UC San Diego
SIO Reference

Title

Physical and Chemical Data, Boreas Expedition, 27 January - 1 April 1966 (with some data from other parts of the Zetes Expedition)

Permalink

https://escholarship.org/uc/item/0nb3g99g

Author

Scripps Instititution of Oceanography

Publication Date

1966-04-01

eScholarship.org Powered by the California Digital Library
University of California

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

Boreas Expedition

27 January - 1 April 1966

(with some data from other
parts of the Zetes Expedition)

Sponsored by

National Science Foundation

Office of Naval Research

SIO Reference 66-24

Approved for distribution:

W. A. Nierenberg

W. A. Nierenberg, Director

CONTENTS

LIST OF FIGURES iii

INTRODUCTION vii

Personnel xi

Tabulated Data xii

Standard Procedures xiii

TABULATED DATA

Hydrographic Casts 1

Nitrite Tables 53

Chlorophyll a Tables 57

STD Traces 59

Surface Water Samples 129

APPENDIX

In addition to the data from the Boreas Expedition some data from other legs of the Zetes Expedition are reported here. (See Fig. 4 for chart.) 155

DISTRIBUTION LIST 165

FIGURES

1. Station positions, expendable bathythermographs, underway mechanical bathythermographs and areas of surface temperature front surveys.

2. In situ salinity-temperature-depth recorder lowerings, hydrographic casts and areas of surface temperature front surveys.

3a. Distribution of temperature (°C) along a section from 59°15'N, 165°40'E (near Kamchatka) through the Aleutian Island chain to 41°02'N, 175°00'E, including stations 60-73 and 100-124 whose positions are shown on Figure 2. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines.

3b. Salinity (‰) along the vertical section described in Figure 3a. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines.

3c. Thermosteric anomaly (centiliters/ton) along the vertical section described in Figure 3a. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines.

3d. Oxygen (ml/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

3e. Phosphate (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

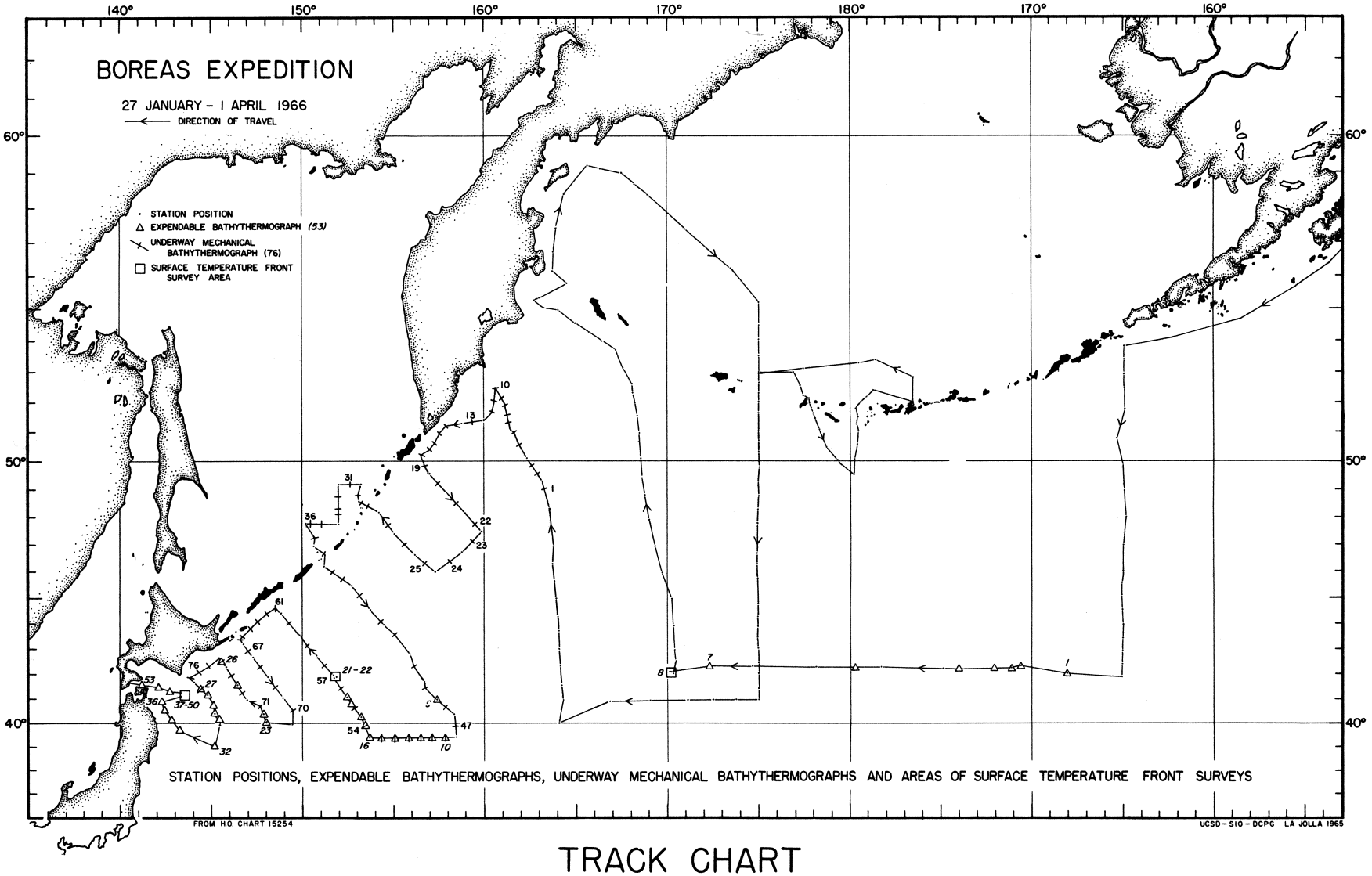
3f. Nitrate (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

3g. Silicate (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

3h. Nitrite (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

3i. Geopotential anomaly (dynamic height), in dynamic meters, with respect to the 1500-decibar surface, along the vertical section described in Figure 3a. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines. Where the lowering did not reach 1500 m the deeper values were extrapolated from consideration of adjacent stations.

4. Track of Zetes expedition showing positions of hydrographic casts on Legs IV through V.



TRACK CHART

FIGURE 1

strong flow southwestward past Kamchatka. The Kamchatka Current was indicated at 60 cm/sec near Cape Africa. Summer measurements give about 8 x 10^6 m^3/sec of geostrophic flow relative to 1500 db, but the winter measurements showed 23 x 10^6 m^3/sec, or about three times as much. The seasonal change in the wind, from southwest in summer to northwest or north in winter, had been expected to cause a strong change in the flow, but not so much as was observed. The Oyashio transport was only about 3 x 10^6 m^3/sec, which compares closely with estimates of 2 to 4 x 10^6 for the summer season.

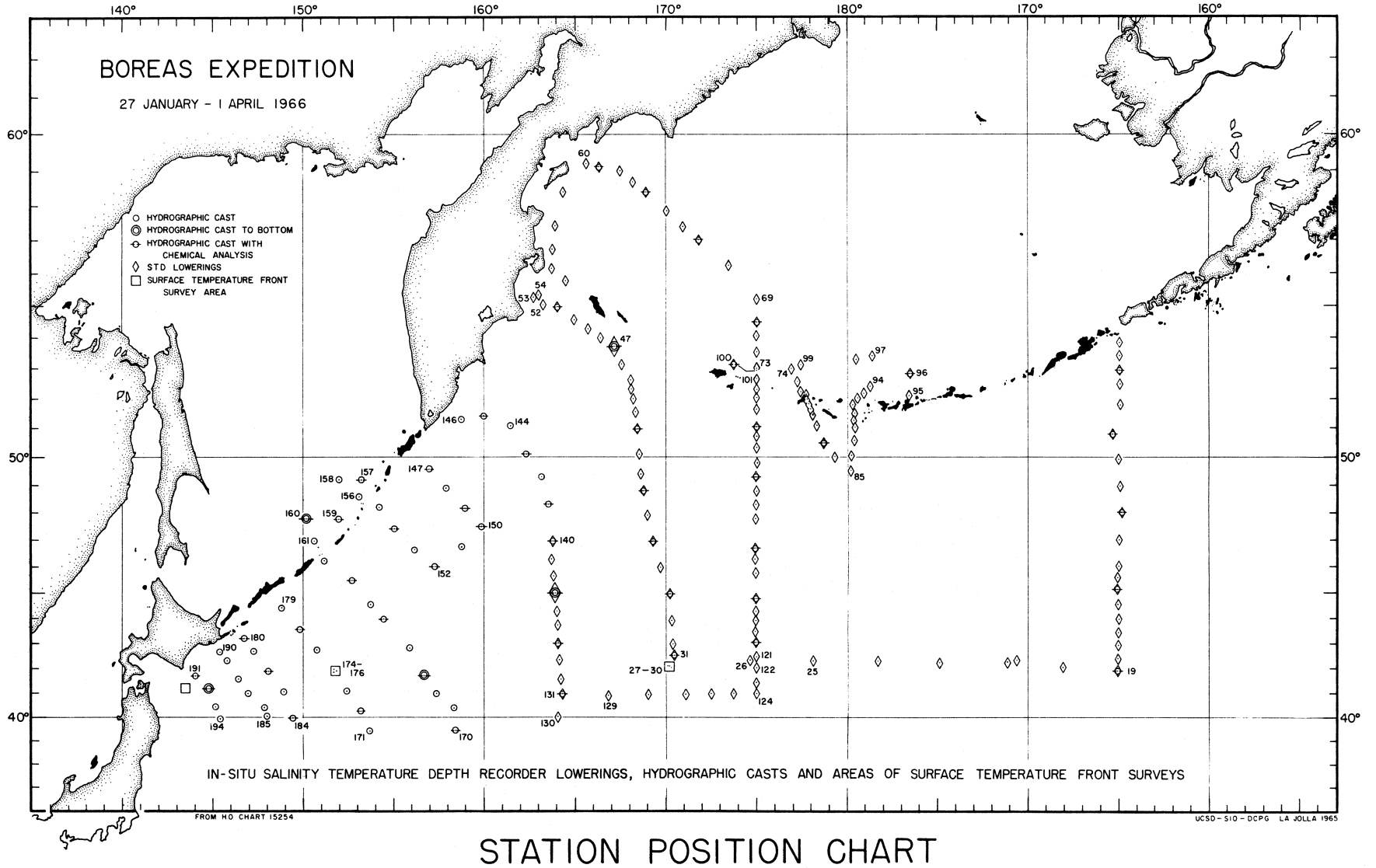
"The thickness of the mixed layer varied from less than 100 m along the ridge separating the Kamchatka and Oyashio currents from the waters offshore to about 200 m along the coast of Kamchatka and at the entrance to the Okhotsk Sea.

"It is apparent that the warm subsurface water that flows westward with the Alaska Current does not come directly from the warm water of lower latitudes but from the Gulf of Alaska, and that it extends further westward beneath the Kamchatka Current, where it forms a thick layer of low-density subsurface water. This is a consequence of the geostrophic balance in the Kamchatka Current, that requires very low-density water near the coast.

"The purpose of this expedition was to demonstrate that the characteristics of the low-salinity intermediate layers of middle latitudes are derived not directly from the sea surface in high latitudes but by vertical mixing which takes place beneath the mixed layer, just as the warmer waters that underlie the cold surface waters in high latitudes in winter have become warm by vertical mixing beneath the mixed layer in middle latitudes. The data from this expedition have demonstrated this proposition."

In Figures 3a-3i (prepared by J. G. Wyllie) are shown distributions of temperature, salinity, thermosteric anomaly, oxygen, phosphate, nitrate, silicate, nitrite, and geopotential anomaly along one of the longer Boreas transects. Important high-latitude features are the subsurface temperature maximum, the strong halocline which accounts for the pycnocline in this area, the oxygen minimum and the phosphate and nitrate maxima. Silicate increases monotonically downward and nitrite is present in appreciable quantities only in the upper 200 m, with the higher values in the southern part of the section.

The downward slope to the north of all properties at Station 61 is a consequence of the strong southward-flowing Kamchatka Current. Geostrophic balance requires a strong horizontal density gradient in that area: this is achieved by a thickening of the mixed layer and the presence of lower-density water at various depths near the coast.



STATION POSITION CHART

FIGURE 2

THE BOREAS EXPEDITION[1/]

INTRODUCTION

Reid (1965)[2/] has suggested that the characteristics of the low-salinity intermediate layers of middle latitudes are derived not directly from the sea surface but by vertical mixing which takes place beneath the mixed layer, just as the warmer waters that underlie the cold surface waters in high latitudes in winter have become warm by vertical mixing beneath the mixed layer in middle latitudes. The validity of this suggestion could be tested only by measurements of the temperature and salinity structure in the northwestern Pacific Ocean during winter, when the surface waters should be coldest and densest. No such measurements had been made in the critical area: the Boreas Expedition was planned to make them. The expedition was supported by grants from the National Science Foundation and the Office of Naval Research.

The RV Argo left Kodiak, Alaska, on 27 January 1966 and arrived in Hakodate, Japan, on 1 April, having spent 20-23 February in Adak, Alaska, for fueling and provisioning. The expedition observed extreme winter conditions in the northernmost parts of the western Pacific Ocean, including the western Bering Sea and the Okhotsk Sea up to the zone of dense ice cover. The track is shown in Figure 1, the positions of hydrographic casts and STD lowerings are shown in Figure 2. The measurements included temperature, salinity, oxygen, phosphate, nitrate, silicate and nitrite in the upper 1500 m, with a few observations extending to greater depths. Weather conditions were frequently quite severe. In the higher latitudes snow fell frequently and air temperature was usually within a degree or two of freezing, but once reached as low as -13° Celsius. Winds were sometimes 55 knots with gusts to 70 knots. The swells were high even between storms; some seas were estimated to be more than 40 feet high. Heavy icing of the superstructure occurred several times and it was necessary to use torches to free the sheaves of accumulated ice. Sea ice was encountered along the coast of Kamchatka and within the Okhotsk Sea.

When the expedition was conceived there was some doubt as to how much of the work planned could be done under the weather conditions expected. In fact, the expedition was far more successful than the most optimistic estimate. Only in the most extreme

---

[1/] Leg II of the Zetes Expedition.

[2/] Reid, Joseph L., Jr. Intermediate waters of the Pacific Ocean. Johns Hopkins Oceanographic Studies 2, 85 pp.

conditions was it necessary to abandon stations: seven were abandoned, compared to the 194 carried out. The Argo proved to be a very good ship for working in high latitudes in winter. Even so, the expedition could not have been so remarkably successful without the high professional competence and complete cooperation of Captain Alan W. Phinney and the officers and crew of the Argo.

