	270.6	.054
30.	6.59	32.19	25.28	25.42	30.2	270.0	.082
50.	6.74	32.24	25.30	25.54	50.3	268.3	.136
75.	5.81	32.34	25.50	25.85	75.5	250.0	.201
100.	6.12	32.76	25.79	26.26	100.6	222.5	.260
125.	6.47	33.08	26.00	26.58	125.8	203.2	.314
150.	6.66	33.38	26.21	26.91	151.0	183.6	.363
200.	6.54	33.75	26.52	27.45	201.4	155.1	.448
250.	6.10	33.84	26.65	27.81	251.8	143.5	.523
300.	5.76	33.91	26.74	28.14	302.2	134.7	.593
400.	5.11	34.01	26.90	28.77	403.1	120.5	.722
500.	4.73	34.02	26.95	29.29	504.0	116.3	.842
600.	4.42	34.10	27.05	29.86	605.0	107.9	.955
700.	4.10	34.16	27.13	30.41	706.1	100.4	1.060
800.	3.79	34.22	27.21	30.96	807.2	93.5	1.158
1000.	3.29	34.31	27.33	32.02	1009.6	82.5	1.336
1200.	2.87	34.38	27.42	33.05	1212.1	74.3	1.495

STATION 13.

TIME: 0351 DATE: 29-IV-57 LAT: 54° 00' N LONG: 134° 50' W SOUNDING: fms.
 WEATHER: 00 WIND: Dir. 260° Speed 10 AIR TEMP: Dry 41° Wet 39° BARO: 1018.9 mb.
 CLOUD: Type Sc Amt 7 SEA: 250° - 1 SWELL: 250° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	6.90	32.55	25.53	4840.	0.604		
10.	6.81	32.46	25.47	4839.	.569		
20.	6.79	32.41	25.43	4839.	.529		
30.	6.77	32.40	25.43	4839.	.533		
50.	6.08	32.58	25.66	4832.	.523		
75.	5.51	32.74	25.85	4827.	.492		
100.	5.46	32.96	26.03	4828.	.438		
124.	5.59	33.31	26.29	4833.	.354		
149.	5.73	33.62	26.52	4837.	.339		
199.	5.48	33.77	26.67	4838.	.294		
249.	5.05	33.84	26.77	4835.	.203		
299.	4.84	33.93	26.87	4836.	.148		
391.	4.47	34.01	26.97	4836.	.088		
489.	4.23	34.12	27.08	4839.	.065		
586.	4.02	34.20	27.17	4842.	.064		
782.	3.51	34.30	27.30	4847.	.039		
977.	3.22	34.34	27.36	4855.	.034		
1173.	3.14	34.43	27.44	4866.	.044		
1466.	2.37	34.49	27.56	4873.	.063		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	6.90	32.55	25.53	25.53	0.0	246.6	0.000
10.	6.81	32.46	25.47	25.51	10.1	252.3	.025
20.	6.79	32.41	25.43	25.52	20.1	255.9	.051
30.	6.77	32.40	25.43	25.57	30.2	256.5	.076
50.	6.08	32.58	25.66	25.89	50.3	234.9	.126
75.	5.51	32.74	25.85	26.20	75.5	216.6	.183
100.	5.46	32.96	26.03	26.50	100.6	199.8	.235
150.	5.73	33.62	26.52	27.22	151.0	153.8	.324
200.	5.47	33.77	26.67	27.60	201.4	140.4	.398
250.	5.05	33.84	26.77	27.95	251.8	130.7	.467
300.	4.84	33.93	26.87	28.27	302.2	122.2	.530
400.	4.45	34.02	26.98	28.86	403.1	112.1	.649
500.	4.21	34.13	27.10	29.44	504.1	102.2	.757
600.	3.98	34.21	27.18	30.00	605.1	94.6	.856
700.	3.70	34.27	27.25	30.54	706.2	88.2	.949
800.	3.47	34.30	27.31	31.06	807.3	83.8	1.036
1000.	3.23	34.35	27.37	32.06	1009.7	78.7	1.200
1200.	3.10	34.44	27.45	33.08	1212.3	72.2	1.353

STATION 14.

TIME: 1336 DATE: 29-IV-57 LAT: 55° 04' N LONG: 135° 57' W SOUNDING: fms.
 WEATHER: 00 WIND: Dir. 225° Speed 5 AIR TEMP: Dry 49° Wet 44° BARO: 1021.0 mb.
 CLOUD: Type Ac Amt 4 SEA: 250° - 0 SWELL: 220° - 3 SECCHI DISC: 18 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.10	32.62	25.55	4843.	0.594	1.28	0.23
10.	6.80	32.46	25.47	4839.	.603	1.24	.21
20.	6.57	32.52	25.55	4837.	.579	1.30	.21
30.	6.50	32.53*	25.56	4836.	.616	1.28	.195
50.	5.97	32.58	25.67	4831.	.617	1.33	.21
75.	5.83	32.72	25.80	4831.	.575	1.51	.125
100.	5.42	32.88	25.97	4828.	.527	1.72	.08
125.	5.99	33.29	26.23	4838.	.438	1.99	
150.	5.83	33.65	26.53	4839.	.349	2.32	.02
200.	5.63	33.79	26.66	4840.	.498	2.42	
250.	5.21	33.84	26.75	4837.	.211	2.79	
300.	4.87	33.87	26.82	4836.	.160	2.83	.01
398.	4.57	33.98	26.94	4838.	.088		
497.	4.33	34.05	27.02	4841.	.064	3.19	
596.	4.11	34.17	27.14	4844.	.054		
795.	3.75	34.25	27.24	4851.	.041	3.35	
994.	3.40	34.36	27.36	4859.	.031	3.24	
1193.	3.10	34.41	27.43	4866.	.042	3.21	
1492.	2.61	34.48	27.53	4878.	.066	3.29	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.10	32.62	25.55	25.55	0.0	243.9	0.000
10.	6.80	32.46	25.47	25.52	10.1	252.2	.025
20.	6.57	32.52	25.55	25.64	20.1	244.9	.050
30.	6.50	32.53	25.56	25.70	30.2	243.7	.075
50.	5.97	32.58	25.67	25.90	50.3	233.6	.123
75.	5.83	32.72	25.80	26.15	75.5	221.8	.180
100.	5.42	32.88	25.97	26.44	100.6	205.3	.234
150.	5.83	33.65	26.53	27.23	151.0	153.1	.324
200.	5.63	33.79	26.66	27.60	201.4	140.9	.398
250.	5.21	33.84	26.75	27.92	251.8	132.8	.467
300.	4.87	33.87	26.82	28.22	302.2	127.1	.532
400.	4.56	33.98	26.94	28.81	403.1	116.4	.655
500.	4.32	34.05	27.02	29.37	504.1	109.2	.769
600.	4.10	34.17	27.14	29.95	605.1	98.9	.874
700.	3.92	34.21	27.19	30.47	706.2	94.9	.972
800.	3.74	34.25	27.24	30.99	807.2	90.4	1.066
1000.	3.39	34.36	27.36	32.05	1009.5	79.9	1.238
1200.	3.09	34.41	27.43	33.05	1212.1	74.1	1.394

STATION 15.

TIME: 2323 DATE: 29-IV-57 LAT: 55° 58' N LONG: 137° 02' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 170° Speed 4 AIR TEMP: Dry 42° Wet 38° BARO: 1015.9 mb.
 CLOUD: Type Cu Amt 1 SEA: Calm SWELL: 200° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	6.60	32.55	25.57	4836.	0.586		
10.	6.34	32.46	25.53	4833.	.621		
20.	6.14	32.50	25.58	4831.	.616		
30.	6.02	32.52	25.62	4830.	.609		
50.	5.84	32.60	25.70	4829.	.609		
75.	5.51	32.67	25.79	4826.	.574		
100.	5.71	32.96	26.00	4832.	.504		
125.	5.89	33.34	26.28	4837.	.418		
150.	5.93	33.55	26.44	4840.	.388		
200.	5.63	33.81	26.68	4840.	.289		
250.	5.35	33.87	26.76	4839.	.202		
300.	4.96	33.89	26.82	4837.	.162		
396.	4.46	34.00	26.97	4836.	.092		
495.	4.29	34.05	27.02	4840.	.075		
594.	4.04	34.12	27.10	4843.	.058		
793.	3.61	34.25	27.25	4849.	.043		
992.	3.08	34.32	27.36	4854.	.043		
1191.	2.77	34.39	27.44	4862.	.054		
1491.	2.42	34.46	27.53	4875.	.062		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	6.60	32.55	25.57	25.57	0.0	242.8	0.000
10.	6.34	32.46	25.53	25.58	10.1	246.5	.025
20.	6.14	32.50	25.58	25.68	20.1	241.2	.049
30.	6.02	32.52	25.62	25.76	30.2	238.5	.073
50.	5.84	32.60	25.70	25.93	50.3	230.6	.120
75.	5.51	32.67	25.79	26.15	75.5	221.8	.177
100.	5.71	32.96	26.00	26.47	100.6	202.7	.231
150.	5.93	33.55	26.44	27.14	151.0	161.8	.323
200.	5.63	33.81	26.68	27.61	201.4	139.4	.398
250.	5.35	33.87	26.76	27.93	251.8	132.2	.467
300.	4.96	33.89	26.82	28.23	302.2	126.7	.532
400.	4.45	34.00	26.97	28.84	403.1	113.6	.653
500.	4.28	34.05	27.03	29.37	504.1	108.7	.766
600.	4.03	34.12	27.11	29.92	605.1	101.5	.872
700.	3.82	34.20	27.19	30.47	706.2	94.7	.971
800.	3.59	34.25	27.26	31.01	807.3	88.7	1.064
1000.	3.07	34.32	27.36	32.06	1009.7	79.1	1.234
1200.	2.76	34.39	27.44	33.08	1212.3	71.7	1.386

STATION 16.

TIME: 0723 DATE: 30-IV-57 LAT: 56° 00' N LONG: 139° 00' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 350° Speed 8 AIR TEMP: Dry 43° Wet 42° BARO: 1011.2 mb.
 CLOUD: Type Sc Amt 3 SEA: Calm SWELL: 230° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	6.00	32.67	25.74	4829.	0.674	1.31	0.18
10.	5.52	32.60	25.74	4822.	.668	1.20	.14
20.	5.52	32.62	25.75	4823.	.667	1.18	.15
30.	5.32	32.62	25.78	4821.	.638	1.20	.15
50.	5.13	32.65	25.82	4820.	.642	1.31	.17
75.	4.89	32.64	25.84	4818.	.622	1.39	.21
100.	4.65	32.83	26.02	4817.	.539	1.65	.18
125.	5.88	33.50	26.41	4838.	.368	2.08	
150.	5.81	33.67	26.55	4839.	.291	2.37	.18
200.	5.41	33.65	26.58	4836.	.234	2.53	
250.	4.95	33.86	26.80	4834.	.158	2.80	
300.	4.69	33.94	26.89	4834.	.121	2.86	
395.	4.38	34.00	26.97	4835.	.075		
494.	4.07	34.10	27.09	4837.	.052	3.08	
593.	3.87	34.25	27.23	4841.	.044		
793.	3.43	34.29	27.30	4847.	.037	3.18	
992.	3.02	34.37	27.40	4853.	.034	2.89	
1191.	2.76	34.41	27.46	4862.	.044	3.12	
1490.	2.37	34.48	27.55	4874.	.062	2.98	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	10 ⁵ δ	ΔD
0.	6.00	32.67	25.74	25.74	0.0	226.7	0.000
10.	5.52	32.60	25.74	25.79	10.1	226.5	.023
20.	5.52	32.62	25.75	25.85	20.1	225.1	.046
30.	5.32	32.62	25.78	25.92	30.2	223.0	.068
50.	5.13	32.65	25.82	26.06	50.3	218.9	.113
75.	4.89	32.64	25.84	26.19	75.5	217.3	.167
100.	4.65	32.83	26.02	26.49	100.7	200.7	.220
150.	5.81	33.67	26.55	27.25	151.0	151.4	.309
200.	5.41	33.65	26.58	27.52	201.4	148.7	.384
250.	4.95	33.86	26.80	27.97	251.8	128.3	.454
300.	4.69	33.94	26.89	28.30	302.3	119.9	.517
400.	4.36	34.00	26.98	28.86	403.2	112.4	.634
500.	4.06	34.11	27.10	29.44	504.1	102.0	.742
600.	3.85	34.25	27.23	30.04	605.1	90.2	.839
700.	3.63	34.27	27.26	30.55	706.2	87.4	.929
800.	3.41	34.29	27.30	31.06	807.3	83.7	1.016
1000.	3.01	34.37	27.40	32.10	1009.7	74.9	1.176
1200.	2.75	34.41	27.46	33.10	1212.3	70.2	1.323

STATION 17.

TIME: 1437 DATE: 30-IV-57 LAT: 55° 00' N LONG: 139° 00' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 000° Speed 10 AIR TEMP: Dry 42° Wet 39° BARO: 1005.1 mb.
 CLOUD: Type Cu Amt 8 SEA: 000° - 1 SWELL: 330° - 2 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	5.50	32.72	25.84	4822.	0.661		
10.	5.39	32.64	25.79	4821.	.675		
20.	5.09	32.64	25.82	4817.	.694		
30.	4.90	32.65	25.85	4815.	.673		
49.	4.84	32.65	25.85	4816.	.645		
74.	4.77	32.65	25.86	4816.	.641		
99.	4.91	33.29	26.35	4822.	.446		
123.	5.17	33.60	26.57	4828.	.317		
148.	5.24	33.70	26.64	4831.	.272		
197.	4.90	33.84	26.79	4830.	.200		
246.	4.55	33.91	26.88	4828.	.135		
296.	4.36	33.98	26.96	4829.	.095		
393.	4.20	34.03	27.02	4833.	.069		
491.	4.02	34.12	27.11	4837.	.052		
590.	3.82	34.17	27.17	4840.	.039		
788.	3.29	34.30	27.32	4845.	.036		
986.	2.92	34.39	27.43	4852.	.040		
1184.	2.64	34.44	27.49	4860.	.047		
1482.	2.25	34.51	27.58	4872.	.072		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	5.50	32.72	25.84	25.84	0.0	217.2	0.000
10.	5.39	32.64	25.79	25.83	10.1	222.1	.022
20.	5.09	32.64	25.82	25.91	20.1	218.9	.044
30.	4.90	32.65	25.85	25.99	30.2	216.3	.066
50.	4.83	32.64	25.85	26.08	50.3	216.7	.110
75.	4.77	32.68	25.89	26.24	75.5	212.9	.164
100.	4.92	33.31	26.37	26.83	100.7	167.9	.212
150.	5.23	33.71	26.65	27.35	151.0	141.8	.290
200.	4.87	33.84	26.80	27.73	201.4	128.1	.358
250.	4.53	33.92	26.89	28.06	251.9	119.4	.420
300.	4.35	33.98	26.96	28.37	302.3	113.1	.479
400.	4.19	34.04	27.02	28.90	403.2	108.0	.590
500.	4.00	34.12	27.11	29.46	504.2	100.4	.696
600.	3.79	34.18	27.18	29.99	605.2	94.9	.794
700.	3.51	34.25	27.26	30.55	706.3	87.5	.886
800.	3.27	34.31	27.33	31.09	807.4	81.2	.972
1000.	2.90	34.39	27.43	32.13	1009.8	72.1	1.127
1200.	2.62	34.44	27.50	33.14	1212.4	66.4	1.267

STATION 18

TIME: 2334 DATE: 30-IV-57 LAT: 54° 00' N LONG: 139° 00' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 035° Speed 8 AIR TEMP: Dry 43° Wet 40° BARO: 1007.4 mb.
 CLOUD: Type Amt 4 SEA: 035° - 1 SWELL: 030° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	5.90	32.65	25.73	4827.	0.607		
10.	5.84	32.64	25.73	4827.	.623		
20.	5.66	32.58	25.71	4825.	.628		
30.	5.44	32.60	25.75	4823.	.635		
50.	5.23	32.60	25.77	4821.	.614		
75.	5.12	32.62	25.80	4821.	.622		
100.	4.74	32.69	25.90	4818.	.595		
125.	5.62	33.36	26.33	4834.	.382		
150.	5.82	33.62	26.51	4839.	.304		
200.	5.64	33.81	26.68	4840.	.225		
250.	5.30	33.86	26.76	4839.	.178		
300.	4.95	33.91	26.84	4837.	.145		
380.	4.62	33.94	26.90	4837.	.090		
475.	4.36	34.05	27.02	4840.	.061		
571.	4.03	34.12	27.11	4841.	.061		
765.	3.59	34.27	27.27	4847.	.040		
959.	3.17	34.34	27.36	4853.	.039		
1156.	2.84	34.36	27.41	4860.	.040		
1453.	2.42	34.29*	27.39	4872.	.066		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	$10^5 \delta$	ΔD
0.	5.90	32.65	25.73	25.73	0.0	227.0	0.000
10.	5.84	32.64	25.73	25.78	10.1	227.2	.023
20.	5.66	32.58	25.71	25.80	20.1	229.7	.046
30.	5.44	32.60	25.75	25.89	30.2	225.8	.069
50.	5.23	32.60	25.77	26.01	50.3	223.7	.114
75.	5.12	32.62	25.80	26.15	75.5	221.3	.170
100.	4.74	32.69	25.90	26.37	100.7	212.2	.225
125.	5.62	33.36	26.33	26.91	125.8	172.0	.273
150.	5.82	33.62	26.51	27.21	151.0	155.2	.314
200.	5.64	33.81	26.68	27.61	201.4	139.5	.388
250.	5.30	33.86	26.76	27.93	251.8	132.3	.457
300.	4.95	33.91	26.84	28.24	302.3	125.1	.522
400.	4.55	33.96	26.92	28.80	403.2	118.1	.644
500.	4.28	34.07	27.04	29.39	504.1	107.4	.758
600.	3.94	34.14	27.13	29.95	605.1	99.3	.863
700.	3.70	34.22	27.22	30.50	706.2	91.8	.959
800.	3.51	34.29	27.29	31.05	807.3	85.2	1.049
1000.	3.09	34.35	27.38	32.08	1009.7	77.5	1.213
1200.	2.77	34.36	27.41	33.05	1212.3	74.5	1.367

STATION 19.

TIME: 0730 DATE: 1-V-57 LAT: 54° 00' N LONG: 137° 20' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 010° Speed 12 AIR TEMP: Dry 42° Wet 39° BARO: 1005.7 mb.
 CLOUD: Type St Amt 7 SEA: Calm SWELL: 010° - 1 SECCHI DISC: 12.5 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	6.20	32.72	25.75	4831.	0.650	1.21	0.155
10.	6.06	32.64	25.71	4830.	.650	1.25	.14
19.	5.64	32.64	25.76	4825.	.644	1.14	.158
29.	5.44	32.64	25.78	4823.	.666	1.32	.152
49.	5.31	32.65	25.80	4822.	.636	1.45	.241
73.	5.06	32.71	25.88	4820.	.604	1.53	.258
97.	5.39	33.20	26.23	4828.	.460	1.94	.04
122.	5.60	33.51	26.45	4834.	.395	2.11	
146.	5.60	33.67	26.57	4836.	.327	2.32	.03
195.	5.32	33.82	26.73	4836.	.286	2.48	
243.	4.96	33.89	26.82	4834.	.206	2.67	
292.	4.78	33.93	26.87	4834.	.145	2.92	
380.	4.52	33.98	26.94	4836.	.143		
475.	4.16	34.08	27.06	4837.	.109	3.12	
571.	3.92	34.13	27.12	4840.	.067		
762.	3.47	34.25	27.26	4845.	.039	3.29	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	10 ⁵ δ	ΔD
0.	6.20	32.72	25.75	25.75	0.0	225.3	0.000
10.	6.06	32.64	25.71	25.75	10.1	229.7	.023
20.	5.62	32.64	25.76	25.85	20.1	224.7	.046
30.	5.44	32.64	25.78	25.92	30.2	222.8	.068
50.	5.29	32.64	25.80	26.03	50.3	221.1	.113
75.	5.09	32.76	25.91	26.26	75.5	210.6	.167
100.	5.43	33.24	26.26	26.73	100.7	178.1	.216
150.	5.58	33.69	26.59	27.29	151.0	147.5	.298
200.	5.27	33.83	26.74	27.67	201.4	133.8	.369
250.	4.93	33.90	26.83	28.00	251.8	125.4	.434
300.	4.76	33.93	26.88	28.29	302.3	121.2	.497
400.	4.43	34.01	26.97	28.85	403.2	113.1	.615
500.	4.10	34.09	27.08	29.42	504.1	103.8	.724
600.	3.85	34.15	27.15	29.96	605.2	97.9	.826
700.	3.61	34.21	27.22	30.51	706.2	91.5	.922

STATION 20.

TIME: 1405 DATE: 1-V-57 LAT: 54° 00' N LONG: 135° 45' W SOUNDING: fms.
 WEATHER: 81 WIND: Dir. 000° Speed 10 AIR TEMP: Dry 42° Wet 41° BARO: 1003.4 mb.
 CLOUD: Type Cu Amt 10 SEA: 000° - 1 SWELL: 000° - 1 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	6.90	32.40	25.41	4839.	0.613		
10.	6.73	32.28	25.34	4837.	.632		
20.	6.37	32.45	25.52	4834.	.611		
30.	6.19	32.53	25.60	4832.	.639		
50.	5.86	32.60	25.70	4829.	.623		
75.	5.66	32.71	25.81	4829.	.575		
100.	5.47	32.91	25.99	4828.	.534		
125.	5.64	33.20	26.20	4833.	.455		
150.	5.59	33.57	26.50	4835.	.373		
200.	5.28	33.82	26.73	4835.	.293		
250.	4.97	33.86	26.80	4834.	.225		
300.	4.65	33.91	26.87	4833.	.157		
389.	4.37	33.98	26.96	4835.	.099		
486.	4.15	34.12	27.09	4838.	.064		
584.	3.95	34.15	27.14	4841.	.049		
780.	3.58	34.27	27.27	4848.	.034		
975.	3.20	34.34	27.36	4855.	.032		
1172.	2.87	34.39	27.43	4862.	.039		
1466.	2.41	34.48	27.54	4873.	.050		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	10 ⁵	$\Delta D \delta$
0.	6.90	32.40	25.41	25.41	0.0	257.8	0.000
10.	6.73	32.28	25.34	25.38	10.1	264.7	.026
20.	6.37	32.45	25.52	25.61	20.1	247.7	.052
30.	6.19	32.53	25.60	25.74	30.2	239.7	.077
50.	5.86	32.60	25.70	25.93	50.3	230.8	.124
75.	5.66	32.71	25.81	26.16	75.5	220.5	.181
100.	5.47	32.91	25.99	26.46	100.6	203.7	.234
150.	5.59	33.57	26.50	27.20	151.0	156.2	.325
200.	5.28	33.82	26.73	27.67	201.4	134.5	.398
250.	4.97	33.86	26.80	27.97	251.8	128.5	.464
300.	4.65	33.91	26.87	28.28	302.2	121.7	.527
400.	4.34	34.00	26.98	28.86	403.1	112.4	.646
500.	4.12	34.12	27.10	29.45	504.1	101.8	.754
600.	3.92	34.16	27.15	29.97	605.1	97.6	.854
700.	3.73	34.23	27.22	30.51	706.2	91.4	.950
800.	3.54	34.28	27.28	31.04	807.3	86.3	1.040
1000.	3.16	34.35	27.37	32.07	1009.7	78.4	1.206
1200.	2.82	34.40	27.44	33.08	1212.3	72.1	1.359

STATION 21.

TIME: 1954 DATE: 1-V-57 LAT: 54° 00' N LONG: 134° 51' W SOUNDING: fms.
 WEATHER: 63 WIND: Dir. 120° Speed 5 AIR TEMP: Dry 43° Wet 42° BARO: 1001.0 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: 000° - 1 SECCHI DISC: 11 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.30	32.40	25.21	4857.	0.630		0.24
10.	6.90	32.36	25.38	4840.	.630		
20.	6.73	32.46	25.48	4839.	.621	1.22	
30.	6.63	32.48	25.51	4838.	.625		.21
50.	5.85	32.64	25.73	4829.	.586		.315
75.	5.58	32.83	25.91	4828.	.534	1.62	
100.	5.47	33.12	26.15	4829.	.501		
125.	5.63	33.50	26.44	4834.	.407		
150.	5.60	33.67	26.57	4836.	.329		
200.	5.27	33.82	26.73	4835.	.240	2.67	
250.	4.94	33.91	26.84	4834.	.195		
300.	4.75	33.93	26.88	4834.	.144		
379.	4.53	34.01	26.97	4836.	.093		
474.	4.28	34.10	27.06	4839.	.093		
573.	4.07	34.12	27.10	4842.	.049		
768.	3.60	34.25	27.25	4848.	.035	3.28	
968.	3.22	34.34	27.36	4855.	.031		
1171.	2.85	34.41	27.45	4862.	.036		
1476.	2.37	34.46	27.53	4873.	.053	3.28	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.30	32.40	25.21	25.21	0.0	276.4	0.000
10.	6.90	32.36	25.38	25.42	10.1	260.9	.027
20.	6.73	32.46	25.48	25.57	20.1	251.4	.053
30.	6.63	32.48	25.51	25.65	30.2	248.8	.078
50.	5.85	32.64	25.73	25.96	50.3	227.7	.126
75.	5.58	32.83	25.91	26.26	75.5	210.6	.181
100.	5.47	33.12	26.15	26.62	100.6	187.9	.231
150.	5.60	33.67	26.57	27.27	151.0	148.9	.316
200.	5.27	33.82	26.73	27.67	201.4	134.4	.387
250.	4.94	33.91	26.84	28.01	251.8	124.4	.453
300.	4.75	33.93	26.88	28.28	302.3	121.3	.515
400.	4.47	34.04	26.99	28.87	403.2	111.3	.632
500.	4.23	34.10	27.07	29.42	504.1	104.5	.741
600.	4.00	34.14	27.13	29.94	605.1	100.0	.844
700.	3.75	34.21	27.20	30.49	706.2	93.0	.942
800.	3.54	34.27	27.27	3h.03	807.3	87.2	1.033
1000.	3.16	34.35	27.38	32.07	1009.7	77.9	1.200
1200.	2.80	34.42	27.46	33.09	1212.3	70.4	1.350

STATION 22.

TIME: 2311 DATE: 1-V-57 LAT: 53° 59' N LONG: 134° 17' W SOUNDING: 1500 fms.
 WEATHER: 02 WIND: Dir. 060° Speed 5 AIR TEMP: Dry 44° Wet 44° BARO: 1000.7 mb.
 CLOUD: Type St Amt 10 SEA: SWELL: 330° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.10	32.48	25.45	4842.	0.599		0.191
10.	6.85	32.45	25.45	4839.	.634		
20.	6.77	32.45	25.47	4839.	.599	1.30	
30.	6.66	32.50	25.52	4838.	.604		.225
50.	5.93	32.60	25.69	4830.	.587		.355
75.	5.47	32.64	25.78	4826.	.535	1.51	
100.	5.32	32.69	25.83	4825.	.484		
125.	5.64	33.03	26.06	4833.	.453		
150.	5.67	33.57	26.49	4837.	.334		
200.	5.44	33.77	26.67	4837.	.264	2.44	
250.	5.04	33.87	26.80	4835.	.205		
300.	4.71	33.89	26.85	4834.	.153		
350.	4.28	33.91	26.91	4831.	.124		
394.	4.56	34.00	26.95	4838.	.090		
493.	4.02	34.06	27.06	4836.	.061		
591.	3.97	34.17	27.15	4842.	.041		
789.	3.59	34.27	27.27	4849.	.031	3.25	
985.	3.21	34.34	27.36	4855.	.032		
1183.	2.81	34.41	27.45	4862.	.038		
1477.	2.32	34.48	27.55	4873.	.049	3.19	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.10	32.48	25.45	25.45	0.0	254.3	0.000
10.	6.85	32.45	25.45	25.50	10.1	253.5	.026
20.	6.77	32.45	25.47	25.56	20.1	252.6	.051
30.	6.66	32.50	25.52	25.66	30.2	247.7	.076
50.	5.93	32.60	25.69	25.92	50.3	231.6	.124
75.	5.47	32.64	25.78	26.13	75.5	223.6	.182
100.	5.32	32.69	25.83	26.30	100.6	218.5	.237
150.	5.67	33.57	26.49	27.19	151.0	157.2	.332
200.	5.44	33.77	26.67	27.61	201.4	140.1	.407
250.	5.04	33.87	26.80	27.97	251.8	128.6	.475
300.	4.71	33.89	26.85	28.26	302.2	123.9	.538
400.	4.51	34.00	26.96	28.84	403.1	114.3	.658
500.	4.02	34.07	27.07	29.41	504.1	104.7	.769
600.	3.95	34.18	27.16	29.97	605.1	96.9	.871
700.	3.76	34.23	27.22	30.50	706.2	91.6	.966
800.	3.57	34.27	27.27	31.03	807.3	86.9	1.056
1000.	3.18	34.35	27.37	32.06	1009.7	78.6	1.224
1200.	2.78	34.42	27.46	33.10	1212.3	70.3	1.375

STATION 23.

TIME: 0220 DATE: 2-V-57 LAT: 54° 00' N LONG: 133° 45' W SOUNDING: fms.
 WEATHER: 81 WIND: Dir. 135° Speed 5 AIR TEMP: Dry 47° Wet 46° BARO: 100.7 mb.
 CLOUD: Type Amt SEA: 135° - 1 SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.40	32.41	25.35	4846.	0.554		0.24
9.	7.18	32.38	25.36	4843.	.601		
19.	7.14	32.38	25.36	4843.	.601	1.30	
28.	7.15	32.43	25.40	4844.	.561		.15
47.	6.63	32.45	25.48	4839.	.590		.22
70.	5.72	32.69	25.79	4829.	.525	1.58	
94.	5.75	32.91	25.96	4832.	.511		
117.	6.22	33.50	26.36	4842.	.390	2.14	
141.	6.39	33.75	26.54	4846.	.311		
188.	5.99	33.87	26.68	4844.	.209	2.69	
235.	5.40	33.91	26.79	4839.	.186		
282.	5.20	33.96	26.85	4840.	.138		
329.	4.95	34.02*	26.93	4839.	.126	3.15	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	7.40	32.41	25.35	25.35	0.0	263.4	0.000
10.	7.17	32.38	25.35	25.40	10.1	263.1	.026
20.	7.15	32.39	25.37	25.46	20.1	262.2	.053
30.	7.11	32.42	25.40	25.54	30.2	258.9	.079
50.	6.46	32.48	25.53	25.76	50.3	246.7	.130
75.	5.69	32.70	25.80	26.15	75.5	221.4	.189
100.	5.90	33.10	26.08	26.55	100.6	194.7	.241
150.	6.33	33.78	26.57	27.27	151.0	149.6	.328
200.	5.80	33.88	26.71	27.65	201.4	136.3	.400
250.	5.34	33.92	26.81	27.97	251.8	128.0	.467
300.	5.11	33.98	26.88	28.28	302.2	121.6	.530

STATION 24

TIME: 0407 DATE: 2-V-57 LAT: 54° 00' N LONG: 133° 29' W SOUNDING: 88 fms.
 WEATHER: 62 WIND: Dir. 170° Speed 12 AIR TEMP: Dry 46° Wet 45° BARO: 1000.7 mb.
 CLOUD: Type Ns Amt 7 SEA: Calm SWELL: 180° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.40	32.41	25.35	4846.	0.581		0.18
10.	7.18	32.40	25.37	4844.	.583		
20.	6.99	32.41	25.40	4842.	.561	1.28	
30.	6.68	32.48	25.50	4839.	.555		.15
49.	5.75	32.67	25.77	4828.	.583	1.53	.42
74.	6.04	32.95	25.95	4835.	.462	1.83	
99.	6.41	33.34	26.21	4842.	.384	2.25	
123.	6.45	33.69	26.48	4846.	.291	2.12	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.40	32.41	25.35	25.35	0.0	263.4	0.000
10.	7.18	32.40	25.37	25.42	10.1	261.5	.026
20.	6.99	32.41	25.40	25.50	20.1	258.4	.053
30.	6.68	32.48	25.50	25.64	30.2	249.4	.078
50.	5.76	32.68	25.77	26.01	50.3	223.7	.126
75.	6.06	32.97	25.96	26.31	75.5	206.1	.180
100.	6.42	33.36	26.22	26.69	100.6	181.7	.229

STATION 25

TIME: 0545 DATE: 2-V-57 LAT: 54° 02' N LONG: 133° 16.3' W SOUNDING: 28 fms.
 WEATHER: 01 WIND: Dir. 170° Speed 25 AIR TEMP: Dry 46° Wet 44° BARO: 1001 mb.
 CLOUD: Type Ns Amt 3 SEA: 170° - 2 SWELL: 170° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	7.30	32.38	25.34	4844.	0.615		0.19
10.	7.11	32.34	25.33	4842.	.606	1.39	
20.	7.09	32.34	25.34	4843.	.606	1.36	.155
30.	7.08	32.36	25.35	4843.	.608	1.36	.17
45.	7.02	32.38	25.38	4843.	.591	1.53	.145

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.30	32.38	25.34	25.34	0.0	264.4	0.000
10.	7.11	32.34	25.33	25.38	10.1	265.0	.027
20.	7.09	32.34	25.34	25.43	20.1	264.9	.053
30.	7.08	32.36	25.35	25.49	30.2	263.4	.080

STATION 26

TIME: 0859 DATE: 2-V-57 LAT: 54° 19' N LONG: 132° 59' W SOUNDING: 252 fms.
 WEATHER: 50 WIND: Dir. 110° Speed 12 AIR TEMP: Dry 45° Wet 45° BARO: 1003.7 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: 9 SECCHI DISC: 11 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	6.60	31.88	25.04	4833.	0.607		
10.	6.26	31.86	25.07	4829.	.605		
20.	6.22	31.85	25.06	4829.	.596		
30.	6.15	31.88	25.10	4829.	.595		
50.	5.80	31.97	25.21	4826.	.571		
75.	5.72	32.05	25.28	4827.	.541		
100.	5.69	32.45	25.60	4829.	.502		
125.	5.59	32.69	25.80	4831.	.434		
150.	5.57	33.22	26.22	4834.	.319		
200.	5.59	33.69	26.59	4839.	.239		
250.	5.52	33.77	26.66	4841.	.226		
300.	5.36	33.86	26.75	4842.	.199		
400.	5.19	33.87	26.78	4846.	.171		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	6.60	31.88	25.04	25.04	0.0	292.9	0.000
10.	6.26	31.86	25.07	25.11	10.1	290.5	.029
20.	6.22	31.85	25.06	25.16	20.1	290.9	.059
30.	6.15	31.88	25.10	25.24	30.2	287.9	.088
50.	5.80	31.97	25.21	25.44	50.3	277.3	.145
75.	5.72	32.05	25.28	25.63	75.4	270.7	.213
100.	5.69	32.45	25.60	26.07	100.6	240.6	.278
150.	5.57	33.22	26.22	26.92	150.9	182.2	.384
200.	5.59	33.69	26.59	27.52	201.3	147.8	.467
250.	5.52	33.77	26.66	27.83	251.7	141.6	.540
300.	5.36	33.86	26.75	28.15	302.2	133.6	.610
400.	5.19	33.87	26.78	28.65	403.0	131.9	.744

STATION 34

TIME: 1549 DATE: 7-V-57 LAT: 53° 18' N LONG: 132° 48' W SOUNDING: 78 fms.
 WEATHER: 02 WIND: Dir. 190° Speed 12 AIR TEMP: Dry 57° Wet 54° BARO: 1005.7 mb.
 CLOUD: Type Amt SEA: SWELL: 280° - 1 SECCHI DISC: 12 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	7.90	32.22	25.13	4851.	0.652		
10.	7.77	32.14	25.09	4850.	.656		
20.	7.35	32.29	25.26	4846.	.637		
30.	7.15	32.36	25.34	4844.	.620		
50.	6.99	32.45	25.44	4844.	.605		
75.	6.82	32.50	25.50	4843.	.580		
100.	6.54	32.77	25.75	4842.	.515		
125.	6.38	33.32	26.20	4843.	.384		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	7.90	32.22	25.13	25.13	0.0	284.3	0.000
10.	7.77	32.14	25.09	25.13	10.1	288.6	.029
20.	7.35	32.29	25.26	25.35	20.1	272.0	.057
30.	7.15	32.36	25.34	25.48	30.2	264.3	.084
50.	6.99	32.45	25.44	25.67	50.3	255.8	.136
75.	6.82	32.50	25.50	25.85	75.5	250.2	.200
100.	6.54	32.77	25.75	26.21	100.6	226.9	.260

STATION 35

TIME: 1758 DATE: 7-V-57 LAT: 53° 13' N LONG: 133° 09' W SOUNDING: 465 fms.
 WEATHER: 03 WIND: Dir. Speed 1-3 AIR TEMP: Dry 54° Wet 54° BARO: 1005.4 mb.
 CLOUD: Type Ac Amt 5 SEA: 290° - 1 SWELL: 290° - 4 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.90	32.41	25.13	4865.	0.607		
10.	8.06	32.31	25.18	4854.	.617		
20.	7.79	32.34	25.24	4852.	.619		
30.	7.70	32.38	25.28	4851.	.613		
50.	6.18	32.36	25.47	4833.	.584		
75.	6.12	32.83	25.85	4835.	.497		
100.	6.59	33.31	26.17	4845.	.354		
124.	6.91	33.62	26.37	4851.	.303		
149.	6.92	33.62	26.37	4853.	.267		
199.	6.70	33.77	26.51	4854.	.215		
249.	5.96	33.86	26.68	4847.	.276		
299.	5.37	33.86	26.75	4843.	.229		
349.	5.13	33.91	26.82	4842.	.171		
393.	4.96	33.96	26.88	4843.	.134		
492.	4.54	34.01	26.96	4843.	.086		
591.	4.29	34.08	27.05	4846.	.077		
690.	3.86	34.20	27.19	4846.	.047		
					.086		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.90	32.41	25.13	25.13	0.0	284.3	0.000
10.	8.06	32.31	25.18	25.22	10.1	279.9	.028
20.	7.79	32.34	25.24	25.33	20.1	274.1	.056
30.	7.70	32.38	25.28	25.42	30.2	270.1	.084
50.	6.18	32.36	25.47	25.70	50.3	252.5	.136
75.	6.12	32.83	25.85	26.20	75.5	217.0	.195
100.	6.59	33.31	26.17	26.63	100.6	187.2	.246
150.	6.92	33.62	26.37	27.06	151.0	168.8	.336
200.	6.68	33.77	26.52	27.45	201.4	155.3	.417
250.	5.94	33.86	26.68	27.85	251.8	140.1	.492
300.	5.36	33.86	26.75	28.15	302.2	133.6	.561
400.	4.92	33.96	26.88	28.76	403.1	121.9	.690
500.	4.53	34.01	26.97	29.31	504.1	114.5	.809
600.	4.26	34.09	27.06	29.87	605.1	106.8	.921

STATION 36

TIME: 2318 DATE: 7-V-57 LAT: 53° 07' N LONG: 133° 39' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. Speed AIR TEMP: Dry 48° Wet 48° BARO: 1006.8 mb.
 CLOUD: Type Cu Amt 1 SEA: SWELL: 310° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.		32.50			0.620		
10.	7.98	32.45	25.30	4854.	.622		
20.	7.80	32.45	25.32	4852.	.628		
30.	7.76	32.45	25.33	4852.	.622		
50.	6.60	32.62	25.62	4839.	.609		
75.	6.15	32.65	25.70	4835.	.622		
100.	6.48	33.01	25.94	4842.	.409		
125.	5.96	33.29	26.23	4838.	.481		
150.	6.44	33.60	26.41	4847.			
200.	6.25	33.82	26.61	4848.	.306		
250.	5.85	33.86	26.69	4846.	.227		
300.	5.49	33.91	26.78	4844.	.196		
400.	5.01	33.93	26.85	4844.	.124		
479.	4.56	34.01	26.96	4843.	.092		
578.	4.12	34.08	27.06	4843.	.068		
774.	3.88	34.22	27.20	4852.	.033		
973.	3.33	34.32	27.33	4856.	.033		
1172.	2.90	34.43	27.46	4862.	.036		
1474.	2.45	34.46	27.52	4874.	.053		
1992.	1.93	34.58	27.66	4898.	.122		
2590.	1.71	34.58	27.68	4930.	.179		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.		32.50			0.0		0.000
10.	7.98	32.45	25.30	25.34	10.1	268.4	.025
20.	7.80	32.45	25.32	25.42	20.1	266.1	.052
30.	7.76	32.45	25.33	25.47	30.2	265.7	.079
50.	6.60	32.62	25.62	25.85	50.3	238.2	.130
75.	6.15	32.65	25.70	26.05	75.5	230.8	.189
100.	6.48	33.01	25.94	26.41	100.6	208.2	.244
150.	6.44	33.60	26.41	27.11	151.0	164.4	.338
200.	6.25	33.82	26.61	27.54	201.4	146.2	.416
250.	5.85	33.86	26.69	27.86	251.8	138.9	.488
300.	5.49	33.91	26.78	28.18	302.2	131.4	.556
400.	5.01	33.93	26.85	28.72	403.1	125.3	.686
500.	4.45	34.02	26.99	29.33	504.1	112.8	.806
600.	4.11	34.10	27.08	29.89	605.1	104.4	.915
700.	4.01	34.17	27.15	30.43	706.1	98.6	1.018
800.	3.80	34.23	27.22	30.97	807.2	92.6	1.115
1000.	3.27	34.34	27.36	32.05	1009.6	80.1	1.289
1200.	2.85	34.43	27.47	33.10	1212.2	70.0	1.442
1500.	2.42	34.47	27.53	34.57	1516.5	63.9	1.645
2000.	1.92	34.58	27.66	37.03	2024.5	52.1	1.940
2500.	1.72	34.59	27.69	39.35	2533.8	50.6	2.201

STATION 37

TIME: 0742 DATE: 8-V-57 LAT: 52° 49' N LONG: 135° 10' W SOUNDING: 1700 fms.
 WEATHER: 01 WIND: Dir. 160° Speed 15 AIR TEMP: Dry 45° Wet 45° BARO: 1011.8 mb.
 CLOUD: Type Amt SEA: 160° - 1 SWELL: 160° - 4 SECCHI DISC: 14 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.40	32.62	25.51	4847.	0.616	1.16	0.251
10.	7.05	32.55	25.51	4842.	.620	1.26	.202
20.	7.06	32.52	25.48	4843.	.610	1.20	.200
30.	7.07	32.52	25.48	4844.	.613	1.14	.182
50.	6.04	32.62	25.69	4832.	.607	1.42	.352
75.	5.59	32.65	25.77	4827.	.610	1.46	.440
99.	5.61	32.95	26.00	4830.	.523	1.48	.076
124.	6.33	33.46	26.32	4843.	.340	1.56	
149.	6.29	33.72	26.53	4845.	.270	2.31	.017
199.	5.75	33.84	26.69	4842.	.198	2.49	
249.	5.43	33.94	26.81	4841.	.149	2.46	
298.	4.81	33.93	26.87	4835.	.154	2.33	.009
398.	4.38	34.03	27.00	4836.	.087		
493.	3.91	34.08	27.09	4835.	.072	2.86	
592.	3.81	34.18	27.18	4840.	.050		
790.	3.48	34.27	27.28	4847.	.034		
987.	3.15	34.37	27.39	4855.	.036	3.00	
1186.	2.78	34.49	27.52	4862.	.041	3.27	
1482.	2.37	34.48	27.55	4874.	.063	3.45	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.40	32.62	25.51	25.51	0.0	247.8	0.000
10.	7.05	32.55	25.51	25.55	10.1	248.6	.025
20.	7.06	32.52	25.48	25.57	20.1	251.1	.050
30.	7.07	32.52	25.48	25.62	30.2	251.4	.075
50.	6.04	32.62	25.69	25.93	50.3	231.4	.124
75.	5.59	32.65	25.77	26.12	75.5	224.2	.181
100.	5.65	32.98	26.02	26.49	100.6	200.9	.235
150.	6.28	33.72	26.53	27.23	151.0	153.2	.324
200.	5.75	33.84	26.69	27.63	201.4	138.3	.397
250.	5.41	33.94	26.81	27.98	251.8	127.7	.464
300.	4.80	33.93	26.87	28.28	302.2	121.7	.527
400.	4.37	34.03	27.00	28.88	403.2	110.5	.645
500.	3.90	34.09	27.09	29.44	504.1	102.0	.752
600.	3.80	34.18	27.18	30.00	605.1	94.6	.851
700.	3.63	34.23	27.23	30.52	706.2	90.3	.945
800.	3.46	34.27	27.28	31.04	807.3	85.7	1.033
1000.	3.12	34.38	27.40	32.10	1009.7	75.5	1.197
1200.	2.76	34.49	27.53	33.16	1212.3	64.2	1.338

STATION 38

TIME: 1549 DATE: 8-V-57 LAT: 52° 26' N LONG: 136° 21' W SOUNDING: 1810 fms.
 WEATHER: 02 WIND: Dir. 225° Speed 5 AIR TEMP: Dry 48° Wet 45° BARO: 1017.3 mb.
 CLOUD: Type St Amt 10 SEA: SWELL: 230° - 1 SECCHI DISC: 13 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.40	32.67	25.55	4847.	0.631		
10.	6.62	32.64	25.63	4837.	.632		
20.	6.55	32.62	25.63	4837.	.629		
30.	6.51	32.64	25.65	4837.	.631		
50.	6.01	32.65	25.72	4832.	.613		
75.	5.28	32.65	25.81	4823.	.611		
100.	5.21	32.67	25.83	4824.	.610		
125.	6.07	33.41	26.31	4840.	.603		
150.	6.10	33.65	26.50	4843.	.357		
200.	5.79	33.79	26.65	4842.	.310		
250.	5.35	33.91	26.79	4840.	.231		
300.	4.99	33.93	26.85	4838.	.188		
397.	4.61	34.00	26.95	4839.	.143		
496.	4.31	34.06	27.03	4841.	.100		
595.	4.08	34.05	27.04	4843.	.096		
794.	3.53	34.25	27.26	4848.	.035		
991.	3.12	34.30	27.34	4854.	.041		
1187.	2.79	34.37	27.42	4862.	.041		
1481.	2.39	34.46	27.53	4874.	.059		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	$10^5 \delta$	ΔD
0.	7.40	32.67	25.55	25.55	0.0	244.0	0.000
10.	6.62	32.64	25.63	25.68	10.1	236.5	.024
20.	6.55	32.62	25.63	25.72	20.1	237.2	.048
30.	6.51	32.64	25.65	25.79	30.2	235.4	.072
50.	6.01	32.65	25.72	25.95	50.3	228.8	.118
75.	5.28	32.65	25.81	26.16	75.5	220.8	.175
100.	5.21	32.67	25.83	26.30	100.6	218.7	.230
150.	6.10	33.65	26.50	27.20	151.0	156.4	.325
200.	5.79	33.79	26.65	27.58	201.4	142.8	.400
250.	5.35	33.91	26.79	27.96	251.8	129.2	.469
300.	4.99	33.93	26.85	28.26	302.2	124.0	.533
400.	4.60	34.00	26.95	28.83	403.1	115.2	.653
500.	4.30	34.06	27.03	29.37	504.1	108.6	.766
600.	4.06	34.06	27.05	29.87	605.1	107.0	.875
700.	3.77	34.17	27.17	30.46	706.2	95.8	.978
800.	3.52	34.25	27.26	31.02	807.3	88.0	1.071
1000.	3.10	34.30	27.34	32.04	1009.7	81.0	1.242
1200.	2.77	34.37	27.43	33.06	1212.2	73.2	1.398

STATION 39

TIME: 2321 DATE: 8-V-57 LAT: 52° 06' N LONG: 137° 50' W SOUNDING: 1920 fms.
 WEATHER: 02 WIND: Dir. 270° Speed 10 AIR TEMP: Dry 44° Wet 41° BARO: 1017.6 mb.
 CLOUD: Type Amt 2 SEA: 270° - 1 SWELL: 280° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.00	32.71	25.64	4842.	0.635		
10.	6.80	32.62	25.59	4839.	.637		
20.	6.61	32.69	25.67	4838.	.632		
30.	6.59	32.60	25.61	4838.	.620		
50.	6.38	32.60	25.63	4836.	.632		
75.	5.37	32.67	25.81	4825.	.618		
100.	5.17	32.67	25.83	4823.	.620		
125.	5.69	33.22	26.21	4834.	.456		
150.	6.02	33.60	26.47	4841.	.328		
200.	5.76	33.81	26.66	4842.	.240		
250.	5.27	33.89	26.79	4838.	.196		
300.	5.00	33.89	26.82	4838.	.159		
397.	4.55	33.94	26.91	4838.	.093		
496.	4.21	34.05	27.03	4839.	.062		
595.	3.99	34.20	27.17	4843.	.044		
794.	3.48	34.25	27.26	4848.	.034		
993.	3.13	34.34	27.37	4855.	.039		
1192.	2.71	34.37	27.43	4861.	.042		
1490.	2.37	34.48	27.55	4874.	.061		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	7.00	32.71	25.64	25.64	0.0	235.9	0.000
10.	6.80	32.62	25.59	25.64	10.1	240.2	.024
20.	6.61	32.69	25.67	25.77	20.1	232.7	.048
30.	6.59	32.60	25.61	25.75	30.2	239.3	.071
50.	6.38	32.60	25.63	25.87	50.3	237.0	.119
75.	5.37	32.67	25.81	26.16	75.5	220.3	.177
100.	5.17	32.67	25.83	26.30	100.6	218.3	.232
150.	6.02	33.60	26.47	27.17	151.0	159.1	.327
200.	5.76	33.81	26.66	27.60	201.4	140.9	.403
250.	5.27	33.89	26.79	27.96	251.8	129.7	.471
300.	5.00	33.89	26.82	28.22	302.2	127.1	.536
400.	4.54	33.94	26.91	28.79	403.1	119.0	.660
500.	4.20	34.06	27.04	29.38	504.1	107.6	.774
600.	3.98	34.20	27.18	29.99	605.1	95.3	.877
700.	3.70	34.22	27.22	30.51	706.2	91.5	.971
800.	3.47	34.25	27.27	31.02	807.3	87.3	1.062
1000.	3.11	34.34	27.37	32.07	1009.7	78.3	1.229
1200.	2.70	34.37	27.43	33.07	1212.3	72.6	1.382

STATION 41

TIME: 1500 DATE: 9-V-57 LAT: 50° 20' N LONG: 135° 40' W SOUNDING: 1910 fms.
 WEATHER: 02 WIND: Dir. 010° Speed 15 AIR TEMP: Dry 45° Wet 43° BARO: 1019.5 mb.
 CLOUD: Type Sc Amt 10 SEA: 010° - 1 SWELL: 020° - 3 SECCHI DISC: 13 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.60	32.69	25.54	4849.	0.619	1.40	0.257
10.	7.41	32.58	25.48	4847.	.611	1.39	.247
20.	7.38	32.62	25.52	4848.	.609	1.35	.238
30.	7.18	32.60	25.53	4845.	.612	1.39	.178
50.	6.71	32.60	25.59	4841.	.613	1.39	.350
75.	5.65	32.64	25.75	4828.	.610	1.56	.525
100.	5.36	32.67	25.81	4826.	.601	1.55	.358
125.	5.26	32.93	26.03	4827.	.543	1.85	.059
150.	5.02	33.44	26.46	4827.	.452	2.20	
200.	4.96	33.81	26.76	4831.	.310	2.53	
250.	4.63	33.86	26.84	4830.	.239	2.74	
300.	4.37	33.87	26.87	4829.	.168	2.80	
394.	4.03	34.01	27.02	4830.	.102		
494.	3.92	34.10	27.10	4835.	.068	3.06	
592.	3.82	34.22	27.21	4840.	.036		
790.	3.41	34.27	27.29	4846.	.042	3.45	
987.	2.98	34.34	27.38	4852.	.048	3.51	
1185.	2.67	34.41	27.47	4860.	.044	3.47	
1483.	2.33	34.46	27.53	4873.	.066		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.60	32.69	25.54	25.54	0.0	245.2	0.000
10.	7.41	32.58	25.48	25.53	10.1	251.0	.025
20.	7.38	32.62	25.52	25.61	20.1	247.8	.050
30.	7.18	32.60	25.53	25.67	30.2	246.8	.075
50.	6.71	32.60	25.59	25.82	50.3	241.1	.124
75.	5.65	32.64	25.75	26.11	75.5	225.7	.183
100.	5.36	32.67	25.81	26.28	100.6	220.4	.239
150.	5.02	33.44	26.46	27.16	151.0	159.5	.335
200.	4.96	33.81	26.76	27.70	201.4	131.6	.408
250.	4.63	33.86	26.84	28.01	251.8	124.7	.472
300.	4.37	33.87	26.87	28.28	302.2	121.6	.535
400.	4.02	34.01	27.02	28.90	403.1	108.0	.650
500.	3.92	34.11	27.11	29.46	504.1	100.6	.756
600.	3.80	34.22	27.21	30.03	605.1	91.8	.853
700.	3.60	34.24	27.25	30.54	706.2	88.7	.944
800.	3.39	34.27	27.29	31.05	807.3	84.9	1.032
1000.	2.96	34.35	27.39	32.09	1009.7	76.3	1.195
1200.	2.65	34.41	27.47	33.11	1212.3	69.0	1.342

STATION 42

TIME: 2310 DATE: 9-V-57 LAT: 50° 39' N LONG: 134° 45' W SOUNDING: 1800 fms.
 WEATHER: 02 WIND: Dir. 020 Speed 10 AIR TEMP: Dry 45° Wet 44° BARO: 1009.8 mb.
 CLOUD: Type St Amt 10 SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	7.80	32.67	25.50	4852.	0.619		
20.	7.67	32.60	25.46	4851.			
50.	7.46	32.64	25.52	4850.	.620		
75.	6.72	32.65	25.63	4842.	.620		
100.	5.74	32.65	25.75	4831.	.623		
124.	5.25*	32.81	25.94	4826.	.591		
149.	5.21	33.27	26.30	4829.	.516		
199.	5.18	33.79	26.72	4834.	.367		
249.	4.84	33.81	26.77	4832.	.288		
299.	4.59	33.89	26.86	4832.	.217		
398.	4.16	33.94	26.95	4832.	.125		
591.	3.52*	34.15	27.18	4836.	.046	3.61	0.013
985.	3.01	34.34	27.38	4853.	.038	3.46	.011
1478.	2.35	34.44	27.52	4873.	.063	3.47	.011
1970.	1.94	34.55	27.64	4897.	.121	3.40	.004
2955.	1.59	34.72	27.80	4950.	.229	3.07	.008

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	7.80	32.67	25.50	25.50	0.0	249.4	0.000
10.	7.74	32.63	25.47	25.52	10.1	252.0	.025
20.	7.67	32.60	25.46	25.55	20.1	253.2	.051
30.	7.60	32.59	25.47	25.60	30.2	252.8	.076
50.	7.46	32.64	25.52	25.75	50.3	247.8	.126
75.	6.72	32.65	25.63	25.98	75.5	237.8	.188
100.	5.74	32.65	25.75	26.22	100.6	226.2	.246
125.	5.24	32.82	25.95	26.53	125.8	207.9	.301
150.	5.21	33.29	26.32	27.02	151.0	173.1	.349
200.	5.18	33.80	26.72	27.66	201.4	135.2	.426
250.	4.83	33.81	26.77	27.95	251.8	130.6	.493
300.	4.59	33.89	26.87	28.27	302.2	122.4	.557
400.	4.15	33.94	26.95	28.83	403.1	114.8	.677
500.	3.79	34.03	27.06	29.41	504.1	105.0	.788
600.	3.49	34.16	27.19	30.01	605.1	93.3	.888
700.	3.27	34.23	27.27	30.57	706.2	85.9	.978
800.	3.11	34.29	27.33	31.09	807.3	80.8	1.063
1000.	2.99	34.35	27.39	32.08	1009.7	76.7	1.222
1200.	2.73	34.40	27.45	33.09	1212.3	70.7	1.371
1500.	2.33	34.44	27.52	34.56	1516.5	64.7	1.577
2000.	1.92	34.53	27.63	36.99	2024.6	55.5	1.882
2500.	1.67	34.65	27.74	39.40	2533.8		

STATION 43

TIME: 0840 DATE: 10-V-57 LAT: 51° 16' N LONG: 133° 06' W SOUNDING: 1550 fms.
 WEATHER: 41 WIND: Dir. 230° Speed 10 AIR TEMP: Dry 46° Wet 45° BARO: 1007.4 mb.
 CLOUD: Type Sc Amt 10 SEA: 049° - 1 SWELL: 049° - 3 SECCHI DISC: 9 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.40	32.28	25.10	4858.	0.611		
10.	8.12	32.33	25.18	4855.	.601		
20.	8.08	32.33	25.19	4855.	.612		
50.	6.53	32.57	25.59	4838.	.558		
75.	6.19	32.76	25.78	4836.	.502		
100.	6.72	33.12	26.00	4846.	.407	2.20	0.120
125.	6.87	33.55	26.32	4851.	.299	2.47	.042
150.	6.95	33.70	26.42	4854.	.242	2.60	.044
200.	6.54	33.84	26.59	4852.	.206		
250.	6.05	33.91	26.71	4849.	.181		
300.	5.66	33.93	26.77	4847.	.162	2.97	.051
400.	5.07	34.00	26.90	4845.	.112	3.19	.044
590.	4.30	34.13	27.09	4846.	.050		
787.	3.73	34.24	27.23	4851.	.039	3.52	.023
984.	3.27	34.37	27.38	4856.	.034	3.55	.058
1182.	2.90	34.51	27.53	4863.	.039	3.55	.042
1478.	2.41	34.49	27.55	4874.	.063	3.45	.023
1972.	1.98	34.56	27.64	4897.	.115	3.32	.044
2664.	1.73	34.67	27.75	4935.	.186	3.17	.038

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	8.40	32.28	25.10	25.10	0.0	286.8	0.000
10.	8.12	32.33	25.18	25.23	10.1	279.3	.028
20.	8.08	32.33	25.19	25.28	20.1	278.9	.057
30.	7.42	32.41	25.35	25.49	30.2	264.1	.084
50.	6.53	32.57	25.59	25.82	50.3	241.1	.135
75.	6.19	32.76	25.78	26.13	75.5	223.0	.193
100.	6.72	33.12	26.00	26.46	100.6	203.0	.247
150.	6.95	33.70	26.42	27.12	151.0	163.5	.339
200.	6.54	33.84	26.59	27.52	201.4	148.4	.418
250.	6.05	33.91	26.71	27.87	251.8	137.7	.490
300.	5.66	33.93	26.77	28.17	302.2	132.0	.558
400.	5.07	34.00	26.90	28.77	403.1	120.8	.685
500.	4.64	34.07	27.00	29.34	504.1	111.5	.802
600.	4.27	34.14	27.09	29.90	605.1	103.4	.911
700.	3.97	34.19	27.17	30.45	706.1	96.9	1.012
800.	3.70	34.25	27.24	30.99	807.2	90.2	1.107
1000.	3.24	34.39	27.40	32.09	1009.6	76.4	1.275
1200.	2.87	34.51	27.53	33.16	1212.2	64.5	1.418
1500.	2.39	34.49	27.56	34.59	1516.5	61.8	1.610
2000.	1.96	34.56	27.65	37.01	2024.6	53.7	1.904
2500.	1.75	34.64	27.73	39.39	2533.8	47.2	2.161

STATION 44

TIME: 1523 DATE: 10-V-57 LAT: 51° 3.7' N LONG: 132° 00' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 180° Speed 6 AIR TEMP: Dry 48° Wet 47° BARO: 1010.8 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: 180° - 1 SECCHI DISC: 7 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	9.40	32.19	24.88	4870.	0.632		
10.	8.95	32.15	24.92	4865.	.653		
30.	8.10	32.15	25.05	4855.	.622		
50.	7.08	32.50	25.46	4845.	.582		
75.	6.73	32.91	25.83	4844.	.505		
100.	6.53	33.22	26.10	4844.	.400		
125.	6.52	33.44	26.28	4846.	.343		
150.	6.53*	33.69	26.47	4848.	.296		
200.	6.39	33.86	26.62	4850.	.252		
250.	6.05	33.91	26.71	4849.	.207		
300.	5.41	33.93	26.80	4843.	.183		
350.	5.19	34.01	26.89	4844.	.137		
400.	4.96	34.00	26.91	4844.	.114		
493.	4.58	34.10	27.03	4844.	.075	3.17	
591.	4.13	34.18	27.14	4844.	.048		
789.	3.75	34.27	27.25	4851.	.031		
986.	3.25	34.32	27.34	4856.	.033	3.55	
1183.	2.90	34.44	27.47	4863.	.038		
1482.	2.45	34.51	27.56	4875.	.059	3.44	
1980.	1.94	34.65	27.72	4898.	.122	3.22	
2326.	1.77	34.68	27.75	4916.	.167	3.21	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.40	32.19	24.88	24.88	0.0	308.1	0.000
10.	8.95	32.15	24.92	24.97	10.1	304.5	.031
20.	8.55	32.11	24.95	25.04	20.1	302.1	.061
30.	8.10	32.15	25.05	25.19	30.2	292.7	.091
50.	7.08	32.50	25.46	25.70	50.3	253.2	.146
75.	6.73	32.91	25.83	26.18	75.4	218.5	.205
100.	6.53	33.22	26.10	26.57	100.6	193.2	.257
150.	6.53	33.69	26.47	27.17	151.0	158.8	.346
200.	6.39	33.86	26.62	27.55	201.4	145.0	.422
250.	6.05	33.91	26.71	27.87	251.8	137.7	.494
300.	5.41	33.93	26.80	28.20	302.2	129.0	.561
400.	4.96	34.00	26.91	28.78	403.1	119.5	.686
500.	4.54	34.11	27.04	29.38	504.1	107.8	.801
600.	4.12	34.18	27.15	29.96	605.1	98.0	.905
700.	3.94	34.23	27.21	30.49	706.1	93.2	1.002
800.	3.72	34.27	27.26	31.01	807.3	88.8	1.094
1000.	3.22	34.33	27.35	32.05	1009.6	80.3	1.265
1200.	2.87	34.44	27.47	33.11	1212.2	69.3	1.416
1500.	2.43	34.52	27.57	34.61	1516.5	60.4	1.613
2000.	1.93	34.65	27.72	37.08	2024.6	46.8	1.886

STATION 45

TIME: 2026 DATE: 10-V-57 LAT: 51° 48' N LONG: 131° 20' W SOUNDING: 1050 fms.
 WEATHER: 02 WIND: Dir. 130° Speed 4 AIR TEMP: Dry 51° Wet 50° BARO: 1011.2 mb.
 CLOUD: Type Amt 8 SEA: SWELL: 180° - 1 SECCHI DISC: 9 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.30	32.34	25.17	4857.	0.610		
10.	7.57	32.36	25.29	4848.	.573		
30.	7.30	32.48	25.42	4847.	.556		
50.	7.14	32.50	25.46	4846.	.531		
75.	6.94	32.64	25.59	4845.	.512		
100.	6.75	32.74	25.70	4845.	.481	2.02	
124.	6.54	32.95	25.89	4844.	.442	2.13	
149.	6.54	33.19	26.08	4846.	.376	2.48	
199.	6.28	33.81	26.60	4848.	.291		
249.	5.98	33.82	26.65	4848.	.261		
299.	5.51	33.89	26.76	4844.	.218	2.87	
349.	4.97	33.93	26.85	4840.	.118		
388.	4.83	34.00	26.92	4841.	.144	3.12	
484.	4.53	34.10	27.04	4843.	.087		
581.	4.27	34.12	27.08	4845.	.050	3.27	
775.	3.86	34.24	27.22	4852.	.033	3.50	
969.	3.36	34.34	27.35	4857.	.031	3.58	
1164.	2.95	34.34	27.39	4862.	.036	3.47	
1458.	2.39	34.43	27.51	4872.	.058	3.57	
1751.	2.14	34.51	27.59	4886.	.102	3.32	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.30	32.34	25.17	25.17	0.0	280.9	0.000
10.	7.57	32.36	25.29	25.33	10.1	269.6	.028
20.	7.42	32.43	25.36	25.46	20.1	262.3	.054
30.	7.30	32.48	25.42	25.56	30.2	257.3	.081
50.	7.14	32.50	25.46	25.69	50.3	254.0	.132
75.	6.94	32.64	25.59	25.94	75.5	241.3	.194
100.	6.75	32.74	25.70	26.16	100.6	231.8	.254
150.	6.54	33.21	26.09	26.79	151.0	194.8	.361
200.	6.28	33.81	26.60	27.53	201.4	147.3	.447
250.	5.97	33.82	26.65	27.81	251.8	143.3	.521
300.	5.50	33.89	26.76	28.16	302.2	132.9	.590
400.	4.79	34.02	26.94	28.81	403.1	116.3	.716
500.	4.48	34.10	27.04	29.38	504.0	107.5	.829
600.	4.23	34.13	27.09	29.91	605.0	103.2	.935
700.	4.03	34.20	27.17	30.45	706.1	97.1	1.037
800.	3.79	34.26	27.24	30.99	807.2	90.5	1.131
1000.	3.29	34.34	27.35	32.04	1009.6	80.6	1.305
1200.	2.86	34.35	27.40	33.03	1212.2	76.0	1.463
1500.	2.34	34.44	27.52	34.56	1516.4	64.9	1.678

STATION 46

TIME: 2244 DATE: 10-V-57 LAT: 51° 54.4'N LONG: 131° 05.4'W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 130° Speed 4 AIR TEMP: Dry 51° Wet 49° BARO: 1011.8 mb.
 CLOUD: Type Amt 8 SEA: 130° - 1 SWELL: 130° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	8.80	32.36	25.11	4863.	0.644		
10.	7.85	32.28	25.18	4852.	.611		
109.	6.55	32.93	25.87	4843.	.448		
207.	5.56	33.87	26.74	4840.	.180		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.80	32.36	25.11	25.11	0.0	286.6	0.000
10.	7.85	32.28	25.18	25.23	10.1	279.3	.028
20.	7.71	32.33	25.25	25.34	20.1	273.6	.056
30.	7.56	32.39	25.31	25.45	30.2	267.7	.083
50.	7.29	32.51	25.44	25.67	50.3	255.5	.136
75.	6.96	32.67	25.61	25.96	75.5	239.2	.198
100.	6.66	32.86	25.80	26.27	100.6	221.7	.256
150.	6.10	33.29	26.21	26.91	151.0	183.4	.358
200.	5.62	33.79	26.67	27.60	201.4	140.5	.440

STATION 48

TIME: 0314 DATE: 11-V-57 LAT: 51° 35.5'N LONG: 130° 29' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 210° Speed 6 AIR TEMP: Dry 50° Wet 48° BARO: 1012.5 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	9.40	32.15	24.85	4870.	0.650		
10.	8.59	32.14	24.97	4860.	.650		
30.	7.55	32.28	25.23	4849.	.601		
50.	6.90	32.62	25.58	4843.	.549		
75.	6.66	32.86	25.80	4842.	.481		
99.	6.59	33.14	26.03	4844.	.424	2.22	
124.	6.54	33.24	26.12	4845.	.429	2.23	
149.	6.80	33.63	26.39	4852.	.305	2.57	
199.	6.27	33.81	26.60	4848.	.255		
249.	5.94	33.94	26.74	4847.	.176		
298.	5.58	33.96	26.80	4846.	.144		
398.	5.15	34.01	26.90	4846.	.120	3.41	
497.	4.78	34.06	26.98	4847.	.085	3.25	
597.	4.29	34.12	27.08	4847.	.076	3.70	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.40	32.15	24.85	24.85	0.0	311.1	0.000
10.	8.59	32.14	24.97	25.01	10.1	300.0	.031
20.	8.02	32.18	25.09	25.18	20.1	288.9	.060
30.	7.55	32.28	25.23	25.37	30.2	275.5	.089
50.	6.90	32.62	25.58	25.81	50.3	242.0	.141
75.	6.66	32.86	25.80	26.15	75.5	221.4	.199
100.	6.58	33.14	26.03	26.50	100.6	199.9	.252
150.	6.79	33.63	26.39	27.09	151.0	166.3	.344
200.	6.26	33.81	26.60	27.54	201.4	146.9	.423
250.	5.93	33.94	26.75	27.91	251.8	133.9	.494
300.	5.57	33.96	26.81	28.21	302.2	128.6	.560
400.	5.14	34.01	26.90	28.77	403.1	120.9	.686
500.	4.77	34.06	26.98	29.32	504.1	113.7	.804

STATION 49

TIME: 0728 DATE: 11-V-57 LAT: 51° 16' N LONG: 129° 44' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. Speed AIR TEMP: Dry 52° Wet 50° BARO: 1012.8 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	9.60	32.05	24.74	4872.	0.624		
10.	8.79	32.02	24.84	4862.	.628		
20.	8.66	32.02	24.86	4861.	.629		
30.	8.28	32.07	24.96	4857.	.609		
50.	7.09	32.45	25.42	4845.	.575		
75.	6.63	32.64	25.63	4841.	.563		
100.	6.70	33.26	26.11	4846.	.407		
125.	6.64	33.55	26.35	4848.	.296		
150.	6.55	33.62	26.41	4848.	.239		
200.	5.99	33.91	26.71	4845.	.174		
250.	5.64	33.93	26.77	4843.	.139		
300.	5.49	33.96	26.82	4845.	.136		
350.	5.32	33.98	26.85	4845.	.129		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.60	32.05	24.74	24.74	0.0	321.5	0.000
10.	8.79	32.02	24.84	24.89	10.1	311.8	.032
20.	8.66	32.02	24.86	24.95	20.1	310.1	.063
30.	8.28	32.07	24.96	25.10	30.2	301.2	.094
50.	7.09	32.45	25.42	25.66	50.3	257.1	.150
75.	6.63	32.64	25.63	25.98	75.4	237.4	.212
100.	6.70	33.26	26.11	26.58	100.6	192.3	.266
150.	6.55	33.62	26.41	27.11	151.0	164.3	.356
200.	5.99	33.91	26.71	27.65	201.4	136.3	.432
250.	5.64	33.93	26.77	27.94	251.8	131.1	.499
300.	5.49	33.96	26.82	28.22	302.2	127.7	.564

STATION 50

TIME: 1045 DATE: 11-V-57 LAT: 51° 02' N LONG: 129° 20' W SOUNDING: 101 fms.
 WEATHER: 03 WIND: Dir. 000° Speed AIR TEMP: Dry 52° Wet 50° BARO: 1012.5 mb.
 CLOUD: Type Sc Amt 10 SEA: Calm SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.10	31.98	24.60	4878.	0.659		
10.	9.06	31.93	24.73	4865.	.654		
20.	8.83	31.95	24.78	4863.	.637		
30.	8.25	31.98	24.89	4857.	.615		
50.	7.01	32.46	25.44	4844.	.571		
75.	6.71	32.81	25.76	4843.	.471		
100.	6.64	33.08	25.98	4844.	.387		
125.	6.76	33.51	26.30	4849.	.325		
150.	6.68*	33.70	26.46	4850.	.275		
170.	6.46	33.87	26.62	4849.	.231		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.10	31.98	24.60	24.60	0.0	334.5	0.000
10.	9.06	31.93	24.73	24.78	10.1	322.5	.033
20.	8.83	31.95	24.78	24.87	20.1	317.8	.065
30.	8.25	31.98	24.89	25.03	30.2	307.4	.097
50.	7.01	32.46	25.44	25.67	50.3	255.3	.153
75.	6.71	32.81	25.76	26.11	75.4	225.7	.214
100.	6.64	33.08	25.98	26.44	100.6	205.0	.268
125.	6.76	33.51	26.30	26.88	125.8	174.8	.316
150.	6.68	33.70	26.46	27.16	151.0	159.9	.358

STATION 51

TIME: 1232 DATE: 11-V-57 LAT: 50° 55' N LONG: 129° 08.2' W SOUNDING: 39 fms.
 WEATHER: 02 WIND: Dir. Speed AIR TEMP: Dry Wet BARO: 1012.5 mb.
 CLOUD: Type Sc Amt 10 SEA: SWELL: SECCHI DISC: 7 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	10.40	31.75	24.37	4880.	0.562		
10.	8.20	32.07	24.97	4855.	.690		
30.	8.29	32.05	24.94	4858.	.577		
40.	8.63	31.93	24.80	4862.	.627		
50.	8.68	31.91	24.77	4863.	.607		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.40	31.75	24.37	24.37	0.0	356.3	0.000
10.	8.20	32.07	24.97	25.02	10.1	299.7	.033
20.	8.15	32.10	25.00	25.09	20.1	297.2	.063
30.	8.29	32.05	24.94	25.08	30.2	302.8	.093
50.	8.68	31.91	24.77	25.00	50.3	319.1	.156

STATION 52

TIME: 1423 DATE: 11-V-57 LAT: 50° 44.2' N LONG: 129° 24' W SOUNDING: 450 fms.
 WEATHER: 02 WIND: Dir. Speed AIR TEMP: Dry 52° Wet 50° BARO: 1013.5 mb.
 CLOUD: Type Sc Amt 10 SEA: Calm SWELL: 160° - 2 SECCHI DISC: 8 1/2 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.40	31.88	24.47	4881.	0.624		
10.	9.41	31.90	24.65	4870.	.641		
50.	7.32	32.48	25.42	4848.	.614		
74.	6.52	32.67	25.67	4840.	.607		
99.	6.43	32.83	25.81	4841.	.564	1.74	
124.	6.75	33.22	26.07	4848.	.457	2.07	
149.	7.13	33.67	26.38	4856.	.282		
198.	6.36	33.91	26.67	4850.	.189		
248.	6.03	33.96	26.75	4849.	.164		
297.	5.67	33.98	26.81	4847.	.135	3.18	
347.	5.50	33.98	26.83	4848.	.123		
396.	5.29	34.00	26.87	4848.	.113	3.30	
495.	5.06	34.06	26.95	4851.	.086	3.44	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.40	31.88	24.47	24.47	0.0	346.7	0.000
10.	9.41	31.90	24.65	24.70	10.1	329.9	.034
20.	8.80	32.08	24.88	24.98	20.1	308.0	.066
30.	8.25	32.23	25.09	25.23	30.2	288.7	.096
50.	7.32	32.48	25.42	25.65	50.3	257.9	.151
75.	6.51	32.67	25.67	26.02	75.4	233.5	.213
100.	6.44	32.84	25.82	26.28	100.6	220.1	.270
150.	7.11	33.68	26.38	27.08	151.0	167.4	.368
200.	6.35	33.91	26.67	27.60	201.4	140.6	.445
250.	6.01	33.96	26.75	27.92	251.8	133.4	.514
300.	5.66	33.98	26.81	28.21	302.2	128.3	.580
400.	5.28	34.00	26.87	28.74	403.1	123.1	.707

STATION 53

TIME: 1805 DATE: 11-V-57 LAT: 50° 37' N LONG: 129° 39' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 130° Speed 5 AIR TEMP: Dry 56° Wet 52° BARO: 1012.8 mb.
 CLOUD: Type Sc Amt 10 SEA: Calm SWELL: 0 SECCHI DISC: 9 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	10.70	31.58	24.19	4883.	0.625		
10.	9.59	31.53	24.34	4870.	.639		
30.	9.03	31.60	24.48	4865.	.606		
50.	8.08	32.17	25.06	4856.	.591		
75.	7.07	32.46	25.43	4846.	.609		
100.	6.78	32.62	25.60	4845.	.606	1.58	
125.	7.08	33.26	26.06	4852.	.408	2.13	
150.	7.19	33.65	26.35	4857.	.266		
200.	6.80	33.84	26.55	4855.	.227		
250.	6.26	33.91	26.68	4852.	.198		
300.	5.94	33.93	26.74	4850.	.171	3.06	
350.	5.63	33.98	26.81	4849.	.127		
386.	5.38	34.01	26.87	4848.	.107	3.30	
482.	4.93	34.08	26.98	4848.	.101	3.32	
579.	4.46	34.12	27.06	4848.	.051	3.48	
675.	4.08	34.15	27.12	4848.	.042	3.51	
771.	3.91	34.22	27.20	4852.	.033	3.67	
964.	3.55	34.30	27.30	4859.	.038	3.73	
1158.	3.07	34.39	27.41	4864.	.041	3.17	
1448.	2.48	34.46	27.52	4873.	.066	3.53	
1739.	2.18	34.48	27.56	4886.	.141	3.48	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.70	31.58	24.19	24.19	0.0	373.8	0.000
10.	9.59	31.53	24.34	24.38	10.0	360.1	.037
20.	9.36	31.50	24.35	24.44	20.1	358.8	.073
30.	9.03	31.60	24.48	24.62	30.1	346.9	.108
50.	8.08	32.17	25.06	25.30	50.3	291.2	.173
75.	7.07	32.46	25.43	25.78	75.4	256.4	.241
100.	6.78	32.62	25.60	26.06	100.6	241.1	.304
150.	7.19	33.65	26.35	27.05	150.9	170.4	.408
200.	6.80	33.84	26.55	27.48	201.3	151.8	.489
250.	6.26	33.91	26.68	27.84	251.7	140.3	.563
300.	5.94	33.93	26.74	28.13	302.1	135.4	.632
400.	5.32	34.02	26.89	28.75	403.0	122.1	.762
500.	4.84	34.09	26.99	29.33	504.0	112.5	.880
600.	4.36	34.12	27.07	29.88	605.0	105.4	.990
700.	4.04	34.17	27.14	30.43	706.0	99.1	1.094
800.	3.86	34.23	27.21	30.96	807.2	93.4	1.191
1000.	3.46	34.32	27.32	32.01	1009.5	83.8	1.370
1200.	2.97	34.40	27.43	33.06	1212.1	73.3	1.529
1500.	2.40	34.47	27.53	34.57	1516.4	63.9	1.738

STATION 54

TIME: 2203 DATE: 11-V-57 LAT: 50° 30' N LONG: 128° 37' W SOUNDING: 500 fms.
 WEATHER: 01 WIND: Dir. 010° Speed 6 AIR TEMP: Dry 49° Wet 48° BARO: 1012.5 mb.
 CLOUD: Type Cs Amt 3 SEA: Calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	10.30	31.56	24.24	4879.	0.637		
10.	9.92	31.49	24.25	4874.	.649		
30.	8.51	32.05	24.91	4860.	.604		
50.	7.23	32.48	25.43	4847.	.573		
75.	7.13	33.14	25.96	4850.	.414		
100.	7.11	33.58	26.31	4852.	.314		
125.	7.13	33.81	26.49	4855.	.247		
150.	7.01*	33.89	26.56	4855.	.221		
200.	6.36	33.94	26.69	4850.	.183		
250.	6.00	33.98	26.77	4848.	.158		
300.	5.71	33.98	26.80	4848.	.137		
350.	5.53	34.00	26.84	4848.	.128		
395.	5.41	34.05	26.90	4849.	.112		
494.	5.04	34.00	26.90	4850.	.080		
593.	4.69	34.17	27.07	4852.	.061		
692.	4.26	34.43	27.33	4853.	.037		
790.	4.08	34.37	27.30	4856.	.035		

Note: Salinity values below 350 m. are unreliable.