Preliminary results of the expedition were reported at the Second International Oceanographic Congress in June 1966 (Reid, 1966).[3] The following paragraphs are taken from a general account of the Zetes Expedition (Reid, in press):[4]

"This area of the ocean had not been investigated before in the winter season, although some of the most striking interactions of sea and atmosphere take place there at that time. Great quantities of heat are passed from the sea to the atmosphere by evaporation and exchange of sensible heat, and the surface waters become coldest and probably most saline, and most dense. Convective overturn extends to its greatest depth during this season, and the details of the thermal, haline, and density structure are critical to the formation of the subsurface water, and hence to the heat budget of the entire North Pacific Ocean. In comparable areas of the Atlantic, winter convective overturn extends to more than 2000 m, but in the northwest Pacific the winter overturn had been estimated, from consideration of summer data, to extend no more than 200 m beneath the surface, at most. The lower salinity of the mixed layer in the subarctic Pacific imposes a great stability in the water column, but in winter the winds blow strongly off the coast of Asia: their coldness and dryness leads to extreme cooling and evaporation of the surface water: the density increase and the strong winds might extend overturn to greater depths, especially near the coast of Kamchatka, and it was necessary to make winter observations to settle the question. J. L. Reid reports the following results. Surface temperature was very much as had been expected, with the coldest water found along the coast of Kamchatka and in the Okhotsk Sea. Surface salinity was also very low in these areas and the resulting density remained fairly low along the coast of Kamchatka. The highest value was 1.02675 g/mL, found within the Okhotsk Sea at one station only.

"The geostrophic flow at the surface relative to 1000 decibars showed a strong extension of the Alaska Current westward to the Komandorsky Islands and a very

---

[3] Reid, Joseph L., Jr. Weather conditions, characteristics of the mixed layer, and formation of water masses in the Northwestern Pacific in midwinter. Second International Oceanographic Congress, Moscow, 1966: Abstracts of Papers, No. 349, p. 298.

[4] Reid, Joseph L., Jr. The Zetes Expedition. Transactions of the American Geophysical Union. (in press)

Oblique net hauls from 300 m to the surface were made with CCOFI nets on 26 stations (3, 6, 13, 20, 31, 34, 38, 41, 47, 51, 64, 83, 100, 109, 113, 116, 131, 134, 137, 140, 141, 145, 148, 150, 152, 154, 157) and with B.M.O.C. (Bongo) nets on 2 stations (9 and 19). Phytoplankton samples were collected at six levels in the upper 150 m on the 28 stations where net hauls were made. A continuous record of surface temperature was made with the thermograph throughout the expedition.

In addition to the principal work, some programs were carried out more or less continuously throughout the expedition for other investigators. Air samples were collected for analysis for N_2O and CO_2 and C^{13}/C^{12} and O^{18}/O^{16} ratios in CO_2 in order to study the geochemistry of N_2O and atmospheric mixing. To study O^{18}/O^{16} and D/H ratios in water vapor and surface waters and the moisture exchange between the sea and the atmosphere, collections were made of surface water, rain, and water vapor (by freezing the water vapor out of the air). Measurements of radiocarbon in surface waters were made for G. Bien. T. R. Folsom installed gear for continuously collecting samples of fallout radiocesium (Cs^{137}) from surface water along the ship's track. Sea water was filtered through cartridges of granular chemicals that absorbed cesium. A few sea water samples were taken along the track to determine the concentrations of natural cesium also.

PERSONNEL

SHIP'S CAPTAIN

Phinney, Alan W., RV Argo

SCIENTIFIC PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

RV Argo

Reid, Joseph L., Jr., Research Oceanographer (in charge)
Scripps Institution of Oceanography

*Benson, Peter W., Laboratory Assistant, Oceanic Research Division
Scripps Institution of Oceanography

Coughran, Edward H., Systems Research and Development Center,
International Business Machines Corporation

**Dixon, Fred S., Principal Marine Technician, Oceanic Research Division,
Scripps Institution of Oceanography

Dodimead, Allen J., Fisheries Research Board of Canada,
Pacific Oceanographic Group

Ferreira, Simon M., Electronics Technician, Data Collection and Processing
Group, Scripps Institution of Oceanography

Fisk, Earl M., Marine Technician, Data Collection and Processing Group,
Scripps Institution of Oceanography

Iida, Hayato
Hakodate Marine Observatory, Hakodate, Japan

Kavanaugh, James A., Resident Marine Technician, Data Collection and
Processing Group, Scripps Institution of Oceanography

Mantyla, Arnold W., Laboratory Technician, Data Collection and Processing
Group, Scripps Institution of Oceanography

O'Mara, Lawrence R., Laboratory Helper (Geology),
Scripps Institution of Oceanography

Wyllie, John G., Laboratory Technician, Data Collection and Processing
Group, Scripps Institution of Oceanography

---

*Kodiak to Adak.

**Adak to Hakodate.

TABULATED DATA

In situ Salinity/Temperature/Depth Recorder and Hydrographic Casts

The data were obtained by bottle casts and by the in situ Salinity/Temperature/Depth Monitoring and Recording System (STD) and are tabulated in three forms:

1. When a station consisted of STD lowerings only, values of temperature and salinity read at selected levels appear with the appropriate calculations. Whenever the sequence of stations permits, the data from two stations with STD lowerings only are tabulated on the left and right side of the page under the heading "standard levels of depth."

2. When a station included both a bottle cast and an STD lowering, the bottle cast data are tabulated on the left side of the page under the heading "observed levels of depth"; the data from the STD lowering appear on the right side of the page with the appropriate calculations under the heading "standard levels of depth."

3. When a station consisted of a bottle cast only, the data are presented in the usual fashion, with observed data to the left and standard depth values, interpolated and computed from the bottle cast data, to the right.

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

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

Extrapolated values and values between remote observations of the bottle casts are not indicated by parenthesis as was previously done but can be determined from the tabulation of observed depths. A hyphen is used to indicate a missing observed or interpolated value.

On stations where only STD lowerings were made, the first time is the "start down" of the shallow lowering (300 meters) and the second, the "start down" of the deeper lowering (1500 meters). When both bottle cast and STD lowering were made on a station, the first time indicates the time of messenger release for the bottle cast and the succeeding times the shallow and deep lowerings of the STD. When more than one cast was lowered on a station, messenger times are given in order of increasing depth followed by the two STD lowerings. Wire angles of multiple bottle casts are given in order of increasing depth and significant changes in position are listed similarly.

Nitrite, Chlorophyll a and Surface Observations

Tabulations of nitrite and chlorophyll a data and a listing of surface temperature, salinity and thermosteric anomaly appear after the hydrographic data.

STANDARD PROCEDURES

In situ Salinity/Temperature/Depth Recorder

The manufacturer of the STD claims for the temperature an accuracy of ±0.05°C on all ranges with repeatability of ±0.01°C and for the salinity an accuracy of ±0.03‰ on all ranges with repeatability of ±0.01‰.[5/] Except for the depth range corresponding to the steepest part of the thermocline, where the salinity trace appears to fluctuate more widely than the bottle samples can confirm, the results of several earlier cruises support the manufacturer's claims. The instrument seemed to drift slightly during the cruise so corrections to the temperature and salinity were applied. These were determined from comparison with the bottle casts where they were made and with the bucket temperatures and surface salinity samples taken on each station with the STD lowering. The STD became inoperative after Station 140 so the remainder of the stations, 141 through 194 inclusive, were bottle casts.

Usually two lowerings were made at each station, one to 300 m with the recorder on the 300 m scale, which took about 10 minutes, followed by one to 1500 m with the recorder on the 1500 m scale. Tabulated data are read from the first (shallow) record for the upper 300 m, since it was easier to read, and from the 1500 m record for greater depths. The values were checked against bottle casts frequently and corrections applied to the tabulations. The traces reproduced here have been adjusted for these corrections and at depths below 300 m agree with the tabulations at

---

5/ In situ Salinity/Temperature/Depth Monitoring and Recording System, Model 9006, Tech. Rep. No. 102, HYTECH Marine Products, The Bissett-Berman Corporation.

standard levels of depth. Since the tabulated values in the upper 300 meters were read from the earlier shallow cast some differences appear, especially in the pycnocline.

On Stations 1, 60, 61, 78, 79, 80, 90 and 102 water depth was substantially less than 1500 m and only one STD lowering was made: in these cases the traces and tabulations are from the same records and should not differ.

Hydrographic Casts

The observed data have been plotted and then evaluated using the method described by Klein.[6] This involves consideration of their variation as functions of density or depth and their relations to each other, and comparison with concurrent bathythermogram or STD observations and with previous or adjacent observations.

To indicate degree of accuracy, temperatures are recorded in tenths of a degree when obtained by bucket thermometer, thermograph or bathythermograph, while temperatures from reversing thermometers are recorded in hundredths of a degree. The salinity of the collected samples when determined by salinometer is recorded to three decimal places, provided it meets accepted standards. The values recorded "have a reproducibility of ±0.004‰ salinity at the 95 per cent probability level and a probable accuracy of ±0.01‰ salinity or better at the same level of probability."[7] The values are recorded to two decimal places when obtained by chlorinity titration, or by salinometer where only one determination per sample was obtained, or where there is doubt concerning the accuracy of a particular sample, or of all samples on a station. The accuracy of all samples obtained by salinometer and recorded to two decimal places is believed to be equal to or better than those obtained by manual titration.

FOOTNOTES

In addition to footnotes, one special notation is used without a footnote because the meaning is always the same. Values which seem to be in error without apparent reason are indicated by the following notation:

u: uncertain value (value may be correct; occasionally it can influence the drawing of the property curve on stations where no STD lowering was made).

---

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

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

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

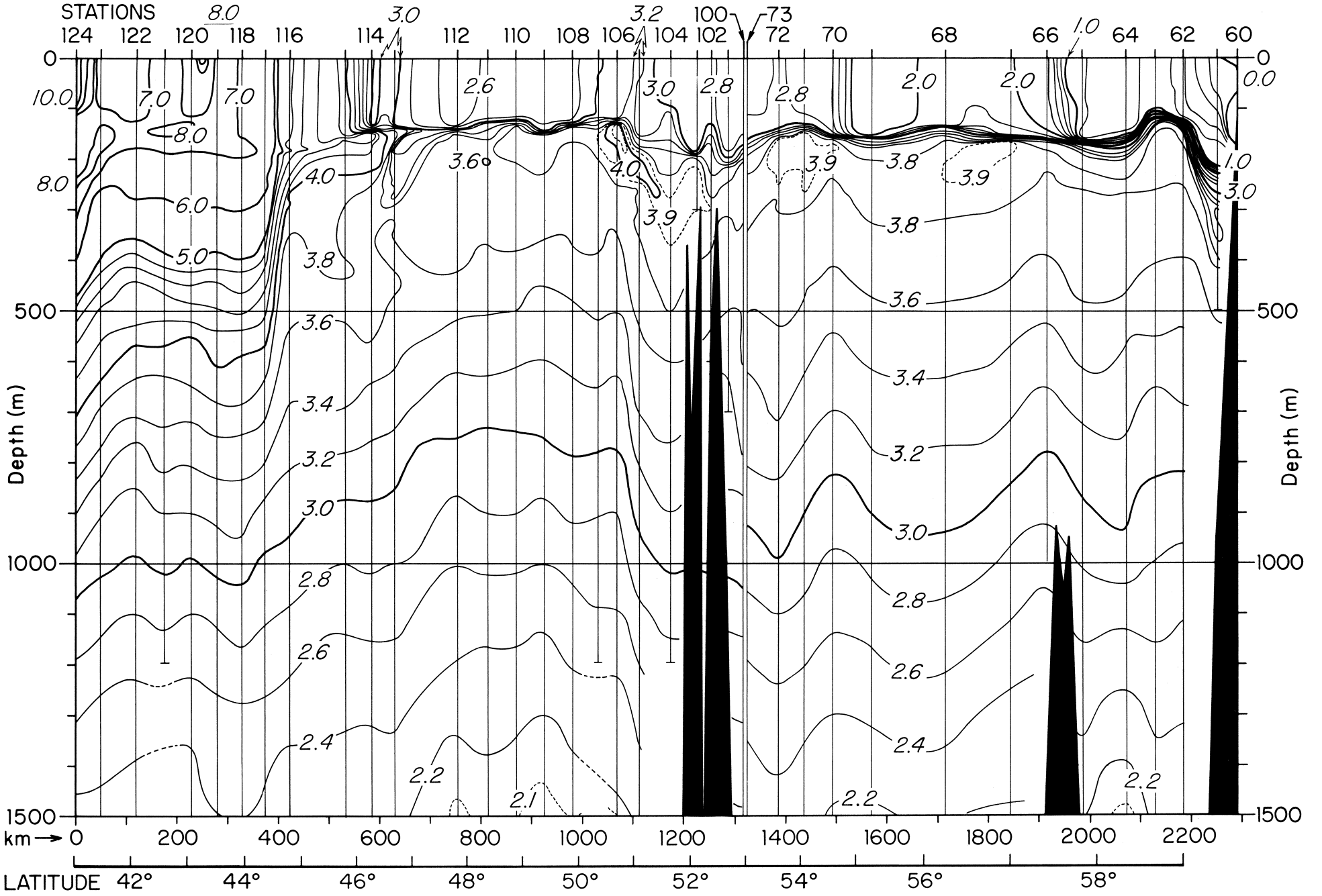


Figure 3a. Distribution of temperature (°C) along a section from 59°15'N, 165°40'E (near Kamchatka) through the Aleutian Island chain to 41°02'N, 175°00'E, including stations 60-73 and 100-124 whose positions are shown on Figure 2. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines.