STATION 55

TIME: 0030 DATE: 12-V-57 LAT: 50° 28.4' N LONG: 128° 23' W SOUNDING: 96 fms.
 WEATHER: 01 WIND: Dir. 010° Speed 6 AIR TEMP: Dry 50° Wet 48° BARO: 1011.8 mb.
 CLOUD: Type Cs Amt 3 SEA: Calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	11.00	31.23	23.87	4886.	0.648		
10.	9.46	31.53	24.36	4869.	.614		
20.	8.40	32.15	25.00	4859.	.556		
30.	7.86	32.34	25.23	4853.	.542		
49.	7.41	32.96	25.78	4851.	.425		
74.	7.10	33.31	26.10	4850.	.368		
99.	7.00	33.82	26.51	4852.	.235		
124.	6.88	33.87	26.57	4852.	.216		
148.	6.61	33.87	26.60	4850.	.197		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.00	31.23	23.87	23.87	0.0	404.6	0.000
10.	9.46	31.53	24.36	24.40	10.0	358.2	.038
20.	8.40	32.15	25.00	25.09	20.1	296.7	.071
30.	7.86	32.34	25.23	25.37	30.2	275.2	.100
50.	7.39	32.97	25.79	26.02	50.3	222.2	.150
75.	7.10	33.34	26.12	26.47	75.4	191.2	.202
100.	7.00	33.82	26.51	26.98	100.6	154.3	.246

STATION 56

TIME: 0145 DATE: 12-V-57 LAT: 50° 27' N LONG: 128° 11' W SOUNDING: 50 fms.
 WEATHER: 01 WIND: Dir. 025° Speed 4 AIR TEMP: Dry 50° Wet 48° BARO: 1011.2 mb.
 CLOUD: Type Sc Amt 4 SEA: Calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.50	31.08	23.84	4879.	0.678		
10.	10.37	31.06	23.84	4878.	.688		
20.	10.25	31.08	23.88	4877.	.664		
30.	8.78	31.85	24.71	4863.	.545		
50.	8.05	32.36	25.22	4857.	.539		
75.	7.13	33.48	26.23	4851.	.315		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.50	31.08	23.84	23.84	0.0	407.6	0.000
10.	10.37	31.06	23.84	23.89	10.0	407.1	.041
20.	10.25	31.08	23.88	23.97	20.1	403.9	.082
30.	8.78	31.85	24.71	24.85	30.1	324.7	.118
50.	8.05	32.36	25.22	25.45	50.3	276.7	.179
75.	7.13	33.48	26.23	26.57	75.4	181.2	.236

STATION 57

TIME: 0438 DATE: 12-V-57 LAT: 50° 06.5'N LONG: 127° 57'W SOUNDING: 28 fms.
 WEATHER: 01 WIND: Dir. Speed AIR TEMP: Dry 54° Wet 50° BARO: 1011.2 mb.
 CLOUD: Type Sc Amt 8 SEA: Calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.80	30.63	23.44	4881.	0.662		
10.	9.90	31.15	23.99	4873.	.630		
20.	9.44	31.56	24.38	4869.	.565		
30.	9.39	31.61	24.43	4869.	.553		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.80	30.63	23.44	23.44	0.0	445.7	0.000
10.	9.90	31.15	23.99	24.04	10.0	393.1	.042
20.	9.44	31.56	24.38	24.47	20.1	355.8	.080
30.	9.39	31.61	24.43	24.57	30.1	351.5	.115

STATION 58

TIME: 0626 DATE: 12-V-57 LAT: 49° 59.7' N LONG: 128° 09' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 240° Speed 3 AIR TEMP: Dry 55° Wet 53° BARO: 1010.8 mb.
 CLOUD: Type Sc Amt 2 SEA: Calm SWELL: 280° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.90	30.75	23.51	4883.	0.656		
10.	9.61*	30.89	23.83	4868.	.661		
20.	8.78	31.83	24.70	4862.	.500		
30.	8.41	32.24	25.07	4860.	.533		
50.	7.21	32.60	25.52	4847.	.545		
75.	6.39	32.77	25.77	4839.	.559		
100.	7.59	33.44	26.13	4858.	.331		
125.	7.59	33.65	26.30	4860.	.266		
150.	7.44	33.79	26.43	4860.	.238		
200.	6.97	33.89	26.57	4858.	.199		
250.	6.51	33.94	26.67	4855.	.175	2.77	
300.	6.05	33.96	26.75	4852.	.152	3.00	
350.	5.63	34.01	26.84	4850.	.124	3.09	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	10.90	30.75	23.51	23.51	0.0	438.5	0.000
10.	9.61	30.89	23.83	23.88	10.0	407.9	.043
20.	8.78	31.83	24.70	24.79	20.1	326.0	.079
30.	8.41	32.24	25.07	25.21	30.1	290.3	.110
50.	7.21	32.60	25.52	25.76	50.3	247.5	.164
75.	6.39	32.77	25.77	26.12	75.4	224.7	.224
100.	7.59	33.44	26.13	26.59	100.6	190.7	.276
150.	7.44	33.79	26.43	27.12	151.0	163.4	.365
200.	6.97	33.89	26.57	27.50	201.4	150.4	.444
250.	6.51	33.94	26.67	27.83	251.8	141.3	.518
300.	6.05	33.96	26.75	28.14	302.2	134.6	.587

STATION 59

TIME: 0752 DATE: 12-V-57 LAT: 49° 58' N LONG: 128° 16' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 240° Speed 3 AIR TEMP: Dry 54° Wet 51° BARO: 1010.8 mb.
 CLOUD: Type Sc Amt 7 SEA: 240° - 2 SWELL: 280° - 2 SECCHI DISC: 8 1/2 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	10.70	31.91	24.45	4885.	0.621		0.023
10.	9.62	32.22	24.87	4873.	.615		
20.	8.95	32.40	25.11	4866.	.612		
30.	8.84	32.36	25.10	4866.	.613		.097
50.	7.47	32.50	25.41	4850.	.611		.173
75.	7.22	32.86	25.73	4850.	.497		.049
100.	6.76	33.15	26.02	4846.	.464		
125.	7.45	33.48	26.18	4858.	.344		
150.	6.93	33.70	26.43	4854.	.281		
200.	6.82	33.87	26.58	4856.	.236		
250.	6.36	33.91	26.67	4853.	.196		
300.	5.67	33.91	26.75	4847.	.179	2.82	
350.	5.40	33.94	26.81	4846.	.137	3.05	
390.	5.11	33.96	26.86	4845.	.120	3.16	
487.	4.84	34.01	26.93	4847.	.077		
585.	4.57	34.15	27.07	4850.	.045	3.47	
779.	4.07	34.27	27.22	4855.		3.50	
974.	3.44	34.32	27.32	4858.	.031		
1169.	3.10	34.41	27.43	4865.	.037		
1463.	2.59	34.46	27.51	4875.	.059		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.70	31.91	24.45	24.45	0.0	349.4	0.000
10.	9.62	32.22	24.87	24.91	10.1	309.4	.033
20.	8.95	32.40	25.11	25.21	20.1	286.1	.063
30.	8.84	32.36	25.10	25.24	30.2	287.6	.092
50.	7.47	32.50	25.41	25.64	50.3	258.4	.147
75.	7.22	32.86	25.73	26.08	75.4	228.6	.208
100.	6.76	33.15	26.02	26.48	100.6	201.3	.262
150.	6.93	33.70	26.43	27.12	151.0	163.3	.354
200.	6.82	33.87	26.58	27.50	201.4	149.9	.433
250.	6.36	33.91	26.67	27.83	251.8	141.6	.506
300.	5.67	33.91	26.75	28.15	302.2	133.6	.576
400.	5.08	33.96	26.86	28.73	403.1	123.9	.706
500.	4.80	34.03	26.95	29.29	504.0	116.4	.827
600.	4.54	34.16	27.09	29.89	605.0	104.5	.938
700.	4.29	34.23	27.17	30.44	706.1	97.6	1.041
800.	3.99	34.27	27.23	30.98	807.2	91.7	1.136
1000.	3.39	34.33	27.34	32.03	1009.6	81.9	1.312

STATION 60

TIME: 1050 DATE: 12-V-57 LAT: 49° 46' N LONG: 128° 29' W SOUNDING: fms.
 WEATHER: 05 WIND: Dir. 135° Speed 5 AIR TEMP: Dry 51° Wet 49° BARO: 1094 mb.
 CLOUD: Type Sc Amt 9 SEA: 135° - 1 SWELL: 135° - 1 SECCHI DISC: 8 1/2 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.70	32.00	24.52	4885.	0.608		0.067
10.	9.12	32.31	25.02	4868.	.621		
20.	8.88	32.43	25.15	4866.	.606		
30.	8.32	32.53	25.31	4860.	.600		.097
50.	7.06	32.64	25.58	4845.	.599		.201
75.	6.65	32.65	25.64	4841.	.594		.300
100.	6.41	32.88	25.85	4841.	.534		
125.	6.41	33.39	26.25	4844.	.441		
150.	6.85	33.67	26.41	4852.	.322		
200.	6.54	33.86	26.60	4852.	.248		
250.	5.85	33.89	26.72	4846.	.226		
300.	5.49	33.93	26.79	4844.	.182	2.87	
350.	5.09	33.93	26.84	4842.	.149		
396.	4.89	34.01	26.93	4842.	.105	3.31	
494.	4.66	34.10	27.02	4845.	.061		
593.	4.42	34.17	27.10	4848.	.043	3.57	
791.	3.84	34.30	27.27	4853.	.027	3.42	
990.	3.36	34.39	27.39	4858.	.029		
1187.	2.94	34.43	27.46	4864.	.042	3.60	
1486.	2.49	34.48	27.54	4875.	.056	3.45	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,P}$	P	$10^5 \delta$	ΔD
0.	10.70	32.00	24.52	24.52	0.0	342.7	0.000
10.	9.12	32.31	25.02	25.06	10.1	295.2	.032
20.	8.88	32.43	25.15	25.24	20.1	282.9	.061
30.	8.32	32.53	25.31	25.45	30.2	267.5	.089
50.	7.06	32.64	25.58	25.81	50.3	242.5	.140
75.	6.65	32.65	25.64	25.99	75.5	236.9	.200
100.	6.41	32.88	25.85	26.32	100.6	217.1	.258
150.	6.85	33.67	26.41	27.11	151.0	164.4	.354
200.	6.54	33.86	26.60	27.53	201.4	147.0	.432
250.	5.85	33.89	26.72	27.88	251.8	136.7	.504
300.	5.49	33.93	26.79	28.19	302.2	129.9	.571
400.	4.88	34.01	26.93	28.80	403.1	117.6	.696
500.	4.65	34.10	27.03	29.37	504.1	109.1	.810
600.	4.40	34.18	27.11	29.92	605.1	101.9	.917
700.	4.09	34.25	27.20	30.48	706.1	94.1	1.016
800.	3.82	34.31	27.27	31.02	807.2	87.4	1.108
1000.	3.34	34.39	27.39	32.08	1009.6	77.0	1.274
1200.	2.92	34.43	27.46	33.09	1212.2	70.6	1.423

STATION 61

TIME: 1748 DATE: 12-V-57 LAT: 49° 09' N LONG: 129° 24.3' W SOUNDING: 1300 fms.
 WEATHER: 60 WIND: Dir. 110° Speed 6 AIR TEMP: Dry 51° Wet 50° BARO: 1007.4 mb.
 CLOUD: Type Sc Amt 9 SEA: 155° - 1 SWELL: 155° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	9.80	32.60	25.13	4876.	0.574		
10.	9.24	32.52	25.16	4870.	.609		
20.	8.76	32.53	25.25	4865.	.597		
30.	8.60	32.53	25.27	4863.	.594		
50.	7.02	32.64	25.58	4845.	.587		
75.	6.63	32.67	25.66	4841.	.582		
100.	6.37	32.71	25.72	4840.	.572		
125.	6.28	32.91	25.89	4841.	.526		
150.	6.59	33.27	26.13	4848.			
200.	6.12	33.75	26.57	4846.	.382		
250.	5.68	33.84	26.70	4844.	.274		
300.	5.25	33.86	26.77	4841.	.230		
400.	4.65	33.94	26.90	4839.	.126		
493.	4.47	34.03	26.99	4842.	.077		
591.	4.31	34.13	27.08	4847.	.039		
789.	3.66	34.27	27.26	4850.	.033		
986.	3.24	34.37	27.38	4856.	.032		
1184.	2.92	34.41	27.44	4863.	.037		
1481.	2.48	34.48	27.54	4875.	.042		
2175.	1.89	34.60	27.68	4908.	.161		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	9.80	32.60	25.13	25.13	0.0	283.9	0.000
10.	9.24	32.52	25.16	25.21	10.1	281.4	.028
20.	8.76	32.53	25.25	25.34	20.1	273.7	.056
30.	8.60	32.53	25.27	25.41	30.2	271.5	.084
50.	7.02	32.64	25.58	25.81	50.3	242.0	.135
75.	6.63	32.67	25.66	26.01	75.5	235.2	.195
100.	6.37	32.71	25.72	26.19	100.6	229.3	.254
150.	6.59	33.27	26.13	26.83	151.0	190.9	.360
200.	6.12	33.75	26.57	27.50	201.4	149.8	.445
250.	5.68	33.84	26.70	27.86	251.8	138.3	.518
300.	5.25	33.86	26.77	28.17	302.2	132.3	.586
400.	4.65	33.94	26.90	28.77	403.1	120.4	.714
500.	4.46	34.04	26.99	29.34	504.0	112.0	.831
600.	4.28	34.14	27.09	29.90	605.0	103.4	.940
700.	3.92	34.21	27.19	30.47	706.1	94.7	1.040
800.	3.63	34.28	27.27	31.02	807.2	87.4	1.132
1000.	3.22	34.37	27.39	32.08	1009.6	77.1	1.298
1200.	2.89	34.41	27.45	33.08	1212.2	71.7	1.449
1500.	2.46	34.48	27.54	34.58	1516.5	63.2	1.654
2000.	1.98	34.58	27.65	37.02	2024.5	53.1	1.950

STATION 62

TIME: 0237 DATE: 13-V-57 LAT: 48° 32' N LONG: 130° 23' W SOUNDING: fms.
 WEATHER: 60 WIND: Dir. 080° Speed 12 AIR TEMP: Dry 52° Wet 50° BARO: 1003.0 mb.
 CLOUD: Type St Amt 10 SEA: SWELL: 120° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	9.60	32.55	25.13	4874.	0.586	0.87	0.164
10.	9.33	32.50	25.13	4871.	.606	0.77	
20.	9.33	32.48	25.12	4871.	.612	0.89	.081
30.	9.05	32.53	25.20	4869.	.611		.067
50.	8.18	32.57	25.36	4859.	.616	0.86	.072
75.	6.85	32.60	25.57	4844.	.589		
100.	6.66	32.74	25.71	4843.	.566	1.22	
125.	6.66	33.22	26.09	4847.	.442		
150.	6.78	33.55	26.33	4851.	.359	2.02	
200.	6.53	33.81	26.57	4852.	.244	2.20	
250.	6.03	33.89	26.69	4849.	.204	2.24	
300.	5.51	33.91	26.77	4845.	.174	2.72	
396.	5.02	33.94	26.86	4844.	.104	2.89	
494.	4.63	34.01	26.95	4845.	.075	2.99	
593.	4.27	34.08	27.05	4846.	.055	3.04	
791.	3.67	34.18	27.19	4850.	.0392	3.21	
989.	3.27	34.36	27.37	4857.	.029	3.26	
1188.	2.84	34.43	27.47	4863.	.038	2.77	
1487.	2.42	34.49	27.55	4875.	.063	3.23	
1983.	1.94	34.53	27.62	4897.	.127	3.03	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	9.60	32.55	25.13	25.13	0.0	284.5	0.000
10.	9.33	32.50	25.13	25.18	10.1	284.2	.029
20.	9.33	32.48	25.12	25.21	20.1	285.9	.057
30.	9.05	32.53	25.20	25.34	30.2	278.1	.086
50.	8.18	32.57	25.36	25.59	50.3	262.9	.140
75.	6.85	32.60	25.57	25.92	75.4	243.2	.204
100.	6.66	32.74	25.71	26.17	100.6	230.6	.263
150.	6.78	33.55	26.33	27.03	151.0	172.5	.365
200.	6.53	33.81	26.57	27.50	201.4	150.6	.446
250.	6.03	33.89	26.69	27.86	251.8	138.9	.519
300.	5.51	33.91	26.77	28.17	302.2	131.6	.587
400.	5.00	33.94	26.86	28.73	403.1	124.3	.716
500.	4.61	34.01	26.96	29.30	504.0	115.3	.837
600.	4.25	34.08	27.05	29.86	605.0	107.1	.950
700.	3.92	34.12	27.12	30.40	706.1	101.2	1.055
800.	3.65	34.19	27.20	30.95	807.2	94.0	1.154
1000.	3.24	34.36	27.38	32.07	1009.6	78.0	1.328
1200.	2.82	34.43	27.47	33.10	1212.2	69.5	1.477
1500.	2.40	34.49	27.55	34.59	1516.4	62.0	1.677

STATION 65

TIME: 1718 DATE: 13-V-57 LAT: 47° 28' N LONG: 127° 49' W SOUNDING: 1400 fms.
 WEATHER: 04 WIND: Dir. 130° Speed 15 AIR TEMP: Dry 57° Wet 53° BARO: 1009.1 mb.
 CLOUD: Type Cc Amt 1 SEA: 130° - 3 SWELL: 130° - 3 SECCHI DISC: 15 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	10.85	32.76	25.08	4890.	0.556		
10.	10.31	32.60	25.05	4883.	.571		
20.	10.23	32.60	25.06	4883.	.532		
30.	9.65	32.62	25.17	4876.	.600		
50.	7.63	32.60	25.47	4852.	.615		
75.	6.96	32.60	25.56	4845.	.581		
100.	6.70	32.88	25.81	4844.	.535		
125.	6.78	33.38	26.20	4849.	.411		
150.	6.82	33.65	26.40	4852.	.398		
200.	6.43	33.82	26.59	4851.	.365		
250.	6.04	33.89	26.69	4849.	.210		
299.	5.62	33.91	26.76	4846.	.170		
394.	4.66	33.96	26.91	4839.	.114		
492.	4.44	34.05	27.01	4842.	.075		
590.	4.15	34.12	27.09	4844.	.042		
787.	3.75	34.27	27.25	4851.	.027		
984.	3.34	34.36	27.36	4857.	.026		
1182.	2.94	34.44	27.47	4864.	.034		
1479.	2.44	34.49	27.55	4874.	.084		
1977.	1.93	34.56	27.65	4897.	.126		

INTERPOLATED DATA

Depth m.	Temp. °C	S	σ_t	$\sigma_{s,p}$	P	10	ΔD
.	10.85	32.76	25.08	25.08	.0	289.0	.000
10.	10.31	32.60	25.05	25.10	10.1	292.1	.029
20.	10.23	32.60	25.06	25.15	20.1	291.1	.059
30.	9.65	32.62	25.17	25.31	30.2	280.6	.087
50.	7.63	32.60	25.47	25.70	50.3	253.0	.141
75.	6.96	32.60	25.56	25.91	75.4	244.6	.204
100.	6.70	32.88	25.81	26.28	100.6	220.7	.262
150.	6.82	33.65	26.40	27.10	151.0	165.5	.359
200.	6.43	33.82	26.59	27.52	201.4	148.5	.438
250.	6.04	33.89	26.69	27.86	251.8	139.0	.511
300.	5.61	33.91	26.76	28.16	302.2	132.8	.579
400.	4.65	33.97	26.92	28.79	403.1	118.5	.706
500.	4.41	34.06	27.01	29.36	504.0	110.1	.822
600.	4.13	34.13	27.10	29.92	605.0	102.3	.929
700.	3.93	34.21	27.19	30.47	706.1	94.8	1.028
800.	3.72	34.28	27.26	31.01	807.2	88.5	1.121
1000.	3.31	34.37	27.37	32.07	1009.6	78.5	1.290
1200.	2.91	34.44	27.47	33.10	1212.2	69.7	1.440
1500.	2.41	34.49	27.55	34.59	1516.5	62.0	1.640

STATION 66

TIME: 0041 DATE: 14-V-57 LAT: 48° 03' N LONG: 126° 57' W SOUNDING: 1335 fms.
 WEATHER: 02 WIND: Dir. Calm Speed AIR TEMP: Dry 54° Wet 52° BARO: 1012.8 mb.
 CLOUD: Type Amt SEA: Calm SWELL: 170° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	10.90	32.55	24.91	4889.	0.591		
10.	10.80	32.52	24.90	4889.	.589		
30.	8.41	32.55	25.31	4861.	.608		
50.	7.76	32.58	25.43	4854.	.593		
75.	7.21	32.86	25.73	4850.	.539		
100.	6.96	33.27	26.08	4849.	.426		
125.	7.10	33.60	26.32	4854.	.349	2.08	
150.	7.04	33.75	26.45	4855.	.325	2.11	
175.	6.87	33.84	26.54	4855.	.236	2.48	
200.	6.76	33.89	26.60	4855.	.195	2.63	
250.	6.29	33.95*	26.71	4852.	.170	2.78	
300.	5.88	33.98	26.78	4850.	.138	2.97	
388.	5.37	33.98	26.85	4848.	.102		
486.	4.91*	34.10	26.99	4848.	.071		
583.	4.53	34.17	27.09	4849.	.045		
777.	4.00	34.27	27.23	4854.	.029		
971.	3.47	34.36	27.35	4858.	.034		
1165.	3.20	34.41	27.42	4866.	.040		
1457.	2.66	34.48	27.52	4876.	.075		
1943.	2.06	34.53	27.61	4897.	.126		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.90	32.55	24.91	24.91	0.0	305.3	0.000
10.	10.80	32.52	24.90	24.95	10.1	306.1	.031
20.	9.39	32.53	25.15	25.24	20.1	282.7	.060
30.	8.41	32.55	25.31	25.45	30.2	267.3	.088
50.	7.76	32.58	25.43	25.66	50.3	256.3	.141
75.	7.21	32.86	25.73	26.08	75.5	228.4	.202
100.	6.96	33.27	26.08	26.55	100.6	195.0	.255
150.	7.04	33.75	26.45	27.15	151.0	161.0	.345
200.	6.76	33.89	26.60	27.53	201.4	147.6	.422
250.	6.29	33.95	26.71	27.87	251.8	138.0	.494
300.	5.88	33.98	26.78	28.18	302.2	131.0	.562
400.	5.31	34.00	26.87	28.73	403.1	123.9	.691
500.	4.85	34.11	27.01	29.35	504.1	111.0	.809
600.	4.48	34.18	27.10	29.91	605.1	102.6	.917
700.	4.21	34.23	27.18	30.45	706.1	96.5	1.018
800.	3.92	34.28	27.25	30.99	807.2	90.3	1.112
1000.	3.43	34.37	27.36	32.05	1009.6	79.9	1.284
1200.	3.13	34.42	27.43	33.06	1212.2	73.9	1.440
1500.	2.59	34.49	27.53	34.56	1516.5	64.5	1.651

STATION 67

TIME: 0517 DATE: 14-V-57 LAT: 48° 29' N LONG: 126° 12' W SOUNDING: fms.
 WEATHER: 01 WIND: Dir. Speed AIR TEMP: Dry 54° Wet 52° BARO:
 CLOUD: Type Sc Amt 8 SEA: SWELL: 180° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	11.10	32.33	24.70	4891.	0.549		
10.	11.41	32.33	24.65	4895.	.585		
20.	10.91*	32.45	24.83	4890.	.566		
30.	10.20	32.53	25.01	4883.	.605		
49.	8.29	32.58	25.36	4861.	.581		
74.	7.57	32.72	25.57	4854.	.551		
99.	7.16	33.15	25.96	4851.	.454		
123.	7.60	33.74	26.36	4861.	.349	1.97	
148.	7.43*	33.72	26.37	4860.	.268	2.38	
199.	6.94	33.84	26.54	4857.	.195	2.58	
249.	6.26	33.94	26.70	4852.	.167	2.78	
300.	5.96	33.96	26.76	4851.	.153	3.00	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	$10^5 \delta$	ΔD
0.	11.10	32.33	24.70	24.70	0.0	325.0	0.000
10.	11.41	32.33	24.65	24.69	10.1	330.4	.033
20.	10.91	32.45	24.83	24.92	20.1	313.3	.065
30.	10.20	32.53	25.01	25.15	30.2	295.9	.096
50.	8.26	32.58	25.36	25.59	50.3	263.2	.152
75.	7.54	32.73	25.58	25.93	75.4	242.2	.216
100.	7.19	33.19	25.99	26.45	100.6	204.2	.272
150.	7.42	33.73	26.38	27.07	151.0	168.0	.366
200.	6.92	33.84	26.54	27.47	201.4	153.3	.447
250.	6.25	33.94	26.71	27.87	251.8	137.9	.520
300.	5.96	33.96	26.76	28.16	302.2	133.5	.588

STATION 68

TIME: 0704 DATE: 14-V-57 LAT: 48° 32' N LONG: 126° 09' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir.Calm Speed AIR TEMP: Dry 54° Wet 53° BARO: 1014.2 mb.
 CLOUD: Type St Amt 2 SEA: Calm SWELL: 180° - 2 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	11.90	32.05	24.34	4899.	0.592		
10.	11.67	32.07	24.40	4897.	.591		
20.	11.63	32.10	24.43	4897.	.580		
30.	8.61	32.31	25.10	4862.	.568		
49.	7.99	32.58	25.40	4857.	.547		
69.	7.56	32.98	25.77	4854.	.441	1.68	
94.	7.49	33.31	26.04	4856.	.369	1.97	
142.	7.18	33.72	26.41	4856.	.228	2.31	
192.	6.80	33.89	26.59	4855.	.191	2.60	
240.	6.49	33.93	26.67	4854.	.168	2.79	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	11.90	32.05	24.34	24.34	0.0	359.4	0.000
10.	11.67	32.07	24.40	24.44	10.0	354.1	.036
20.	11.63	32.10	24.43	24.52	20.1	351.4	.071
30.	8.61	32.31	25.10	25.23	30.2	288.0	.103
50.	7.96	32.60	25.42	25.65	50.3	257.4	.158
75.	7.55	33.07	25.84	26.19	75.4	217.6	.218
100.	7.45	33.37	26.10	26.56	100.6	193.8	.270
150.	7.12	33.76	26.45	27.14	151.0	161.6	.359
200.	6.74	33.91	26.61	27.54	201.4	146.3	.437

STATION 69

TIME: 0913 DATE: 14-V-57 LAT: 48° 46' N LONG: 125° 58' W SOUNDING: 42 fms.
 WEATHER: 04 WIND: Dir. 340° Speed 5 AIR TEMP: Dry 52° Wet 50° BARO: 1016.9 mb.
 CLOUD: Type Cc Amt 1 SEA: Calm SWELL: 170° - 2 SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1	NO ₃ g.at/1
0.	12.40	31.11	23.52	4901.	0.651		
10.	11.69	31.22	23.74	4894.	.665		
20.	8.83	31.73	24.61	4862.	.531		
30.	8.25	32.17	25.04	4857.	.536		
50.	7.91	32.62	25.44	4856.	.434		

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	$10^5 \delta$	ΔD
0.	12.40	31.11	23.52	23.52	.0	437.6	.000
10.	11.69	31.22	23.74	23.78	10.0	417.2	.043
20.	8.83	31.73	24.61	24.70	20.1	334.1	.081
30.	8.25	32.17	25.04	25.18	30.1	293.3	.112
50.	7.91	32.62	25.44	25.67	50.3	255.4	.167

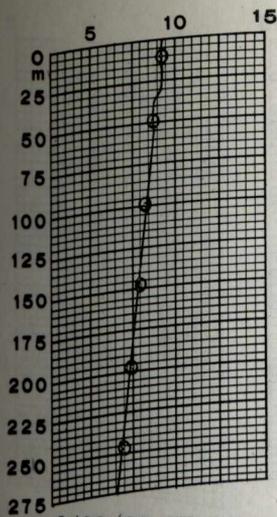
STATION 70

TIME: 1225 DATE: 14-V-57 LAT: 48° 54' N LONG: 125° 33' W SOUNDING: 52 fms.
 WEATHER: 02 WIND: Dir. 290° Speed 8 AIR TEMP: Dry 55° Wet 54° BARO: 1017.6 mb.
 CLOUD: Type Amt SEA: Calm SWELL: 220° - 1 SECCHI DISC: 3 meters

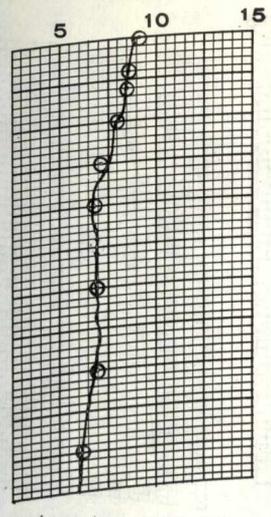
Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l	NO ₃ g.at/l
0.	11.80	30.51	23.17	4892.	0.800		
10.	10.45	31.08	23.84	4879.	.807		
20.	8.35	31.49	24.49	4856.	.472		0.381
30.	8.10	31.79	24.76	4854.	.440		.371
50.	7.90	32.21	25.12	4854.	.418		.278

INTERPOLATED DATA

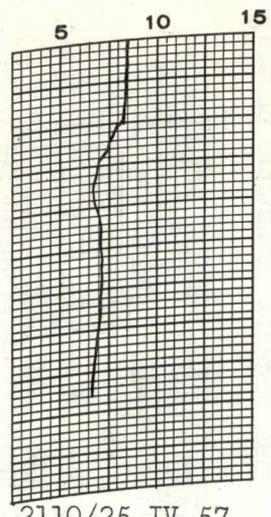
Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.80	30.51	23.17	23.17	0.0	471.3	0.000
10.	10.45	31.08	23.84	23.89	10.0	406.9	.044
20.	8.35	31.49	24.49	24.59	20.1	345.2	.082
30.	8.10	31.79	24.76	24.90	30.1	319.5	.115
50.	7.90	32.21	25.12	25.35	50.3	285.8	.176



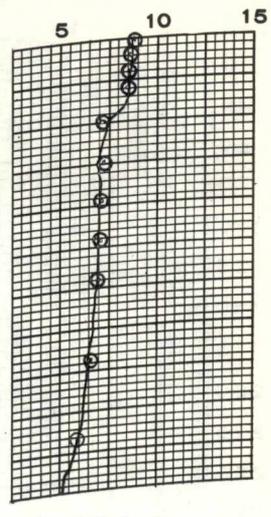
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Station 4



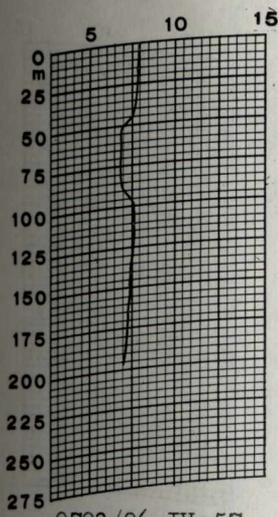
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Station 5



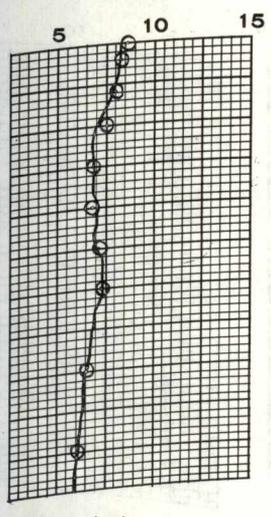
2110/25-IV-57
46° 28' N
126° 57' W



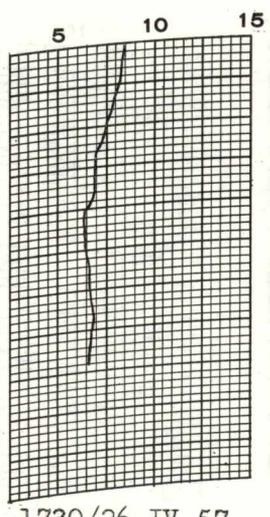
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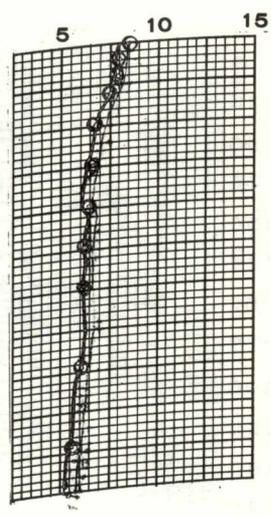
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47° 27' N
127° 56' W
S.S. 32.57



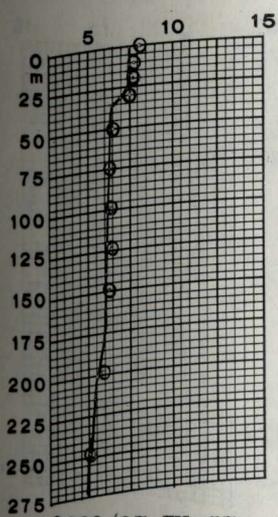
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Station 7



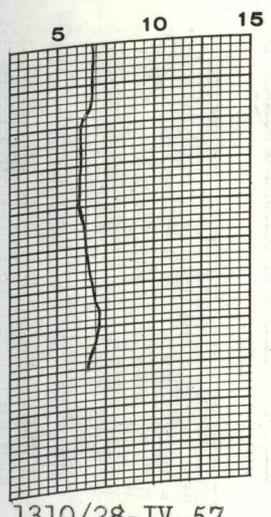
1730/26-IV-57
48° 30' N
128° 50' W
S.S. 32.50



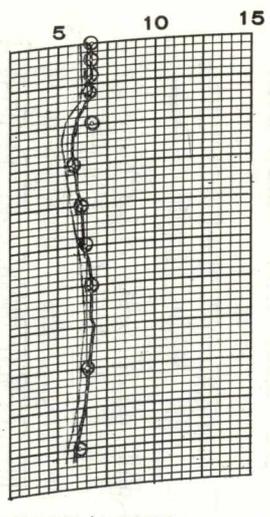
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Station 8



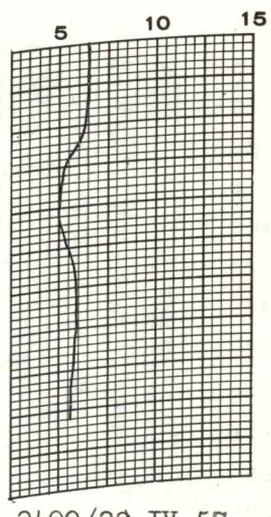
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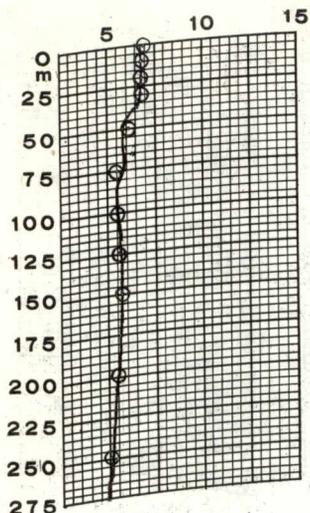
1310/28-IV-57
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S.S. 32.26



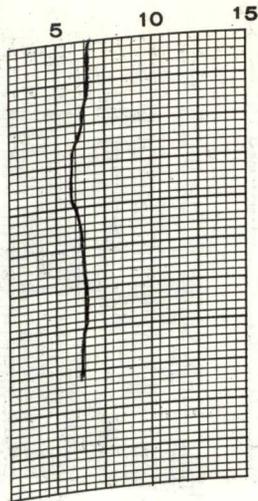
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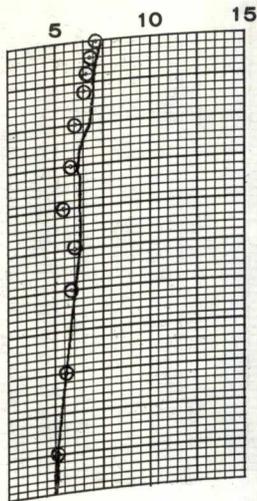
2400/28-IV-57
53° 32' N
134° 21' W
S.S. 32.38



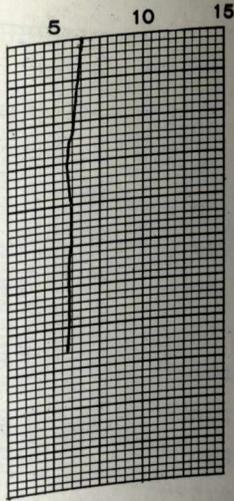
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Station 13



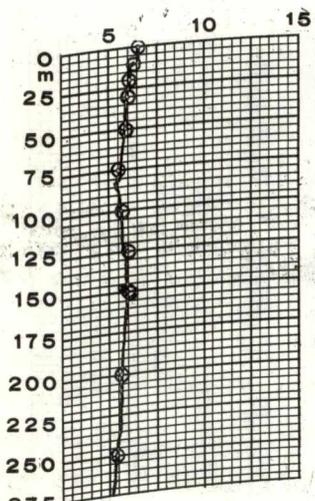
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S.S. 32.43



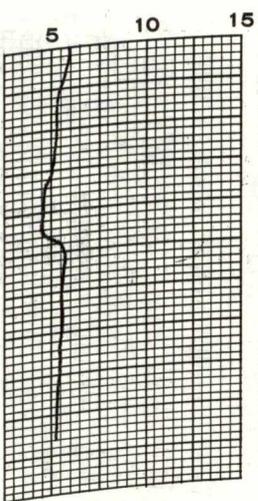
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Station 14



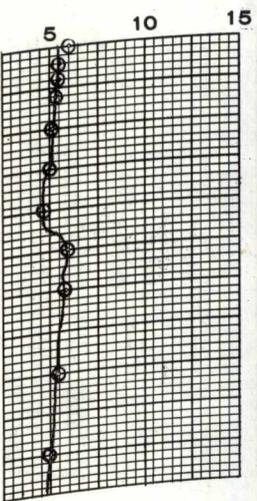
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136° 25' W
S.S. 32.65



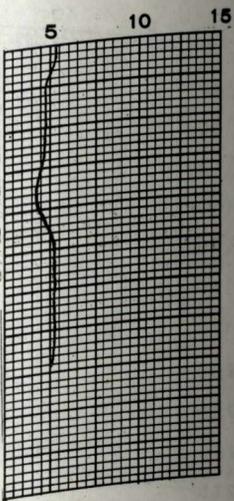
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Station 15



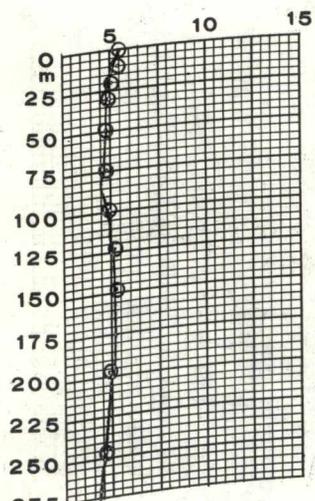
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138° 00' W
S.S. 32.50



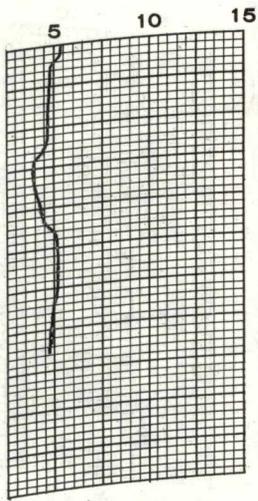
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Station 16



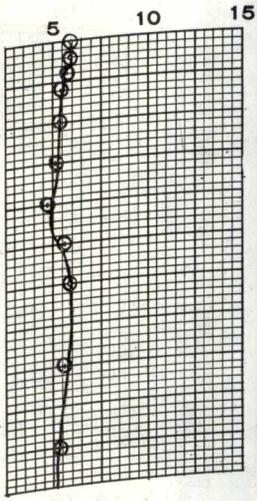
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139° 00' W
S.S. 32.76



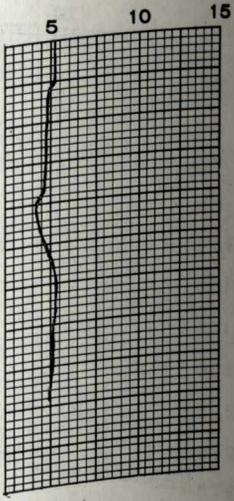
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Station 17



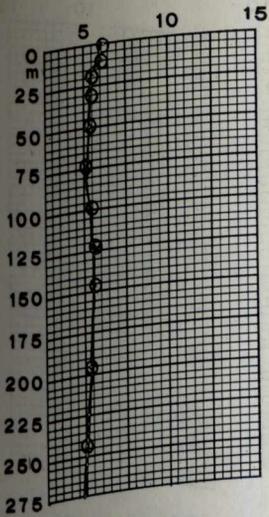
1922/30-IV-57
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139° 00' W



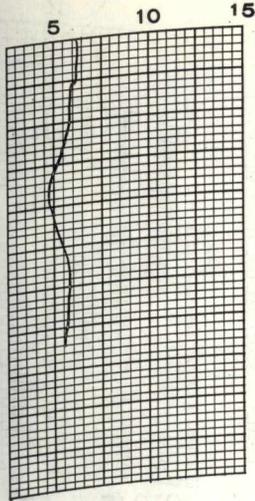
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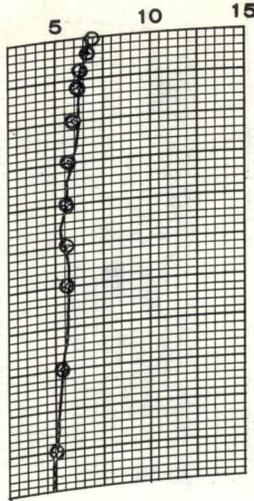
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S.S. 32.76



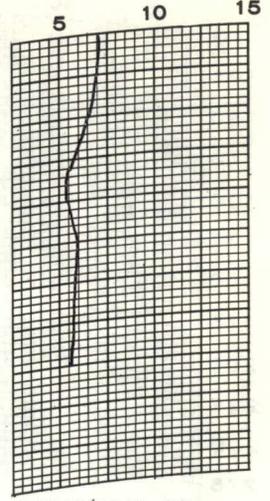
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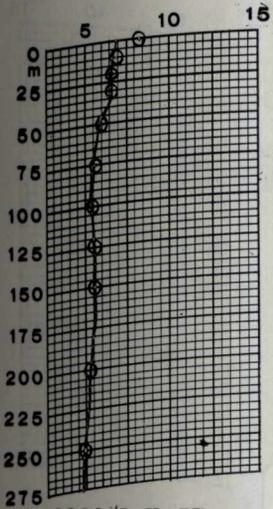
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136° 32' W
S.S. 32.74



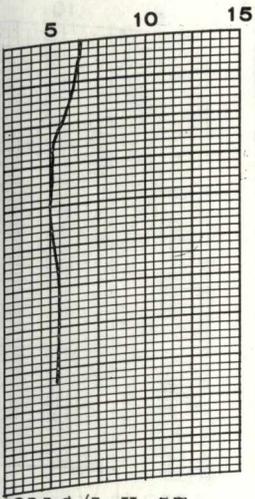
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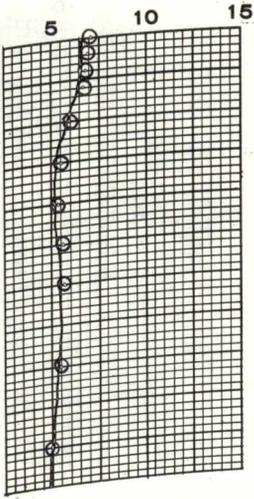
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54° 00' N
135° 16' W



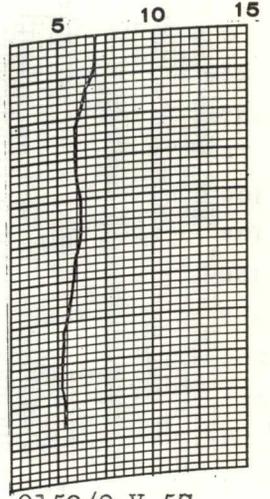
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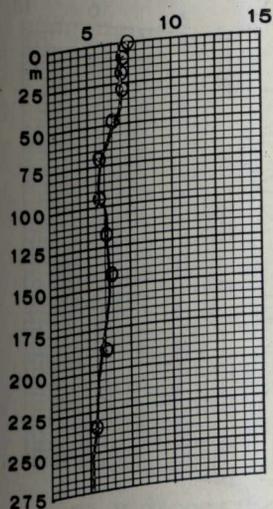
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134° 34' W
S.S. 32.52



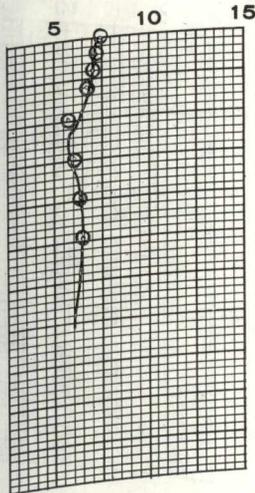
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Station 22



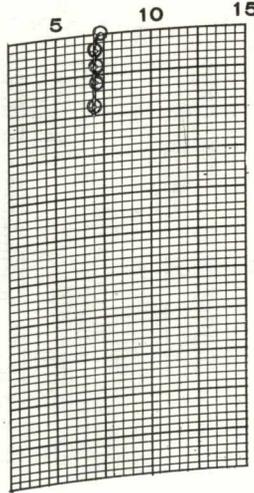
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134° 02' W
S.S. 32.48



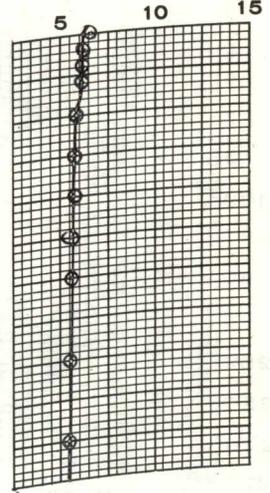
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Station 23



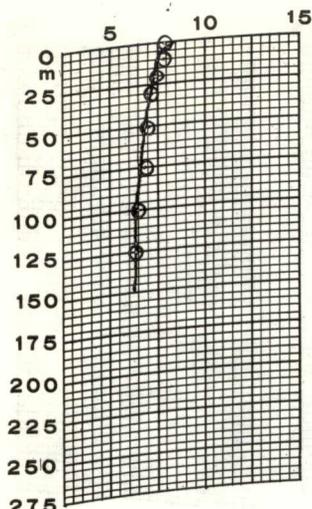
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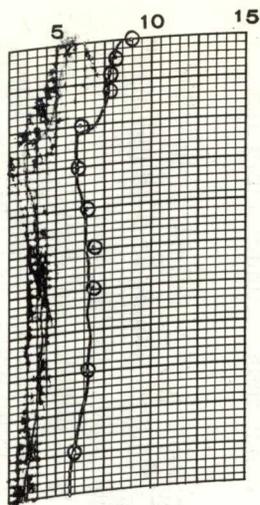
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Station 25



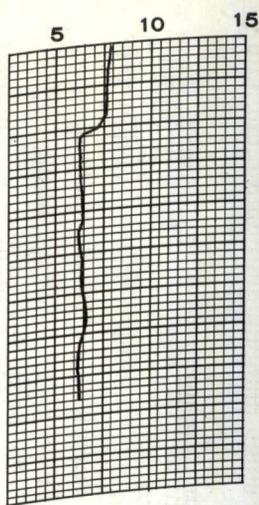
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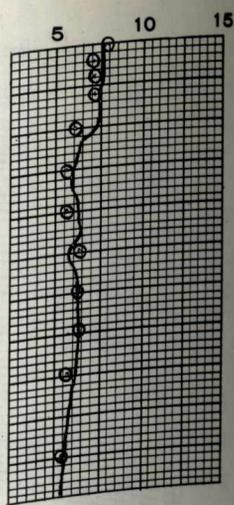
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Station 34



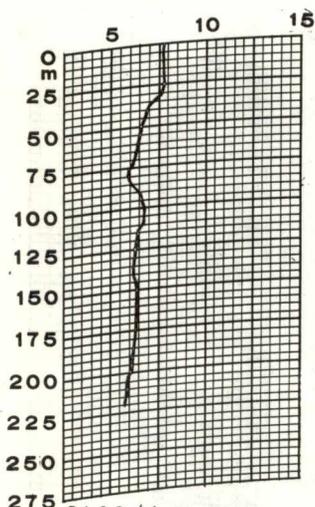
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Station 35



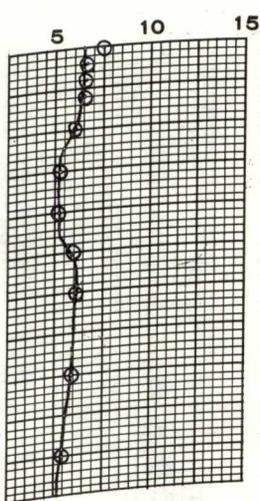
2010/7-V-57
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133° 19' W
S.S. 32.41



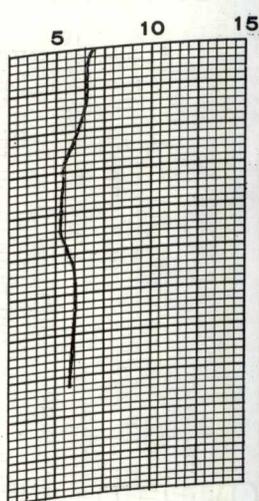
0050/8-V-57
Station 36



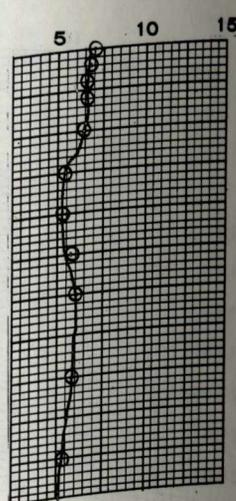
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134° 23' W



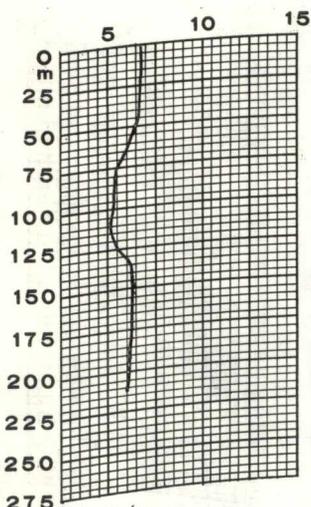
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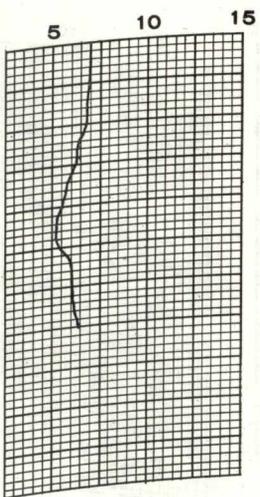
1930/8-V-57
52° 17' N
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S.S. 32.86



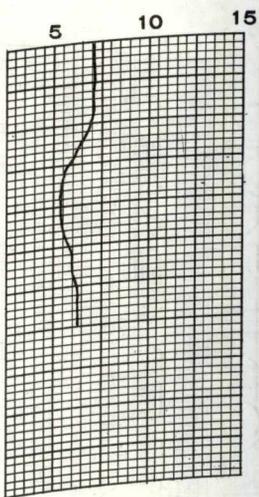
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Station 39



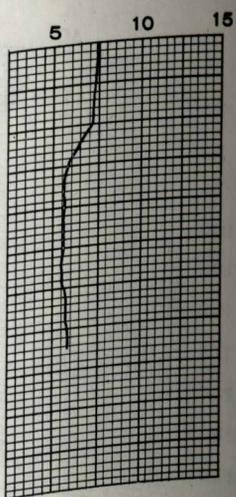
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137° 26' W
S.S. 32.69



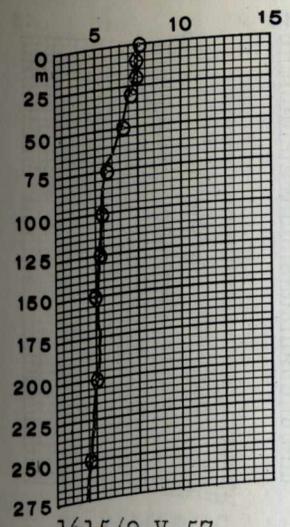
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S.S. 32.83



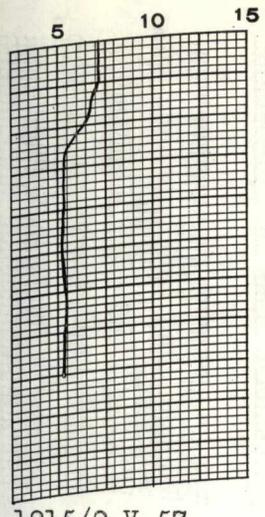
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136° 29' W
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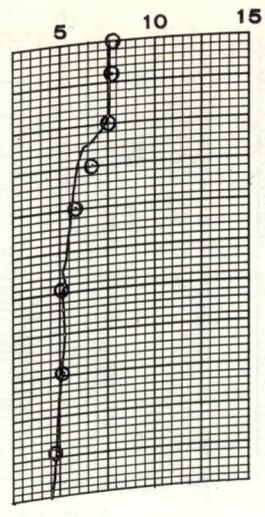
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136° 04' W
S.S. 32.69



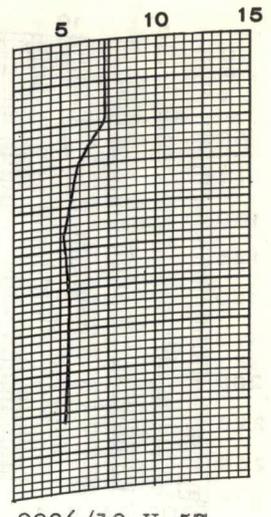
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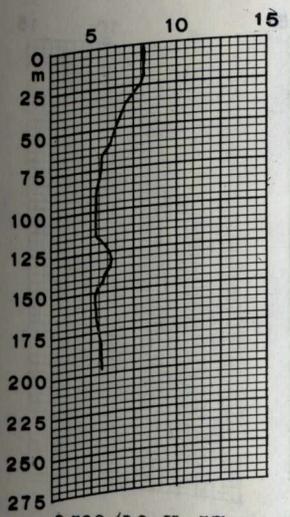
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135° 09' W
S.S. 32.71



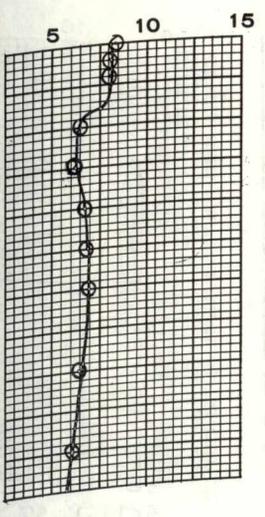
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Station 42



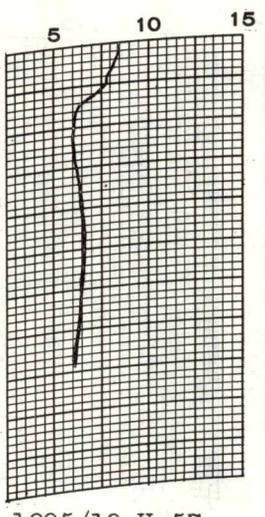
0236/10-V-57
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134° 02' W
S.S. 32.67



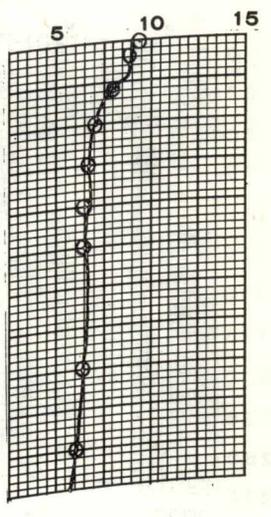
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S.S. 32.45



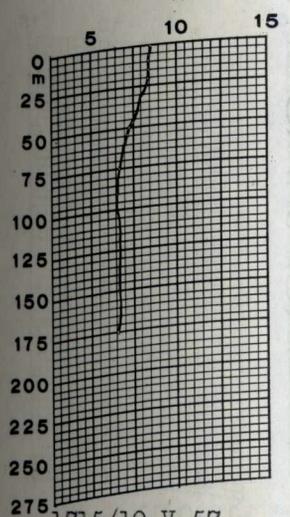
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Station 43



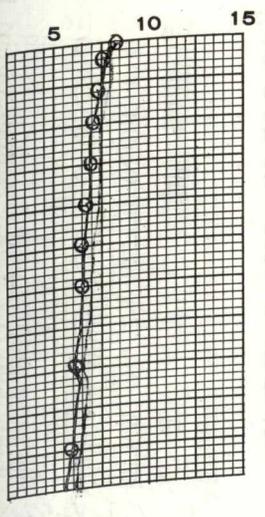
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51° 27' N
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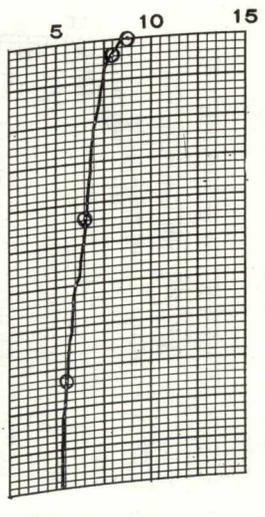
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Station 44



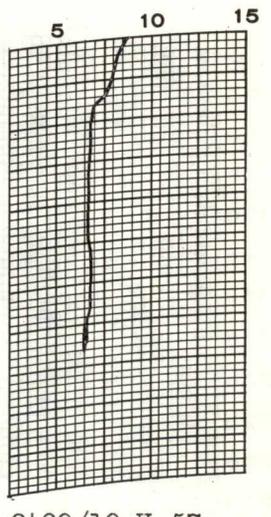
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131° 40' W
S.S. 32.12



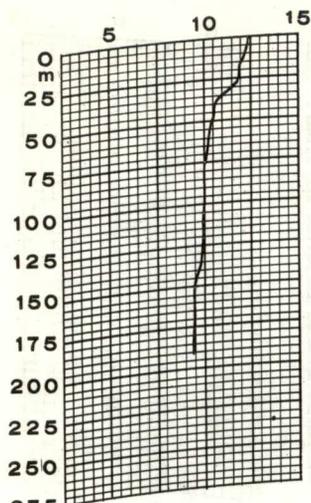
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Station 45



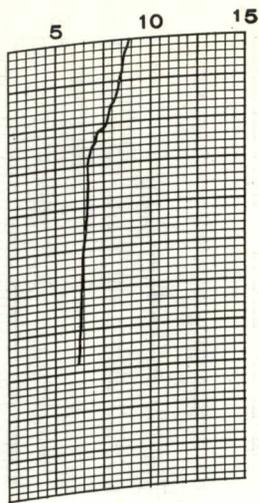
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Station 46



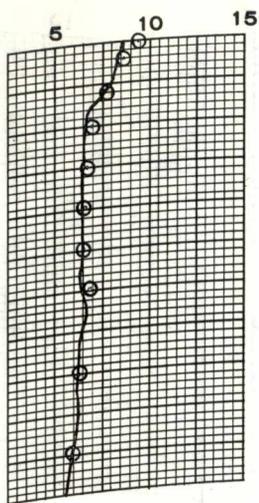
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S.S. 32.19



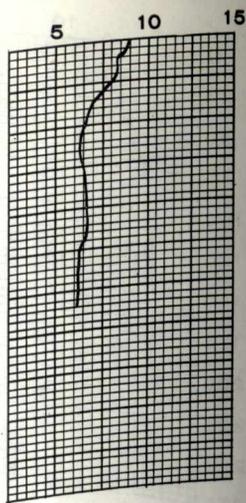
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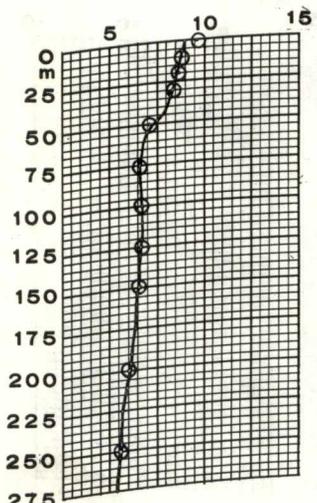
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 130° 31' W
 S.S. 32.14



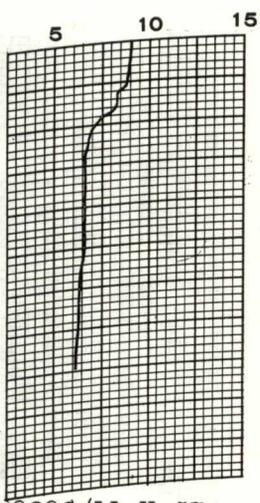
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 Station 48



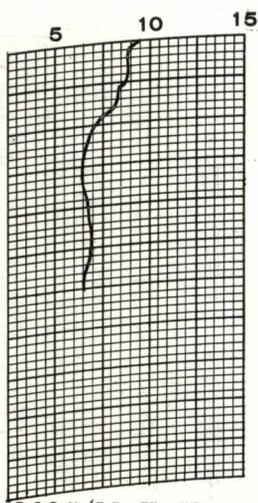
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 130° 05' W
 S.S. 31.98



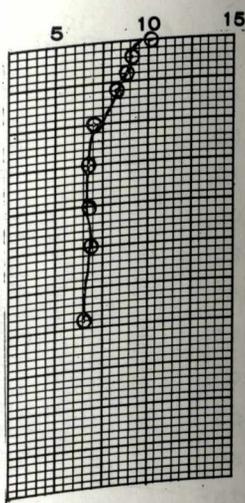
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 Station 49



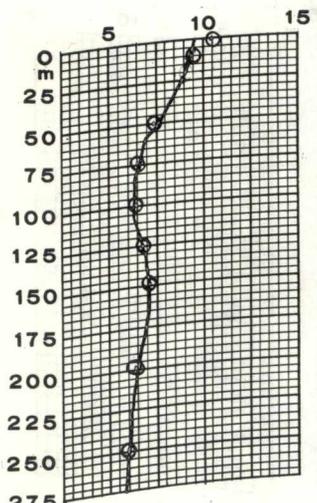
0908/11-V-57
 51° 09' N
 129° 32' W
 S.S. 32.21



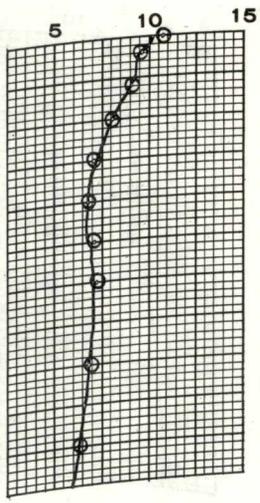
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 129° 23' W
 S.S. 32.00



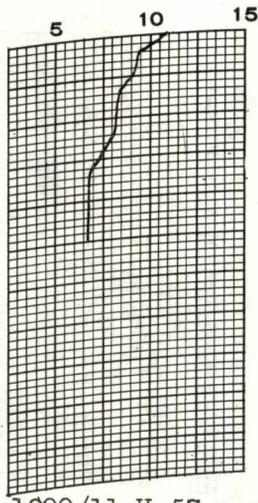
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 Station 50



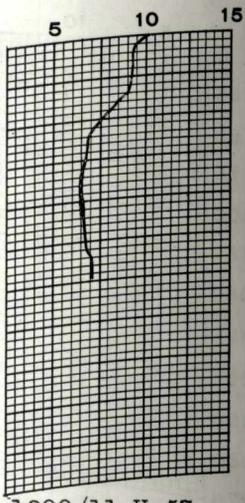
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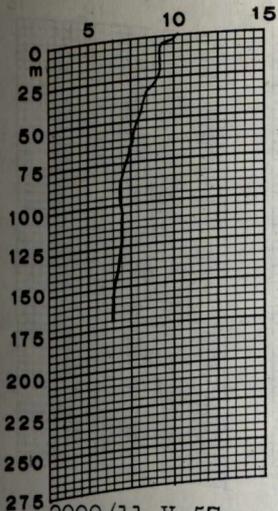
1710/11-V-57
 Station 53



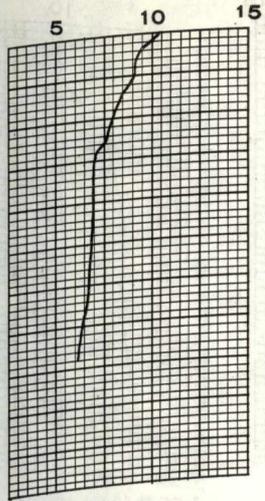
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 S.S. 31.47



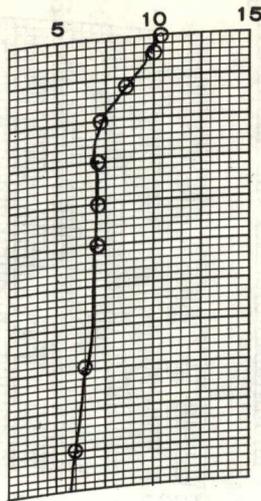
1900/11-V-57
 50° 35' N
 129° 16' W
 S.S. 31.80



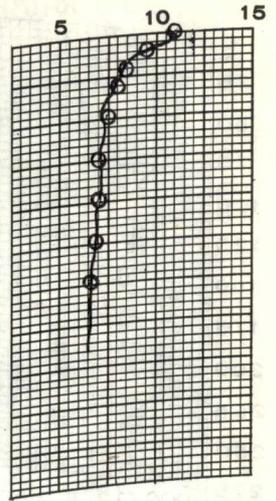
2000/11-V-57
50° 34' N
129° 01' W
S.S. 31.49



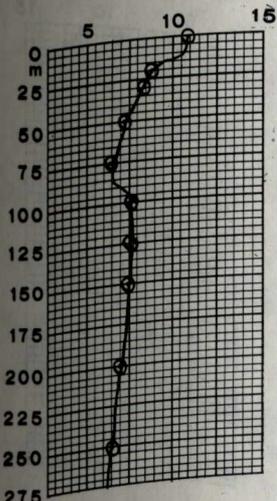
2100/11-V-57
50° 32' N
128° 47' W
S.S. 31.66



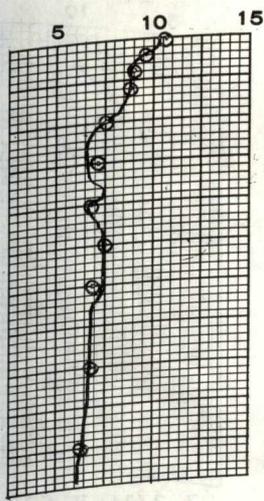
2213/11-V-57
Station 54



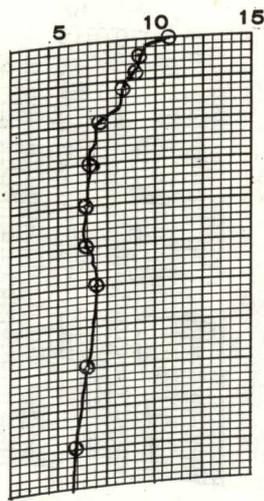
0037/12-V-57
Station 55



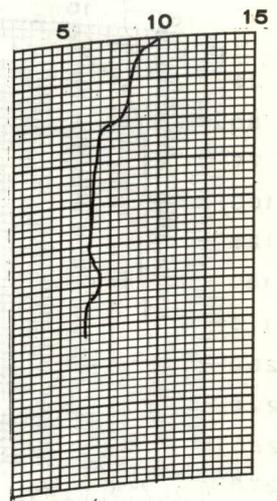
0620/12-V-57
Station 58



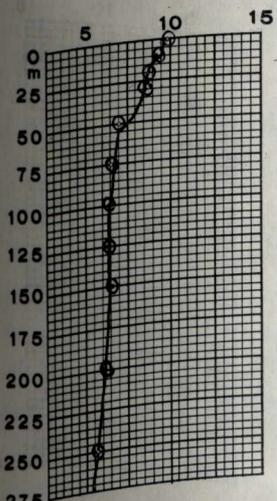
0825/12-V-57
Station 59



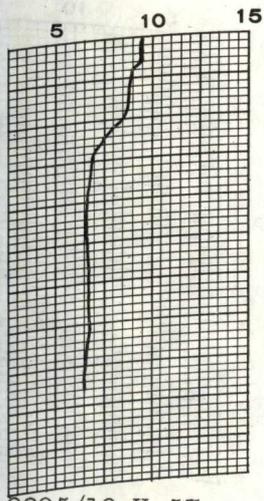
1140/12-V-57
Station 60



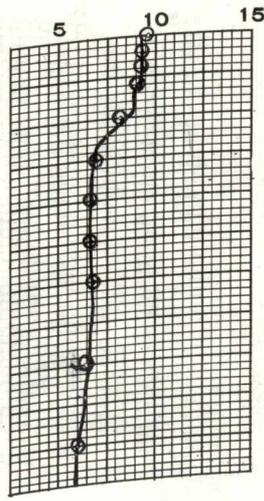
1415/12-V-57
49° 29' N
128° 54' W
S.S. 32.48



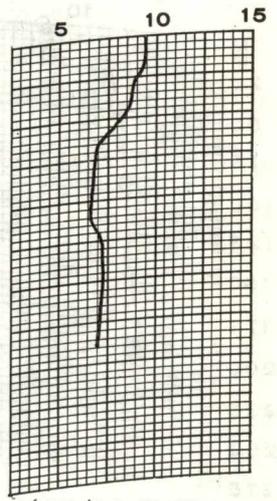
1835/12-V-57
Station 61



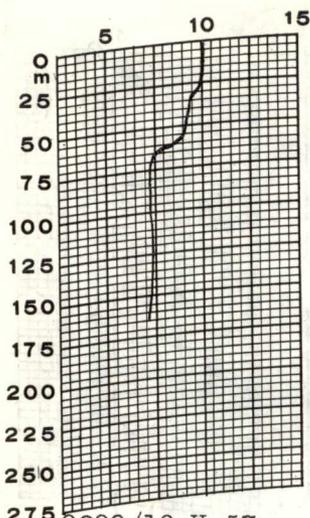
2205/12-V-57
48° 58' N
130° 05' W



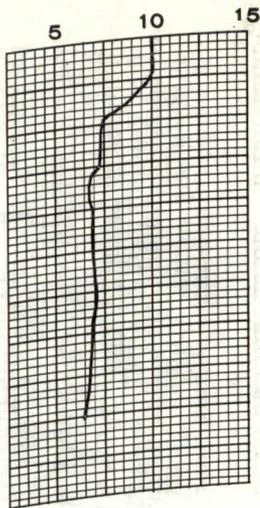
0300/13-V-57
Station 62



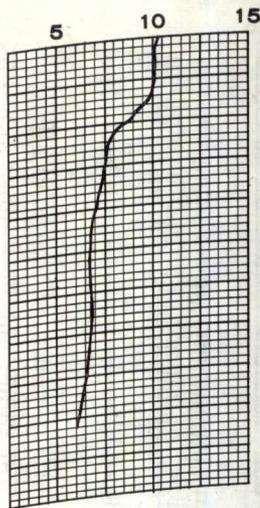
0605/13-V-57
48° 16' N
129° 52' W
S.S. 32.64



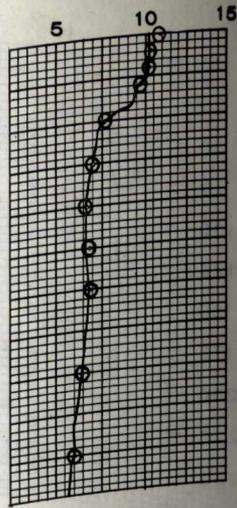
0900/13-V-57
 48° 03' N
 129° 14' W
 S.S. 32.74



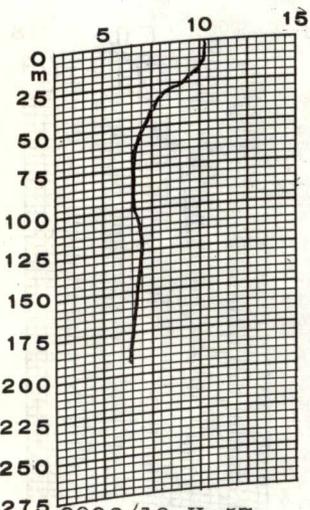
1203/13-V-57
 47° 46' N
 128° 40' W
 S.S. 32.57



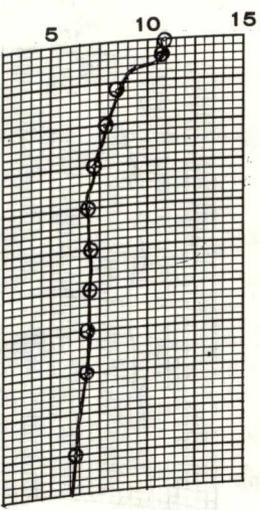
1507/13-V-57
 47° 30' N
 128° 09' W
 S.S. 32.65



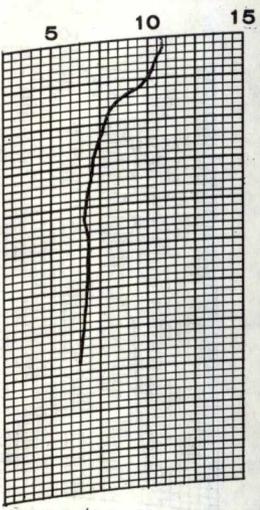
1722/13-V-57
 Station 65



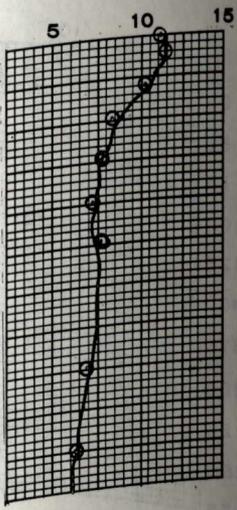
2039/13-V-57
 47° 43' N
 127° 25' W
 S.S. 32.57



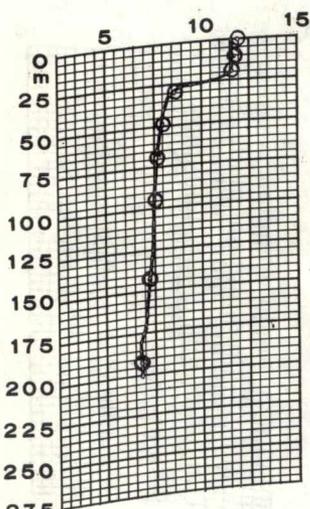
0010/14-V-57
 Station 66



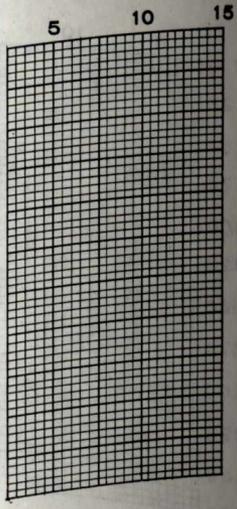
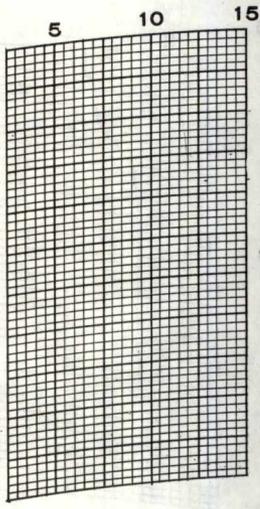
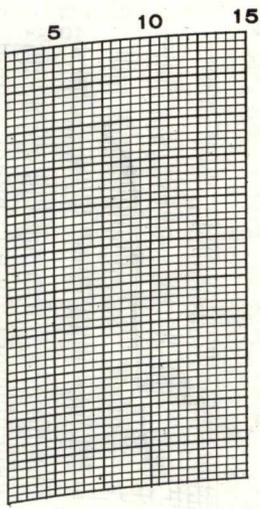
0303/14-V-57
 48° 15' N
 126° 35' W
 S.S. 32.64

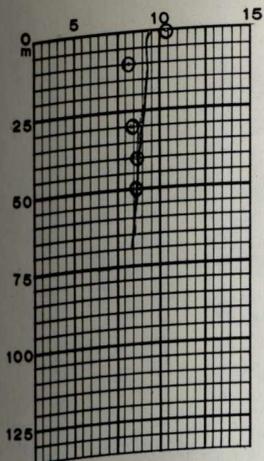


0600/14-V-57
 Station 67

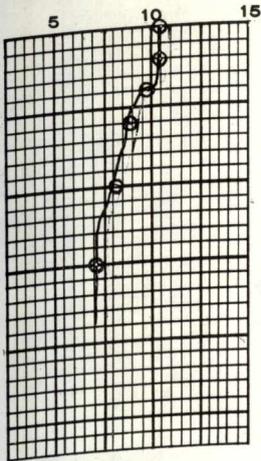


0705/14-V-57
 Station 68

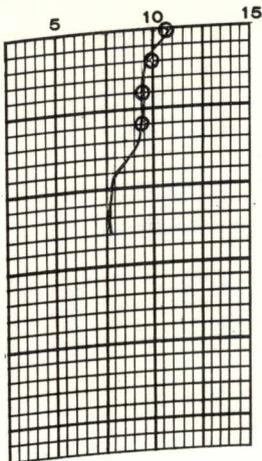




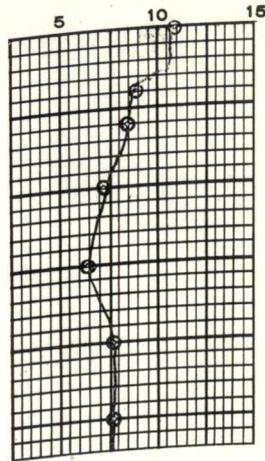
1237/11-V-57
Station 51



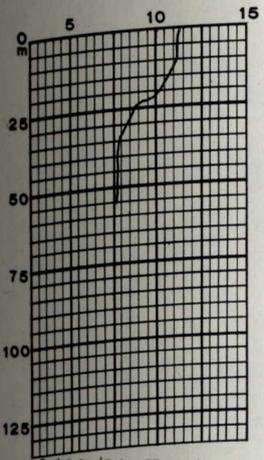
0149/12-V-57
Station 56



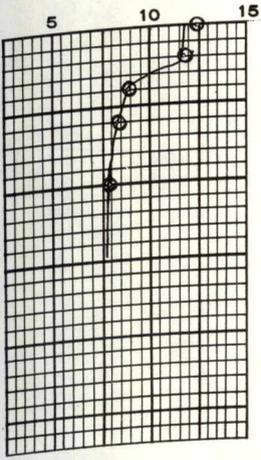
0440/12-V-57
Station 57



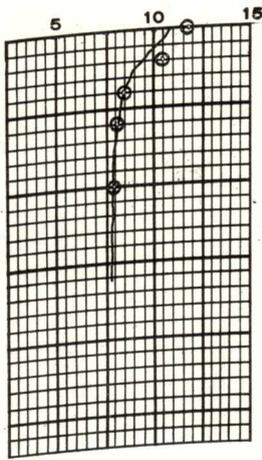
0615/12-V-57
Station 58



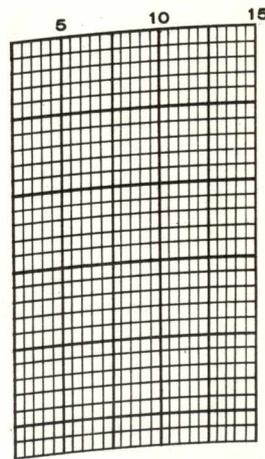
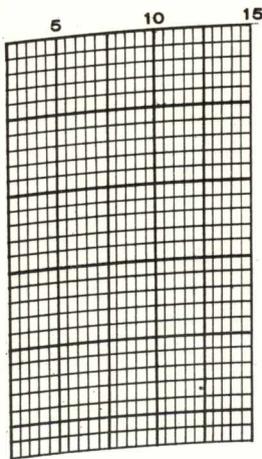
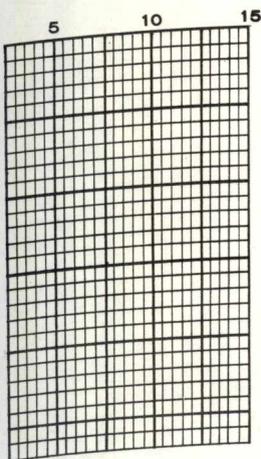
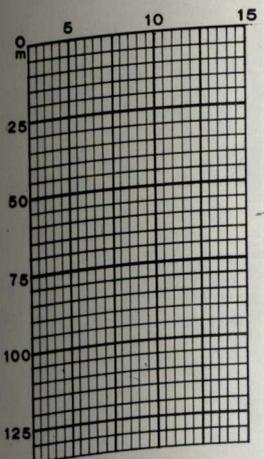
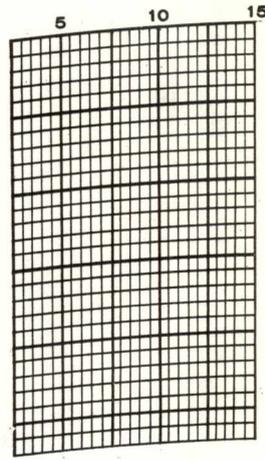
0820/14-V-57
48° 14' N
126° 02' W
S.S. 31.37



0915/14-V-57
Station 69



1130/14-V-57
Station 70



Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
			C-57-1	April 24 - May 5, 1957						
5	110.0		110.0	5.7	tr.	102.0		tr.	2.3	Pt, Fish larv
6	650.0		650.0	10.4	tr.	572.0		21.7	32.5	Eggs, Ann
7	96.2		96.2			76.0			20.3	Eggs, Det
8	275.0		275.0	tr.	tr.	245.0	2.7	tr.	27.5	Tom, Ost, Oik
9	260.4		260.4	tr.		232.0		tr.	26.0	Tom, Ost, Oik, Fish larv, Eggs
10	151.0		151.0		tr.	148.0		3.0	tr.	Ost, Oik, Fish larv
11	184.8		184.8	tr.		148.0			37.0	
12	94.5		94.5	tr.		94.5		tr.	tr.	Oik, Eggs
13	98.7		98.7			76.0		19.8	2.0	Tom, Oik, Eggs, Fish larv
14	102.9		102.9	tr.	tr.	100.0	tr.		2.0	Oik, Eggs, Fish larv

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
15	104.5	tr.	104.5		tr.	99.0			1.0	Tom, Ost, Oik, Eggs, Fish larv
16	171.0	9.0	162.0		tr.	158.0	tr.	tr.	1.8	Tom, Oik, Eggs
17	99.1	3.1	96.0		2.0	82.4		5.14	5.14	Sipho, Oik
18	43.0		43.0		tr.	23.2			tr.	Ost, Eggs
19	160.0	8.0	152.0			136.0			16.0	Tom, Ost, Oik
20	13.4	tr.	13.4			12.8			0.67	Med, Ost, Oik, Eggs
21	28.0		28.0	tr.	tr.	28.0			tr.	Tom, Ost, Eggs, Fish larv
22	62.4		62.4	tr.	tr.	52.1		6.3	3.2	Tom, Ost, Fish larv
23	326.0		326.0	tr.	tr.	280.0	tr.	32.6	3.0	Tom, Eggs, Fish larv, Lantern Fish
24	275.0		275.0	tr.		272.0		tr.	tr.	Fish larv

Depth of haul - 125 meters

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
25	25.2		25.2	tr.		25.0	0.2		tr.	Fish larv
26	44.1		44.1	tr.		44.1			tr.	Eggs, Fish larv
34	52.5		52.5			52.5			tr.	Eggs
Depth of haul - 125 meters										
35	270.0		270.0	tr.		254.0		tr.	13.6	Oik, Fish larv
36	257.0		257.0	tr.		243.0		tr.	13.5	Tom, Oik, Fish larv
37	111.3		111.3	tr.		109.0		tr.	tr.	Med, Tom, Ost, Oik, Eggs
38	1062.0	637.0	425.0		tr.	319.0	tr.		106.0	Med, Ct, Tom, Ost, Oik
39	326.0	130.0	196.0	tr.	tr.	167.0		6.5	13.0	Med, Tom, Oik
41	1.9		1.9		tr.	1.7		tr.	0.2	Sipho, Tom, Ost, Eggs
42	54.6		54.6	tr.		46.5	tr.	1.1	5.0	Tom, Ost, Oik, Eggs, Fish larv

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
43	210.0	tr.	210.0	7.0	tr.	180.0		7.0	11.6	Tom, Ost, Oik Fish larv
44	134.4	tr.	134.4	tr.		128.0	tr.	tr.	6.4	
45	64.1		64.1	3.6		43.0	2.8	14.3	0.6	Tom, Eggs, Fish larv
46	132.0	tr.	132.0	tr.	tr.	91.0		36.6	2.9	Ost, Oik, Eggs
48	191.7	5.7	186.0	tr.	tr.	180.0			5.7	Oik, Fish larv
49	246.0	tr.	246.0	tr.		237.0		tr.	2.5	Med, Oik, Eggs, Fish larv
50	134.0	tr.	134.0	tr.		134.0	tr.		tr.	Med, Eggs, Fish larv
51	12.0	1032.0	12.0		tr.	10.4	tr.			Med, Dec. larv, Oik, Eggs
Depth of haul - 50 meters										
52	72.0	tr.	72.0	tr.		64.0	tr.		8.0	Med, Ct, Ost, Eggs, Fish larv
53	40.5		40.5		tr.	40.5	tr.		tr.	Eggs
54	290.0		290.0	tr.		276.0	tr.	14.0		Fish larv

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
55	109.2	tr.	109.2	tr.	tr.	75.0	tr.	27.2	5.4	Med, Fish larv
56	921.0		921.0			49.0	tr.	915.0	tr.	Med, Ct, Crab larv, Oik Depth of haul - 75 meters
57	282.0	tr.	282.0	tr.		243.0	tr.	35.0	tr.	Med, Ct, Oik Depth of haul - 40 meters
58	312.2	3.2	309.0	tr.		274.0	32.0	3.2	tr.	Med, Eggs
59	66.0	tr.	66.0	1.1		57.0	5.5	1.1	1.1	Med, Eggs
60	103.3	tr.	103.3	tr.		96.0	1.0	tr.	5.0	Dia, Med
61	196.0		196.0	4.0		185.0	tr.	tr.	6.4	Med, Tom, Ost, Eggs
62	163.0		163.0	7.0	tr.	146.0		tr.	tr.	Med, Ct, Tom, Oik, Fish larv
65	244.0		244.0	2.4	tr.	227.0			12.2	Med, Tom, Fish larv
66	143.0		143.0	7.2	tr.	126.0		tr.	7.2	Med, Tom, Ost, Oik, Fish larv

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
67	55.0	tr.	55.0	0.6	tr.	54.1	tr.		tr.	Med
68	394.0	tr.	394.0	tr.	tr.	388.0	tr.	tr.	tr.	Med, Tom
				Depth of haul - 50 meters						
69	330.0	tr.	330.0	3.3	tr.	234.0	tr.		tr.	Med, Oik, Eggs
				Depth of haul - 75 meters						
70	485.0	tr.	485.0	tr.		471.0	4.8	4.8	tr.	Med, Oik, Fish larv
				Depth of haul - 50 meters						

Cruise Number C-57-2

July 2 - 12, 1957

Personnel: F.G. Barber
R.H. Herlinveaux
O.D. Kennedy
J.S.D. Winter
F.M. Boyce
N.K. Chippindale
J.T. Armstrong
H. Menkes

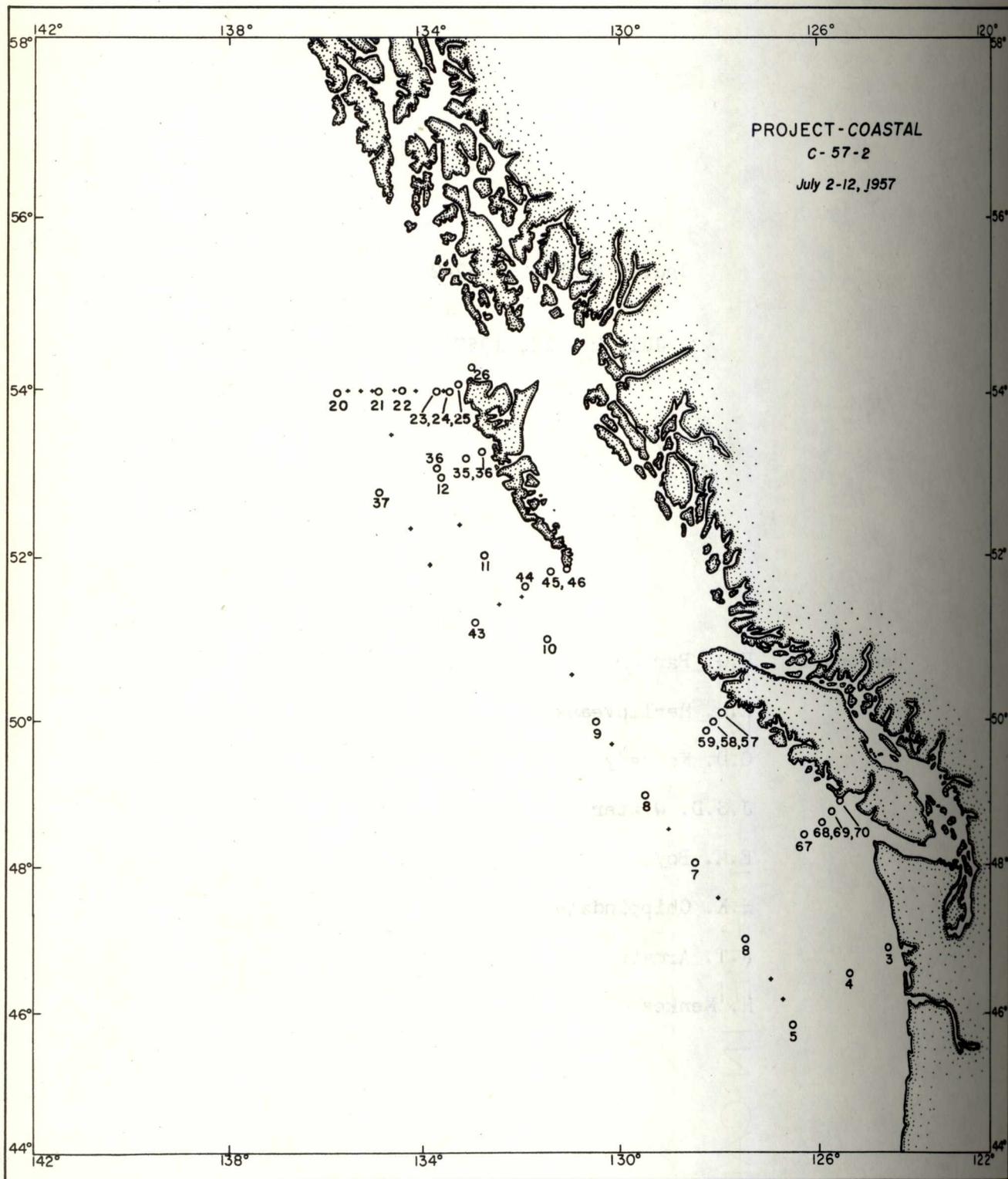


Fig. 3. Approximate positions of stations and bathythermograph lowerings (crosses) for cruise C-57-2, July 2-12, 1957.