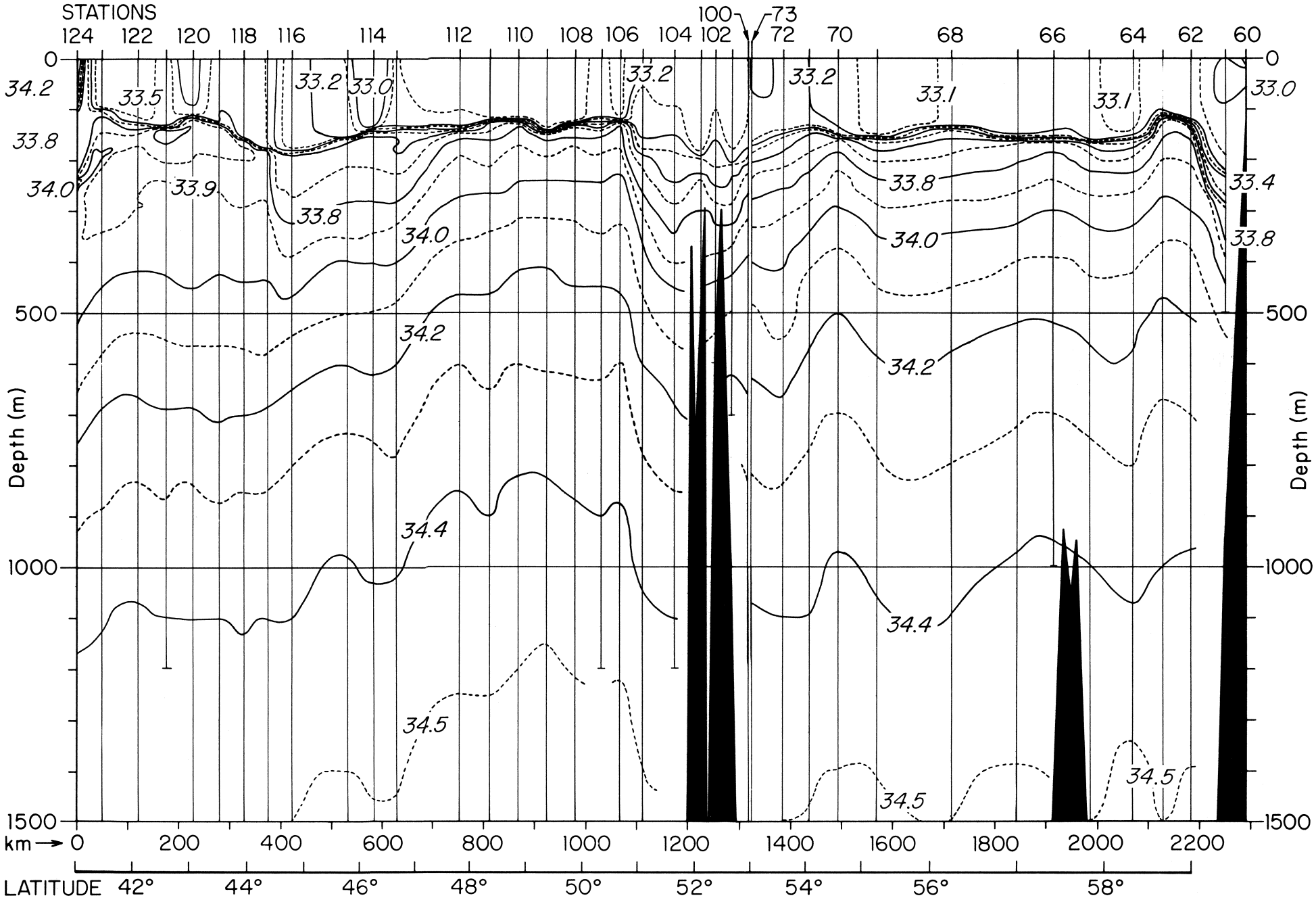


Figure 3b. Salinity (‰) along the vertical section described in Figure 3a. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines.

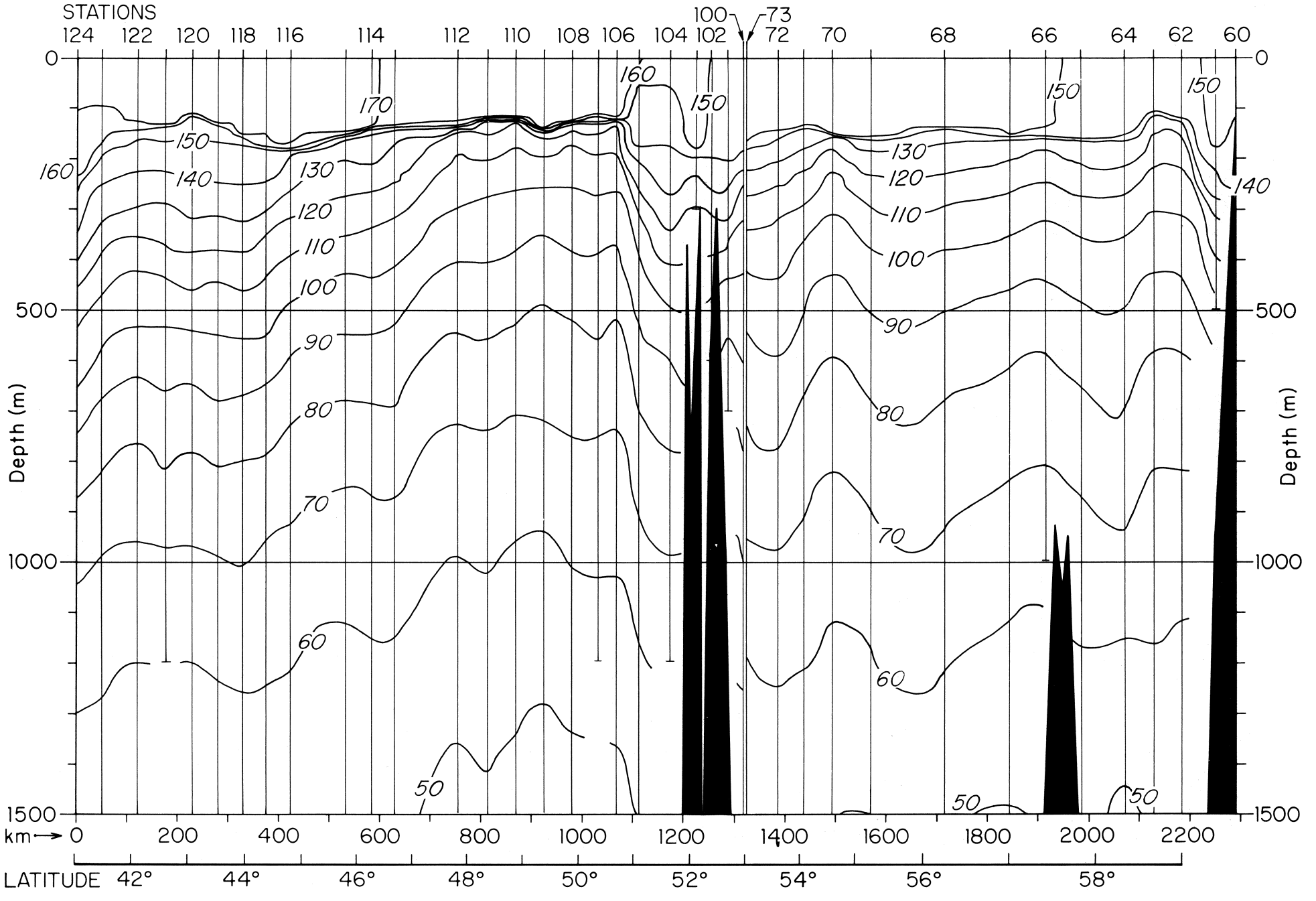


Figure 3c. Thermosteric anomaly (centiliters/ton) along the vertical section described in Figure 3a. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines.