STATION 3

TIME: 0514 DATE: 3-VII-57 LAT: 46° 52.5'N LONG: 124° 30' W SOUNDING: 46 fms.
 WEATHER: 02 WIND: Dir. 330° Speed 4 AIR TEMP: Dry 59° Wet 54° BARO: 1024.4 mb.
 CLOUD: Type St Amt 8 SEA: Calm SWELL: 310° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.80	31.97	23.70	4931.	0.582	
10.	14.71	31.95	23.71	4931.	.530	
20.	12.07	32.10	24.35	4902.	.636	
30.	9.44	32.52	25.13	4874.	.585	
50.	7.06	32.86	25.75	4846.	.306	
75.	7.43	33.63	26.30	4855.	.268	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	14.80	31.97	23.70	23.70	0.0	420.2	0.000
10.	14.71	31.95	23.71	23.75	10.0	420.1	.042
20.	12.07	32.10	24.35	24.44	20.1	359.2	.081
30.	9.44	32.52	25.13	25.27	30.1	284.8	.114
50.	7.06	32.86	25.75	25.98	50.3	226.1	.165
75.	7.43	33.63	26.30	26.65	75.4	174.0	.215

STATION 4

TIME: 0955 DATE: 3-VII-57 LAT: 46° 32' N LONG: 125° 21' W SOUNDING: 1050 fms.
 WEATHER: 02 WIND: Dir. 340° Speed 3 AIR TEMP: Dry 61° Wet 54° BARO: 1026.8 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: 320° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	16.00	31.18	22.84	4941.	0.566	
10.	14.03*	31.42	23.44	4921.	.578	
49.	8.90	32.69	25.35	4869.	.585	
99.	8.33	33.51	26.08	4868.	.347	
123.	8.25	33.63	26.18	4869.	.307	
148.	8.05	33.77	26.32	4868.	.270	
197.	7.40	33.89	26.51	4863.	.221	
247.	6.92	33.93	26.61	4860.	.189	
296.	6.44	33.98	26.71	4857.		
395.	5.72	34.03	26.84	4854.	.113	
493.	5.79	34.10	26.89	4861.	.081	
592.	4.78	34.18	27.07	4853.	.069	
790.	4.22	34.25	27.19	4858.	.057	
987.	3.75	34.34	27.31	4863.	.038	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	16.00	31.18	22.84	22.84	0.0	502.9	0.000
10.	14.03	31.42	23.44	23.49	10.0	445.4	.048
20.	12.32	31.80	24.07	24.16	20.1	385.9	.089
30.	10.88	32.14	24.59	24.73	30.1	336.0	.126
50.	8.88	32.71	25.37	25.60	50.2	262.3	.186
75.	8.54	33.21	25.81	26.16	75.4	220.6	.247
100.	8.33	33.51	26.08	26.54	100.6	195.6	.299
150.	8.02	33.78	26.33	27.02	150.9	172.6	.392
200.	7.37	33.89	26.52	27.44	201.3	155.7	.474
250.	6.89	33.93	26.62	27.78	251.7	146.8	.551
300.	6.40	33.98	26.72	28.11	302.1	137.4	.622
400.	5.75	34.03	26.84	28.71	403.0	126.6	.755
500.	5.70	34.11	26.91	29.23	504.0	121.8	.881
600.	4.76	34.18	27.08	29.88	605.0	105.6	.996
700.	4.46	34.22	27.14	30.41	706.0	100.7	1.100
800.	4.19	34.25	27.19	30.94	807.1	95.5	1.199

STATION 5

TIME: 1626 DATE: 3-VII-57 LAT: 45° 49.5' N LONG: 126° 32' W SOUNDING: 1500 fms.
 WEATHER: 03 WIND: Dir. 162° Speed 2 AIR TEMP: Dry 59° Wet 56° BARO: 1027.8 mb.
 CLOUD: Type St Amt 7 SEA: Calm SWELL: 170° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	16.60	32.05	23.37	4950.	0.527	0.599
10.	16.27	32.07	23.46	4947.	.528	0.476
20.	13.23	32.48	24.42	4917.	.631	0.642
30.	11.21*	32.57	24.87	4895.	.630	0.829
50.	8.42	32.67	25.41	4863.	.644	1.06
75.	7.31	32.67	25.57	4850.	.600	1.06
99.	6.89	32.96	25.85	4847.	.520	1.64
124.	7.08	33.43	26.19	4853.	.412	2.02
149.	6.99	33.62	26.36	4854.	.376	2.11
199.	6.66	33.84	26.57	4854.	.272	2.36
248.	6.23	33.94	26.71	4851.	.199	2.53
298.	5.93	33.93	26.74	4850.	.165	
397.	5.38	34.05	26.90	4849.	.100	2.81
497.	4.87	34.13	27.02	4849.	.066	3.26
596.	4.50	34.19*	27.11	4850.	.063	2.51
794.	3.82	34.32	27.29	4853.	.029	3.31
992.	3.38	34.44	27.42	4859.	.035	3.22
1189.	3.06	34.48	27.49	4866.	.046	3.19
1482.	2.48	34.51	27.56	4875.	.073	3.19

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	16.60	32.05	23.37	23.37	0.0	452.2	0.000
10.	16.27	32.07	23.46	23.50	10.0	443.9	.045
20.	13.23	32.48	24.42	24.51	20.1	352.5	.085
30.	11.21	32.57	24.87	25.01	30.1	309.6	.118
50.	8.42	32.67	25.41	25.64	50.3	258.8	.175
75.	7.31	32.67	25.57	25.91	75.4	243.9	.239
100.	6.90	32.98	25.87	26.33	100.6	215.5	.296
150.	6.98	33.63	26.36	27.06	150.9	169.5	.393
200.	6.65	33.84	26.58	27.51	201.3	149.6	.474
250.	6.22	33.94	26.71	27.87	251.7	137.6	.546
300.	5.92	33.93	26.74	28.14	302.2	135.0	.615
400.	5.36	34.05	26.90	28.77	403.0	120.4	.744
500.	4.86	34.13	27.03	29.36	504.0	109.6	.860
600.	4.48	34.20	27.12	29.93	605.0	101.3	.966
700.	4.11	34.26	27.21	30.49	706.1	93.2	1.065
800.	3.80	34.32	27.29	31.04	807.2	85.8	1.155
1000.	3.37	34.44	27.43	32.12	1009.6	73.7	1.317
1200.	3.04	34.48	27.49	33.12	1212.2	68.4	1.460

STATION 6

TIME: 0019 DATE: 4-VII-57 LAT: 46° 59' N LONG: 127° 31' W SOUNDING: 1400 fms.
 WEATHER: 02 WIND: Dir. 240° Speed 8 AIR TEMP: Dry 55° Wet 54° BARO: 1026.4 mb.
 CLOUD: Type Sc Amt 10 SEA: Calm SWELL: 260° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.70	31.70	23.30	4940.	0.587	
10.	14.90	32.36	23.98	4934.	.568	
20.	14.77	32.38	24.03	4933.	.580	
30.	12.73*	32.62	24.63	4912.	.684	
50.	9.53*	32.67	25.23	4876.	.666	
74.	7.26	32.71	25.60	4850.	.616	
99.	6.71	32.81	25.76	4844.	.576	
124.	6.66	33.24	26.10	4847.	.483	
149.	6.72	33.57	26.35	4850.	.417	
199.	6.37	33.82	26.60	4850.	.354	
248.	5.81	33.87	26.71	4845.	.284	
298.	5.39	33.91	26.79	4843.	.210	
397.	4.65	33.94	26.90	4839.	.127	
496.	4.45	34.10	27.05	4843.	.075	
596.	4.27	34.17*	27.12	4846.	.154	
795.	3.79	34.29	27.27	4852.	.038	
994.	3.39	34.39	27.38	4859.	.033	
1192.	2.94	34.43	27.46	4864.	.042	
1490.	2.44	34.49	27.55	4875.	.072	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	15.70	31.70	23.30	23.30	0.0	458.5	0.000
10.	14.90	32.36	23.98	24.03	10.0	393.9	.043
20.	14.77	32.38	24.03	24.12	20.1	390.0	.082
30.	12.73	32.62	24.63	24.76	30.1	333.0	.119
50.	9.53	32.67	25.23	25.46	50.3	275.4	.180
75.	7.23	32.71	25.61	25.95	75.4	240.0	.245
100.	6.71	32.83	25.77	26.24	100.6	224.6	.303
150.	6.72	33.58	26.36	27.06	150.9	169.6	.402
200.	6.36	33.82	26.60	27.53	201.3	147.5	.482
250.	5.79	33.87	26.71	27.88	251.7	137.3	.554
300.	5.37	33.91	26.79	28.19	302.2	130.0	.621
400.	4.64	33.95	26.90	28.78	403.0	119.9	.747
500.	4.44	34.10	27.05	29.39	504.0	106.9	.862
600.	4.26	34.17	27.12	29.93	605.0	100.6	.967
700.	4.01	34.23	27.20	30.48	706.1	94.0	1.065
800.	3.78	34.29	27.27	31.02	807.2	87.9	1.157
1000.	3.37	34.39	27.39	32.08	1009.6	77.5	1.324
1200.	2.92	34.43	27.46	33.09	1212.2	70.7	1.474

STATION 7

TIME: 0809 DATE: 4-VII-57 LAT: 48° 01' N LONG: 128° 30' W SOUNDING: 1400 fms.
 WEATHER: 43 WIND: Dir. 270° Speed 8 AIR TEMP: Dry 58° Wet 57° BARO: 1024.4 mb.
 CLOUD: Type St Amt 10 SEA: Calm SWELL: 260° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.90	32.38	24.00	4934.	0.560	0.631
10.	16.00*	32.45	23.81	4946.	.561	0.565
20.	14.69	32.50	24.13	4933.	.554	0.712
29.	11.46	32.53	24.79	4898.	.669	0.884
49.	7.64	32.67	25.52	4853.	.642	1.26
98.	7.04	33.24	26.05	4850.	.449	1.92
122.	6.69	33.50	26.30	4848.	.454	2.03
147.	6.73	33.74	26.48	4851.	.325	2.48
196.	6.33	33.89	26.66	4849.	.295	2.54
245.	5.75	33.93	26.76	4845.	.216	2.78
294.	5.55	34.00	26.84	4845.	.148	2.90
392.	4.93	34.05	26.95	4843.	.098	3.20
489.	4.63	34.15	27.07	4845.	.106	3.43
587.	4.33	34.22*	27.16	4847.	.128	2.77
784.	3.88	34.34	27.30	4853.	.057	3.52
980.	3.37	34.41	27.40	4858.	.067	3.75
1177.	2.93	34.46	27.48	4863.	.081	3.61
1473.	2.46	34.53	27.58	4874.	.148	3.31

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.90	32.38	24.00	24.00	0.0	392.2	0.000
10.	16.00	32.45	23.81	23.86	10.0	410.2	.040
20.	14.69	32.50	24.13	24.22	20.1	379.6	.080
30.	11.22	32.54	24.84	24.98	30.1	312.4	.115
50.	7.63	32.68	25.53	25.76	50.3	246.9	.171
75.	7.34	32.98	25.80	26.15	75.4	221.3	.230
100.	7.00	33.26	26.07	26.54	100.6	196.0	.282
150.	6.71	33.75	26.50	27.19	151.0	156.5	.371
200.	6.27	33.89	26.67	27.60	201.4	141.1	.446
250.	5.73	33.94	26.77	27.94	251.8	131.6	.515
300.	5.50	34.00	26.85	28.25	302.2	124.7	.580
400.	4.91	34.06	26.96	28.83	403.1	114.5	.700
500.	4.59	34.16	27.08	29.42	504.1	104.5	.811
600.	4.30	34.23	27.17	29.98	605.1	96.5	.912
700.	4.08	34.30	27.24	30.52	706.1	90.2	1.007
800.	3.84	34.35	27.31	31.05	807.3	84.5	1.095
1000.	3.32	34.42	27.41	32.10	1009.6	75.1	1.257
1200.	2.89	34.47	27.49	33.12	1212.2	67.8	1.401

STATION 8

TIME: 1614 DATE: 4-VII-57 LAT: 48° 58' N LONG: 129° 32' W SOUNDING: 1250 fms.
 WEATHER: 03 WIND: Dir. 300° Speed 10 AIR TEMP: Dry 57° Wet 53° BARO: 1024.4 mb.
 CLOUD: Type Cu&St Amt 8 SEA: 300° - 1 SWELL: 300° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.30	32.40	24.14	4927.	0.560	
9.	14.10	32.36	24.15	4925.	.563	
18.	13.99	32.34	24.16	4925.	.568	
27.	13.90	32.38	24.21	4924.	.571	
45.	8.69	32.60	25.31	4865.	.617	
64.	7.68	32.69	25.53	4854.	.580	
91.	6.85	33.00	25.89	4846.	.506	
113.	7.15	33.38	26.15	4853.	.465	
136.	7.53	33.65	26.30	4860.	.312	
177.	6.74	33.84	26.56	4853.	.277	
222.	6.05	33.89	26.69	4847.	.257	
267.	5.73	33.98	26.80	4846.	.217	
358.	4.78	33.96	26.90	4838.	.189	
449.	4.61	34.06	27.00	4842.	.110	
540.	4.12	34.15*	27.12	4841.	.144	
722.	4.13	34.29	27.23	4852.	.030	
905.	3.63	34.39	27.36	4857.	.028	
1075.	3.16	34.44	27.45	4860.	.037	
1325.	2.68	34.46	27.50	4869.	.049	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.30	32.40	24.14	24.14	0.0	378.6	0.000
10.	14.09	32.35	24.15	24.19	10.0	378.0	.038
20.	14.11	32.34	24.14	24.23	20.1	379.5	.076
30.	12.74	32.43	24.47	24.61	30.1	347.6	.113
50.	8.39	32.61	25.37	25.60	50.3	262.6	.174
75.	7.18	32.80	25.68	26.03	75.4	232.9	.236
100.	6.97	33.17	26.01	26.47	100.6	202.5	.291
150.	7.24	33.73	26.41	27.10	150.9	165.2	.384
200.	6.34	33.86	26.63	27.56	201.3	144.4	.462
250.	5.86	33.95	26.77	27.93	251.7	132.1	.531
300.	5.30	33.96	26.84	28.24	302.2	125.4	.596
400.	4.74	34.01	26.94	28.81	403.1	116.4	.718
500.	4.29	34.11	27.07	29.41	504.0	104.7	.830
600.	4.18	34.20	27.15	29.97	605.0	97.7	.932
700.	4.16	34.28	27.22	30.49	706.1	92.6	1.028
800.	3.92	34.34	27.29	31.04	807.2	86.1	1.119
1000.	3.35	34.42	27.41	32.10	1009.6	75.0	1.282
1200.	2.89	34.46	27.48	33.12	1212.2	68.4	1.427

STATION 9

TIME: 0048 DATE: 5-VII-57 LAT: 50° 00' N LONG: 130° 30' W SOUNDING: 1250 fms.
 WEATHER: 02 WIND: Dir. 300° Speed 12 AIR TEMP: Dry 51° Wet 50° BARO: 1021 mb.
 CLOUD: Type Cu&StAmt 8 SEA: 300° - 1 SWELL: 320° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.80	32.43	24.46	4911.	0.575	0.901
10.	13.06	32.34	24.34	4914.	.586	0.587
19.	12.99	32.36	24.37	4914.	.587	0.805
29.	12.85	32.40	24.43	4913.	.587	0.720
48.	10.88	32.43	24.82	4892.	.618	0.871
73.	6.74	32.65	25.63	4843.	.590	1.54
93.	6.32	33.03	25.98	4840.	.508	1.90
121.	6.27	33.44	26.31	4842.	.450	2.17
144.	6.33	33.63	26.45	4845.	.391	2.38
194.	6.16	33.82	26.62	4847.	.319	2.54
243.	5.58	33.89	26.75	4842.	.286	2.67
291.	5.23	33.93	26.82	4840.	.196	2.96
388.	4.73*	34.03	26.96	4840.	.110	3.21
485.	4.34	34.12	27.07	4841.	.074	3.24
582.	4.07	34.18*	27.15	4843.	.053	2.89
778.	3.71	34.30	27.28	4850.	.030	3.67
975.	3.17	34.41	27.42	4855.	.028	3.47
1165.	2.84	34.44	27.47	4861.	.035	3.62
1450.	2.41	34.51	27.57	4872.	.059	3.43

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.80	32.43	24.46	24.46	0.0	347.6	0.000
10.	13.06	32.34	24.34	24.39	10.0	359.3	.036
20.	13.00	32.36	24.37	24.47	20.1	356.7	.072
30.	12.77	32.40	24.45	24.58	30.1	350.1	.107
50.	10.40	32.44	24.91	25.14	50.3	306.4	.173
75.	6.68	32.69	25.67	26.02	75.4	234.2	.241
100.	6.29	33.15	26.08	26.54	100.6	195.4	.295
150.	6.33	33.66	26.47	27.17	150.9	158.6	.384
200.	6.08	33.83	26.64	27.57	201.3	143.3	.460
250.	5.52	33.90	26.76	27.93	251.8	132.3	.530
300.	5.18	33.94	26.84	28.24	302.2	125.5	.595
400.	4.67	34.04	26.98	28.85	403.1	113.0	.715
500.	4.29	34.13	27.09	29.43	504.0	103.2	.824
600.	4.04	34.19	27.16	29.98	605.1	96.6	.925
700.	3.87	34.25	27.23	30.51	706.1	91.0	1.020
80.	3.64	34.32	27.30	31.05	807.2	84.6	1.109
1000.	3.12	34.41	27.43	32.12	1009.6	73.1	1.268
1200.	2.78	34.45	27.49	33.12	1212.2	68.0	1.411

STATION 10

TIME: 0743 DATE: 5-VII-57 LAT: 50° 59' N LONG: 131° 30' W SOUNDING: 1375 fms.
 WEATHER: 03 WIND: Dir. 290° Speed 6 AIR TEMP: Dry 59° Wet 54° BARO: 1019.6 mb.
 CLOUD: Type Sc Amt 7 SEA: 290° - 2 SWELL: 290° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.30	32.26	24.24	4916.	0.568	
10.	13.15	32.21	24.23	4914.	.572	
20.	13.13	32.22	24.24	4915.	.572	
29.	12.58	32.19	24.32	4909.	.588	
49.	7.89	32.40	25.27	4855.	.507	
73.	6.94	32.93	25.82	4846.	.495	
98.	6.97	33.38	26.17	4850.	.374	
122.	6.97	33.60	26.34	4852.	.322	
147.	6.74	33.72	26.47	4851.	.311	
196.	6.17*	33.84	26.64	4847.	.285	
392.	4.65	33.96	26.91	4839.	.136	
490.	4.34	34.06	27.03	4841.	.083	
588.	4.18	34.15*	27.11	4845.	.071	
787.	3.70	34.29	27.27	4850.	.048	
986.	3.38	34.37	27.37	4858.	.029	
1185.	2.94	34.41	27.44	4864.	.039	
1484.	2.40	34.48	27.54	4874.	.065	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.30	32.26	24.24	24.24	0.0	369.5	0.000
10.	13.15	32.21	24.23	24.27	10.0	370.6	.037
20.	13.13	32.22	24.24	24.33	20.1	369.7	.074
30.	12.26	32.20	24.39	24.52	30.1	355.8	.111
50.	7.83	32.42	25.30	25.53	50.3	268.9	.174
75.	6.94	32.97	25.85	26.20	75.4	216.4	.235
100.	6.98	33.40	26.19	26.65	100.6	185.3	.285
150.	6.70	33.73	26.48	27.18	151.0	158.2	.372
200.	6.13	33.84	26.64	27.57	201.4	143.1	.448
250.	5.63	33.86	26.72	27.89	251.8	136.1	.518
300.	5.21	33.89	26.79	28.20	302.2	129.6	.585
400.	4.62	33.97	26.92	28.80	403.1	118.0	.710
500.	4.33	34.07	27.03	29.38	504.0	108.0	.824
600.	4.15	34.16	27.13	29.94	605.0	100.2	.929
700.	3.89	34.24	27.21	30.50	706.1	92.5	1.027
800.	3.68	34.30	27.28	31.03	807.2	86.5	1.117
1000.	3.35	34.37	27.37	32.06	1009.6	78.6	1.284
1200.	2.91	34.41	27.45	33.08	1212.2	71.9	1.437

STATION 11

TIME: 1646 DATE: 5-VII-57 LAT: 52° 01' N LONG: 132° 45' W SOUNDING: 1400 fms.
 WEATHER: 02 WIND: Dir. 270° Speed 5 AIR TEMP: Dry 55° Wet 51° BARO: 1018.3 mb.
 CLOUD: Type Cu Amt 8 SEA: Calm SWELL: 290° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.20	32.15	24.17	4914.	0.581	
10.	12.60	32.14	24.28	4908.	.586	
29.	11.37	32.38	24.69	4896.	.584	
49.	7.66	32.43	25.33	4852.	.571	
73.	6.79	32.58	25.56	4843.	.555	
98.	6.38	32.81	25.80	4840.	.519	
122.	6.58	33.15	26.04	4845.	.424	
147.	6.68	33.50	26.30	4849.	.362	
196.	6.39*	33.82	26.59	4850.	.264	
245.	6.08	33.89	26.69	4849.	.232	
294.	5.76	33.94	26.77	4848.	.200	
392.	5.07	34.00	26.90	4845.	.137	
489.	4.48	34.01	26.97	4842.	.099	
587.	4.07	34.10*	27.08	4843.	.079	
783.	3.76	34.24	27.23	4851.	.036	
979.	3.31	34.34	27.35	4856.	.033	
1175.	2.95	34.41	27.44	4863.	.037	
1468.	2.50	34.46	27.52	4874.	.057	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.20	32.15	24.17	24.17	0.0	375.7	0.000
10.	12.60	32.14	24.28	24.32	10.0	365.5	.037
20.	12.23	32.29	24.47	24.56	20.1	348.1	.073
30.	11.12	32.38	24.74	24.88	30.2	322.2	.107
50.	7.61	32.43	25.34	25.57	50.3	265.1	.166
75.	6.73	32.59	25.58	25.93	75.4	242.2	.230
100.	6.40	32.84	25.82	26.28	100.6	220.0	.288
150.	6.66	33.53	26.33	27.02	150.9	172.7	.387
200.	6.36	33.83	26.60	27.53	201.3	147.2	.467
250.	6.05	33.90	26.70	27.86	251.7	138.7	.539
300.	5.72	33.95	26.78	28.18	302.2	131.5	.607
400.	5.01	34.00	26.90	28.77	403.1	120.3	.735
500.	4.43	34.02	26.98	29.33	504.0	112.8	.852
600.	4.05	34.11	27.09	29.91	605.0	103.0	.961
700.	3.91	34.18	27.17	30.45	706.1	96.5	1.062
800.	3.72	34.25	27.24	30.99	807.2	90.4	1.157
1000.	3.27	34.35	27.36	32.05	1009.6	79.4	1.328
1200.	2.91	34.42	27.45	33.08	1212.2	71.6	1.481

STATION 12

TIME: 0052 DATE: 6-VII-57 LAT: 53° 00' N LONG: 133° 40' W SOUNDING: 1500 fms.
 WEATHER: 03 WIND: Dir. 270° Speed 6 AIR TEMP: Dry 52° Wet 49° BARO: 1017.3 mb.
 CLOUD: Type Sc Amt 10 SEA: Calm SWELL: 270° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.60	32.31	24.41	4908.	0.575	0.599
10.	12.55	32.26	24.38	4908.	.581	0.469
20.	12.13	32.24	24.45	4904.	.592	0.553
30.	11.20	32.31	24.67	4894.	.581	0.837
49.	7.85	32.41	25.29	4854.	.544	1.45
74.	6.82	32.67	25.63	4844.	.518	1.77
99.	6.61	32.96	25.89	4844.	.427	1.81
123.	6.57	33.31	26.17	4846.	.396	2.35
148.	6.81	33.69	26.43	4852.	.282	2.54
197.	6.79*	33.87	26.58	4855.	.228	2.50
247.	6.10	33.93	26.72	4849.	.203	2.65
296.	5.32	33.91	26.80	4842.	.211	2.79
395.	4.78	33.98	26.91	4841.	.122	3.07
987.	3.22	34.36	27.38	4856.	.035	3.67
1186.	2.79	34.36	27.42	4861.	.036	3.38
1485.	2.39	34.48	27.55	4874.	.055	3.33

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.60	32.31	24.41	24.41	0.0	352.8	0.000
10.	12.55	32.26	24.38	24.43	10.0	355.8	.036
20.	12.13	32.24	24.45	24.54	20.1	349.9	.071
30.	11.20	32.31	24.67	24.81	30.2	328.7	.105
50.	7.74	32.42	25.31	25.54	50.3	268.1	.165
75.	6.80	32.68	25.64	25.99	75.4	236.4	.229
100.	6.61	32.97	25.90	26.36	100.6	212.5	.285
125.	6.58	33.34	26.19	26.77	125.8	185.2	.335
150.	6.82	33.71	26.45	27.15	151.0	160.9	.379
200.	6.77	33.88	26.59	27.52	201.3	148.7	.457
250.	6.06	33.93	26.72	27.89	251.8	136.2	.529
300.	5.27	33.91	26.80	28.20	302.2	128.8	.595
400.	4.75	33.98	26.92	28.79	403.1	118.4	.720
500.	4.29	34.05	27.02	29.37	504.0	109.0	.835
600.	3.92	34.12	27.12	29.93	605.0	100.7	.941
700.	3.62	34.18	27.20	30.49	706.1	93.4	1.039
800.	3.40	34.25	27.27	31.03	807.2	87.1	1.130
1000.	3.19	34.36	27.38	32.07	1009.6	77.6	1.297
1200.	2.76	34.36	27.42	33.06	1212.2	74.1	1.450

STATION 20

TIME: 1124 DATE: 6-VII-57 LAT: 53° 58' N LONG: 135° 49' W SOUNDING: 1500 fms.
 WEATHER: 01 WIND: Dir. 220° Speed 5 AIR TEMP: Dry 53° Wet 50° BARO: 1015.6 mb.
 CLOUD: Type St&CuAmt 7 SEA: 220° - 1 SWELL: 270° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	11.60	32.57	24.80	4898.	0.540	
10.	11.22	32.50	24.81	4894.	.544	
19.	10.89	32.48	24.86	4890.	.551	
29.	9.96	32.53	25.05	4879.	.568	
48.	6.77	32.60	25.58	4841.	.584	
73.	5.62	32.69	25.80	4827.	.543	
97.	5.61	32.96	26.01	4830.	.484	
121.	5.82	33.32	26.27	4835.	.394	
145.	5.70	33.65	26.55	4836.	.334	
194.	5.40*	33.82	26.72	4836.	.249	
242.	5.05	33.91	26.83	4834.	.175	
291.	4.83	33.94	26.88	4834.	.142	
388.	4.43	34.01	26.98	4835.	.098	
484.	4.21	34.10	27.07	4838.	.063	
581.	3.97	34.12	27.11	4841.	.063	
775.	3.53	34.29	27.29	4847.	.035	
970.	3.19	34.37	27.39	4854.	.031	
1162.	2.87	34.43	27.46	4861.	.036	
1450.	2.41	34.49	27.55	4872.	.057	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,P}$	P	10 ⁵ δ	ΔD
0.	11.60	32.57	24.80	24.80	0.0	315.8	0.000
10.	11.22	32.50	24.81	24.86	10.1	314.6	.032
20.	10.82	32.48	24.87	24.96	20.1	309.5	.063
30.	9.84	32.53	25.08	25.21	30.2	289.9	.093
50.	6.55	32.61	25.62	25.85	50.3	238.5	.146
75.	5.58	32.71	25.81	26.17	75.4	219.9	.204
100.	5.62	33.00	26.04	26.51	100.6	198.7	.257
125.	5.82	33.38	26.32	26.90	125.8	173.1	.304
150.	5.67	33.70	26.59	27.29	151.0	147.6	.344
200.	5.36	33.84	26.73	27.67	201.4	134.3	.415
250.	5.00	33.92	26.84	28.01	251.8	124.5	.480
300.	4.79	33.95	26.89	28.29	302.2	120.6	.542
400.	4.39	34.02	26.99	28.86	403.1	111.6	.659
500.	4.17	34.11	27.08	29.43	504.1	103.5	.768
600.	3.92	34.13	27.12	29.94	605.1	100.0	.870
700.	3.69	34.20	27.21	30.49	706.2	92.7	.968
800.	3.48	34.31	27.31	31.06	807.3	83.6	1.057
1000.	3.14	34.38	27.40	32.10	1009.7	75.6	1.218
1200.	2.81	34.44	27.48	33.11	1212.3	68.8	1.365

STATION 21

TIME: 1614 DATE: 6-VII-57 LAT: 54° 00' N LONG: 134° 57' W SOUNDING: 1400 fms.
 WEATHER: WIND: Dir. 170° Speed 4 AIR TEMP: Dry 55° Wet 52° BARO: 1017.6 mb.
 CLOUD: Type Cu&StAmt 8 SEA: 140° - 1 SWELL: 220° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.20	32.29	24.47	4903.	0.590	0.773
10.	12.10	32.45	24.61	4903.	.583	0.680
20.	11.88	32.46	24.66	4902.	.571	0.660
30.	9.77	32.53	25.09	4878.	.584	1.29
49.	6.94	32.64	25.59	4844.	.603	1.13
74.	6.02	32.71	25.77	4833.	.593	1.34
99.	5.55	32.81	25.90	4829.	.584	1.42
124.	5.50	33.07	26.11	4831.	.529	1.76
148.	5.94	33.50	26.40	4840.	.414	2.17
198.	5.45*	33.84	26.73	4837.	.282	2.61
247.	5.00	33.86	26.79	4834.	.270	2.79
296.	4.59	33.89	26.86	4832.	.210	2.77
395.	4.37	34.00	26.97	4835.	.115	2.84
494.	4.04	34.06	27.06	4837.	.080	3.13
593.	3.86	34.15*	27.15	4840.	.079	2.73
792.	3.57	34.29	27.29	4849.	.038	3.38
991.	3.21	34.36	27.38	4856.	.033	3.31
1189.	2.84	34.46	27.49	4863.	.040	3.12
1487.	2.32	34.51	27.58	4873.	.070	3.00

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.20	32.29	24.47	24.47	0.0	347.0	0.000
10.	12.10	32.45	24.61	24.66	10.1	333.7	.034
20.	11.88	32.46	24.66	24.75	20.1	329.3	.068
30.	9.77	32.53	25.09	25.22	30.2	289.1	.099
50.	6.89	32.64	25.60	25.83	50.3	240.3	.152
75.	5.99	32.71	25.77	26.12	75.4	224.4	.210
100.	5.54	32.82	25.91	26.38	100.6	211.4	.265
150.	5.92	33.52	26.42	27.12	151.0	163.9	.360
200.	5.43	33.84	26.73	27.66	201.4	134.7	.435
250.	4.97	33.86	26.80	27.97	251.8	128.4	.501
300.	4.58	33.90	26.87	28.28	302.2	122.0	.564
400.	4.35	34.00	26.98	28.86	403.1	112.4	.683
500.	4.03	34.07	27.06	29.41	504.1	105.0	.792
600.	3.85	34.16	27.15	29.97	605.1	97.0	.894
700.	3.71	34.24	27.23	30.52	706.1	90.6	.989
800.	3.56	34.29	27.29	31.05	807.3	85.4	1.078
1000.	3.19	34.37	27.38	32.08	1009.7	77.3	1.243
1200.	2.82	34.46	27.50	33.13	1212.3	67.2	1.389

STATION 22

TIME: 1916 DATE: 6-VII-57 LAT: 54° 00' N LONG: 134° 27' W SOUNDING: 1450 fms.
 WEATHER: 02 WIND: Dir. 130° Speed AIR TEMP: Dry 54° Wet 50° BARO: 1017.6 mb.
 CLOUD: Type St Amt 8 SEA: 180° - 1 SWELL: 210° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.50	32.21	24.35	4907.	0.593	0.380
10.	12.77	32.14	24.25	4910.	.595	0.317
19.	12.21	32.17	24.38	4904.	.602	0.503
29.	11.25	32.33	24.68	4894.	.590	0.727
49.	7.92	32.60	25.42	4856.	.651	1.02
73.	6.38	32.62	25.65	4838.	.638	1.15
97.	5.55	32.69	25.81	4828.	.613	1.32
121.	6.10	33.01	25.99	4838.	.491	1.74
146.	6.10	33.38	26.28	4841.	.414	2.07
194.	6.09*	33.82	26.63	4846.	.274	2.34
243.	6.08	33.87	26.67	4849.	.236	2.42

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{t,P}$	P	$10^5 \delta$	ΔD
0.	12.50	32.21	24.35	24.35	0.0	358.3	0.000
10.	12.77	32.14	24.25	24.29	10.0	368.7	.037
20.	12.13	32.18	24.40	24.49	20.1	354.3	.073
30.	11.13	32.35	24.71	24.85	30.1	324.9	.107
50.	7.80	32.61	25.45	25.68	50.3	254.8	.165
75.	6.28	32.62	25.66	26.01	75.4	234.3	.227
100.	5.54	32.72	25.83	26.30	100.6	219.0	.284
125.	6.14	33.07	26.03	26.61	125.8	200.1	.337
150.	6.10	33.43	26.32	27.02	150.9	172.8	.384
200.	6.09	33.85	26.65	27.58	201.3	142.2	.463

STATION 23

TIME: 2228 DATE: 6-VII-57 LAT: 54° 00' N LONG: 133° 45' W SOUNDING: 590 fms.
 WEATHER: 02 WIND: Dir. 105° Speed 8 AIR TEMP: Dry 54° Wet 50° BARO: 1017.3 mb.
 CLOUD: Type St Amt 8 SEA: 140° - 1 SWELL: 140° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	11.90	32.19	24.45	4900.	0.571	
10.	11.85	32.17	24.44	4900.	.587	
49.	8.48	32.22	25.05	4862.	.606	
73.	6.25	32.36	25.46	4835.	.580	
97.	6.10	32.67	25.72	4836.	.534	
121.	6.28	32.95	25.92	4840.	.436	
146.	6.38	33.08	26.01	4844.	.407	
194.	6.67	33.63	26.41	4853.	.273	
243.	6.53*	33.82	26.57	4854.	.242	
291.	5.96	33.89	26.70	4850.	.227	
340.	5.59	33.94	26.79	4848.	.198	
388.	4.89	33.96	26.89	4842.	.151	
483.	4.37	34.05	27.01	4841.	.105	
582.	4.15	34.12	27.09	4844.	.064	
680.	3.91	34.17*	27.16	4846.	.128	
778.	3.77	34.20	27.20	4850.	.039	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.90	32.19	24.45	24.45	0.0	349.1	0.000
10.	11.85	32.17	24.44	24.49	10.1	349.9	.035
20.	11.02	32.16	24.59	24.68	20.1	336.4	.070
30.	10.16	32.17	24.74	24.88	30.2	322.1	.103
50.	8.39	32.22	25.06	25.29	50.3	291.5	.164
75.	6.16	32.38	25.49	25.84	75.4	251.1	.233
100.	6.10	32.71	25.75	26.22	100.6	226.3	.293
125.	6.30	32.98	25.94	26.53	125.8	208.4	.347
150.	6.40	33.11	26.03	26.73	150.9	200.3	.399
200.	6.68	33.67	26.44	27.37	201.3	162.6	.490
250.	6.47	33.84	26.60	27.76	251.7	148.4	.569
300.	5.88	33.90	26.72	28.12	302.1	136.8	.641
400.	4.76	33.97	26.91	28.78	403.0	119.6	.770
500.	4.31	34.06	27.03	29.38	504.0	108.3	.885
600.	4.11	34.13	27.11	29.92	605.0	102.0	.991
700.	3.87	34.18	27.17	30.45	706.0	96.7	1.092

STATION 24

TIME: 0104 DATE: 7-VII-57 LAT: 54° 00' N LONG: 133° 28.5' W SOUNDING: 88 fms.
 WEATHER: 40 WIND: Dir. 140° Speed 9 AIR TEMP: Dry 53° Wet 48° BARO: 1017.6 mb.
 CLOUD: Type Cu/ Amt 8 SEA: 140° - 1 SWELL: 140° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	12.40	32.22	24.38	4905.	0.577	
9.	12.15	32.28	24.47	4903.	.591	
19.	11.47	32.36	24.66	4896.	.601	
28.	10.71	32.45	24.86	4888.	.597	
47.	9.20	32.55	25.19	4872.	.591	
71.	7.39	32.62	25.52	4851.	.579	
94.	6.70	32.67	25.65	4843.	.536	
118.	6.25	33.05	26.00	4840.	.472	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	12.40	32.22	24.38	24.38	0.0	355.8	0.000
10.	12.09	32.29	24.49	24.53	10.0	345.5	.035
20.	11.38	32.37	24.68	24.78	20.1	327.2	.069
30.	10.55	32.46	24.90	25.04	30.2	306.6	.101
50.	8.91	32.56	25.24	25.48	50.3	274.2	.159
75.	7.25	32.61	25.52	25.87	75.4	247.9	.225
100.	6.56	32.73	25.72	26.18	100.6	229.9	.285

STATION 25

TIME: 0226 DATE: 7-VII-57 LAT: 54° 05' N LONG: 133° 18' W SOUNDING: 32 fms.
 WEATHER: 02 WIND: Dir. 120° Speed 6 AIR TEMP: Dry 54° Wet 50° BARO: 1017.6 mb.
 CLOUD: Type Cu/_{St} Amt 8 SEA: calm SWELL: 210° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.35	32.09	24.29	4904.	0.582	
10.	12.23	32.14	24.35	4904.	.584	
20.	11.12	32.26	24.65	4892.	.566	
30.	9.35	32.43	25.07	4872.	.551	
40.	8.08	32.60	25.40	4858.	.547	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.35	32.09	24.29	24.29	0.0	364.5	0.000
10.	12.23	32.14	24.35	24.39	10.0	358.8	.036
20.	11.12	32.26	24.65	24.74	20.1	330.9	.071
30.	9.35	32.43	25.07	25.21	30.2	290.1	.102

STATION 26

TIME: 1844 DATE: 8-VII-57 LAT: 54° 17' N LONG: 133° 02' W SOUNDING: 250 fms.
 WEATHER: 01 WIND: Dir. 070° Speed 12 AIR TEMP: Dry 56° Wet 52° BARO: 1007.5 mb.
 CLOUD: Type As/ St Amt 5 SEA: 070° - 1 SWELL: 090° - 1 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	11.30	30.94	23.59	4888.	0.596	
10.	10.56*	31.02	23.78	4880.	.590	
19.	10.02	31.60	24.32	4876.	.542	
28.	9.59	31.98	24.69	4873.	.513	
48.	8.66	32.45	25.20	4865.	.467	
71.	6.40	32.76	25.76	4838.	.361	
95.	6.27	32.91	25.89	4839.	.390	
119.	6.30	33.10	26.04	4841.	.373	
143.	6.14*	33.26	26.18	4841.	.336	
190.	5.86	33.58	26.47	4841.	.286	
238.	5.63	33.74	26.63	4842.	.223	
285.	5.69	33.84	26.70	4846.	.218	
380.	5.59	33.87*	26.73	4850.	.211	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	11.30	30.94	23.59	23.59	0.0	431.1	0.000
10.	10.56	31.02	23.78	23.82	10.0	413.2	.042
20.	9.97	31.65	24.36	24.46	20.1	357.5	.081
30.	9.54	32.04	24.74	24.87	30.1	322.2	.115
50.	8.38	32.48	25.27	25.50	50.3	272.1	.175
75.	6.37	32.78	25.78	26.13	75.4	223.5	.237
100.	6.29	32.95	25.92	26.39	100.6	210.2	.292
150.	6.09	33.32	26.24	26.93	150.9	181.1	.391
200.	5.79	33.62	26.51	27.44	201.3	155.6	.475
250.	5.65	33.77	26.65	27.81	251.7	143.1	.551
300.	5.69	33.86	26.71	28.11	302.2	137.6	.621

STATION 34

TIME: 0212 DATE: 9-VII-57 LAT: 53° 18' N LONG: 132° 48' W SOUNDING: 90 fms.
 WEATHER: 02 WIND: Dir. 330° Speed 6 AIR TEMP: Dry 55° Wet 51° BARO: 1007.1 mb.
 CLOUD: Type St Amt 6 SEA: 170° - 1 SWELL: 090° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	12.30	31.75	24.03	4903.	0.586	
10.	11.99*	31.77	24.11	4900.	.585	
20.	11.80	31.86	24.21	4898.	.582	
30.	11.73	31.93	24.28	4899.	.570	
50.	8.89	32.46	25.17	4868.	.502	
75.	7.68	32.60	25.46	4855.	.499	
100.	6.79	32.67	25.64	4845.	.542	
125.	6.43	33.00	25.94	4843.	.461	
140.	6.47*	33.34	26.20	4846.	.358	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	12.30	31.75	24.03	24.03	0.0	388.6	0.000
10.	11.99	31.77	24.11	24.15	10.0	381.8	.039
20.	11.80	31.86	24.21	24.30	20.1	372.1	.077
30.	11.73	31.93	24.28	24.42	30.1	365.9	.114
50.	8.89	32.46	25.17	25.40	50.3	281.3	.179
75.	7.68	32.60	25.46	25.81	75.4	254.1	.246
100.	6.79	32.67	25.64	26.10	100.6	237.5	.308
125.	6.43	33.00	25.94	26.52	125.7	208.7	.364

STATION 35

TIME: 0406 DATE: 9-VII-57 LAT: 53°12.5' N LONG: 133°09.1' W SOUNDING: 510 fms.
 WEATHER: 02 WIND: Dir. 330° Speed 5 AIR TEMP: Dry 54° Wet 51° BARO: 1007.5 mb.
 CLOUD: Type St Amt 5 SEA: Calm SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.20	32.45	24.59	4904.	0.569	
10.	11.84*	32.45	24.66	4901.	.577	
29.	11.41	32.46	24.75	4897.	.590	
49.	11.30	32.60	24.88	4897.	.635	
73.	6.03	32.69	25.75	4833.	.613	
98.	5.55	32.69	25.81	4828.	.615	
122.	5.90	33.01	26.02	4836.	.515	
146.	5.81*	33.38	26.32	4837.	.414	
195.	5.65	33.70	26.59	4839.	.388	
244.	5.53	33.84	26.72	4841.	.310	
293.	5.90	33.89	26.71	4849.	.231	
390.	4.89	33.98	26.90	4842.	.132	
488.	4.43	34.05	27.01	4842.	.087	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	12.20	32.45	24.59	24.59	0.0	335.2	0.000
10.	11.84	32.45	24.66	24.71	10.1	329.1	.033
20.	11.58	32.44	24.70	24.79	20.1	325.4	.066
30.	11.50	32.47	24.74	24.88	30.2	322.1	.099
50.	10.99	32.61	24.94	25.16	50.3	303.7	.162
75.	5.96	32.68	25.75	26.10	75.4	226.5	.228
100.	5.60	32.71	25.82	26.29	100.6	219.7	.285
150.	5.79	33.41	26.35	27.05	150.9	170.4	.383
200.	5.62	33.72	26.61	27.54	201.3	146.0	.463
250.	5.61	33.85	26.71	27.88	251.7	137.0	.534
300.	5.81	33.90	26.73	28.13	302.2	136.2	.603
400.	4.84	34.00	26.93	28.80	403.1	117.8	.731

STATION 36

TIME: 0655 DATE: 9-VII-57 LAT: 53° 06' N LONG: 133° 44' W SOUNDING: 300 fms.
 WEATHER: 02 WIND: Dir. 330° Speed 6 AIR TEMP: Dry 55° Wet 52° BARO: 1010.2 mb.
 CLOUD: Type St Amt 7 SEA: Calm SWELL: 330° - 2 SECCHI DISC: 12 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	12.30	32.14	24.34	4904.	0.572	0.488
10.	12.33	32.14	24.33	4905.	.564	0.445
19.	12.30	32.14	24.34	4905.	.571	0.473
29.	10.91	32.22	24.65	4890.	.582	0.595
48.	7.58	32.52	25.41	4851.	.550	1.25
72.	6.58	32.71	25.69	4841.	.522	1.32
96.	6.56	32.95	25.89	4843.	.463	1.73
120.	6.85	33.44	26.23	4850.	.374	1.80
144.	6.69*	33.58	26.36	4850.	.310	2.16
192.	6.38	33.82	26.59	4849.	.270	2.38
240.	6.06	33.93	26.72	4848.	.212	2.52
288.	5.61	33.94	26.79	4845.	.189	2.77
383.	4.55	33.89	26.87	4836.	.182	2.97
480.	4.47					
576.	4.07					
768.	3.66	34.24	27.24	4848.	.043	3.59
960.	3.20	34.32	27.35	4854.	.030	3.28
1154.	2.88	34.39	27.43	4861.	.036	3.57
1447.	2.46	34.46	27.52	4873.	.054	3.31

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵	D
0.	12.30	32.14	24.34	24.34	0.0	359.9	0.000
10.	12.33	32.14	24.33	24.38	10.0	360.6	.036
20.	12.17	32.15	24.36	24.46	20.1	357.6	.072
30.	10.68	32.24	24.71	24.84	30.2	325.3	.107
50.	7.46	32.53	25.44	25.67	50.3	255.7	.165
75.	6.56	32.73	25.71	26.06	75.4	230.1	.226
100.	6.64	33.06	25.96	26.42	100.6	206.8	.281
150.	6.66	33.62	26.40	27.10	151.0	165.8	.375
200.	6.34	33.85	26.62	27.55	201.3	145.4	.453
250.	5.97	33.93	26.74	27.90	251.8	134.9	.524
300.	5.42	33.93	26.80	28.20	302.2	128.9	.591

STATION 37

TIME: 1244 DATE: 9-VII-57 LAT: 52° 48' N LONG: 134° 57.5' W SOUNDING: 1650 fms.
 WEATHER: 02 WIND: Dir. 280° Speed 4 AIR TEMP: Dry 60° Wet 53° BARO: 1014.6 mb.
 CLOUD: Type St Amt 5 SEA: 330° - 1 SWELL: SECCHI DISC: 21 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.90	32.62	24.59	4913.	0.580	0.672
10.	11.64	32.48	24.72	4898.	.567	0.874
19.	11.58	32.46	24.72	4898.	.567	0.780
29.	10.69*	32.52	24.92	4888.	.595	0.810
48.	6.60	32.65	25.64	4839.	.638	1.05
72.	5.65	32.65	25.76	4828.	.610	1.28
96.	5.40	32.69	25.82	4826.	.600	1.39
120.	5.41	32.93	26.01	4829.	.538	1.72
144.	5.42*	33.29	26.29	4832.	.464	1.91
192.	5.45	33.82	26.71	4837.	.305	2.60
240.	5.04	33.87	26.80	4835.	.237	2.92
287.	4.74	33.89	26.85	4833.	.166	2.85
383.	4.36	34.00	26.98	4834.	.139	3.12
479.	4.21	34.08	27.06	4838.	.0705	2.96
575.	3.97	34.13	27.12	4841.	.0509	3.05
933.	3.27	34.34	27.36	4853.	.0386	
1122.	2.94	34.41	27.44	4860.	.0386	3.22
1411.	2.48	34.49	27.55	4871.	.056	3.24
1897.	2.00	34.58	27.66	4893.	.117	3.20
2580.	1.69	34.67	27.75	4930.	.191	3.17

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.90	32.62	24.59	24.59	0.0	335.5	0.000
10.	11.64	32.48	24.72	24.77	10.1	323.3	.033
20.	11.53	32.46	24.73	24.82	20.1	323.0	.066
30.	10.55	32.53	24.95	25.09	30.2	301.9	.097
50.	6.34	32.66	25.68	25.92	50.3	232.3	.151
75.	5.58	32.65	25.77	26.12	75.4	223.9	.208
100.	5.38	32.72	25.85	26.31	100.6	217.2	.264
125.	5.41	33.00	26.06	26.65	125.8	196.9	.316
150.	5.42	33.37	26.36	27.06	151.0	169.3	.362
200.	5.41	33.86	26.75	27.68	201.4	132.9	.438
250.	4.97	33.88	26.81	27.98	251.8	127.2	.504
300.	4.67	33.90	26.86	28.27	302.2	122.7	.567
400.	4.32	34.02	26.99	28.87	403.1	111.0	.685
500.	4.17	34.09	27.07	29.42	504.1	104.5	.793
600.	3.91	34.14	27.14	29.95	605.1	98.8	.896
700.	3.69	34.20	27.20	30.49	706.1	93.1	.993
800.	3.49	34.26	27.27	31.03	807.3	87.3	1.084
1000.	3.15	34.37	27.39	32.08	1009.7	76.7	1.250
1200.	2.81	34.43	27.47	33.11	1212.2	69.2	1.398
1500.	2.36	34.51	27.57	34.61	1516.5	60.2	1.595
2000.	1.93	34.60	27.68	37.04	2024.6	51.0	1.877
2500.	1.70	34.66	27.75	39.41	2533.8	45.2	2.122

STATION 43

TIME: 0154 DATE: 10-VII-57 LAT: 51° 11' N LONG: 132° 55' W SOUNDING: 1600 fms.
 WEATHER: 02 WIND: Dir. 225° Speed 2 AIR TEMP: Dry 54° Wet 53° BARO: 1017.6 mb.
 CLOUD: Type Cu Amt 7 SEA: 225° - 1 SWELL: 270° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.00	32.17	24.42	4901.	0.570	0.489
10.	11.87	32.21	24.47	4900.	.564	0.578
30.	7.84	32.53	25.38	4854.	.517	1.25
50.	6.62	32.71	25.69	4840.	.573	1.29
75.	6.75	33.03	25.92	4844.	.449	1.42
100.	6.66	33.34	26.18	4846.	.352	1.58
120.	6.63	33.65	26.43	4848.	.333	1.58
150.	6.39*	33.79	26.57	4847.	.305	2.13
200.	6.02	33.89	26.70	4845.	.246	2.29
392.	4.93	34.01	26.92	4843.	.097	2.77
588.	4.26	34.15	27.11	4846.	.024	3.19
766.	3.76	34.29	27.27	4850.	.037	3.32
935.	3.26	34.36	27.37	4853.	.031	3.27

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	$10^5 \delta$	ΔD
0.	12.00	32.17	24.42	24.42	0.0	352.3	0.000
10.	11.87	32.21	24.47	24.52	10.1	347.3	.035
20.	9.50	32.39	25.02	25.11	20.1	295.4	.067
30.	7.84	32.53	25.38	25.52	30.2	260.8	.095
50.	6.62	32.71	25.69	25.92	50.3	231.7	.145
75.	6.75	33.03	25.92	26.27	75.5	209.8	.201
100.	6.66	33.34	26.18	26.64	100.6	185.9	.250
150.	6.39	33.79	26.57	27.27	151.0	149.6	.335
200.	6.02	33.89	26.70	27.63	201.4	138.1	.407
250.	5.69	33.92	26.76	27.93	251.8	132.6	.476
300.	5.40	33.95	26.82	28.22	302.2	127.3	.541
400.	4.90	34.02	26.93	28.80	403.1	117.7	.665
500.	4.55	34.09	27.02	29.36	504.1	109.4	.779
600.	4.23	34.16	27.12	29.93	605.1	101.0	.886
700.	3.95	34.25	27.21	30.50	706.2	92.4	.983
800.	3.66	34.31	27.29	31.05	807.3	85.3	1.073

STATION 44

TIME: 0853 DATE: 10-VII-57 LAT: 51° 38' N LONG: 131° 58' W SOUNDING: 1300 fms.
 WEATHER: 02 WIND: Dir. 290° Speed 3 AIR TEMP: Dry 55° Wet 53° BARO: 1017.6 mb.
 CLOUD: Type St Amt 7 SEA: calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.20	32.29	24.47	4903.	0.557	0.600
10.	11.57	32.22	24.53	4897.	.565	0.612
20.	10.22	32.28	24.82	4881.	.540	0.885
30.	9.41*	32.40	25.04	4873.	.509	1.22
49.	8.40	32.48	25.26	4862.	.490	1.32
74.	8.14	32.55	25.35	4860.	.482	1.39
99.	7.57	32.62	25.49	4855.	.482	1.47
113.	7.58	32.69	25.54	4856.	.490	1.46
148.	7.32*	33.41	26.15	4857.	.394	1.83
197.	6.89	33.79	26.50	4856.	.243	2.28
246.	6.39	33.89	26.65	4853.	.203	2.33
296.	5.92	33.98	26.78	4850.	.179	2.82
394.	4.95	34.00	26.91	4843.	.128	2.84
493.	4.77	34.15	27.05	4847.	.072	2.82
591.	4.37	34.17	27.11	4847.	.054	2.94
789.	3.85	34.22	27.20	4852.	.059	3.17
987.	3.42	34.32	27.33	4858.	.034	3.21
1185.	3.03	34.37	27.40	4865.	.039	3.10
1484.	2.47	34.49	27.55	4875.	.059	3.17

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	12.20	32.29	24.47	24.47	0.0	347.0	0.000
10.	11.57	32.22	24.53	24.58	10.1	341.3	.035
20.	10.22	32.28	24.82	24.91	20.1	314.6	.068
30.	9.41	32.40	25.04	25.18	30.2	293.2	.098
50.	8.40	32.48	25.26	25.49	50.3	272.4	.155
75.	8.10	32.55	25.36	25.71	75.4	263.5	.222
100.	7.57	32.62	25.49	25.95	100.6	251.4	.287
150.	7.30	33.43	26.16	26.86	150.9	188.2	.398
200.	6.86	33.80	26.51	27.44	201.3	155.9	.485
250.	6.35	33.90	26.66	27.82	251.7	142.3	.560
300.	5.86	33.98	26.78	28.18	302.1	130.9	.629
400.	4.95	34.01	26.92	28.79	403.0	118.4	.754
500.	4.74	34.15	27.05	29.39	504.0	106.7	.868
600.	4.34	34.17	27.11	29.92	605.0	101.6	.973
700.	4.07	34.19	27.16	30.44	706.1	97.9	1.074
800.	3.83	34.23	27.21	30.96	807.2	93.3	1.171
1000.	3.39	34.32	27.33	32.02	1009.6	82.8	1.349
1200.	3.00	34.37	27.41	33.04	1212.1	75.8	1.510

STATION 45

TIME: 1210 DATE: 10-VII-57 LAT: 51° 49' N LONG: 131° 28' W SOUNDING: 1100 fms.
 WEATHER: 02 WIND: Dir. 330° Speed 4 AIR TEMP: Dry 58° Wet 55° BARO: 1016.6 mb.
 CLOUD: Type Ci Amt 3 SEA: calm SWELL: 0 SECCHI DISC: 13 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.20	32.21	24.22	4914.	0.569	0.710
30.	10.33	32.26	24.78	4883.	.548	1.05
75.	7.24	32.69	25.59	4849.	.508	1.49
100.	6.69	33.00	25.91	4845.	.454	1.86
150.	6.82	33.60	26.36	4852.	.312	2.33
200.	6.58	33.81	26.56	4852.	.276	2.30
250.	6.03*	34.00	26.78	4849.	.190	2.76
300.	5.59	33.96	26.80	4846.	.176	2.71
400.	5.07	34.01	26.90	4845.	.117	3.17
500.	4.80	34.12	27.02	4848.	.079	3.29
600.	4.42	34.15	27.09	4849.	.059	3.26

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	13.20	32.21	24.22	24.22	0.0	371.3	0.000
10.	12.17	32.21	24.41	24.46	10.0	353.0	.036
20.	11.21	32.22	24.60	24.69	20.1	335.3	.071
30.	10.33	32.26	24.78	24.92	30.2	318.0	.104
50.	8.62	32.43	25.19	25.42	50.3	279.5	.164
75.	7.24	32.69	25.59	25.94	75.4	241.5	.229
100.	6.69	33.00	25.91	26.37	100.6	211.6	.286
150.	6.82	33.60	26.36	27.06	150.9	169.3	.382
200.	6.58	33.81	26.56	27.49	201.3	151.2	.463
250.	6.03	34.00	26.78	27.95	251.7	130.7	.534
300.	5.59	33.96	26.80	28.20	302.2	128.9	.600
400.	5.07	34.01	26.90	28.77	403.1	120.1	.725
500.	4.80	34.12	27.02	29.36	504.0	109.8	.841
600.	4.42	34.15	27.09	29.90	605.0	104.1	.949

STATION 46

TIME: 1612 DATE: 10-VII-57 LAT: 51° 51' N LONG: 131° 05' W SOUNDING: 800 fms.
 WEATHER: 01 WIND: Dir. Speed 0 AIR TEMP: Dry 58° Wet 55° BARO: 1015.9 mb.
 CLOUD: Type Cu&CiAmt 5 SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₂ g.at/l
0.	11.50	32.33	24.63	4896.	0.551	0.681
29.	8.34	32.65	25.40	4860.	.474	1.62
96.	7.49	33.00	25.80	4855.	.402	2.06
193.	6.21	33.70	26.52	4847.	.237	2.54
296.	6.00	33.93	26.73	4851.	.195	2.58
394.	5.08	34.03	26.92	4845.	.149	2.98
493.	4.96	34.08	26.97	4849.	.096	3.09
591.	4.55	34.17	27.09	4850.	.059	3.30
674.	4.16	34.25	27.20	4850.	.046	3.45
770.	3.98	34.29	27.25	4853.	.039	3.29
866.	3.85	34.29	27.26	4857.	.035	3.44
961.	3.55	34.36	27.34	4859.	.034	3.34

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.50	32.33	24.63	24.63	0.0	331.8	0.000
10.	10.22	32.45	24.95	25.00	10.1	301.7	.032
20.	9.14	32.56	25.21	25.30	20.1	277.0	.061
30.	8.33	32.65	25.41	25.55	30.2	258.4	.088
50.	8.08	32.75	25.52	25.75	50.3	248.2	.139
75.	7.76	32.88	25.67	26.01	75.5	234.4	.200
100.	7.42	33.04	25.84	26.30	100.6	218.3	.257
150.	6.65	33.45	26.27	26.96	151.0	178.4	.356
200.	6.22	33.72	26.54	27.47	201.4	153.3	.440
250.	6.19	33.84	26.64	27.80	251.8	144.4	.515
300.	5.95	33.94	26.74	28.14	302.2	135.1	.585
400.	5.08	34.03	26.92	28.79	403.1	118.6	.713
500.	4.93	34.09	26.98	29.32	504.0	113.8	.831
600.	4.50	34.18	27.10	29.91	605.0	102.7	.940
700.	4.11	34.26	27.21	30.49	706.1	92.8	1.039
800.	3.96	34.28	27.24	30.99	807.2	90.7	1.132

STATION 44A

TIME: 2030 DATE: 10-VII-57 LAT: 51° 38' N LONG: 131° 58' W SOUNDING: 1300 fms.
 WEATHER: 02 WIND: Dir. 330° Speed 6 AIR TEMP: Dry 56° Wet 54° BARO: 1014.2 mb.
 CLOUD: Type Cu&Cs Amt 8 SEA: 330° - 1 SWELL: 310° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	12.90	32.21	24.28	4911.	0.581	
10.	12.16*	32.14	24.36	4903.	.579	
97.	6.76	32.72	25.68	4844.	.572	
486.	4.52	34.05	27.00	4843.	.103	
680.	4.05	34.18	27.15	4848.	.040	2.94
778.	3.83	34.34	27.30	4822.	.033	3.25
875.	3.62	34.30	27.29	4824.	.033	3.77
963.	3.39	34.36	27.36	4827.	.030	3.80
1168.	3.03	34.41	27.43	4834.	.037	
1460.	2.50	34.51	27.56	4844.	.058	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	12.90	32.21	24.28	24.28	0.0	365.7	0.000
10.	12.16	32.14	24.36	24.41	10.0	357.7	.036
20.	11.45	32.21	24.55	24.64	20.1	340.1	.071
30.	10.76	32.28	24.73	24.86	30.2	323.4	.105
50.	9.46	32.42	25.05	25.28	50.3	292.8	.167
75.	7.96	32.58	25.41	25.75	75.4	259.2	.236
100.	6.74	32.74	25.69	26.16	100.6	231.9	.298
150.	6.35	32.99	25.94	26.64	150.9	209.1	.409
200.	6.00	33.21	26.16	27.10	201.3	188.5	.509
250.	5.67	33.41	26.36	27.53	251.7	170.0	.599
300.	5.38	33.59	26.54	27.94	302.1	153.7	.681
400.	4.87	33.88	26.82	28.70	403.0	127.5	.823
500.	4.48	34.05	27.00	29.34	503.9	111.2	.943
600.	4.24	34.10	27.07	29.88	604.9	106.0	1.053
700.	4.00	34.23	27.19	30.48	706.0	94.3	1.154
800.	3.79	34.32	27.29	31.04	807.1	85.8	1.245
1000.	3.33	34.37	27.37	32.06	1009.5	78.7	1.412
1200.	2.97	34.42	27.45	33.07	1212.1	72.2	1.565

STATION 57

TIME: 1245 DATE: 11-VII-57 LAT: 50° 06' N LONG: 127° 57' W SOUNDING: 52 fms.
 WEATHER: 03 WIND: Dir. 225° Speed 4 AIR TEMP: Dry 61° Wet 55° BARO: 1018.3 mb.
 CLOUD: Type Cu&StAmt 8 SEA: 225° - 1 SWELL: 240° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.00	31.39	23.42	4920.	0.579	0.618
10.	12.98	31.42	23.65	4910.	.580	0.638
20.	12.45	31.58	23.88	4905.	.531	0.878
30.	10.18	32.10	24.68	4881.	.433	1.75
50.	8.31	32.65	25.41	4861.	.373	2.31
75.	7.64	33.12	25.87	4856.	.323	2.49

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.00	31.39	23.42	23.42	0.0	446.9	0.000
10.	12.98	31.42	23.65	23.70	10.0	425.5	.044
20.	12.45	31.58	23.88	23.97	20.1	404.3	.085
30.	10.18	32.10	24.68	24.82	30.1	327.4	.122
50.	8.31	32.65	25.41	25.64	50.2	258.8	.181
75.	7.64	33.12	25.87	26.22	75.4	214.8	.241

STATION 58

TIME: 1413 DATE: 11-VII-57 LAT: 49° 59' N LONG: 128° 07.2' W SOUNDING: 455 fms.
 WEATHER: 03 WIND: Dir. 225° Speed 3 AIR TEMP: Dry 61° Wet 56° BARO: 1016.3 mb.
 CLOUD: Type Ci&St Amt 8 SEA: 225° - 1 SWELL: 240° - 1 SECCHI DISC: 7 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.20	31.81	23.71	4924.	0.566	0.438
10.	13.16	31.83	23.93	4913.	.576	0.418
29.	10.01	32.31	24.87	4880.	.442	1.33
49.	7.59	33.07	25.84	4854.	.342	2.12
74.	7.39	33.50	26.21	4854.	.348	2.03
98.	7.30*	33.77	26.43	4856.	.263	2.10
123.	7.09	33.82	26.50	4855.	.254	2.40
147.	6.78	33.89	26.60	4852.	.234	2.40
196.	6.21	33.93	26.70	4848.	.214	2.55
246.	5.91	33.96	26.76	4847.	.184	2.82
295.	5.66	33.98	26.81	4847.	.161	2.91
393.	5.21	34.06	26.93	4847.	.103	3.03
491.	4.83	34.13	27.03	4848.	.065	2.96
590.	4.74	34.17	27.07	4852.	.056	2.95
689.	4.40	34.22	27.15	4854.	.043	3.08

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.20	31.81	23.71	23.71	0.0	419.9	0.000
10.	13.16	31.83	23.93	23.98	10.0	398.7	.041
20.	11.40	32.05	24.44	24.53	20.1	350.9	.079
30.	9.84	32.36	24.94	25.08	30.1	303.1	.112
50.	7.58	33.09	25.86	26.09	50.3	215.9	.164
75.	7.39	33.52	26.22	26.57	75.4	182.0	.214
100.	7.29	33.77	26.43	26.90	100.6	161.8	.257
150.	6.74	33.89	26.60	27.30	151.0	146.4	.335
200.	6.18	33.93	26.71	27.64	201.4	137.0	.406
250.	5.89	33.96	26.77	27.93	251.8	131.9	.474
300.	5.64	33.98	26.82	28.22	302.2	127.6	.539
400.	5.17	34.07	26.94	28.81	403.1	117.1	.663
500.	4.83	34.13	27.03	29.37	504.1	109.1	.777
600.	4.72	34.17	27.08	29.88	605.1	105.7	.886

STATION 59

TIME: 1902 DATE: 11-VII-57 LAT: 49° 53' N LONG: 128° 16' W SOUNDING: 1000 fms.
 WEATHER: 03 WIND: Dir. 140° Speed 8 AIR TEMP: Dry Wet BARO:
 CLOUD: Type Cu Amt 8 SEA: 140° - 1 SWELL: 250° - 2 SECCHI DISC: 6 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.70	31.51	23.58	4917.	0.573	0.485
298.	5.69	33.94	26.78	4847.	.159	3.40
397.	5.24	34.08	26.94	4847.	.094	2.92
496.	4.94	34.12	27.01	4849.	.066	3.08
595.	4.40	34.13	27.07	4848.	.055	3.40
794.	3.88*	34.29	27.26	4853.	.044	3.30
992.	3.45	34.37	27.36	4859.	.033	3.25
1191.	3.11	34.43	27.44	4867.	.039	3.80
1489.	2.54	34.49	27.54	4876.	.068	3.58

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.70	31.51	23.58	23.58	0.0	432.2	0.000
10.	13.27	31.64	23.76	23.81	10.0	414.7	.043
20.	12.85	31.77	23.94	24.03	20.1	397.8	.083
30.	12.44	31.89	24.12	24.25	30.1	381.4	.122
50.	11.66	32.13	24.45	24.67	50.2	350.5	.196
75.	10.74	32.41	24.82	25.17	75.4	314.9	.280
100.	9.90	32.66	25.17	25.62	100.5	282.7	.355
150.	8.42	33.11	25.75	26.44	150.8	227.8	.483
200.	7.22	33.47	26.21	27.13	201.2	184.7	.587
250.	6.31	33.75	26.55	27.71	251.6	152.6	.672
300.	5.68	33.94	26.78	28.18	302.0	131.2	.744
400.	5.23	34.08	26.94	28.81	402.9	116.7	.869
500.	4.91	34.12	27.01	29.35	503.9	111.1	.984
600.	4.39	34.13	27.08	29.89	604.9	104.8	1.093
700.	4.11	34.22	27.18	30.46	705.9	95.9	1.194
800.	3.86	34.29	27.26	31.01	807.1	88.8	1.288
1000.	3.44	34.37	27.37	32.05	1009.4	79.6	1.458
1200.	3.09	34.43	27.45	33.07	1212.0	72.6	1.612

STATION 67

TIME: 0710 DATE: 12-VII-57 LAT: 48° 25' N LONG: 126° 20' W SOUNDING: 343 fms.
 WEATHER: 02 WIND: Dir. Calm Speed 0-LAIR TEMP: Dry 59° Wet 56° BARO: 1016.6 mb.
 CLOUD: Type Sc Amt 7 SEA: Calm SWELL: 0 SECCHI DISC: 13 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	14.60	31.90	23.69	4929.	0.558	0.484
30.	9.27	32.55	25.18	4872.	.608	0.945
50.	7.71	32.62	25.47	4854.	.570	1.27
74.	7.08	32.98	25.84	4848.	.453	1.80
99.	7.38	33.41	26.14	4855.	.397	1.92
124.	7.45	33.63	26.30	4858.	.336	2.18
149.	7.15	33.77	26.45	4857.	.312	2.28
198.	6.85	33.87	26.57	4856.	.252	2.37
248.	6.51*	33.94	26.67	4855.	.194	2.77
297.	6.18	33.96	26.73	4854.	.174	2.77
396.	5.55	34.03	26.86	4851.	.112	2.96
495.	5.32	34.06	26.92	4854.	.187	3.08

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.60	31.90	23.69	23.69	0.0	421.3	0.000
10.	12.42	32.19	24.35	24.40	10.0	358.7	.039
20.	10.65	32.41	24.84	24.93	20.1	312.2	.073
30.	9.27	32.55	25.18	25.32	30.2	279.9	.103
50.	7.71	32.62	25.47	25.70	50.3	252.6	.156
75.	7.10	33.00	25.85	26.20	75.4	216.4	.215
100.	7.39	33.42	26.14	26.61	100.6	189.5	.266
150.	7.14	33.77	26.45	27.15	151.0	160.7	.355
200.	6.84	33.87	26.58	27.50	201.4	149.8	.433
250.	6.49	33.94	26.67	27.84	251.8	141.0	.506
300.	6.16	33.96	26.74	28.13	302.2	135.7	.576
400.	5.53	34.03	26.87	28.73	403.1	124.0	.707

STATION 68

TIME: 0920 DATE: 12-VII-57 LAT: 48° 35' N LONG: 125° 56' W SOUNDING: 43 fms.
 WEATHER: 02 WIND: Dir. 100° Speed 2 AIR TEMP: Dry 58° Wet 55° BARO: 1016.6 mb.
 CLOUD: Type Sc Amt 7 SEA: Calm SWELL: 260° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.80	31.32	23.41	4918.	0.623	0.234
10.	12.23	31.34	23.73	4901.	.597	0.531
20.	10.42	31.80	24.41	4882.	.446	1.36
30.	9.12	32.14	24.89	4868.	.346	1.97
40.	8.56	32.46	25.22	4863.	.312	1.97
50.	8.13	32.72	25.49	4859.	.366	1.86

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,P}$	P	10 ⁵ δ	ΔD
0.	13.80	31.32	23.41	23.41	0.0	448.1	0.000
10.	12.23	31.34	23.73	23.78	10.0	417.8	.043
20.	10.42	31.80	24.41	24.50	20.1	353.3	.082
30.	9.12	32.14	24.89	25.02	30.1	308.1	.115
50.	8.13	32.72	25.49	25.72	50.3	251.0	.172

STATION 69

TIME: 1049 DATE: 12-VII-57 LAT: 48° 46.5' N LONG: 125° 44.5' W SOUNDING: 38 fms.
 WEATHER: 02 WIND: Dir. 100° Speed 1 AIR TEMP: Dry 58° Wet 55° BARO: 1016.3 mb.
 CLOUD: Type Sc Amt 8 SEA: Calm SWELL: 260° - 1 SECCHI DISC: 4 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.30	31.51	23.66	4913.	0.630	0.426
10.	12.34	31.51	23.84	4903.	.617	0.518
20.	9.44	31.95	24.69	4871.	.377	1.98
30.	8.82	32.21	24.99	4865.	.326	2.23
40.	8.50	32.41	25.19	4862.	.293	2.41
50.	8.32	32.62	25.38	4861.	.268	2.56

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,F}$	P	10 ⁵ δ	ΔD
0.	13.30	31.51	23.66	23.66	0.0	424.6	0.000
10.	12.34	31.51	23.84	23.89	10.0	407.2	.042
20.	9.44	31.95	24.69	24.78	20.1	326.9	.079
30.	8.82	32.21	24.99	25.12	30.1	298.5	.110
50.	8.32	32.62	25.38	25.61	50.3	261.1	.166

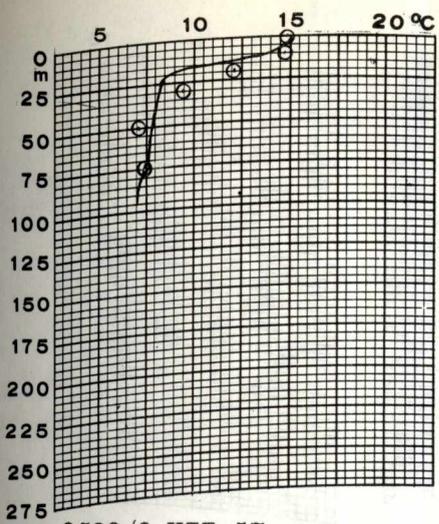
STATION 70

TIME: 1158 DATE: 12-VII-57 LAT: 48° 53.2'N LONG: 125° 33.4' W SOUNDING: 51 fms.
 WEATHER: 02 WIND: Dir. 310° Speed 3 AIR TEMP: Dry 60° Wet 56° BARO: 1015.9 mb.
 CLOUD: Type Ci&As Amt 7 SEA: 250° - 2 SWELL: SECCHI DISC: 6 meters

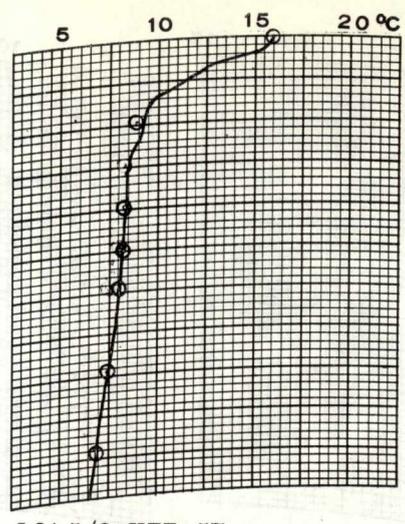
Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.70	30.90	23.11	4915.	0.641	0.634
10.	11.64	31.39	23.88	4894.	.544	1.09
20.	9.83	31.81	24.51	4875.	.456	1.71
30.	9.37	31.98	24.72	4871.	.391	2.06
50.	8.88	32.26	25.02	4867.	.329	2.35
75.	8.38	32.52	25.29	4863.	.284	2.40

INTERPOLATED DATA

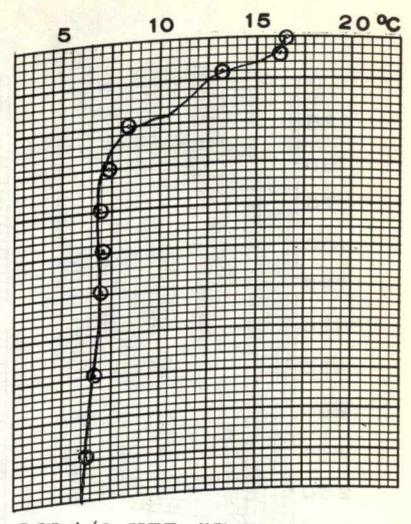
Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.70	30.90	23.11	23.11	0.0	477.1	0.000
10.	11.64	31.39	23.88	23.92	10.0	403.8	.044
20.	9.83	31.81	24.51	24.61	20.1	343.2	.082
30.	9.37	31.98	24.72	24.86	30.1	323.7	.115
50.	8.88	32.26	25.02	25.25	50.3	296.0	.178
75.	8.38	32.52	25.29	25.64	75.4	269.8	.249



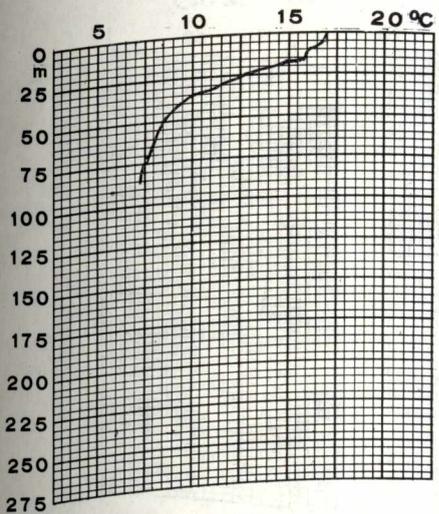
0520/3-VII-57
Station 3



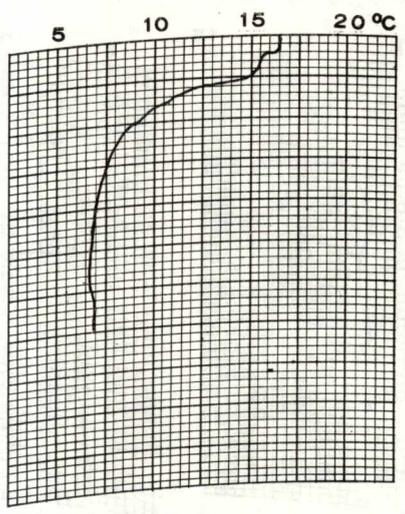
1045/3-VII-57
Station 4



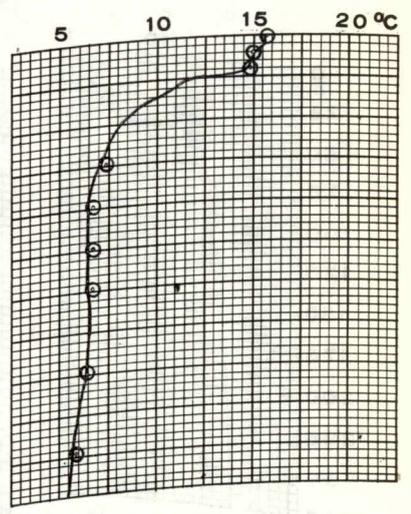
1718/3-VII-57
Station 5



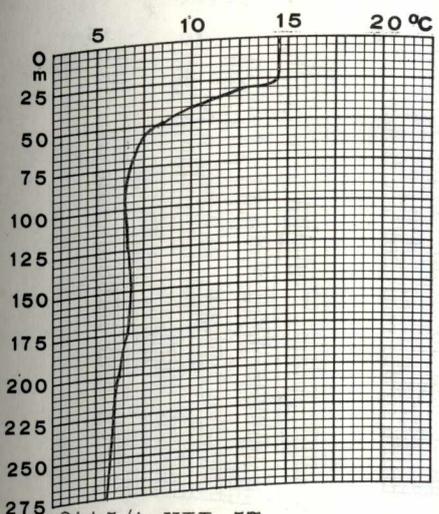
1845/3-VII-57
46° 11' N
126° 44' W



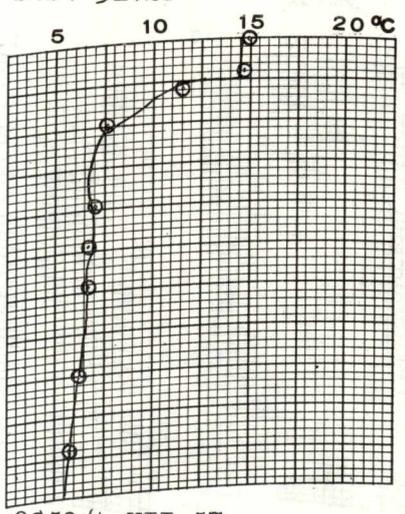
2030/3-VII-57
46° 27' N
127° 00' W
S.S. 31.28



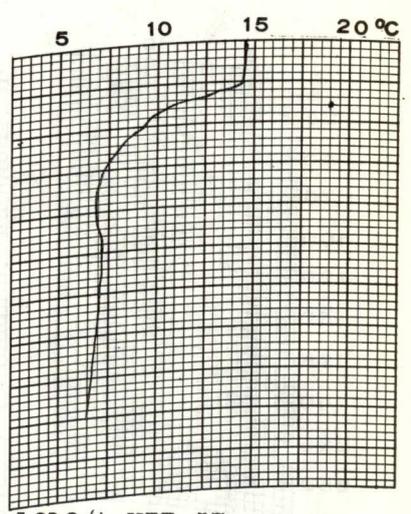
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Station 6



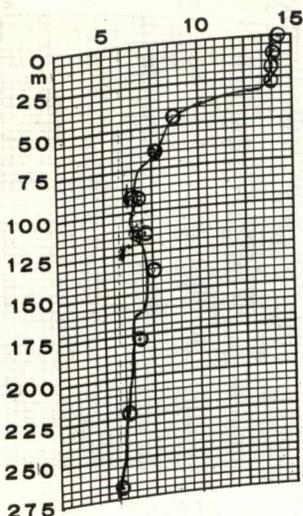
0445/4-VII-57
47° 33' N
128° 02' W
S.S. 32.58



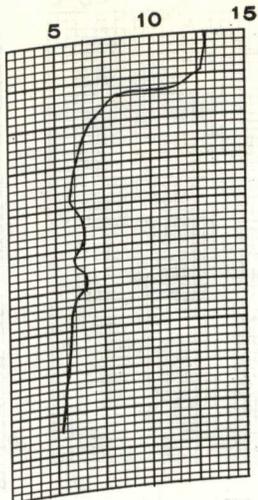
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Station 7



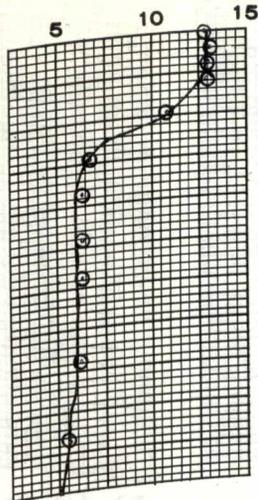
1212/4-VII-57
48° 29' N
129° 02' W
S.S. 32.41



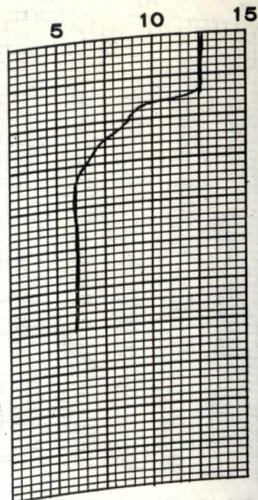
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Station 8



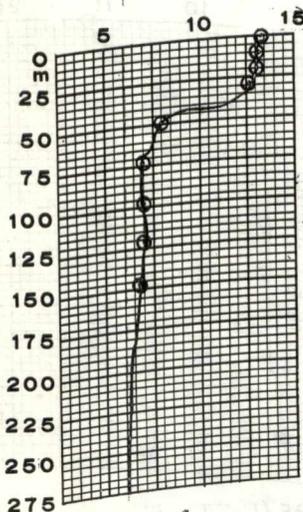
2150/4-VII-57
49° 41' N
130° 11' W
S.S. 32.52



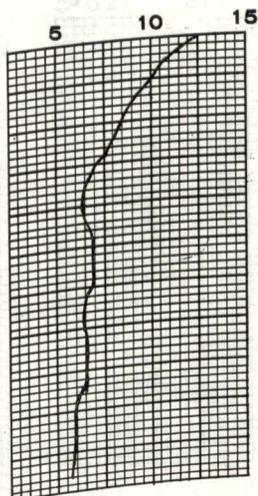
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Station 9



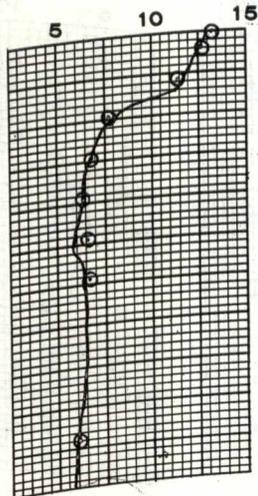
0440/5-VII-57
50° 33' N
131° 03' W
S.S. 32.43



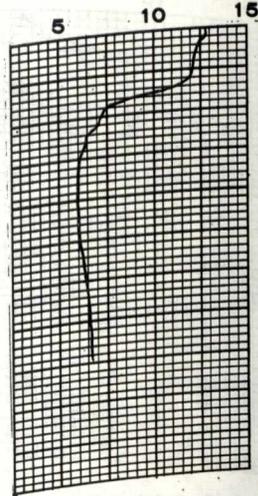
0900/5-VII-57
Station 10



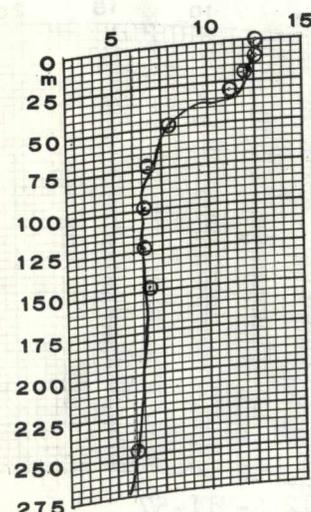
1340/5-VII-57
51° 30' N
132° 06' W
S.S. 32.14



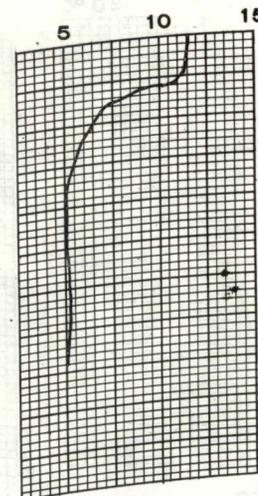
1720/5-VII-57
Station 11



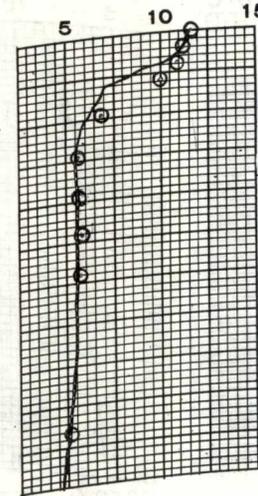
2100/5-VII-57
52° 26' N
133° 15' W
S.S. 32.28



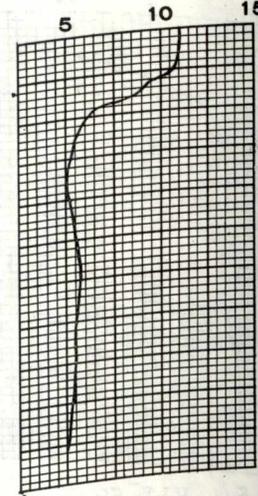
0235/6-VII-57
Station 12



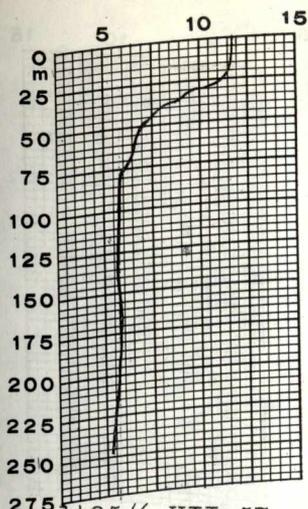
0635/6-VII-57
53° 30' N
134° 41' W
S.S. 32.57



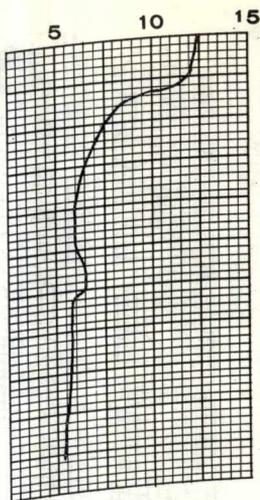
1225/6-VII-57
Station 20



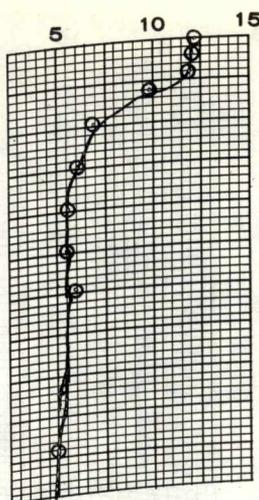
1325/6-VII-57
54° 00' N
135° 35' W
S.S. 32.55



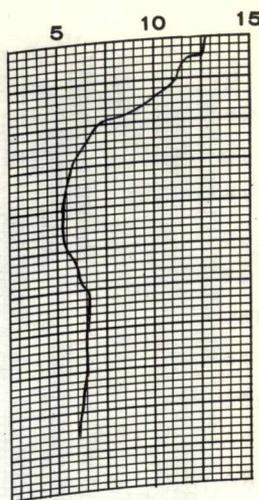
1425/6-VII-57
54° 00' N
135° 17' W
S.S. 32.57



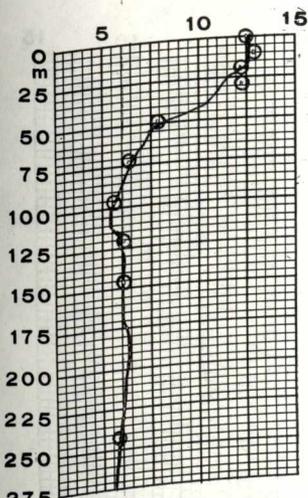
1510/6-VII-57
54° 00' N
135° 02' W
S.S. 32.46



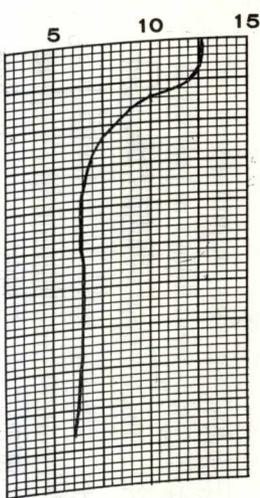
1654/6-VII-57
Station 21



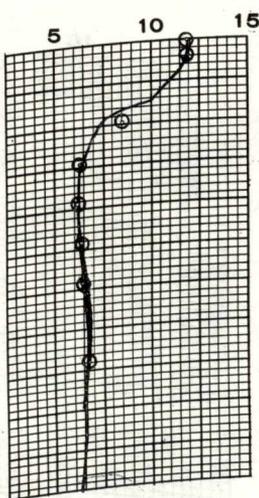
1800/6-VII-57
54° 01' N
134° 37' W
S.S. 32.33



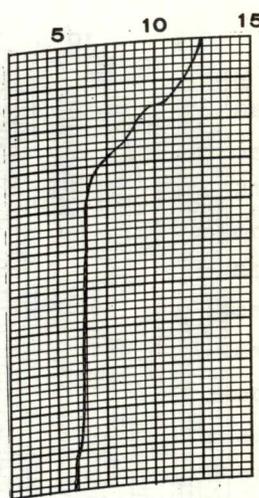
1955/6-VII-57
Station 22



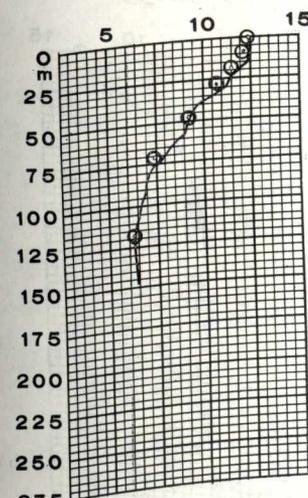
2050/6-VII-57
54° 00' N
134° 10' W
S.S. 32.14



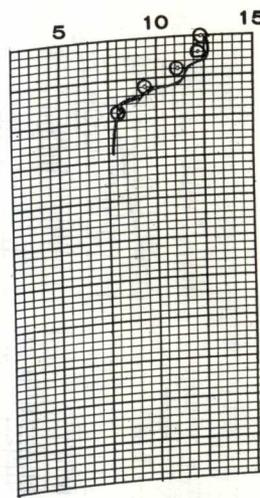
2330/6-VII-57
Station 23



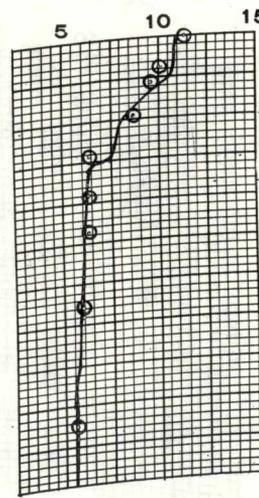
0010/7-VII-57
54° 00' N
133° 35' W
S.S. 32.21



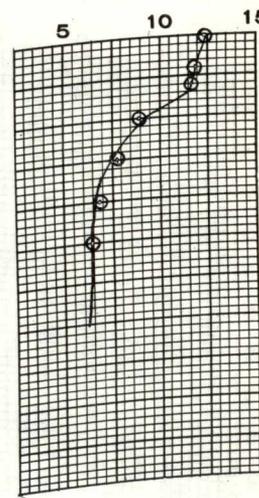
0125/7-VII-57
Station 24



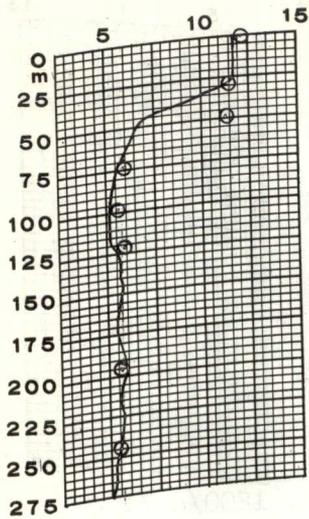
0240/7-VII-57
Station 25



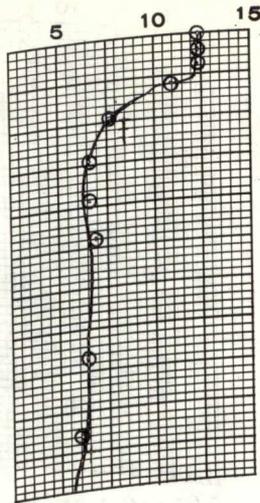
0512/8-VII-57
Station 26



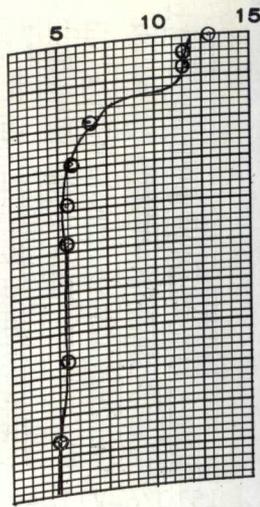
0220/9-VII-57
Station 34



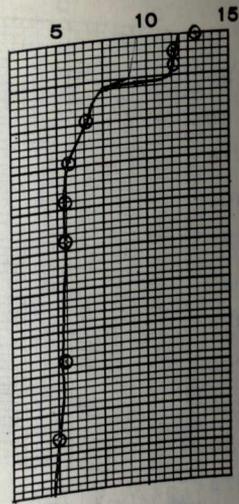
0430/9-VII-57
Station 35



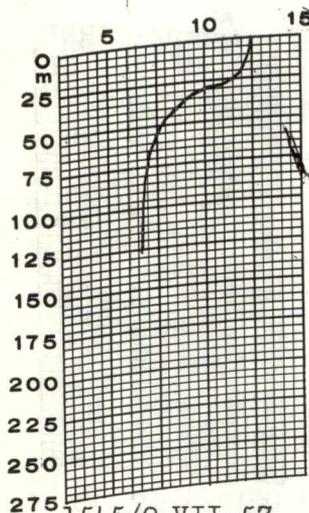
0740/9-VII-57
Station 36



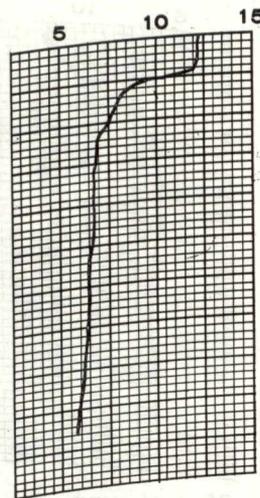
0305/9-VII-57
Station 37



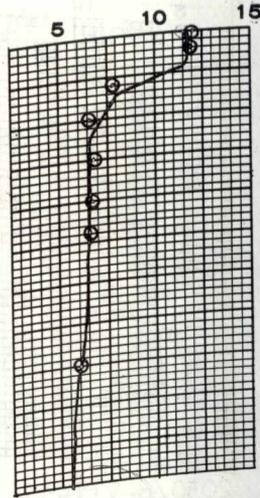
1445/9-VII-57
Station 37



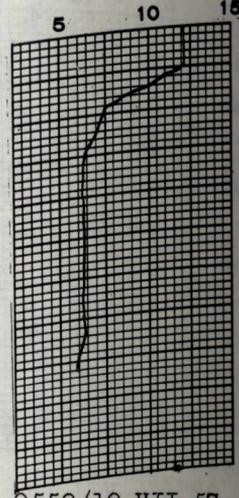
1545/9-VII-57
52° 21' N
134° 17' W
S.S. 32.05



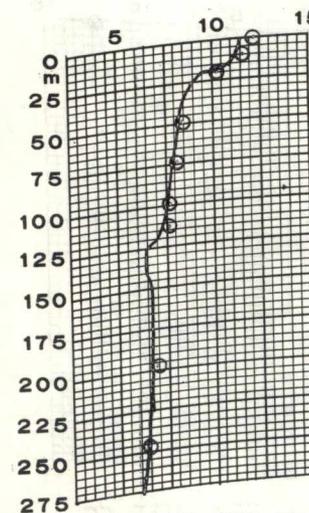
2035/9-VII-57
51° 54' N
133° 50' W
S.S. 32.05



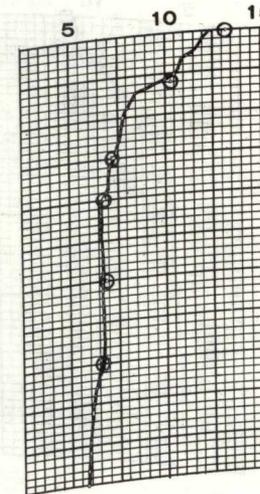
0400/10-VII-57
Station 43



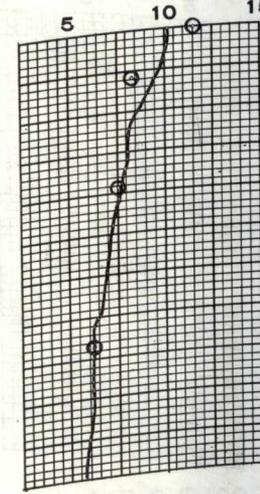
0552/10-VII-57
51° 27' N
132° 27' W
S.S. 32.33



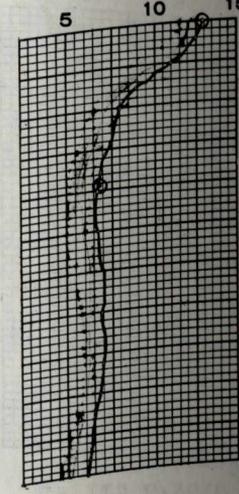
0930/10-VII-57
Station 44



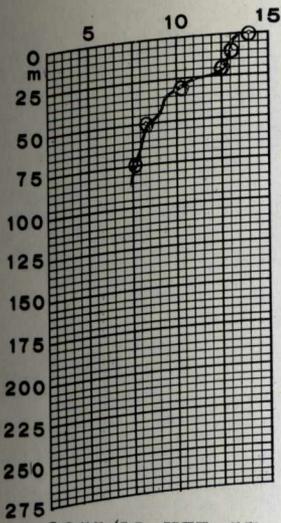
1310/10-VII-57
Station 45



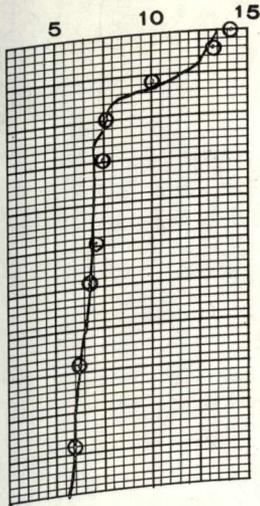
1650/10-VII-57
Station 46



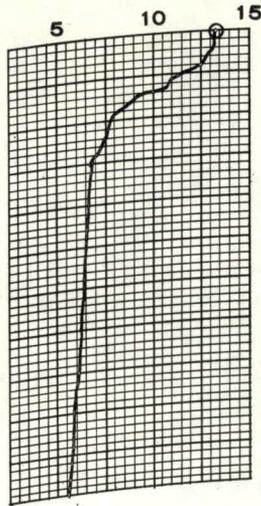
2130/10-VII-57
Station 44A



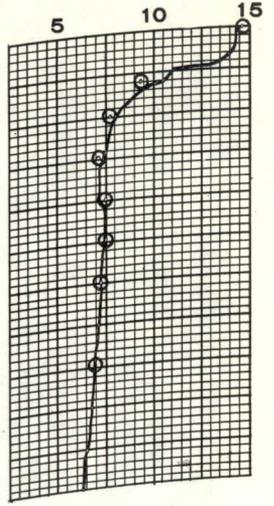
1255/11-VII-57
Station 57



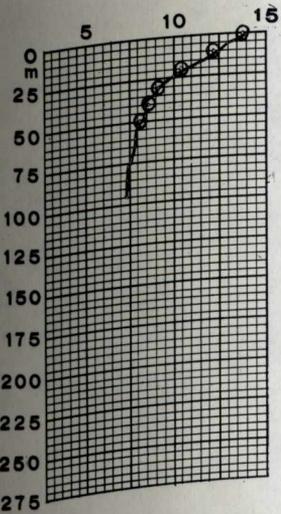
1500/11-VII-57
Station 48



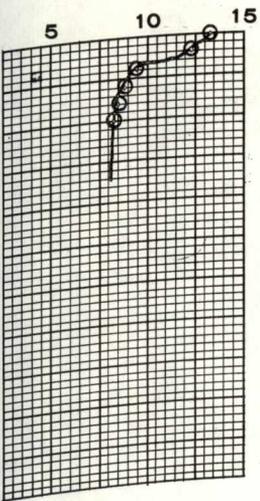
2000/11-VII-57
Station 59



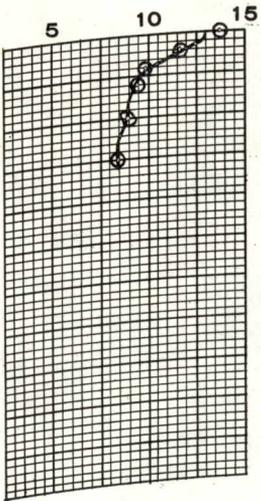
0800/12-VII-57
Station 67



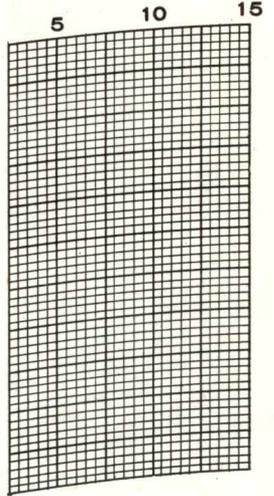
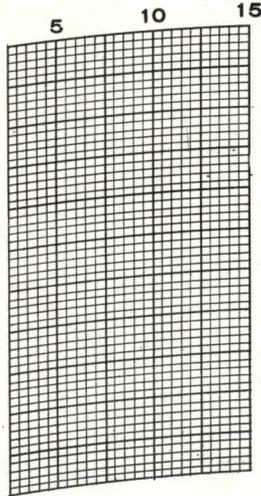
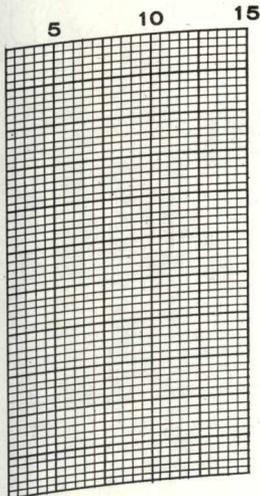
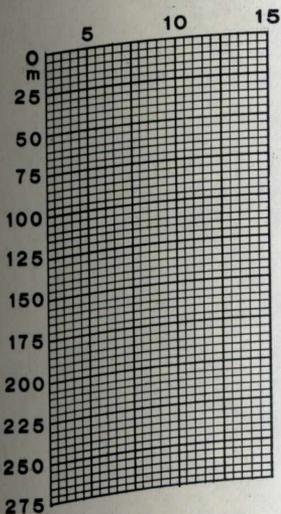
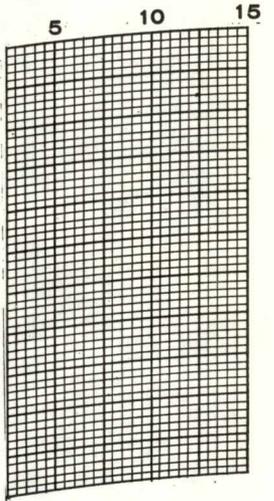
0935/12-VII-57
Station 68



1100/12-VII-57
Station 69



1205/12-VII-57
Station 70



Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
			C-57-2	July 2 - 12, 1957						
4	118.0		118.0		tr.	50.4			67.5	Ann
5	89.0	tr.	89.0		22.2	52.3		tr.	13.4	Fish larv
6	128.0	tr.	128.0	1.6	72.0	40.0	tr.	12.8	tr.	Ost
7	255.0	230.0	25.0		2.5	2.5	2.5	tr.	15.4	Fish larv
8	355.6	320.0	35.6		10.7	17.8		tr.	7.1	
9	586.0		586.0	tr.	tr.	450.0		90.0	45.0	Ann, Cran
10	92.2		92.2		tr.	67.2	tr.	21.0	tr.	Ann, Ost
11	102.0		102.0	tr.	tr.	87.5		tr.	8.7	Ann, Ost
12	91.0		91.0	9.6	tr.	77.0		tr.	4.8	Ann, Ost
20	57.0		57.0	4.4	tr.	48.5		1.7	0.88	Ann, Ost
21	46.0		46.0	1.3		19.7			19.7	Ann, Ost

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
22	205.0		205.0	tr.	tr.	188.0		tr.	5.4	Ann, Ost, Fish larv
23	113.0		113.0	48.0		60.0		2.4	2.4	
24	43.5		43.5	13.4	tr.	18.0		10.0	0.67	Ann, Fish larv
25	60.0		60.0	18.0		42.0				Fish larv, Oik
				Depth of haul - 40 meters						
26	171.0		171.0	tr.	tr.	68.2	tr.		105.0	
34	177.0	tr.	177.0	tr.	tr.	35.5	tr.	140.0	tr.	Fish larv
35	19.5	tr.	19.5	0.5		18.2		tr.	tr.	Ann, Ost, Fish larv
36	95.0		95.0	10.8	8.1	54.4		13.6	8.1	Ann
37	230.0	tr.	230.0	2.5	tr.	215.0			5.1	Ann, Ost
43	74.4		74.4	tr.		55.0	tr.	13.8	5.5	Ann
44	75.0		75.0	tr.		65.0	tr.	3.2	tr.	Ann

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
45	56.1		56.1	17.6	tr.	26.5		tr.	8.8	Ann
46	42.1		42.1	8.4	tr.	29.0	4.2	tr.	tr.	Fish larv
44A	22.2		22.2		tr.	19.6		1.3	1.3	Ann
57	41.2	tr.	41.2		tr.	29.6	11.0	0.56	5.6	Fish larv Depth of haul - 75 meters
58	116.0		116.0		1.1	112.0	tr.		2.3	
59	266.0		266.0	tr.	tr.	42.6	13.3	194.0	13.3	
67	33.5		33.5	tr.	3.3	24.7	tr.		4.35	Ost, Fish larv
68	65.0	tr.	65.0		tr.	62.0	tr.	tr.	1.9	Oik, Cirre, Eggs Depth of haul - 50 meters
69	48.0	tr.	48.0			47.0	tr.	tr.	tr.	Oik, Cirre, Eggs Depth of haul - 50 meters
70	96.0	tr.	96.0			94.0	tr.	tr.	1.0	Fish larv, Eggs Depth of haul - 75 meters

Cruise Number C-57-3

September 18 - October 2, 1957

Personnel: F.G. Barber
E.B. Bennett
R.H. Herlinveaux
O.D. Kennedy
K. Booth
M.P. Sinclair

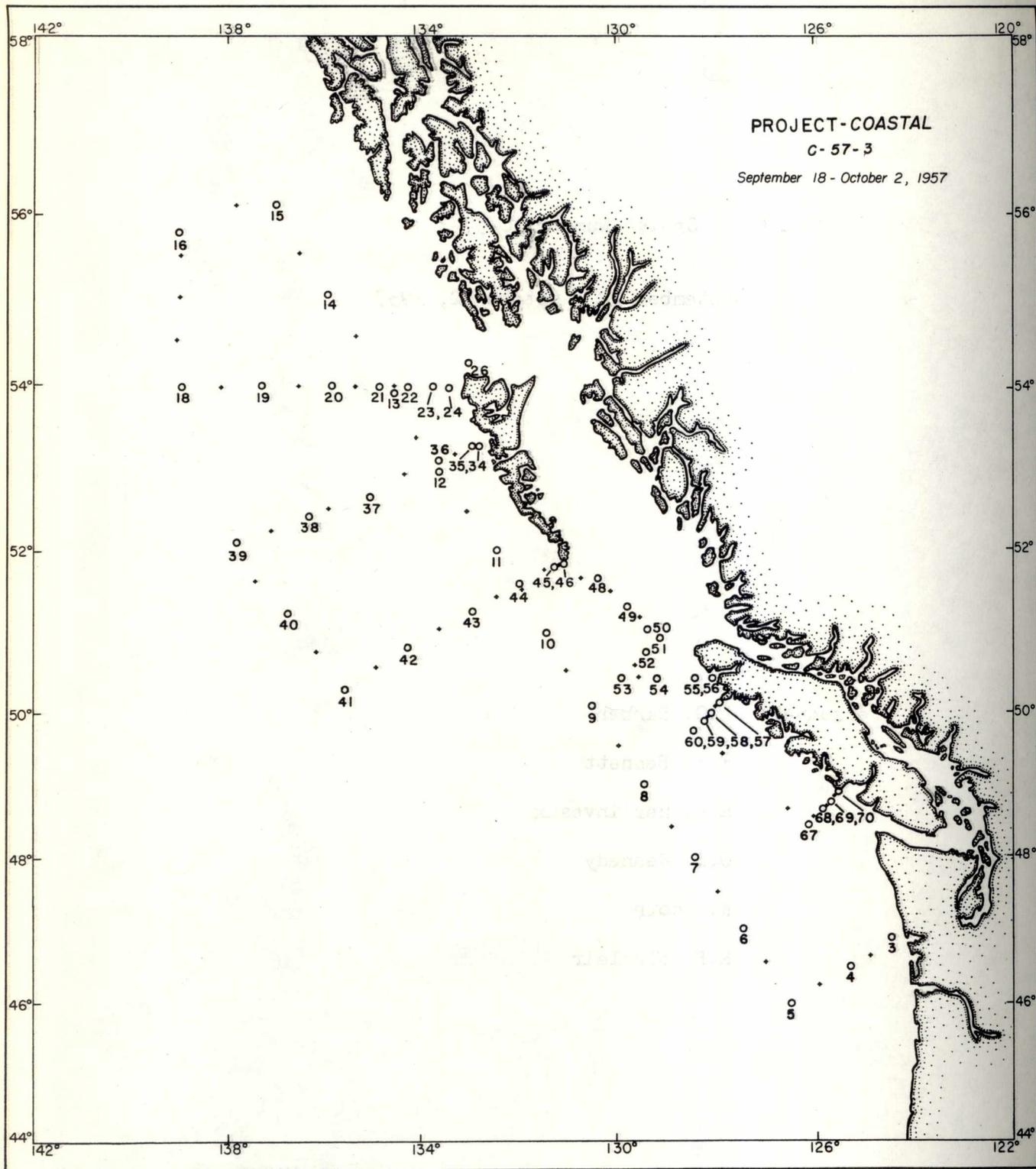


Fig. 4. Approximate positions of stations and bathythermograph lowerings (crosses) for cruise C-57-3, September 18-October 2, 1957.

STATION 3

TIME: 2208 DATE: 18-IX-57 LAT: 46° 53.2'N LONG: 124° 29' W SOUNDING: 44 fms.
 WEATHER: 02 WIND: Dir. 320° Speed 8 AIR TEMP: Dry 63° Wet 58° BARO: 1020.3 mb.
 CLOUD: Type Amt 1 SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	16.30	31.61	23.10	4945.	0.700	
10.	16.09	31.61	23.15	4944.	.590	
30.	8.86	32.76	25.41	4867.	.315	
50.	7.67	33.34	26.04	4856.	.276	
70.	7.58	33.77	26.39	4857.	.164	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	16.30	31.61	23.10	23.10	0.0	478.2	0.000
10.	16.09	31.61	23.15	23.19	10.0	473.6	.048
20.	11.72	32.26	24.53	24.63	20.1	341.5	.089
30.	8.86	32.76	25.41	25.55	30.1	258.2	.119
50.	7.67	33.34	26.04	26.27	50.3	198.5	.165

STATION 4

TIME: 0240 DATE: 19-IX-57 LAT: 46° 29' N LONG: 125° 20' W SOUNDING: 1000 fms.
 WEATHER: 00 WIND: Dir. 030° Speed 8 AIR TEMP: Dry 64° Wet 57° BARO: 1020.7 mb.
 CLOUD: Type Amt 0 SEA: Calm SWELL: 350° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	17.80	31.90	22.97	4962.	0.486	0.688
10.	17.80	31.87	22.95	4962.	.501	0.289
30.	12.88	32.53	24.52	4914.	.636	1.02
50.	8.86	32.71	25.37	4868.	.568	1.61
75.	7.77	32.92	25.70	4857.	.498	1.93
100.	7.74	33.27	25.98	4859.	.421	2.17
125.	7.83	33.58	26.20	4863.	.327	2.16
150.	7.62	33.81	26.42	4863.	.226	2.34
175.	7.38	33.89	26.51	4862.	.252	2.40
200.	7.15	33.95	26.59	4860.	.222	2.18
250.	6.77	34.01	26.69	4859.	.162	2.68
300.	6.42	34.03	26.76	4857.	.140	2.40
400.	5.83	34.06	26.85	4855.	.116	2.05
485.	5.32	34.11	26.96	4854.	.078	3.46
583.	4.86	34.14	27.03	4854.	.049	3.42
777.	4.19	34.31	27.24	4857.	.037	3.22
973.	3.68	34.38	27.35	4861.	.027	3.60
1170.	3.16	34.46	27.46	4866.	.040	3.41
1465.	2.62	34.53	27.56	4876.	.072	3.21

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{t,p}$	P	10 ⁵ δ	ΔD
0.	17.80	31.90	22.97	22.97	0.0	490.0	0.000
10.	17.80	31.87	22.95	23.00	10.0	492.2	.049
20.	15.23	32.26	23.83	23.92	20.1	408.3	.094
30.	12.88	32.53	24.52	24.66	30.1	342.6	.132
50.	8.86	32.71	25.37	25.60	50.2	262.0	.193
75.	7.77	32.92	25.70	26.04	75.4	231.6	.255
100.	7.74	33.27	25.98	26.44	100.6	205.4	.310
150.	7.62	33.81	26.42	27.11	150.9	164.1	.403
200.	7.15	33.95	26.59	27.52	201.3	148.4	.482
250.	6.77	34.01	26.69	27.85	251.7	139.7	.554
300.	6.42	34.03	26.76	28.15	302.1	134.0	.623
400.	5.83	34.06	26.85	28.71	403.0	125.8	.755
500.	5.24	34.11	26.97	29.30	504.0	115.5	.876
600.	4.79	34.16	27.06	29.86	605.0	107.6	.989
700.	4.44	34.25	27.17	30.44	706.0	97.6	1.093
800.	4.13	34.31	27.25	30.99	807.2	90.3	1.188
1000.	3.60	34.39	27.37	32.05	1009.5	80.0	1.360
1200.	3.09	34.47	27.47	33.10	1212.1	70.0	1.512

STATION 5

TIME: 0919 DATE: 19-IX-57 LAT: 45° 59' N LONG: 126° 31' W SOUNDING: 1450 fms.
 WEATHER: 03 WIND: Dir. 340° Speed 12 AIR TEMP: Dry 67° Wet 60° BARO: 1021.0 mb.
 CLOUD: Type As Amt 1 SEA: 350° - 1 SWELL: 350° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	17.80	32.46	23.40	4963.	0.493	0.728
9.	17.95	32.42	23.33	4965.	.501	0.149
28.	16.10	32.51	23.83	4948.	.568	0.497
46.	9.15	32.72	25.33	4872.	.606	
69.	7.98	32.76	25.54	4859.	.574	1.38
92.	7.12	32.81	25.70	4849.	.566	1.40
115.	6.86	33.13	25.99	4848.	.520	1.49
138.	7.46	33.56	26.25	4859.	.369	1.68
161.	7.22	33.70	26.39	4858.	.364	
184.	7.07	33.86	26.53	4858.	.357	2.02
230.	6.72	33.94	26.64	4857.	.222	1.88
276.	6.11	33.95	26.73	4851.	.225	2.22
381.	5.58	34.05	26.87	4851.	.123	2.81
476.	5.16	34.13	26.99	4851.	.072	2.80
571.	4.64	34.17	27.08	4850.	.050	2.41
762.	4.04	34.29	27.24	4854.	.029	2.77
955.	3.59	34.37	27.35	4859.	.031	3.06
1243.	2.96	34.47	27.49	4868.	.036	3.05
1730.	2.17	34.57	27.63	4886.	.099	2.40
1927.	1.98	34.59	27.67	4895.	.122	2.33

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	17.80	32.46	23.40	23.40	0.0	449.0	0.000
10.	17.99	32.42	23.32	23.37	10.0	456.8	.045
20.	17.57	32.46	23.45	23.54	20.1	444.8	.091
30.	15.07	32.54	24.09	24.22	30.1	384.6	.132
50.	8.92	32.73	25.37	25.60	50.2	326.0	.197
75.	7.70	32.75	25.57	25.92	75.4	243.3	.261
100.	6.93	32.91	25.80	26.27	100.6	221.6	.319
150.	7.32	33.63	26.32	27.01	150.9	173.5	.419
200.	6.98	33.89	26.57	27.50	201.3	150.3	.500
250.	6.43	33.94	26.68	27.85	251.7	140.1	.574
300.	5.98	33.97	26.76	28.16	302.1	132.8	.642
400.	5.50	34.07	26.90	28.76	403.0	121.1	.771
500.	5.01	34.14	27.02	29.35	504.0	110.7	.888
600.	4.54	34.19	27.11	29.92	605.0	102.3	.995
700.	4.22	34.25	27.19	30.47	706.0	94.9	1.095
800.	3.95	34.30	27.26	31.01	807.2	88.9	1.188
1000.	3.48	34.39	27.37	32.06	1009.5	79.2	1.358
1200.	3.05	34.45	27.47	33.09	1212.1	70.4	1.509
1500.	2.49	34.53	27.58	34.61	1516.4	60.4	1.708

STATION 6

TIME: 1729 DATE: 19-IX-57 LAT: 47° 00' N LONG: 127° 28' W SOUNDING: 1450 fms.
 WEATHER: 01 WIND: Dir. 330° Speed 20 AIR TEMP: Dry 64° Wet 59° BARO: 1020.7 mb.
 CLOUD: Type As Amt 3 SEA: 330° - 2 SWELL: 340° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	18.20	32.10	23.03	4966.	0.497	0.450
10.	17.85	32.08	23.10	4963.	.504	0.495
29.	17.52	32.29	23.34	4962.	.514	0.418
49.	10.01	32.65	25.14	4882.	.641	0.392
73.	7.93	32.72	25.52	4858.	.588	1.05
97.	7.11	32.85	25.73	4849.	.555	1.17
122.	6.84	33.20	26.05	4849.	.487	1.59
146.	6.89	33.57	26.33	4852.	.440	1.45
170.	6.81	33.74	26.47	4853.	.386	
195.	6.64	33.84	26.58	4853.	.361	1.70
243.	6.18	33.88	26.67	4850.	.326	2.09
292.	5.65	33.91	26.76	4846.	.241	2.36
396.	4.77	33.97	26.91	4841.	.155	2.54
495.	4.61	34.09	27.02	4845.	.080	2.96
595.	4.24	34.17	27.12	4846.	.054	3.04
794.	3.82	34.31	27.28	4852.	.027	3.00
992.	3.40	34.39	27.38	4859.	.028	2.76
1288.	2.82	34.48	27.51	4868.	.043	2.58
1487.	2.46	34.52	27.57	4875.	.066	2.53
1982.	1.92	34.60	27.68	4897.	.127	2.85

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	18.20	32.10	23.03	23.03	0.0	484.7	0.000
10.	17.85	32.08	23.10	23.14	10.0	478.4	.048
20.	18.50	32.17	23.01	23.10	20.1	487.0	.097
30.	17.32	32.30	23.40	23.53	30.1	450.5	.144
50.	9.77	32.66	25.19	25.42	50.2	279.8	.217
75.	7.81	32.73	25.54	25.89	75.4	246.4	.283
100.	7.05	32.88	25.77	26.23	100.5	225.1	.343
125.	6.83	33.24	26.08	26.66	125.7	195.5	.396
150.	6.89	33.61	26.36	27.06	150.9	169.2	.442
200.	6.60	33.85	26.59	27.52	201.3	148.2	.522
250.	6.11	33.88	26.68	27.84	251.7	140.3	.594
300.	5.57	33.91	26.77	28.17	302.1	132.0	.663
400.	4.75	33.97	26.91	28.78	403.0	119.1	.790
500.	4.60	34.09	27.03	29.37	504.0	109.2	.905
600.	4.22	34.17	27.13	29.94	605.0	100.1	1.011
700.	3.97	34.25	27.21	30.49	706.0	92.6	1.108
800.	3.81	34.31	27.28	31.03	807.1	86.7	1.198
1000.	3.38	34.39	27.39	32.08	1009.5	77.5	1.365
1200.	2.99	34.46	27.47	33.10	1212.1	69.6	1.514
1500.	2.44	34.52	27.58	34.61	1516.4	60.2	1.711

STATION 7

TIME: 0150 DATE: 20-IX-57 LAT: 47° 59' N LONG: 128° 27' W SOUNDING: 1400 fms.
 WEATHER: 02 WIND: Dir. 320° Speed 35 AIR TEMP: Dry 60° Wet 58° BARO: 1019.3 mb.
 CLOUD: Type Ac Amt 9 SEA: 320° - 4 SWELL: 340° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	17.00	32.16	23.36	4954.	0.509	0.810
10.	17.26	32.12	23.27	4958.	.507	0.615
30.	15.24	32.44	23.97	4939.	.579	0.674
50.	8.93	32.67	25.33	4869.	.604	1.22
75.	7.93	32.83	25.60	4859.	.538	1.50
100.	6.85	33.07	25.94	4847.	.511	1.81
125.	7.15	33.45	26.20	4854.	.412	2.12
150.	7.26	33.74	26.41	4858.	.329	2.35
175.	7.05	33.87	26.54	4857.	.291	
199.	6.62	33.88	26.61	4853.	.313	2.41
249.	6.00	33.92	26.72	4848.	.249	
299.	5.45	33.92	26.79	4844.	.221	2.77
399.	4.78	34.00	26.93	4841.	.128	3.17
492.	4.48	34.11	27.05	4843.	.069	3.22
590.	4.48	34.23	27.15	4849.	.037	3.52
787.	3.92	34.34	27.29	4854.	.031	3.00
985.	3.46	34.41	27.39	4859.	.035	3.17
1183.	3.08	34.46	27.47	4866.	.044	3.32
1479.	2.51	34.53	27.57	4876.	.070	3.32
1971.	1.94	34.60	27.67	4897.	.130	3.32

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ ζ	ΔD
0.	17.00	32.16	23.36	23.36	0.0	452.9	0.000
10.	17.26	32.12	23.27	23.32	10.0	461.8	.046
20.	16.79	32.29	23.51	23.60	20.1	439.0	.091
30.	15.24	32.44	23.97	24.11	30.1	395.4	.133
50.	8.93	32.67	25.33	25.56	50.2	266.1	.200
75.	7.93	32.83	25.60	25.95	75.4	240.3	.263
100.	6.85	33.07	25.94	26.41	100.6	208.3	.320
150.	7.26	33.74	26.41	27.11	150.9	164.5	.414
200.	6.61	33.88	26.61	27.54	201.3	146.6	.492
250.	5.99	33.92	26.72	27.88	251.7	136.5	.563
300.	5.44	33.92	26.79	28.19	302.1	130.0	.630
400.	4.78	34.00	26.93	28.80	403.0	117.2	.755
500.	4.49	34.12	27.06	29.40	504.0	106.1	.868
600.	4.45	34.24	27.16	29.96	605.0	97.8	.971
700.	4.15	34.30	27.23	30.51	706.1	90.9	1.066
800.	3.89	34.35	27.30	31.05	807.2	85.1	1.155
1000.	3.43	34.42	27.40	32.09	1009.6	76.4	1.319
1200.	3.04	34.47	27.48	33.10	1212.2	69.5	1.466
1500.	2.48	34.53	27.58	34.61	1516.4	59.8	1.663

STATION 8

TIME: 1021 DATE: 20-IX-57 LAT: 49° 00' N LONG: 129° 28' W SOUNDING: 1300 fms.
 WEATHER: 02 WIND: Dir. 340° Speed 25 AIR TEMP: Dry 67° Wet 60° BARO: 1020.0 mb.
 CLOUD: Type Cu Amt 7 SEA: 340° - 8 SWELL: 340° - 8 SECCHI DISC: 13 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	16.50	32.31	23.59	4950.	0.512	
9.	16.51	32.17	23.48	4950.	.521	
28.	16.50	32.18	23.49	4951.	.516	
46.	11.81	32.48	24.69	4902.	.673	
69.	8.01	32.62	25.43	4858.	.600	
92.	7.10	32.90	25.77	4849.	.518	
115.	6.91	33.27	26.09	4850.	.435	
138.	6.93	33.56	26.32	4852.	.379	
160.	6.76	33.72	26.47	4852.	.349	
183.	6.51	33.80	26.56	4850.	.331	
229.	6.17	33.89	26.67	4849.	.292	
275.	5.55	33.93	26.78	4844.	.217	
377.	4.89	34.01	26.92	4841.	.128	
471.	4.66	34.09	27.02	4844.	.072	
566.	4.30	34.14	27.10	4845.	.053	
755.	4.02	34.29	27.24	4853.	.030	
943.	3.57	34.39	27.37	4858.	.029	
1131.	3.12	34.45	27.46	4863.	.040	
1427.	2.56	34.52	27.56	4873.	.068	
1922.	1.98	34.59	27.66	4894.	.124	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	16.50	32.31	23.59	23.59	0.0	430.9	0.000
10.	16.64	32.17	23.45	23.49	10.0	444.7	.044
20.	17.12	32.14	23.32	23.41	20.1	457.8	.089
30.	15.90	32.22	23.66	23.79	30.1	425.5	.134
50.	10.94	32.49	24.86	25.09	50.2	311.2	.208
75.	7.70	32.68	25.52	25.87	75.4	248.2	.278
100.	7.01	33.04	25.89	26.36	100.5	213.0	.336
150.	6.85	33.66	26.41	27.10	150.9	165.2	.431
200.	6.42	33.84	26.60	27.53	201.3	146.9	.510
250.	5.86	33.91	26.73	27.89	251.7	135.6	.581
300.	5.35	33.95	26.82	28.22	302.1	127.0	.647
400.	4.85	34.03	26.95	28.82	403.0	115.7	.770
500.	4.53	34.11	27.04	29.38	504.0	107.6	.883
600.	4.26	34.17	27.12	29.94	605.0	100.4	.988
700.	4.12	34.25	27.20	30.48	706.0	93.8	1.086
800.	3.91	34.32	27.28	31.02	807.2	87.4	1.177
1000.	3.43	34.41	27.40	32.08	1009.6	76.6	1.343
1200.	2.98	34.47	27.48	33.11	1212.2	68.6	1.490
1500.	2.45	34.53	27.58	34.62	1516.4	59.5	1.685

STATION 9

TIME: 1854 DATE: 20-IX-57 LAT: 50° 04' N LONG: 130° 31' W SOUNDING: 1205 fms.
 WEATHER: 03 WIND: Dir. 330° Speed 19 AIR TEMP: Dry 61° Wet 59° BARO: 1021.0 mb.
 CLOUD: Type Sc Amt 10 SEA: 330° - 3 SWELL: 320° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.70	32.19	23.68	4941.	0.533	0.631
10.	15.71	32.17	23.66	4942.	.534	0.631
29.	15.70	32.18	23.67	4943.	.534	0.641
49.	8.94	32.59	25.26	4869.	.650	1.06
73.	6.43	32.69	25.69	4839.	.605	1.43
97.	5.93	32.73	25.79	4834.	.595	1.56
122.	5.99	33.00	25.99	4837.	.549	1.63
146.	6.27	33.42	26.29	4844.	.429	2.02
170.	6.29	33.69	26.50	4846.	.369	
195.	6.12	33.85	26.65	4846.	.316	2.41
243.	5.80	33.92	26.75	4845.	.222	2.66
292.	5.33	33.95	26.83	4842.	.172	2.86
380.	4.91	34.00	26.92	4842.	.118	3.04
476.	4.69	34.08	27.00	4845.	.075	3.17
571.	4.31	34.16	27.11	4845.	.047	3.35
763.	3.72	34.27	27.26	4849.	.034	3.35
958.	3.41	34.38	27.37	4857.	.028	3.17
1154.	2.92	34.42	27.46	4862.	.034	3.20
1444.	2.50	34.49	27.54	4873.	.053	3.21
1927.	1.97	34.58	27.66	4895.	.175	3.32

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	15.70	32.19	23.68	23.68	0.0	422.8	0.000
10.	15.71	32.17	23.66	23.71	10.0	424.5	.043
20.	16.48	32.13	23.45	23.54	20.1	444.6	.086
30.	15.26	32.20	23.78	23.92	30.1	413.3	.129
50.	8.80	32.59	25.29	25.52	50.2	270.1	.198
75.	6.37	32.68	25.70	26.05	75.4	231.1	.261
100.	5.92	32.75	25.81	26.28	100.6	220.8	.318
150.	6.29	33.47	26.33	27.03	150.9	172.0	.417
200.	6.09	33.86	26.66	27.60	201.3	141.1	.496
250.	5.72	33.92	26.76	27.93	251.7	132.5	.565
300.	5.28	33.95	26.84	28.24	302.1	125.6	.630
400.	4.88	34.02	26.93	28.81	403.0	117.1	.752
500.	4.59	34.10	27.03	29.37	504.0	108.6	.866
600.	4.20	34.17	27.13	29.94	605.0	99.8	.971
700.	3.88	34.23	27.21	30.49	706.1	92.7	1.069
800.	3.67	34.29	27.28	31.03	807.2	86.6	1.159
1000.	3.29	34.39	27.39	32.08	1009.6	76.8	1.325
1200.	2.85	34.44	27.47	33.10	1212.2	69.6	1.473
1500.	2.43	34.50	27.56	34.60	1516.4	61.5	1.672

STATION 10

TIME: 0212 DATE: 21-IX-57 LAT: 50° 59' N LONG: 131° 27' W SOUNDING: 1400 fms.
 WEATHER: 03 WIND: Dir. 340° Speed 15 AIR TEMP: Dry 59° Wet 58° BARO: 1022.7 mb.
 CLOUD: Type Sc Amt 10 SEA: 340° - 2 SWELL: 340° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.80	32.11	23.59	4942.	0.527	0.629
10.	15.71	32.09	23.60	4942.	.536	0.220
30.	12.93	32.28	24.32	4913.	.594	0.723
50.	8.00	32.56	25.38	4857.	.582	1.47
75.	6.63	32.93	25.86	4842.	.509	1.55
100.	6.75	33.37	26.19	4847.	.425	1.95
125.	6.92	33.65	26.39	4852.	.358	2.12
150.	6.77	33.81	26.53	4852.	.305	2.22
175.	6.72	33.80	26.54	4853.	.262	
200.	6.43	33.92	26.67	4851.	.229	2.47
250.	6.00	33.95	26.74	4848.	.198	2.67
300.	5.61	33.97	26.81	4846.		2.76
400.	5.05	34.04	26.93	4845.	.106	2.95
496.	4.29	34.09	27.06	4840.	.077	3.24
595.	3.97	34.15	27.13	4842.	.062	2.95
793.	3.65	34.31	27.29	4850.	.040	3.52
990.	3.20	34.39	27.40	4856.	.035	2.86
1186.	2.86	34.45	27.48	4863.	.049	2.85
1483.	2.34	34.52	27.58	4873.	.079	3.05
1978.	1.95	34.58	27.66	4897.	.131	3.06

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	15.80	32.11	23.59	23.59	0.0	430.9	0.000
10.	15.71	32.09	23.60	23.64	10.0	430.7	.043
20.	14.59	32.17	23.90	23.99	20.1	401.7	.085
30.	12.93	32.28	24.32	24.46	30.1	361.9	.123
50.	8.00	32.56	25.38	25.62	50.2	260.8	.186
75.	6.63	32.93	25.86	26.21	75.4	215.8	.246
100.	6.75	33.37	26.19	26.65	100.6	184.9	.296
150.	6.77	33.81	26.53	27.23	150.9	153.2	.382
200.	6.43	33.92	26.67	27.60	201.3	140.8	.456
250.	6.00	33.95	26.74	27.91	251.8	134.2	.525
300.	5.61	33.97	26.81	28.21	302.2	128.1	.591
400.	5.05	34.04	26.93	28.80	403.1	117.4	.715
500.	4.28	34.09	27.06	29.40	504.0	105.6	.828
600.	3.96	34.15	27.14	29.95	605.0	98.8	.931
700.	3.82	34.24	27.22	30.51	706.1	91.4	1.027
800.	3.63	34.31	27.30	31.05	807.2	85.0	1.116
1000.	3.18	34.39	27.40	32.10	1009.6	75.3	1.278
1200.	2.83	34.45	27.49	33.12	1212.2	68.1	1.424
1500.	2.32	34.52	27.58	34.62	1516.5	59.0	1.617

STATION 11

TIME: 1046 DATE: 21-IX-57 LAT: 52° 01' N LONG: 132° 28' W SOUNDING: 1350 fms.
 WEATHER: 41 WIND: Dir. 310° Speed 8 AIR TEMP: Dry 59° Wet 58° BARO: 1022.7 mb.
 CLOUD: Type Sc Amt 10 SEA: 320° - 2 SWELL: 320° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.20	32.20	24.01	4925.	0.590	0.553
10.	13.69	32.20	24.11	4920.	.603	0.500
29.	11.25	32.31	24.66	4894.	.545	1.01
48.	7.10	32.52	25.48	4845.	.518	1.58
72.	6.68	32.68	25.66	4842.	.515	1.50
97.	6.66	32.89	25.83	4844.	.476	1.64
121.	6.70	33.15	26.03	4847.	.407	1.89
145.	6.58	33.50	26.31	4848.	.358	2.06
169.	6.52	33.66	26.45	4849.	.279	
193.	6.42	33.83	26.59	4850.	.248	2.33
242.	5.99	33.90	26.70	4848.	.232	2.52
293.	5.62	33.94	26.78	4846.	.195	2.72
391.	4.90	34.00	26.92	4842.	.116	2.86
489.	4.57	34.08	27.01	4844.	.082	3.01
587.	4.31	34.14	27.09	4846.	.062	3.25
782.	3.82	34.26	27.24	4852.	.039	3.06
980.	3.30	34.35	27.36	4856.	.036	3.06
1178.	2.97	34.42	27.45	4864.	.038	3.05
1395.	2.57	34.47	27.52	4871.	.050	3.10
1974.	1.94	34.58	27.66	4897.	.125	2.82

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,P}$	P	$10^5 \delta$	ΔD
0.	14.20	32.20	24.01	24.01	0.0	391.5	0.000
10.	13.69	32.20	24.11	24.16	10.0	381.7	.039
20.	12.62	32.24	24.35	24.45	20.1	358.6	.076
30.	10.95	32.32	24.72	24.86	30.1	323.8	.110
50.	7.05	32.53	25.49	25.72	50.3	250.5	.168
75.	6.67	32.70	25.68	26.03	75.4	233.2	.229
100.	6.67	32.92	25.85	26.31	100.6	217.2	.286
150.	6.57	33.53	26.34	27.04	150.9	171.2	.383
200.	6.35	33.84	26.61	27.54	201.3	146.1	.463
250.	5.93	33.90	26.72	27.88	251.7	136.7	.535
300.	5.56	33.94	26.79	28.19	302.2	129.9	.602
400.	4.87	34.01	26.93	28.80	403.1	117.6	.727
500.	4.54	34.08	27.02	29.36	504.0	109.4	.841
600.	4.28	34.15	27.10	29.92	605.0	102.3	.948
700.	4.03	34.21	27.18	30.46	706.1	95.9	1.048
800.	3.76	34.27	27.25	31.00	807.2	89.7	1.142
1000.	3.27	34.36	27.37	32.06	1009.6	78.8	1.313
1200.	2.93	34.43	27.46	33.09	1212.2	71.1	1.465
1500.	2.41	34.49	27.55	34.59	1516.4	62.0	1.667

STATION 12

TIME: 1839 DATE: 21-IX-57 LAT: 53° 00' N LONG: 133° 38' W SOUNDING: 1550 fms.
 WEATHER: 02 WIND: Dir. 280° Speed 9 AIR TEMP: Dry 58° Wet 54° BARO: 1022.7 mb.
 CLOUD: Type Sc Amt 9 SEA: 320° - 1 SWELL: 280° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.80	32.16	23.85	4932.	0.555	0.660
10.	14.46	32.16	23.92	4929.	.565	0.665
30.	13.00	32.21	24.26	4914.	.556	0.925
50.	9.93	32.40	24.96	4880.	.500	1.61
75.	7.28	32.57	25.49	4849.	.517	1.90
100.	6.81	32.72	25.67	4845.	.509	2.02
124.	6.46	32.87	25.84	4843.	.477	2.31
149.	6.64	33.27	26.13	4848.	.384	2.07
174.	6.71	33.56	26.35	4852.	.318	
199.	6.60	33.75	26.51	4852.	.276	2.90
249.	6.14	33.87	26.66	4850.	.223	2.97
298.	5.76	33.93	26.76	4848.	.192	3.04
378.	5.06	33.94	26.85	4843.	.182	3.21
473.	4.84	34.05	26.96	4846.	.100	3.61
568.	4.46	34.10	27.04	4847.	.069	3.63
757.	3.82	34.22	27.21	4850.	.045	3.40
947.	3.37	34.33	27.34	4855.	.036	3.49
1137.	3.00	34.40	27.43	4862.	.036	3.86
1343.	2.60	34.45*	27.50	4869.	.054	3.71
1894.	2.01	34.57	27.64	4892.	.116	3.69

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.80	32.16	23.85	23.85	0.0	406.3	0.000
10.	14.46	32.16	23.92	23.97	10.0	399.7	.040
20.	13.86	32.18	24.06	24.15	20.1	386.9	.080
30.	13.00	32.21	24.26	24.39	30.1	368.2	.118
50.	9.93	32.40	24.96	25.19	50.2	301.6	.185
75.	7.28	32.57	25.49	25.84	75.4	251.0	.255
100.	6.81	32.72	25.67	26.14	100.6	234.0	.316
125.	6.46	32.88	25.85	26.43	125.7	217.9	.373
150.	6.64	33.28	26.14	26.83	150.9	190.5	.424
200.	6.59	33.76	26.52	27.44	201.3	155.4	.511
250.	6.13	33.87	26.67	27.83	251.7	141.5	.586
300.	5.74	33.93	26.76	28.16	302.1	132.9	.655
400.	4.95	33.96	26.88	28.75	403.0	122.7	.784
500.	4.75	34.07	26.99	29.33	504.0	112.9	.903
600.	4.34	34.12	27.07	29.88	605.0	105.5	1.013
700.	4.00	34.18	27.16	30.44	706.0	97.9	1.116
800.	3.70	34.25	27.24	30.99	807.1	90.5	1.211
1000.	3.26	34.35	27.37	32.06	1009.5	79.0	1.383
1200.	2.88	34.42	27.46	33.09	1212.1	71.0	1.535
1500.	2.36	34.49	27.55	34.50			1.726

STATION 13

TIME: 0244 DATE: 22-IX-57 LAT: 53° 55' N LONG: 134° 31' W SOUNDING: 1450 fms.
 WEATHER: 03 WIND: Dir. 320° Speed 6 AIR TEMP: Dry 58° Wet 55° BARO: 1021.0 mb.
 CLOUD: Type Sc Amt 10 SEA: 320° - 2 SWELL: 280° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.50	32.45	24.14	4929.	0.541	
10.	14.50	32.43	24.12	4930.	.543	
30.	13.39	32.45	24.36	4919.	.563	
49.	6.64	32.69	25.67	4840.	.582	
74.	5.64	32.72	25.82	4828.	.590	
98.	5.52	33.06	26.10	4829.	.513	
123.	5.63	33.45	26.40	4834.	.416	
148.	5.52	33.68	26.59	4835.	.361	
172.	5.36	33.80	26.70	4835.	.315	
197.	5.11	33.85	26.77	4833.	.285	
246.	4.90	33.89	26.83	4833.	.205	
295.	4.68	33.93	26.89	4833.	.159	
394.	4.50	33.99	26.95	4837.	.115	
495.	4.21	34.09	27.06	4839.	.070	
593.	3.97	34.15	27.14	4842.	.056	
789.	3.56	34.28	27.28	4848.	.046	
985.	3.09	34.38	27.40	4854.	.041	
1181.	2.77	34.44	27.48	4861.	.047	
1397.	2.43	34.49	27.55	4869.	.068	
1968.	1.89	34.59	27.67	4896.	.129	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.50	32.45	24.14	24.14	0.0	378.9	0.000
10.	14.50	32.43	24.12	24.17	10.0	380.7	.038
20.	14.71	32.41	24.06	24.15	20.1	386.7	.077
30.	13.39	32.45	24.36	24.50	30.1	358.0	.114
50.	6.43	32.70	25.70	25.94	50.3	230.3	.173
75.	5.62	32.73	25.83	26.18	75.4	218.7	.230
100.	5.52	33.09	26.13	26.59	100.6	190.8	.281
125.	5.63	33.47	26.42	27.00	125.8	163.6	.326
150.	5.51	33.69	26.60	27.30	151.0	146.0	.365
200.	5.09	33.85	26.78	27.72	201.4	129.7	.434
250.	4.88	33.89	26.83	28.01	251.8	125.0	.499
300.	4.66	33.93	26.89	28.30	302.2	120.1	.560
400.	4.49	33.99	26.96	28.83	403.1	114.5	.679
500.	4.20	34.09	27.07	29.41	504.1	104.8	.789
600.	3.95	34.15	27.14	29.96	605.1	98.5	.892
700.	3.73	34.22	27.21	30.50	706.2	92.0	.988
800.	3.54	34.29	27.29	31.04	807.3	85.6	1.078
1000.	3.06	34.39	27.41	32.11	1009.7	74.4	1.240
1200.	2.74	34.45	27.49	33.12	1212.3	67.7	1.384
1500.	2.29	34.51	27.58	34.62	1516.5	59.3	1.577

STATION 14

TIME: 1242 DATE: 22-IX-57 LAT: 55° 03' N LONG: 135° 54' W SOUNDING: 1450 fms.
 WEATHER: 02 WIND: Dir. 270° Speed 8 AIR TEMP: Dry 59° Wet 54° BARO: 1020.7 mb.
 CLOUD: Type Sc Amt 10 SEA: 270° - 2 SWELL: 270° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.60	32.30	24.00	4930.	0.544	0.651
10.	14.30	32.28	24.04	4927.	.546	0.668
30.	14.25	32.28	24.06	4928.	.539	0.639
50.	9.27	32.54	25.18	4873.	.600	1.26
75.	6.63	32.70	25.68	4841.	.560	1.61
100.	5.63	32.72	25.82	4830.	.592	1.70
125.	6.07	33.14	26.10	4839.	.469	1.85
150.	5.69	33.46	26.40	4836.	.410	2.19
175.	5.74	33.68	26.57	4839.	.363	
200.	5.52	33.81	26.69	4838.	.336	2.41
250.	5.19	33.88	26.78	4837.	.274	2.59
300.	4.84	33.91	26.85	4836.	.204	2.83
400.	4.41	34.00	26.97	4836.	.115	3.06
493.	4.16	34.08	27.06	4838.	.072	3.09
591.	3.98	34.16	27.14	4842.	.053	3.13
787.	3.60	34.28	27.28	4849.	.038	3.31
981.	3.19	34.37	27.38	4855.	.036	2.58
1173.	2.86	34.42	27.46	4862.	.048	3.11
1388.	2.51	34.48	27.53	4870.	.055	3.22
1956.	1.87	34.55	27.64	4895.	.138	3.06

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.60	32.30	24.00	24.00	0.0	392.2	0.000
10.	14.30	32.28	24.04	24.09	10.0	388.0	.039
20.	14.89	32.25	23.90	23.99	20.1	402.4	.079
30.	14.25	32.28	24.06	24.19	30.1	387.2	.119
50.	9.27	32.54	25.18	25.41	50.2	280.8	.186
75.	6.63	32.70	25.68	26.03	75.4	233.0	.250
100.	5.63	32.72	25.82	26.29	100.6	219.7	.307
150.	5.69	33.46	26.40	27.10	150.9	165.5	.404
200.	5.52	33.81	26.69	27.63	201.3	138.2	.481
250.	5.19	33.88	26.78	27.95	251.7	129.9	.548
300.	4.84	33.91	26.85	28.26	302.2	123.6	.612
400.	4.41	34.00	26.97	28.84	403.1	113.6	.732
500.	4.15	34.09	27.07	29.41	504.0	104.8	.842
600.	3.96	34.17	27.15	29.96	605.0	97.8	.945
700.	3.77	34.23	27.22	30.51	706.1	91.5	1.040
800.	3.57	34.29	27.29	31.04	807.2	85.9	1.130
1000.	3.16	34.37	27.39	32.09	1009.6	76.5	1.294
1200.	2.81	34.43	27.47	33.10	1212.2	69.5	1.442
1500.	2.35	34.50	27.56	34.60	1516.5	60.9	1.640

STATION 15

TIME: 2036 DATE: 22-IX-57 LAT: 56° 04' N LONG: 136° 58' W SOUNDING: 1250 fms.
 WEATHER: 02 WIND: Dir. 200° Speed 5 AIR TEMP: Dry 56° Wet 54° BARO: 1019.0 mb.
 CLOUD: Type Cu&ScAmt 7 SEA: 200° - 2 SWELL: 270° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.80	32.46	24.29	4922.	0.546	
10.	14.04	32.45	24.23	4925.	.550	
30.	12.80	32.48	24.50	4913.	.561	
49.	7.73	32.60	25.46	4854.	.576	
74.	6.31	32.69	25.71	4837.	.589	
98.	5.98	32.84	25.87	4835.	.542	
123.	5.76	33.14	26.14	4834.	.479	
148.	5.92	33.52	26.42	4840.	.398	
172.	5.65	33.70	26.59	4838.	.380	
197.	5.60	33.85	26.72	4840.	.298	
246.	5.16	33.88	26.79	4837.	.256	
295.	4.99	33.96	26.87	4838.	.163	
400.	4.50	34.01	26.97	4837.	.127	
499.	4.15	34.08	27.06	4839.	.080	
596.	4.03	34.16	27.14	4843.	.053	
793.	3.61	34.27	27.26	4849.	.039	
988.	3.19	34.36	27.38	4855.	.036	
1183.	2.83	34.42	27.46	4862.	.042	
1400.	2.53	34.46	27.52	4871.	.050	
1671.	2.18	34.52	27.60	4882.	.083	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.80	32.46	24.29	24.29	0.0	364.2	0.000
10.	14.04	32.45	24.23	24.27	10.0	370.4	.037
20.	13.95	32.45	24.25	24.34	20.1	368.6	.074
30.	12.80	32.48	24.50	24.64	30.1	345.0	.110
50.	7.65	32.61	25.47	25.70	50.3	252.9	.170
75.	6.29	32.70	25.72	26.07	75.4	229.1	.231
100.	5.95	32.86	25.89	26.36	100.6	213.0	.286
150.	5.89	33.54	26.43	27.13	151.0	162.3	.381
200.	5.57	33.85	26.72	27.66	201.3	135.3	.456
250.	5.15	33.89	26.80	27.97	251.8	128.2	.522
300.	4.96	33.96	26.88	28.28	302.2	121.6	.585
400.	4.50	34.01	26.97	28.84	403.1	113.7	.704
500.	4.15	34.08	27.06	29.41	504.0	105.1	.814
600.	4.02	34.16	27.14	29.96	605.1	98.5	.917
700.	3.81	34.22	27.21	30.49	706.1	92.9	1.014
800.	3.59	34.27	27.27	31.02	807.2	87.4	1.105
1000.	3.17	34.36	27.38	32.08	1009.6	77.3	1.272
1200.	2.81	34.42	27.46	33.10	1212.2	70.1	1.421
1500.	2.40	34.48	27.54	34.58	1516.5	62.9	1.623

STATION 16

TIME: 0505 DATE: 23-IX-57 LAT: 55° 47' N LONG: 139° 01' W SOUNDING: 1600 fms.
 WEATHER: 01 WIND: Dir. 270° Speed 7 AIR TEMP: Dry 58° Wet 55° BARO: 1018.3 mb.
 CLOUD: Type Cu&Ac Amt 3 SEA: 270° - 1 SWELL: 260° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.60	32.47	24.34	4920.	0.549	0.819
10.	13.79	32.46	24.29	4922.	.556	0.681
30.	13.46	32.47	24.37	4920.	.548	0.715
50.	6.66	32.66	25.65	4840.	.635	1.48
75.	5.52	32.69	25.81	4827.	.625	1.49
100.	4.91	32.78	25.95	4820.	.605	1.57
125.	4.70	32.99	26.14	4820.	.561	1.96
150.	5.20	33.45	26.45	4830.	.404	
175.	5.47	33.71	26.62	4836.	.314	
200.	5.34	33.81	26.72	4836.	.260	2.67
250.	4.93	33.89	26.83	4834.	.186	2.81
300.	4.60	33.93	26.90	4832.	.140	2.95
400.	4.21	34.00	26.99	4833.	.093	3.04
497.	3.98	34.10	27.09	4836.	.064	3.33
594.	3.80	34.16	27.16	4840.	.051	3.30
789.	3.46	34.28	27.29	4847.	.038	3.46
985.	3.09	34.37	27.39	4854.	.047	3.14
1182.	2.79	34.43	27.47	4862.	.043	
1393.	2.46	34.48	27.54	4870.	.060	
1970.	1.94	34.58	27.67	4897.	.120	3.31

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.60	32.47	24.34	24.34	0.0	359.4	0.000
10.	13.79	32.46	24.29	24.34	10.0	364.4	.036
20.	14.43	32.44	24.15	24.24	20.1	378.5	.074
30.	13.46	32.47	24.37	24.50	30.1	357.6	.111
50.	6.66	32.66	25.65	25.88	50.3	235.8	.170
75.	5.52	32.69	25.81	26.16	75.4	220.4	.228
100.	4.91	32.78	25.95	26.42	100.6	207.5	.282
150.	5.20	33.45	26.45	27.15	151.0	160.3	.374
200.	5.34	33.81	26.72	27.65	201.4	135.6	.449
250.	4.93	33.89	26.83	28.00	251.8	125.7	.515
300.	4.60	33.93	26.90	28.30	302.2	119.6	.577
400.	4.21	34.00	26.99	28.87	403.1	110.9	.693
500.	3.97	34.10	27.09	29.44	504.1	102.1	.800
600.	3.79	34.17	27.17	29.99	605.1	95.8	.900
700.	3.62	34.23	27.24	30.52	706.1	89.7	.994
800.	3.44	34.29	27.30	31.06	807.3	84.3	1.082
1000.	3.07	34.37	27.40	32.10	1009.7	75.4	1.244
1200.	2.76	34.43	27.48	33.11	1212.3	68.8	1.390
1500.	2.32	34.50	27.57	34.61	1516.5	60.4	1.586

STATION 18

TIME: 1957 DATE: 23-IX-57 LAT: 53° 58' N LONG: 138° 59' W SOUNDING: 1750 fms.
 WEATHER: 02 WIND: Dir. 130° Speed 5 AIR TEMP: Dry 58° Wet 50° BARO:
 CLOUD: TypeNs&Sc Amt 5 SEA: 130° - 1 SWELL: 230° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.10	32.57	24.31	4926.	0.547	0.798
10.	13.80	32.54	24.35	4923.	.555	0.843
30.	13.73	32.54	24.36	4923.	.555	0.825
50.	6.19	32.67	25.71	4834.	.639	1.32
75.	5.32	32.69	25.83	4824.	.619	1.59
100.	4.91	32.75	25.92	4820.	.616	1.61
125.	4.72	33.06	26.19	4820.	.536	2.03
150.	5.16	33.46	26.46	4829.	.409	2.27
175.	5.35	33.70	26.63	4834.	.327	
200.	5.23	33.82	26.74	4835.	.273	2.66
250.	4.81	33.89	26.84	4832.	.195	2.86
300.	4.45	33.94	26.92	4830.	.144	3.01
398.	4.22	34.05	27.03	4833.	.081	3.24
498.	4.01	34.15	27.13	4837.	.063	3.38
597.	3.80	34.19	27.18	4840.	.049	3.14
795.	3.34	34.31	27.33	4846.	.037	3.06
993.	3.00	34.38	27.41	4853.	.040	3.38
1192.	2.69	34.44	27.49	4861.	.073	3.35
1689.	2.15	34.56	27.63	4883.	.087	3.19

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.10	32.57	24.31	24.31	0.0	362.2	0.000
10.	13.80	32.54	24.35	24.40	10.0	358.6	.036
20.	14.70	32.53	24.15	24.24	20.1	378.0	.073
30.	13.73	32.54	24.36	24.50	30.1	357.9	.110
50.	6.19	32.67	25.71	25.94	50.3	229.7	.169
75.	5.32	32.69	25.83	26.18	75.4	218.3	.226
100.	4.91	32.75	25.92	26.39	100.6	209.8	.280
150.	5.16	33.46	26.46	27.16	151.0	159.4	.373
200.	5.23	33.82	26.74	27.67	201.4	133.9	.446
250.	4.81	33.89	26.84	28.01	251.8	124.6	.512
300.	4.45	33.94	26.92	28.32	302.2	117.5	.573
400.	4.22	34.05	27.03	28.91	403.1	107.6	.686
500.	4.01	34.15	27.13	29.48	504.1	98.3	.790
600.	3.79	34.19	27.19	30.01	605.1	93.9	.887
700.	3.55	34.26	27.27	30.56	706.2	86.9	.978
800.	3.33	34.31	27.33	31.09	807.3	81.3	1.063
1000.	2.99	34.38	27.42	32.11	1009.7	73.9	1.220
1200.	2.68	34.44	27.49	33.13	1212.3	67.2	1.363
1500.	2.32	34.52	27.58	34.62	1516.6	59.0	1.555

STATION 19

TIME: 0300 DATE: 24-IX-57 LAT: 54° 00' N LONG: 137° 18' W SOUNDING: 950 fms.
 WEATHER: 03 WIND: Dir. 090° Speed 10 AIR TEMP: Dry 58° Wet 54° BARO: 1013.5 mb.
 CLOUD: Type Sc Amt 10 SEA: 090° - 2 SWELL: 300° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.40	32.35	24.08	4928.	0.545	0.555
10.	14.47	32.39	24.10	4930.	.543	0.625
30.	14.11	32.45	24.22	4927.	.545	0.810
50.	6.46	32.65	25.66	4837.	.631	1.44
75.	5.47	32.67	25.80	4826.	.610	1.63
100.	5.24	32.75	25.89	4825.	.595	1.60
125.	5.36	33.22	26.24	4830.	.474	2.03
150.	5.55	33.58	26.51	4835.	.380	2.29
175.	5.44	33.75	26.65	4836.	.329	2.42
200.	5.05	33.81	26.75	4832.	.305	2.55
250.	4.69	33.87	26.84	4830.	.244	2.70
300.	4.52	33.95	26.92	4831.	.135	3.03
400.	4.11	34.04	27.03	4832.	.087	3.16
497.	3.89	34.12	27.12	4835.	.061	3.27
597.	3.73	34.17	27.18	4839.	.050	3.15
794.	3.33	34.30	27.32	4846.	.038	3.64
991.	3.02	34.38	27.41	4853.	.039	3.13
1188.	2.74	34.43	27.48	4861.	.040	3.45
1481.	2.31	34.51	27.58	4873.	.067	3.40

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.40	32.35	24.08	24.08	0.0	384.6	0.000
10.	14.47	32.39	24.10	24.15	10.0	382.6	.039
20.	15.20	32.40	23.95	24.04	20.1	397.1	.078
30.	14.11	32.45	24.22	24.35	30.1	372.0	.116
50.	6.46	32.65	25.66	25.89	50.3	234.3	.177
75.	5.47	32.67	25.80	26.15	75.4	221.0	.235
100.	5.24	32.75	25.89	26.36	100.6	212.9	.289
150.	5.55	33.58	26.51	27.21	150.9	154.7	.382
200.	5.05	33.81	26.75	27.68	201.3	132.9	.454
250.	4.69	33.87	26.84	28.01	251.8	124.6	.519
300.	4.52	33.95	26.92	28.32	302.2	117.6	.580
400.	4.11	34.04	27.03	28.91	403.1	107.0	.694
500.	3.89	34.12	27.12	29.47	504.1	99.3	.798
600.	3.72	34.18	27.18	30.00	605.1	94.3	.895
700.	3.51	34.25	27.26	30.55	706.2	87.6	.987
800.	3.32	34.30	27.32	31.08	807.3	82.1	1.073
1000.	3.01	34.38	27.41	32.11	1009.7	74.3	1.231
1200.	2.72	34.44	27.48	33.12	1212.3	68.1	1.376

STATION 20

TIME: 0937 DATE: 24-IX-57 LAT: 53° 59.5'N LONG: 135° 50' W SOUNDING: 1500 fms.
 WEATHER: 01 WIND: Dir. 130° Speed 5 AIR TEMP: Dry 58° Wet 58° BARO:
 CLOUD: Type Cu&CiAmt 4 SEA: 130° - 1 SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.50	32.37	24.08	4929.	0.547	0.680
10.	14.52	32.34	24.05	4930.	.552	0.579
30.	14.04	32.37	24.17	4926.	.547	0.636
50.	8.38	32.59	25.35	4862.	.644	1.34
75.	5.69	32.71	25.80	4829.	.593	1.52
100.	5.44	33.03	26.09	4828.	.523	1.94
125.	5.54	33.48	26.43	4833.	.421	2.26
150.	5.45	33.72	26.63	4834.	.349	2.45
175.	5.34	33.81	26.71	4835.	.291	
200.	5.19	33.85	26.76	4834.	.276	2.89
250.	4.80	33.91	26.85	4832.	.196	3.10
299.	4.53	33.95	26.92	4831.	.135	3.21
399.	4.27	34.04	27.02	4834.	.087	3.26
499.	3.97	34.13	27.12	4836.	.061	3.59
599.	3.83	34.20	27.19	4841.	.046	3.59
796.	3.48	34.31	27.31	4848.	.038	3.48
990.	3.08	34.39	27.41	4854.	.036	3.88
1190.	2.71	34.45	27.49	4861.	.049	3.85
1687.	2.08	34.49	27.58	4882.	.057	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.50	32.37	24.08	24.08	0.0	384.7	0.000
10.	14.52	32.34	24.05	24.09	10.0	387.6	.039
20.	14.93	32.33	23.95	24.04	20.1	397.0	.078
30.	14.04	32.37	24.17	24.30	30.1	376.7	.117
50.	8.38	32.59	25.35	25.58	50.2	263.9	.181
75.	5.69	32.71	25.80	26.15	75.4	221.2	.243
100.	5.44	33.03	26.09	26.56	100.6	194.2	.295
150.	5.45	33.72	26.63	27.33	151.0	143.2	.380
200.	5.19	33.85	26.76	27.70	201.4	131.4	.449
250.	4.80	33.91	26.85	28.02	251.8	123.2	.513
300.	4.53	33.95	26.92	28.33	302.2	117.3	.574
400.	4.27	34.04	27.02	28.90	403.1	108.3	.688
500.	3.97	34.13	27.12	29.46	504.1	99.9	.793
600.	3.83	34.20	27.19	30.01	605.1	93.7	.890
700.	3.66	34.26	27.25	30.54	706.2	88.2	.982
800.	3.47	34.31	27.31	31.07	807.3	83.0	1.069
1000.	3.06	34.40	27.42	32.12	1009.7	73.7	1.228
1200.	2.69	34.45	27.49	33.13	1212.3	66.9	1.370
1500.	2.27	34.49	27.56	34.61	1516.5	60.6	1.564