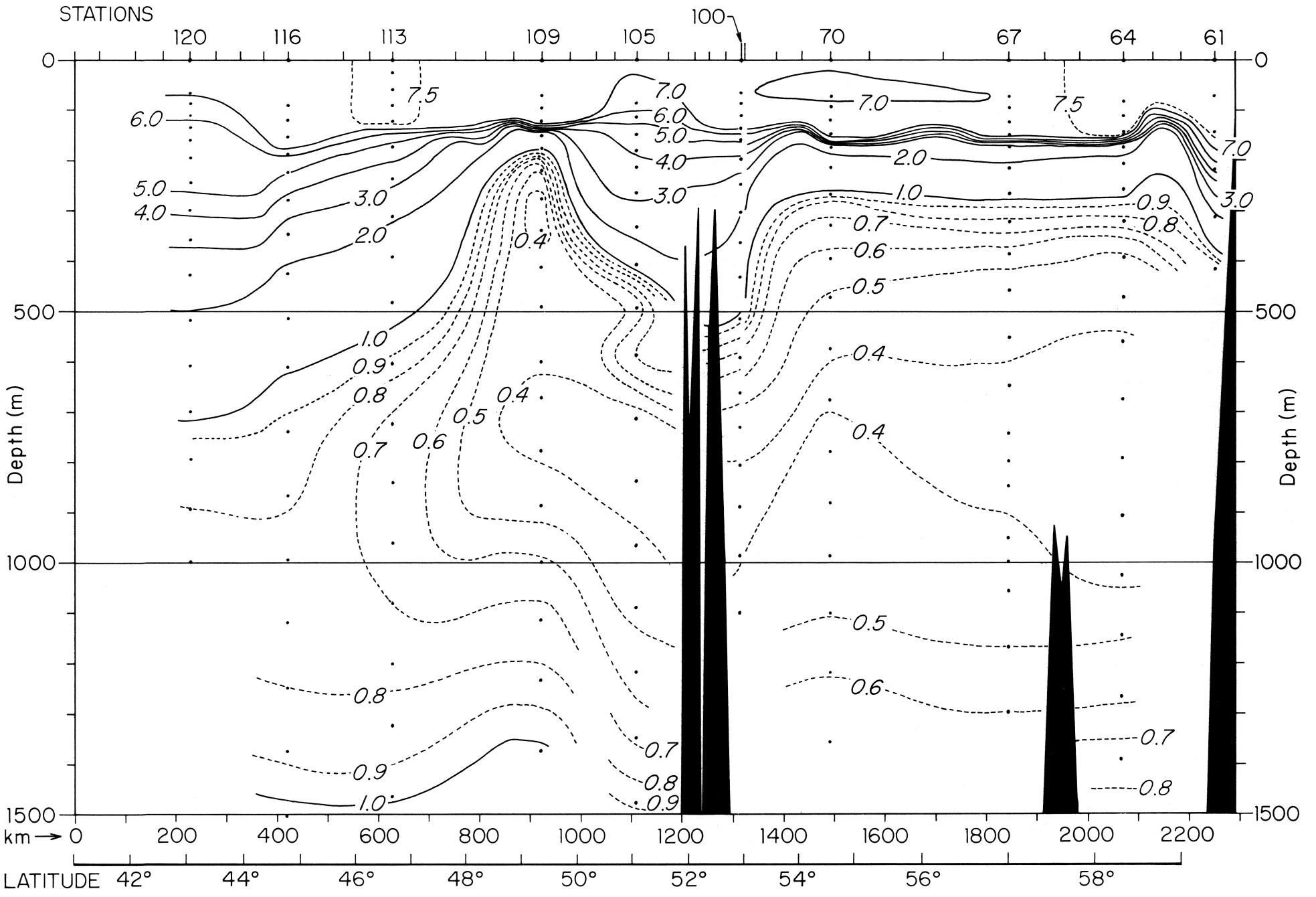


Figure 3d. Oxygen (ml/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

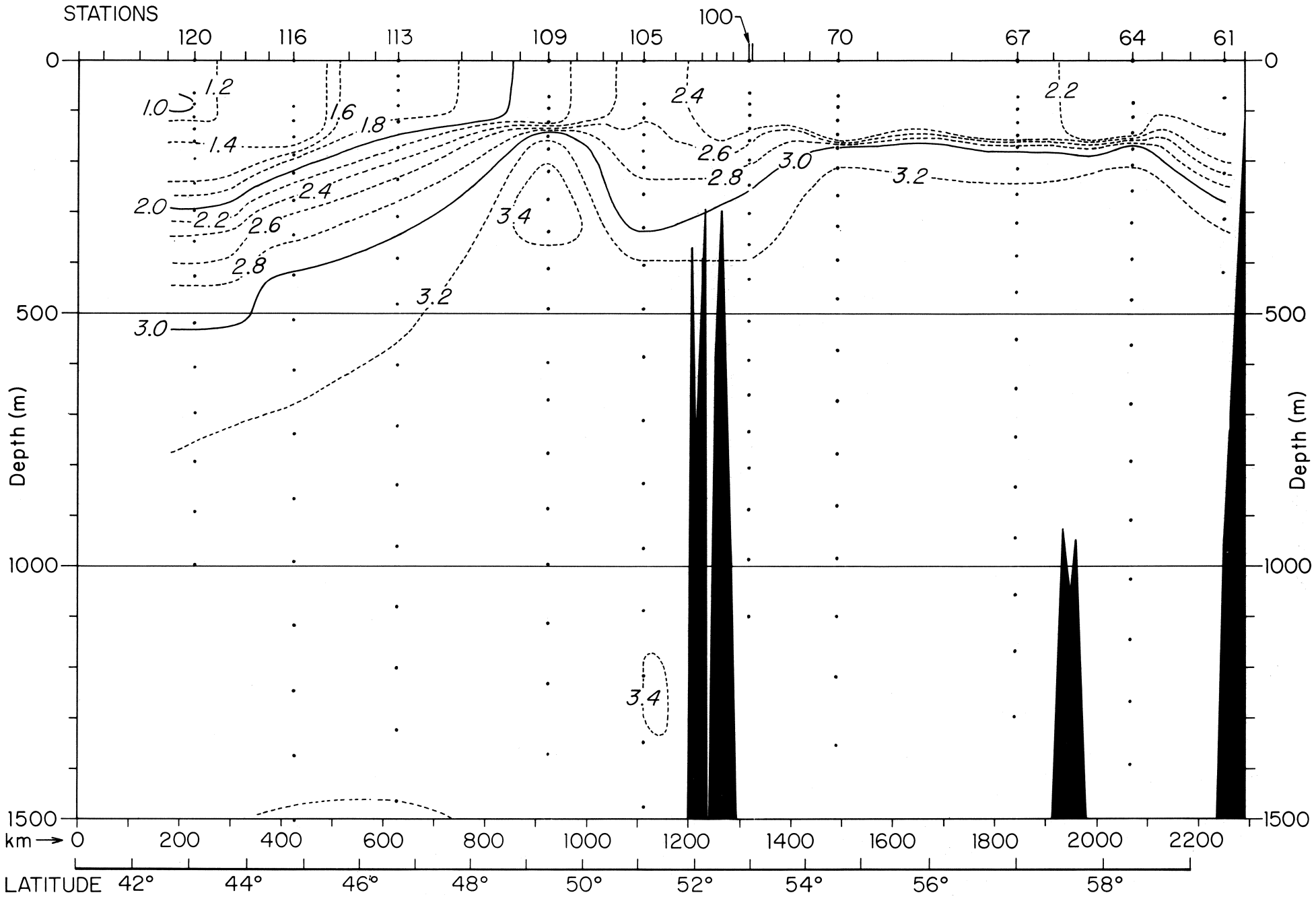


Figure 3e. Phosphate (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

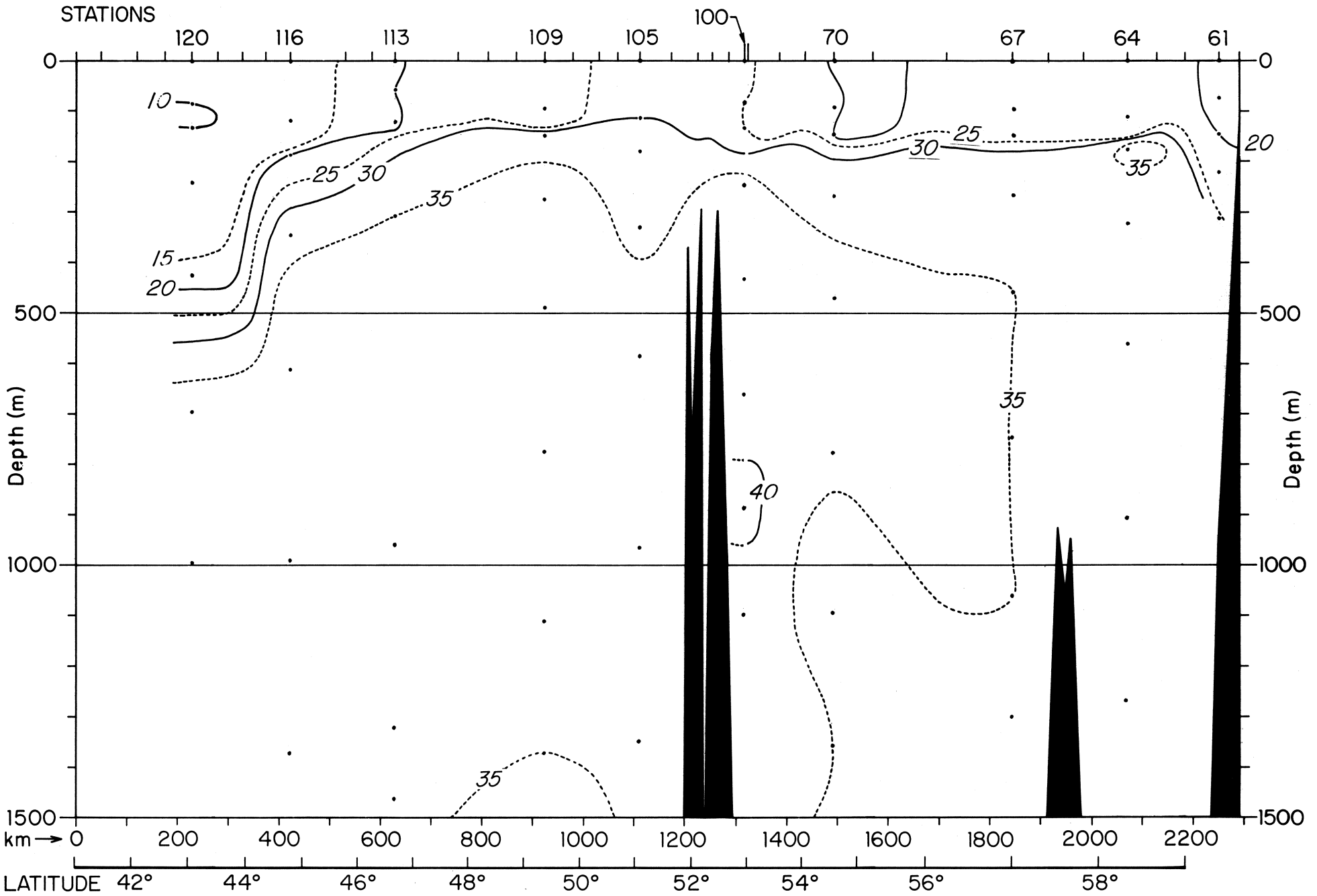


Figure 3f. Nitrate (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

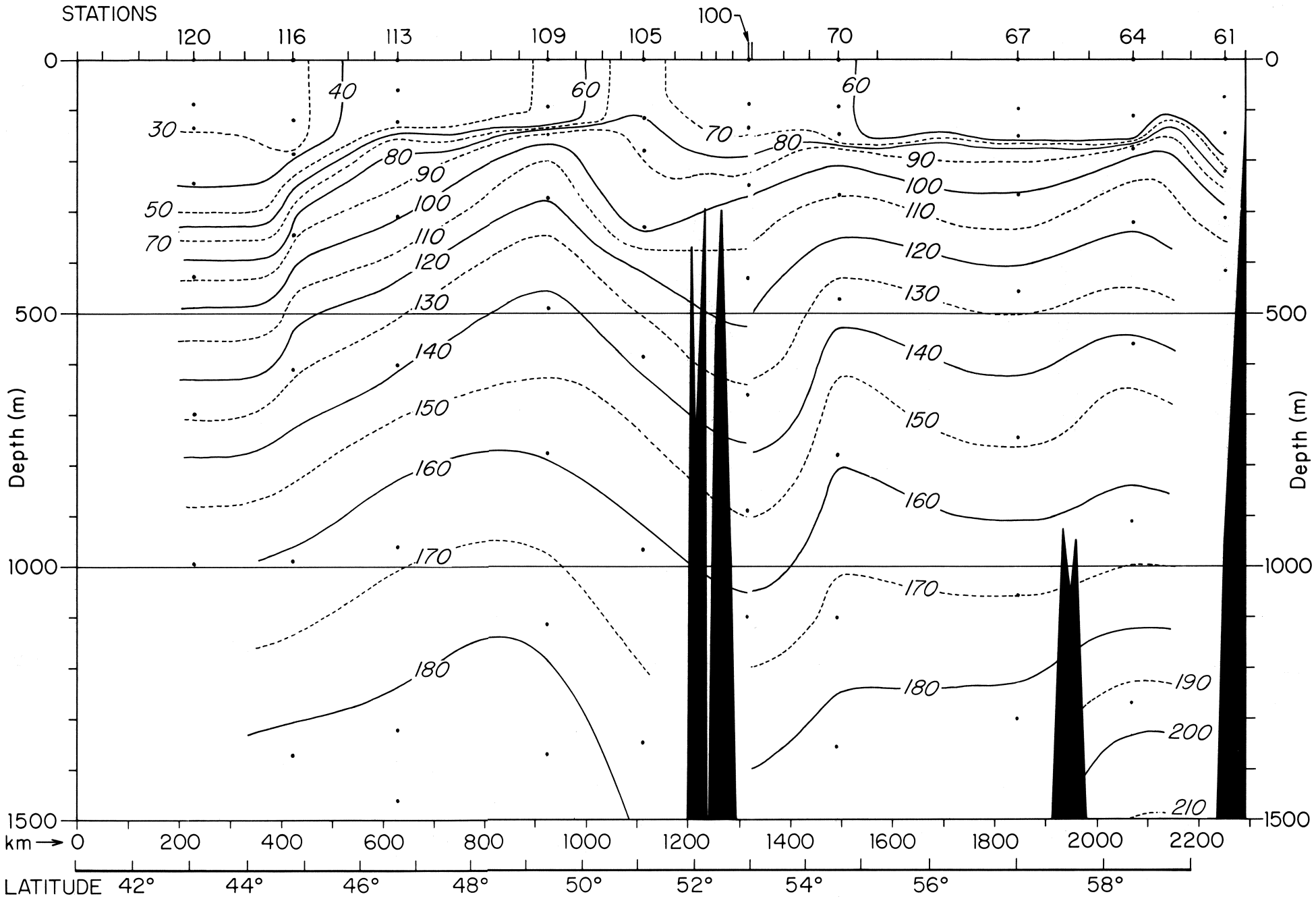


Figure 3g. Silicate (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

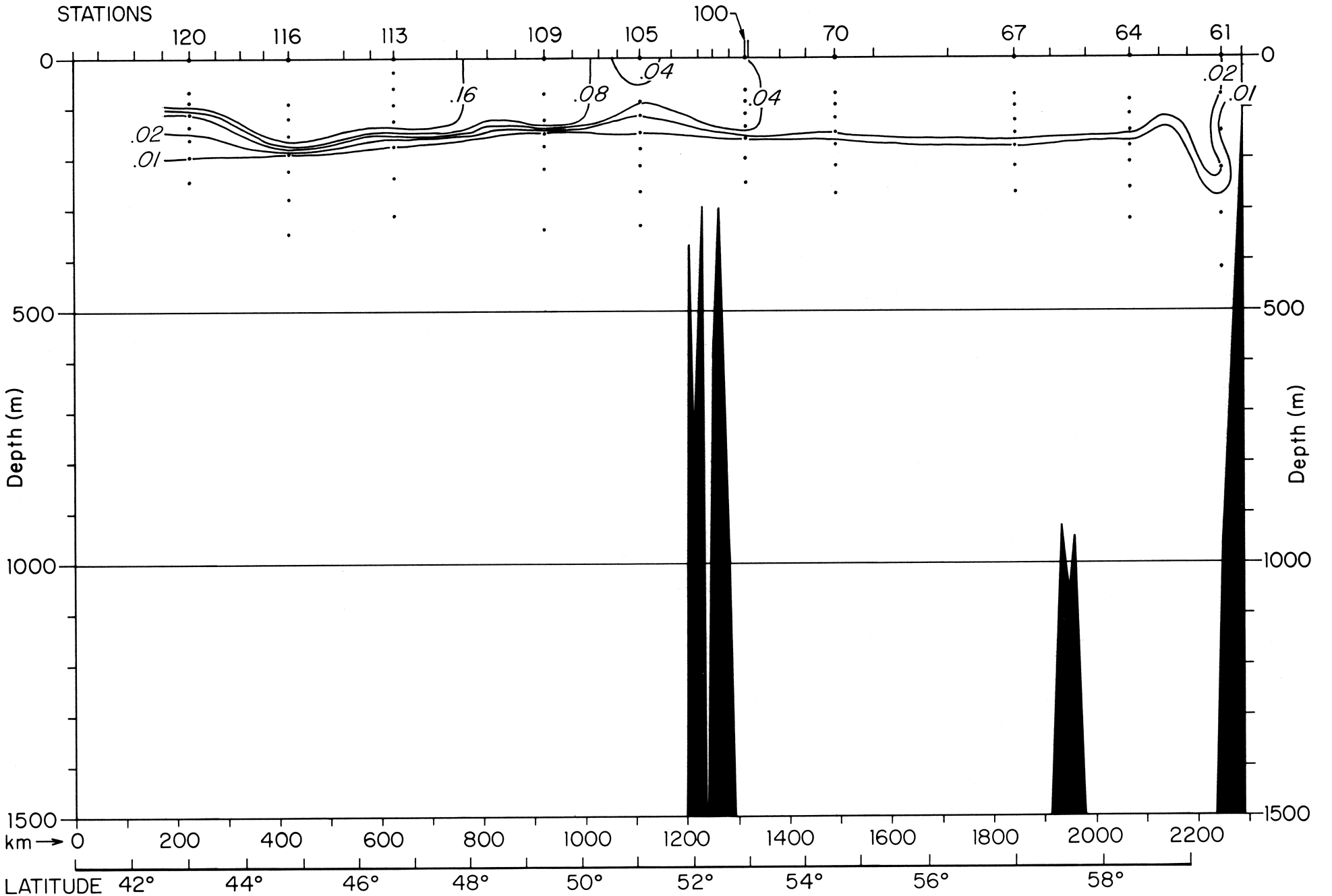


Figure 3h. Nitrite (μg-at/L) along the vertical section described in Figure 3a. Positions of samples are shown by dots. Between-station contours were drawn after consideration of density field.

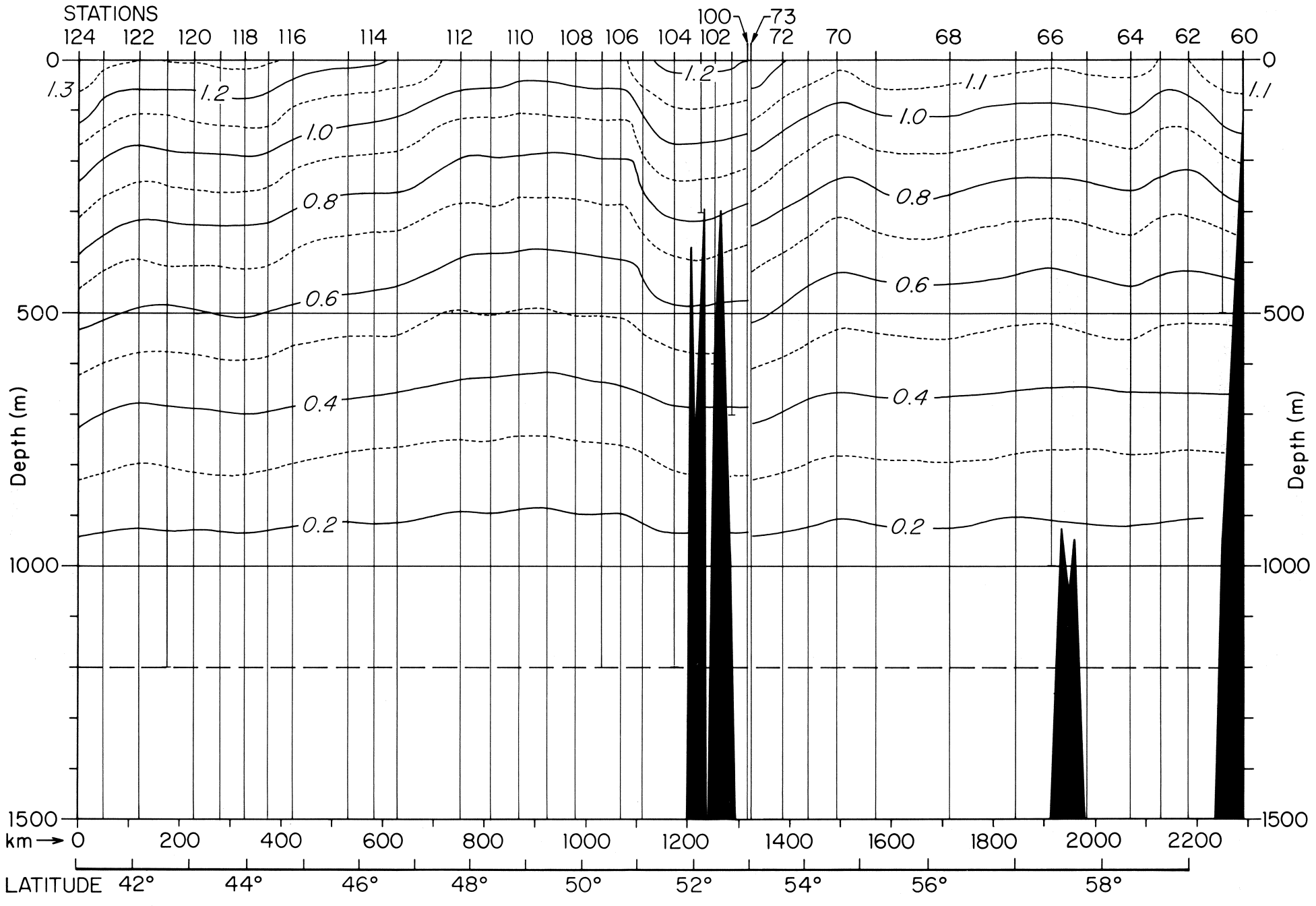


Figure 3i. Geopotential anomaly (dynamic height), in dynamic meters, with respect to the 1500-decibar surface, along the vertical section described in Figure 3a. Data are from the in situ STD: position and depth of lowering are shown by the vertical lines. Where the lowering did not reach 1500 m the deeper values were extrapolated from consideration of adjacent stations.

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
1			BOREAS EXPEDITION		

ARGO, JANUARY 29 1966, 1530 GCT, 53 51N 164 59W, SOUNDING 62 FM, WIND 130 FORCE 6, WEATHER MISSING, SEA MISSING.

0	3.80	31.78	25.27	270.9	0
10	3.80	31.78	25.27	270.9	.027
20	3.80	31.78	25.27	270.9	.054
30	3.80	31.79	25.28	270.1	.081
50	4.00	31.94	25.38	260.6	.134
75	4.09	32.10	25.50	249.4	.198

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
		BOREAS EXPEDITION			2

ARGO, JANUARY 29 1966, 1820 GCT, 53 24N 164 58W, SOUNDING 1250 FM, WIND 150 FORCE 5, WEATHER RAIN, SEA VERY ROUGH.

0	3.80	32.20	25.60	239.2	0
10	3.80	32.20	25.60	239.2	.024
20	3.82	32.21	25.61	238.6	.048
30	3.90	32.28	25.66	234.1	.071
50	4.18	32.56	25.85	215.6	.116
75	4.16	32.65	25.93	208.6	.170
100	4.19	32.71	25.97	204.4	.221
125	4.24	32.76	26.01	201.1	.272
150	4.36	32.87	26.08	194.0	.322
200	4.55	33.07	26.22	180.8	.416
250	4.95	33.43	26.46	157.9	.502
300	4.85	33.74	26.72	133.6	.576
400	4.41	33.87	26.87	119.2	.706
500	4.03	34.00	27.01	105.7	.823
600	3.87	34.08	27.09	98.1	.929
700	3.67	34.17	27.18	89.4	1.028
800	3.47	34.24	27.26	82.3	1.120
1000	3.08	34.34	27.37	71.3	1.286
1200	2.71	34.42	27.47	62.1	1.433
1500	2.29	34.50	27.57	52.7	1.627

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED	
Z	T	S	CXY	PHO	SIL	NIT	D*T	DD
3				BOREAS EXPEDITION				3

ARGO, JANUARY 29 1966, 2201 2321 2250 GCT, 52 58N 164 58W, SOUNDING 1860 FM, WIND 170 FORCE 5, WEATHER OVERCAST, SEA VERY ROUGH, WIRE ANGLE 05.

1	3.77	32.453	7.30	1.62	30	11	219.8	
31	3.86	32.698	7.00	1.69	32	12	202.2	
61	3.83	32.809	7.28	1.77	30	12	193.5	
96	3.90	32.859	7.18	1.83	30	14	190.4	
121	4.88	33.383	4.35	2.29	45	25	160.7	
155	4.98	33.654	3.22	2.53	52	32	141.4	
180	4.82	33.724	2.67	2.62	58	-	134.5	
206	4.77	33.772	2.49	2.67	60	32	130.3	
240	4.44	33.841	2.08	2.78	63	34	121.7	
265	4.12	33.862	1.60	2.98	68	32	117.0	
300	4.18	33.930	1.56	2.98	-	34	112.4	
359	4.08	33.984	1.22	3.06	81	36	107.4	
483	3.88	34.087	.70	3.17	81	36	97.7	
599	3.70	34.167	.52	3.19	92	38	90.0	
779	3.37	34.273	.38	3.03	98	36	78.9	
948	3.08	34.354	.47	3.21	112	37	70.2	
1171	2.74	34.425	.46	3.01	114	39	62.0	
1401	2.36	34.490	.73	3.10	132	37	54.0	
1736	2.09	34.559	1.16	3.11	137	35	46.7	

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD
			BOREAS EXPEDITION			3
0	3.73	32.44	7.30	25.80	220.4	0
10	3.73	32.44	7.29	25.80	220.4	.022
20	3.73	32.47	7.10	25.83	218.2	.044
30	3.79	32.66	7.00	25.97	204.4	.065
50	3.85	32.73	7.22	26.02	199.7	.106
75	3.88	32.84	7.27	26.10	191.6	.155
100	3.80	32.89	7.12	26.15	187.1	.202
125	4.83	33.37	4.06	26.43	161.2	.246
150	5.17	33.60	3.52	26.57	147.5	.285
200	4.80	33.75	2.54	26.73	132.3	.356
250	4.37	33.86	1.87	26.86	119.6	.420
300	4.16	33.95	1.56	26.96	110.7	.479
400	4.05	34.01	.99	27.02	105.1	.590
500	3.84	34.10	.67	27.11	96.3	.694
600	3.69	34.17	.52	27.18	89.6	.792
700	3.50	34.23	.43	27.25	83.3	.883
800	3.37	34.28	.38	27.30	78.4	.970
1000	3.00	34.36	.47	27.40	69.1	1.129
1200	2.69	34.42	.48	27.47	61.9	1.274
1500	2.28	34.50	.85	27.57	52.6	1.467

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
4			BOREAS EXPEDITION		

ARGO, JANUARY 30 1966, 0412 0425 GCT, 52 31N 164 57W, SOUNDING 3340 FM, WIND 250 FORCE 6, WEATHER OVERCAST, SEA HIGH.

0	3.80	32.51	25.85	215.8	0
10	3.80	32.52	25.86	215.0	.022
20	3.81	32.55	25.88	212.9	.043
30	3.86	32.70	26.00	202.0	.064
50	3.77	32.75	26.04	197.4	.104
75	3.75	32.76	26.05	196.5	.153
100	3.81	32.90	26.16	186.5	.201
125	3.96	33.24	26.41	162.2	.245
150	4.03	33.53	26.64	141.1	.283
200	3.96	33.83	26.88	118.0	.349
250	3.91	33.91	26.95	111.3	.407
300	3.85	33.98	27.01	105.5	.462
400	3.79	34.10	27.11	95.9	.566
500	3.65	34.17	27.18	89.3	.662
600	3.48	34.23	27.25	83.2	.752
700	3.32	34.28	27.30	77.9	.838
800	3.14	34.32	27.35	73.3	.919
1000	2.82	34.39	27.44	65.3	1.069
1200	2.54	34.45	27.51	58.4	1.205
1500	2.17	34.51	27.59	51.0	1.390

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
		BOREAS EXPEDITION			5

ARGO, JANUARY 30 1966, 1030 0924 GCT, 51 49N 164 54W, SOUNDING 2318 FM, WIND 260 FORCE 5, WEATHER CLOUDY, SEA HIGH.

0	3.70	32.65	25.97	204.3	0
10	3.70	32.65	25.97	204.3	.020
20	3.70	32.65	25.97	204.3	.041
30	3.71	32.66	25.98	203.7	.061
50	3.71	32.66	25.98	203.7	.102
75	3.77	32.76	26.05	196.7	.152
100	4.07	33.37	26.51	153.5	.196
125	4.05	33.68	26.75	130.0	.232
150	4.00	33.81	26.86	119.7	.263
200	3.89	33.91	26.95	111.1	.322
250	3.84	33.98	27.01	105.4	.377
300	3.78	34.03	27.06	101.0	.429
400	3.70	34.12	27.14	93.5	.530
500	3.52	34.19	27.21	86.5	.623
600	3.34	34.25	27.28	80.4	.711
700	3.22	34.29	27.32	76.3	.794
800	3.05	34.33	27.37	71.8	.873
1000	2.77	34.40	27.45	64.1	1.020
1200	2.47	34.45	27.51	57.9	1.155
1500	2.09	34.52	27.60	49.6	1.336

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
6				BOREAS EXPEDITION			6

ARGO, JANUARY 30 1966, 1731 1822 1838 GCT, 50 46N 165 20W, SOUNDING 2196 FM, WIND 180 FORCE 7, WEATHER SNOW, SEA VERY ROUGH, WIRE ANGLE 10.

1	4.36	32.701	7.25	1.61	18	15	206.7
30	4.34	32.702	7.17	1.71	24	16	206.4
60	4.36	32.702	7.26	1.63	28	17	206.6
94	4.36	32.704	7.26	1.63	28	16	206.5
119	4.03	33.104	6.54	1.88	36	17	173.2
153	3.50	33.587	3.11	2.77	63	31	131.8
178	3.56	33.740	1.95	3.01	72	33	120.8
203	3.56	33.827	1.51	3.06	74	38	114.3
237	3.44	33.883	1.58	3.06	80	40	109.0
262	3.50	33.925	1.26	3.10	83	38	106.3
296	3.58	33.995	.60	3.26	-	39	101.8
356	3.56	34.060	.54	3.24	91	42	96.7
479	3.41	34.165	.58	3.18	99	42	87.4
592	3.40	34.249	.38	3.24	110	42	81.0
770	3.05	34.316	.50	3.06	122	42	72.8
938	2.82	34.379	.60	3.19	-	37	66.1
1159	2.52	34.453	.66	3.11	127	40	58.1
1386	2.30	34.508	.90	3.06	-	42	52.2
1719	2.07	34.562	1.25	3.12	140	35	46.3

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
0	4.28	32.68	7.25	25.94	207.5	0
10	4.30	32.69	7.22	25.94	206.9	.021
20	4.30	32.69	7.19	25.94	206.9	.041
30	4.30	32.70	7.17	25.95	206.2	.062
50	4.30	32.70	7.26	25.95	206.2	.103
75	4.33	32.71	7.26	25.96	205.7	.155
100	4.58	32.82	7.16	26.02	199.9	.206
125	3.68	33.16	5.75	26.38	165.7	.252
150	3.41	33.49	3.23	26.67	138.3	.290
200	3.57	33.83	1.53	26.92	114.1	.354
250	3.47	33.92	1.48	27.00	106.4	.410
300	3.58	34.00	.59	27.06	101.4	.463
400	3.51	34.11	.56	27.15	92.5	.562
500	3.40	34.18	.56	27.22	86.2	.655
600	3.38	34.26	.38	27.28	80.0	.742
700	3.15	34.29	.44	27.33	75.7	.825
800	3.01	34.33	.52	27.37	71.4	.903
1000	2.70	34.40	.61	27.46	63.5	1.049
1200	2.45	34.46	.70	27.52	57.0	1.182
1500	2.15	34.52	1.02	27.60	50.1	1.363

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
7			BOREAS EXPEDITION		8

ARGO, JANUARY 31 1966, 0102 0110 GCT, 49 55N 165 00W, SOUNDING 2273 FM, WIND 260 FORCE 5, WEATHER PARTLY CLOUDY, SEA VERY ROUGH.

0	4.30	32.66	25.92	209.2	0
10	4.30	32.66	25.92	209.2	.021
20	4.30	32.66	25.92	209.2	.042
30	4.30	32.66	25.92	209.2	.063
50	4.30	32.66	25.92	209.2	.105
75	4.30	32.66	25.92	209.2	.157
100	4.30	32.68	25.94	207.7	.209
125	3.54	33.28	26.49	155.4	.255
150	3.51	33.46	26.63	141.5	.292
200	3.42	33.63	26.78	127.9	.360
250	3.39	33.74	26.87	119.3	.423
300	3.45	33.81	26.92	114.6	.482
400	3.54	34.01	27.07	100.3	.592
500	3.49	34.13	27.17	90.8	.691
600	3.35	34.20	27.24	84.2	.783
700	3.20	34.27	27.31	77.6	.868
800	3.04	34.32	27.36	72.5	.948
1000	2.75	34.40	27.45	64.0	1.096
1200	2.52	34.46	27.52	57.5	1.230
1500	2.22	34.52	27.59	50.6	1.413

ARGO, JANUARY 31 1966, 0630 0639 GCT, 49 02N 164 57W, SOUNDING 2326 FM, WIND 280 FORCE 5, WEATHER OVERCAST, SEA ROUGH.

0	4.61	32.74	25.95	206.3	0
10	4.62	32.74	25.95	206.4	.021
20	4.62	32.74	25.95	206.4	.041
30	4.62	32.74	25.95	206.4	.062
50	4.64	32.74	25.95	206.6	.103
75	4.65	32.74	25.95	206.7	.155
100	4.65	32.74	25.95	206.7	.207
125	3.76	33.30	26.48	155.9	.252
150	3.75	33.51	26.65	139.9	.290
200	3.53	33.67	26.80	125.8	.357
250	3.47	33.78	26.89	117.0	.418
300	3.50	33.87	26.96	110.5	.476
400	3.53	34.03	27.08	98.7	.583
500	3.47	34.13	27.17	90.6	.681
600	3.36	34.21	27.24	83.6	.772
700	3.21	34.28	27.31	77.0	.857
800	3.05	34.33	27.37	71.8	.937
1000	2.76	34.41	27.46	63.3	1.083
1200	2.50	34.46	27.52	57.4	1.217
1500	2.23	34.51	27.58	51.5	1.400

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
9				BOREAS EXPEDITION			9

ARGO, JANUARY 31 1966, 1405 1211 1233 GCT, 48 09N 164 53W, SOUNDING 2384 FM, WIND 270 FORCE 5, WEATHER PARTLY CLOUDY, SEA VERY ROUGH, WIRE ANGLE 30.

C	5.16	32.898	7.21	1.47	25	14	200.1
26	5.17	32.892	7.13	1.49	24	14	200.7
52	5.18	32.896	7.16	1.49	24	16	200.5
82	5.17	32.893	7.15	1.49	25	14	200.6
104	5.16	32.891	7.16	1.49	24	16	200.7
133	4.78	33.164	6.52	1.70	28	16	176.1
154	4.51	33.559	5.41	1.84	30	21	143.6
175	4.60	33.654	4.85	2.08	39	24	137.4
204	4.49	33.736	3.88	2.32	50	30	130.1
224	4.32	33.768	3.50	2.39	54	31	126.0
252	4.13	33.807	2.95	-	-	32	121.2
302	3.94	33.861	2.35	2.71	68	35	115.3
404	3.74	33.994	1.55	3.05	82	38	103.4
499	3.61	34.105	1.06	3.05	91	40	93.8
649	3.33	34.221	.70	3.04	105	42	82.5
794	3.14	34.304	.60	3.19	112	39	74.5
995	2.86	-	.60	3.18	121	39	-
1212	2.59	34.456	.71	3.06	126	42	58.4
1544	2.26	34.532	.94	3.10	135	40	50.0

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD
0	5.17	32.90	7.21	26.02	200.1	0
10	5.17	32.90	7.15	26.02	200.1	.020
20	5.17	32.90	7.14	26.02	200.1	.040
30	5.17	32.90	7.14	26.02	200.1	.060
50	5.17	32.90	7.16	26.02	200.1	.100
75	5.17	32.90	7.15	26.02	200.1	.150
100	5.17	32.90	7.16	26.02	200.1	.201
125	4.60	33.25	7.15	26.36	167.8	.247
150	4.51	33.59	5.50	26.63	141.3	.286
200	4.25	33.74	4.00	26.78	127.4	.354
250	4.03	33.83	3.02	26.88	118.5	.416
300	3.90	33.89	2.39	26.94	112.7	.475
400	3.72	34.01	1.58	27.05	102.0	.585
500	3.62	34.11	1.05	27.14	93.5	.687
600	3.41	34.19	.79	27.22	85.5	.780
700	3.29	34.25	.64	27.28	79.9	.868
800	3.15	34.30	.60	27.33	74.9	.950
1000	2.87	34.39	.60	27.43	65.7	1.103
1200	2.58	34.45	.70	27.51	58.8	1.240
1500	2.25	34.51	.92	27.58	51.6	1.427

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

10 BOREAS EXPEDITION

ARGO, FEBRUARY 1 1966, 0040 0046 GCT, 47 02N 165 00W, SOUNDING 2834 FM, WIND 220 FORCE 4, WEATHER OVERCAST, SEA ROUGH.