STATION 21

TIME: 1436 DATE: 24-IX-57 LAT: 53° 59' N LONG: 134° 51' W SOUNDING: 1450 fms.
 WEATHER: 02 WIND: Dir. 120° Speed 10 AIR TEMP: Dry 60° Wet 55° BARO: 1009.5 mb.
 CLOUD: Type Sc Amt 6 SEA: 120° - 1 SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.50	32.45	24.13	4929.	0.549	0.770
10.	14.48	32.43	24.13	4930.	.550	0.650
29.	13.07	32.45	24.43	4916.	.564	0.800
49.	7.33	32.63	25.53	4849.	.630	1.27
73.	5.97	32.71	25.77	4833.	.593	1.68
98.	5.53	32.88	25.96	4829.	.545	1.80
122.	5.64	33.22	26.21	4833.	.460	2.15
147.	5.71	33.49	26.42	4837.	.392	2.20
171.	5.61	33.70	26.60	4838.	.344	2.40
195.	5.31	33.83	26.73	4835.	.289	2.76
244.	4.95	33.91	26.84	4834.	.190	2.31
293.	4.64	33.95	26.91	4833.	.142	3.24
384.	4.41	34.05	27.01	4835.	.085	3.62
480.	4.15	34.13	27.10	4838.	.056	3.69
576.	3.87	34.19	27.18	4840.	.047	3.51
772.	3.48	34.30	27.30	4846.	.034	2.99
969.	3.08	34.38	27.41	4853.	.037	3.66
1165.	2.69	34.44	27.49	4859.	.042	3.06
1663.	2.10	34.56	27.63	4881.	.091	3.35

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.50	32.45	24.13	24.13	0.0	379.1	0.000
10.	14.48	32.43	24.13	24.17	10.0	380.3	.038
20.	14.23	32.43	24.17	24.26	20.1	375.9	.076
30.	12.68	32.47	24.51	24.65	30.1	343.6	.112
50.	7.25	32.63	25.54	25.78	50.3	245.6	.172
75.	5.91	32.72	25.78	26.13	75.4	223.0	.230
100.	5.54	32.91	25.98	26.45	100.6	204.4	.284
150.	5.71	33.52	26.44	27.14	151.0	161.4	.376
200.	5.27	33.84	26.74	27.68	201.3	133.1	.451
250.	4.91	33.92	26.85	28.02	251.8	123.5	.515
300.	4.62	33.96	26.92	28.33	302.2	117.4	.576
400.	4.37	34.07	27.03	28.90	403.1	107.8	.690
500.	4.09	34.14	27.12	29.46	504.1	100.2	.795
600.	3.82	34.20	27.19	30.01	605.1	93.5	.892
700.	3.62	34.26	27.26	30.55	706.2	87.6	.984
800.	3.42	34.31	27.32	31.08	807.3	82.4	1.070
1000.	3.01	34.39	27.42	32.12	1009.7	73.4	1.228
1200.	2.63	34.45	27.50	33.14	1212.3	65.8	1.369
1500.	2.23	34.53	27.60	34.64	1516.6	57.5	1.556

STATION 22

TIME: 1743 DATE: 24-IX-57 LAT: 54° 00' N LONG: 134° 18' W SOUNDING: 1500 fms.
 WEATHER: 01 WIND: Dir. 130° Speed 12 AIR TEMP: Dry 59° Wet 54° BARO: 1007.5 mb.
 CLOUD: Type Ci Amt 4 SEA: 130° - 2 SWELL: 060° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.50	32.42	24.12	4929.	0.550	
10.	14.73	32.41	24.06	4932.	.546	0.880
30.	14.19	32.45	24.20	4928.	.546	0.830
50.	6.51	32.66	25.66	4838.	.620	1.65
75.	5.59	32.68	25.79	4828.	.605	1.65
100.	5.30	32.78	25.91	4826.	.587	1.76
125.	5.51	33.16	26.18	4831.	.534	1.92
150.	6.05	33.61	26.47	4842.	.349	2.57
175.	6.13	33.79	26.60	4845.	.328	
200.	5.23	33.76	26.69	4834.	.384	2.61
249.	5.13	33.87	26.79	4836.	.286	3.04
299.	5.13	33.97	26.86	4840.	.163	3.38
390.	4.97	34.03	26.93	4843.	.119	3.66
488.	4.41	34.09	27.04	4842.	.084	
585.	4.00	34.14	27.13	4842.	.060	3.90
780.	3.50	34.26	27.27	4847.	.043	4.00
975.	3.29	34.35	27.36	4856.	.041	4.00
1170.	2.91	34.41	27.45	4862.	.040	3.72
1660.	2.22	34.53	27.60	4882.	.075	3.80

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.50	32.42	24.12	24.12	0.0	380.8	0.000
10.	14.73	32.41	24.06	24.10	10.0	386.9	.039
20.	15.35	32.41	23.92	24.01	20.1	400.1	.078
30.	14.19	32.45	24.20	24.33	30.1	373.7	.117
50.	6.51	32.66	25.66	25.90	50.3	234.3	.178
75.	5.59	32.68	25.79	26.14	75.4	222.3	.236
100.	5.30	32.78	25.91	26.37	100.6	211.6	.290
150.	6.05	33.61	26.47	27.17	150.9	158.6	.383
200.	5.23	33.76	26.69	27.63	201.3	138.3	.458
250.	5.13	33.87	26.79	27.96	251.8	129.4	.526
300.	5.13	33.97	26.86	28.27	302.2	123.0	.589
400.	4.91	34.03	26.94	28.81	403.1	116.4	.710
500.	4.35	34.10	27.06	29.40	504.0	106.1	.822
600.	3.95	34.15	27.14	29.96	605.0	98.6	.926
700.	3.67	34.22	27.22	30.50	706.1	91.6	1.022
800.	3.49	34.27	27.28	31.04	807.2	86.3	1.112
1000.	3.24	34.35	27.37	32.06	1009.6	78.7	1.279
1200.	2.86	34.42	27.46	33.09	1212.2	70.8	1.430
1500.	2.40	34.50	27.56	34.60	1516.5	61.7	1.632

STATION 23

TIME: 2046 DATE: 24-IX-57 LAT: 54° 00' N LONG: 133° 45' W SOUNDING: 630 fms.
 WEATHER: 02 WIND: Dir. 120° Speed 5 AIR TEMP: Dry 61° Wet 57° BARO: 1005.8 mb.
 CLOUD: Type Cu&ScAmt 5 SEA: 120° - 1 SWELL: 060° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.40	32.25	24.00	4928.	0.553	
10.	14.55	32.35	24.05	4930.	.550	
30.	11.76	32.47	24.69	4901.	.564	
50.	7.67	32.63	25.48	4853.	.581	
74.	7.14	32.75	25.65	4848.	.520	
99.	5.67	32.73	25.82	4830.	.593	
124.	6.78	33.35	26.17	4849.	.374	
149.	6.65	33.48	26.29	4849.	.370	
174.	6.56	33.72	26.49	4850.	.305	
198.	6.41	33.79	26.57	4850.	.299	
248.	6.00	33.89	26.70	4848.	.246	
298.	5.61	33.95	26.79	4846.	.179	
377.	5.00	33.97	26.88	4843.	.166	
471.	4.47	34.03	26.99	4841.	.101	
566.	4.09	34.10	27.08	4842.	.077	
756.	3.73	34.24	27.23	4849.	.043	
946.	3.34	34.34	27.35	4855.	.034	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.40	32.25	24.00	24.00	0.0	391.6	0.000
10.	14.55	32.35	24.05	24.09	10.0	387.5	.039
20.	13.32	32.40	24.34	24.43	20.1	359.7	.077
30.	11.76	32.47	24.69	24.83	30.1	326.6	.111
50.	7.67	32.63	25.48	25.72	50.3	251.4	.169
75.	7.10	32.75	25.66	26.01	75.4	235.0	.230
100.	5.66	32.74	25.83	26.30	100.6	218.4	.288
125.	6.80	33.36	26.18	26.76	125.8	186.2	.338
150.	6.65	33.49	26.30	26.99	150.9	175.4	.384
200.	6.40	33.80	26.57	27.50	201.3	149.9	.466
250.	5.98	33.89	26.70	27.87	251.7	138.1	.539
300.	5.59	33.95	26.80	28.20	302.2	129.6	.606
400.	4.85	33.98	26.91	28.78	403.1	119.7	.732
500.	4.34	34.05	27.02	29.36	504.0	109.6	.847
600.	3.99	34.13	27.11	29.93	605.0	101.0	.954
700.	3.78	34.20	27.19	30.48	706.1	94.1	1.052
800.	3.64	34.27	27.26	31.01	807.2	88.3	1.145

STATION 24

TIME: 2258 DATE: 24-IX-57 LAT: 54° 00' N LONG: 133° 24' W SOUNDING: 50 fms.
 WEATHER: 02 WIND: Dir. 090° Speed 6 AIR TEMP: Dry 57° Wet 55° BARO: 1006.1 mb.
 CLOUD: Type Sc&Cu Amt 4 SEA: 090° - 1 SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.20	32.21	24.02	4925.	0.561	
10.	14.57	32.19	23.92	4930.	.566	
30.	14.16	32.26	24.06	4927.	.534	
50.	8.42	32.59	25.34	4862.	.501	
75.	7.34	32.87	25.72	4851.	.451	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.20	32.21	24.02	24.02	0.0	390.4	0.000
10.	14.57	32.19	23.92	23.97	10.0	399.4	.040
20.	15.03	32.19	23.83	23.92	20.1	409.1	.080
30.	14.16	32.26	24.06	24.19	30.1	387.0	.120
50.	8.42	32.59	25.34	25.57	50.2	264.9	.186
75.	7.34	32.87	25.72	26.07	75.4	229.3	.248

STATION 34

TIME: 1409 DATE: 27-IX-57 LAT: 53° 17' N LONG: 132° 47' W SOUNDING: 76 fms.
 WEATHER: 01 WIND: Dir. 180° Speed 1 AIR TEMP: Dry 64° Wet 59° BARO: 1004.1 mb.
 CLOUD: Type Cu Amt 3 SEA: Calm SWELL: 190° - 1 SECCHI DISC: 13 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	14.90	32.11	23.79	4933.	0.530	1.09
10.	13.69	32.12	24.05	4920.	.537	0.925
30.	13.38	32.11	24.10	4918.	.529	1.02
50.	13.06	32.15	24.20	4916.	.528	1.18
75.	10.83	32.39	24.80	4892.	.461	1.75
100.	8.66	32.65	25.35	4869.	.392	2.13
125.	7.40	33.06	25.86	4856.		2.60

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{t,p}$	P	10 ⁵ δ	ΔD
0.	14.90	32.11	23.79	23.79	0.0	412.1	0.000
10.	13.69	32.12	24.05	24.09	10.0	387.8	.040
20.	13.54	32.11	24.07	24.16	20.1	385.7	.079
30.	13.38	32.11	24.10	24.24	30.1	382.8	.118
50.	13.06	32.15	24.20	24.42	50.2	374.3	.194
75.	10.83	32.39	24.80	25.14	75.4	317.6	.281
100.	8.66	32.65	25.35	25.81	100.5	264.6	.354

STATION 35

TIME: 1501 DATE: 27-IX-57 LAT: 53° 17' N LONG: 132° 54' W SOUNDING: 350 fms.
 WEATHER: 02 WIND: Dir. 180° Speed 3 AIR TEMP: Dry 65° Wet 60° BARO: 1005.8 mb.
 CLOUD: Type Cu Amt 3 SEA: 9 SWELL: 140° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.40	31.95	23.56	4937.	0.529	1.47
10.	14.01	31.97	23.87	4923.	.531	1.01
30.	13.52	31.99	23.98	4919.	.515	1.08
49.	12.26	32.13	24.33	4906.	.479	
74.	9.05	32.53	25.20	4871.	.476	2.06
98.	6.76	32.57	25.56	4844.	.479	
123.	6.50	32.86	25.82	4843.	.459	
148.	6.71	33.18	26.04	4849.	.388	2.56
172.	6.75	33.58	26.36	4852.	.298	
197.	6.51	33.75	26.52	4851.	.277	3.22
246.	6.00	33.90	26.71	4848.	.198	3.26
295.	5.66	33.94	26.78	4846.	.174	2.93
348.	5.39	33.98	26.84	4846.	.144	3.56
397.	5.25	34.00	26.87	4847.	.129	3.27
497.	4.90	34.05	26.96	4849.	.097	3.97
596.	4.44	34.12	27.06	4849.	.071	3.86

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	15.40	31.95	23.56	23.56	0.0	433.8	0.000
10.	14.01	31.97	23.87	23.92	10.0	404.3	.042
20.	13.87	31.96	23.89	23.98	20.1	402.8	.083
30.	13.52	31.99	23.98	24.12	30.1	394.5	.123
50.	12.12	32.15	24.38	24.61	50.2	356.9	.198
75.	8.91	32.52	25.22	25.56	75.4	277.3	.278
100.	6.72	32.59	25.58	26.05	100.5	242.4	.343
150.	6.72	33.22	26.08	26.77	150.9	196.4	.454
200.	6.47	33.76	26.54	27.47	201.3	153.3	.542
250.	5.97	33.90	26.71	27.88	251.7	137.2	.615
300.	5.63	33.94	26.78	28.18	302.1	130.8	.683
400.	5.24	34.00	26.87	28.74	403.0	123.1	.811
500.	4.89	34.05	26.96	29.30	503.9	115.9	.931

STATION 36

TIME: 1840 DATE: 27-IX-57 LAT: 53° 08' N LONG: 133° 38' W SOUNDING: 1500 fms.
 WEATHER: 01 WIND: Dir. 220° Speed 2 AIR TEMP: Dry 66° Wet 64° BARO: 1007.5 mb.
 CLOUD: Type Cs Amt 1 SEA: Calm SWELL: 150° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.00	32.28	23.90	4934.	0.525	
10.	14.77	32.28	23.95	4932.	.522	
30.	14.65	32.30	23.99	4932.	.513	
50.	8.71	32.56	25.28	4866.	.566	
75.	6.71	32.64	25.62	4842.	.584	
100.	5.83	32.68	25.76	4832.	.583	
125.	5.95	32.92	25.94	4836.	.512	
150.	6.32	33.30	26.19	4844.	.405	
175.	6.63	33.62	26.41	4851.	.309	
200.	5.77	33.68	26.56	4841.	.407	
250.	5.18	33.82	26.74	4837.	.344	
300.	5.29	33.94	26.83	4842.	.167	
400.	4.49	33.97	26.94	4837.	.142	
498.	4.24	34.04	27.02	4840.	.087	
598.	4.25	34.14	27.10	4846.	.054	
792.	3.67	34.27	27.26	4850.	.041	
985.	3.20	34.35	27.37	4855.	.038	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	15.00	32.28	23.90	23.90	0.0	401.5	0.000
10.	14.77	32.28	23.95	24.00	10.0	396.9	.040
20.	15.44	32.26	23.79	23.88	20.1	412.8	.081
30.	14.65	32.30	23.99	24.12	30.1	394.1	.121
50.	8.71	32.56	25.28	25.51	50.2	270.8	.188
75.	6.71	32.64	25.62	25.97	75.4	238.6	.252
100.	5.83	32.68	25.76	26.23	100.6	225.2	.311
150.	6.32	33.30	26.19	26.89	150.9	185.4	.414
200.	5.77	33.68	26.56	27.50	201.3	150.5	.499
250.	5.18	33.82	26.74	27.91	251.7	133.6	.570
300.	5.29	33.94	26.83	28.23	302.1	126.6	.636
400.	4.49	33.97	26.94	28.81	403.0	116.5	.758
500.	4.24	34.04	27.02	29.36	504.0	109.5	.872
600.	4.24	34.14	27.10	29.91	605.0	102.8	.980
700.	3.93	34.21	27.19	30.47	706.1	94.9	1.080
800.	3.65	34.27	27.26	31.02	807.2	88.1	1.172

STATION 37

TIME: 0114 DATE: 28-IX-57 LAT: 52° 40' N LONG: 135° 01' W SOUNDING: 1800 fms.
 WEATHER: 02 WIND: Dir. 190° Speed 10 AIR TEMP: Dry 60° Wet 55° BARO: 1012.2 mb.
 CLOUD: Type Cu Amt 1 SEA: 180° - 1 SWELL: 220° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.20	32.15	23.75	4936.	0.516	0.819
10.	15.10	32.14	23.77	4935.	.514	0.580
29.	14.96	32.13	23.80	4935.	.512	0.661
48.	8.88	32.54	25.24	4868.	.511	1.76
72.	6.83	32.80	25.73	4844.	.485	2.46
97.	6.42	33.05	25.98	4841.	.446	2.35
121.	6.59	33.41	26.25	4846.	.405	2.65
145.	6.58	33.70	26.47	4849.	.308	2.85
169.	6.48	33.83	26.59	4849.	.271	
193.	6.08	33.88	26.68	4846.	.256	3.24
241.	5.67	33.92	26.76	4843.	.207	3.36
290.	5.31	33.95	26.83	4842.	.165	3.50
398.	4.80	34.04	26.96	4841.	.110	4.05
498.	4.38	34.10	27.05	4842.	.070	4.25
596.	4.14	34.17	27.13	4845.	.049	4.69
792.	3.47	34.26	27.27	4847.	.047	4.25
988.	3.11	34.36	27.39	4854.	.036	4.31
1188.	2.80	34.42	27.46	4862.	.040	4.56
1684.	2.24	34.53	27.60	4884.	.074	4.56

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	15.20	32.15	23.75	23.75	0.0	415.5	0.000
10.	15.10	32.14	23.77	23.81	10.0	414.3	.042
20.	15.77	32.08	23.58	23.67	20.1	432.4	.084
30.	14.54	32.16	23.90	24.04	30.1	401.9	.126
50.	8.65	32.56	25.29	25.52	50.2	269.9	.194
75.	6.75	32.82	25.76	26.11	75.4	225.4	.256
100.	6.45	33.10	26.02	26.48	100.6	201.2	.310
150.	6.58	33.73	26.50	27.20	150.9	156.3	.400
200.	6.02	33.88	26.69	27.62	201.3	138.6	.474
250.	5.60	33.92	26.77	27.94	251.7	131.1	.542
300.	5.26	33.96	26.84	28.25	302.2	124.8	.607
400.	4.79	34.04	26.96	28.84	403.1	114.3	.727
500.	4.38	34.10	27.06	29.40	504.0	106.1	.838
600.	4.12	34.17	27.14	29.95	605.0	99.0	.942
700.	3.75	34.22	27.21	30.50	706.1	92.4	1.039
800.	3.45	34.27	27.28	31.04	807.2	86.3	1.129
1000.	3.09	34.37	27.39	32.09	1009.6	76.1	1.293
1200.	2.78	34.42	27.47	33.10	1212.2	69.7	1.441
1500.	2.41	34.50	27.56	34.59	1516.5	61.8	1.641

STATION 38

TIME: 0835 DATE: 28-IX-57 LAT: 52° 27' N LONG: 136° 18' W SOUNDING: 1900 fms.
 WEATHER: 03 WIND: Dir. 240° Speed 10 AIR TEMP: Dry 56.5° Wet 55.5° BARO: 1014.2 mb.
 CLOUD: Type Sc&Cu Amt 7 SEA: 240° - 1 SWELL: 250° - 6 SECCHI DISC: 15 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.60	32.42	24.09	4930.	0.496	
10.	14.76	32.42	24.06	4933.	.532	0.484
29.	14.22	32.46	24.20	4928.	.535	0.549
49.	6.95	32.64	25.59	4844.	.640	1.22
73.	5.72	32.69	25.78	4829.	.600	1.50
98.	5.32	32.77	25.90	4826.	.574	1.39
122.	5.39	33.15	26.19	4830.	.490	1.76
147.	5.52	33.60	26.52	4834.	.383	2.17
171.	5.21	33.71	26.65	4832.	.364	2.36
196.	4.91	33.78	26.74	4830.	.357	2.41
244.	4.78	33.88	26.84	4831.	.237	2.70
293.	4.69	33.94	26.90	4833.	.153	
391.	4.36	34.02	26.99	4835.	.102	2.82
492.	4.03	34.09	27.08	4837.	.071	3.27
591.	3.85	34.18	27.17	4840.	.046	3.48
784.	3.46	34.30	27.31	4847.	.035	3.63
976.	3.06	34.38	27.41	4853.	.039	3.85
1172.	2.75	34.44	27.48	4860.	.041	
1668.	2.11	34.55	27.62	4881.	.187	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.60	32.42	24.09	24.09	0.0	383.5	0.000
10.	14.76	32.42	24.06	24.10	10.0	386.7	.039
20.	15.25	32.42	23.96	24.05	20.1	396.7	.078
30.	13.72	32.47	24.31	24.45	30.1	362.8	.116
50.	6.88	32.64	25.60	25.84	50.3	240.0	.177
75.	5.67	32.68	25.78	26.13	75.4	222.9	.235
100.	5.32	32.80	25.92	26.39	100.6	210.2	.290
150.	5.48	33.61	26.54	27.24	151.0	151.8	.381
200.	4.90	33.79	26.75	27.69	201.3	132.3	.452
250.	4.77	33.89	26.84	28.02	251.8	124.0	.517
300.	4.67	33.95	26.90	28.31	302.2	118.9	.578
400.	4.32	34.02	27.00	28.88	403.1	110.5	.694
500.	4.02	34.10	27.09	29.44	504.1	102.7	.801
600.	3.83	34.19	27.18	30.00	605.1	94.7	.901
700.	3.63	34.25	27.25	30.54	706.1	88.3	.994
800.	3.42	34.31	27.32	31.08	807.3	82.6	1.080
1000.	3.02	34.39	27.42	32.12	1009.7	73.7	1.238
1200.	2.71	34.45	27.49	33.13	1212.3	67.2	1.381
1500.	2.30	34.52	27.58	34.62	1516.5	59.0	1.573

STATION 39

TIME: 1521 DATE: 28-IX-57 LAT: 52° 06' N LONG: 137° 50' W SOUNDING: 1950 fms.
 WEATHER: 45 WIND: Dir. 240° Speed 42 AIR TEMP: Dry 59° Wet 57° BARO: 1012.9 mb.
 CLOUD: Type Sc Amt 10 SEA: 230° - 4 SWELL: 195° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.50	32.49	24.17	4930.	0.514	
10.	14.36	32.49	24.20	4929.	.516	
29.	14.32	32.49	24.21	4929.	.519	
48.	7.92	32.63	25.45	4856.	.571	
72.	5.88	32.67	25.75	4831.	.581	
97.	5.43	32.73	25.85	4827.	.571	
121.	5.32	32.95	26.04	4828.	.513	
145.	5.49	33.37	26.35	4833.	.405	
169.	4.67	33.54	26.58	4824.	.442	
193.	4.47	33.68	26.71	4823.	.382	
242.	4.35	33.85	26.86	4825.	.245	
290.	4.26	33.91	26.91	4827.	.167	
399.	4.03	34.00	27.01	4831.	.119	
499.	3.85*	34.09	27.10	4834.	.085	
599.	3.66	34.17	27.18	4838.	.055	
796.	3.29	34.30	27.32	4845.	.043	
991.	3.03	34.38	27.41	4853.	.036	
1188.	2.71	34.43	27.48	4861.	.038	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.50	32.49	24.17	24.17	0.0	375.7	0.000
10.	14.36	32.49	24.20	24.24	10.0	373.2	.038
20.	15.13	32.48	24.02	24.11	20.1	390.4	.076
30.	13.88	32.50	24.31	24.44	30.1	363.5	.114
50.	7.69	32.64	25.49	25.72	50.3	251.2	.176
75.	5.81	32.67	25.76	26.11	75.4	225.3	.236
100.	5.40	32.74	25.87	26.33	100.6	215.3	.291
150.	5.27	33.41	26.41	27.11	150.9	164.7	.387
200.	4.45	33.71	26.74	27.68	201.3	133.5	.462
250.	4.34	33.86	26.87	28.04	251.8	121.6	.526
300.	4.24	33.92	26.92	28.33	302.2	116.6	.586
400.	4.03	34.01	27.02	28.90	403.1	108.7	.700
500.	3.84	34.09	27.10	29.45	504.1	101.1	.806
600.	3.66	34.17	27.18	30.00	605.1	94.3	.905
700.	3.46	34.24	27.26	30.55	706.1	87.6	.996
800.	3.29	34.30	27.32	31.08	807.3	82.1	1.082
1000.	3.02	34.38	27.41	32.11	1009.7	74.2	1.240

STATION 40

TIME: 2313 DATE: 28-IX-57 LAT: 51° 13' N LONG: 136° 44' W SOUNDING: 1950 fms.
 WEATHER: 50 WIND: Dir. 200° Speed 25 AIR TEMP: Dry Wet BARO: 1017.6 mb.
 CLOUD: Type Amt SEA: 200° - 4 SWELL: 210° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.50	32.45	24.13	4929.	0.539	0.869
10.	14.43	32.44	24.15	4929.	.540	0.792
29.	13.65	32.46	24.32	4922.	.549	0.700
48.	6.75	32.64	25.61	4841.	.610	1.37
71.	6.03	32.66	25.72	4833.	.605	1.50
95.	5.51	32.72	25.83	4828.	.595	1.52
119.	5.49	33.09	26.13	4830.	.488	1.74
143.	5.94	33.49	26.39	4839.	.353	2.17
167.	5.89	33.71	26.57	4841.	.302	
190.	5.64	33.83	26.70	4840.	.281	2.52
238.	5.23	33.90	26.80	4837.	.185	2.81
286.	4.86	33.94	26.87	4835.	.147	2.51
381.	4.32	34.00	26.98	4834.	.108	3.05
487.	4.08	34.09	27.07	4837.	.074	3.25
585.	3.98	34.18	27.16	4842.	.045	3.11
781.	3.41	34.27	27.29	4846.	.043	3.30
976.	3.16	34.36	27.38	4854.	.041	3.45
1171.	2.79	34.43	27.47	4861.	.045	3.25
1561.	2.24	34.53	27.60	4877.	.071	3.16

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,P}$	P	10 ⁵ δ	ΔD
0.	14.50	32.45	24.13	24.13	0.0	379.1	0.000
10.	14.43	32.44	24.15	24.19	10.0	378.3	.038
20.	14.78	32.43	24.06	24.15	20.1	386.4	.076
30.	13.14	32.47	24.43	24.57	30.1	351.6	.114
50.	6.68	32.64	25.62	25.86	50.3	237.9	.173
75.	5.91	32.65	25.73	26.08	75.4	228.3	.231
100.	5.47	32.79	25.90	26.37	100.6	212.4	.287
150.	5.95	33.56	26.45	27.15	151.0	161.0	.381
200.	5.55	33.85	26.72	27.66	201.3	135.3	.456
250.	5.13	33.91	26.82	27.99	251.8	126.5	.522
300.	4.76	33.95	26.89	28.29	302.2	120.3	.584
400.	4.27	34.02	27.00	28.88	403.1	110.5	.700
500.	4.07	34.10	27.09	29.43	504.1	102.9	.808
600.	3.93	34.18	27.17	29.98	605.1	95.9	.908
700.	3.61	34.23	27.24	30.52	706.1	89.8	1.002
800.	3.39	34.28	27.30	31.05	807.3	84.5	1.090
1000.	3.11	34.37	27.40	32.09	1009.7	75.9	1.253
1200.	2.74	34.44	27.49	33.12	1212.2	67.9	1.398
1500.	2.32	34.50	27.57	34.61	1516.5	60.4	1.594

STATION 41

TIME: 0648 DATE: 29-IX-57 LAT: 50° 17' N LONG: 135° 35' W SOUNDING: fms.
 WEATHER: 50 WIND: Dir. 240° Speed 10 AIR TEMP: Dry 58° Wet 56° BARO: 1021.3 mb.
 CLOUD: Type Cu Amt 3 SEA: 240° - 2 SWELL: 260° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.80	32.43	24.06	4933.	0.500	
9.	14.82	32.45	24.07	4933.	.505	
28.	14.58	32.44	24.11	4932.	.507	
47.	8.37	32.61	25.37	4862.	.628	
70.	6.08	32.67	25.72	4834.	.581	
94.	5.39	32.71	25.84	4826.	.565	
117.	5.12	33.05	26.14	4825.	.530	
141.	5.06	33.50	26.50	4828.	.426	
164.	4.96	33.68	26.66	4828.	.380	
188.	4.88	33.80	26.76	4829.	.336	
235.	4.61	33.87	26.85	4828.	.247	
282.	4.44	33.93	26.91	4829.	.163	
376.	4.18	34.06	27.04	4832.	.077	
490.	4.08	34.14	27.12	4837.	.049	
588.	3.82	34.21	27.20	4840.	.043	
784.	3.29	34.30	27.32	4844.	.040	
981.	2.96	34.38	27.41	4852.	.043	
1178.	2.65	34.44	27.49	4859.	.046	
1671.	2.13	34.55	27.62	4882.	.078	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.80	32.43	24.06	24.06	0.0	386.5	0.000
10.	14.96	32.44	24.03	24.08	10.0	389.0	.039
20.	15.41	32.42	23.92	24.01	20.1	400.2	.079
30.	13.74	32.46	24.30	24.44	30.1	363.8	.117
50.	7.98	32.62	25.43	25.66	50.3	256.6	.179
75.	5.90	32.65	25.73	26.08	75.4	227.8	.240
100.	5.30	32.79	25.91	26.38	100.6	210.8	.296
150.	5.02	33.58	26.57	27.27	150.9	149.0	.386
200.	4.80	33.82	26.78	27.72	201.3	129.3	.456
250.	4.55	33.89	26.87	28.04	251.8	121.6	.519
300.	4.38	33.96	26.94	28.35	302.2	115.1	.579
400.	4.18	34.08	27.06	28.93	403.1	105.0	.690
500.	4.05	34.15	27.13	29.48	504.1	99.0	.793
600.	3.78	34.21	27.21	30.02	605.1	92.2	.890
700.	3.49	34.26	27.27	30.56	706.2	86.3	.980
800.	3.26	34.31	27.33	31.09	807.3	81.2	1.065
1000.	2.93	34.38	27.42	32.12	1009.7	73.0	1.221

STATION 42

TIME: 1334 DATE: 29-IX-57 LAT: 50° 48' N LONG: 134° 17' W SOUNDING: 1800 fms.
 WEATHER: WIND: Dir. 180° Speed 5 AIR TEMP: Dry 62° Wet 60° BARO: 1016.6 mb.
 CLOUD: Type Amt SEA: 260° - 1 SWELL: 265° - 3 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.50	32.18	23.71	4939.	0.543	0.680
10.	15.11	32.16	23.79	4936.	.542	0.605
30.	14.17	32.20	24.02	4927.	.536	0.780
50.	8.16	32.58	25.38	4859.	.596	1.48
75.	6.51	32.65	25.66	4840.	.593	1.72
100.	6.39	32.84	25.82	4840.	.541	1.82
125.	5.99	33.16	26.12	4838.	.500	2.12
150.	5.77	33.45	26.38	4837.	.485	2.16
175.	5.98	33.68	26.54	4843.	.445	2.32
200.	6.04	33.84	26.65	4845.	.307	2.59
250.	5.55	33.91	26.77	4842.	.228	3.05
300.	5.21	33.94	26.83	4841.	.162	
400.	4.73	34.04	26.96	4841.	.096	3.60
500.	4.36	34.12	27.07	4842.	.062	3.87
600.	4.05	34.20	27.16	4844.	.045	3.96
797.	3.52	34.29	27.29	4848.	.037	3.16
993.	3.17	34.34	27.37	4855.	.032	3.85
1191.	2.79	34.44	27.48	4862.	.039	3.65
1687.	2.18	34.54	27.61	4883.	.081	3.86

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	15.50	32.18	23.71	23.71	0.0	419.1	0.000
10.	15.11	32.16	23.79	23.83	10.0	412.6	.042
20.	15.27	32.14	23.73	23.82	20.1	417.9	.083
30.	14.17	32.20	24.02	24.15	30.1	391.2	.124
50.	8.16	32.58	25.38	25.61	50.2	261.5	.190
75.	6.51	32.65	25.66	26.01	75.4	235.1	.252
100.	6.39	32.84	25.82	26.28	100.6	220.0	.309
150.	5.77	33.45	26.38	27.08	150.9	167.5	.407
200.	6.04	33.84	26.65	27.58	201.3	142.3	.485
250.	5.55	33.91	26.77	27.93	251.7	131.8	.554
300.	5.21	33.94	26.83	28.24	302.2	125.7	.619
400.	4.73	34.04	26.96	28.84	403.1	114.2	.740
500.	4.36	34.12	27.07	29.41	504.0	104.9	.851
600.	4.05	34.20	27.16	29.98	605.0	96.4	.952
700.	3.76	34.25	27.24	30.52	706.1	89.9	1.047
800.	3.51	34.29	27.30	31.05	807.2	84.9	1.135
1000.	3.16	34.35	27.37	32.07	1009.6	78.3	1.300
1200.	2.77	34.44	27.48	33.12	1212.2	68.3	1.449
1500.	2.32	34.50	27.57	34.61	1516.5	60.4	1.644

STATION 43

TIME: 1932 DATE: 29-IX-57 LAT: 51° 15' N LONG: 132° 58' W SOUNDING: 1600 fms.
 WEATHER: 05 WIND: Dir. 190° Speed 6 AIR TEMP: Dry 60° Wet 59° BARO: 1021.3 mb.
 CLOUD: Type Sc Amt 10 SEA: 200° - 2 SWELL: 280° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.20	32.18	23.78	4936.	0.495	1.06
10.	15.06	32.16	23.79	4935.	.515	0.454
30.	12.33	32.30	24.45	4907.	.535	0.931
50.	8.58	32.61	25.34	4864.	.482	1.54
75.	7.25	32.81	25.68	4850.	.466	1.92
100.	6.83	33.15	26.01	4847.	.408	2.01
125.	6.69	33.55	26.34	4848.	.324	2.38
150.	6.62	33.79	26.54	4850.	.276	2.57
175.	6.47	33.86	26.61	4850.	.230	2.72
200.	6.20	33.91	26.69	4848.	.207	2.78
250.	5.73	33.95	26.78	4845.	.174	2.99
300.	5.43	33.98	26.84	4844.	.140	3.28
394.	4.97	34.05	26.95	4843.	.092	3.46
492.	4.59	34.11	27.04	4844.	.068	3.50
591.	4.37	34.17	27.11	4847.	.050	
789.	3.75	34.28	27.26	4851.	.032	3.60
987.	3.34	34.38	27.38	4858.	.016	3.44
1184.	2.93	34.44	27.47	4864.	.036	3.44
1678.	2.21	34.54	27.61	4883.	.081	3.49

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	15.20	32.18	23.78	23.78	0.0	413.0	0.000
10.	15.06	32.16	23.79	23.84	10.0	411.8	.041
20.	13.82	32.21	24.09	24.18	20.1	383.8	.081
30.	12.33	32.30	24.45	24.59	30.1	349.3	.118
50.	8.58	32.61	25.34	25.57	50.3	265.6	.180
75.	7.25	32.81	25.68	26.03	75.4	232.7	.243
100.	6.83	33.15	26.01	26.47	100.6	202.2	.297
125.	6.69	33.55	26.34	26.92	125.8	170.9	.344
150.	6.62	33.79	26.54	27.24	150.9	152.5	.385
200.	6.20	33.91	26.69	27.62	201.3	138.9	.459
250.	5.73	33.95	26.78	27.94	251.8	130.7	.527
300.	5.43	33.98	26.84	28.24	302.2	125.5	.591
400.	4.94	34.05	26.95	28.82	403.1	115.3	.713
500.	4.57	34.11	27.04	29.39	504.0	107.4	.825
600.	4.35	34.18	27.12	29.93	605.0	101.4	.931
700.	4.06	34.23	27.19	30.47	706.1	94.7	1.030
800.	3.72	34.29	27.27	31.02	807.2	87.7	1.122
1000.	3.31	34.39	27.39	32.08	1009.6	77.3	1.289
1200.	2.90	34.44	27.47	33.10	1212.2	69.5	1.437
1500.	2.42	34.51	27.57	34.61	1516.5	60.7	1.636

STATION 44

TIME: 0034 DATE: 30-IX-57 LAT: 51° 34' N LONG: 132° 00' W SOUNDING: 1350 fms.
 WEATHER: 50 WIND: Dir. 240° Speed 8 AIR TEMP: Dry 60° Wet 59° BARO: 1019.0 mb.
 CLOUD: Type Sc Amt 10 SEA: 240° - 1 SWELL: 220° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.60	32.17	23.69	4940.	0.524	
10.	15.57	32.17	23.69	4940.	.521	
30.	15.47	32.18	23.72	4941.	.471	
50.	10.06	32.47	24.99	4882.	.603	
75.	7.66	32.69	25.53	4855.	.543	
100.	7.05	33.04	25.89	4850.	.465	
125.	7.04	33.47	26.23	4853.	.336	
150.	6.81	33.70	26.44	4852.	.292	
175.	6.61	33.78	26.53	4851.	.316	
200.	6.24	33.84	26.63	4848.	.300	
250.	5.87	33.93	26.74	4847.	.214	
300.	5.27	33.93	26.82	4841.	.187	
398.	5.13	34.04	26.92	4846.	.111	
497.	4.59	34.12	27.04	4845.	.067	
596.	4.29	34.17	27.12	4847.	.051	
794.	3.90	34.26	27.23	4853.	.036	
991.	3.44	34.36	27.36	4859.	.030	
1190.	3.00	34.42	27.44	4865.	.038	
1685.	2.21	34.54	27.61	4884.	.077	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	15.60	32.17	23.69	23.69	0.0	421.8	0.000
10.	15.57	32.17	23.69	23.74	10.0	421.4	.042
20.	16.18	32.14	23.53	23.62	20.1	437.2	.085
30.	15.47	32.18	23.72	23.85	30.1	419.5	.128
50.	10.06	32.47	24.99	25.22	50.2	298.2	.201
75.	7.66	32.69	25.53	25.88	75.4	247.0	.269
100.	7.05	33.04	25.89	26.36	100.5	213.1	.327
150.	6.81	33.70	26.44	27.14	150.9	161.8	.421
200.	6.24	33.84	26.63	27.56	201.3	144.8	.499
250.	5.87	33.93	26.74	27.91	251.7	134.2	.569
300.	5.27	33.93	26.82	28.22	302.1	127.4	.635
400.	5.12	34.04	26.92	28.79	403.0	118.3	.759
500.	4.58	34.12	27.05	29.39	504.0	107.3	.873
600.	4.28	34.18	27.12	29.93	605.0	100.5	.978
700.	4.09	34.22	27.18	30.46	706.1	96.1	1.077
800.	3.89	34.27	27.24	30.98	807.2	91.1	1.172
1000.	3.42	34.36	27.36	32.05	1009.6	80.0	1.345
1200.	2.98	34.42	27.45	33.08	1212.1	72.1	1.499
1500.	2.45	34.50	27.55	34.59	1516.4	62.2	1.703

STATION 45

TIME: 0439 DATE: 30-IX-57 LAT: 51° 47' N LONG: 131° 19' W SOUNDING: 1050 fms.
 WEATHER: 41 WIND: Dir. 290° Speed 2 AIR TEMP: Dry 59° Wet 57° BARO: 1016.9 mb.
 CLOUD: Type Amt 0 SEA: Calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.30	32.10	23.69	4937.	0.490	
10.	15.30	32.09	23.69	4937.	.492	
30.	13.06	31.85	23.96	4913.	.479	
50.	11.61	32.07	24.41	4899.	.441	
75.	8.58	32.76	25.45	4866.	.430	
100.	7.58	32.96	25.76	4856.	.341	
125.	7.24	33.33	26.09	4855.	.337	
150.	7.05	33.60	26.33	4855.	.293	
175.	6.81	33.75	26.48	4854.	.277	
200.	6.89	33.86	26.56	4857.	.206	
250.	6.41	33.93	26.68	4854.	.173	
300.	5.94	33.94	26.75	4850.	.167	
398.	5.47	33.98	26.84	4850.	.141	
498.	5.05	34.06	26.95	4851.	.092	
598.	4.55	34.13	27.06	4850.	.060	
794.	3.98	34.24	27.21	4854.	.033	
991.	3.40	34.34	27.34	4858.	.036	
1190.	3.06	34.42	27.44	4866.	.038	
1684.	2.14	34.55	27.62	4882.	.087	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,P}$	P	$10^5 \delta$	ΔD
0.	15.30	32.10	23.69	23.69	0.0	421.2	0.000
10.	15.30	32.09	23.69	23.74	10.0	421.6	.042
20.	14.08	31.91	23.81	23.90	20.1	410.5	.084
30.	13.06	31.85	23.96	24.10	30.1	396.0	.125
50.	11.61	32.07	24.41	24.63	50.2	354.2	.200
75.	8.58	32.76	25.45	25.79	75.4	255.2	.277
100.	7.58	32.96	25.76	26.22	100.5	226.0	.337
150.	7.05	33.60	26.33	27.03	150.9	172.3	.437
200.	6.89	33.86	26.56	27.49	201.3	151.2	.519
250.	6.41	33.93	26.68	27.84	251.7	140.8	.593
300.	5.94	33.94	26.75	28.14	302.1	134.4	.662
400.	5.46	33.99	26.84	28.71	403.0	126.6	.794
500.	5.04	34.07	26.95	29.29	503.9	116.7	.916
600.	4.54	34.13	27.06	29.86	604.9	107.1	1.029
700.	4.25	34.19	27.14	30.41	706.0	100.0	1.134
800.	3.96	34.25	27.21	30.96	807.1	93.3	1.232
1000.	3.39	34.34	27.35	32.04	1009.5	81.1	1.408
1200.	3.04	34.42	27.44	33.07	1212.1	72.8	1.564
1500.	2.32	34.50	27.57	34.61	1516.3	60.4	1.767

STATION 46

TIME: 0659 DATE: 30-IX-57 LAT: 51° 52' N LONG: 131° 05' W SOUNDING: 600 fms.
 WEATHER: 41 WIND: Dir. 320° Speed 4 AIR TEMP: Dry 57° Wet 56° BARO: 1015.6 mb.
 CLOUD: Type Cu Amt 8 SEA: Calm SWELL: 0 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.80	31.76	23.75	4919.	0.496	
10.	12.36	31.89	24.13	4904.	.477	
30.	11.92	31.96	24.27	4901.	.451	
50.	10.60	32.00	24.54	4887.	.405	
75.	8.49	32.89	25.57	4866.	.336	
100.	8.25	32.91	25.62	4864.	.334	
125.	7.43	33.25	26.01	4857.	.304	
150.	6.67	33.58	26.36	4850.	.235	
175.	6.36	33.73	26.53	4848.	.209	
200.	6.26	33.77	26.57	4848.	.205	
250.	6.17	33.82	26.62	4850.	.190	
300.	6.01	33.88	26.69	4851.	.175	
350.	5.91	33.91	26.72	4853.	.165	
400.	5.83	33.94	26.76	4855.	.158	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	10 ⁵ δ	ΔD
0.	13.80	31.76	23.75	23.75	0.0	415.9	0.000
10.	12.36	31.89	24.13	24.18	10.0	379.7	.040
20.	12.25	31.93	24.18	24.27	20.1	375.0	.078
30.	11.92	31.96	24.27	24.41	30.1	367.0	.115
50.	10.60	32.00	24.54	24.76	50.2	341.9	.186
75.	8.49	32.89	25.57	25.91	75.4	244.1	.260
100.	8.25	32.91	25.62	26.08	100.6	239.3	.321
150.	6.67	33.58	26.36	27.06	150.9	169.1	.424
200.	6.26	33.77	26.57	27.50	201.3	150.2	.504
250.	6.17	33.82	26.62	27.78	251.7	146.2	.579
300.	6.01	33.88	26.69	28.08	302.1	140.3	.651
400.	5.83	33.94	26.76	28.62	403.0	134.5	.790

STATION 48

TIME: 1115 DATE: 30-IX-57 LAT: 51° 39' N LONG: 130° 25' W SOUNDING: 136 fms.
 WEATHER: 47 WIND: Dir. Speed AIR TEMP: Dry 61° Wet 59° BARO: 1014.6 mb.
 CLOUD: Type Amt SEA: SWELL: 180° - 4 SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.60	31.51	23.40	4927.	0.526	0.889
10.	14.06	31.53	23.52	4922.	.532	0.681
29.	13.51	31.79	23.83	4918.	.516	0.858
49.	10.51	32.26	24.75	4887.	.455	1.50
74.	8.46	32.66	25.39	4865.	.422	1.80
98.	7.11	33.31	26.09	4851.	.332	2.22
123.	7.02	33.60	26.33	4853.	.301	2.36
147.	6.85	33.80	26.52	4853.	.263	2.36
172.	6.45	33.86	26.61	4849.	.228	2.42

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{st,p}$	P	10 ⁵ δ	ΔD
0.	14.60	31.51	23.40	23.40	0.0	449.7	0.000
10.	14.06	31.53	23.52	23.56	10.0	438.2	.045
20.	14.05	31.64	23.61	23.70	20.1	429.8	.088
30.	13.33	31.82	23.89	24.02	30.1	403.4	.130
50.	10.42	32.27	24.78	25.01	50.2	318.7	.203
75.	8.38	32.70	25.43	25.78	75.4	256.7	.275
100.	7.11	33.33	26.11	26.58	100.5	192.2	.331
150.	6.81	33.82	26.53	27.23	150.9	153.1	.418

STATION 49

TIME: 1450 DATE: 30-IX-57 LAT: 51° 18' N LONG: 129° 44' W SOUNDING: 140 fms.
 WEATHER: 45 WIND: Dir. 205° Speed 3 AIR TEMP: Dry 60° Wet 59° BARO: 1014.2 mb.
 CLOUD: Type Amt SEA: Calm SWELL: 270° - 4 SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.70	31.21	23.14	4927.	0.549	0.585
10.	13.95	31.20	23.29	4920.	.541	0.595
30.	12.93	31.34	23.60	4910.	.522	
50.	10.75	31.90	24.43	4888.	.426	1.58
75.	7.83	32.92	25.69	4858.	.399	0.925
100.	7.36	33.22	25.99	4854.	.354	2.20
125.	6.99	33.74	26.45	4853.	.257	2.53
150.	6.71	33.85	26.58	4851.	.194	2.56
175.	6.60	33.88	26.62	4852.	.178	2.83
200.	6.41	33.92	26.67	4851.	.173	2.83
225.	6.38	33.92	26.67	4852.	.171	2.90

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ σ	ΔD
0.	14.70	31.21	23.14	23.14	0.0	473.7	0.000
10.	13.95	31.20	23.29	23.33	10.0	460.1	.047
20.	13.58	31.22	23.37	23.46	20.1	452.2	.093
30.	12.93	31.34	23.60	23.73	30.1	431.2	.137
50.	10.75	31.90	24.43	24.66	50.2	352.0	.216
75.	7.83	32.92	25.69	26.03	75.4	232.6	.289
100.	7.36	33.22	25.99	26.46	100.5	203.6	.344
150.	6.71	33.85	26.58	27.27	150.9	149.0	.433
200.	6.41	33.92	26.67	27.60	201.3	140.9	.506

STATION 50

TIME: 1729 DATE: 30-IX-57 LAT: 51° 01' N LONG: 129° 26.5' W SOUNDING: 290 fms.
 WEATHER: 03 WIND: Dir. 170° Speed 8 AIR TEMP: Dry 60° Wet 58° BARO: 1014.2 mb.
 CLOUD: Type Sc Amt 10 SEA: 170° - 1 SWELL: 280° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.30	31.89	23.75	4925.	0.513	
9.	14.09	31.89	23.79	4924.	.510	
28.	11.45*	32.06	24.43	4896.	.495	
47.	9.27	32.56	25.19	4873.	.489	
70.	7.23	33.00	25.84	4850.	.445	
93.	7.30	33.47	26.19	4854.	.300	
116.	7.18	33.73	26.42	4855.	.276	
140.	7.15	33.84	26.51	4856.	.237	
163.	7.01	33.85	26.54	4856.	.209	
186.	6.90	33.86	26.56	4856.	.222	
233.	6.68	33.91	26.63	4856.	.181	
280.	6.62	33.94	26.66	4858.	.166	
326.	6.46	33.95	26.69	4859.	.178	
373.	6.14	33.97	26.74	4858.	.161	
419.	5.94	33.99	26.78	4858.	.142	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.30	31.89	23.75	23.75	0.0	415.7	0.000
10.	13.94	31.89	23.82	23.87	10.0	409.1	.041
20.	12.51	31.95	24.15	24.24	20.1	377.9	.081
30.	11.20	32.12	24.52	24.66	30.1	342.7	.117
50.	8.88	32.61	25.29	25.52	50.3	269.7	.179
75.	7.26	33.12	25.92	26.27	75.4	209.8	.239
100.	7.25	33.56	26.27	26.74	100.6	177.0	.288
150.	7.09	33.85	26.52	27.22	151.0	154.4	.371
200.	6.82	33.88	26.58	27.51	201.4	149.4	.448
250.	6.67	33.93	26.64	27.80	251.8	144.5	.522
300.	6.57	33.95	26.67	28.06	302.2	142.4	.594
400.	6.01	33.98	26.77	28.63	403.1	134.0	.734

STATION 51

TIME: 1926 DATE: 30-IX-57 LAT: 50° 55' N LONG: 129° 08' W SOUNDING: 30 fms.
 WEATHER: 02 WIND: Dir. 200° Speed 4 AIR TEMP: Dry 58° Wet 56° BARO: 1014.2 mb.
 CLOUD: Type Sc Amt 10 SEA: 200° - 1 SWELL: 280° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.00	32.08	24.16	4912.	0.487	
10.	11.99	32.14	24.40	4901.	.456	
20.	11.10	32.25	24.64	4892.	.415	
30.	10.57	32.32	24.79	4886.	.390	
40.	10.11	32.42	24.94	4882.	.371	
50.	9.69	32.49	25.07	4878.	.361	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.00	32.08	24.16	24.16	0.0	377.1	0.000
10.	11.99	32.14	24.40	24.44	10.0	354.2	.037
20.	11.10	32.25	24.64	24.74	20.1	331.0	.071
30.	10.57	32.32	24.79	24.92	30.2	317.5	.104
50.	9.69	32.49	25.07	25.29	50.3	291.4	.165

STATION 52

TIME: 2102 DATE: 30-IX-57 LAT: 50° 45' N LONG: 129° 25' W SOUNDING: 170 fms.
 WEATHER: 02 WIND: Dir. Speed AIR TEMP: Dry 58° Wet 56° BARO: 1013.6 mb.
 CLOUD: Type Sc Amt 8 SEA: SWELL: 280° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	14.40	32.03	23.84	4927.	0.504	
10.	14.01	32.01	23.90	4923.	.503	
30.	13.09	32.05	24.12	4914.	.472	
50.	7.90	32.89	25.65	4857.	.355	
75.	7.47	33.31	26.05	4855.	.277	
100.	7.21	33.47	26.20	4853.	.278	
124.	7.22	33.57	26.29	4855.	.277	
149.	7.15	33.75	26.43	4857.	.229	
174.	6.95	33.86	26.55	4856.	.187	
199.	6.83	33.89	26.59	4856.	.183	
249.	6.76	33.92	26.62	4858.	.169	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.40	32.03	23.84	23.84	0.0	407.6	0.000
10.	14.01	32.01	23.90	23.94	10.0	401.9	.041
20.	14.08	31.93	23.82	23.91	20.1	409.2	.081
30.	13.09	32.05	24.12	24.25	30.1	381.5	.121
50.	7.90	32.89	25.65	25.88	50.2	235.5	.183
75.	7.47	33.31	26.05	26.39	75.4	198.2	.238
100.	7.21	33.47	26.20	26.67	100.6	183.7	.286
150.	7.14	33.75	26.44	27.14	151.0	162.0	.373
200.	6.83	33.90	26.59	27.52	201.3	148.1	.451

STATION 53

TIME: 0005 DATE: 1-X-57 LAT: 50° 26' N LONG: 129° 56' W SOUNDING: 1100 fms.
 WEATHER: 50 WIND: Dir. 210° Speed 5 AIR TEMP: Dry 60° Wet 59° BARO: 1015.6 mb.
 CLOUD: Type Amt SEA: SWELL: 280° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.60	31.83	23.64	4928.	0.540	
10.	14.52	31.92	23.73	4928.	.536	
30.	11.80	32.15	24.43	4900.	.484	
50.	8.35	32.66	25.41	4862.	.470	
75.	7.04	32.91	25.79	4848.	.508	
100.	7.15	33.24	26.04	4852.	.401	
125.	7.18	33.52	26.25	4855.	.366	
150.	7.19	33.76	26.44	4857.	.296	
175.	6.97	33.85	26.54	4856.	.274	
200.	6.78	33.91	26.61	4855.	.228	
250.	6.40	33.96	26.70	4854.	.182	
300.	6.03	33.99	26.77	4852.	.153	
400.	5.48	34.04	26.88	4851.	.114	
481.	5.01	34.09	26.97	4849.	.080	
580.	4.54	34.14	27.07	4849.	.057	
777.	4.02	34.26	27.22	4854.	.032	
975.	3.49	34.35	27.34	4859.	.030	
1170.	3.03	34.42	27.44	4864.	.035	
1657.	2.20	34.54	27.61	4882.	.089	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.60	31.83	23.64	23.64	0.0	426.6	0.000
10.	14.52	31.92	23.73	23.77	10.0	418.1	.042
20.	13.25	32.00	24.04	24.13	20.1	388.2	.083
30.	11.80	32.15	24.43	24.57	30.1	351.1	.120
50.	8.35	32.66	25.41	25.64	50.2	258.7	.181
75.	7.04	32.91	25.79	26.14	75.4	222.3	.242
100.	7.15	33.24	26.04	26.50	100.6	199.7	.295
150.	7.19	33.76	26.44	27.13	150.9	162.1	.386
200.	6.78	33.91	26.61	27.54	201.3	146.2	.464
250.	6.40	33.96	26.70	27.86	251.7	138.3	.535
300.	6.03	33.99	26.77	28.17	302.2	132.4	.604
400.	5.48	34.04	26.88	28.74	403.1	123.1	.733
500.	4.91	34.10	26.99	29.33	504.0	112.8	.852
600.	4.49	34.15	27.08	29.89	605.0	104.6	.961
700.	4.22	34.22	27.16	30.44	706.1	97.7	1.064
800.	3.96	34.27	27.23	30.98	807.2	91.5	1.159
1000.	3.43	34.36	27.35	32.04	1009.6	80.6	1.334
1200.	2.97	34.43	27.46	33.09	1212.2	71.0	1.487
1500.	2.42	34.52	27.57	34.61	1516.4	60.4	1.687

STATION 54

TIME: 0347 DATE: 1-X-57 LAT: 50° 26' N LONG: 129° 10' W SOUNDING: 110 fms.
 WEATHER: 50 WIND: Dir. 290° Speed 15 AIR TEMP: Dry 57° Wet 56° BARO: 1014.2 mb.
 CLOUD: Type Sc&Cu Amt 3 SEA: 290° - 3 SWELL: 300° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	15.10	32.25	23.85	4935.	0.504	0.660
10.	15.18	32.25	23.84	4937.	.505	0.419
30.	15.13	32.25	23.85	4937.	.495	0.541
50.	8.78	32.64	25.33	4867.	.579	1.12
75.	7.26	32.73	25.62	4850.	.551	1.35
100.	7.15	33.22	26.02	4852.	.426	1.92
125.	7.34	33.48	26.20	4857.	.368	2.09
150.	7.28	33.73	26.40	4858.	.293	2.22
175.	7.19	33.81	26.48	4859.	.280	
200.	6.88	33.88	26.58	4857.	.248	
250.	6.27	33.92	26.69	4852.	.223	2.61
300.	5.87	33.95	26.76	4850.	.178	
400.	5.26	34.03	26.90	4848.	.108	3.46
500.	4.85	34.10*	27.00	4848.		
600.	4.27	34.14	27.10	4847.	.061	3.81
800.	4.03	34.13	27.12	4855.	.056	3.81
986.	3.34	34.37	27.38	4857.	.037	3.57

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	15.10	32.25	23.85	23.85	0.0	405.9	0.000
10.	15.18	32.25	23.84	23.88	10.0	407.7	.041
20.	15.94	32.20	23.64	23.72	20.1	427.3	.083
30.	15.13	32.25	23.85	23.99	30.1	406.9	.125
50.	8.78	32.64	25.33	25.56	50.2	266.5	.192
75.	7.26	32.73	25.62	25.97	75.4	238.7	.256
100.	7.15	33.22	26.02	26.48	100.6	201.3	.311
150.	7.28	33.73	26.40	27.09	150.9	165.9	.404
200.	6.88	33.88	26.58	27.51	201.3	149.6	.483
250.	6.27	33.92	26.69	27.85	251.7	139.6	.556
300.	5.87	33.95	26.76	28.16	302.1	133.1	.625
400.	5.26	34.03	26.90	28.76	403.0	121.1	.753
500.	4.85	34.10	27.00	29.34	504.0	112.0	.871
600.	4.27	34.14	27.10	29.91	605.0	103.1	.979
700.	4.22	34.10	27.07	30.35	706.1	106.2	1.085
800.	4.03	34.13	27.12	30.86	807.2	102.6	1.191

STATION 55

TIME: 0911 DATE: 1-X-57 LAT: 50° 26' N LONG: 128° 27' W SOUNDING: 109 fms.
 WEATHER: 03 WIND: Dir. 320° Speed 4 AIR TEMP: Dry 58° Wet 55° BARO: 1015.2 mb.
 CLOUD: Type Cu&ScAmt 7 SEA: 320° - 3 SWELL: 290° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.40	32.01	23.82	4927.	0.510	
10.	14.40	32.10	23.89	4928.	.508	
30.	12.03	32.00	24.28	4902.	.507	
49.	8.93	32.54	25.23	4868.	.419	
74.	8.03	32.92	25.66	4860.	.298	
98.	7.53	33.22	25.97	4856.	.404	
123.	7.67	33.65	26.28	4861.	.293	
148.	7.18	33.82	26.49	4857.	.212	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.40	32.01	23.82	23.82	0.0	408.9	0.000
10.	14.40	32.10	23.89	23.93	10.0	402.9	.041
20.	13.33	31.97	24.00	24.09	20.1	392.2	.081
30.	12.03	32.00	24.28	24.42	30.1	365.9	.119
50.	8.89	32.56	25.25	25.48	50.2	274.1	.183
75.	8.00	32.93	25.67	26.02	75.4	233.8	.247
100.	7.56	33.27	26.00	26.46	100.6	203.3	.302

STATION 56

TIME: 1049 DATE: 1-X-57 LAT: 50° 26' N LONG: 128° 05' W SOUNDING: 35 fms.
 WEATHER: 02 WIND: Dir. 320° Speed 4 AIR TEMP: Dry 60° Wet 54° BARO: 1015.2 mb.
 CLOUD: Type Cu&ScAmt 7 SEA: 320° - 1 SWELL: 280° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.80	31.71	23.71	4919.	0.503	1.33
10.	13.30	31.69	23.80	4914.	.500	1.14
19.	13.04	31.77	23.90	4912.	.466	1.37
29.	12.89	31.81	23.96	4911.	.455	1.39
39.	12.23	31.92	24.18	4905.	.423	1.75
48.	11.26	32.05	24.46	4895.	.375	2.06

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s.t.p}$	P	10 ⁵ δ	ΔD
0.	13.80	31.71	23.71	23.71	0.0	419.5	0.000
10.	13.30	31.69	23.80	23.84	10.0	411.3	.042
20.	13.05	31.77	23.90	23.99	20.1	401.6	.083
30.	12.84	31.81	23.98	24.12	30.1	394.4	.123

STATION 57

TIME: 1254 DATE: 1-X-57 LAT: 50° 06' N LONG: 127° 58' W SOUNDING: 37 fms.
 WEATHER: 02 WIND: Dir. 290° Speed 12 AIR TEMP: Dry 59° Wet 57° BARO: 1014.2 mb.
 CLOUD: Type Sc^{1,Cu} Amt 7 SEA: 290° - 1 SWELL: 280° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.90	31.54	23.56	4920.	0.530	
10.	13.76	31.65	23.67	4919.	.529	
19.	13.93	32.00	23.91	4923.	.524	
29.	13.45	31.99	24.00	4918.	.512	
48.	10.94	32.09	24.54	4891.	.377	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.90	31.54	23.56	23.56	0.0	433.8	0.000
10.	13.76	31.65	23.67	23.72	10.0	423.3	.043
20.	13.91	32.00	23.91	24.00	20.1	401.0	.084
30.	13.37	31.99	24.01	24.15	30.1	391.4	.124

STATION 58

TIME: 1416 DATE: 1-X-57 LAT: 49° 59' N LONG: 128° 07' W SOUNDING: 425 fms.
 WEATHER: 02 WIND: Dir. 288° Speed 12 AIR TEMP: Dry 59° Wet 55° BARO: 1014.2 mb.
 CLOUD: Type Cu&ScAmt 8 SEA: 280° - 1 SWELL: 290° - 3 SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	14.50	32.17	23.92	4928.	0.535	0.460
10.	14.85	32.16	23.84	4933.	.558	0.629
29.	11.91	32.40	24.61	4902.	.554	1.06
49.	8.11	32.72	25.49	4859.	.551	1.19
73.	7.47	33.00	25.81	4853.	.487	1.85
98.	7.65	33.37	26.07	4858.	.393	2.21
122.	7.80	33.56	26.19	4863.	.334	2.38
147.	7.67	33.70	26.33	4863.	.286	2.49
171.	7.39	33.81	26.45	4861.	.259	2.67
196.	7.17	33.88	26.53	4860.	.238	2.62
245.	6.69	33.95	26.65	4857.	.188	2.89
294.	6.31	33.96	26.72	4855.	.183	2.83
392.	5.55	34.00	26.84	4851.	.135	3.12
490.	5.25	34.09	26.95	4853.	.089	3.45
588.	4.88	34.13	27.02	4854.	.067	3.56

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.50	32.17	23.92	23.92	0.0	399.6	0.000
10.	14.85	32.16	23.84	23.88	10.0	407.7	.041
20.	13.38	32.28	24.23	24.32	20.1	370.3	.080
30.	11.65	32.42	24.67	24.81	30.1	328.6	.115
50.	8.07	32.73	25.51	25.74	50.3	249.3	.173
75.	7.49	33.04	25.83	26.18	75.4	218.6	.232
100.	7.67	33.39	26.08	26.54	100.6	195.7	.284
150.	7.63	33.72	26.34	27.04	151.0	171.3	.376
200.	7.13	33.89	26.55	27.47	201.3	152.8	.458
250.	6.65	33.95	26.66	27.82	251.7	142.5	.532
300.	6.25	33.96	26.72	28.12	302.2	136.9	.603
400.	5.53	34.01	26.85	28.72	403.1	125.5	.735

STATION 59

TIME: 1550 DATE: 1-X-57 LAT: 49° 53' N LONG: 128° 15' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 280° Speed 12 AIR TEMP: Dry 59° Wet 56° BARO: 1014.6 mb.
 CLOUD: Type Sc Amt 8 SEA: 280° - 1 SWELL: 290° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.20	31.97	23.83	4925.	0.553	0.920
10.	13.89	31.95	23.88	4922.	.553	0.669
30.	11.52	32.25	24.56	4897.	.478	1.31
49.	7.80	32.73	25.54	4855.	.496	1.62
74.	7.45	33.03	25.82	4853.	.462	1.77
98.	7.12	33.39	26.16	4852.	.415	1.80
123.	6.99	33.64	26.37	4853.	.366	2.14
148.	7.14	33.79	26.47	4857.	.296	2.38
172.	7.13	33.87	26.53	4858.	.253	
197.	6.90	33.92	26.60	4857.	.204	2.74
246.	6.38	33.97	26.71	4853.	.185	2.84
299.	6.13	33.98	26.75	4853.	.160	3.03
398.	5.56	34.04	26.87	4852.	.113	3.11
498.	4.98	34.10	26.98	4850.	.079	2.04
596.	4.68	34.15	27.06	4852.	.056	1.91
794.	3.99	34.25	27.21	4855.	.036	2.52
991.	3.46	34.36	27.35	4859.	.030	2.77
1189.	3.01	34.44	27.46	4865.	.041	3.04
1485.	2.41	34.52	27.58	4874.	.071	2.88

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	14.20	31.97	23.83	23.83	0.0	408.0	0.000
10.	13.89	31.95	23.88	23.92	10.0	403.9	.041
20.	12.90	32.07	24.17	24.26	20.1	376.3	.080
30.	11.52	32.25	24.56	24.70	30.1	338.8	.116
50.	7.79	32.74	25.55	25.78	50.3	245.0	.175
75.	7.43	33.04	25.84	26.19	75.4	217.8	.233
100.	7.10	33.41	26.18	26.64	100.6	186.2	.284
150.	7.15	33.80	26.48	27.17	151.0	158.7	.371
200.	6.86	33.92	26.61	27.54	201.4	146.6	.447
250.	6.36	33.97	26.71	27.87	251.8	137.5	.519
300.	6.12	33.98	26.76	28.15	302.2	133.8	.587
400.	5.55	34.05	26.88	28.74	403.1	123.2	.717
500.	4.97	34.10	26.98	29.32	504.0	113.5	.837
600.	4.66	34.15	27.06	29.87	605.0	106.9	.948
700.	4.30	34.20	27.14	30.42	706.1	99.7	1.052
800.	3.97	34.26	27.22	30.97	807.2	92.8	1.150
1000.	3.44	34.37	27.36	32.05	1009.6	80.2	1.325
1200.	2.99	34.44	27.47	33.09	1212.2	70.5	1.477

STATION 60

TIME: 1815 DATE: 1-X-57 LAT: 49° 45' N LONG: 128° 28' W SOUNDING: 950 fms.
 WEATHER: 02 WIND: Dir. 320° Speed 12 AIR TEMP: Dry 58° Wet 53° BARO: 1014.2 mb.
 CLOUD: Type Sc Amt 9 SEA: 320° - 2 SWELL: 320° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	14.10	31.99	23.87	4924.	0.512	0.730
10.	14.17	31.96	23.83	4925.	.513	0.680
29.	12.77	32.13	24.24	4911.	.490	0.840
48.	8.50	32.66	25.38	4864.	.531	1.02
72.	7.21	32.83	25.71	4849.	.505	1.33
97.	7.32	33.23	26.00	4854.	.416	1.71
121.	7.37	33.62	26.30	4857.	.322	2.13
145.	7.07	33.74	26.44	4855.	.316	2.13
169.	6.86	33.86	26.56	4854.	.309	1.96
193.	6.74	33.87	26.58	4854.	.283	2.18
242.	6.12	33.90	26.69	4849.	.255	2.40
290.	5.71	33.94	26.77	4847.	.188	
385.	5.11	34.01	26.90	4845.	.119	2.99
484.	4.81	34.10	27.00	4847.	.071	2.64
581.	4.45	34.17	27.10	4848.	.052	2.60
778.	3.91	34.28	27.24	4853.	.045	2.54
977.	3.31	34.37	27.37	4856.	.029	3.03
1175.	2.96	34.44	27.46	4864.	.031	2.63
1668.	2.19	34.55	27.62	4882.	.086	2.41

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	10 ⁵ δ	ΔD
0.	14.10	31.99	23.87	23.87	0.0	404.8	0.000
10.	14.17	31.96	23.83	23.87	10.0	408.7	.041
20.	13.79	32.00	23.94	24.03	20.1	398.3	.081
30.	12.47	32.16	24.32	24.46	30.1	362.0	.120
50.	8.34	32.66	25.41	25.64	50.2	258.2	.182
75.	7.23	32.88	25.74	26.09	75.4	227.1	.243
100.	7.35	33.29	26.05	26.51	100.6	198.5	.297
150.	7.02	33.77	26.47	27.17	150.9	159.0	.387
200.	6.64	33.87	26.60	27.53	201.3	147.4	.464
250.	6.05	33.91	26.71	27.87	251.7	137.6	.536
300.	5.63	33.95	26.79	28.19	302.2	130.5	.603
400.	5.07	34.02	26.91	28.78	403.1	119.2	.729
500.	4.75	34.11	27.02	29.36	504.0	109.9	.845
600.	4.40	34.18	27.12	29.93	605.0	101.4	.952
700.	4.13	34.24	27.19	30.47	706.1	95.1	1.051
800.	3.83	34.29	27.26	31.01	807.2	88.9	1.144
1000.	3.27	34.38	27.38	32.08	1009.6	77.5	1.312
1200.	2.92	34.45	27.47	33.10	1212.2	69.5	1.461
1500.	2.44	34.52	27.58	34.61	1516.4	60.0	1.658

STATION 67

TIME: 0600 DATE: 2-X-57 LAT: 48° 27' N LONG: 126° 10' W SOUNDING: 147 fms.
 WEATHER: 01 WIND: Dir. 320° Speed 25 AIR TEMP: Dry 56° Wet 54° BARO: 1010.2 mb.
 CLOUD: Type Cu Amt 2 SEA: 320° - 3 SWELL: 320° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	13.20	32.07	24.11	4914.	0.489	
9.	15.21	32.05	23.68	4936.	.488	
28.	9.49	32.56	25.15	4874.	.459	
47.	8.13	32.81	25.56	4859.	.397	
71.	7.80	33.24	25.94	4858.	.363	
94.	7.83	33.55	26.18	4861.	.297	
118.	7.51	33.80	26.42	4860.	.190	
141.	7.36	33.89	26.51	4859.	.170	
165.	7.23	33.91	26.55	4859.	.162	
188.	7.11	33.93	26.58	4859.	.153	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.20	32.07	24.11	24.11	0.0	381.4	0.000
10.	14.80	32.08	23.79	23.83	10.0	412.3	.040
20.	11.37	32.37	24.69	24.78	20.1	326.8	.077
30.	9.30	32.58	25.20	25.34	30.1	278.3	.107
50.	8.07	32.87	25.62	25.85	50.3	238.7	.159
75.	7.83	33.30	25.99	26.33	75.4	204.1	.215
100.	7.73	33.63	26.26	26.72	100.6	178.9	.263
150.	7.31	33.90	26.53	27.22	151.0	153.9	.347

STATION 68

TIME: 0800 DATE: 2-X-57 LAT: 48° 39' N LONG: 125° 55' W SOUNDING: 42 fms.
 WEATHER: 01 WIND: Dir. 310° Speed 30 AIR TEMP: Dry 59° Wet 54° BARO: 1009.1
 CLOUD: Type Cu Amt 1 SEA: 310° - 3 SWELL: 310° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	12.70	32.17	24.28	4909.	0.486	1.53
10.	12.53	32.14	24.29	4907.	.485	1.32
20.	9.96	32.46	25.00	4879.	.364	1.79
30.	9.40	32.61	25.21	4873.	.341	2.24
50.	7.84	33.24	25.94	4858.	.253	2.65

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.70	32.17	24.28	24.28	0.0	365.3	0.000
10.	12.53	32.14	24.29	24.34	10.0	364.1	.037
20.	9.96	32.46	25.00	25.09	20.1	297.0	.070
30.	9.40	32.61	25.21	25.35	30.2	277.5	.099
50.	7.84	33.24	25.94	26.17	50.3	208.4	.148

STATION 69

TIME: 0911 DATE: 2-X-57 LAT: 48° 46' N LONG: 125° 46' W SOUNDING: 76 fms.
 WEATHER: 02 WIND: Dir. 310° Speed 40 AIR TEMP: Dry 54° Wet 49° BARO: 1009.1 mb.
 CLOUD: Type Cu Amt 1 SEA: 310° - 4 SWELL: 310° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l	PO ₄ g.at/l
0.	13.30	31.78	23.86	4914.	0.499	
10.	13.51	31.76	23.81	4917.	.495	
30.	10.13	32.53	25.02	4882.	.363	
50.	8.75	32.86	25.51	4868.	.303	
75.	8.12	33.11	25.79	4862.	.267	
100.	7.98	33.18	25.87	4862.	.243	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.30	31.78	23.86	23.86	0.0	405.1	0.000
10.	13.51	31.76	23.81	23.85	10.0	410.6	.041
20.	11.57	32.20	24.51	24.61	20.1	343.3	.079
30.	10.13	32.53	25.02	25.16	30.1	295.1	.111
50.	8.75	32.86	25.51	25.74	50.3	249.5	.166
75.	8.12	33.11	25.79	26.14	75.4	222.5	.225
100.	7.98	33.18	25.87	26.34	100.6	215.2	.280

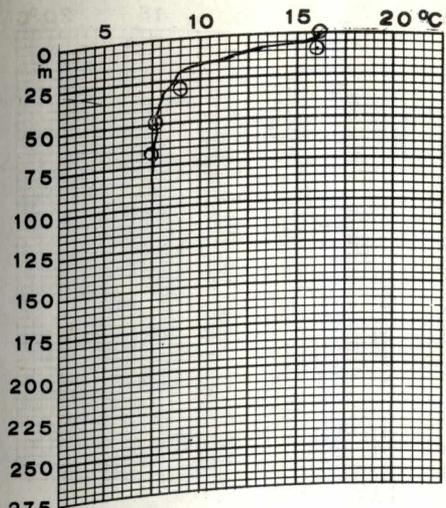
STATION 70

TIME: 1036 DATE: 2-X-57 LAT: 48° 55' N LONG: 125° 34' W SOUNDING: 36 fms.
 WEATHER: 02 WIND: Dir. 310° Speed 45 AIR TEMP: Dry 54° Wet 49° BARO: 1007.5 mb.
 CLOUD: Type Cu Amt 1 SEA: 310° - 4 SWELL: 310° - 7 SECCHI DISC:

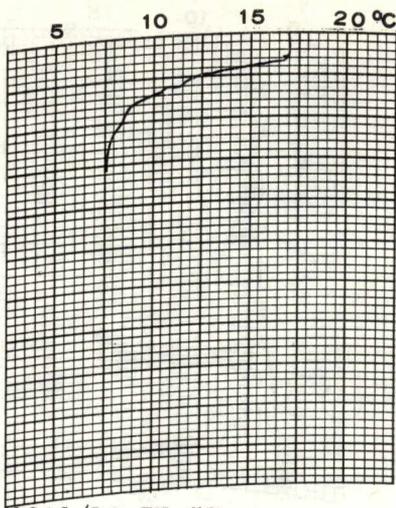
Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1	PO ₄ g.at/1
0.	11.60	31.36	23.86	4893.	0.451	
9.	11.62	31.36	23.86	4894.	.441	
19.	11.80	31.58	24.00	4897.	.432	
28.	10.42	32.20	24.72	4884.	.352	
47.	9.57	32.28	24.92	4875.	.297	

INTERPOLATED DATA

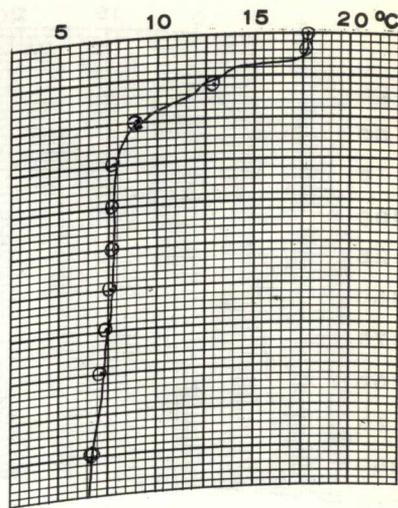
Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.60	31.36	23.86	23.86	0.0	405.0	0.000
10.	11.72	31.36	23.84	23.88	10.0	407.6	.041
20.	11.62	31.67	24.10	24.19	20.1	382.8	.081
30.	10.20	32.29	24.82	24.96	30.1	313.9	.116



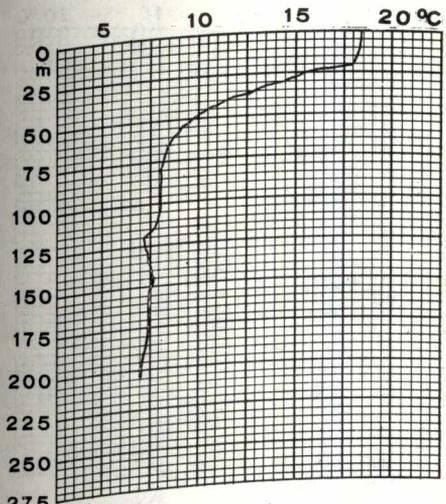
2225/18-IX-57
Station 3



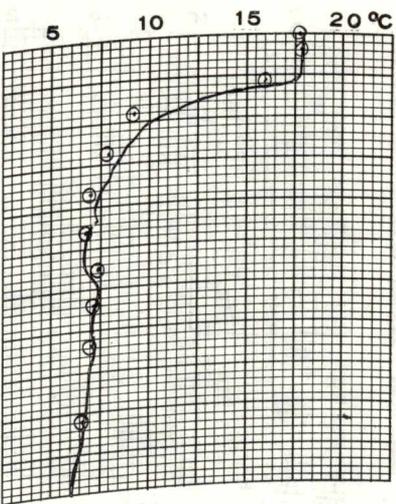
0030/19-IX-57
46° 38' N
124° 57' W
S.S. 31.97



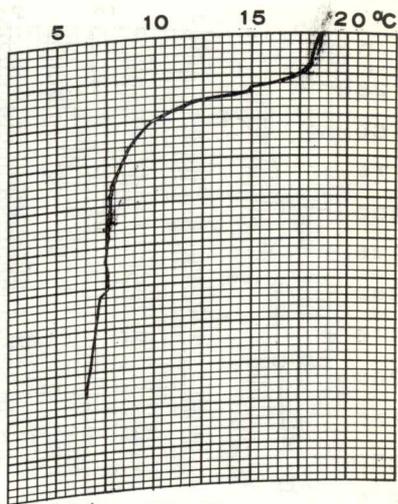
0330/19-IX-57
Station 4



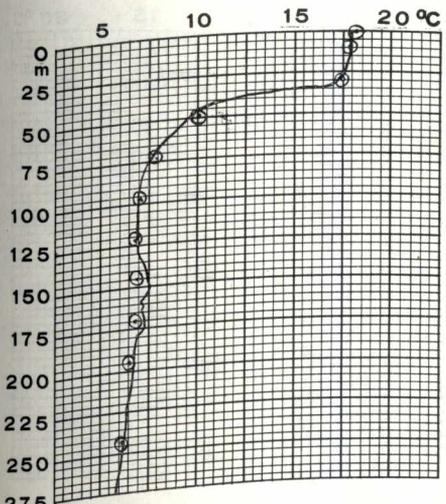
0625/19-IX-57
46° 14' N
125° 58' W
S.S. 32.03



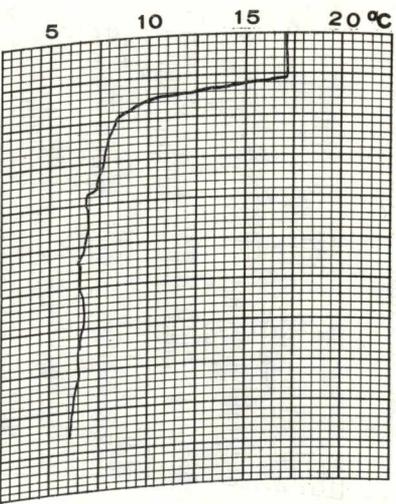
1035/19-IX-57
Station 5



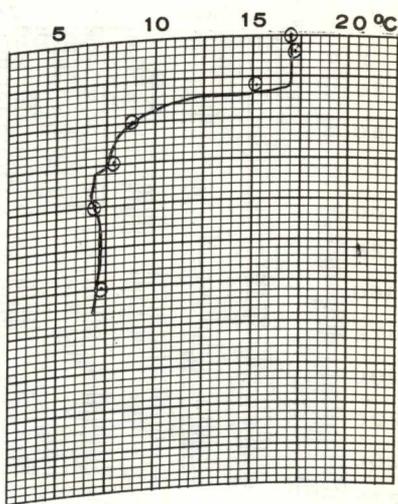
1400/19-IX-57
46° 33' N
127° 01' W
S.S. 32.41



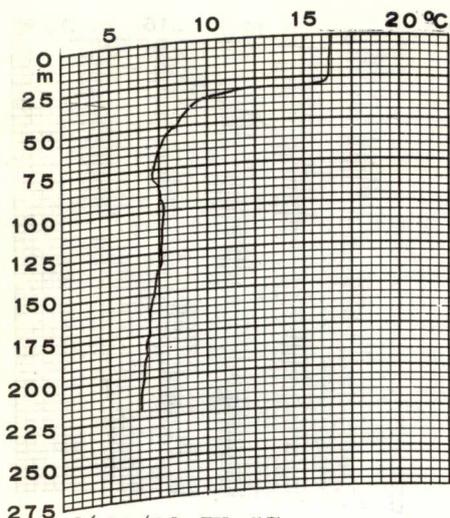
1835/19-IX-57
Station 6



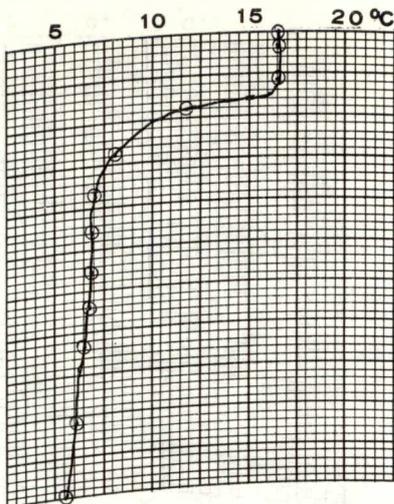
2203/19-IX-57
47° 30' N
127° 59' W



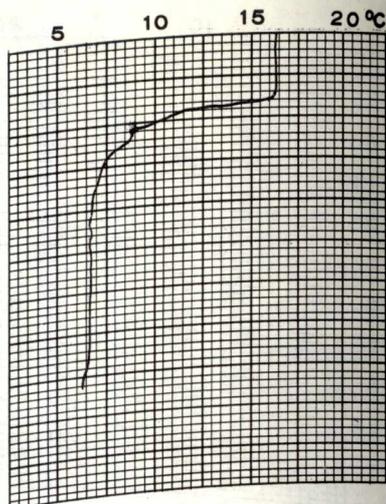
0330/20-IX-57
Station 7



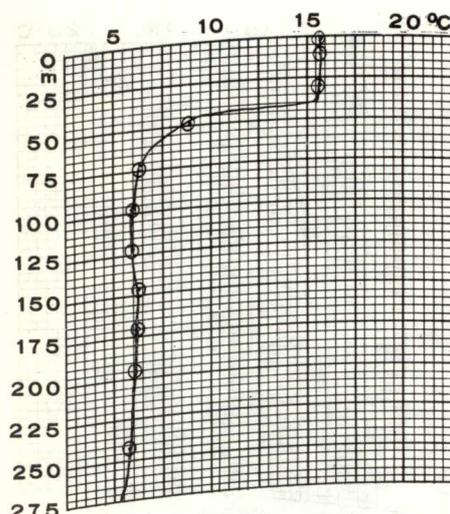
0639/20-IX-57
48° 25' N
128° 54' W
S.S. 32.07