0	6.37	33.02	25.97	204.9	0
10	6.37	33.02	25.97	204.9	.020
20	6.37	33.02	25.97	204.9	.041
30	6.37	33.02	25.97	204.9	.062
50	6.37	33.02	25.97	204.9	.103
75	6.37	33.02	25.97	204.9	.154
100	6.37	33.02	25.97	204.9	.205
125	6.11	33.58	26.44	159.8	.251
150	5.93	33.74	26.59	145.7	.290
200	5.49	33.84	26.72	133.1	.361
250	4.99	33.88	26.81	124.6	.426
300	4.60	33.92	26.89	117.4	.488
400	4.18	33.99	26.99	107.9	.604
500	3.87	34.09	27.10	97.4	.711
600	3.61	34.18	27.20	88.1	.808
700	3.45	34.24	27.26	82.1	.898
800	3.26	34.30	27.32	75.9	.983
1000	2.90	34.38	27.42	66.7	1.137
1200	2.59	34.44	27.50	59.6	1.277
1500	2.27	34.51	27.58	51.8	1.465

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

11

ARGO, FEBRUARY 1 1966, 0759 0806 GCT, 46 06N 165 00W, SOUNDING 2852 FM, WIND 170 FORCE 4, WEATHER CLOUDY, SEA ROUGH.

0	6.78	33.04	25.93	208.4	0
10	6.78	33.04	25.93	208.4	.021
20	6.78	33.04	25.93	208.4	.042
30	6.78	33.04	25.93	208.4	.063
50	6.78	33.04	25.93	208.4	.104
75	6.78	33.04	25.93	208.4	.157
100	6.78	33.04	25.93	208.4	.209
125	6.37	33.16	26.08	194.4	.260
150	6.34	33.64	26.46	158.1	.304
200	5.61	33.75	26.64	141.2	.380
250	5.12	33.82	26.75	130.5	.449
300	4.70	33.86	26.83	123.0	.514
400	4.25	34.00	26.99	107.9	.633
500	3.96	34.08	27.08	99.0	.740
600	3.74	34.15	27.16	91.6	.840
700	3.49	34.21	27.23	84.8	.933
800	3.30	34.27	27.30	78.5	1.021
1000	2.95	34.34	27.39	70.2	1.181
1200	2.64	34.42	27.48	61.5	1.326
1500	2.34	34.48	27.55	54.6	1.522

12 BOREAS EXPEDITION

ARGO, FEBRUARY 1 1966, 1140 1151 GCT, 45 39N 165 03W, SOUNDING 2864 FM, WIND 210 FORCE 4, WEATHER RAIN, SEA VERY ROUGH.

0	7.00	33.10	25.95	206.8	0
10	7.00	33.10	25.95	206.8	.021
20	7.00	33.10	25.95	206.8	.041
30	7.00	33.10	25.95	206.8	.062
50	7.00	33.10	25.95	206.8	.104
75	7.00	33.10	25.95	206.8	.155
100	7.00	33.10	25.95	206.8	.207
125	7.02	33.61	26.34	168.9	.255
150	7.01	33.72	26.43	160.6	.297
200	6.71	33.85	26.57	147.1	.375
250	6.07	33.87	26.67	137.7	.447
300	5.23	33.86	26.77	128.7	.516
400	4.65	33.94	26.90	116.5	.642
500	4.15	34.04	27.03	103.9	.756
600	3.81	34.11	27.12	95.3	.860
700	3.63	34.19	27.20	87.6	.957
800	3.43	34.25	27.27	81.2	1.047
1000	3.00	34.34	27.38	70.6	1.211
1200	2.67	34.42	27.47	61.8	1.357
1500	2.32	34.50	27.57	52.9	1.551

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
1	7.22	33.120	6.83	1.04	12	8	208.1
29	7.24	33.125	6.82	1.03	11	8	208.0
57	7.23	33.134	6.84	1.04	11	9	207.2
90	7.24	33.135	6.84	1.05	11	10	207.3
114	7.26	33.143	6.81	1.06	12	9	206.9
147	7.10	33.726	6.38	1.17	17	11	161.3
170	7.07	33.779	6.00	1.26	20	14	157.0
193	6.92	33.859	5.35	1.51	25	17	149.1
225	6.62	33.885	4.89	1.71	31	17	143.3
248	6.36	33.890	4.57	1.84	36	19	139.7
280	5.92	33.902	3.91	–	–	23	133.5
335	5.16	33.918	3.09	2.44	56	25	123.6
449	4.30	34.000	1.98	2.86	73	33	108.4
553	3.93	34.094	1.28	3.01	88	36	97.6
717	3.55	34.226	.86	3.14	103	41	84.1
872	3.26	34.312	.66	3.28	116	43	75.0
1080	2.82	34.395	.61	3.28	128	40	65.0
1299	2.56	34.457	.71	3.25	131	38	58.1
1631	2.15	34.532	.79	3.25	134	36	49.2

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD

13 BOREAS EXPEDITION 13

ARGO, FEBRUARY 1 1966, 1606 1700 1717 GCT, 45 11N 165 05W, SOUNDING 2870 FM, WIND 200 FORCE 5, WEATHER RAIN, SEA ROUGH, WIRE ANGLE 18.

0	7.25	33.15	6.83	25.95	206.3	0
10	7.25	33.15	6.83	25.95	206.3	.021
20	7.25	33.15	6.82	25.95	206.3	.041
30	7.25	33.15	6.82	25.95	206.3	.062
50	7.25	33.15	6.83	25.95	206.3	.103
75	7.23	33.15	6.84	25.95	206.0	.155
100	7.25	33.15	6.82	25.95	206.3	.207
125	7.11	33.67	6.80	26.38	165.6	.254
150	7.05	33.74	6.29	26.44	159.6	.295
200	6.78	33.86	5.21	26.57	147.2	.373
250	6.29	33.88	4.52	26.65	139.6	.446
300	5.61	33.91	3.54	26.76	129.3	.515
400	4.60	33.95	2.40	26.91	115.2	.641
500	4.12	34.03	1.61	27.02	104.3	.755
600	3.88	34.12	1.11	27.12	95.2	.860
700	3.62	34.21	.90	27.22	86.0	.955
800	3.40	34.27	.74	27.29	79.4	1.044
1000	3.04	34.35	.61	27.38	70.2	1.206
1200	2.67	34.42	.67	27.47	61.8	1.351
1500	2.32	34.49	.78	27.56	53.7	1.546

STANDARD LEVELS OF DEPTH

INPUT				COMPUTED	
Z	T	S	SIG*T	D*T	DD

14 BOREAS EXPEDITION

ARGO, FEBRUARY 1 1966, 2129 2138 GCT, 44 36N 165 03W,
SOUNDING 2904 FM, WIND 300 FORCE 3, WEATHER PARTLY CLOUDY,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	7.92	33.35	26.01	200.4	0
10	7.92	33.35	26.01	200.4	.020
20	7.92	33.35	26.01	200.4	.040
30	7.90	33.35	26.02	200.1	.060
50	7.90	33.35	26.02	200.1	.100
75	7.86	33.35	26.02	199.6	.151
100	7.86	33.35	26.02	199.6	.201
125	8.05	33.82	26.36	167.3	.247
150	7.37	33.78	26.43	160.9	.289
200	7.13	33.82	26.49	154.7	.369
250	6.57	33.88	26.62	143.0	.445
300	5.95	33.90	26.71	134.0	.516
400	4.77	33.97	26.91	115.5	.645
500	4.27	34.03	27.01	105.8	.760
600	4.03	34.13	27.11	95.9	.865
700	3.72	34.18	27.18	89.2	.963
800	3.48	34.24	27.26	82.4	1.055
1000	3.12	34.34	27.37	71.6	1.222
1200	2.75	34.42	27.47	62.4	1.370
1500	2.36	34.49	27.56	54.0	1.567

STANDARD LEVELS OF DEPTH

INPUT				COMPUTED	
Z	T	S	SIG*T	D*T	DD

15

ARGO, FEBRUARY 2 1966, 0108 0114 GCT, 44 01N 165 00W,
SOUNDING 2864 FM, WIND 300 FORCE 3, WEATHER PARTLY CLOUDY,
SEA MODERATE.

Z	T	S	SIG*T	D*T	DD
0	8.15	33.36	25.99	202.9	0
10	8.15	33.36	25.99	202.9	.020
20	8.15	33.36	25.99	202.9	.041
30	8.15	33.36	25.99	202.9	.061
50	8.15	33.36	25.99	202.9	.102
75	8.15	33.36	25.99	202.9	.153
100	8.15	33.36	25.99	202.9	.204
125	8.55	33.92	26.36	167.0	.250
150	8.28	33.92	26.41	163.1	.292
200	7.72	33.91	26.48	156.0	.374
250	6.96	33.92	26.60	145.0	.451
300	6.10	33.90	26.69	135.8	.523
400	4.91	33.95	26.88	118.5	.654
500	4.34	34.01	26.99	108.0	.771
600	3.94	34.11	27.11	96.5	.879
700	3.66	34.17	27.18	89.4	.977
800	3.49	34.25	27.26	81.7	1.068
1000	3.11	34.34	27.37	71.6	1.234
1200	2.78	34.41	27.46	63.4	1.383
1500	2.36	34.49	27.56	54.0	1.582

16 BOREAS EXPEDITION

ARGO, FEBRUARY 2 1966, 0420 0428 GCT, 43 30N 165 01W,
SOUNDING 2640 FM, WIND 320 FORCE 4, WEATHER CLOUDY,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	7.95	33.32	25.98	203.1	0
10	7.95	33.32	25.98	203.1	.020
20	7.95	33.32	25.98	203.1	.041
30	7.95	33.32	25.98	203.1	.061
50	7.96	33.32	25.98	203.2	.102
75	7.96	33.32	25.98	203.2	.153
100	7.96	33.32	25.98	203.2	.204
125	8.94	33.95	26.33	170.6	.251
150	8.56	33.92	26.36	167.1	.294
200	8.00	33.89	26.42	161.3	.378
250	7.56	33.96	26.54	150.0	.457
300	6.91	33.95	26.63	142.2	.533
400	5.57	33.96	26.81	125.0	.671
500	4.59	34.00	26.95	111.3	.794
600	4.18	34.10	27.07	99.6	.904
700	3.80	34.17	27.17	90.7	1.005
800	3.54	34.23	27.24	83.7	1.098
1000	3.17	34.34	27.36	72.1	1.267
1200	2.79	34.42	27.46	62.8	1.416
1500	2.40	34.50	27.56	53.5	1.613

17

ARGO, FEBRUARY 2 1966, 0749 0755 GCT, 42 59N 165 02W,
SOUNDING 2584 FM, WIND 360 FORCE 3, WEATHER PARTLY CLOUDY,
SEA MODERATE.

Z	T	S	SIG*T	D*T	DD
0	8.93	33.56	26.02	199.3	0
10	8.93	33.55	26.02	200.1	.020
20	8.93	33.55	26.02	200.1	.040
30	8.93	33.55	26.02	200.1	.060
50	8.93	33.55	26.02	200.1	.100
75	8.93	33.55	26.02	200.1	.151
100	8.93	33.55	26.02	200.1	.201
125	9.05	33.63	26.06	196.0	.251
150	9.30	34.00	26.31	172.3	.298
200	8.75	33.98	26.38	165.5	.384
250	8.27	34.00	26.47	157.0	.466
300	7.44	33.97	26.57	147.7	.545
400	5.90	33.94	26.75	130.4	.689
500	4.77	33.99	26.92	114.0	.816
600	4.23	34.07	27.05	102.4	.930
700	3.87	34.14	27.14	93.6	1.033
800	3.64	34.21	27.22	86.2	1.129
1000	3.25	34.32	27.34	74.3	1.303
1200	2.87	34.40	27.44	65.0	1.457
1500	2.41	34.49	27.55	54.4	1.659

18 BOREAS EXPEDITION

ARGO, FEBRUARY 2 1966, 1056 1106 GCT, 42 28N 165 03W,
SOUNDING 2683 FM, WIND 340 FORCE 3, WEATHER PARTLY CLOUDY,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	9.02	33.62	26.06	196.2	0
10	9.02	33.62	26.06	196.2	.020
20	9.02	33.62	26.06	196.2	.039
30	9.07	33.62	26.05	197.0	.059
50	9.15	33.64	26.05	196.7	.099
75	9.18	33.66	26.06	195.7	.148
100	9.20	33.67	26.07	195.3	.197
125	9.47	33.99	26.27	175.7	.244
150	9.27	34.02	26.33	170.4	.288
200	8.61	33.96	26.39	164.9	.373
250	8.20	33.99	26.47	156.7	.456
300	7.41	33.98	26.58	146.5	.534
400	5.96	33.95	26.75	130.4	.677
500	4.79	33.95	26.89	117.2	.806
600	4.18	34.04	27.03	104.2	.922
700	3.90	34.13	27.13	94.6	1.027
800	3.69	34.21	27.21	86.6	1.124
1000	3.24	34.32	27.34	74.2	1.298
1200	2.89	34.39	27.43	65.9	1.453
1500	2.42	34.48	27.54	55.2	1.657

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
19				BOREAS EXPEDITION			19

ARGO, FEBRUARY 2 1966, 1506 1411 1551 GCT, 41 57N 165 05W, SOUNDING 2530 FM, WIND 010 FORCE 1, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 12.

0	9.32	33.695	6.46	0.67	6	6	195.2
29	9.50	33.746	6.25	0.64	5	6	194.2
59	9.64	33.793	6.39	0.62	5	7	193.0
93	9.70	33.814	6.42	0.63	5	7	192.3
117	9.73	33.823	6.42	0.63	4	6	192.2
151	9.99	34.024	5.87	0.84	10	9	181.4
174	9.40	34.083	5.78	1.00	15	11	167.7
199	9.20	34.080	5.77	1.02	15	14	164.9
233	8.66	34.016	5.83	1.07	17	14	161.5
257	8.46	34.010	5.52	1.20	19	15	159.0
290	8.08	34.017	5.08	1.41	25	18	153.0
347	7.20	34.012	4.21	1.79	36	20	141.3
468	5.11	33.974	2.81	2.55	59	29	118.8
578	4.42	34.035	2.02	2.83	78	36	106.9
751	3.84	34.177	1.07	3.03	92	42	90.5
914	3.43	34.305	.72	3.23	115	44	77.1
1132	2.96	34.399	.47	3.24	130	43	65.8
1360	2.61	34.468	.41	3.28	141	42	57.7
1694	2.23	34.538	.76	3.28	151	41	49.3

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD
					193.8	0
10	9.35	33.71	6.41	26.07	194.6	.019
20	9.41	33.74	6.29	26.09	193.3	.039
30	9.52	33.77	6.25	26.09	192.8	.058
50	9.57	33.77	6.38	26.08	193.6	.097
75	9.68	33.80	6.41	26.09	193.1	.146
100	9.70	33.82	6.42	26.10	191.9	.194
125	9.73	33.83	6.39	26.10	191.6	.243
150	9.91	33.98	5.88	26.19	183.4	.290
200	9.16	34.06	5.77	26.38	165.7	.379
250	8.61	34.02	5.68	26.43	160.5	.463
300	8.12	34.02	4.94	26.51	153.4	.544
400	6.27	33.98	3.58	26.73	131.9	.692
500	4.96	33.99	2.57	26.90	116.0	.821
600	4.38	34.07	1.89	27.03	103.9	.936
700	4.01	34.15	1.30	27.13	94.2	1.041
800	3.75	34.23	.94	27.22	85.7	1.138
1000	3.26	34.35	.62	27.36	72.1	1.309
1200	2.86	34.43	.45	27.46	62.6	1.458
1500	2.42	34.51	.57	27.57	52.9	1.655

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
20			BOREAS EXPEDITION		21

ARGO, FEBRUARY 3 1966, 0700 0706 GCT, 42 07N 168 08W, SOUNDING 2616 FM, WIND 190 FORCE 4, WEATHER MISSING, SEA MODERATE.

0	10.17	33.99	26.16	186.8	0
10	10.17	33.99	26.16	186.8	.019
20	10.17	33.99	26.16	186.8	.037
30	10.17	33.99	26.16	186.8	.056
50	10.22	34.00	26.15	186.9	.094
75	10.22	34.00	26.15	186.9	.141
100	10.24	34.00	26.15	187.2	.188
125	10.24	34.01	26.16	186.5	.235
150	10.26	34.01	26.16	186.8	.283
200	8.75	33.99	26.39	164.8	.372
250	8.19	34.01	26.49	155.1	.454
300	7.66	34.01	26.57	147.7	.532
400	5.80	33.96	26.78	127.7	.675
500	4.82	34.00	26.93	113.7	.801
600	4.31	34.09	27.05	101.7	.914
700	3.88	34.18	27.17	90.7	1.016
800	3.64	34.26	27.26	82.4	1.108
1000	3.27	34.36	27.37	71.5	1.276
1200	2.86	34.43	27.46	62.6	1.424
1500	2.43	34.51	27.57	53.0	1.621

ARGO, FEBRUARY 3 1966, 1805 GCT, 42 21N 170 36W, SOUNDING 2664 FM, WIND 190 FORCE 6, WEATHER OVERCAST, SEA VERY ROUGH.

0	9.95	33.80	26.04	197.4	0
10	9.95	33.80	26.04	197.4	.020
20	9.95	33.80	26.04	197.4	.040
30	9.95	33.80	26.04	197.4	.059
50	9.95	33.80	26.04	197.4	.099
75	9.95	33.80	26.04	197.4	.149
100	9.95	33.80	26.04	197.4	.198
125	10.04	33.87	26.08	193.6	.248
150	9.60	34.12	26.35	168.1	.294
200	8.93	34.10	26.45	159.3	.377
250	8.43	34.09	26.52	152.6	.457
300	7.50	34.02	26.60	144.8	.534
400	6.27	34.00	26.75	130.4	.677
500	5.04	34.03	26.92	113.9	.804
600	4.28	34.11	27.07	99.9	.917
700	3.90	34.18	27.17	90.9	1.018
800	3.67	34.25	27.25	83.4	1.111
1000	3.20	34.36	27.38	70.8	1.279
1200	2.81	34.43	27.47	62.2	1.426
1500	2.40	34.52	27.58	52.0	1.620

22			BOREAS EXPEDITION		23

ARGO, FEBRUARY 3 1966, 2115 2121 GCT, 42 19N 171 08W, SOUNDING 2666 FM, WIND 330 FORCE 2, WEATHER CLOUDY, SEA ROUGH.

0	10.40	33.95	26.08	193.6	0
10	10.40	33.95	26.08	193.6	.019
20	10.40	33.95	26.08	193.6	.039
30	10.40	33.95	26.08	193.6	.058
50	10.40	33.95	26.08	193.6	.097
75	10.40	33.95	26.08	193.6	.146
100	10.47	33.97	26.09	193.2	.195
125	10.63	34.01	26.09	193.0	.243
150	10.30	34.16	26.27	176.4	.290
200	8.85	34.08	26.44	159.6	.376
250	8.33	34.07	26.52	152.7	.456
300	7.20	33.99	26.62	143.0	.532
400	5.87	34.01	26.81	124.8	.671
500	4.77	34.05	26.97	109.5	.793
600	4.21	34.13	27.09	97.7	.902
700	3.85	34.19	27.18	89.6	1.002
800	3.62	34.26	27.26	82.2	1.094
1000	3.15	34.38	27.40	68.9	1.258
1200	2.76	34.45	27.49	60.3	1.401
1500	2.36	34.53	27.59	51.0	1.591

ARGO, FEBRUARY 4 1966, 1252 1301 GCT, 42 16N 174 52W, SOUNDING 3116 FM, WIND 290 FORCE 4, WEATHER MISSING, SEA ROUGH.

0	9.14	33.69	26.09	192.9	0
10	9.14	33.69	26.09	192.9	.019
20	9.14	33.69	26.09	192.9	.039
30	9.14	33.69	26.09	192.9	.058
50	9.15	33.69	26.09	193.0	.097
75	9.15	33.69	26.09	193.0	.145
100	9.15	33.69	26.09	193.0	.194
125	9.15	33.69	26.09	193.0	.243
150	9.24	34.07	26.37	166.2	.288
200	8.16	34.01	26.49	154.7	.370
250	7.55	33.97	26.55	149.2	.448
300	6.68	33.94	26.65	140.0	.522
400	5.52	33.98	26.83	123.0	.658
500	4.62	34.04	26.98	108.6	.779
600	4.21	34.11	27.08	99.2	.888
700	3.88	34.21	27.19	88.4	.988
800	3.66	34.29	27.28	80.3	1.078
1000	3.14	34.39	27.41	68.0	1.240
1200	2.78	34.47	27.50	58.9	1.381
1500	2.35	34.54	27.60	50.1	1.567

STANDARD LEVELS OF DEPTH

INPUT Z	T	S	SIG*T	COMPUTED D*T	DD

ARGO, FEBRUARY 5 1966, 0245 0259 GCT, 42 19N 178 17W,
SOUNDING 2763 FM, WIND 210 FORCE 5, WEATHER OVERCAST,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	9.17	33.88	26.24	179.2	0
10	9.19	33.88	26.23	179.5	.018
20	9.19	33.88	26.23	179.5	.036
30	9.19	33.88	26.23	179.5	.054
50	9.19	33.88	26.23	179.5	.090
75	9.19	33.88	26.23	179.5	.135
100	9.19	33.88	26.23	179.5	.180
125	9.19	33.88	26.23	179.5	.226
150	9.30	33.91	26.24	179.0	.271
200	9.08	34.11	26.43	160.8	.358
250	8.33	34.05	26.50	154.1	.439
300	7.40	33.99	26.59	145.6	.516
400	6.12	33.98	26.75	130.0	.659
500	4.97	34.03	26.93	113.1	.786
600	4.31	34.09	27.05	101.7	.899
700	3.95	34.18	27.16	91.4	1.001
800	3.60	34.26	27.26	82.0	1.094
1000	3.23	34.37	27.38	70.4	1.259
1200	2.81	34.44	27.48	61.4	1.406
1500	2.41	34.52	27.58	52.1	1.599

ARGO, FEBRUARY 5 1966, 1653 1749 GCT, 42 21N 178 14E,
SOUNDING 2877 FM, WIND 200 FORCE 7, WEATHER OVERCAST,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	9.51	33.98	26.26	177.1	0
10	9.56	34.00	26.27	176.4	.018
20	9.58	34.00	26.26	176.7	.035
30	9.60	34.00	26.26	177.0	.053
50	9.68	34.02	26.26	176.8	.089
75	9.77	34.06	26.28	175.2	.133
100	9.77	34.05	26.27	176.0	.177
125	9.82	34.05	26.26	176.8	.222
150	9.88	34.08	26.27	175.5	.267
200	8.93	34.10	26.45	159.3	.352
250	8.38	34.09	26.52	151.9	.432
300	7.31	34.03	26.63	141.5	.508
400	5.82	34.00	26.81	125.0	.646
500	4.77	34.04	26.96	110.2	.768
600	4.09	34.13	27.11	96.5	.877
700	3.81	34.21	27.20	87.8	.975
800	3.61	34.25	27.25	82.9	1.066
1000	3.17	34.36	27.38	70.6	1.233
1200	2.83	34.43	27.47	62.4	1.380
1500	2.37	34.51	27.57	52.6	1.575

ARGO, FEBRUARY 6 1966, 0851 0900 GCT, 42 23N 174 40E,
SOUNDING 3014 FM, WIND 330 FORCE 1, WEATHER RAIN,
SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	6.20	33.25	26.17	185.6	0
10	6.20	33.26	26.18	184.8	.019
20	6.20	33.29	26.20	182.6	.037
30	6.23	33.30	26.20	182.2	.055
50	6.32	33.33	26.22	181.1	.092
75	6.43	33.35	26.22	180.9	.137
100	6.45	33.36	26.22	180.4	.183
125	8.15	33.92	26.42	161.2	.226
150	7.08	33.91	26.57	147.4	.265
200	6.63	33.90	26.62	142.3	.338
250	6.33	33.91	26.67	137.8	.410
300	5.78	33.94	26.76	129.0	.479
400	4.44	33.94	26.92	114.3	.604
500	4.15	34.05	27.04	103.1	.717
600	3.93	34.17	27.16	91.9	.819
700	3.55	34.24	27.25	83.1	.912
800	3.34	34.31	27.33	75.9	.997
1000	2.87	34.41	27.45	64.2	1.149
1200	2.59	34.47	27.52	57.3	1.284
1500	2.27	34.54	27.60	49.5	1.465

ARGO, FEBRUARY 7 1966, 0245 0251 GCT, 42 10N 170 13E,
SOUNDING 1590 FM, WIND 270 FORCE 4, WEATHER PARTLY CLOUDY,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	6.97	33.54	26.30	173.5	0
10	6.97	33.54	26.30	173.5	.017
20	6.97	33.55	26.30	172.8	.035
30	6.97	33.55	26.30	172.8	.052
50	7.02	33.57	26.31	171.9	.087
75	7.17	33.61	26.32	170.9	.130
100	7.27	33.63	26.32	170.7	.173
125	7.30	33.65	26.34	169.6	.216
150	7.90	33.83	26.39	164.4	.258
200	7.47	33.97	26.56	148.1	.338
250	6.92	33.98	26.65	140.0	.411
300	6.16	33.92	26.70	135.0	.482
400	4.48	33.89	26.88	118.5	.613
500	4.17	34.02	27.01	105.6	.729
600	4.00	34.15	27.13	94.1	.833
700	3.74	34.23	27.22	85.6	.929
800	3.49	34.29	27.29	78.7	1.017
1000	3.01	34.39	27.42	66.9	1.175
1200	2.73	34.46	27.50	59.3	1.315
1500	2.39	34.51	27.57	52.7	1.506

ARGO, FEBRUARY 7 1966, 0344 0351 GCT, 42 10N 170 15E,
SOUNDING 870 FM, WIND 250 FORCE 4, WEATHER MISSING,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	8.37	33.79	26.29	174.0	0
10	8.39	33.79	26.29	174.3	.017
20	8.39	33.80	26.29	173.6	.035
30	8.38	33.79	26.29	174.2	.052
50	8.45	33.81	26.29	173.7	.087
75	8.48	33.83	26.30	172.7	.131
100	8.63	33.86	26.30	172.6	.174
125	8.72	33.91	26.33	170.2	.218
150	8.82	34.01	26.39	164.3	.260
200	7.61	33.99	26.56	148.5	.340
250	6.74	33.93	26.63	141.5	.414
300	6.12	33.88	26.67	137.5	.486
400	5.26	33.96	26.84	121.5	.619
500	4.55	34.06	27.00	106.4	.738
600	4.02	34.16	27.14	93.5	.843
700	3.77	34.26	27.24	83.6	.937
800	3.47	34.31	27.31	77.0	1.024
1000	3.03	34.39	27.42	67.1	1.180
1200	2.68	34.46	27.50	58.8	1.320
1500	2.39	34.51	27.57	52.7	1.510

ARGO, FEBRUARY 7 1966, 0429 0439 GCT, 42 10N 170 17E,
SOUNDING 786 FM, WIND 260 FORCE 4, WEATHER OVERCAST,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	8.90	33.89	26.29	174.4	0
10	8.83	33.88	26.29	174.1	.017
20	8.83	33.88	26.29	174.1	.035
30	8.61	33.84	26.29	173.8	.052
50	8.59	33.85	26.30	172.8	.087
75	8.30	33.81	26.32	171.6	.130
100	8.23	33.79	26.31	172.0	.174
125	8.38	33.83	26.32	171.2	.217
150	8.95	34.05	26.40	163.3	.260
200	8.21	34.04	26.51	153.2	.340
250	7.29	33.96	26.58	146.4	.417
300	6.37	33.91	26.67	138.3	.490
400	5.23	33.98	26.86	119.7	.624
500	4.54	34.06	27.00	106.3	.741
600	4.13	34.15	27.12	95.4	.847
700	3.77	34.22	27.21	86.6	.944
800	3.47	34.27	27.28	80.1	1.033
1000	3.03	34.38	27.41	67.8	1.194

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
30				BOREAS EXPEDITION	
ARGO, FEBRUARY 7 1966, 0542 0550 GCT, 42 06N 170 23E, SOUNDING 945 FM, WIND 320 FORCE 5, WEATHER CLOUDY, SEA VERY ROUGH.					
0	9.38	34.01	26.30	172.8	0
10	9.38	34.01	26.30	172.8	.017
20	9.38	34.01	26.30	172.8	.035
30	9.38	34.01	26.30	172.8	.052
50	9.38	34.01	26.30	172.8	.087
75	9.38	34.01	26.30	172.8	.130
100	9.40	34.01	26.30	173.1	.174
125	9.35	34.05	26.34	169.4	.217
150	9.02	34.10	26.43	160.6	.259
200	7.93	34.02	26.54	150.7	.339
250	6.78	33.94	26.64	141.2	.413
300	6.20	33.92	26.70	135.5	.484
400	5.46	34.00	26.85	120.8	.617
500	4.53	34.07	27.01	105.4	.735
600	3.98	34.15	27.13	93.9	.839
700	3.63	34.21	27.22	86.1	.935
800	3.51	34.27	27.28	80.4	1.024
1000	3.04	34.38	27.41	67.9	1.185

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
31							BOREAS EXPEDITION
ARGO, FEBRUARY 7 1966, 1011 1103 1112 GCT, 42 33N 170 31E, SOUNDING 1980 FM, WIND 250 FORCE 6, WEATHER MISSING, SEA VERY ROUGH, WIRE ANGLE 20.							
2	8.38	33.783	6.58	0.94	16	11	174.7
30	8.39	33.782	6.55	0.96	16	11	174.9
56	8.34	33.785	6.55	0.96	16	11	174.0
87	8.40	33.782	6.50	0.96	13	11	175.1
109	8.38	33.784	-	0.97	14	10	174.6
141	8.40	33.783	6.56	0.95	16	10	175.0
163	9.29	34.121	5.51	1.14	18	12	163.2
185	8.57	34.087	5.37	1.30	21	15	154.9
221	7.95	34.018	5.35	1.40	25	16	151.1
238	7.26	33.943	5.44	1.47	25	17	147.3
268	6.90	33.915	5.40	1.54	30	18	144.6
320	6.37	33.911	4.78	1.79	38	21	138.2
428	5.26	33.960	3.04	2.46	60	26	121.5
526	4.58	34.039	2.24	2.76	76	32	108.3
681	3.96	34.149	1.42	2.98	94	33	93.8
829	3.45	34.283	.76	3.19	112	37	78.9
1029	2.98	34.375	.78	3.15	121	42	67.8
1246	2.63	34.449	.78	3.23	136	42	59.3
1579	2.32	34.521	1.12	3.15	144	36	51.3