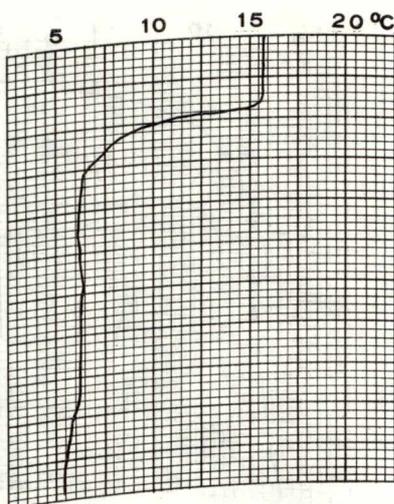
1200/20-IX-57
Station 8



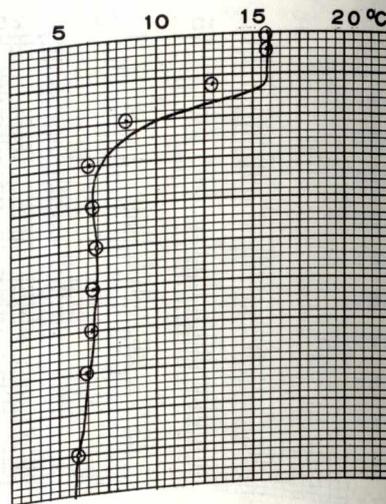
1500/20-IX-57
49° 32' N
129° 59' W
S.S. 32.22



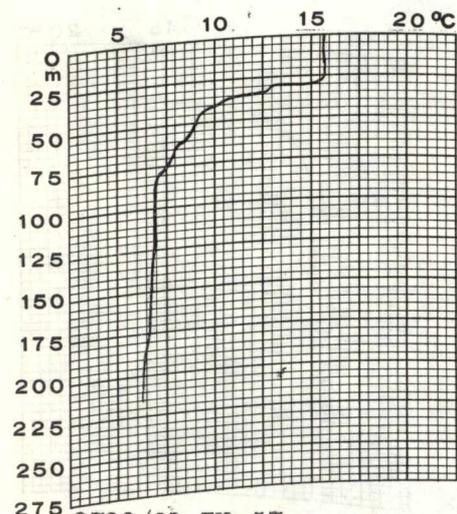
2008/20-IX-57
Station 9



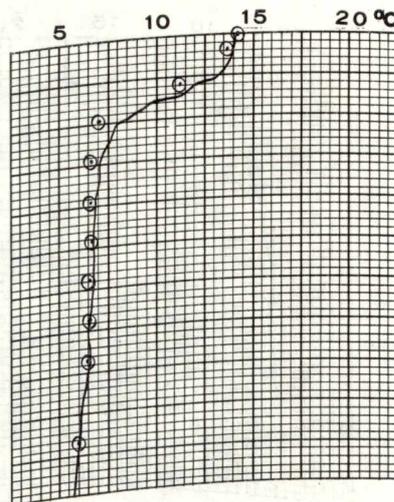
2300/20-IX-57
50° 32' N
131° 02' W
S.S. 32.14



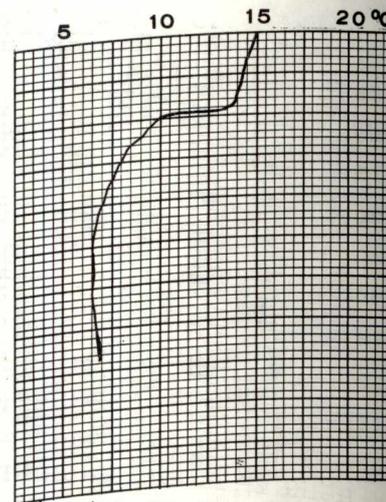
0340/21-IX-57
Station 10



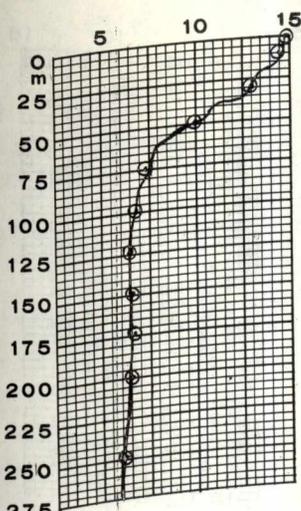
0700/21-IX-57
51° 30' N
131° 57' W
S.S. 32.16



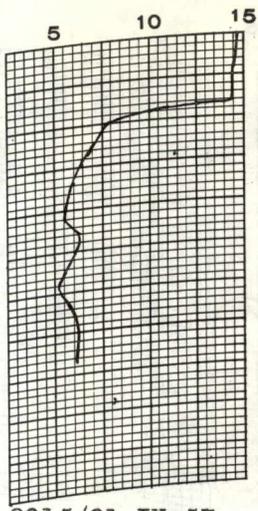
1230/21-IX-57
Station 11



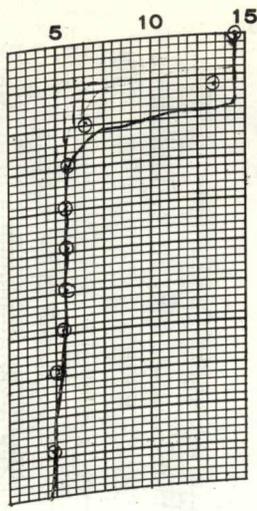
1615/21-IX-57
52° 30' N
133° 04' W
S.S. 32.20



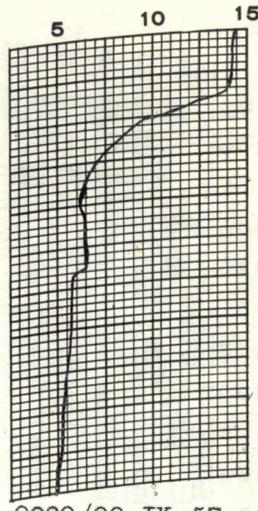
2000/21-IX-57
Station 12



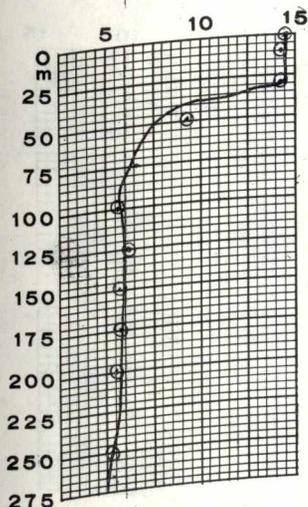
2315/21-IX-57
53° 26' N
134° 04' W
S.S. 32.35



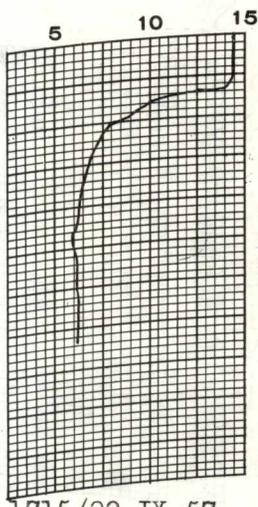
1510/22-IX-57
Station 13



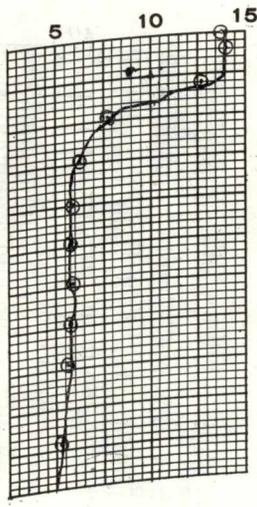
0930/22-IX-57
54° 34' N
135° 19' W
S.S. 32.29



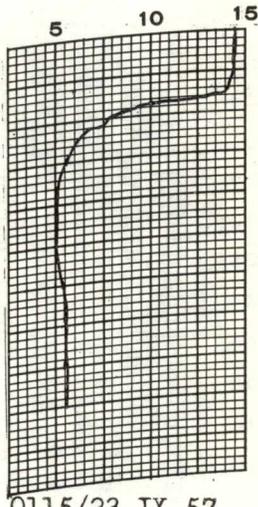
1350/22-IX-57
Station 14



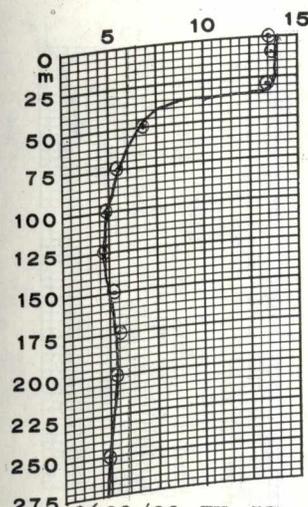
1715/22-IX-57
55° 32' N
136° 29' W
S.S. 32.18



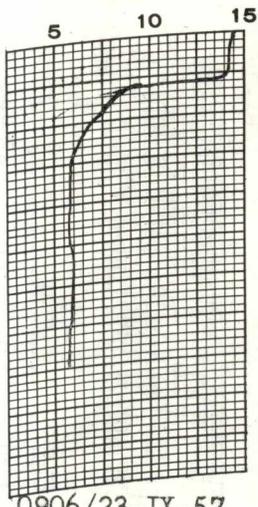
2230/22-IX-57
Station 15



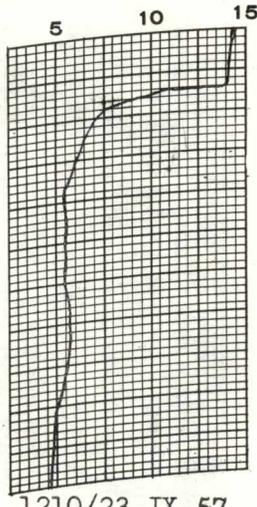
0115/23-IX-57
56° 04' N
137° 50' W
S.S. 32.37



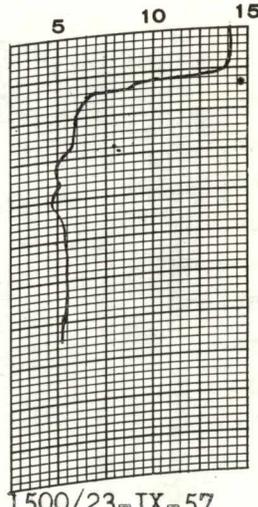
0620/23-IX-57
Station 16



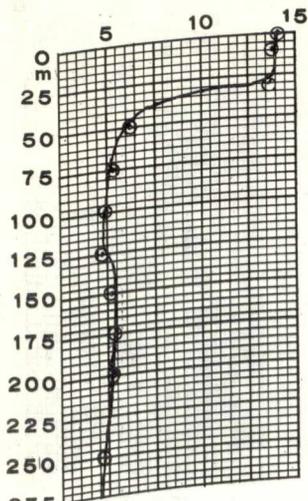
0906/23-IX-57
55° 30' N
139° 00' W
S.S. 32.31



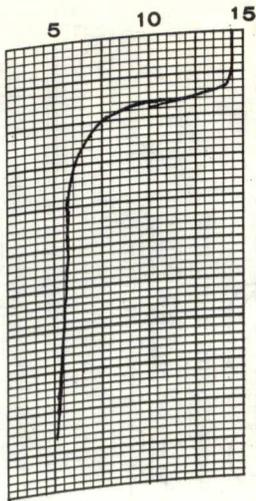
1210/23-IX-57
55° 01' N
139° 01' W
S.S. 32.34



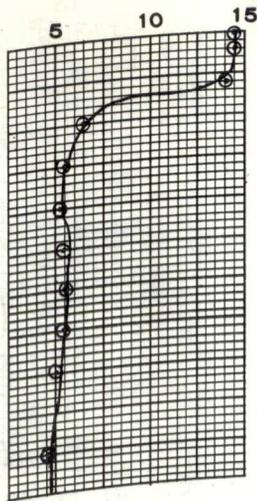
1500/23-IX-57
54° 31' N
139° 04' W
S.S. 32.51



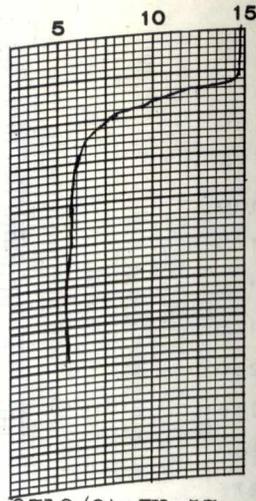
2110/23-IX-57
Station 18



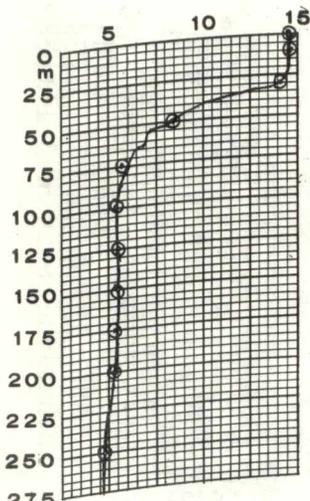
2345/23-IX-57
53° 59' N
138° 09' W
S.S. 32.53



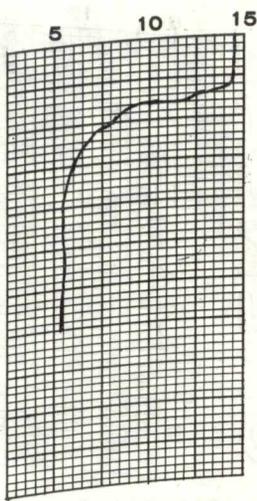
0415/24-IX-57
Station 19



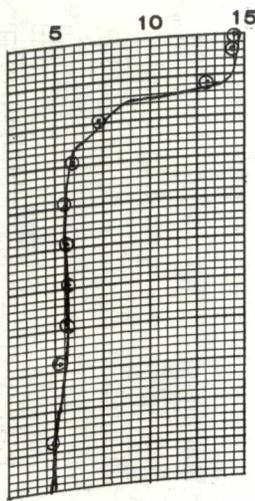
0710/24-IX-57
53° 59' N
136° 31' W
S.S. 32.34



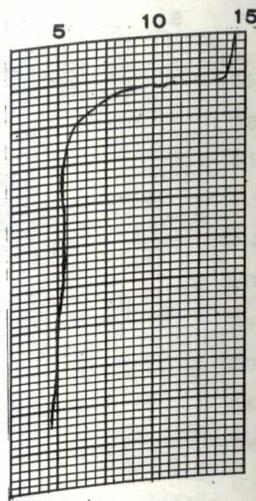
1120/24-IX-57
Station 20



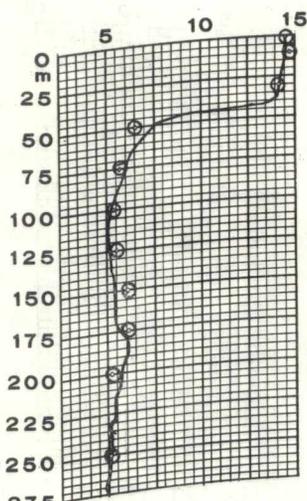
1250/24-IX-57
53° 59' N
135° 20' W
S.S. 32.45



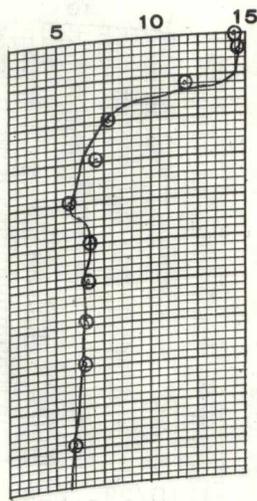
1540/24-IX-57
Station 21



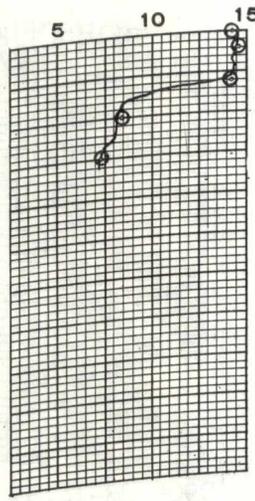
1700/24-IX-57
53° 59' N
134° 33' W
S.S. 32.46



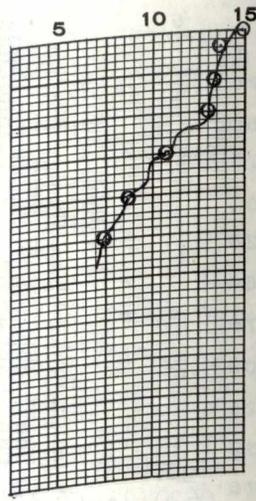
1845/24-IX-57
Station 22



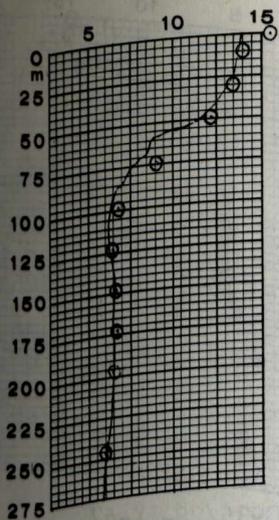
2130/24-IX-57
Station 23



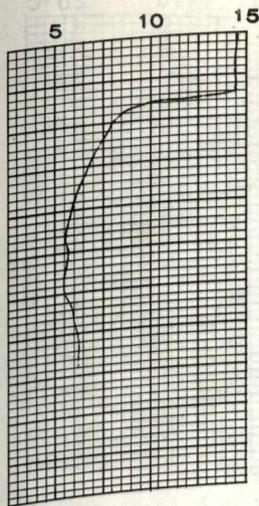
2300/24-IX-57
Station 24



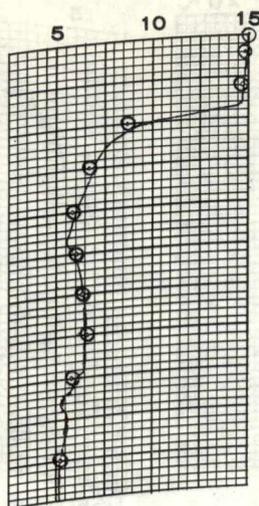
1415/27-IX-57
Station 24



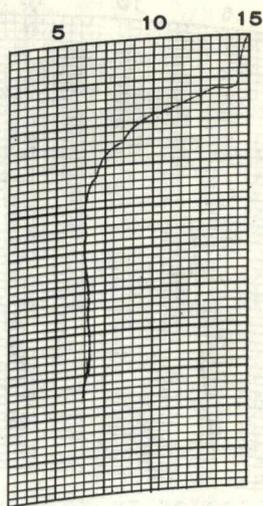
1527/27-IX-57
Station 35



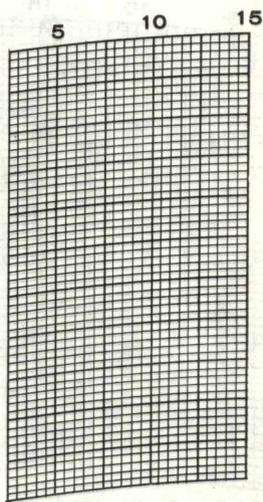
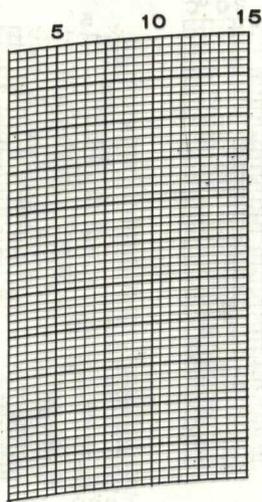
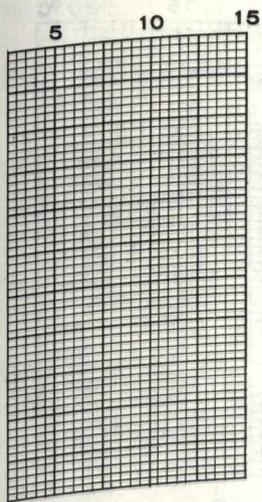
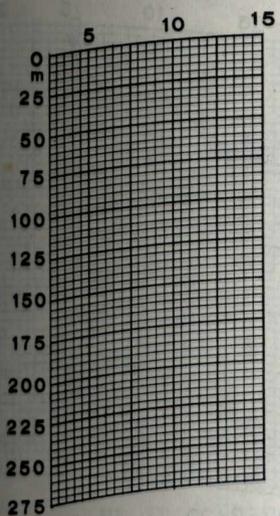
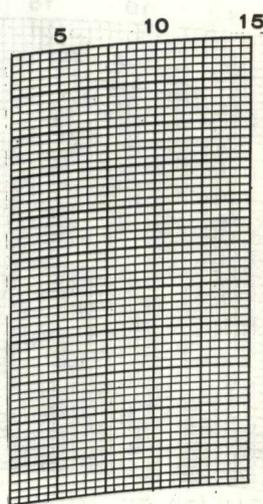
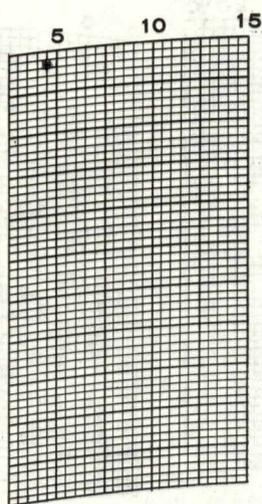
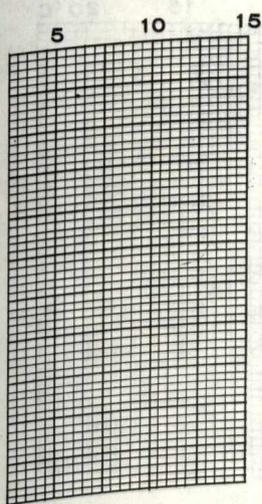
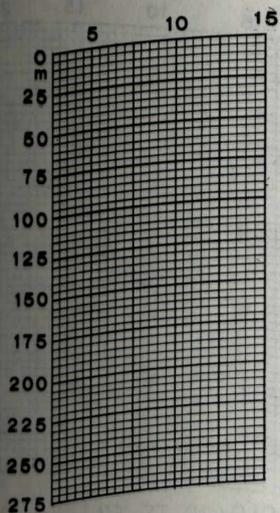
1705/27-IX-57
53° 13' N
133° 18' W
S.S. 32.28

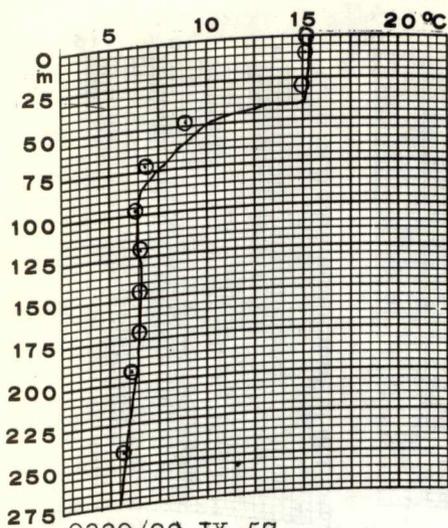


1950/27-IX-57
Station 36

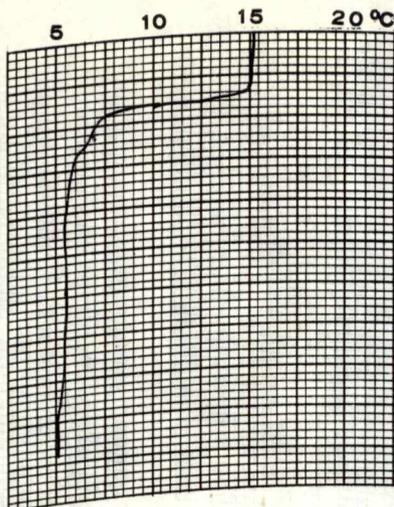


2225/27-IX-57
52° 58' N
134° 20' W
S.S. 32.11

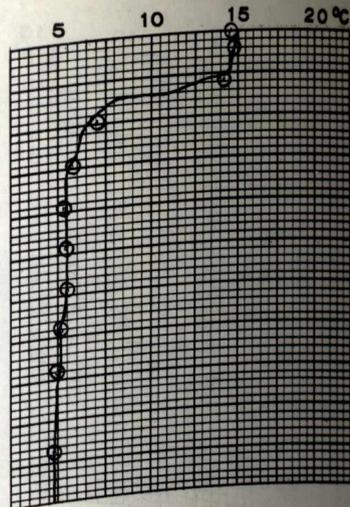




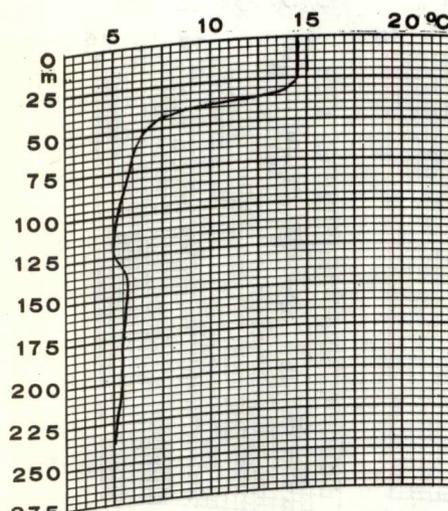
0330/28-IX-57
Station 37



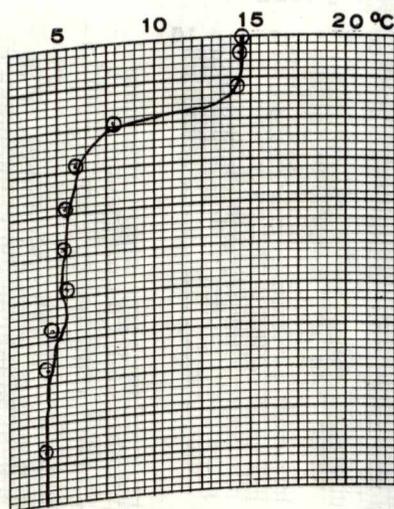
0650/28-IX-57
52° 32' N
135° 53' W
S.S. 32.41



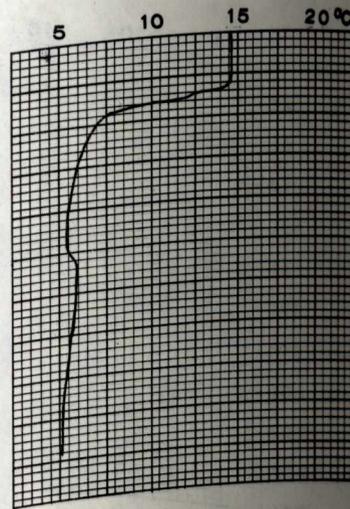
0935/28-IX-57
Station 38



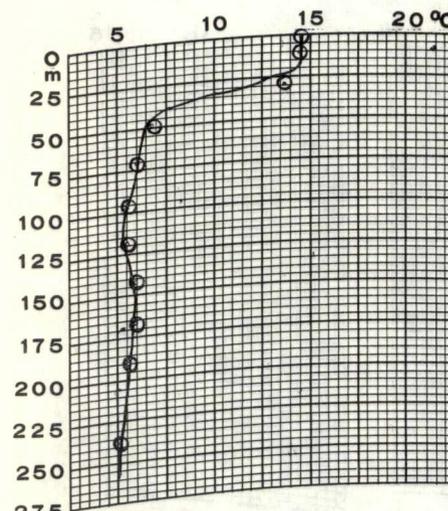
1240/28-IX-57
52° 15' N
137° 04' W
S.S. 32.48



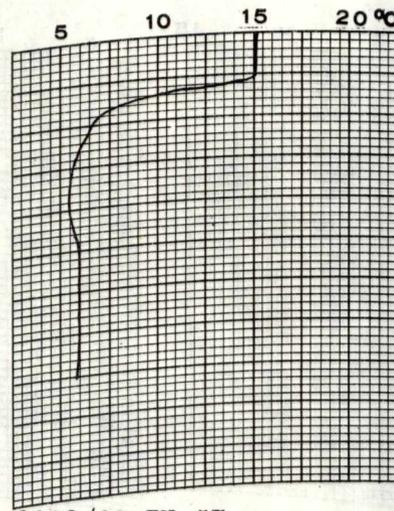
1635/28-IX-57
Station 39



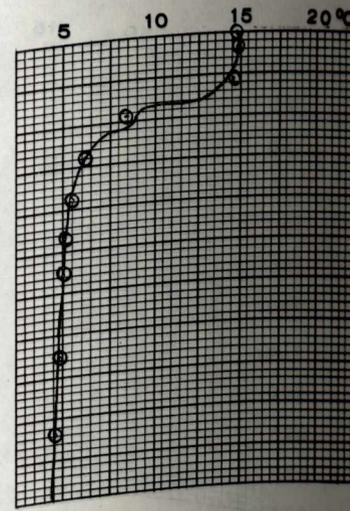
1940/28-IX-57
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137° 25' W



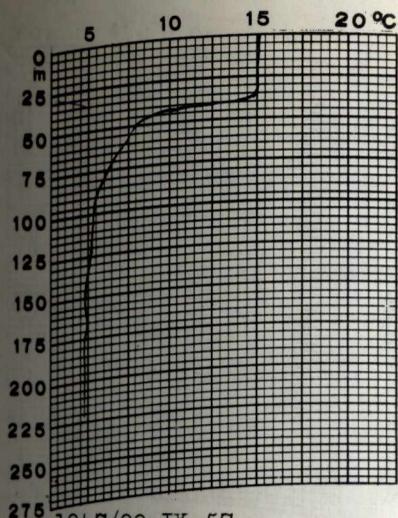
0025/29-IX-57
Station 40



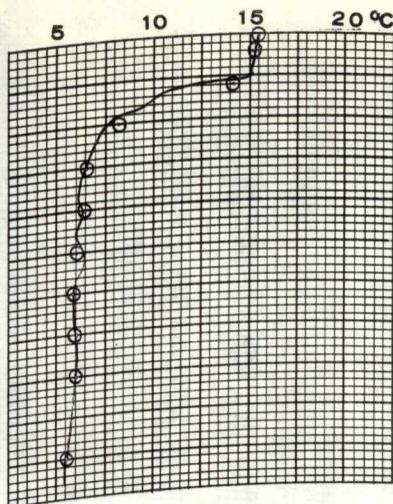
0320/29-IX-57
50° 45' N
136° 09' W
S.S. 32.44



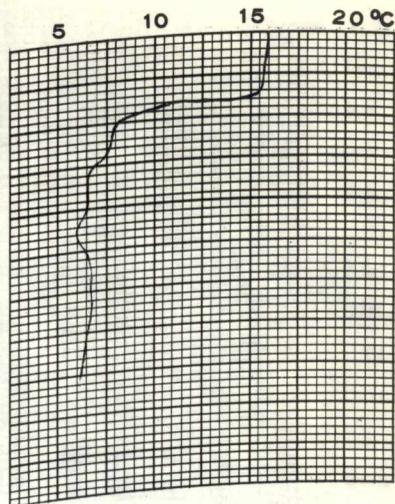
0758/29-IX-57
Station 41



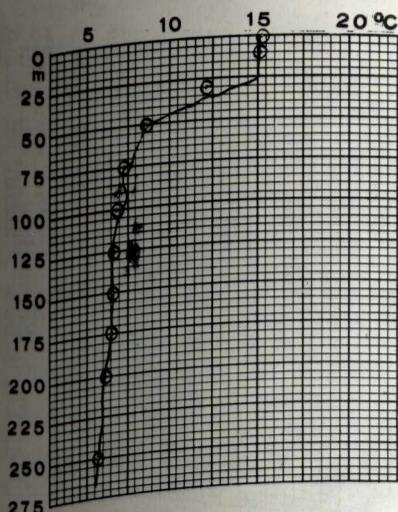
1047/29-IX-57
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 134° 54' W
 S.S. 32.43



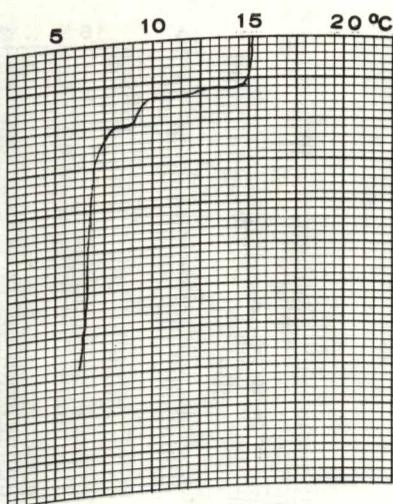
1428/29-IX-57
 Station 42



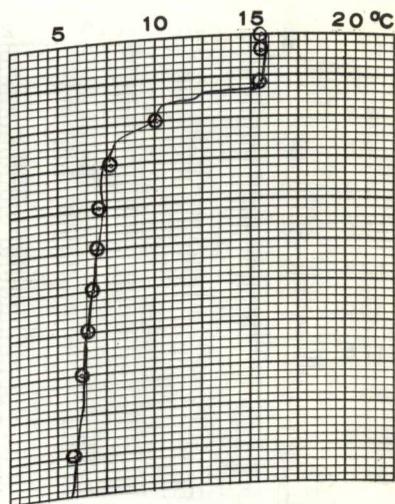
1653/29-IX-57
 51° 01' N
 133° 38' W
 S.S. 32.26



2030/29-IX-57
 Station 43



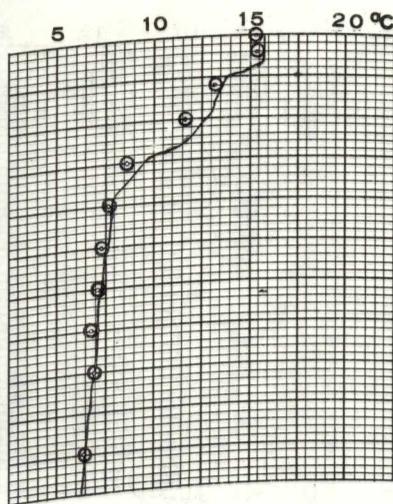
2230/29-IX-57
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 S.S. 32.16



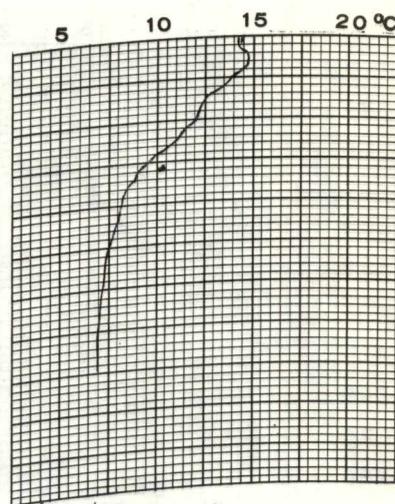
0130/30-IX-57
 Station 44



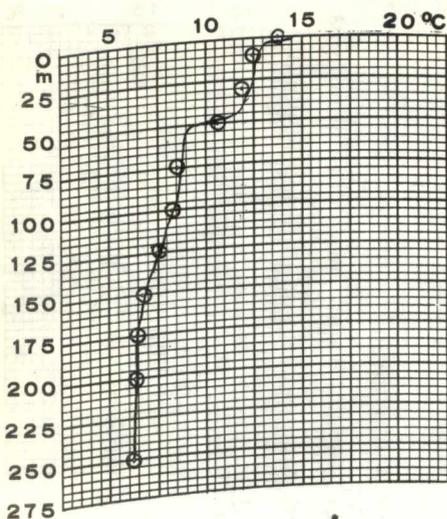
0257/30-IX-57
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 S.S. 32.23



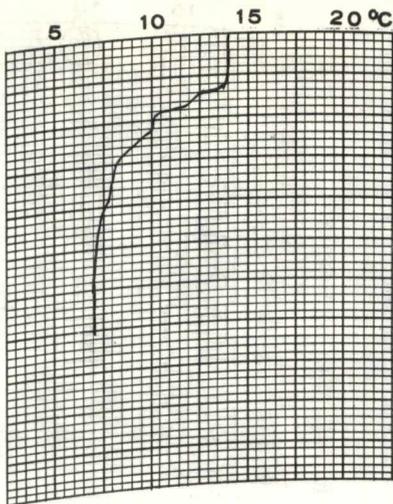
0535/30-IX-57
 Station 45



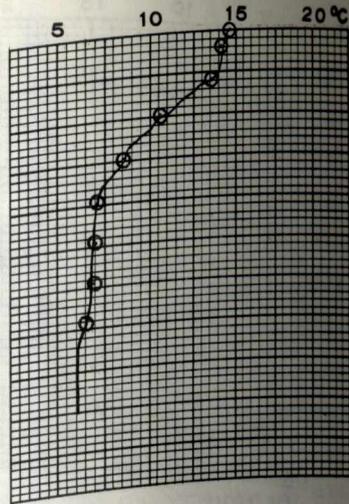
0611/30-IX-57
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 131° 12' W
 S.S. 31.54



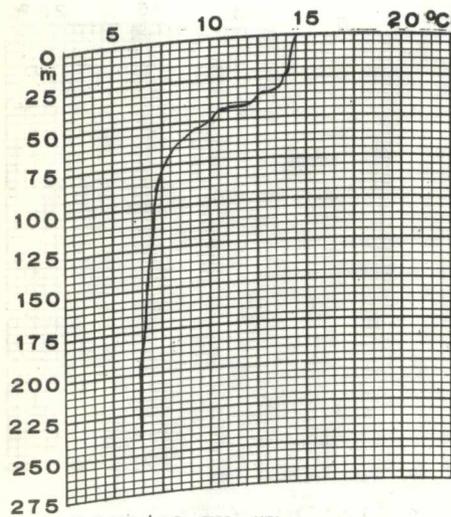
0710/30-IX-57
Station 46



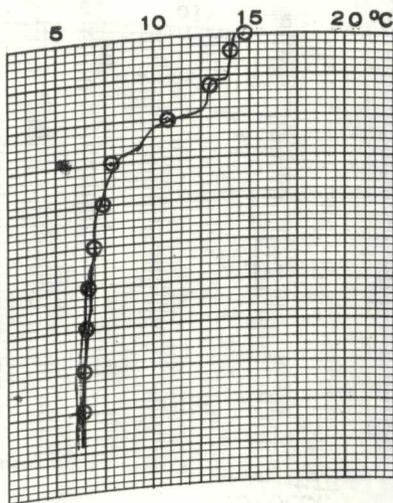
0945/30-IX-57
51° 40' N
130° 43' W
S.S. 31.64



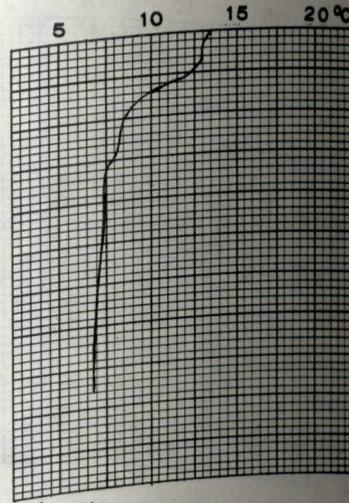
1125/30-IX-57
Station 48



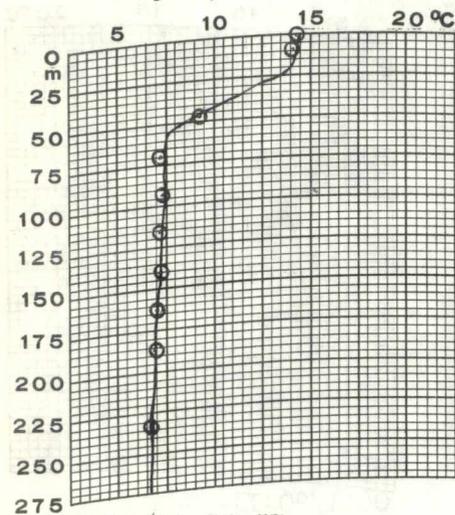
1255/30-IX-57
51° 30' N
130° 05' W
S.S. 31.46



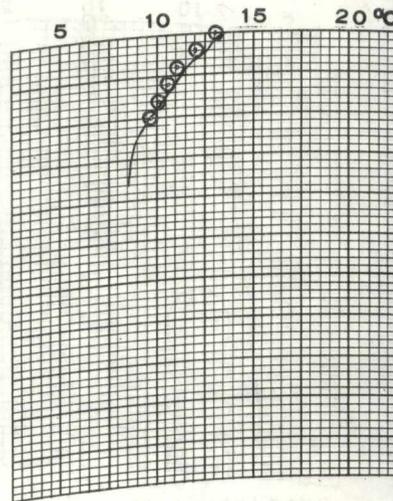
1500/30-IX-57
Station 49



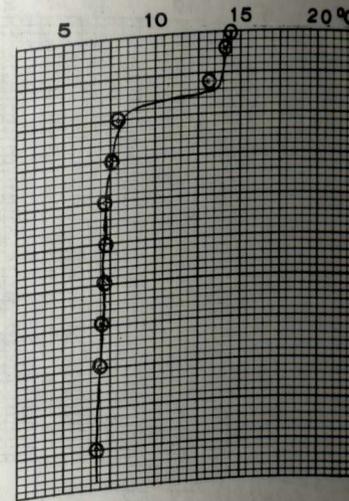
1624/30-IX-57
51° 10' N
129° 31' W
S.S. 31.89



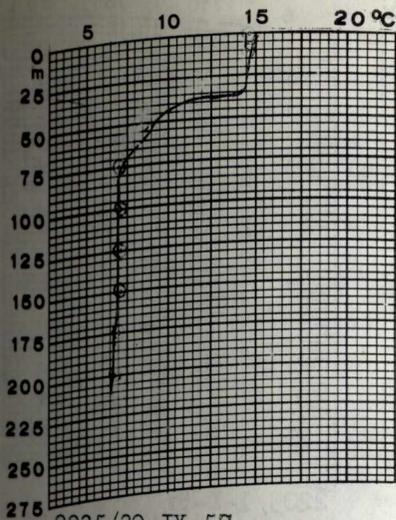
1745/30-IX-57
Station 50



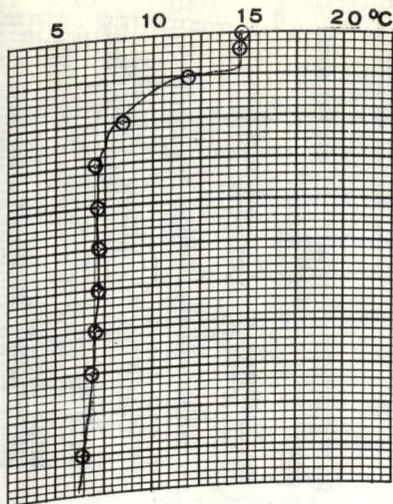
1935/30-IX-57
Station 51



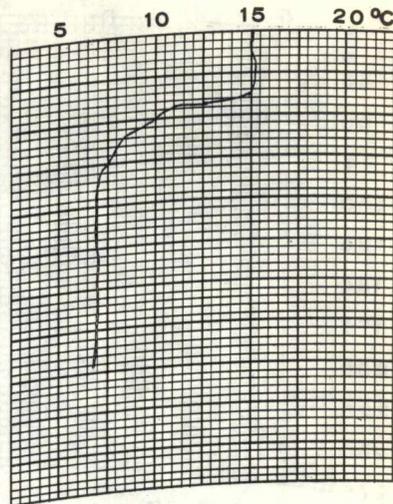
2120/30-IX-57
Station 52



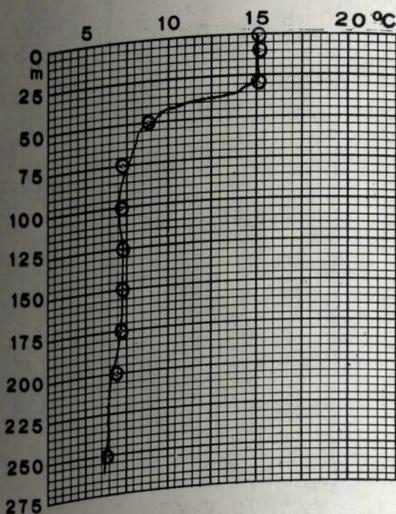
2235/30-IX-57
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 129° 40' W
 S.S. 31.96



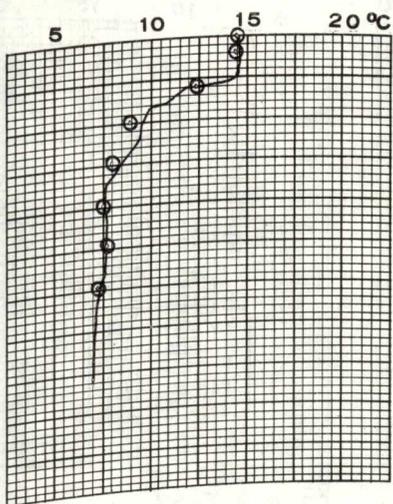
0100/1-X-57
 Station 53



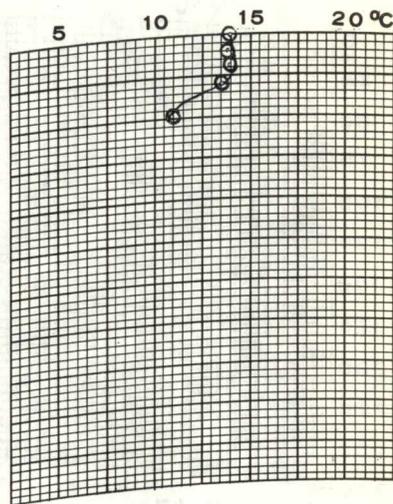
0228/1-X-57
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 129° 35' W
 S.S. 31.93



0625/1-X-57
 Station 54



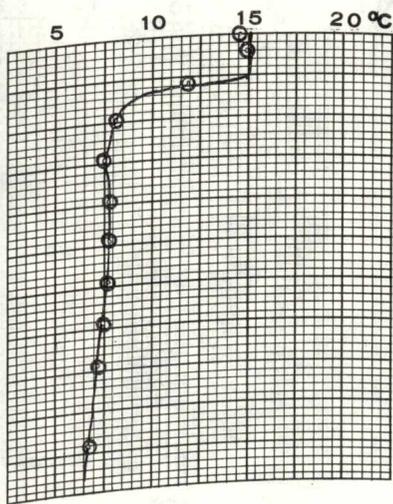
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 Station 55



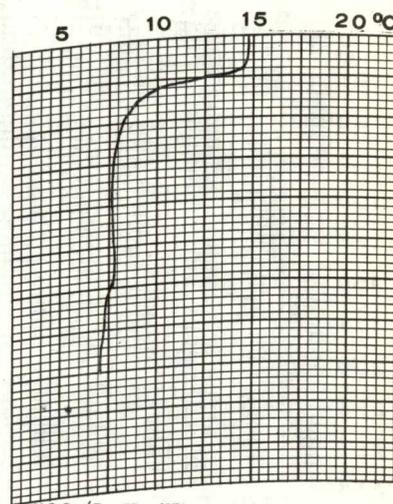
1300/1-X-57
 Station 57
 Station 56 next page



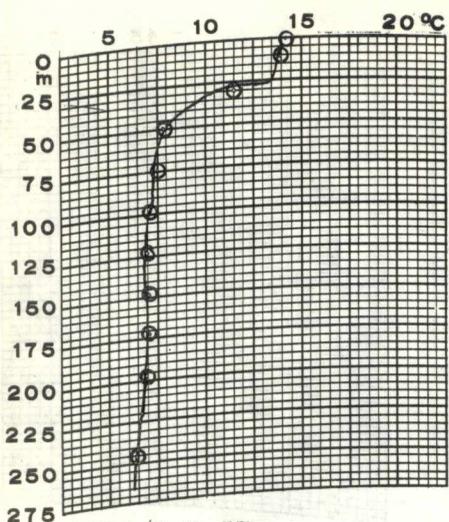
1328/1-X-57
 50° 03' N
 128° 03' W
 S.S. 32.09



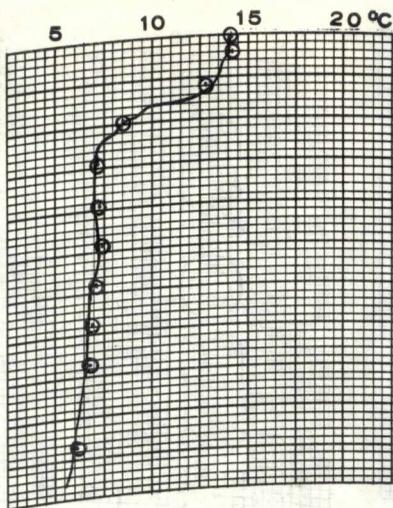
1435/1-X-57
 Station 58



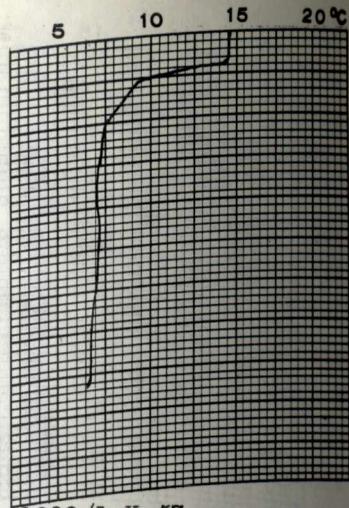
1503/1-X-57
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 128° 11' W
 S.S. 32.04



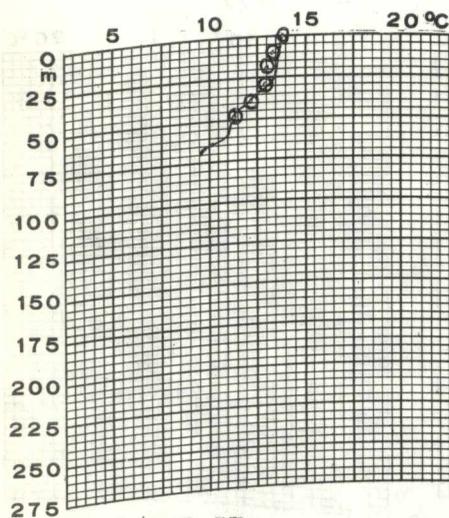
1700/1-X-57
Station 59



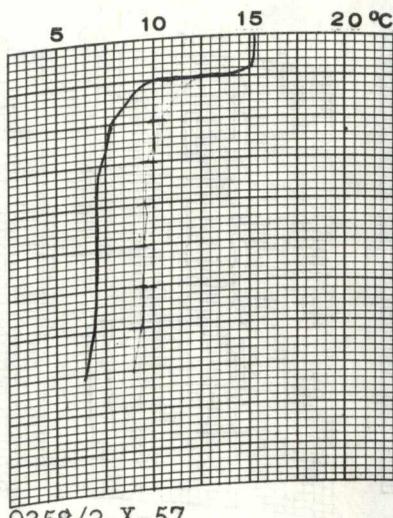
1910/1-X-57
Station 60



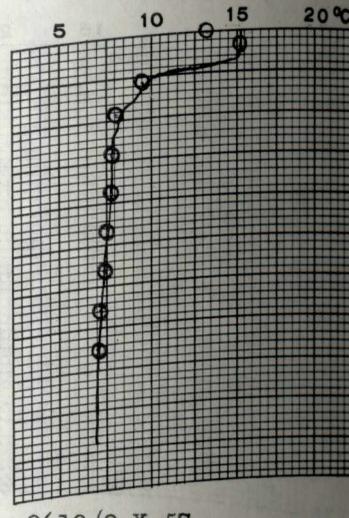
2203/1-X-57
49° 25' N
127° 53' W
S.S. 32.09



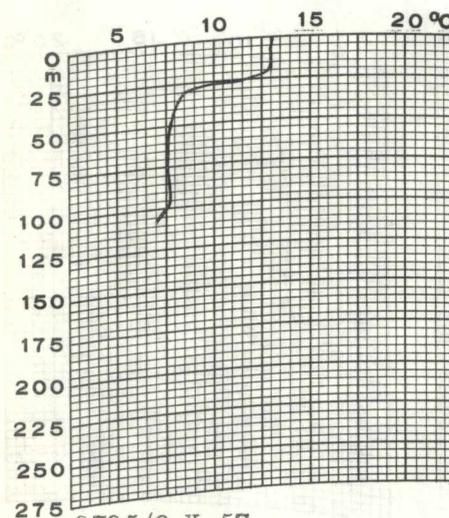
1100/1-X-57
Station 56



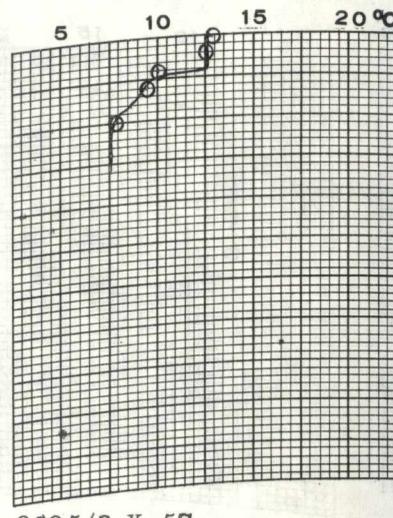
0358/2-X-57
48° 40' N
126° 34' W
S.S. 32.00



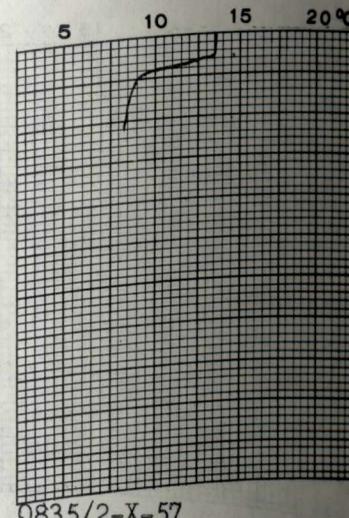
0610/2-X-57
Station 67



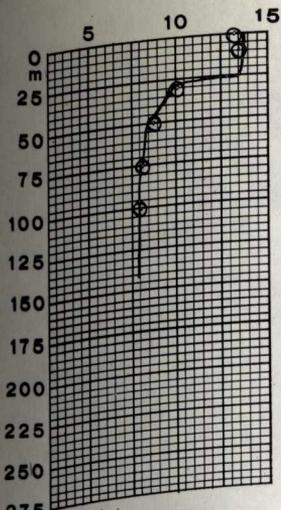
0705/2-X-57
48° 33' N
126° 04' W
S.S. 31.92



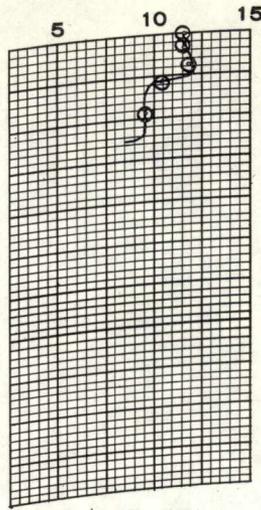
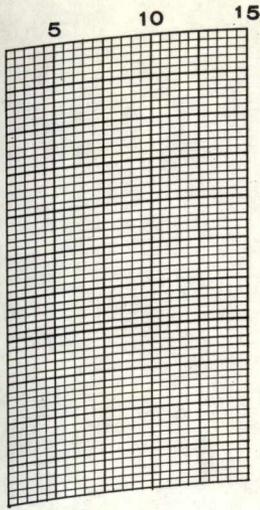
0805/2-X-57
Station 68



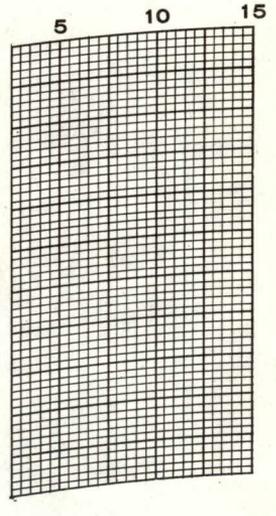
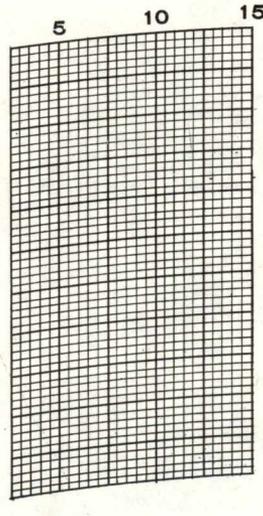
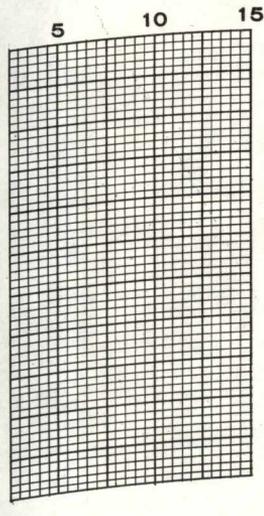
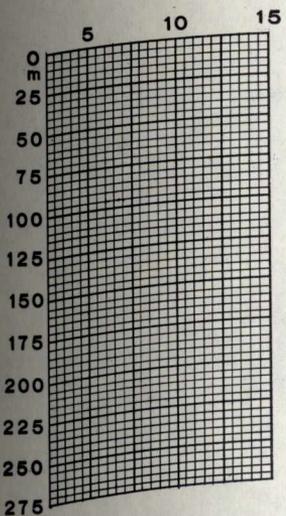
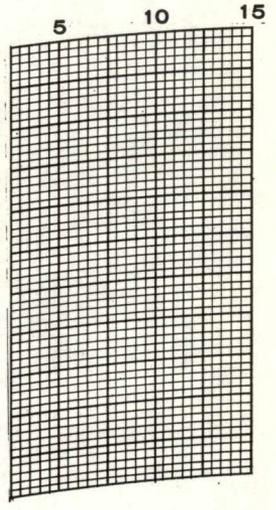
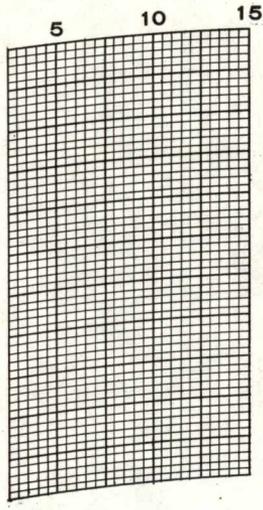
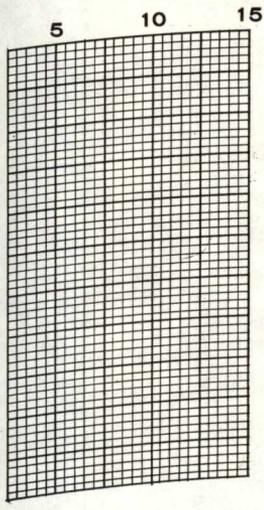
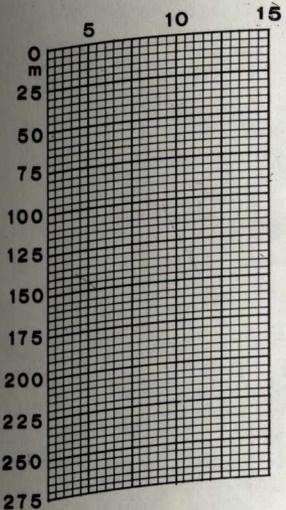
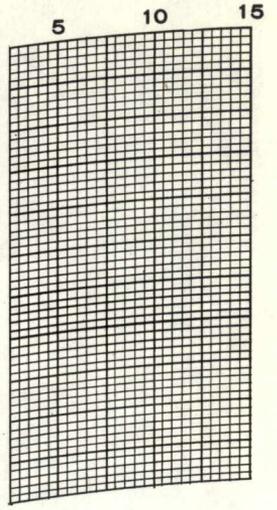
0835/2-X-57
48° 43' N
125° 50' W
S.S. 32.04



0918/2-X-57
Station 69



1040/2-X-57
Station 70



Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
C-57-3 September 18 - October 2, 1957										
3	161.9		161.9	tr.	tr.	109.6	tr.		49.8	
Depth of haul - 70 meters										
4	75.6		75.6	tr.	4.2	42.0		tr.	29.4	Oik, Ann, Ost Eggs
5	25.9		25.9	tr.	tr.	16.1	tr.	tr.	9.0	Oik, Ann, Ost, Eggs
6	28.5		28.5	tr.	3.3	18.4	tr.	tr.	5.0	Oik, Ann, Ost, Fish larv, Eggs
7	27.0	tr.	27.0	tr.	tr.	17.1	1.4	1.4	7.1	Oik, Ann, Ost Eggs
8	284.7	209.8	74.9		tr.	56.9		tr.	14.9	Ost, Eggs, Dino
9	39.6	tr.	39.6	tr.	tr.	25.5	tr.	tr.	13.2	Ann, Ost, Eggs
10	64.6	11.7	52.9	tr.	1.1	23.5	tr.		23.5	Ann, Ost, Fish larv
11	50.7	0.5	50.2	tr.	5.4	36.0		tr.	8.1	Oik, Ann, Ost, Eggs, Dino
12	92.8	tr.	92.8	tr.	5.4	43.6		21.8	16.3	Oik, Ann, Ost, Eggs

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
13	78.6	tr.	78.6	tr.	2.6	55.0	tr.	1.3	6.5	Ann, Ost
14	56.1	tr.	56.1	tr.	tr.	53.9	tr.	1.2	tr.	Ann; Eggs, Fish larv
15	77.4	tr.	77.4	tr.	tr.	68.8	tr.	tr.	8.6	Oik, Ann, Ost Eggs
16	47.2		47.2	tr.	tr.	43.4	tr.	tr.	3.1	Oik, Ost, Eggs
18	43.8		43.8	tr.	tr.	41.1	tr.	2.3	tr.	Oik, Ann, Ost Eggs
19	52.9	tr.	52.9	tr.	tr.	40.0		3.7	0.7	Ann, Ost
20	8.6	1.6	7.0	tr.	tr.	5.8		0.5	tr.	Ann
21	69.3	tr.	69.3	tr.	tr.	63.0	tr.	tr.	5.0	Ann, Ost, Eggs
22	70.5	11.7	58.8	tr.	tr.	28.2	tr.	tr.	17.6	Ann, Ost, Eggs
23	64.0	2.9	61.1		9.8	19.7		29.5	1.9	Ann, Ost
24/25	80.5	2.7	77.8	tr.	tr.	64.1		4.5	tr.	Fish larv

Depth of haul - 75 meters

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
34	60.0	tr.	60.0	tr.	15.0	36.0	tr.	tr.	9.0	Oik, Ost
Depth of haul - 125 meters										
35	147.4	tr.	147.4	tr.	32.7	73.7		24.5	32.7	Oik, Ann, Ost
36	168.1	47.2	120.9		26.8	53.7		26.8	13.4	Ann, Ost, Fish larv
37	376.2	285.0	91.2	tr.	11.4	41.8	7.6	7.6	19.0	Ann, Eggs
38	88.1	61.7	26.4	tr.		26.4			tr.	Oik, Ann
39	46.2	tr.	46.2		tr.	44.3		0.4	tr.	Oik, Ann, Ost
40	59.8	tr.	59.8	tr.	tr.	48.5	tr.	0.6	9.4	Oik, Ann, Ost Fish larv
41	44.8		44.8		tr.	32.0		tr.	12.8	Ann, Ost
42	402.5	342.2	60.3		tr.	60.3			tr.	Ost
43	255.3	201.6	53.7		tr.	40.3		tr.	13.4	Oik, Ann
44	64.9	14.7	50.2		tr.	35.3		tr.	9.8	Salp, Ann, Ost

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
45	52.9	tr.	52.9	tr.	2.2	12.8		18.9	18.9	Ann, Eggs
46	24.9	tr.	24.9	tr.	2.9	17.6		tr.	4.4	Oik, Ann, Eggs
48	39.4		39.4		tr.	31.5		8.4		Ost, Eggs
49	83.1		83.1		tr.	18.4	tr.	36.9	27.7	Ost
50	103.4		103.4	tr.	tr.	33.9		1.4	66.5	Ann, Ost, Eggs
51	87.5		87.5	tr.	tr.	81.2	tr.		6.2	Oik, Ann, Eggs
										Depth of haul - 50 meters
52	78.5		78.5		tr.	9.2		73.9	4.6	Eggs
53	90.6		90.6		tr.	3.1	tr.	8.2	5.3	Ann, Eggs
53A	136.5		136.5	tr.	tr.	21.0		63.0	52.5	Oik, Ost, Eggs
54	21.0		21.0	tr.	2.1	13.6		tr.	5.2	Oik, Ost, Eggs
55	260.0	tr.	260.0		tr.	240.0	tr.		20.0	Ann, Oik
										Depth of haul - 50 meters

Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
57	117.6		117.6	tr.	tr.	101.9	tr.		15.6	Oik, Ann, Eggs Depth of haul - 45 meters
58	71.4		71.4		tr.	14.2	7.1		49.9	Oik, Eggs
59	136.2		136.2		37.1	24.7		tr.	74.3	Ann, Eggs
60	83.4		83.4	tr.	7.5	40.9	tr.	12.1	22.7	Oik, Ost, Eggs
67	39.9		39.9		tr.	0.4		38.5	0.4	Eggs
68	40.3		40.3	tr.	tr.	36.1	tr.		4.2	Oik, Eggs Depth of haul - 50 meters
69	55.7	tr.	55.7	tr.	tr.	35.5			20.7	Oik, Eggs, Fish larv Depth of haul - 100 meters
70	21.2		21.2		tr.	20.5	0.5		0.2	Oik, Eggs, Cirre Depth of haul - 50 meters

November 25 - December 18, 1957

Personnel: F.G. Barber
E.B. Bennett
O.D. Kennedy
J.A. Stickland
D.G. Robertson
R.L. Johnston

- Note: 1. Stations with the prefix H are in positions occupied during the Hecate Project of 1954 and 1955. Previous data are reported in Physical and Chemical Data Record, Hecate Project 1954 and 1955 (Fisheries Research Board of Canada, 1955a, 1955b). Stations with the prefix S were observed for a special sound-ranging conditions project.
2. Bathythermograms obtained while the ship was en route from San Francisco to the survey area are included.

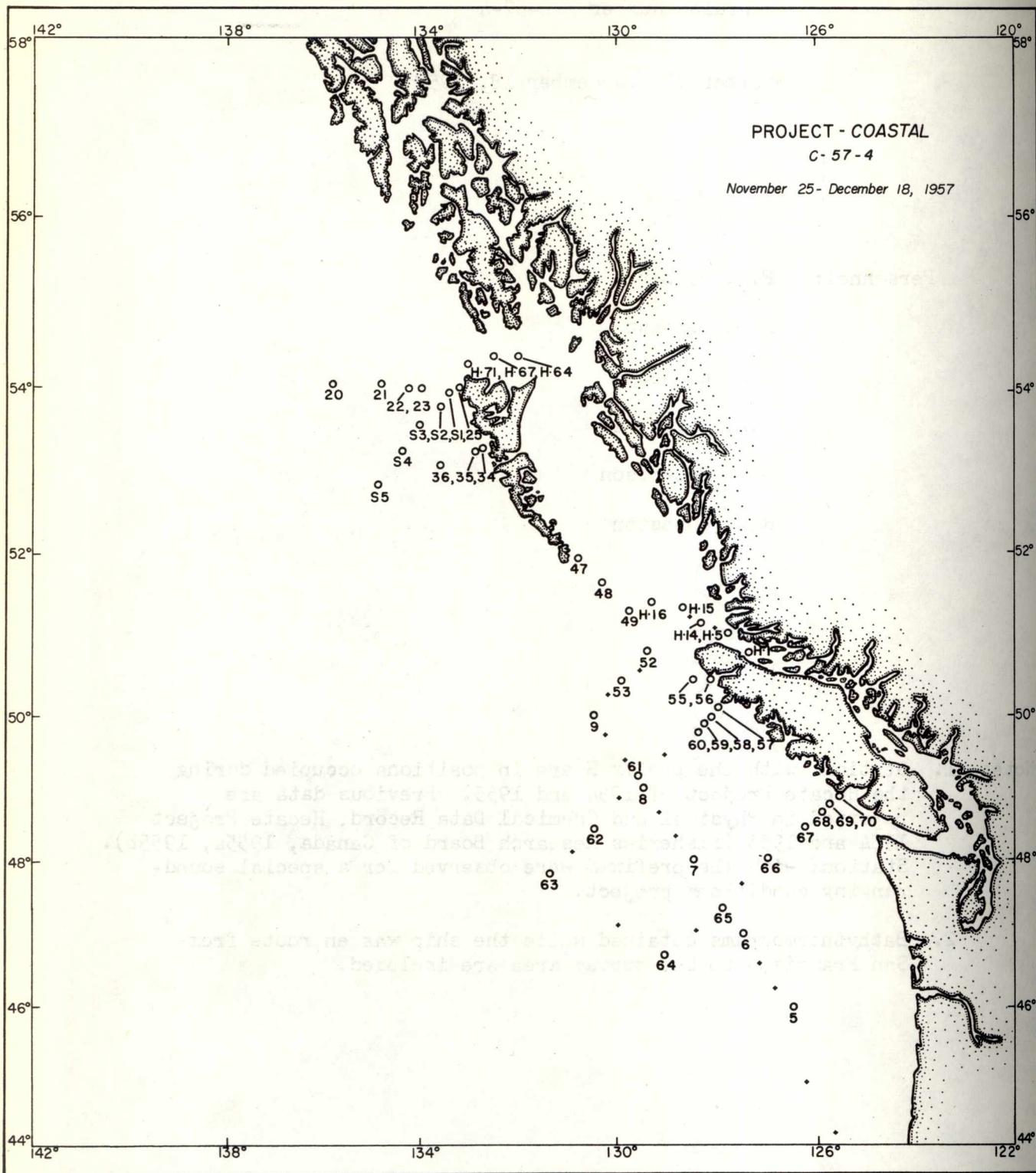


Fig. 5. Approximate positions of stations and bathythermograph lowerings (crosses) for cruise C-57-4, November 25-December 18, 1957.

STATION 70

TIME: 1840 DATE: 25-XI-57 LAT: 48° 51' N LONG: 125° 34' W SOUNDING: 24 fms.
 WEATHER: 18 WIND: Dir. 285° Speed 35 AIR TEMP: Dry 46° Wet 45° BARO: 1015.9 mb.
 CLOUD: Type Sc Amt 10 SEA: 285° -4 SWELL: 285° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.20	31.35	23.92	4888.	
10.	11.50	31.30	23.83	4892.	
20.	11.50	31.30	23.83	4893.	
30.	11.30	31.33	23.89	4891.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.20	31.35	23.92	23.92	0.0	399.2	0.000
10.	11.50	31.30	23.83	23.88	10.0	408.1	.041
20.	11.50	31.30	23.83	23.92	20.1	408.4	.082
30.	11.30	31.33	23.89	24.03	30.1	402.7	.122

STATION 69.

TIME: 2033 DATE: 25-XI-57 LAT: 48° 46.6'N LONG: 125° 45.8'W SOUNDING: 28 fms.
 WEATHER: 18 WIND: Dir. 290° Speed 30 AIR TEMP: Dry 47° Wet 45° BARO: 1018.6 mb.
 CLOUD: Type Sc Amt 10 SEA: 290° - 6 SWELL: 290° - 6 SECCHI DISC:

Depth m.	Temp. °C	S	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.20	31.40	23.97	4889.	
10.	10.98	31.36	23.92	4891.	
20.	11.42	31.60	24.08	4893.	
30.	11.42	31.87	24.37	4888.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.20	31.40	23.97	23.97			
10.	10.98	31.36	23.92	24.05			
20.	11.42	31.60	24.08	24.17			
30.	11.28	31.87	24.37	24.41			

STATION 68

TIME: 2210 DATE: 25-XI-57 LAT: 48° 39' N LONG: 125° 56' W SOUNDING: 45 fms.
 WEATHER: 81 WIND: Dir. 290° Speed 30 AIR TEMP: Dry 44° Wet 40° BARO: 1020.0 mb.
 CLOUD: Type Cu Amt 2 SEA: 290° - 6 SWELL: 290° - 8 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.30	31.66	24.15	4891.	
10.	11.01	31.66	24.20	4888.	
19.	10.99	31.70	24.23	4888.	
29.	11.32	32.27	24.61	4895.	
49.	9.98	32.76	25.23	4882.	
74.	8.34	33.07	25.73	4865.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.30	31.66	24.15	24.15	0.0	377.5	0.000
10.	11.01	31.66	24.20	24.24	10.0	373.3	.038
20.	11.01	31.73	24.25	24.35	20.1	368.1	.075
30.	11.32	32.31	24.65	24.79	30.1	330.6	.110
50.	9.91	32.78	25.26	25.49	50.3	273.0	.171

STATION 67 HOKIYATE

TIME: 0122 DATE: 26-XI-57 LAT: 48° 27' N LONG: 126° 15' W SOUNDING: fms.
 WEATHER: 81 WIND: Dir. 310° Speed 30 AIR TEMP: Dry 8° Wet 6° BARO: 1024.4 mb.
 CLOUD: Type Cu Amt 2 SEA: SWELL: 300° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.70	32.35	24.79	4886.	
10.	10.92	32.25	24.68	4889.	
29.	10.68	32.34	24.79	4888.	
48.	7.95	32.83	25.60	4857.	
72.	8.43	33.17	25.80	4866.	
96.	7.87	33.48	26.12	4862.	
119.	7.93	33.68	26.27	4864.	
143.	7.86	33.63	26.24	4865.	
191.	7.58	33.89	26.48	4865.	
239.	7.04	33.95	26.61	4861.	
286.	6.45	33.98	26.71	4856.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.70	32.35	24.79	24.79	0.0	317.0	0.000
10.	10.92	32.25	24.68	24.72	10.1	327.7	.032
20.	11.10	32.25	24.64	24.73	20.1	331.1	.066
30.	10.60	32.36	24.81	24.95	30.2	315.0	.098
50.	7.82	32.86	25.65	25.88	50.3	235.9	.153
75.	8.42	33.21	25.83	26.18	75.4	219.0	.211
100.	7.84	33.52	26.16	26.62	100.6	188.1	.262
150.	7.83	33.64	26.25	26.94	151.0	180.2	.355
200.	7.50	33.92	26.52	27.44	201.4	155.7	.439
250.	6.91	33.96	26.63	27.79	251.8	145.2	.515

STATION 66

TIME: 0718 DATE: 26-XI-57 LAT: 48° 01' N LONG: 127° 00' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 290° Speed 20 AIR TEMP: Dry 52° Wet 50° BARO: 1027.1 mb.
 CLOUD: Type Sc Amt 6 SEA: 290° - 3 SWELL: 290° - 6 SECCHI DISC: 10 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.80	32.49	24.70	4900.	0.539
10.	11.96	32.47	24.65	4902.	.542
20.	11.97	32.46	24.65	4903.	.573
29.	11.52	32.47	24.73	4898.	.541
49.	8.94	32.67	25.33	4869.	.581
74.	7.41	32.72	25.59	4852.	.568
98.	6.90	32.86	25.77	4847.	.554
122.	6.47	33.10	26.01	4844.	.528
147.	6.50	33.40	26.25	4847.	.478
172.	6.67	33.72	26.48	4852.	.431
196.	6.56	33.84	26.59	4852.	.413
245.	6.22	33.90	26.68	4851.	.288
294.	5.92	33.95	26.76	4850.	.206
392.	5.57	34.07	26.89	4852.	.126
490.	4.99	34.12	27.00	4850.	.071
588.	4.70	34.19	27.09	4852.	.066
784.	4.08	34.30	27.24	4855.	.014
980.	3.58	34.39	27.37	4861.	.016

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.80	32.49	24.70	24.70	0.0	325.5	0.000
10.	11.96	32.47	24.65	24.70	10.1	330.1	.033
20.	11.97	32.46	24.65	24.74	20.1	330.6	.066
30.	11.44	32.47	24.75	24.89	30.2	321.1	.099
50.	8.84	32.68	25.35	25.58	50.3	264.3	.158
75.	7.37	32.73	25.60	25.95	75.4	240.5	.221
100.	6.86	32.87	25.79	26.25	100.6	223.2	.280
150.	6.51	33.43	26.27	26.97	151.0	177.6	.381
200.	6.54	33.86	26.60	27.53	201.3	147.2	.462
250.	6.19	33.90	26.68	27.85	251.7	140.0	.535
300.	5.89	33.96	26.76	28.16	302.2	132.8	.604
400.	5.53	34.07	26.90	28.76	403.1	121.0	.732
500.	4.95	34.13	27.01	29.35	504.0	111.0	.849
600.	4.66	34.20	27.10	29.90	605.0	103.5	.957
700.	4.35	34.26	27.18	30.45	706.1	96.4	1.058
800.	4.03	34.31	27.25	31.00	807.2	89.7	1.152

STATION 65

TIME: 1526 DATE: 26-XI-57 LAT: 47° 20' N LONG: 127° 52' W SOUNDING: 1443 fms.
 WEATHER: 03 WIND: Dir. 240° Speed 10 AIR TEMP: Dry 54° Wet 51° BARO: 1028.7 mb.
 CLOUD: Type Sc Amt 9 SEA: 240° - 3 SWELL: 290° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	12.00	32.48	24.65	4902.	
10.	12.03	32.47	24.64	4903.	0.539
20.	12.03	32.47	24.64	4903.	.554
30.	12.05	32.47	24.64	4904.	.557
49.	8.28	32.67	25.43	4861.	.594
74.	7.52	32.72	25.57	4853.	.573
98.	6.86	32.76	25.70	4846.	.577
123.	6.58	33.03	25.94	4845.	.533
148.	6.89	33.40	26.20	4852.	.492
172.	6.91	33.70	26.43	4855.	.382
197.	6.78	33.83	26.55	4855.	.379
246.	6.45	33.92	26.66	4854.	.257
295.	6.02	33.97	26.76	4851.	.179
394.	5.37	34.04	26.90	4849.	.114
492.	4.97	34.13	27.01	4850.	.064
590.	4.43	34.16	27.10	4848.	.048
787.	3.92	34.31	27.26	4853.	.031
984.	3.32	34.38	27.38	4857.	.028

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	$10^5 \delta$	ΔD
0.	12.00	32.48	24.65	24.65	0.0	329.8	0.000
10.	12.03	32.47	24.64	24.68	10.1	331.3	.033
20.	12.03	32.47	24.64	24.73	20.1	331.5	.067
30.	12.05	32.47	24.64	24.77	30.2	332.0	.100
50.	8.16	32.68	25.45	25.68	50.3	254.3	.159
75.	7.49	32.72	25.58	25.92	75.4	242.8	.221
100.	6.82	32.77	25.71	26.18	100.6	230.2	.281
150.	6.90	33.43	26.22	26.91	150.9	183.0	.385
200.	6.76	33.84	26.56	27.49	201.3	151.3	.469
250.	6.42	33.92	26.67	27.83	251.7	141.6	.543
300.	5.98	33.97	26.76	28.16	302.2	132.9	.612
400.	5.34	34.05	26.90	28.77	403.1	120.4	.740
500.	4.93	34.14	27.02	29.36	504.0	110.0	.856
600.	4.39	34.17	27.11	29.91	605.0	102.4	.964
700.	4.05	34.23	27.19	30.47	706.1	94.9	1.063
800.	3.88	34.31	27.27	31.02	807.2	87.6	1.156

STATION 64

TIME: 2337 DATE: 26-XI-57 LAT: 46° 41' N LONG: 129° 01' W SOUNDING: 1442 fms.
 WEATHER: 02 WIND: Dir. 210° Speed 25 AIR TEMP: Dry 55° Wet 54° BARO: 1023.4 mb.
 CLOUD: Type Sc Amt 8 SEA: 210° - 4 SWELL: 290° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	12.50	32.44	24.53	4907.	
10.	12.47	32.41	24.51	4908.	
20.	12.45	32.41	24.52	4908.	
30.	12.45	32.41	24.52	4909.	
50.	12.47	32.41	24.51	4910.	
75.	8.35	32.68	25.42	4863.	
100.	6.95	32.75	25.68	4847.	
124.	6.38	33.05	25.99	4842.	0.540
149.	6.90	33.51	26.28	4852.	.453
174.	6.88	33.71	26.44	4854.	.412
199.	6.48	33.78	26.55	4851.	.422
249.	5.96	33.87	26.69	4847.	.362
298.	5.67	33.91	26.76	4847.	.235
398.	5.02	34.01	26.91	4844.	.113
497.	4.39	34.06	27.02	4842.	.088
597.	4.15	34.16	27.13	4845.	.049
796.	3.81	34.32	27.28	4852.	.025
995.	3.34	34.40	27.40	4858.	.030

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	12.50	32.44	24.53	24.53	0.0	341.3	0.000
10.	12.47	32.41	24.51	24.56	10.1	343.3	.034
20.	12.45	32.41	24.52	24.61	20.1	343.1	.069
30.	12.45	32.41	24.52	24.65	30.2	343.5	.103
50.	12.47	32.41	24.51	24.74	50.3	344.3	.173
75.	8.35	32.68	25.42	25.77	75.4	257.6	.248
100.	6.95	32.75	25.68	26.14	100.6	233.3	.310
150.	6.91	33.52	26.29	26.98	150.9	176.5	.413
200.	6.47	33.78	26.55	27.48	201.3	151.6	.496
250.	5.95	33.87	26.69	27.86	251.7	139.2	.569
300.	5.66	33.91	26.76	28.16	302.1	133.1	.638
400.	5.01	34.01	26.91	28.78	403.0	119.4	.765
500.	4.38	34.07	27.03	29.37	504.0	108.9	.880
600.	4.14	34.16	27.13	29.94	605.0	99.9	.986
700.	3.95	34.25	27.21	30.50	706.1	92.4	1.083
800.	3.80	34.32	27.29	31.04	807.2	86.2	1.173

STATION 63

TIME: 1446 DATE: 27-XI-57 LAT: 47° 48' N LONG: 131° 22' W SOUNDING: 1560 fms.
 WEATHER: 18 WIND: Dir. 315° Speed 15 AIR TEMP: Dry 51° Wet 47° BARO: 1019.6 mb.
 CLOUD: Type Fc&ScAmt 8 SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.50	32.44	24.71	4896.	0.541
10.	11.47	32.38	24.67	4896.	.554
19.	11.46	32.37	24.67	4896.	.559
28.	11.47	32.37	24.67	4897.	.552
47.	10.59	32.37	24.83	4888.	.553
70.	7.90	32.64	25.46	4857.	.584
93.	6.74	32.70	25.66	4844.	.582
117.	6.30	32.99	25.95	4841.	.540
140.	6.23	33.22	26.14	4842.	.484
163.	6.44	33.55	26.37	4847.	.403
187.	6.44	33.76	26.54	4850.	.326
233.	6.11	33.89	26.69	4849.	.252
280.	5.64	33.93	26.77	4845.	.196
374.	5.11	33.98	26.88	4844.	.133
467.	4.61	34.04	26.98	4843.	.098
560.	4.28	34.11	27.07	4844.	.067
747.	3.88	34.27	27.24	4850.	.031
934.	3.37	34.36	27.36	4855.	.032
1427.	2.45	34.50	27.55	4871.	.079

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,p}$	P	10 ⁵ δ	ΔD
0.	11.50	32.44	24.71	24.71	0.0	324.0	0.000
10.	11.47	32.38	24.67	24.72	10.1	327.9	.033
20.	11.46	32.37	24.67	24.76	20.1	328.4	.066
30.	11.44	32.37	24.68	24.81	30.2	328.0	.099
50.	10.34	32.39	24.88	25.11	50.3	308.8	.163
75.	7.52	32.67	25.54	25.89	75.4	246.6	.233
100.	6.53	32.76	25.74	26.21	100.6	227.6	.292
150.	6.29	33.35	26.23	26.93	150.9	181.3	.395
200.	6.39	33.83	26.60	27.53	201.3	147.0	.478
250.	5.96	33.92	26.73	27.89	251.7	135.9	.549
300.	5.48	33.94	26.80	28.21	302.2	128.7	.616
400.	4.97	34.00	26.91	28.78	403.1	119.8	.741
500.	4.47	34.06	27.01	29.35	504.0	110.4	.857
600.	4.16	34.14	27.11	29.92	605.0	102.0	.965
700.	3.95	34.23	27.20	30.48	706.1	94.0	1.064
800.	3.75	34.30	27.28	31.03	807.2	86.8	1.155
1000.	3.21	34.39	27.40	32.09	1009.6	75.8	1.320
1200.	2.80	34.45	27.49	33.12	1212.2	67.6	1.465

STATION 62

TIME: 0054 DATE: 28-XI-57 LAT: 48° 25' N LONG: 130° 27' W SOUNDING: 1530 fms.
 WEATHER: 01 WIND: Dir. 320° Speed 12 AIR TEMP: Dry 50° Wet 46° BARO: 1026.1 mb.
 CLOUD: Type Cu Amt 3 SEA: 315° - 4 SWELL: 300° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.00	32.27	24.68	4890.	0.569
10.	11.20	32.36	24.71	4893.	.569
19.	11.22	32.36	24.71	4894.	.569
29.	11.22	32.36	24.71	4894.	.567
48.	10.82	32.42	24.82	4891.	.568
72.	7.02	32.72	25.65	4846.	.577
96.	6.82	32.94	25.84	4846.	.526
119.	6.75	33.29	26.13	4848.	.449
143.	6.75	33.64	26.41	4851.	.386
167.	6.62	33.83	26.57	4851.	.352
191.	6.45	33.87	26.63	4850.	.318
239.	5.85	33.92	26.74	4846.	.235
286.	5.49	33.94	26.80	4844.	.209
382.	4.88	34.00	26.92	4841.	.127
477.	4.64	34.11	27.04	4844.	.072
573.	4.42	34.20	27.12	4847.	.042
764.	3.96	34.31	27.26	4853.	.032
955.	3.41	34.40	27.39	4857.	.032

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.00	32.27	24.68	24.68	0.0	327.6	0.000
10.	11.20	32.36	24.71	24.76	10.1	324.5	.033
20.	11.22	32.36	24.71	24.80	20.1	325.1	.065
30.	11.21	32.36	24.71	24.85	30.2	325.0	.098
50.	10.64	32.43	24.86	25.09	50.3	310.6	.162
75.	6.80	32.75	25.70	26.05	75.4	231.0	.230
100.	6.80	32.99	25.89	26.35	100.6	213.8	.286
150.	6.73	33.72	26.47	27.16	151.0	159.4	.380
200.	6.36	33.88	26.65	27.58	201.3	142.8	.456
250.	5.75	33.92	26.76	27.92	251.8	132.9	.526
300.	5.39	33.95	26.82	28.22	302.2	127.1	.591
400.	4.81	34.02	26.94	28.82	403.1	116.2	.714
500.	4.59	34.14	27.06	29.40	504.0	106.0	.826
600.	4.36	34.22	27.15	29.96	605.0	98.5	.929
700.	4.12	34.28	27.22	30.50	706.1	92.0	1.026
800.	3.86	34.33	27.29	31.04	807.2	86.3	1.116

STATION 61

TIME: 0846 DATE: 28-XI-57 LAT: 49° 09.5' N LONG: 129° 35' W SOUNDING: 1320 fms.
 WEATHER: 02 WIND: Dir. 310° Speed 5 AIR TEMP: Dry 54° Wet 47° BARO: 1030.1 mb.
 CLOUD: Type Sc Amt 4 SEA: 310° - 1 SWELL: 310° - 4 SECCHI DISC: 12 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.60	32.27	24.74	4885.	0.575
10.	10.74	32.26	24.71	4887.	.568
20.	10.75	32.26	24.71	4888.	.573
29.	10.74	32.26	24.71	4888.	.571
49.	10.36	32.32	24.82	4885.	.570
74.	6.42	32.68	25.69	4838.	.583
98.	6.70	33.08	25.97	4845.	.539
123.	6.88	33.47	26.25	4850.	.417
147.	6.96	33.76	26.47	4854.	.341
172.	6.80	33.87	26.58	4854.	.298
196.	6.56	33.89	26.63	4852.	.302
245.	6.24	33.93	26.70	4851.	.234
294.	5.73	33.96	26.78	4847.	.186
392.	5.21	34.04	26.91	4847.	.117
490.	4.59	34.09	27.03	4844.	.079
588.	4.53	34.21	27.12	4850.	.044
784.	3.90	34.32	27.28	4853.	.030
980.	3.56	34.39	27.37	4860.	.030

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.60	32.27	24.74	24.74	0.0	321.3	0.000
10.	10.74	32.26	24.71	24.76	10.1	324.2	.032
20.	10.75	32.26	24.71	24.80	20.1	324.8	.065
30.	10.73	32.26	24.71	24.85	30.2	324.6	.098
50.	10.28	32.33	24.84	25.07	50.3	312.4	.162
75.	6.35	32.69	25.71	26.06	75.4	230.0	.230
100.	6.72	33.12	26.00	26.46	100.6	203.2	.285
150.	6.95	33.79	26.49	27.19	151.0	157.1	.375
200.	6.53	33.90	26.63	27.56	201.3	144.1	.451
250.	6.20	33.94	26.71	27.87	251.8	137.5	.522
300.	5.68	33.96	26.79	28.19	302.2	130.0	.590
400.	5.16	34.04	26.92	28.79	403.1	118.7	.715
500.	4.56	34.10	27.04	29.38	504.0	108.1	.830
600.	4.51	34.22	27.13	29.94	605.0	99.9	.935
700.	4.25	34.29	27.22	30.49	706.1	92.6	1.032
800.	3.86	34.33	27.29	31.04	807.2	86.3	1.122

STATION 60

TIME: 1631 DATE: 28-XI-57 LAT: 49° 46' N LONG: 128° 21' W SOUNDING: 1774 fms.
 WEATHER: 03 WIND: Dir. 180° Speed 10 AIR TEMP: Dry 50° Wet 45° BARO: 1030.5 mb.
 CLOUD: Type Cs Amt 8 SEA: 180° - 2 SWELL: 290° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.00	32.37	24.92	4878.	0.559
10.	10.20	32.34	24.87	4881.	
20.	10.17	32.33	24.86	4881.	.568
30.	10.18	32.32	24.86	4882.	.572
50.	7.36	32.76	25.63	4850.	.554
75.	7.36	33.11	25.91	4852.	.464
100.	7.21	33.41	26.16	4853.	.413
125.	7.26	33.70	26.38	4856.	.327
149.	7.25	33.83	26.48	4858.	.266
174.	7.09	33.88	26.55	4858.	.246
199.	6.96	33.93	26.60	4858.	.205
249.	6.44	33.98	26.71	4854.	.181
299.	6.04	33.99	26.77	4852.	.165
397.	5.47	34.05	26.89	4850.	.109
496.	5.08	34.08	26.96	4851.	.091
695.	4.14	34.22	27.18	4851.	.049
894.	3.58	34.34	27.32	4855.	.034
1080.	3.20	34.41	27.42	4861.	.032
1394.	2.56	34.50	27.55	4871.	.059

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.00	32.37	24.92	24.92	0.0	304.3	0.000
10.	10.20	32.34	24.87	24.91	10.1	309.7	.031
20.	10.17	32.33	24.86	24.95	20.1	310.4	.062
30.	10.18	32.32	24.86	24.99	30.2	310.9	.093
50.	7.36	32.76	25.63	25.86	50.3	237.7	.148
75.	7.36	33.11	25.91	26.25	75.4	211.6	.205
100.	7.21	33.41	26.16	26.62	100.6	188.2	.255
150.	7.25	33.83	26.49	27.18	151.0	157.6	.342
200.	6.95	33.93	26.60	27.53	201.4	147.3	.419
250.	6.43	33.98	26.71	27.87	251.8	137.6	.491
300.	6.03	33.99	26.78	28.17	302.2	131.9	.559
400.	5.46	34.05	26.89	28.76	403.1	121.5	.687
500.	5.06	34.08	26.96	29.30	504.1	116.0	.807
600.	4.61	34.14	27.06	29.86	605.1	107.3	.919
700.	4.12	34.23	27.18	30.46	706.1	95.8	1.022
800.	3.80	34.29	27.26	31.01	807.2	88.4	1.115
1000.	3.35	34.38	27.38	32.07	1009.6	77.8	1.283
1200.	2.96	34.45	27.47	33.10	1212.2	69.9	1.433

STATION 59

TIME: 2001 DATE: 28-XI-57 LAT: 49° 53' N LONG: 128° 15' W SOUNDING: 1057 fms.
 WEATHER: 03 WIND: Dir. 190° Speed 6 AIR TEMP: Dry 51° Wet 46° BARO: 1028.8 mb.
 CLOUD: Type Sc Amt 10 SEA: 190° - 2 SWELL: 280° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.30	32.33	24.84	4881.	0.575
10.	10.39	32.31	24.81	4883.	.556
30.	10.40	32.31	24.81	4884.	.568
49.	7.58	32.73	25.58	4852.	.558
74.	7.18	32.94	25.79	4849.	.510
99.	6.88	33.17	26.01	4848.	.480
123.	6.88	33.40	26.20	4850.	.432
148.	7.03	33.64	26.37	4855.	.377
172.	7.01	33.79	26.49	4856.	.324
197.	6.92	33.92	26.60	4857.	.218
246.	6.59	33.96	26.68	4856.	.185
296.	6.18	33.98	26.75	4854.	.174
375.	5.63	34.00	26.83	4851.	.142
469.	5.08	34.06	26.95	4849.	.100
562.	4.80	34.14	27.04	4852.	.088
749.	3.98	34.27	27.23	4852.	.041
937.	3.49	34.35	27.34	4857.	.033
1124.	3.18	34.41	27.42	4864.	.039
1312.	2.69	34.48	27.52	4868.	.055

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.30	32.33	24.84	24.84	0.0	311.9	0.000
10.	10.39	32.31	24.81	24.85	10.1	315.2	.032
20.	10.78	32.25	24.70	24.79	20.1	326.0	.064
30.	10.40	32.31	24.81	24.94	30.2	315.7	.096
50.	7.49	32.75	25.60	25.83	50.3	240.3	.152
75.	7.17	32.95	25.80	26.15	75.4	221.5	.210
100.	6.87	33.18	26.02	26.49	100.6	200.8	.263
150.	7.03	33.66	26.38	27.07	151.0	167.9	.356
200.	6.91	33.93	26.61	27.53	201.4	146.9	.435
250.	6.56	33.96	26.68	27.85	251.8	140.1	.508
300.	6.15	33.98	26.75	28.15	302.2	134.1	.577
400.	5.47	34.01	26.86	28.73	403.1	124.6	.707
500.	4.96	34.09	26.98	29.31	504.0	114.1	.828
600.	4.66	34.17	27.07	29.88	605.0	105.7	.939
700.	4.23	34.24	27.18	30.45	706.1	96.3	1.041
800.	3.81	34.30	27.27	31.02	807.2	88.1	1.134
1000.	3.37	34.37	27.37	32.06	1009.6	78.9	1.303
1200.	3.00	34.44	27.46	33.09	1212.2	70.9	1.455

STATION 58

TIME: 2307 DATE: 28-XI-57 LAT: 49° 59' N LONG: 128° 05' W SOUNDING: 500 fms.
 WEATHER: 03 WIND: Dir. 125° Speed 30 AIR TEMP: Dry Wet BARO: 1026.1 mb.
 CLOUD: Type St Amt 8 SEA: 125° - 5 SWELL: 260° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.10	31.97	24.60	4878.	0.556
8.	10.68	31.90	24.45	4885.	.556
17.	10.74	32.09	24.58	4887.	.546
25.	10.58	32.22	24.71	4886.	.543
42.	10.48	32.28	24.77	4886.	.539
64.	8.17	32.87	25.60	4861.	.446
85.	7.68	33.26	25.98	4858.	.366
106.	7.64	33.47	26.14	4859.	.271
127.	7.48	33.65	26.31	4859.	.199
147.	7.44	33.75	26.40	4860.	.209
170.	7.34	33.81	26.45	4860.	.190
212.	7.26	33.87	26.52	4862.	.185
255.	7.14	33.89	26.55	4863.	.194
340.	6.54	33.97	26.69	4861.	.173
425.	5.67	34.01	26.83	4855.	.132
509.	5.20	34.05	26.92	4853.	.099
594.	4.76	34.12	27.03	4853.	.069

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.10	31.97	24.60	24.60	0.0	334.9	0.000
10.	10.72	31.95	24.48	24.52	10.1	346.7	.034
20.	10.70	32.15	24.63	24.72	20.1	332.3	.068
30.	10.52	32.26	24.75	24.89	30.2	320.8	.101
50.	9.92	32.43	24.98	25.21	50.3	299.4	.164
75.	7.70	33.10	25.85	26.19	75.4	217.4	.229
100.	7.61	33.43	26.12	26.58	100.6	191.9	.280
150.	7.43	33.77	26.41	27.10	151.0	165.2	.370
200.	7.27	33.86	26.51	27.43	201.3	156.7	.451
250.	7.16	33.89	26.55	27.70	251.8	153.5	.529
300.	6.88	33.93	26.61	28.00	302.2	147.9	.605
400.	5.95	34.00	26.79	28.65	403.0	131.4	.746
500.	5.23	34.05	26.92	29.25	504.0	120.2	.873

STATION 57

TIME: 0108 DATE: 29-XI-57 LAT: 50° 05.5'N LONG: 127° 57.9' W SOUNDING: 50 fms.
 WEATHER: 63 WIND: Dir. 120° Speed 30 AIR TEMP: Dry 50° Wet 46° BARO: 1026.1 mb.
 CLOUD: Type Fs Amt 10 SEA: 120° - 4 SWELL: 290° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.40	31.55	24.21	4880.	0.572
9.	10.54	31.45	24.12	4882.	.555
18.	10.52	31.46	24.12	4882.	.556
27.	10.60	31.53	24.17	4884.	.554
45.	11.06	32.02	24.47	4892.	.525

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	10.40	31.55	24.21	24.21	.0	371.5	.000
10.	10.53	31.45	24.12	24.16	10.0	381.1	.038
20.	10.53	31.47	24.13	24.22	20.1	379.7	.076
30.	10.65	31.58	24.20	24.34	30.1	373.2	.114

STATION 56

TIME: 0402 DATE: 29-XI-57 LAT: 50° 26' N LONG: 128° 05.5' W SOUNDING: 24 fms.
 WEATHER: 63 WIND: Dir. 140° Speed 30 AIR TEMP: Dry 49° Wet 47° BARO: 1023.7 mb.
 CLOUD: Type Fs Amt 10 SEA: 140° - 4 SWELL: 290° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.90	31.04	23.90	4872.	0.570
10.	10.37	31.11	23.88	4878.	.558
20.	10.50	31.22	23.95	4881.	.562
30.	10.57	31.35	24.03	4883.	.558

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	9.90	31.04	23.90	23.90	0.0	401.0	0.000
10.	10.37	31.11	23.88	23.92	10.0	403.7	.040
20.	10.50	31.22	23.95	24.04	20.1	397.3	.081
30.	10.57	31.35	24.03	24.17	30.1	389.3	.120

STATION 55

TIME: 0634 DATE: 29-XI-57 LAT: 50° 26' N LONG: 128° 28' W SOUNDING: 130 fms.
 WEATHER: 18 WIND: Dir. 170° Speed 50 AIR TEMP: Dry 49° Wet 47° BARO: 1019.3 mb.
 CLOUD: Type Sc Amt 10 SEA: 170° - 4 SWELL: 170° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	10.25	32.22	24.76	4880.	0.570
26.	10.46	32.22	24.73	4884.	.561
43.	10.44	32.23	24.74	4885.	.558
65.	8.84	32.83	25.47	4869.	.374
87.	7.95	33.19	25.88	4861.	.358
130.	7.40	33.69	26.36	4858.	.286
152.	7.30	33.83	26.48	4859.	.231

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,P}$	P	10 ⁵ δ	ΔD
0.	10.25	32.22	24.76	24.76	0.0	319.4	0.000
10.	9.51	32.59	25.17	25.22	10.1	280.3	.030
20.	10.21	32.32	24.85	24.94	20.1	311.5	.060
30.	10.55	32.19	24.69	24.83	30.2	326.8	.092
50.	10.12	32.35	24.88	25.11	50.3	308.6	.156
75.	8.35	33.03	25.70	26.04	75.4	231.8	.224
100.	7.62	33.37	26.07	26.53	100.6	196.6	.278
150.	7.30	33.82	26.47	27.16	151.0	159.3	.367

STATION H-64

TIME: 1606 DATE: 1-XII-57 LAT: 54° 23' N LONG: 132° 00' W SOUNDING: 150 fms.
 WEATHER: 03 WIND: Dir. 320° Speed 8 AIR TEMP: Dry 45° Wet 44° BARO: 1013.5 mb.
 CLOUD: Type Amt SEA: 320° - 2 SWELL: 300° - 2 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	7.60	32.18	25.14	4847.	0.558
10.	8.28	32.14	25.01	4857.	.558
20.	8.30	32.14	25.01	4857.	.557
30.	8.32	32.15	25.02	4858.	.553
50.	8.18	32.44	25.26	4859.	.425
75.	7.47	32.83	25.66	4853.	.326
100.	7.06	33.05	25.90	4850.	.291
125.	6.34	33.34	26.22	4843.	.244
150.	6.06	33.46	26.35	4841.	.239
174.	6.06	33.50	26.38	4843.	.248
199.	5.91	33.60	26.48	4843.	.221

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	7.60	32.18	25.14	25.14	0.0	283.5	0.000
10.	8.28	32.14	25.01	25.06	10.1	295.6	.029
20.	8.30	32.14	25.01	25.10	20.1	295.8	.059
30.	8.32	32.15	25.02	25.16	30.2	295.5	.089
50.	8.18	32.44	25.26	25.49	50.3	272.5	.146
75.	7.47	32.83	25.66	26.01	75.4	234.5	.209
100.	7.06	33.05	25.90	26.36	100.6	212.7	.266
150.	6.06	33.46	26.35	27.05	151.0	169.9	.362

STATION H-67

TIME: 1837 DATE: 1-XII-57 LAT: 54° 23' N LONG: 132° 30' W SOUNDING: 136 fms.
 WEATHER: 02 WIND: Dir. 110° Speed 10 AIR TEMP: Dry 45° Wet 44° BARO: 1014.2 mb.
 CLOUD: Type Sc Amt 9 SEA: SWELL: 270° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	8.20	31.65	24.64	4853.	0.578
9.	8.40	31.71	24.66	4856.	.576
19.	8.47	31.78	24.70	4858.	.571
28.	8.62	31.94	24.81	4861.	.558
47.	8.60	32.04	24.89	4862.	.548
70.	8.52	32.09	24.94	4863.	.537
94.	8.16	32.32	25.17	4861.	.413
118.	7.72	32.65	25.49	4858.	.374
141.	7.06	32.95	25.82	4852.	.308
165.	6.80	33.28	26.11	4851.	.319
188.	6.42	33.51	26.34	4848.	.270

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.20	31.65	24.64	24.64	0.0	331.1	0.000
10.	8.40	31.71	24.66	24.70	10.1	329.5	.033
20.	8.48	31.79	24.71	24.80	20.1	324.7	.066
30.	8.64	31.97	24.82	24.96	30.2	313.9	.098
50.	8.59	32.05	24.90	25.13	50.3	307.1	.161
75.	8.47	32.12	24.97	25.32	75.4	300.7	.237
100.	8.06	32.39	25.24	25.70	100.6	275.2	.309
150.	6.91	33.07	25.94	26.63	150.9	209.6	.431

STATION H-71

TIME: 0422 DATE: 2-XII-57 LAT: 54° 17' N LONG: 133° 02' W SOUNDING: 240 fms.
 WEATHER: 63 WIND: Dir. 130° Speed 35 AIR TEMP: Dry 43° Wet 42° BARO: 1004.1 mb.
 CLOUD: Type Sc Amt 10 SEA: 130° - 3 SWELL: 130° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.00	31.71	24.57	4863.	0.580
9.	9.11	31.83	24.64	4866.	.583
19.	8.92	31.82	24.67	4864.	.579
28.	8.74	31.84	24.71	4862.	.564
47.	8.76	31.97	24.81	4864.	.554
71.	8.46	32.16	25.00	4862.	.507
94.	7.97	32.53	25.37	4859.	.405
118.	7.21	33.04	25.87	4853.	.325
141.	7.08	33.21	26.02	4853.	.326
165.	6.86	33.35	26.16	4852.	.303
188.	6.66	33.43	26.25	4851.	.282

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.00	31.71	24.57	24.57	0.0	337.9	0.000
10.	9.09	31.83	24.64	24.69	10.1	330.7	.034
20.	8.90	31.82	24.67	24.76	20.1	328.3	.067
30.	8.72	31.85	24.72	24.86	30.2	324.0	.100
50.	8.74	31.99	24.83	25.06	50.3	313.7	.164
75.	8.39	32.22	25.06	25.40	75.4	292.6	.240
100.	7.80	32.65	25.48	25.94	100.6	252.5	.308
150.	7.01	33.26	26.07	26.77	150.9	196.7	.421

STATION S-1

TIME: 1016 DATE: 2-XII-57 LAT: 53° 59.5'N LONG: 133° 26.5'W SOUNDING: 45 fms.
 WEATHER: 01 WIND: Dir. 240° Speed 35 AIR TEMP: Dry 50° Wet 46° BARO: 1006.8 mb.
 CLOUD: Type Cu, Ac Amt 4 SEA: 230° - 4 SWELL: 200° - 4 SECCHI DISC: 6 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.40	32.22	24.90	4870.	0.568
10.	9.52	32.18	24.86	4872.	.568
19.	9.54	32.19	24.85	4873.	.571
29.	9.53	32.19	24.86	4873.	.572
48.	9.52	32.19	24.86	4874.	.573
72.	9.39	32.25	24.93	4874.	.544

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	9.40	32.22	24.90	24.90	0.0	306.2	0.000
10.	9.52	32.18	24.86	24.90	10.1	310.6	.031
20.	9.54	32.19	24.85	24.95	20.1	310.9	.062
30.	9.53	32.19	24.86	24.99	30.2	310.8	.094
50.	9.51	32.19	24.86	25.09	50.3	310.8	.156

STATION S-2

TIME: 1244 DATE: 2-XII-57 LAT: 53° 49' N LONG: 133° 37' W SOUNDING: 550 fms.
 WEATHER: 01 WIND: Dir. 250° Speed 40 AIR TEMP: Dry 50° Wet 46° BARO: 1010.2 mb.
 CLOUD: Type Cu Amt 2 SEA: 250° - 5 SWELL: 240° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.00	32.13	24.90	4865.	0.574
8.	9.41	32.10	24.81	4870.	.573
16.	9.42	32.10	24.81	4871.	.571
25.	9.43	32.11	24.81	4872.	.564
41.	9.43	32.11	24.81	4873.	.563
61.	9.40	32.16	24.86	4874.	.548
82.	8.42	32.69	25.42	4865.	.381
102.	7.68	32.82	25.63	4857.	.424
123.	7.18	32.99	25.84	4852.	.402
143.	6.93	33.23	26.06	4851.	.381
164.	6.81	33.41	26.22	4852.	.353
205.	6.59	33.76	26.52	4853.	.273
246.	5.98	33.89	26.70	4848.	.244
346.	5.34	33.92	26.81	4845.	.203
437.	4.91	34.00	26.91	4845.	.124
529.	4.54	34.05	27.00	4846.	.093
625.	4.28	34.12	27.08	4848.	.062

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.00	32.13	24.90	24.90	0.0	306.6	0.000
10.	9.41	32.10	24.81	24.86	10.1	315.0	.031
20.	9.42	32.10	24.81	24.90	20.1	315.2	.063
30.	9.43	32.11	24.81	24.95	30.2	315.2	.095
50.	9.42	32.12	24.83	25.06	50.3	314.2	.158
75.	8.85	32.46	25.17	25.52	75.4	281.3	.233
100.	7.75	32.82	25.63	26.09	100.6	238.6	.298
150.	6.87	33.30	26.12	26.82	150.9	192.4	.407
200.	6.62	33.72	26.49	27.41	201.3	158.3	.495
250.	5.93	33.89	26.71	27.87	251.7	137.3	.569
300.	5.49	33.95	26.81	28.21	302.1	128.1	.636
400.	5.07	33.96	26.87	28.74	403.0	123.5	.763
500.	4.65	34.04	26.97	29.31	504.0	114.1	.883
600.	4.34	34.10	27.06	29.87	605.0	106.5	.995

STATION S-3

TIME: 1814 DATE: 2-XII-57 LAT: 53° 35'N LONG: 134° 03' W SOUNDING: 1520 fms.
 WEATHER: 02 WIND: Dir. 250° Speed 20 AIR TEMP: Dry 51° Wet 45° BARO: 1012.9 mb.
 CLOUD: Type Sc Amt 3 SEA: 250° - 4 SWELL: 260° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.30	32.50	25.14	4870.	0.574
10.	9.34	32.45	25.09	4871.	.584
20.	9.38	32.44	25.08	4872.	.580
30.	9.38	32.45	25.08	4873.	.581
50.	9.36	32.44	25.09	4873.	.582
75.	8.71	32.56	25.27	4867.	.548
100.	6.48	32.96	25.91	4842.	.488
125.	6.38	33.24	26.14	4843.	.427
150.	6.62	33.57	26.36	4849.	.349
175.	6.60	33.73	26.50	4851.	.297
200.	6.42	33.84	26.61	4850.	.266
250.	5.92	33.89	26.71	4847.	.241
300.	5.56	33.93	26.79	4845.	.196
400.	4.80	34.00	26.92	4841.	.133
600.	4.00	34.13	27.12	4843.	.071
800.	3.62	34.27	27.27	4850.	.043
1001.	3.16	34.36	27.39	4856.	.042
1306.	2.66	34.46	27.51	4867.	.056
1809.	2.09	34.56	27.63	4889.	.108
2310.	1.80	34.62	27.70	4915.	.163

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.30	32.50	25.14	25.14	0.0	283.5	0.000
10.	9.34	32.45	25.09	25.14	10.1	288.3	.029
20.	9.38	32.44	25.08	25.17	20.1	289.2	.058
30.	9.38	32.45	25.08	25.22	30.2	289.3	.087
50.	9.36	32.44	25.09	25.31	50.3	289.5	.145
75.	8.71	32.56	25.27	25.62	75.4	271.8	.216
100.	6.48	32.96	25.91	26.37	100.6	211.7	.276
150.	6.62	33.57	26.36	27.06	151.0	169.2	.372
200.	6.42	33.84	26.61	27.54	201.3	146.6	.452
250.	5.92	33.89	26.71	27.87	251.8	137.4	.524
300.	5.56	33.93	26.79	28.19	302.2	130.5	.591
400.	4.80	34.00	26.92	28.80	403.1	118.0	.716
500.	4.28	34.06	27.03	29.38	504.0	108.2	.831
600.	4.00	34.13	27.12	29.93	605.0	100.8	.936
700.	3.76	34.20	27.20	30.48	706.1	93.7	1.035
800.	3.62	34.27	27.27	31.02	807.2	87.6	1.126
1000.	3.16	34.36	27.39	32.08	1009.6	77.1	1.293
1200.	2.81	34.43	27.47	33.11	1212.2	69.3	1.441
1500.	2.40	34.51	27.57	34.60	1516.5	60.9	1.639
2000.	1.95	34.58	27.66	37.03	2024.5	52.1	1.926

STATION S-4

TIME: 0222 DATE: 3-XII-57 LAT: 53° 12' N LONG: 134° 27' W SOUNDING: fms.
 WEATHER: 03 WIND: Dir. 290° Speed 8 AIR TEMP: Dry 48° Wet 45° BARO: 1012.9 mb.
 CLOUD: Type Cu Amt 9 SEA: 290° - 1 SWELL: 240° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.40	32.51	25.13	4871.	0.585
10.	9.62	32.44	25.04	4874.	.588
20.	9.64	32.44	25.03	4875.	.589
30.	9.61	32.44	25.04	4875.	.587
50.	9.56	32.44	25.05	4876.	.580
74.	7.10	32.78	25.68	4848.	.510
99.	6.37	33.04	25.98	4841.	.495
124.	6.34	33.36	26.24	4843.	.419
148.	6.50	33.58	26.39	4847.	.357
173.	6.28	33.72	26.53	4847.	.355
198.	6.26	33.84	26.63	4848.	.293
248.	5.88	33.91	26.73	4846.	.236
297.	5.50	33.94	26.80	4844.	.200

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.40	32.51	25.13	25.13	0.0	284.5	0.000
10.	9.62	32.44	25.04	25.08	10.1	293.2	.029
20.	9.64	32.44	25.03	25.13	20.1	293.7	.059
30.	9.61	32.44	25.04	25.18	30.2	293.4	.088
50.	9.56	32.44	25.05	25.28	50.3	292.5	.147
75.	7.03	32.79	25.70	26.05	75.4	231.4	.213
100.	6.36	33.05	25.99	26.46	100.6	203.6	.268
150.	6.50	33.59	26.40	27.10	151.0	165.7	.361
200.	6.25	33.85	26.64	27.57	201.4	143.9	.439
250.	5.86	33.91	26.73	27.90	251.8	135.1	.509

STATION S-5

TIME: 0859 DATE: 3-XII-57 LAT: 52° 51.5'N LONG: 134° 55' W SOUNDING: 1370 fms.
WEATHER: 01 WIND: Dir. 240° Speed 10 AIR TEMP: Dry 49° Wet 47° BARO: 1012.2 mb.
CLOUD: Type Sc Amt 3 SEA: 240° - 2 SWELL: 240° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.70	32.41	25.00	4875.	0.583
10.	9.92	32.37	24.94	4878.	.581
20.	9.97	32.37	24.93	4879.	.579
30.	9.93	32.41	24.96	4879.	.581
50.	9.82	32.43	25.00	4879.	.578
75.	8.44	32.67	25.40	4864.	.526
100.	6.76	33.13	26.00	4846.	.433
125.	6.64	33.45	26.27	4847.	.361
150.	6.58	33.64	26.43	4849.	.331
175.	6.52	33.77	26.54	4850.	.290
200.	6.24	33.86	26.64	4848.	.273
250.	5.68	33.90	26.74	4844.	.249
300.	5.35	33.94	26.81	4843.	.194
400.	4.37	33.95	26.94	4835.	.155
500.	4.41	34.09	27.05	4842.	.074
600.	4.20	34.18	27.13	4846.	.053
800.	3.63	34.28	27.28	4850.	.043
1000.	3.20	34.36	27.37	4856.	.039
1200.	2.80	34.42	27.46	4863.	.042
1500.	2.44	34.49	27.55	4876.	.059
2000.	1.96	34.58	27.66	4899.	.124
2300.	1.83	34.61	27.69	4915.	.156

STATION S-5

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	9.70	32.41	25.00	25.00	0.0	296.3	0.000
10.	9.92	32.37	24.94	24.98	10.1	303.0	.030
20.	9.97	32.37	24.93	25.02	20.1	303.9	.061
30.	9.93	32.41	24.96	25.10	30.2	300.6	.091
50.	9.82	32.43	25.00	25.23	50.3	297.5	.151
75.	8.44	32.67	25.40	25.75	75.4	259.5	.221
100.	6.76	33.13	26.00	26.46	100.6	203.1	.279
150.	6.58	33.64	26.43	27.13	151.0	162.8	.372
200.	6.24	33.86	26.64	27.57	201.4	143.4	.449
250.	5.68	33.90	26.74	27.91	251.8	134.2	.519
300.	5.35	33.94	26.81	28.22	302.2	127.8	.585
400.	4.37	33.95	26.94	28.81	403.1	116.3	.708
500.	4.41	34.09	27.05	29.39	504.0	107.1	.821
600.	4.20	34.18	27.13	29.94	605.1	99.6	.925
700.	3.94	34.24	27.21	30.49	706.1	92.9	1.022
800.	3.63	34.28	27.28	31.03	807.2	86.9	1.113
1000.	3.20	34.36	27.37	32.07	1009.6	78.1	1.280
1200.	2.80	34.42	27.46	33.09	1212.2	70.5	1.431
1500.	2.44	34.49	27.55	34.59	1516.5	62.3	1.633
2000.	1.96	34.58	27.66	37.02	2024.5	52.3	1.924

STATION 36

TIME: 1401 DATE: 3-XII-57 LAT: 53° 06' N LONG: 133° 39' W SOUNDING: 1542 fms.
 WEATHER: 02 WIND: Dir. 270° Speed 10 AIR TEMP: Dry 46° Wet 44° BARO: 1010.8 mb.
 CLOUD: Type Cu Amt 4 SEA: 260° - 4 SWELL: 9 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.00	32.40	25.10	4866.	0.577
10.	9.53	32.35	24.98	4873.	.580
20.	9.54	32.35	24.98	4874.	.575
30.	9.55	32.35	24.98	4874.	.570
49.	9.56	32.37	24.99	4876.	.572
74.	7.94	32.67	25.47	4858.	.471
98.	6.74	32.95	25.87	4845.	.470
123.	6.92	33.29	26.11	4850.	.368
148.	6.74	33.54	26.33	4850.	.336
172.	6.67	33.75	26.50	4852.	.296
197.	6.49	33.84	26.59	4851.	.256
246.	5.97	33.92	26.73	4848.	.204
295.	5.50	33.94	26.80	4844.	.191
420.	4.68	34.01	26.95	4841.	.120
617.	3.90	34.15	27.14	4842.	.062
815.	3.48	34.27	27.28	4849.	.050
1311.	2.64	34.45	27.50	4867.	.048
1813.	2.06	34.56	27.64	4889.	.107
2414.	1.76	34.64	27.73	4921.	.176

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	9.00	32.40	25.10	25.10	0.0	286.7	0.000
10.	9.53	32.35	24.98	25.03	10.1	298.6	.029
20.	9.54	32.35	24.98	25.07	20.1	299.0	.059
30.	9.55	32.35	24.98	25.12	30.2	299.3	.090
50.	9.53	32.37	25.00	25.23	50.3	297.5	.150
75.	7.88	32.68	25.49	25.84	75.4	251.0	.219
100.	6.70	32.98	25.89	26.36	100.6	213.2	.277
150.	6.73	33.56	26.34	27.04	151.0	171.0	.374
200.	6.46	33.85	26.60	27.53	201.3	147.1	.454
250.	5.93	33.93	26.74	27.90	251.8	134.8	.525
300.	5.46	33.94	26.81	28.21	302.2	128.6	.591
400.	4.77	33.99	26.93	28.80	403.1	117.8	.716
500.	4.29	34.06	27.03	29.38	504.0	108.4	.830
600.	3.94	34.13	27.13	29.94	605.0	99.8	.935
700.	3.68	34.20	27.21	30.49	706.1	92.8	1.032
800.	3.50	34.26	27.27	31.03	807.2	87.3	1.123
1000.	3.13	34.35	27.38	32.08	1009.6	77.5	1.290
1200.	2.80	34.42	27.47	33.10	1212.2	69.9	1.439
1500.	2.39	34.50	27.56	34.60	1516.5	61.0	1.638
2000.	1.92	34.60	27.68	37.04	2024.5	51.0	1.923

STATION 35

TIME: 1946 DATE: 3-XII-57 LAT: 53° 15.7'N LONG: 132° 56.5'W SOUNDING: 210 fms.
 WEATHER: 01 WIND: Dir. 270° Speed 8 AIR TEMP: Dry 45° Wet 42° BARO: 1011.9 mb.
 CLOUD: Type Cu Amt 5 SEA: 270° - 2 SWELL: 270° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.20	32.38	25.06	4868.	0.581
10.	9.67	32.25	24.88	4874.	.583
20.	9.81	32.29	24.89	4877.	.579
30.	9.80	32.29	24.90	4877.	.578
50.	9.79	32.29	24.89	4878.	.577
75.	8.45	32.65	25.39	4864.	.400
100.	7.44	33.12	25.90	4855.	.329
125.	6.90	33.41	26.20	4851.	.318
150.	6.66	33.65	26.42	4850.	.262
174.	6.59	33.71	26.48	4851.	.248
199.	6.52	33.76	26.53	4851.	.245
249.	6.30	33.87	26.65	4852.	.249
299.	5.90	33.93	26.74	4850.	.192

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.20	32.38	25.06	25.06	0.0	291.0	0.000
10.	9.67	32.25	24.88	24.93	10.1	308.1	.030
20.	9.81	32.29	24.89	24.99	20.1	307.1	.061
30.	9.80	32.29	24.90	25.03	30.2	307.2	.092
50.	9.79	32.29	24.89	25.12	50.3	307.7	.154
75.	8.45	32.65	25.39	25.73	75.4	261.1	.225
100.	7.44	33.12	25.90	26.36	100.6	212.4	.285
150.	6.66	33.65	26.42	27.12	151.0	163.5	.380
200.	6.52	33.76	26.53	27.46	201.3	154.1	.460
250.	6.29	33.88	26.00	27.81	251.7	143.3	.534

STATION 34

TIME: 2141 DATE: 3-XII-57 LAT: 53° 17.6'N LONG: 132° 47.2'W SOUNDING: 62 fms.
 WEATHER: 01 WIND: Dir. 140° Speed 5 AIR TEMP: Dry 43° Wet 41° BARO: 1012.5 mb.
 CLOUD: Type Cu Amt 2 SEA: 140° - 1 SWELL: 270° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	8.90	31.61	24.50	4862.	0.592
10.	8.97	31.72	24.58	4864.	.589
20.	8.98	31.74	24.60	4864.	.585
30.	9.04	31.81	24.64	4866.	.592
50.	9.06	32.07	24.84	4868.	.533
75.	8.61	32.57	25.30	4866.	.418

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.90	31.61	24.50	24.50	0.0	343.9	0.000
10.	8.97	31.72	24.58	24.62	10.1	337.1	.034
20.	8.98	31.74	24.60	24.69	20.1	335.3	.068
30.	9.04	31.81	24.64	24.78	30.2	331.3	.102
50.	9.06	32.07	24.84	25.07	50.3	313.0	.166
75.	8.61	32.57	25.30	25.64	75.4	269.6	.240

STATION 25

TIME: 0232 DATE: 4-XII-57 LAT: 54° 00' N LONG: 133° 14' W SOUNDING: 20 fms.
 WEATHER: 18 WIND: Dir. 240° Speed 12 AIR TEMP: Dry 46° Wet 44° BARO: 1010.8 mb.
 CLOUD: Type Cb Amt 6 SEA: 240° - 3 SWELL: 9 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	8.80	31.94	24.78	4862.	0.571
10.	9.23	31.94	24.71	4868.	.563
20.	9.33	32.05	24.78	4870.	.555
25.	9.34	32.08	24.80	4870.	.552

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.80	31.94	24.78	24.78	0.0	317.5	0.000
10.	9.23	31.94	24.71	24.76	10.1	324.3	.032
20.	9.33	32.05	24.78	24.87	20.1	318.1	.065

STATION 23

TIME: 0611 DATE: 4-XII-57 LAT: 54° 00' N LONG: 134° 01' W SOUNDING: fms.
 WEATHER: 18 WIND: Dir. 270° Speed 15 AIR TEMP: Dry 45° Wet 42° BARO: 1010.2 mb.
 CLOUD: Type Sc Amt 8 SEA: 270° - 3 SWELL: 240° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.10	32.47	25.15	4867.	0.584
10.	9.26	32.45	25.10	4870.	.574
19.	9.27	32.45	25.10	4871.	.578
29.	9.29	32.45	25.10	4871.	.576
49.	9.29	32.45	25.10	4873.	.586
73.	7.49	32.65	25.53	4852.	.557
97.	6.57	32.97	25.90	4843.	.491
121.	6.59	33.23	26.10	4846.	.426
146.	6.48	33.57	26.38	4847.	.375
170.	6.57	33.76	26.52	4850.	.310
194.	6.29	33.83	26.61	4848.	.288
243.	5.96	33.89	26.70	4847.	.251
291.	5.54	33.92	26.78	4845.	.213
388.	4.61	33.97	26.93	4838.	.145
485.	4.14	34.03	27.02	4837.	.107
582.	4.11	34.15	27.12	4843.	.055
777.	3.77	34.27	27.25	4851.	.039

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	9.10	32.47	25.15	25.15	0.0	282.5	0.000
10.	9.26	32.45	25.10	25.15	10.1	287.0	.029
20.	9.27	32.45	25.10	25.19	20.1	287.3	.058
30.	9.29	32.45	25.10	25.24	30.2	287.4	.086
50.	9.25	32.45	25.11	25.34	50.3	287.2	.144
75.	7.38	32.67	25.56	25.91	75.4	244.5	.211
100.	6.52	33.00	25.93	26.40	100.6	209.3	.268
150.	6.48	33.61	26.41	27.11	151.0	164.2	.362
200.	6.23	33.84	26.63	27.56	201.4	144.3	.440
250.	5.90	33.90	26.71	27.88	251.8	136.9	.511
300.	5.46	33.92	26.79	28.19	302.2	130.0	.578
400.	4.53	33.98	26.94	28.82	403.1	116.0	.702
500.	4.11	34.05	27.04	29.39	504.0	107.3	.815
600.	4.09	34.17	27.14	29.95	605.1	98.7	.919
700.	3.95	34.25	27.21	30.50	706.1	92.5	1.016

STATION 22

TIME: 0857 DATE: 4-XII-57 LAT: 54° 00' N LONG: 134° 18' W SOUNDING: 1508 fms.
WEATHER: 81 WIND: Dir. 280° Speed 20 AIR TEMP: Dry 46° Wet 44° BARO: 1010.8 mb.
CLOUD: Type Cu Amt 5 SEA: 280° - 3 SWELL: 270° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	8.20	32.47	25.28	4856.	0.592
10.	9.04	32.44	25.13	4867.	.593
19.	9.04	32.45	25.14	4868.	.585
29.	9.02	32.44	25.14	4868.	.586
48.	8.98	32.45	25.15	4869.	.591
71.	7.67	32.56	25.43	4854.	.555
95.	6.51	32.81	25.79	4841.	.518
119.	5.89	33.06	26.06	4836.	.488
143.	5.41	33.34	26.34	4832.	.477
166.	5.05	33.51	26.51	4829.	.444
190.	4.92	33.70	26.68	4829.	.401
238.	4.80	33.86	26.81	4831.	.291
285.	4.73	33.93	26.88	4833.	.165
372.	4.28	33.97	26.96	4832.	.155
465.	4.14	34.07	27.05	4836.	.097
559.	3.94	34.13	27.13	4840.	.066
745.	3.59	34.27	27.27	4846.	.043
931.	3.23	34.36	27.37	4853.	.047
1124.	2.83	34.42	27.46	4859.	.049
1410.	2.48	34.49	27.54	4871.	.066
1888.	1.95	34.58	27.66	4892.	.124
2175.	1.83	34.61	27.69	4907.	.155

STATION 22

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	8.20	32.47	25.28	25.28	0.0	269.8	0.000
10.	9.04	32.44	25.13	25.18	10.1	284.2	.028
20.	9.04	32.45	25.14	25.23	20.1	283.9	.056
30.	9.02	32.44	25.14	25.28	30.2	284.0	.085
50.	8.92	32.46	25.16	25.39	50.3	282.1	.142
75.	7.46	32.59	25.48	25.83	75.4	251.9	.209
100.	6.34	32.87	25.85	26.31	100.6	217.2	.268
150.	5.29	33.40	26.40	27.10	151.0	165.3	.364
200.	4.88	33.75	26.72	27.66	201.4	134.9	.440
250.	4.78	33.88	26.84	28.01	251.8	124.7	.505
300.	4.68	33.94	26.89	28.30	302.2	119.7	.567
400.	4.20	33.99	26.98	28.86	403.1	111.8	.684
500.	4.07	34.10	27.08	29.43	504.1	103.2	.792
600.	3.86	34.16	27.16	29.97	605.1	96.8	.893
700.	3.67	34.24	27.23	30.52	706.2	90.1	.988
800.	3.48	34.30	27.30	31.06	807.3	84.0	1.076
1000.	3.09	34.38	27.41	32.10	1009.7	74.9	1.237
1200.	2.71	34.44	27.48	33.12	1212.3	68.0	1.382
1500.	2.37	34.51	27.57	34.61	1516.5	60.6	1.577
2000.	1.89	34.60	27.68	37.05	2024.6	50.4	1.859

STATION 21

TIME: 1306 DATE: 4-XII-57 LAT: 54° 02' N LONG: 134° 51' W SOUNDING: 1440 fms.
 WEATHER: WIND: Dir. 280° Speed 10 AIR TEMP: Dry 44° Wet 40° BARO: 1009.1 mb.
 CLOUD: Type Cu Amt 3 SEA: 280° - 2 SWELL: 270° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	8.40	32.50	25.27	4859.	0.589
10.	8.62	32.45	25.20	4862.	.588
20.	8.62	32.45	25.20	4863.	.587
30.	8.62	32.44	25.20	4863.	.587
50.	8.62	32.45	25.20	4864.	.592
74.	6.36	32.65	25.68	4838.	.594
99.	5.70	32.76	25.85	4831.	.578
124.	5.28	32.95	26.04	4827.	.561
148.	5.28	33.33	26.34	4830.	.471
173.	5.42	33.72	26.64	4835.	.338
198.	5.30	33.82	26.73	4835.	.289
248.	4.97	33.89	26.82	4834.	.219
297.	4.60	33.95	26.91	4832.	.145

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.40	32.50	25.27	25.27	0.0	270.6	0.000
10.	8.62	32.45	25.20	25.25	10.1	277.7	.028
20.	8.62	32.45	25.20	25.29	20.1	277.7	.056
30.	8.62	32.44	25.20	25.34	30.2	278.3	.083
50.	8.62	32.45	25.20	25.43	50.3	278.4	.139
75.	6.30	32.66	25.69	26.04	75.4	232.0	.204
100.	5.68	32.77	25.85	26.32	100.6	216.5	.260
150.	5.29	33.36	26.36	27.07	151.0	168.7	.357
200.	5.29	33.83	26.73	27.67	201.4	134.2	.433
250.	4.96	33.89	26.82	28.00	251.8	126.0	.499

STATION 20

TIME: 1730 DATE: 4-XII-57 LAT: 54° 02' N LONG: 135° 47' W SOUNDING: 1490 fms.
 WEATHER: 03 WIND: Dir. 210° Speed 20 AIR TEMP: Dry 46° Wet 46° BARO: 1006.1 mb.
 CLOUD: Type Sc Amt 10 SEA: 210° - 3 SWELL: 270° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	8.50	32.44	25.21	4860.	0.604
10.	8.48	32.40	25.19	4860.	.601
20.	8.48	32.40	25.19	4861.	.610
30.	8.50	32.40	25.18	4861.	.606
50.	7.82	32.49	25.35	4854.	.604
75.	5.46	32.71	25.83	4826.	.613
100.	5.11	32.96	26.07	4824.	.566
125.	5.40	33.37	26.36	4831.	.446
150.	5.32	33.55	26.51	4832.	.403
175.	5.02	33.69	26.66	4830.	.358
200.	4.59	33.78	26.77	4826.	.319
250.	4.79	33.89	26.84	4832.	.225
300.	4.48	33.92	26.90	4831.	.184
382.	4.38	34.02	26.99	4835.	.117
478.	4.11	34.10	27.08	4837.	.068
573.	3.88	34.19	27.17	4840.	.051
764.	3.46	34.31	27.32	4846.	.035
955.	3.09	34.38	27.40	4852.	.041
1153.	2.75	34.44	27.48	4859.	.047
1448.	2.36	34.51	27.57	4872.	.072
1941.	1.91	34.59	27.67	4895.	.136

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.50	32.44	25.21	25.21	0.0	276.7	0.000
10.	8.48	32.40	25.19	25.23	10.1	279.1	.028
20.	8.48	32.40	25.19	25.28	20.1	279.3	.056
30.	8.50	32.40	25.18	25.32	30.2	280.0	.084
50.	7.82	32.49	25.35	25.58	50.3	264.1	.139
75.	5.46	32.71	25.83	26.18	75.5	218.2	.200
100.	5.11	32.96	26.07	26.54	100.6	195.8	.252
150.	5.32	33.55	26.51	27.21	151.0	154.5	.340
200.	4.59	33.78	26.77	27.71	201.4	130.1	.412
250.	4.79	33.89	26.84	28.01	251.8	124.2	.476
300.	4.48	33.92	26.90	28.30	302.2	119.4	.537
400.	4.34	34.04	27.01	28.89	403.1	109.6	.653
500.	4.05	34.12	27.10	29.45	504.1	101.3	.759
600.	3.82	34.21	27.20	30.02	605.1	92.8	.857
700.	3.59	34.28	27.28	30.56	706.2	86.1	.948
800.	3.39	34.33	27.34	31.09	807.3	80.8	1.032
1000.	3.01	34.39	27.42	32.12	1009.7	73.2	1.188
1200.	2.68	34.45	27.50	33.14	1212.3	66.4	1.329
1500.	2.30	34.52	27.59	34.63	1516.6	58.7	1.520

STATION 47

TIME: 2343 DATE: 6-XII-57 LAT: 51° 56.2'N LONG: 130° 49.5' W SOUNDING: 116 fms.
 WEATHER: 03 WIND: Dir. 220° Speed 20 AIR TEMP: Dry 48° Wet 45° BARO: 1017.3 mb.
 CLOUD: Type As Amt 8 SEA: 220° - 2 SWELL: 260° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.30	32.24	24.93	4869.	0.577
10.	9.41	32.21	24.89	4871.	.575
20.	9.40	32.21	24.89	4871.	.574
30.	9.35	32.22	24.91	4871.	.574
50.	9.34	32.23	24.92	4872.	.569
75.	8.94	32.46	25.17	4870.	.474
100.	8.29	32.76	25.50	4864.	.402
125.	7.54	33.13	25.90	4858.	.314
150.	7.08	33.35	26.13	4854.	.264

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.30	32.24	24.93	24.93	0.0	303.0	0.000
10.	9.41	32.21	24.89	24.94	10.1	307.2	.031
20.	9.40	32.21	24.89	24.99	20.1	307.0	.062
30.	9.35	32.22	24.91	25.05	30.2	305.6	.092
50.	9.34	32.23	24.92	25.15	50.3	305.2	.154
75.	8.94	32.46	25.17	25.51	75.4	282.2	.228
100.	8.29	32.76	25.50	25.96	100.6	250.9	.295
150.	7.08	33.35	26.13	26.83	150.9	191.0	.406

STATION 48

TIME: 0225 DATE: 7-XII-57 LAT: 51° 38' N LONG: 130° 20' W SOUNDING: 230 fms.
 WEATHER: 02 WIND: Dir. 180° Speed 18 AIR TEMP: Dry 47° Wet 40° BARO: 1017.3 mb.
 CLOUD: Type St Amt 8 SEA: 180° - 2 SWELL: 240° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.30	32.29	24.97	4869.	0.579
10.	9.18	32.25	24.96	4868.	.578
20.	9.18	32.25	24.97	4869.	.587
29.	9.18	32.28	24.98	4869.	.587
49.	9.13	32.32	25.02	4870.	.566
73.	7.30	33.04	25.86	4851.	.444
98.	7.08	33.34	26.12	4851.	.368
122.	6.96	33.54	26.30	4852.	.301
147.	6.90	33.73	26.45	4853.	.298
171.	6.64	33.84	26.58	4852.	.241
196.	6.38	33.90	26.65	4850.	.226
244.	6.18	33.97	26.73	4850.	.193
293.	6.11	33.95	26.73	4852.	.176

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.30	32.29	24.97	24.97	0.0	299.1	0.000
10.	9.18	32.25	24.96	25.01	10.1	300.2	.030
20.	9.18	32.25	24.97	25.06	20.1	300.3	.060
30.	9.18	32.28	24.98	25.12	30.2	298.8	.090
50.	9.09	32.33	25.04	25.27	50.3	293.8	.150
75.	7.22	33.08	25.90	26.25	75.4	212.0	.214
100.	7.07	33.36	26.14	26.60	100.6	189.6	.264
150.	6.88	33.75	26.47	27.17	151.0	159.2	.352
200.	6.35	33.90	26.66	27.60	201.4	141.2	.428
250.	6.16	33.97	26.74	27.90	251.8	134.7	.497

STATION 49

TIME: 0606 DATE: 7-XII-57 LAT: 51° 17' N LONG: 129° 47' W SOUNDING: 130 fms.
 WEATHER: 18 WIND: Dir. 140° Speed 35 AIR TEMP: Dry 50° Wet 47° BARO: 1014.6 mb.
 CLOUD: Type St Amt 10 SEA: 140° - 3 SWELL: 140° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.80	32.09	24.74	4875.	0.558
10.	10.11	32.07	24.67	4879.	.557
20.	10.11	32.09	24.68	4879.	.557
30.	9.96	32.14	24.75	4878.	.561
50.	9.92	32.30	24.88	4880.	.530
75.	8.33	32.97	25.65	4864.	.373
100.	7.80	33.22	25.93	4860.	.350
125.	7.66	33.33	26.04	4860.	.337
150.	7.24	33.51	26.23	4857.	.311
175.	7.10	33.68	26.39	4857.	.276
200.	6.85	33.86	26.56	4856.	.219

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.80	32.09	24.74	24.74	0.0	321.6	0.000
10.	10.11	32.07	24.67	24.72	10.1	328.3	.033
20.	10.11	32.09	24.68	24.78	20.1	327.1	.066
30.	9.96	32.14	24.75	24.89	30.2	320.7	.098
50.	9.92	32.30	24.88	25.11	50.3	309.3	.162
75.	8.33	32.97	25.65	26.00	75.4	235.8	.230
100.	7.80	33.22	25.93	26.39	100.6	209.7	.286
150.	7.24	33.51	26.23	26.93	150.9	181.7	.385
200.	6.85	33.86	26.56	27.49	201.3	151.2	.469

STATION H-16

TIME: 0819 DATE: 7-XII-57 LAT: 51° 22.5'N LONG: 129° 20' W SOUNDING: 40 fms.
 WEATHER: 50 WIND: Dir. 150° Speed 50 AIR TEMP: Dry 44° Wet 43° BARO: 1009.5 mb.
 CLOUD: Type St Amt 10 SEA: 150° - 3 SWELL: 140° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	10.00	32.02	24.65	4877.	0.562
9.	10.05	32.03	24.65	4878.	.552
18.	10.06	32.03	24.64	4878.	.551
27.	10.06	32.03	24.65	4879.	.559
45.	10.08	32.03	24.65	4880.	.554

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	10.00	32.02	24.65	24.65	0.0	329.9	0.000
10.	10.05	32.03	24.65	24.69	10.1	330.5	.033
20.	10.06	32.03	24.65	24.74	20.1	330.8	.066
30.	10.06	32.03	24.65	24.78	30.2	330.8	.100

STATION 5

TIME: 0636 DATE: 15-XII-57 LAT: 46° 00' N LONG: 126° 30' W SOUNDING: 1500 fms.
 WEATHER: 03 WIND: Dir. 120° Speed 12 AIR TEMP: Dry 54° Wet 50° BARO: 1004.1 mb.
 CLOUD: Type Sc Amt 10 SEA: 120° - 1 SWELL: 300° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.30	32.41	24.73	4894.	0.558
10.	11.32	32.40	24.72	4894.	.569
20.	11.33	32.41	24.72	4895.	.565
30.	11.29	32.44	24.75	4895.	.567
50.	8.27	32.69	25.45	4861.	.587
75.	7.27	32.72	25.61	4850.	.575
100.	7.92	33.11	25.83	4861.	.462
125.	8.04	33.51	26.12	4866.	.360
150.	7.89	33.70	26.29	4866.	.307
174.	7.63	33.82	26.42	4864.	.254
199.	7.35	33.90	26.52	4863.	.243
249.	6.79	33.98	26.67	4859.	.187
299.	6.16	33.98	26.75	4853.	.174
390.	5.36	34.03	26.88	4848.	.134
584.	4.53	34.17	27.09	4849.	.050
779.	4.12	34.32	27.25	4856.	.030
974.	3.63	34.41	27.38	4861.	.035
1169.	3.33	34.46	27.45	4869.	.042
1461.	2.64	34.52	27.56	4876.	.066
1948.	1.96	34.59	27.67	4896.	.132
2435.	1.77	34.64	27.72	4922.	.167
2533.	1.76	34.64	27.73	4928.	.168

STATION 5

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.30	32.41	24.73	24.73	0.0	322.2	0.000
10.	11.32	32.40	24.72	24.76	10.1	323.9	.032
20.	11.33	32.41	24.72	24.81	20.1	323.4	.065
30.	11.29	32.44	24.75	24.89	30.2	321.0	.097
50.	8.27	32.69	25.45	25.68	50.3	255.0	.155
75.	7.27	32.72	25.61	25.95	75.4	240.0	.218
100.	7.92	33.11	25.83	26.29	100.6	219.8	.275
150.	7.89	33.70	26.29	26.98	151.0	176.6	.375
200.	7.34	33.90	26.53	27.45	201.3	154.6	.459
250.	6.78	33.99	26.67	27.83	251.7	141.4	.533
300.	6.15	33.98	26.75	28.15	302.2	134.3	.603
400.	5.29	34.03	26.90	28.76	403.1	121.0	.732
500.	4.74	34.10	27.01	29.35	504.0	110.6	.849
600.	4.48	34.18	27.11	29.91	605.0	102.4	.956
700.	4.23	34.26	27.19	30.47	706.1	94.9	1.056
800.	4.07	34.33	27.27	31.01	807.2	88.6	1.149
1000.	3.58	34.42	27.39	32.07	1009.6	77.5	1.317
1200.	3.27	34.47	27.46	33.08	1212.2	71.8	1.468
1500.	2.56	34.53	27.57	34.60	1516.4	61.1	1.670
2000.	1.92	34.60	27.68	37.04	2024.5	50.6	1.954
2500.	1.76	34.64	27.72	39.38	2533.7	47.5	2.204

STATION 6

TIME: 1947 DATE: 15-XII-57 LAT: 47° 00.5'N LONG: 127° 27' W SOUNDING: 1440 fms.
 WEATHER: 63 WIND: Dir. 140° Speed 35 AIR TEMP: Dry 54° Wet 52° BARO: 992.8 mb.
 CLOUD: Type Sc Amt 10 SEA: 140° - 2 SWELL: 260° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.00	32.45	24.81	4890.	0.574
10.	10.88	32.45	24.84	4889.	.586
20.	10.90	32.45	24.83	4890.	.571
30.	10.90	32.45	24.83	4891.	.569
50.	10.50	32.48	24.92	4887.	.570
75.	7.25	32.71	25.60	4849.	.578
99.	6.85	32.96	25.86	4847.	.538
124.	7.11	33.43	26.19	4853.	.424
149.	7.04	33.47	26.23	4854.	.366
174.	6.91	33.82	26.52	4855.	.343
199.	6.56	33.86	26.60	4852.	.345
248.	5.93	33.87	26.69	4847.	.283
298.	5.63	33.94	26.78	4846.	.195
398.	5.06	34.04	26.93	4845.	.108
497.	4.50	34.08	27.03	4843.	.059
596.	4.27	34.14	27.10	4846.	.052
795.	3.98	34.33	27.28	4855.	.029
1043.	3.28	34.41	27.41	4860.	.028

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.00	32.45	24.81	24.81	0.0	314.3	0.000
10.	10.88	32.45	24.84	24.88	10.1	312.5	.032
20.	10.90	32.45	24.83	24.92	20.1	313.0	.063
30.	10.90	32.45	24.83	24.97	30.2	313.3	.094
50.	10.50	32.48	24.92	25.15	50.3	305.1	.157
75.	7.25	32.71	25.60	25.95	75.4	240.2	.225
100.	6.85	32.97	25.87	26.33	100.6	215.5	.283
150.	7.04	33.47	26.23	26.93	150.9	181.5	.382
200.	6.55	33.86	26.60	27.53	201.3	147.2	.465
250.	5.91	33.87	26.69	27.86	251.7	139.0	.537
300.	5.62	33.94	26.79	28.19	302.2	130.4	.605
400.	5.05	34.04	26.93	28.80	403.1	117.8	.731
500.	4.49	34.08	27.03	29.37	504.0	108.8	.845
600.	4.26	34.15	27.10	29.91	605.0	102.6	.952
700.	4.09	34.23	27.19	30.47	706.1	95.3	1.052
800.	3.97	34.33	27.28	31.03	807.2	87.1	1.144
1000.	3.43	34.41	27.39	32.08	1009.6	77.0	1.310

STATION 7

TIME: 0328 DATE: 16-XII-57 LAT: 48° 00' N LONG: 128° 30' W SOUNDING: fms.
 WEATHER: 63 WIND: Dir. 140° Speed 20 AIR TEMP: Dry 47° Wet 44° BARO: 988.8 mb.
 CLOUD: Type St Amt 8 SEA: 140° - 3 SWELL: 140° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.70	32.30	24.92	4874.	0.579
10.	9.57	32.31	24.95	4873.	.584
20.	9.60	32.32	24.95	4874.	.582
30.	9.58	32.32	24.95	4874.	.585
50.	8.50	32.63	25.36	4864.	.536
75.	7.31	33.25	26.02	4852.	.418
100.	7.27	33.45	26.18	4854.	.363
125.	7.06	33.75	26.45	4854.	.335
150.	7.05	33.86	26.54	4856.	.272
174.	6.74	33.90	26.61	4853.	.273
199.	6.40	33.94	26.68	4851.	.242
249.	6.02	33.97	26.75	4849.	.185
299.	5.70	34.01	26.83	4848.	.142
400.	5.30	34.10	26.95	4848.	.088
500.	4.73	33.95	26.90	4846.	.084
600.	4.37	34.22	27.15	4848.	.040
800.	3.92	34.33	27.29	4854.	.027
1000.	3.45	34.41	27.40	4860.	.040
1200.	3.00	34.46	27.48	4866.	.044
1500.	2.47	34.53	27.58	4876.	.076
2000.	1.92	34.60	27.68	4898.	.139

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.70	32.30	24.92	24.92	0.0	304.2	0.000
10.	9.57	32.31	24.95	24.99	10.1	301.7	.030
20.	9.60	32.32	24.95	25.04	20.1	301.6	.061
30.	9.58	32.32	24.95	25.09	30.2	301.9	.091
50.	8.50	32.63	25.36	25.59	50.3	263.0	.148
75.	7.31	33.25	26.02	26.37	75.4	200.8	.206
100.	7.27	33.45	26.18	26.65	100.6	185.6	.255
150.	7.05	33.86	26.54	27.24	151.0	152.6	.340
200.	6.39	33.94	26.68	27.61	201.4	139.3	.414
250.	6.01	33.97	26.76	27.92	251.8	133.1	.482
300.	5.69	34.01	26.83	28.23	302.2	126.4	.548
400.	5.30	34.10	26.95	28.81	403.1	116.3	.670
500.	4.73	33.95	26.90	29.24	504.1	121.6	.790
600.	4.37	34.22	27.15	29.95	605.1	98.7	.902
700.	4.10	34.34	27.28	30.55	706.1	87.0	.995
800.	3.92	34.33	27.29	31.03	807.3	86.5	1.083
1000.	3.45	34.41	27.40	32.08	1009.7	76.8	1.248
1200.	3.00	34.46	27.48	33.10	1212.3	69.4	1.396
1500.	2.47	34.53	27.58	34.61	1516.5	60.1	1.594
2000.	1.92	34.60	27.68	37.04	2024.6	50.5	1.875

STATION 8

TIME: 1212 DATE: 16-XII-57 LAT: 49° 00' N LONG: 129° 30' W SOUNDING: fms.
 WEATHER: 02 WIND: Dir. 140° Speed 12 AIR TEMP: Dry 49° Wet 47° BARO: 988.2 mb.
 CLOUD: Type Sc Amt 8 SEA: 140° - 1 SWELL: 9 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.90	32.34	24.92	4877.	0.576
10.	9.82	32.35	24.94	4876.	.573
20.	9.84	32.36	24.94	4877.	.576
30.	9.84	32.36	24.94	4878.	.577
50.	9.84	32.37	24.95	4879.	.577
74.	6.90	32.82	25.74	4845.	.542
99.	6.68	33.24	26.10	4846.	.465
124.	6.75	33.60	26.37	4849.	.398
149.	6.82	33.80	26.52	4852.	.339
173.	6.66	33.85	26.58	4852.	.337
198.	6.55	33.91	26.64	4852.	.253
248.	5.78	33.90	26.74	4845.	.253
297.	5.37	33.93	26.80	4843.	.210
400.	4.91	34.00	26.92	4843.	.123
500.	4.57	34.09	27.03	4845.	.078
600.	4.21	34.17	27.13	4846.	.065
800.	3.85	34.29	27.26	4853.	.030
1050.	3.39	34.42	27.41	4862.	.031

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.90	32.34	24.92	24.92	0.0	304.3	0.000
10.	9.82	32.35	24.94	24.98	10.1	302.7	.031
20.	9.84	32.36	24.94	25.03	20.1	302.6	.061
30.	9.84	32.36	24.94	25.08	30.2	303.0	.091
50.	9.84	32.37	24.95	25.18	50.3	302.7	.152
75.	6.84	32.84	25.76	26.11	75.4	225.4	.219
100.	6.68	33.26	26.11	26.58	100.6	192.1	.271
150.	6.82	33.80	26.52	27.22	151.0	154.2	.358
200.	6.53	33.91	26.65	27.58	201.4	143.0	.433
250.	5.76	33.90	26.74	27.90	251.8	134.5	.503
300.	5.35	33.93	26.81	28.21	302.2	128.3	.570
400.	4.91	34.00	26.92	28.79	403.1	118.6	.694
500.	4.57	34.09	27.03	29.37	504.1	109.0	.809
600.	4.21	34.17	27.13	29.94	605.1	100.2	.915
700.	3.97	34.24	27.20	30.49	706.1	93.4	1.013
800.	3.85	34.29	27.26	31.01	807.2	88.6	1.105
1000.	3.48	34.40	27.38	32.07	1009.6	78.2	1.273

STATION 9

TIME: 1912 DATE: 16-XII-57 LAT: 50° 00' N LONG: 130° 30' W SOUNDING: fms.
 WEATHER: 81 WIND: Dir. 180° Speed 8 AIR TEMP: Dry 46° Wet 45° BARO: 982.4 mb.
 CLOUD: Type Sc Amt 10 SEA: 180° - 2 SWELL: 150° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.60	32.34	24.96	4873.	0.593
10.	9.54	32.35	24.98	4873.	.593
20.	9.53	32.36	24.99	4873.	.587
30.	9.51	32.36	24.99	4874.	.582
50.	9.41	32.38	25.02	4874.	.582
75.	6.79	32.66	25.63	4843.	.586
100.	7.13	33.16	25.98	4851.	.437
125.	6.94	33.50	26.26	4851.	.390
150.	6.35	33.65	26.46	4846.	.395
175.	6.20	33.78	26.59	4846.	.361
200.	6.15	33.88	26.67	4847.	.307
249.	5.61	33.93	26.77	4843.	.237
299.	5.41	33.95	26.82	4843.	.181
400.	4.91	34.05	26.96	4843.	.098
500.	4.45	34.12	27.06	4843.	.066
594.	4.24	34.18	27.13	4846.	.052
792.	3.72	34.31	27.28	4851.	.037
991.	3.31	34.38	27.38	4857.	.032
1189.	2.85	34.45	27.48	4863.	.039
1486.	2.38	34.52	27.58	4874.	.069
1982.	1.93	34.59	27.67	4897.	.134

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.60	32.34	24.96	24.96	0.0	300.0	0.000
10.	9.54	32.35	24.98	25.03	10.1	298.7	.030
20.	9.53	32.36	24.99	25.08	20.1	298.2	.060
30.	9.51	32.36	24.99	25.13	30.2	297.9	.090
50.	9.41	32.38	25.02	25.25	50.3	295.3	.150
75.	6.79	32.66	25.63	25.98	75.4	238.0	.217
100.	7.13	33.16	25.98	26.44	100.6	205.1	.273
150.	6.35	33.65	26.46	27.16	151.0	159.6	.364
200.	6.15	33.88	26.67	27.60	201.4	140.8	.440
250.	5.60	33.93	26.78	27.94	251.8	130.9	.509
300.	5.41	33.95	26.82	28.22	302.2	127.3	.574
400.	4.91	34.05	26.96	28.83	403.1	115.1	.696
500.	4.45	34.12	27.06	29.40	504.1	105.9	.808
600.	4.23	34.18	27.14	29.95	605.1	99.3	.911
700.	3.97	34.25	27.21	30.49	706.1	92.6	1.008
800.	3.70	34.31	27.29	31.04	807.2	85.8	1.098
1000.	3.29	34.38	27.39	32.08	1009.6	77.1	1.263
1200.	2.83	34.45	27.49	33.12	1212.2	68.0	1.410
1500.	2.36	34.52	27.58	34.62	1516.5	59.2	1.604

STATION 53

TIME: 0030 DATE: 17-XII-57 LAT: 50° 22' N LONG: 129° 54' W SOUNDING: 1150 fms.
 WEATHER: 01 WIND: Dir. 290° Speed 30 AIR TEMP: Dry 45° Wet 43° BARO: 985.4 mb.
 CLOUD: Type Cu Amt 2 SEA: 290° - 3 SWELL: 270° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	8.80	32.36	25.10	4863.	0.577
9.	8.90	32.33	25.07	4865.	.580
18.	8.90	32.33	25.07	4865.	.580
27.	8.91	32.33	25.07	4866.	.582
45.	8.92	32.34	25.07	4867.	.585
67.	7.08	32.99	25.85	4848.	.577
90.	6.88	33.35	26.16	4848.	.423
112.	6.83	33.52	26.30	4849.	.384
135.	6.79	33.73	26.47	4851.	.346
157.	6.66	33.81	26.55	4851.	.331
180.	6.55	33.88	26.62	4851.	.303
225.	6.37	33.99	26.73	4852.	.184
270.	5.93	33.99	26.79	4849.	.161

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	8.80	32.36	25.10	25.10	0.0	286.7	0.000
10.	8.90	32.33	25.07	25.11	10.1	290.4	.029
20.	8.90	32.33	25.07	25.16	20.1	290.3	.058
30.	8.91	32.34	25.07	25.21	30.2	290.5	.087
50.	8.68	32.42	25.17	25.40	50.3	280.9	.145
75.	6.81	33.15	26.01	26.36	75.4	201.5	.206
100.	6.84	33.45	26.24	26.70	100.6	180.2	.254
150.	6.71	33.79	26.53	27.23	151.0	153.3	.338
200.	6.46	33.93	26.67	27.60	201.4	140.5	.412
250.	6.16	34.00	26.77	27.93	251.8	132.0	.480

STATION 52

TIME: 0354 DATE: 17-XII-57 LAT: 50° 48' N LONG: 129° 27' W SOUNDING: 198 fms.
 WEATHER: 81 WIND: Dir. 290° Speed 30 AIR TEMP: Dry 45° Wet 42° BARO: 987.5 mb.
 CLOUD: Type Cu Amt 8 SEA: 290° - 3 SWELL: 270° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	8.80	32.37	25.11	4863.	0.586
10.	9.01	32.36	25.07	4866.	.581
20.	9.01	32.36	25.08	4867.	.587
30.	9.02	32.36	25.07	4868.	.585
50.	8.99	32.37	25.08	4869.	.584
75.	6.88	32.92	25.82	4846.	.529
99.	7.67	33.36	26.06	4859.	.342
124.	7.57	33.61	26.26	4860.	.252
149.	7.48	33.71	26.36	4861.	.226
174.	7.37	33.80	26.44	4861.	.195
199.	7.33	33.83	26.47	4862.	.188
248.	7.15	33.88	26.53	4863.	.191
298.	6.77	33.95	26.64	4861.	.190

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	8.80	32.37	25.11	25.11	0.0	285.7	0.000
10.	9.01	32.36	25.07	25.12	10.1	290.0	.029
20.	9.01	32.36	25.08	25.17	20.1	289.6	.058
30.	9.02	32.36	25.07	25.21	30.2	290.4	.087
50.	8.99	32.37	25.08	25.31	50.3	289.6	.146
75.	6.88	32.92	25.82	26.17	75.4	219.4	.210
100.	7.68	33.37	26.06	26.53	100.6	197.0	.262
150.	7.48	33.72	26.36	27.06	151.0	169.4	.354
200.	7.33	33.83	26.48	27.40	201.4	159.5	.437
250.	7.14	33.88	26.54	27.70	251.8	154.3	.516

STATION H-15

TIME: 0743 DATE: 17-XII-57 LAT: 51° 19' N LONG: 128° 45' W SOUNDING: fms.
 WEATHER: 01 WIND: Dir. 280° Speed 10 AIR TEMP: Dry 45° Wet 42° BARO: 989.2 mb.
 CLOUD: Type Sc Amt 4 SEA: 280° - 2 SWELL: 280° - 3 SECCHI DISC:

Depth m.	Temp °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	9.00	31.92	24.73	4864.	0.565
10.	9.65	31.89	24.61	4873.	.557
20.	9.66	31.89	24.61	4873.	.565
30.	9.66	31.90	24.61	4874.	.564
50.	9.64	31.92	24.63	4875.	.557
75.	9.59	32.23	24.88	4877.	.483
100.	8.81	32.66	25.34	4870.	.381
125.	7.99	33.42	26.06	4865.	.308
150.	7.41	33.53	26.23	4859.	.268
175.	7.12	33.78	26.47	4858.	.200
200.	7.06	33.81	26.50	4859.	.198

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.00	31.92	24.73	24.73	0.0	322.3	0.000
10.	9.65	31.89	24.61	24.65	10.1	334.1	.033
20.	9.66	31.89	24.61	24.70	20.1	334.4	.067
30.	9.66	31.90	24.61	24.75	30.2	334.4	.100
50.	9.64	31.92	24.63	24.86	50.3	332.7	.167
75.	9.59	32.23	24.88	25.23	75.4	309.0	.248
100.	8.81	32.66	25.34	25.80	100.6	266.2	.320
150.	7.41	33.53	26.23	26.92	150.9	182.3	.433
200.	7.06	33.81	26.50	27.43	201.3	157.2	.519

STATION H-14

TIME: 0953 DATE: 17-XII-57 LAT: 51° 08' N LONG: 128° 21' W SOUNDING: 100 fms.
 WEATHER: 03 WIND: Dir. 240° Speed 15 AIR TEMP: Dry 47° Wet 46° BARO: 992.9 mb.
 CLOUD: Type C_u, S_c & C_c Amt 9 SEA: 240° - 3 SWELL: 270° - 3 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.70	31.75	24.49	4872.	0.562
10.	9.75	31.74	24.47	4873.	.563
20.	9.75	31.74	24.47	4874.	.563
30.	9.76	31.74	24.47	4874.	.563
50.	9.82	31.78	24.49	4877.	.561
75.	9.86	32.05	24.69	4880.	.537
100.	8.77	32.78	25.44	4870.	.390
125.	7.98	33.13	25.83	4863.	.346
150.	7.57	33.40	26.10	4861.	.299
175.	7.22	33.67	26.36	4859.	.231

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.70	31.75	24.49	24.49	0.0	345.0	0.000
10.	9.75	31.74	24.47	24.52	10.1	346.9	.035
20.	9.75	31.74	24.47	24.57	20.1	347.0	.070
30.	9.76	31.74	24.47	24.61	30.2	347.4	.105
50.	9.82	31.78	24.49	24.72	50.3	346.2	.174
75.	9.86	32.05	24.69	25.04	75.4	327.3	.259
100.	8.77	32.78	25.44	25.90	100.5	256.8	.332
150.	7.57	33.40	26.10	26.80	150.9	194.2	.446

STATION H-5

TIME: 1209 DATE: 17-XII-57 LAT: 51° 00' N LONG: 127° 48.5' W SOUNDING: 76 fms.
 WEATHER: 02 WIND: Dir. 310° Speed 8 AIR TEMP: Dry 49° Wet 47° BARO: 992.5 mb.
 CLOUD: Type Sc Amt 6 SEA: 310° - 1 SWELL: 310° - 1 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	9.20	31.41	24.31	4865.	0.566
10.	9.70	31.39	24.21	4871.	.562
20.	9.83	31.48	24.25	4874.	.556
30.	9.87	31.54	24.30	4875.	.556
50.	9.58	31.58	24.37	4873.	.558
75.	9.49	31.72	24.50	4874.	.558
100.	9.29	31.98	24.73	4874.	.505
125.	8.84	32.19	24.97	4871.	.505

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	9.20	31.41	24.31	24.31	0.0	362.7	0.000
10.	9.70	31.39	24.21	24.26	10.0	371.8	.037
20.	9.83	31.48	24.25	24.35	20.1	368.0	.074
30.	9.87	31.54	24.30	24.44	30.1	364.0	.111
50.	9.58	31.58	24.37	24.60	50.2	357.2	.183
75.	9.49	31.72	24.50	24.85	75.4	345.2	.272
100.	9.29	31.98	24.73	25.19	100.5	323.9	.356

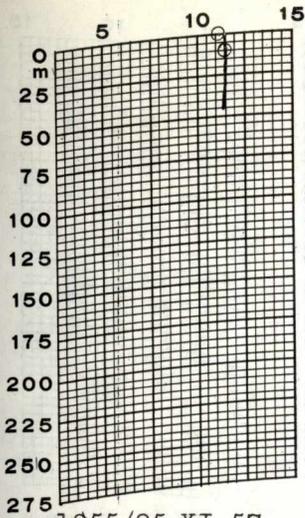
STATION H-1

TIME: 1420 DATE: 17-XII-57 LAT: 50° 47' N LONG: 127° 25' W SOUNDING: 200 fms.
 WEATHER: 03 WIND: Dir. 330° Speed 5 AIR TEMP: Dry 44° Wet 43° BARO: 995.6 mb.
 CLOUD: Type Sc Amt 8 SEA: 330° - 1 SWELL: 0 SECCHI DISC:

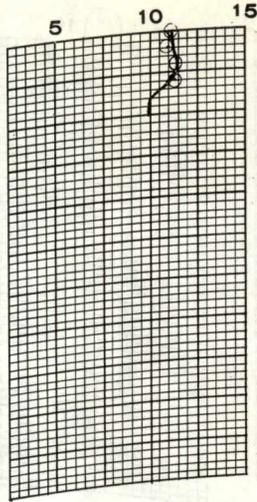
Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	8.10	31.13	24.25	4850.	0.546
10.	8.12	31.13	24.25	4851.	.532
20.	8.15	31.20	24.30	4852.	.531
30.	8.14	31.25	24.34	4853.	.544
50.	8.20	31.30	24.37	4855.	.540
75.	8.45	31.43	24.43	4860.	.528
100.	8.86	31.64	24.53	4867.	.513
125.	8.67	31.93	24.79	4867.	.474
150.	8.53	32.12	24.96	4868.	.438
175.	8.39	32.34	25.16	4868.	.413
200.	8.36	32.39	25.20	4870.	.408
250.	8.29	32.56	25.34	4872.	.369
300.	8.29	32.58	25.36	4875.	.357
350.	8.30	32.64	25.40	4879.	.338

INTERPOLATED DATA

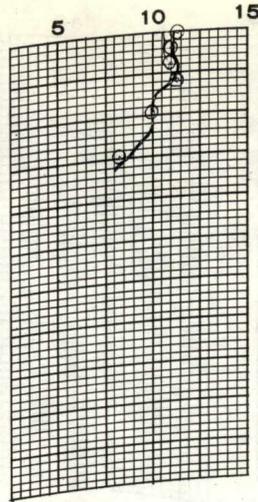
Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,f}$	P	10 ⁵ δ	ΔD
0.	8.10	31.13	24.25	24.25	0.0	368.6	0.000
10.	8.12	31.13	24.25	24.29	10.0	368.7	.037
20.	8.15	31.20	24.30	24.39	20.1	363.8	.074
30.	8.14	31.25	24.34	24.48	30.1	360.2	.110
50.	8.20	31.30	24.37	24.60	50.2	357.7	.182
75.	8.45	31.43	24.43	24.78	75.4	352.0	.272
100.	8.86	31.64	24.53	25.00	100.5	342.5	.359
150.	8.53	32.12	24.96	25.65	150.8	302.9	.521
200.	8.36	32.39	25.20	26.12	201.1	281.2	.668
250.	8.29	32.56	25.34	26.49	251.5	268.6	.807
300.	8.29	32.58	25.36	26.74	301.8	267.3	.941



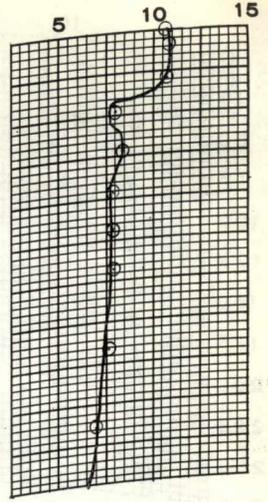
1855/25-XI-57
Station 70



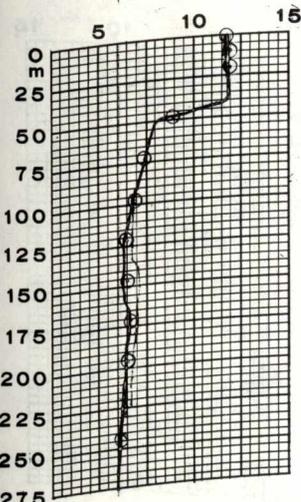
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Station 69



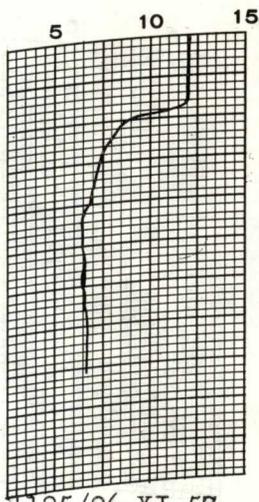
2220/25-XI-57
Station 68



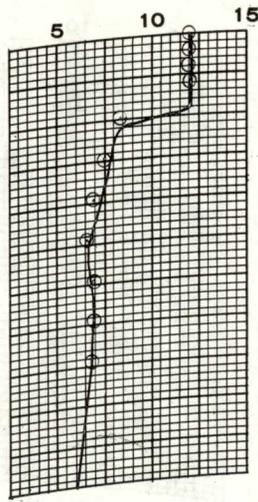
0150/26-XI-57
Station 67



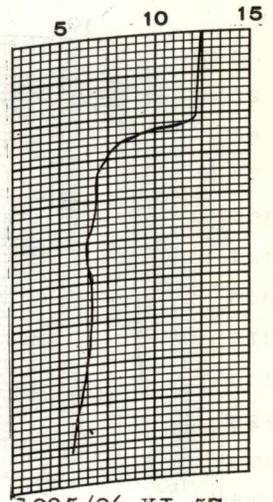
0755/26-XI-57
Station 66



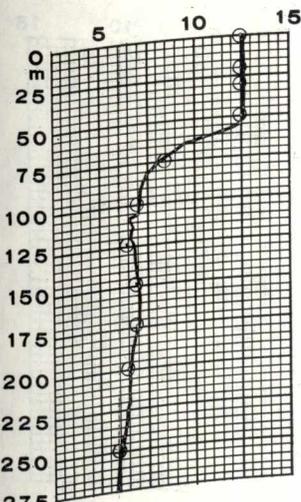
1125/26-XI-57
47° 40' N
127° 31' W
S.S. 32.48



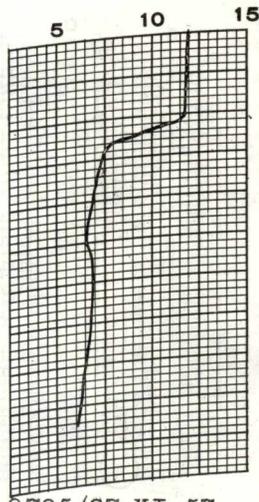
1625/26-XI-57
Station 65



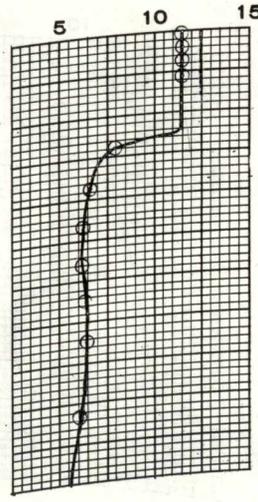
1935/26-XI-57
47° 01' N
128° 24' W
S.S. 32.46



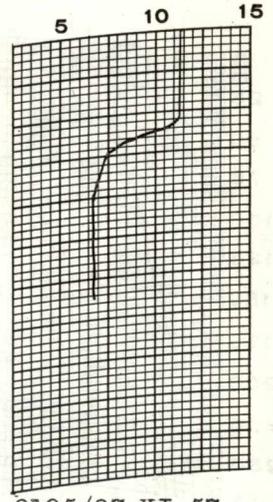
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Station 64



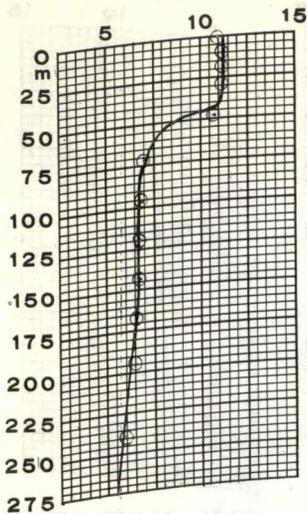
0725/27-XI-57
47° 07' N
129° 59' W
S.S. 32.37



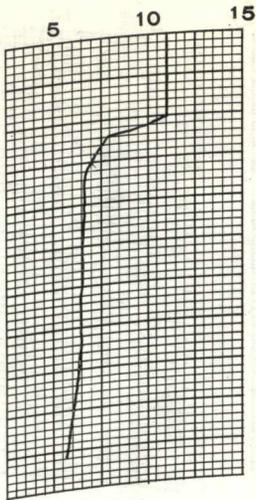
1515/27-XI-57
Station 63



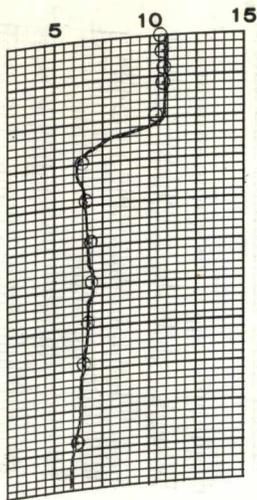
2105/27-XI-57
48° 06' N
130° 56' W
S.S. 32.38



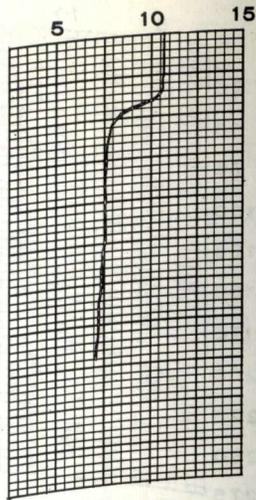
0145/28-XI-57
Station 62



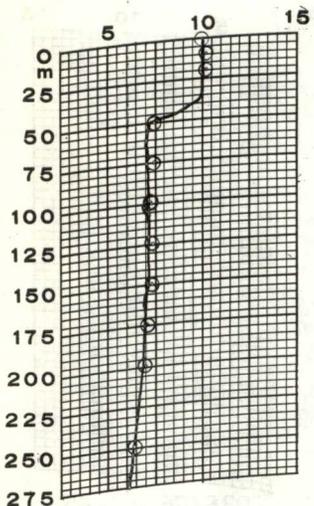
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129° 57' W
S.S. 32.34



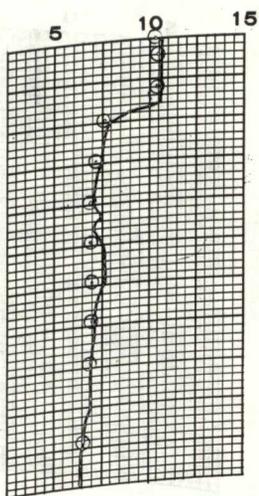
0925/28-XI-57
Station 61



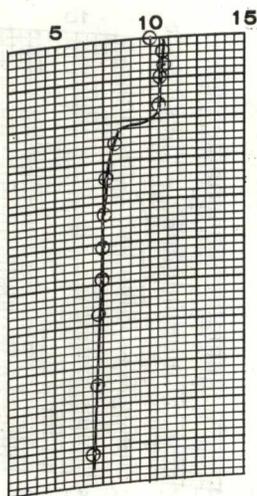
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S.S. 32.26



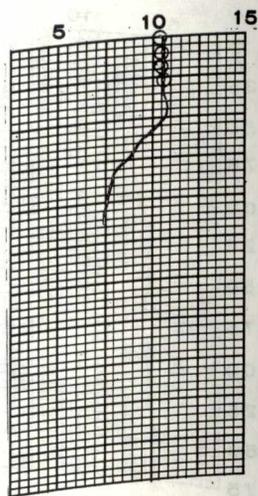
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Station 60



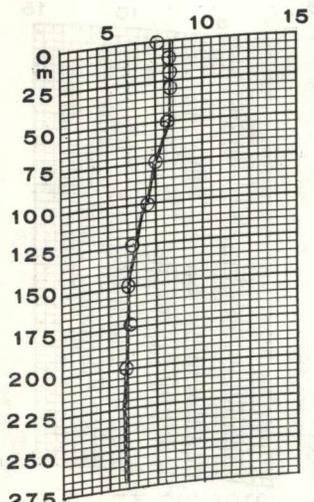
2125/28-XI-57
Station 59



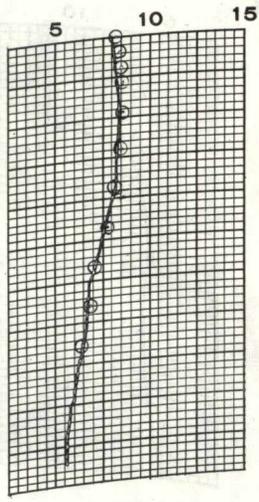
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Station 58



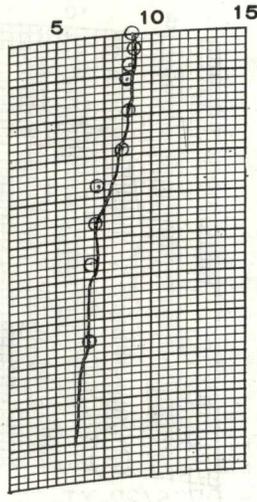
0115/29-XI-57
Station 57



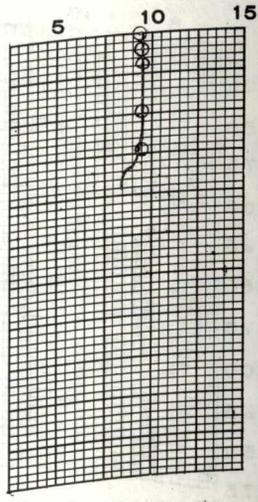
1630/1-XII-57
Station H-64



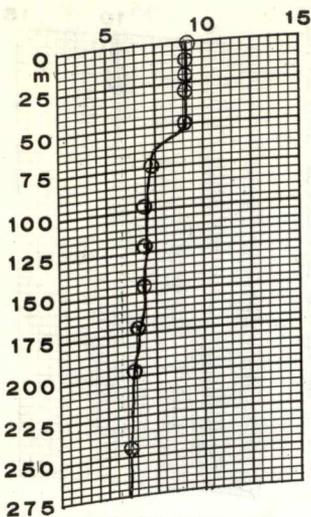
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Station H-67



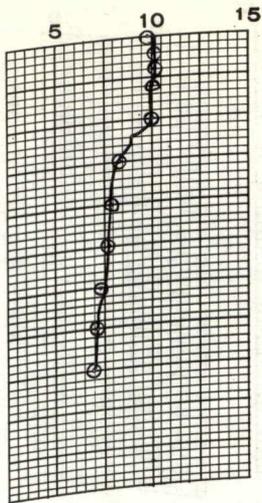
0455/2-XII-57
Station H-71



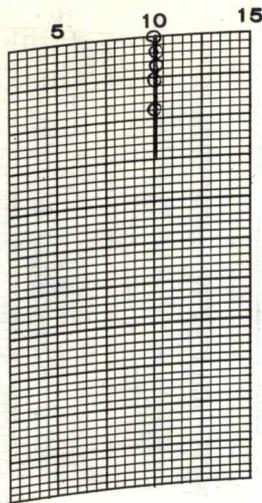
1020/2-XII-57
Station S-1



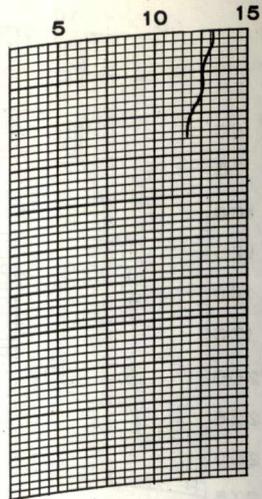
0250/7-XII-57
Station 48



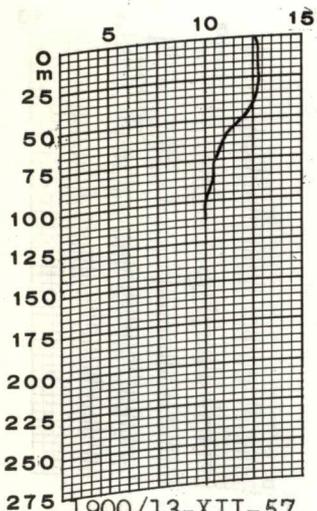
0550/7-XII-57
Station 49



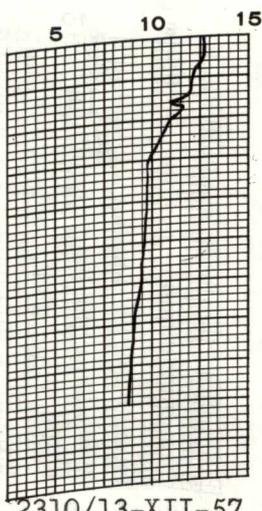
0830/7-XII-57
Station 16



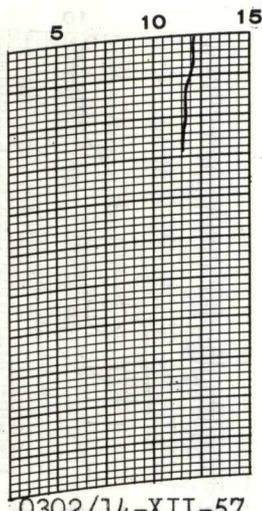
1507/13-XII
38° 13' N
123° 19' W
S.S. 33.43



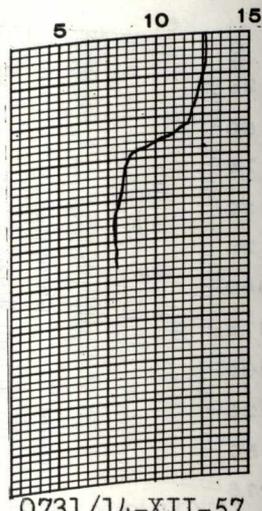
1900/13-XII-57
38° 54' N
123° 50' W
S.S. 33.39



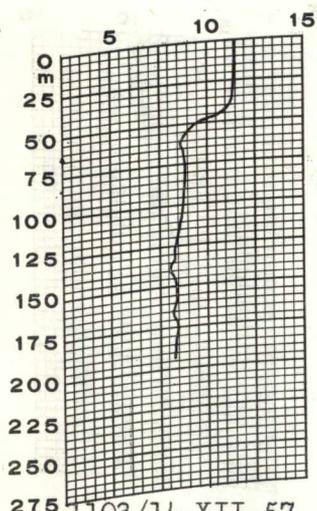
2310/13-XII-57
39° 42' N
124° 12' W
S.S. 32.86



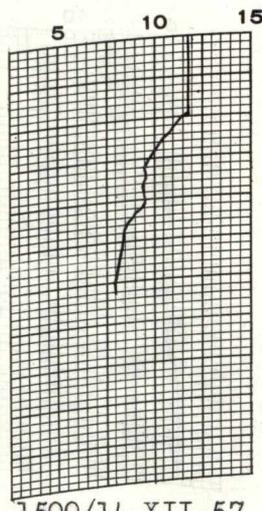
0302/14-XII-57
40° 28' N
124° 35' W
S.S. 33.36



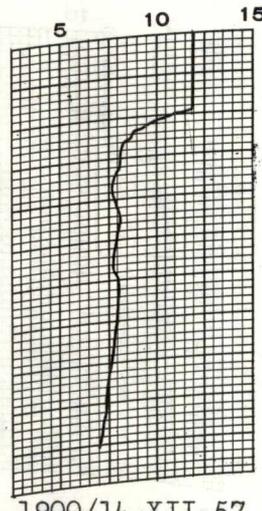
0731/14-XII-57
41° 17' N
124° 42' W
S.S. 32.83



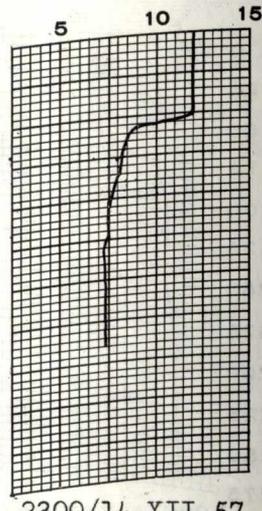
1103/14-XII-57
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124° 46' W
S.S. 33.23



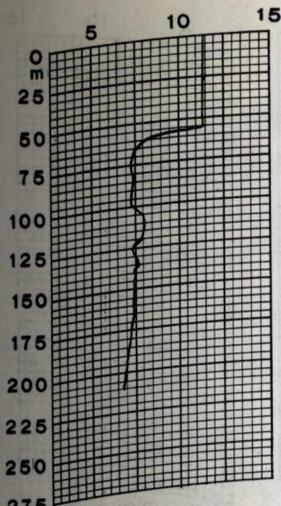
1500/14-XII-57
42° 42' N
125° 00' W
S.S. 33.12



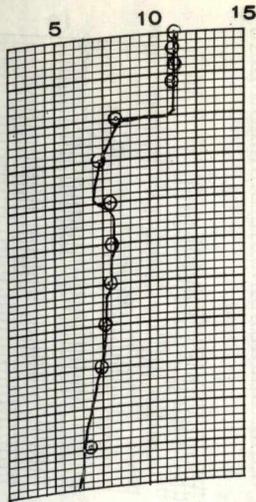
1900/14-XII-57
43° 27' N
125° 20' W
S.S. 32.45



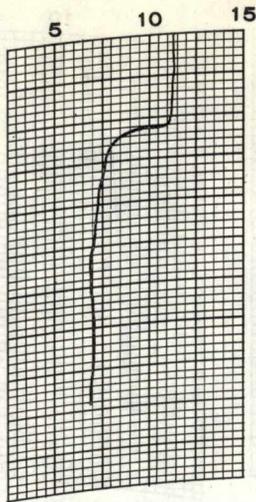
2300/14-XII-57
44° 10' N
125° 40' W
S.S. 32.48



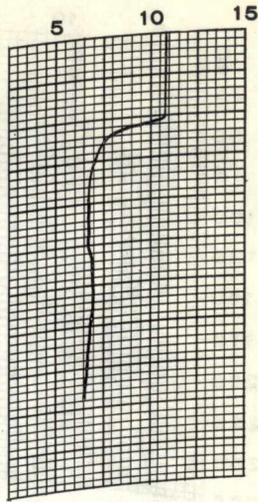
0310/15-XII-57
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 126° 15' W
 S.S. 32.50



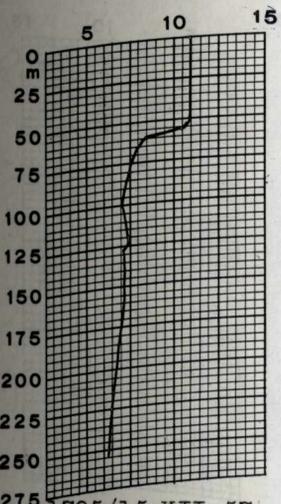
0700/15-XII-57
 Station 5



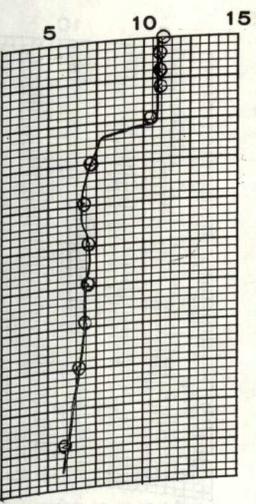
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 46° 14' N
 126° 52' W
 S.S. 32.51



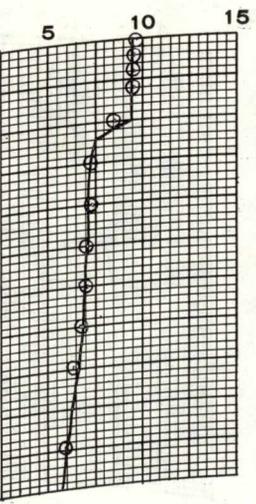
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 46° 34' N
 127° 11' W
 S.S. 32.45



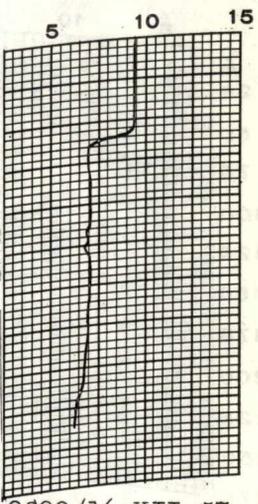
1725/15-XII-57
 46° 42' N
 127° 27' W
 S.S. 32.43



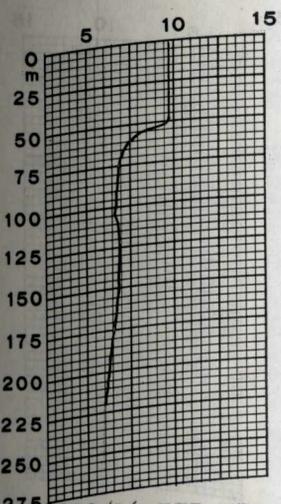
2025/15-XII-57
 Station 6



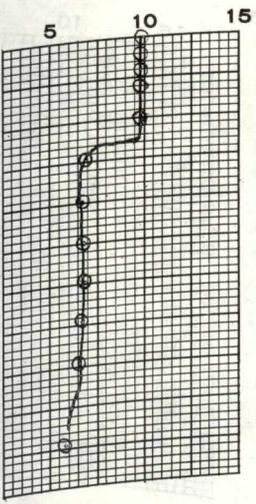
0540/16-XII-57
 Station 7



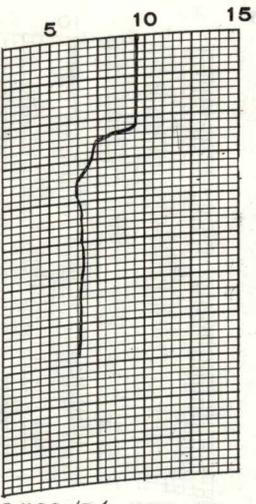
0800/16-XII-57
 48° 20' N
 128° 50' W
 S.S. 32.37



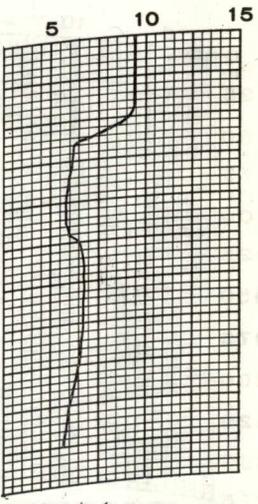
1000/16-XII-57
 48° 40' N
 129° 10' W
 S.S. 32.37



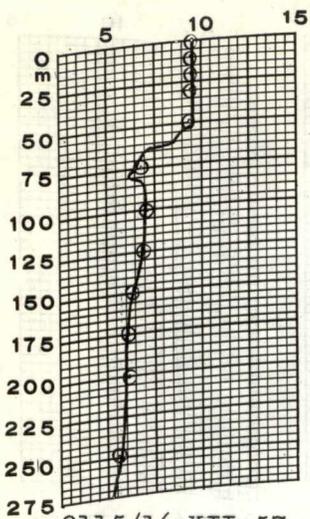
1315/16-XII-57
 Station 8



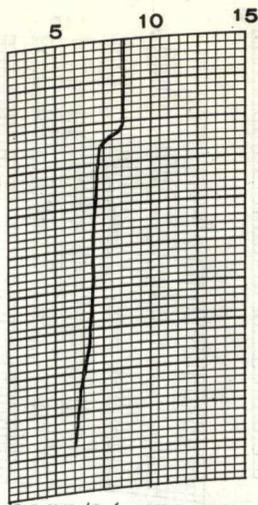
1520/16-XII-57
 49° 22' N
 129° 51' W
 S.S. 32.36



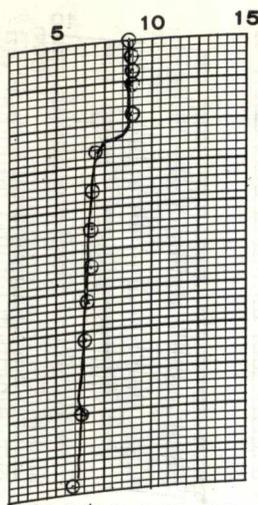
1725/16-XII-57
 49° 46' N
 130° 14' W
 S.S. 32.35



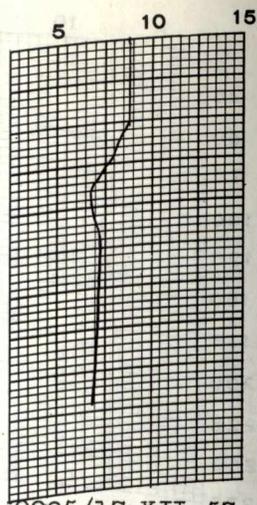
2115/16-XII-57
Station 9



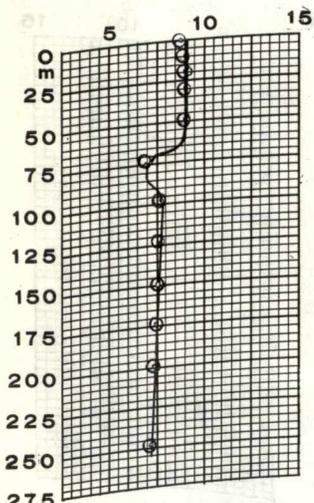
2255/16-XII-57
50° 15' N
130° 10' W
S.S. 32.31



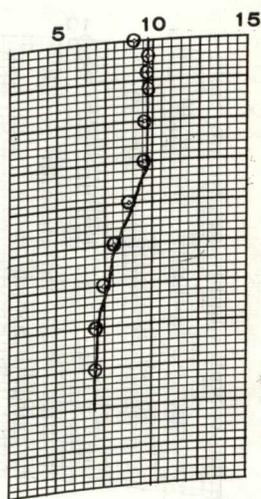
0045/17-XII-57
Station 53



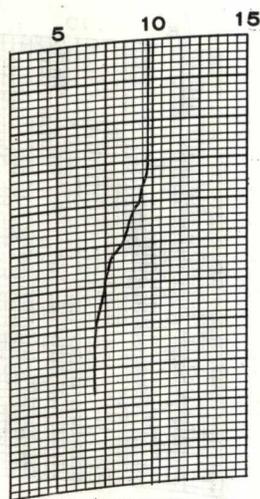
0225/17-XII-57
50° 33' N
129° 33' W
S.S. 32.37



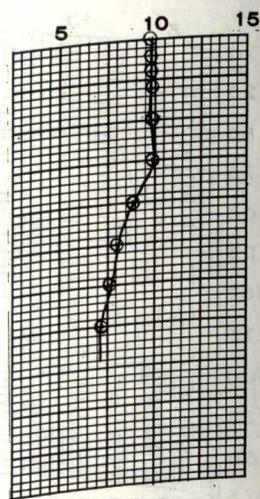
0405/17-XII-57
Station 52



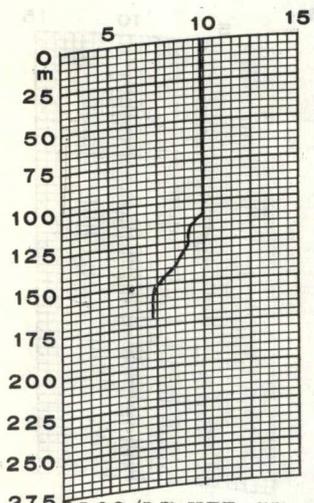
0753/17-XII-57
Station 15



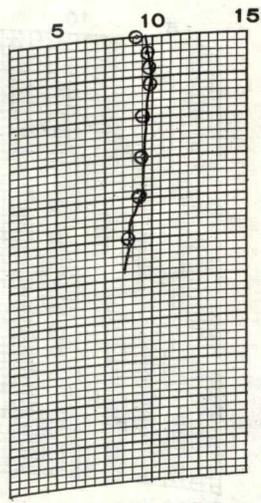
0845/17-XII-57
51° 13' N
128° 33' W
S.S. 31.78



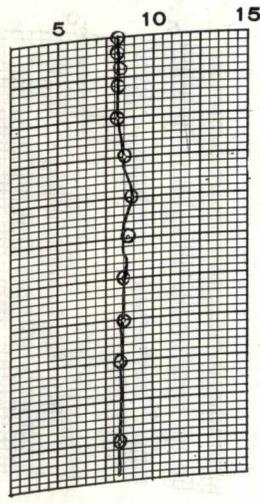
1005/17-XII-57
Station 14



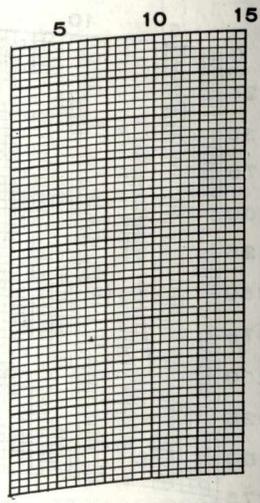
1100/17-XII-57
51° 04' N
128° 05' W
S.S. 31.62

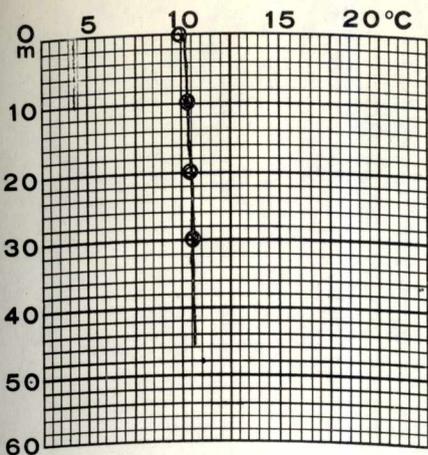


1245/17-XII-57
Station 5

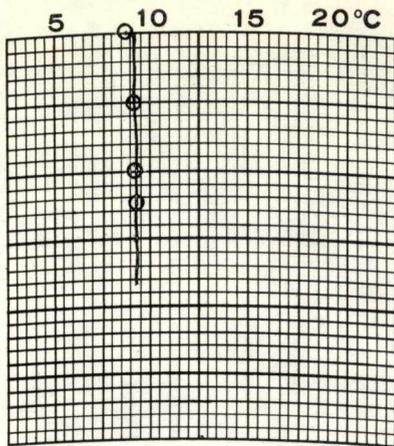


1430/17-XII-57
Station H-7

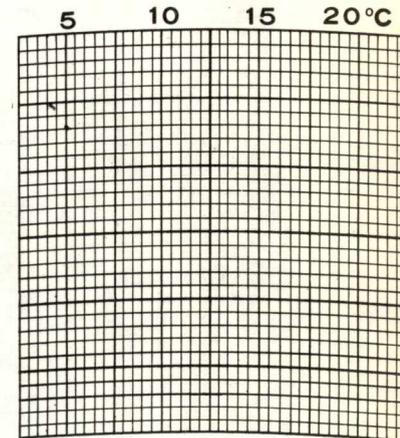
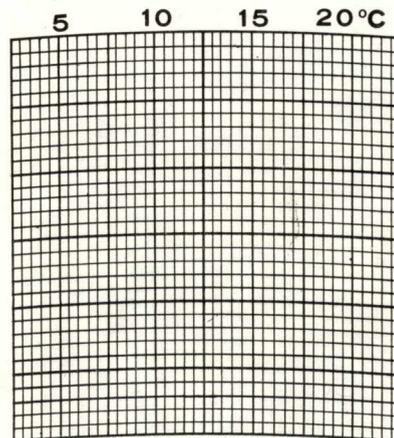
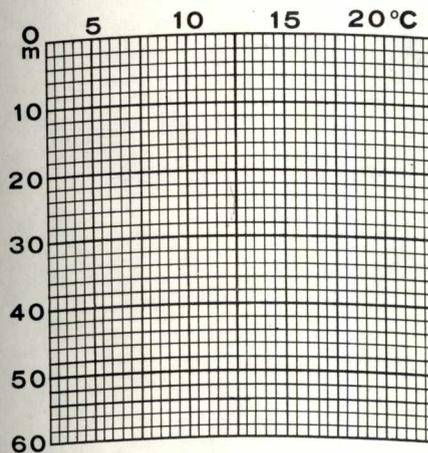
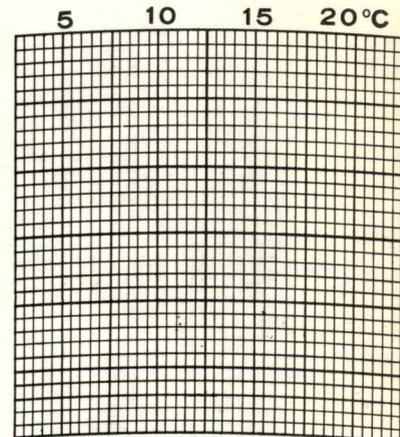
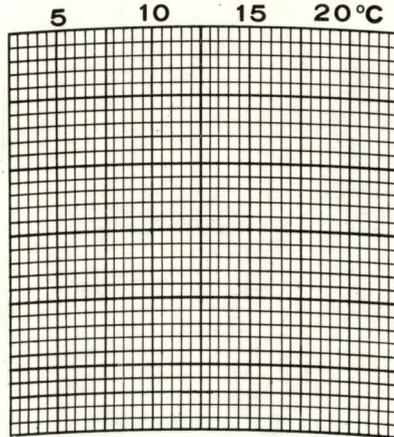
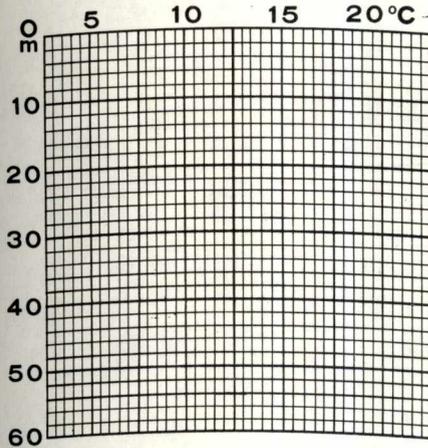
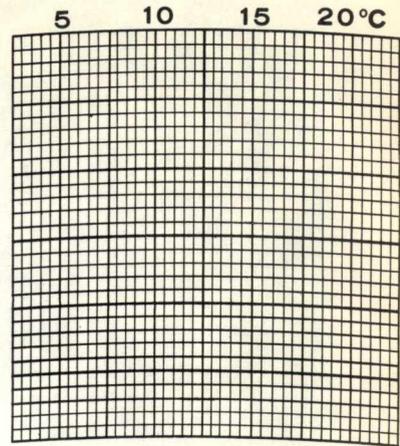




0410/29-XI-57
Station 56



0250/4-XII-57
Station 25



Plankton Data Record

Station Number	Total Wet Weight gm/1000 m ³	Phytoplankton	Zooplankton	Gastropoda	Amphipoda	Copepoda	Decapoda	Euphausiacea	Chaetognatha	Miscellaneous
C-57-4 November 26 - December 3, 1957										
65	9.0		9.0		tr.	6.0		tr.	3.0	Oik, Eggs
64	22.6		22.6	tr.	2.2	1.1		18.0	1.1	
63	197.0	187.2	9.8		tr.	3.9		1.9	1.9	Mys, Fish larv
61	16.8		16.8	tr.	tr.	5.0		tr.	11.7	Ost
58	107.2		107.2	tr.	tr.	48.2	10.7	16.0	32.1	Oik, Ann, Ost Fish Larv
64	31.3		31.3	tr.	1.4	10.6	tr.	12.0	7.2	Oik, Ann, Ost
67	21.0	tr.	21.0	tr.	14.7	5.2		tr.	1.0	Ost, Eggs
71	75.6		75.6		0.7	7.6	45.3	21.1	0.7	Ost
2	12.6		12.6		tr.	10.7			1.8	Ann
4	62.4		62.4	tr.	tr.	46.8		9.3	6.2	Oik, Ann, Eggs
Depth of haul - 40 meters										
35	15.9		15.9	tr.	0.3	13.7		tr.	1.6	Oik, Ann, Ost, Eggs, Cirre

Cruise Number S-10-57

October 10 - 18, 1957

Personnel:

H.M.C.S. Oshawa

E.B. Bennett

K.S. Booth

H.M.C.S. Jonquiere

F.G. Barber

R.H. Herlinveaux

O.D. Kennedy

Cruise Number S-11-57

November 7 - 15, 1957

Personnel:

H.M.C.S. Ste. Therese

E.B. Bennett

M.P. Sinclair

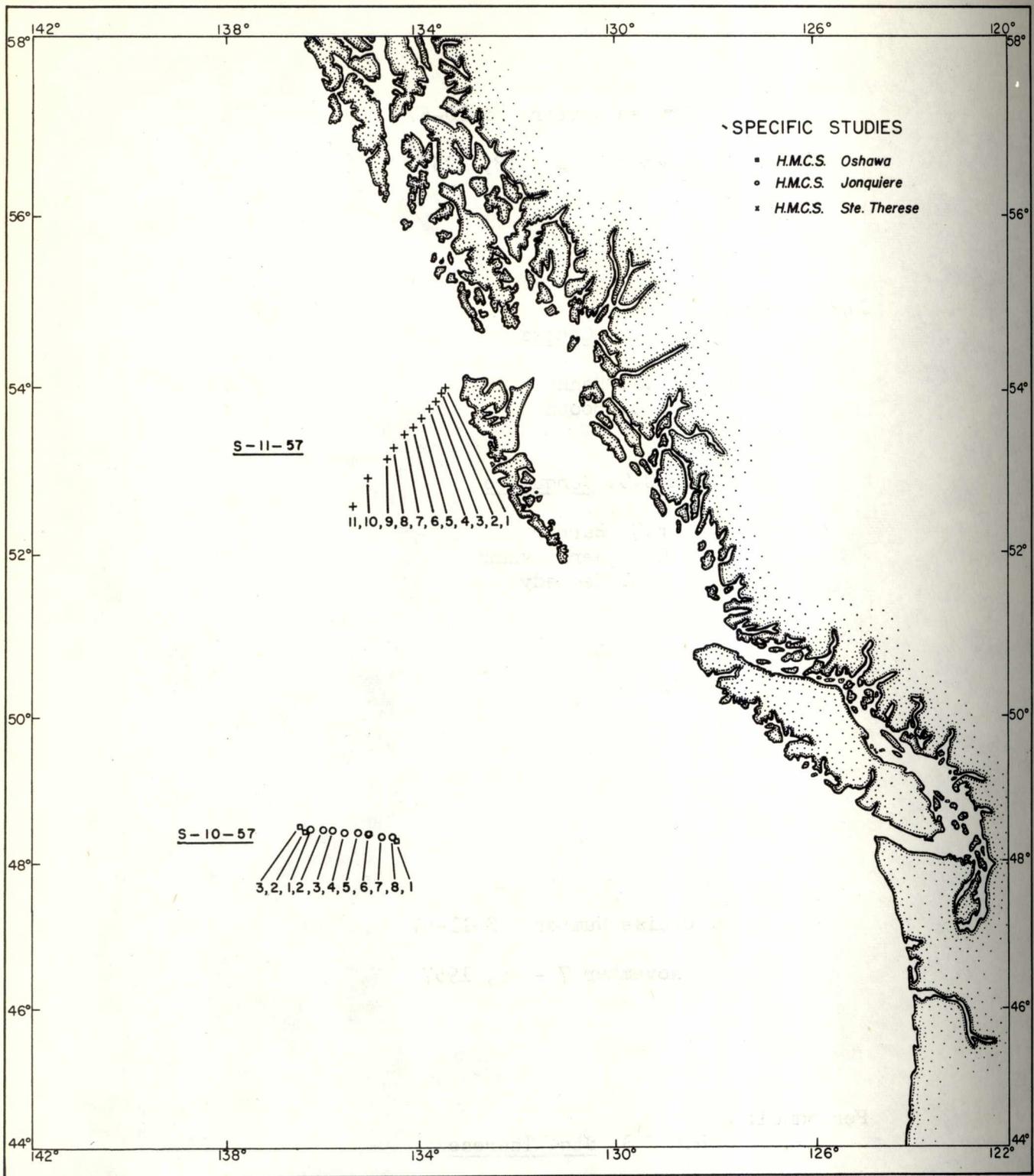


Fig. 6. Approximate positions of stations occupied during cruises S-10-57 (October 10-18, 1957) and S-11-57 (November 7-15, 1957). Squares indicate Oshawa positions; circles indicate Jonquiere positions; crosses indicate Ste. Therese positions.

STATION 1 (Oshawa)

TIME: 1730 DATE: 12-X-57 LAT: 48° 19' N LONG: 134° 30' W SOUNDING: fms.
 WEATHER: WIND: Dir. Speed AIR TEMP: Dry Wet BARO:
 CLOUD: Type Amt SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	14.20	32.49	24.23	4926.	
10.	14.32	32.48	24.20	4928.	
15.	14.31	32.48	24.20	4928.	
40.	14.30	32.47	24.20	4930.	
65.	7.53	32.66	25.53	4852.	
99.	6.37	32.82	25.81	4840.	
124.	6.22	33.10	26.05	4840.	
146.	6.48	33.47	26.30	4847.	
171.	6.16	33.64	26.48	4845.	
195.	6.21	33.82	26.61	4847.	
244.	5.88	33.89	26.71	4846.	
293.	5.32	33.92	26.80	4842.	
387.	4.53*	33.99	26.95	4837.	
572.	4.04	34.14	27.12	4842.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.20	32.49	24.23	24.23	0.0	370.2	0.000
10.	14.32	32.48	24.20	24.24	10.0	373.6	.037
20.	14.30	32.48	24.20	24.29	20.1	373.6	.075
30.	14.30	32.47	24.20	24.33	30.1	373.8	.112
50.	12.40	32.53	24.61	24.84	50.2	334.5	.184
75.	6.23	32.72	25.74	26.09	75.4	226.8	.254
100.	6.35	32.83	25.81	26.28	100.6	220.4	.311
150.	6.47	33.51	26.34	27.04	150.9	171.3	.409
200.	6.20	33.84	26.63	27.56	201.3	144.1	.489
250.	5.82	33.90	26.72	27.89	251.7	135.9	.559
300.	5.25	33.92	26.81	28.21	302.1	127.8	.626
400.	4.45	34.00	26.97	28.84	403.0	113.8	.748
500.	4.06	34.08	27.07	29.42	504.0	104.4	.858

STATION 2 (Oshawa)

TIME: 1848 DATE: 13-X-57 LAT: 48° 18' N LONG: 136° 25' W SOUNDING: fms.
 WEATHER: WIND: Dir. Speed AIR TEMP: Dry Wet BARO:
 CLOUD: Type Amt SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	13.80	32.43	24.27	4922.	
10.	13.80	32.41	24.25	4922.	
30.	13.83	32.41	24.25	4924.	
50.	9.20	32.63	25.25	4872.	
75.	7.13	32.66	25.58	4848.	
100.	6.46	32.66	25.67	4840.	
125.	6.14	32.74	25.77	4838.	
150.	5.93	33.00	26.01	4838.	
175.	5.48	33.33	26.32	4835.	
200.	5.43	33.60	26.54	4836.	
250.	5.47	33.87	26.75	4841.	
294.	5.03	33.90	26.82	4838.	
392.	4.37	33.99	26.96	4835.	
589.	3.81	34.17	27.17	4840.	
990.	2.98	34.37	27.41	4853.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.80	32.43	24.27	24.27	0.0	366.6	0.000
10.	13.80	32.41	24.25	24.30	10.0	368.0	.037
20.	14.40	32.39	24.11	24.20	20.1	382.1	.075
30.	13.83	32.41	24.25	24.38	30.1	369.2	.112
50.	9.20	32.63	25.25	25.48	50.3	273.6	.177
75.	7.13	32.66	25.58	25.93	75.4	242.7	.242
100.	6.46	32.66	25.67	26.13	100.6	234.2	.302
150.	5.93	33.00	26.01	26.71	150.9	202.8	.412
200.	5.43	33.60	26.54	27.47	201.3	152.8	.501
250.	5.47	33.87	26.75	27.91	251.7	133.6	.574
300.	4.98	33.90	26.83	28.23	302.1	125.9	.639
400.	4.33	33.99	26.97	28.85	403.0	112.8	.760
500.	3.94	34.09	27.09	29.44	504.0	102.5	.868
600.	3.78	34.18	27.18	30.00	605.0	94.5	.968
700.	3.54	34.25	27.26	30.55	706.1	87.3	1.060
800.	3.32	34.31	27.33	31.09	807.2	81.6	1.145

STATION 3 (Oshawa)

TIME: 1639 DATE: 14-X-57 LAT: 48° 20' W LONG: 136° 30' W SOUNDING: fms.
 WEATHER: WIND: Dir. Speed AIR TEMP: Dry Wet BARO:
 CLOUD: Type Amt SEA: SWELL: SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	13.80	32.42	24.26	4922.	
10.	13.74	32.42	24.27	4922.	
30.	13.71	32.42	24.27	4923.	
49.	9.25	32.59	25.22	4873.	
74.	6.87	32.65	25.61	4844.	
98.	6.12	32.67	25.73	4836.	
123.	5.82	32.87	25.91	4834.	
148.	5.41	33.17	26.20	4831.	
172.	5.42	33.47	26.43	4834.	
197.	5.86	33.77	26.62	4843.	
246.	5.47	33.86	26.74	4841.	
295.	4.95	33.90	26.83	4837.	
393.	4.37	33.98	26.96	4835.	
592.	3.82	34.14	27.14	4840.	
990.	3.00	34.37	27.41	4853.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.80	32.42	24.26	24.26	0.0	367.0	0.000
10.	13.74	32.42	24.27	24.31	10.0	366.7	.037
20.	14.32	32.39	24.13	24.22	20.1	380.1	.074
30.	13.71	32.42	24.27	24.41	30.1	366.5	.112
50.	9.08	32.60	25.25	25.48	50.3	273.8	.176
75.	6.81	32.65	25.62	25.97	75.4	238.6	.241
100.	6.08	32.68	25.74	26.20	100.6	227.7	.299
150.	5.40	33.19	26.22	26.92	150.9	182.4	.403
200.	5.88	33.79	26.63	27.57	201.3	143.9	.485
250.	5.43	33.87	26.75	27.92	251.7	133.2	.555
300.	4.91	33.91	26.84	28.25	302.2	124.9	.620
400.	4.34	33.99	26.97	28.85	403.1	113.1	.740
500.	3.97	34.07	27.07	29.42	504.0	104.1	.849
600.	3.80	34.15	27.15	29.97	605.0	97.4	.951
700.	3.56	34.21	27.23	30.52	706.1	90.6	1.046
800.	3.34	34.27	27.30	31.05	807.2	84.5	1.135

STATION 1 (Jonquière)

TIME: 1401 DATE: 14-X-57 LAT: 48° 27.8'N LONG: 136° 16' W SOUNDING: 2000 fms.
 WEATHER: 03 WIND: Dir. 180° Speed 12 AIR TEMP: Dry 59° Wet 57° BARO: 1015.2 mb.
 CLOUD: Type Cc Amt 6 SEA: 180° - 3 SWELL: 150° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	14.10	32.45	24.22	4925.	
10.	14.00*	32.42	24.22	4925.	
30.	14.00*	32.44	24.23	4926.	
50.	13.90*	32.44	24.25	4926.	
75.	7.33	32.66	25.55	4850.	
100.	6.37	32.64	25.67	4839.	
200.	5.80	33.78	26.63	4842.	
300.	4.89	33.89	26.83	4836.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	14.10	32.45	24.22	24.22	0.0	371.2	0.000
10.	14.00	32.42	24.22	24.26	10.0	371.3	.037
20.	14.01	32.43	24.22	24.31	20.1	371.2	.075
30.	14.00	32.44	24.23	24.37	30.1	370.7	.112
50.	13.90	32.44	24.25	24.48	50.2	369.1	.186
75.	7.33	32.66	25.55	25.90	75.4	245.2	.263
100.	6.37	32.64	25.67	26.14	100.5	234.1	.324
150.	5.43	32.98	26.05	26.75	150.9	198.9	.433
200.	5.80	33.78	26.63	27.56	201.3	144.0	.519
250.	5.39	33.96	26.83	28.00	251.7	125.8	.587
300.	4.89	33.89	26.83	28.24	302.1	125.7	.651

STATION 2 (Jonquière)

TIME: 1612 DATE: 14-X-57 LAT: 48° 27.8'N LONG: 136° 01' W SOUNDING: 2000 fms.
 WEATHER: 02 WIND: Dir. 170° Speed 15 AIR TEMP: Dry 58° Wet 54° BARO: 1015.0 mb.
 CLOUD: TypeCc&St Amt 7 SEA: 170° - 3 SWELL: 150° - 4 SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	13.90	32.48	24.28	4923.	
45.	11.02	32.55	24.89	4893.	
95.	6.48	32.70	25.70	4841.	
399.	4.41	33.97	26.95	4836.	
499.	4.10	34.07	27.06	4838.	
598.	4.05	34.19	27.16	4844.	
797.	3.72	34.30	27.28	4851.	
995.	3.16	34.38	27.40	4855.	
1192.	2.81	34.44	27.48	4862.	
1684.	2.16	34.57	27.64	4883.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.90	32.48	24.28	24.28	0.0	365.0	0.000
10.	14.90	32.46	24.06	24.10	10.0	386.9	.038
20.	13.73	32.48	24.32	24.41	20.1	361.9	.075
30.	12.61	32.51	24.56	24.70	30.1	338.9	.111
50.	10.51	32.57	24.99	25.22	50.3	298.6	.175
75.	8.15	32.64	25.42	25.77	75.4	257.6	.245
100.	6.09	32.72	25.76	26.23	100.6	225.1	.305
150.	2.86	32.89	26.24	26.95	150.9	179.7	.407
200.	.81	33.07	26.53	27.49	201.3	150.9	.491
250.	-.05	33.27	26.74	27.94	251.7	130.7	.562
300.	.27	33.49	26.90	28.34	302.1	115.9	.624
400.	4.41	33.97	26.95	28.82	403.1	115.3	.740
500.	4.10	34.07	27.06	29.41	504.0	105.3	.852
600.	4.05	34.19	27.16	29.97	605.0	96.9	.954
700.	3.92	34.26	27.23	30.51	706.1	90.8	1.049
800.	3.71	34.30	27.28	31.03	807.2	86.8	1.138
1000.	3.15	34.38	27.40	32.10	1009.6	75.5	1.303
1200.	2.80	34.44	27.48	33.11	1212.2	68.5	1.449
1500.	2.37	34.52	27.58	34.62	1516.5	59.3	1.643

STATION 3 (Jonquière)

TIME: 1751 DATE: 14-X-57 LAT: 48° 26.8' N LONG: 135° 48.8' W SOUNDING: 2000 fms.
 WEATHER: 03 WIND: Dir. 170° Speed 18 AIR TEMP: Dry 56° Wet 54° BARO: 1014.6 mb.
 CLOUD: Type As Amt 8 SEA: 180° - 3 SWELL: 190° - 4 SECCHI DISC: 8 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	13.70	32.50	24.34	4921.	
10.	14.00*	32.47	24.26	4925.	
30.	14.00*	32.47	24.25	4926.	
49.	12.30*	32.55	24.65	4908.	
75.	6.99	32.65	25.59	4846.	
100.	6.45	32.70	25.70	4841.	
124.	6.20*	32.97	25.95	4840.	
149.	6.20*	33.43	26.31	4843.	
174.	6.70*	33.73*	26.49	4852.	
199.	6.70*	33.89	26.61	4854.	
249.	6.21	33.94	26.71	4851.	
298.	5.58	33.98	26.82	4846.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.70	32.50	24.34	24.34	0.0	359.8	0.000
10.	14.00	32.47	24.26	24.30	10.0	367.7	.037
20.	14.23	32.46	24.20	24.29	20.1	373.4	.074
30.	14.00	32.47	24.25	24.39	30.1	368.4	.111
50.	12.16	32.56	24.68	24.91	50.2	327.8	.181
75.	6.99	32.65	25.59	25.94	75.4	241.2	.253
100.	6.45	32.70	25.70	26.17	100.6	231.0	.312
150.	6.21	33.44	26.32	27.02	150.9	173.2	.414
200.	6.70	33.90	26.61	27.54	201.3	146.1	.494
250.	6.20	33.94	26.71	27.88	251.7	137.2	.566

STATION 5 (Jonquière)

TIME: 2127 DATE: 14-X-57 LAT: 48° 24.2'N LONG: 135° 17' W SOUNDING: 2000 fms.
 WEATHER: 03 WIND: Dir. 170° Speed 18 AIR TEMP: Dry 56° Wet 54° BARO: 1014.5 mb.
 CLOUD: Type Cb Amt 9 SEA: 180° - 3 SWELL: 195° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	13.70	32.49	24.33	4921.	
10.	*13.70	32.50	24.34	4922.	
30.	*13.70	32.50	24.34	4921.	
50.	*8.80	32.50	25.21	4867.	
75.	6.83	32.69	25.65	4844.	
100.	6.22	32.76	25.78	4838.	
125.	*6.00	33.08	26.06	4838.	
150.	*6.20	33.42	26.30	4843.	
175.	*6.40	33.74	26.53	4848.	
200.	*6.20	33.83	26.63	4848.	
248.	6.03	33.90	26.70	4848.	
300.	5.54	33.89	26.76	4845.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	13.70	32.49	24.33	24.33	0.0	360.4	0.000
10.	13.70	32.50	24.34	24.38	10.0	359.9	.036
20.	13.26	32.50	24.43	24.52	20.1	351.6	.072
30.	12.29	32.50	24.62	24.75	30.2	334.0	.106
50.	8.80	32.50	25.21	25.44	50.3	277.1	.168
75.	6.83	32.69	25.65	25.99	75.4	236.3	.232
100.	6.22	32.76	25.78	26.25	100.6	223.7	.290
150.	6.20	33.42	26.30	27.00	150.9	175.2	.391
200.	6.20	33.83	26.63	27.56	201.3	144.8	.471
250.	6.02	33.90	26.70	27.87	251.7	138.1	.543
300.	5.54	33.89	26.76	28.16	302.2	133.1	.611

STATION 7 (Jonquière)

TIME: 0039 DATE: 15-X-57 LAT: 48° 21' N LONG: 134° 48.2' W SOUNDING: 2000 fms.
 WEATHER: 02 WIND: Dir. 180° Speed 25 AIR TEMP: Dry 60° Wet 56° BARO: 1018.3 mb.
 CLOUD: Type St Amt 10 SEA: 180° - 4 SWELL: 185° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	13.60	32.54	24.39	4920.	
10.	*13.50	32.49	24.37	4919.	
30.	*13.50	32.50	24.38	4921.	
50.	* 8.50	32.64	25.37	4864.	
75.	6.89	32.70	25.65	4845.	
100.	6.14	32.76	25.79	4837.	
124.	*6.00	33.12	26.09	4838.	
149.	*6.20	33.54	26.40	4843.	
174.	*6.20	33.71	26.53	4846.	
199.	*6.10	33.83	26.64	4846.	
249.	5.83	33.91	26.74	4846.	
299.	5.32	33.94	26.82	4842.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.60	32.54	24.39	24.39	0.0	354.7	0.000
10.	13.50	32.49	24.37	24.42	10.0	356.8	.036
20.	14.13	32.48	24.23	24.32	20.1	370.1	.072
30.	13.50	32.50	24.38	24.51	30.1	356.6	.109
50.	8.50	32.64	25.37	25.60	50.3	262.1	.171
75.	6.89	32.70	25.65	26.00	75.4	236.0	.234
100.	6.14	32.76	25.79	26.26	100.6	222.5	.291
150.	6.20	33.55	26.41	27.10	150.9	164.9	.389
200.	6.10	33.83	26.64	27.57	201.3	143.3	.467
250.	5.82	33.91	26.74	27.90	251.7	134.5	.537

STATION 8 (Jonquière)

TIME: 0200 DATE: 15-X-57 LAT: 48° 19' N LONG: 134° 33.4' W SOUNDING: 2000 fms.
 WEATHER: 01 WIND: Dir. 180° Speed 30 AIR TEMP: Dry 59° Wet 55° BARO:
 CLOUD: Type Sc Amt 4 SEA: 180° - 4 SWELL: 180° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	13.90	32.53	24.33	4923.	
195.	6.29	33.29	26.19	4846.	
363.	4.66	33.95	26.90	4837.	
453.	4.27	34.04	27.01	4837.	
540.	4.00	34.13	27.12	4839.	
724.	3.84	34.30	27.26	4849.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	13.90	32.53	24.33	24.33	0.0	360.9	0.000
10.	9.44	31.83	24.59	24.64	10.1	335.4	.035
20.	9.24	31.93	24.70	24.80	20.1	325.1	.068
30.	9.03	32.03	24.81	24.95	30.2	315.1	.100
50.	8.64	32.21	25.02	25.25	50.3	295.9	.162
75.	8.17	32.43	25.26	25.60	75.4	273.3	.233
100.	7.73	32.64	25.48	25.95	100.6	252.3	.300
150.	6.93	33.01	25.88	26.58	150.9	214.8	.417
200.	6.22	33.32	26.22	27.15	201.3	183.2	.517
250.	5.63	33.58	26.50	27.66	251.7	157.4	.603
300.	5.13	33.78	26.71	28.11	302.1	137.2	.677
400.	4.46	34.01	26.97	28.85	403.0	113.4	.804
500.	4.11	34.09	27.07	29.42	503.9	104.3	.914
600.	3.89	34.19	27.18	29.99	605.0	95.0	1.014
700.	3.83	34.28	27.25	30.53	706.0	88.8	1.107

STATION 1 (Ste. Thérèse)

TIME: 1218 DATE: 12-XI-57 LAT: 53° 59.5'N LONG: 133° 26.5' W SOUNDING: 46 fms.
 WEATHER: 63 WIND: Dir. 260° Speed 9-10 AIR TEMP: Dry 46° Wet 43° BARO: 994.0 mb.
 CLOUD: Type St Amt 6 SEA: SWELL: 260° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.50	31.98	24.36	4894.	
10.	11.15	32.00	24.43	4891.	
30.	11.09	32.00	24.45	4891.	
49.	10.85	32.17	24.63	4890.	
74.	7.99	32.79	25.56	4859.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.50	31.98	24.36	24.36	0.0	357.7	0.000
10.	11.15	32.00	24.43	24.48	10.0	350.8	.036
20.	11.14	31.97	24.42	24.51	20.1	352.6	.071
30.	11.09	32.00	24.45	24.58	30.2	350.1	.106
50.	10.79	32.19	24.65	24.88	50.3	331.0	.175

STATION 2 (Ste. Thérèse)

TIME: 1319 DATE: 12-XI-57 LAT: 53° 55.7' N LONG: 133° 31' W SOUNDING: 189 fms.
 WEATHER: 41 WIND: Dir. 210° Speed 9 AIR TEMP: Dry 52° Wet 46° BARO: 992.0 mb.
 CLOUD: Type As&Ci Amt 7 SEA: 210° - 2 SWELL: 260° - 4 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.80	32.03	24.35	4898.	
10.	11.12	31.99	24.44	4890.	
29.	10.83	31.99	24.49	4888.	
49.	9.67*	32.28	24.91	4877.	
73.	7.12	32.70	25.62	4848.	
97.	6.01	32.88	25.90	4835.	
121.	6.64	33.07	25.97	4846.	
146.	6.53	33.48	26.30	4847.	
170.	6.49	33.63	26.43	4849.	
194.	6.04	33.74	26.58	4845.	
243.	5.60	33.90	26.75	4842.	
291.	5.79*	33.95	26.77	4848.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.80	32.03	24.35	24.35	0.0	358.8	0.000
10.	11.12	31.99	24.44	24.48	10.0	350.6	.036
20.	11.07	31.96	24.42	24.51	20.1	352.4	.071
30.	10.79	32.00	24.50	24.63	30.2	345.1	.106
50.	9.59	32.30	24.93	25.16	50.3	304.0	.171
75.	6.97	32.72	25.65	26.00	75.4	235.5	.239
100.	5.99	32.91	25.92	26.39	100.6	210.1	.295
150.	6.52	33.52	26.34	27.04	150.9	171.5	.391
200.	5.95	33.77	26.61	27.54	201.3	146.6	.471
250.	5.59	33.91	26.77	27.93	251.7	131.9	.542

STATION 3 (Ste. Thérèse)

TIME: 1429 DATE: 12-XI-57 LAT: 53° 50' N LONG: 133° 37.5' W SOUNDING: 190 fms.
 WEATHER: 41 WIND: Dir. 200° Speed 12 AIR TEMP: Dry 51° Wet 45° BARO: 991.5 mb.
 CLOUD: Type Ac Amt 8 SEA: 200° - 2 SWELL: 260° - 4 SECCHI DISC: 14 meters

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	11.40	32.42	24.72	4895.	
10.	11.42	32.20	24.55	4895.	
29.	11.40	32.39	24.70	4896.	
48.	10.68	32.44	24.86	4889.	
72.	6.29	32.66	25.69	4837.	
97.	6.01	32.78	25.82	4835.	
121.	6.19	33.11	26.06	4840.	
145.	5.74	33.41	26.35	4837.	
169.	5.97	33.66	26.52	4842.	
193.	6.07	33.79	26.61	4845.	
242.	5.88	33.90	26.72	4846.	
296.	5.23	33.91	26.81	4841.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	$10^5 \delta$	ΔD
0.	11.40	32.42	24.72	24.72	0.0	323.7	0.000
10.	11.42	32.20	24.55	24.59	10.1	340.1	.033
20.	11.50	32.32	24.62	24.71	20.1	333.0	.067
30.	11.38	32.40	24.70	24.84	30.2	325.5	.100
50.	10.46	32.45	24.91	25.14	50.3	306.5	.164
75.	6.03	32.68	25.74	26.09	75.4	227.0	.231
100.	6.01	32.81	25.85	26.31	100.6	217.3	.287
150.	5.73	33.47	26.40	27.10	150.9	165.5	.383
200.	6.08	33.82	26.64	27.57	201.3	143.9	.461
250.	5.81	33.91	26.74	27.90	251.7	134.5	.531

STATION 4 (Ste. Thérèse)

TIME: 1554 DATE: 12-XI-57 LAT: 53° 46' N LONG: 133° 46' W SOUNDING: 1000 fms.
 WEATHER: 03 WIND: Dir. 190° Speed 12 AIR TEMP: Dry 50° Wet 45° BARO: 990.5 mb.
 CLOUD: Type Ac Amt 9 SEA: 190° - 2 SWELL: 220° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.20	32.47	24.80	4893.	
9.	11.32	32.42	24.73	4894.	
26.	11.33	32.41	24.73	4895.	
43.	10.95	32.46	24.83	4892.	
65.	6.17	32.68	25.72	4835.	
86.	5.47	32.74	25.85	4827.	
108.	5.38	32.97	26.05	4828.	
130.	5.27	33.28	26.30	4829.	
151.	5.18	33.54	26.52	4830.	
173.	5.51	33.75	26.65	4836.	
216.	5.43	33.88	26.76	4838.	
259.	5.02	33.89	26.81	4836.	
345.	4.65	33.96	26.91	4836.	
431.	4.50	34.06	27.01	4839.	
518.	3.99	34.07	27.07	4838.	
681.	3.91	34.22	27.19	4847.	
884.	3.40	34.31	27.32	4852.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	$\Delta\delta$
0.	11.20	32.47	24.80	24.80	0.0	316.1	0.000
10.	11.33	32.42	24.73	24.77	10.1	322.7	.032
20.	11.37	32.41	24.72	24.81	20.1	324.1	.065
30.	11.28	32.42	24.74	24.88	30.2	321.9	.097
50.	9.95	32.51	25.04	25.27	50.3	293.7	.159
75.	5.37	32.72	25.85	26.21	75.4	216.2	.223
100.	5.34	32.87	25.97	26.44	100.6	205.3	.276
150.	5.18	33.52	26.51	27.21	151.0	155.0	.367
200.	5.57	33.88	26.74	27.67	201.4	133.8	.440
250.	5.13	33.89	26.81	27.98	251.8	127.8	.506
300.	4.77	33.91	26.86	28.27	302.2	123.0	.569
400.	4.53	34.02	26.98	28.85	403.1	112.9	.688
500.	4.13	34.07	27.06	29.41	504.1	105.5	.798
600.	3.81	34.12	27.13	29.95	605.1	99.4	.902
700.	3.88	34.23	27.21	30.49	706.1	92.9	.999
800.	3.67	34.28	27.27	31.03	807.3	87.2	1.090

STATION 5 (Ste. Thérèse)

TIME: 1741 DATE: 12-XI-57 LAT: 53° 37' N LONG: 133° 57' W SOUNDING: 1210 fms.
 WEATHER: 03 WIND: Dir. 160° Speed 22 AIR TEMP: Dry 50° Wet 46° BARO: 989.0 mb.
 CLOUD: Type As/Ac Amt 7 SEA: 170° - 3 SWELL: 260° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.70	32.46	24.70	4898.	
8.	11.09	32.42	24.77	4892.	
26.	11.07	32.42	24.78	4892.	
42.	10.37	32.49	24.95	4885.	
64.	6.24	32.66	25.70	4835.	
85.	5.63	32.71	25.81	4829.	
106.	5.26	32.85	25.96	4826.	
128.	5.05	33.15	26.22	4825.	
149.	5.50	33.56	26.50	4834.	
170.	5.51	33.74	26.64	4836.	
212.	5.26	33.86	26.76	4836.	
255.	4.98	33.90	26.82	4835.	
340.	4.40	33.96	26.94	4832.	
425.	4.43	34.06	27.01	4838.	
510.	4.16	34.09	27.07	4839.	
686.	3.67	34.21	27.21	4844.	
900.	3.37	34.33	27.34	4853.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.70	32.46	24.70	24.70	0.0	325.7	0.000
10.	11.13	32.41	24.76	24.81	10.1	319.4	.032
20.	11.17	32.41	24.75	24.84	20.1	320.6	.065
30.	10.96	32.43	24.81	24.94	30.2	315.7	.097
50.	9.29	32.54	25.17	25.40	50.3	281.3	.157
75.	5.51	32.70	25.82	26.17	75.4	219.5	.220
100.	5.34	32.80	25.92	26.38	100.6	210.5	.274
150.	5.51	33.57	26.51	27.21	151.0	155.2	.366
200.	5.37	33.85	26.75	27.68	201.4	132.9	.438
250.	5.01	33.90	26.82	27.99	251.8	126.4	.504
300.	4.68	33.93	26.89	28.29	302.2	120.4	.566
400.	4.36	34.02	26.99	28.87	403.1	111.0	.683
500.	4.21	34.09	27.06	29.41	504.1	105.3	.792
600.	3.90	34.14	27.14	29.95	605.1	98.9	.895
700.	3.64	34.22	27.22	30.51	706.1	91.3	.991
800.	3.47	34.28	27.28	31.04	807.3	85.7	1.081

STATION 6 (Ste. Thérèse)

TIME: 2040 DATE: 12-XI-57 LAT: 53° 29' N LONG: 134° 09' W SOUNDING: fms.
 WEATHER: 18 WIND: Dir. Speed 27 AIR TEMP: Dry 50° Wet 46° BARO: 987.0 mb.
 CLOUD: Type ^{As, Sc} & ^{Sb} Amt 7 SEA: 160° - 3 SWELL: 260° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	10.50	32.46	24.91	4884.	
8.	11.39	32.41	24.71	4895.	
25.	11.38	32.41	24.71	4896.	
42.	11.36	32.42	24.72	4897.	
64.	7.49	32.64	25.52	4852.	
85.	6.33	32.72	25.74	4838.	
106.	5.93	32.91	25.93	4835.	
127.	5.24	33.23	26.27	4828.	
148.	5.24	33.52	26.49	4830.	
169.	5.27	33.70	26.63	4833.	
212.	5.29	33.79	26.71	4836.	
254.	5.06	33.86	26.78	4836.	
339.	4.52	33.93	26.90	4834.	
424.	4.23	34.02	27.01	4835.	
508.	4.10	34.09	27.07	4839.	
667.	3.79	34.20	27.20	4844.	
846.	3.33	34.31	27.33	4849.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,f}$	P	10 ⁵ δ	ΔD
0.	10.50	32.46	24.91	24.91	0.0	305.4	0.000
10.	11.39	32.41	24.71	24.76	10.1	324.2	.032
20.	11.38	32.41	24.71	24.80	20.1	324.4	.064
30.	11.38	32.41	24.72	24.85	30.2	324.3	.097
50.	10.45	32.47	24.92	25.15	50.3	305.0	.160
75.	6.57	32.70	25.69	26.03	75.4	232.4	.228
100.	5.97	32.84	25.88	26.34	100.6	214.4	.284
150.	5.24	33.54	26.51	27.21	151.0	154.6	.377
200.	5.29	33.80	26.71	27.65	201.3	136.0	.450
250.	5.09	33.85	26.78	27.95	251.8	130.6	.517
300.	4.78	33.90	26.85	28.26	302.2	123.6	.581
400.	4.29	33.99	26.98	28.86	403.1	112.4	.700
500.	4.11	34.08	27.07	29.41	504.1	104.6	.810
600.	3.93	34.16	27.15	29.96	605.1	98.0	.912
700.	3.71	34.23	27.22	30.51	706.1	91.4	1.008
800.	3.46	34.28	27.29	31.05	807.2	84.9	1.097

STATION 7 (Ste. Thérèse)

TIME: 2331 DATE: 12-XI-57 LAT: 53° 21.5'N LONG: 134° 20' W SOUNDING: fms.
 WEATHER: 18 WIND: Dir. 190° Speed 25 AIR TEMP: Dry 50° Wet 46° BARO: 983.0 mb.
 CLOUD: Type Sc&Cu Amt 6 SEA: 170° - 3 SWELL: 230° - 6 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.30	32.35	24.69	4893.	
9.	11.48	32.41	24.70	4896.	
28.	11.49	32.36	24.66	4897.	
47.	11.25	32.38	24.72	4896.	
70.	6.88	32.64	25.60	4844.	
94.	5.99	32.68	25.75	4834.	
118.	5.52	32.76	25.86	4829.	
141.	5.75	33.03	26.05	4835.	
165.	5.52	33.36	26.34	4835.	
188.	5.98	33.68	26.53	4843.	
235.	5.71	33.85	26.70	4843.	
282.	5.08	33.88	26.80	4838.	
376.	4.39	33.94	26.93	4834.	
470.	4.12	34.03	27.03	4836.	
564.	3.88	34.12*	27.12	4839.	
754.	3.49	34.27	27.28	4845.	
998.	3.15	34.38	27.40	4855.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.30	32.35	24.69	24.69	0.0	326.6	0.000
10.	11.49	32.41	24.69	24.74	10.1	326.0	.033
20.	11.52	32.37	24.66	24.75	20.1	329.2	.066
30.	11.48	32.36	24.66	24.80	30.2	329.7	.099
50.	10.93	32.40	24.79	25.02	50.3	317.8	.164
75.	6.39	32.67	25.69	26.04	75.4	232.1	.233
100.	5.83	32.70	25.78	26.24	100.6	223.8	.290
150.	5.72	33.15	26.15	26.85	150.9	188.9	.394
200.	6.07	33.78	26.60	27.53	201.3	146.9	.479
250.	5.55	33.87	26.74	27.91	251.7	134.2	.550
300.	4.89	33.89	26.83	28.23	302.2	126.1	.616
400.	4.28	33.96	26.96	28.83	403.1	114.5	.737
500.	4.04	34.06	27.06	29.41	504.0	105.5	.848
600.	3.80	34.15	27.15	29.97	605.0	97.2	.950
700.	3.59	34.23	27.23	30.52	706.1	89.9	1.045
800.	3.41	34.29	27.31	31.06	807.2	83.7	1.133

STATION 8 (Ste. Thérèse)

TIME: 0234 DATE: 13-XI-57 LAT: 53° 13.8' N LONG: 134° 31.2' W SOUNDING: 1528 fms.
 WEATHER: 18 WIND: Dir. 195° Speed 25 AIR TEMP: Dry 51° Wet 47° BARO: 983.0 mb.
 CLOUD: Type Sc Amt 10 SEA: 175° - 3 SWELL: 230° - 8 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.00	32.41	24.78	4890.	
9.	11.52	32.40	24.68	4897.	
28.	11.53	32.40	24.68	4898.	
47.	11.19	32.43	24.76	4895.	
70.	6.79	32.66	25.63	4843.	
94.	6.21	32.73	25.76	4837.	
117.	5.65	32.89	25.95	4832.	
141.	5.21	33.11	26.18	4828.	
164.	5.04	33.39	26.42	4828.	
187.	5.05	33.62	26.60	4831.	
234.	5.03	33.82	26.76	4834.	
281.	4.76	33.88	26.83	4833.	
375.	4.62	33.98	26.93	4837.	
469.	4.34	34.06	27.03	4839.	
562.	4.08	34.16	27.13	4842.	
745.	3.53	34.25	27.26	4845.	
973.	3.19	34.36	27.38	4855.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.00	32.41	24.78	24.78	0.0	317.4	0.000
10.	11.53	32.40	24.68	24.72	10.1	327.6	.032
20.	11.57	32.39	24.67	24.76	20.1	328.7	.065
30.	11.51	32.40	24.68	24.82	30.2	327.4	.098
50.	10.86	32.45	24.84	25.06	50.3	313.3	.163
75.	6.33	32.69	25.71	26.06	75.4	230.2	.231
100.	6.06	32.77	25.81	26.27	100.6	221.2	.288
150.	5.11	33.21	26.27	26.97	150.9	177.5	.388
200.	5.05	33.71	26.67	27.60	201.3	140.4	.468
250.	4.97	33.85	26.79	27.96	251.7	129.0	.536
300.	4.69	33.90	26.86	28.27	302.2	123.0	.600
400.	4.56	34.01	26.96	28.83	403.1	114.5	.720
500.	4.25	34.09	27.06	29.41	504.0	105.5	.831
600.	3.97	34.19	27.17	29.98	605.0	96.1	.933
700.	3.67	34.24	27.24	30.52	706.1	90.0	1.027
800.	3.41	34.27	27.29	31.05	807.2	85.1	1.115

STATION 9 (Ste. Thérèse)

TIME: 0510 DATE: 13-XI-57 LAT: 53° 05.8'N LONG: 134° 41' W SOUNDING: 806 fms.
 WEATHER: 18 WIND: Dir. 225° Speed 25 AIR TEMP: Dry 47° Wet 46° BARO: 983.0 mb.
 CLOUD: Type Sc Amt 4 SEA: 230° - 4 SWELL: 210° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/l
0.	10.40	32.38	24.87	4883.	
9.	11.55	32.36	24.65	4897.	
27.	11.55	32.36	24.64	4898.	
45.	11.52	32.37	24.66	4899.	
68.	8.33	32.60	25.36	4862.	
90.	6.35	32.67	25.69	4838.	
112.	5.54	32.82	25.91	4830.	
135.	5.81	33.13	26.12	4836.	
158.	6.52	33.55	26.37	4848.	
180.	6.49	33.78	26.55	4850.	
225.	6.04	33.92	26.71	4847.	
270.	5.58	33.94	26.79	4844.	
360.	4.56	33.95	26.91	4836.	
450.	4.51	34.07	27.02	4841.	
540.	4.19	34.14	27.10	4842.	
721.	3.54	34.24	27.25	4844.	
899.	3.31	34.34	27.35	4852.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	10.40	32.38	24.87	24.87	0.0	309.5	0.000
10.	11.55	32.36	24.65	24.69	10.1	330.4	.032
20.	11.55	32.36	24.64	24.74	20.1	330.9	.065
30.	11.55	32.36	24.65	24.78	30.2	331.1	.099
50.	11.13	32.40	24.75	24.98	50.3	321.6	.164
75.	7.59	32.64	25.50	25.85	75.4	249.9	.236
100.	5.84	32.73	25.80	26.27	100.6	221.4	.295
150.	6.22	33.39	26.28	26.98	150.9	177.1	.396
200.	6.35	33.89	26.66	27.59	201.3	142.0	.476
250.	5.79	33.94	26.77	27.93	251.7	131.8	.545
300.	5.25	33.95	26.84	28.24	302.2	125.4	.610
400.	4.42	33.99	26.96	28.84	403.1	114.2	.731
500.	4.37	34.11	27.07	29.41	504.0	105.2	.842
600.	3.98	34.17	27.15	29.97	605.0	97.2	.944
700.	3.62	34.23	27.23	30.52	706.1	90.0	1.039
800.	3.39	34.28	27.30	31.06	807.2	84.1	1.127

STATION 10 (Ste. Thérèse)

TIME: 0912 DATE: 13-XI-57 LAT: 52° 50.5' N LONG: 135° 04' W SOUNDING: 1650 fms.
 WEATHER: 03 WIND: Dir. 250° Speed 10 AIR TEMP: Dry 49° Wet 47° BARO: 981.0 mb.
 CLOUD: Type Ac Amt 7 SEA: 250° - 2 SWELL: 230° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.10	32.36	24.73	4891.	
8.	11.54	32.35	24.64	4897.	
24.	11.53	32.35	24.64	4897.	
40.	11.50	32.36	24.65	4898.	
61.	6.90	32.66	25.61	4844.	
81.	5.91	32.79	25.84	4833.	
101.	5.71	32.97	26.01	4832.	
122.	6.16	33.25	26.18	4840.	
142.	6.48	33.58	26.40	4847.	
162.	6.50	33.72	26.50	4849.	
202.	6.22	33.87	26.65	4848.	
243.	5.82	33.92	26.74	4845.	
324.	4.99	33.95	26.87	4839.	
405.	4.59	34.01	26.96	4839.	
486.	4.44	34.09	27.04	4842.	
639.	3.99	34.18	27.15	4845.	
840.	3.33	34.30	27.31	4848.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,p}$	P	10 ⁵ δ	ΔD
0.	11.10	32.36	24.73	24.73	0.0	322.7	0.000
10.	11.54	32.35	24.64	24.68	10.1	331.3	.033
20.	11.53	32.35	24.64	24.73	20.1	331.2	.066
30.	11.52	32.35	24.65	24.78	30.2	331.1	.099
50.	9.96	32.46	25.00	25.23	50.3	297.9	.163
75.	5.86	32.77	25.83	26.18	75.4	218.7	.228
100.	5.70	32.96	26.00	26.47	100.6	202.4	.281
150.	6.52	33.66	26.45	27.15	151.0	160.7	.372
200.	6.24	33.87	26.65	27.58	201.4	142.6	.449
250.	5.75	33.92	26.76	27.92	251.8	132.9	.518
300.	5.24	33.95	26.84	28.24	302.2	125.4	.583
400.	4.60	34.01	26.95	28.83	403.1	115.0	.704
500.	4.41	34.10	27.05	29.39	504.0	106.5	.816
600.	4.13	34.16	27.13	29.94	605.1	99.7	.920
700.	3.80	34.21	27.20	30.49	706.1	93.3	1.018
800.	3.47	34.27	27.28	31.04	807.2	86.0	1.109

STATION 11 (Ste. Thérèse)

TIME: 1250 DATE: 13-XI-57 LAT: 52° 34.5' N LONG: 135° 26' W SOUNDING: 1880 fms.
 WEATHER: 03 WIND: Dir. 210° Speed 15 AIR TEMP: Dry 53° Wet 49° BARO: 980.5 mb.
 CLOUD: Type Ac Amt 7 SEA: 210° - 3 SWELL: 230° - 5 SECCHI DISC:

Depth m.	Temp. °C	S ‰	σ_t	S/V ft/sec	O ₂ mg.at/1
0.	11.20	32.34	24.69	4892.	
8.	11.55	32.33	24.62	4897.	
25.	11.54	32.33	24.62	4897.	
41.	11.52	32.34	24.63	4898.	
62.	7.02	32.69	25.62	4846.	
82.	6.48	32.85	25.82	4840.	
103.	6.75	33.15	26.02	4846.	
123.	6.67	33.44	26.26	4848.	
144.	6.65	33.66	26.43	4849.	
164.	6.63	33.83	26.57	4851.	
206.	6.18	33.91	26.69	4848.	
247.	5.72	33.92	26.76	4844.	
329.	5.11	33.99	26.89	4841.	
411.	4.63	34.03	26.97	4840.	
493.	4.12	34.06	27.04	4838.	
641.	3.83	34.19	27.18	4843.	
836.	3.47	34.31	27.31	4850.	

INTERPOLATED DATA

Depth m.	Temp. °C	S ‰	σ_t	$\sigma_{s,t,f}$	P	10 ⁵ δ	ΔD
0.	11.20	32.34	24.69	24.69	0.0	325.9	0.000
10.	11.55	32.33	24.62	24.67	10.1	333.1	.033
20.	11.54	32.33	24.62	24.71	20.1	333.3	.067
30.	11.53	32.33	24.62	24.76	30.2	333.1	.100
50.	10.21	32.44	24.94	25.17	50.3	303.2	.164
75.	6.25	32.82	25.82	26.17	75.4	219.6	.230
100.	6.66	33.10	25.99	26.45	100.6	204.0	.283
150.	6.64	33.71	26.48	27.17	151.0	158.5	.374
200.	6.28	33.92	26.69	27.62	201.4	139.2	.449
250.	5.69	33.92	26.76	27.93	251.8	132.4	.518
300.	5.28	33.96	26.84	28.24	302.2	125.2	.583
400.	4.69	34.02	26.96	28.83	403.1	114.6	.704
500.	4.09	34.06	27.05	29.40	504.0	106.2	.815
600.	3.83	34.14	27.15	29.96	605.1	97.9	.918
700.	3.72	34.24	27.23	30.52	706.1	90.5	1.013
800.	3.53	34.30	27.29	31.05	807.2	84.9	1.102