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD
31					BOREAS EXPEDITION	31
0	9.07	33.94	6.58	26.30	173.3	0
10	9.07	33.94	6.57	26.30	173.3	.017
20	9.07	33.94	6.56	26.30	173.3	.035
30	9.07	33.94	6.55	26.30	173.3	.052
50	9.07	33.94	6.55	26.30	173.3	.087
75	9.24	33.98	6.51	26.30	172.9	.130
100	9.44	34.02	-	26.30	173.0	.174
125	9.46	34.02	-	26.30	173.3	.218
150	9.55	34.09	6.38	26.34	169.5	.262
200	8.26	34.06	5.36	26.52	152.4	.344
250	7.07	33.94	5.43	26.60	145.0	.420
300	6.50	33.92	5.07	26.66	139.2	.493
400	5.68	33.99	3.46	26.82	124.1	.629
500	4.73	34.02	2.41	26.95	111.3	.752
600	4.16	34.12	1.84	27.09	97.9	.861
700	3.95	34.17	1.30	27.15	92.1	.962
800	3.58	34.27	.80	27.27	81.1	1.055
1000	3.02	34.38	.78	27.41	67.8	1.217
1200	2.68	34.45	.78	27.50	59.6	1.358
1500	2.31	34.52	1.04	27.58	51.3	1.546

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
32				BOREAS EXPEDITION	
ARGO, FEBRUARY 7 1966, 1527 1538 GCT, 43 00N 170 23E, SOUNDING 1074 FM, WIND 260 FORCE 4, WEATHER SNOW, SEA ROUGH.					
0	8.52	33.89	26.35	168.8	0
10	8.52	33.89	26.35	168.8	.017
20	8.52	33.89	26.35	168.8	.034
30	8.52	33.89	26.35	168.8	.051
50	8.53	33.89	26.34	168.9	.085
75	8.53	33.89	26.34	168.9	.127
100	8.56	33.89	26.34	169.4	.170
125	8.67	33.94	26.36	167.3	.212
150	8.61	33.95	26.38	165.7	.255
200	7.67	33.94	26.51	153.6	.336
250	6.45	33.87	26.62	142.3	.411
300	5.76	33.89	26.73	132.5	.482
400	5.14	34.00	26.89	117.2	.611
500	4.47	34.06	27.01	105.6	.727
600	4.03	34.15	27.13	94.4	.832
700	3.72	34.23	27.22	85.4	.927
800	3.45	34.28	27.29	79.1	1.015
1000	2.90	34.40	27.44	65.2	1.172
1200	2.60	34.46	27.51	58.2	1.309
1500	2.34	34.52	27.58	51.6	1.495

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
33					
ARGO, FEBRUARY 7 1966, 2107 2114 GCT, 43 58N 170 15E, SOUNDING 2340 FM, WIND 250 FORCE 3, WEATHER CLOUDY, SEA VERY ROUGH.					
0	5.27	33.27	26.30	173.4	0
10	5.27	33.27	26.30	173.4	.017
20	5.27	33.27	26.30	173.4	.035
30	5.27	33.28	26.30	172.7	.052
50	5.27	33.28	26.30	172.7	.087
75	5.27	33.28	26.30	172.7	.130
100	5.40	33.31	26.31	171.8	.173
125	4.93	33.49	26.51	153.2	.214
150	4.99	33.64	26.62	142.6	.252
200	4.91	33.71	26.69	136.5	.322
250	4.59	33.79	26.78	127.1	.389
300	4.28	33.81	26.83	122.5	.453
400	3.97	33.97	26.99	107.4	.571
500	3.82	34.09	27.10	96.9	.677
600	3.56	34.17	27.19	88.4	.774
700	3.45	34.25	27.27	81.4	.864
800	3.30	34.29	27.31	77.0	.948
1000	2.89	34.39	27.43	65.9	1.103
1200	2.56	34.46	27.52	57.9	1.240
1500	2.29	34.52	27.59	51.2	1.425

OBSERVED LEVELS OF DEPTH — INPUT / COMPUTED

Z	T	S	OXY	PHO	SIL	NIT	D*T

34 BOREAS EXPEDITION 34

ARGO, FEBRUARY 8 1966, 0404 0455 0530 0536 GCT, 45 00N 170 15E, SOUNDING 1218 FM, WIND 280 FORCE 5, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 16.

Z	T	S	OXY	PHO	SIL	NIT	D*T
0	4.51	33.258	7.18	1.33	27	10	166.3
30	4.50	33.256	7.00	1.34	27	11	166.3
58	4.51	33.258	7.12	1.32	28	12	166.3
92	4.52	33.262	7.14	1.35	28	16	166.1
116	4.50	33.258	7.17	1.35	28	14	166.2
150	4.60	33.295	7.09	1.38	29	16	164.4
174	4.90	33.611	6.14	1.63	38	20	143.8
199	4.84	33.673	5.63	1.78	43	23	138.5
232	4.58	33.750	4.20	2.25	61	22	130.0
257	4.13	33.775	3.40	2.59	74	29	123.6
291	4.02	33.811	2.94	2.62	80	31	119.8
348	3.96	33.932	2.17	2.86	94	35	110.1
469	3.86	34.114	1.46	3.02	114	39	95.5
579	3.50	34.177	.99	3.17	128	41	87.3
752	3.26	34.268	.73	3.15	141	41	78.3
915	3.02	34.351	.72	3.32	157	44	69.9
1158A	2.60	34.443	.85	3.29	168	35	59.5
1384A	2.35	34.505	1.10	3.29	169	39	52.8
1716A	2.12	34.560	1.46	3.22	169	–	46.8

STANDARD LEVELS OF DEPTH — INPUT / COMPUTED

Z	T	S	OXY	SIG*T	D*T	DD
0	4.53	33.28	7.18	26.39	164.8	0
10	4.53	33.28	7.02	26.39	164.8	.016
20	4.53	33.28	7.06	26.39	164.8	.033
30	4.53	33.28	7.00	26.39	164.8	.049
50	4.55	33.28	7.10	26.38	165.0	.083
75	4.55	33.28	7.13	26.38	165.0	.124
100	4.55	33.28	7.15	26.38	165.0	.165
125	4.55	33.28	7.15	26.38	165.0	.207
150	4.92	33.59	7.09	26.59	145.6	.246
200	4.74	33.71	5.60	26.70	134.7	.317
250	4.20	33.77	3.54	26.81	124.7	.383
300	3.99	33.83	2.84	26.88	118.1	.445
400	3.96	34.00	1.80	27.02	105.0	.559
500	3.83	34.12	1.30	27.13	94.7	.663
600	3.48	34.19	.92	27.22	86.2	.758
700	3.33	34.25	.75	27.28	80.3	.846
800	3.19	34.30	.72	27.33	75.3	.929
1000	2.86	34.41	.74	27.45	64.1	1.080
1200	2.56	34.46	.90	27.52	57.9	1.215
1500	2.27	34.52	1.26	27.59	51.0	1.399

STANDARD LEVELS OF DEPTH — INPUT / COMPUTED

Z	T	S	SIG*T	D*T	DD
0	4.10	33.22	26.38	165.1	0
10	4.10	33.22	26.38	165.1	.017
20	4.10	33.22	26.38	165.1	.033
30	4.10	33.22	26.38	165.1	.050
50	4.12	33.22	26.38	165.3	.083
75	4.12	33.22	26.38	165.3	.124
100	4.12	33.22	26.38	165.3	.166
125	5.08	33.64	26.61	143.6	.204
150	4.97	33.70	26.67	137.9	.240
200	4.56	33.76	26.76	129.1	.308
250	4.21	33.84	26.86	119.5	.371
300	3.99	33.88	26.92	114.3	.430
400	3.83	34.03	27.05	101.5	.541
500	3.57	34.13	27.16	91.5	.641
600	3.39	34.23	27.26	82.3	.732
700	3.24	34.29	27.32	76.5	.816
800	3.05	34.32	27.36	72.5	.896
1000	2.74	34.40	27.45	63.9	1.044

OBSERVED LEVELS OF DEPTH — INPUT / COMPUTED

Z	T	S	OXY	PHO	SIL	NIT	D*T

36 BOREAS EXPEDITION 36

ARGO, FEBRUARY 8 1966, 2118 2253 1852 1902 GCT, 46 59N 169 23E, SOUNDING 2190 FM, WIND 280 FORCE 7, WEATHER PARTLY CLOUDY, SEA VERY HIGH, WIRE ANGLE 30.

Z	T	S	OXY	PHO	SIL	NIT	D*T
1	2.61	32.934	7.54	1.77	41	17	173.7
26	2.62	32.923	7.45	1.79	–	–	174.6
52	2.62	32.922	7.48	1.79	40	17	174.7
82	2.62	32.925	7.45	1.79	–	–	174.5
103	2.44	32.971	7.35	1.92	43	20	169.6
132	2.53	33.262	5.78	2.26	–	–	148.2
153	2.86	33.509	3.22	2.83	–	–	125.4
175	2.86	33.650	2.86	2.91	89	31	121.5
204	3.14	33.772	2.01	3.10	–	–	114.7
226	3.28	33.815	1.58	3.20	103	–	112.7
255	3.32	33.866	1.38	3.20	–	30	109.2
311	3.43	33.945	.91	3.25	–	–	104.2
439A	3.42	34.159	.51	3.33	–	–	88.0
541A	3.23	34.216	.86U	3.24	143	38	82.0
706A	3.00	34.303	.65	3.24	–	–	73.4
860A	2.85	34.372	–	3.33	–	–	66.9
1065A	2.54	34.442	.63	3.36	174	40	59.1
1275A	2.29	34.503	.90	3.28	–	–	52.5
1589A	2.08	34.564	1.25	3.17	191	38	46.2

STANDARD LEVELS OF DEPTH — INPUT / COMPUTED

Z	T	S	OXY	SIG*T	D*T	DD
0	2.60	32.92	7.54	26.28	174.7	0
10	2.60	32.92	7.50	26.28	174.7	.017
20	2.60	32.92	7.46	26.28	174.7	.035
30	2.60	32.92	7.46	26.28	174.7	.052
50	2.60	32.92	7.48	26.28	174.7	.087
75	2.60	32.92	7.46	26.28	174.7	.131
100	2.60	32.92	7.39	26.28	174.7	.175
125	2.46	33.01	6.22	26.37	166.8	.218
150	2.55	33.37	3.60	26.65	140.2	.256
200	3.07	33.70	2.10	26.86	119.5	.322
250	3.45	33.86	1.42	26.96	110.8	.380
300	3.48	33.97	1.02	27.04	102.8	.434
400	3.47	34.09	.54	27.14	93.6	.535
500	3.40	34.16	–	27.20	87.7	.629
600	3.24	34.23	–	27.27	81.0	.717
700	3.10	34.29	.66	27.33	75.2	.800
800	2.92	34.35	–	27.40	69.2	.877
1000	2.66	34.42	.64	27.47	61.7	1.019
1200	2.42	34.48	.78	27.54	55.2	1.148
1500	2.17	34.54	1.16	27.61	48.7	1.324

A) CAST II.

STANDARD LEVELS OF DEPTH

	INPUT		COMPUTED		
Z	T	S	SIG*T	D*T	DD

37 BOREAS EXPEDITION

ARGO, FEBRUARY 9 1966, 0450 0500 GCT, 47 56N 169 02E,
SOUNDING 1560 FM, WIND 260 FORCE 6, WEATHER OVERCAST,
SEA HIGH.

0	2.40	33.20	26.52	151.9	0
10	2.40	33.20	26.52	151.9	.015
20	2.40	33.20	26.52	151.9	.030
30	2.40	33.20	26.52	151.9	.046
50	2.40	33.20	26.52	151.9	.076
75	2.40	33.20	26.52	151.9	.114
100	2.40	33.20	26.52	151.9	.152
125	2.44	33.24	26.55	149.2	.190
150	3.55	33.79	26.89	117.0	.223
200	3.61	33.93	27.00	107.0	.280
250	3.66	33.98	27.03	103.7	.334
300	3.69	34.05	27.08	98.7	.385
400	3.58	34.14	27.17	90.9	.483
500	3.42	34.23	27.25	82.6	.573
600	3.25	34.27	27.30	78.1	.657
700	3.02	34.33	27.37	71.5	.736
800	2.87	34.37	27.42	67.2	.811
1000	2.57	34.44	27.50	59.4	.948
1200	2.33	34.50	27.57	53.0	1.072
1500	2.07	34.55	27.63	47.2	1.242

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

38 BOREAS EXPEDITION

ARGO, FEBRUARY 9 1966, 1202 1029 1042 GCT, 48 51N 168 47E, SOUNDING 2036 FM, WIND 240 FORCE 4, WEATHER SNOW,
SEA ROUGH, WIRE ANGLE 20.

0	2.29	33.134	7.34	2.18	57	9	156.1
28	2.29	33.133	7.12	2.21	-	-	156.2
56	2.30	33.132	7.08	2.19	56	19	156.3
88	2.30	33.127	7.30	2.21	-	-	156.7
111	2.32	33.126	7.31	2.21	56	23	156.9
144	3.54	33.532	4.12	2.73	-	-	136.3
167	3.88	33.730	2.37	2.96	-	-	124.6
191	3.89	33.800	2.02	3.10	98	37	119.4
223	3.82	33.892	1.39	3.20	-	-	111.8
246	3.78	33.932	1.14	3.22	-	-	108.4
278	3.73	33.995	.82	3.29	113	32	103.2
334	3.66	34.064	.64	3.33	-	-	97.3
448	3.54	34.159	.52	3.34	-	-	89.1
552	3.38	34.228	.43	3.34	139	34	82.4
714	3.10	34.324	.39	3.34	-	-	72.7
867	2.86	34.403	.49	3.35	-	-	64.6
1073	2.56	34.467	.53	3.33	172	36	57.3
1289	2.31	34.511	.81	3.26	-	-	52.0
1624	2.00	34.576	1.29	3.20	189	36	44.7

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD

38

0	2.45	33.18	7.34	26.50	153.8	0
10	2.45	33.18	7.27	26.50	153.8	.015
20	2.45	33.18	7.20	26.50	153.8	.031
30	2.45	33.18	7.12	26.50	153.8	.046
50	2.45	33.18	7.09	26.50	153.8	.077
75	2.45	33.18	7.17	26.50	153.8	.115
100	2.56	33.19	7.30	26.50	153.9	.154
125	3.15	33.43	6.84	26.64	140.6	.191
150	3.96	33.72	3.52	26.80	126.1	.225
200	3.91	33.82	1.86	26.88	118.1	.286
250	3.81	33.94	1.11	26.99	108.1	.344
300	3.75	33.99	.72	27.03	103.8	.398
400	3.59	34.12	.56	27.15	92.5	.499
500	3.47	34.20	.48	27.23	85.3	.591
600	3.31	34.26	.40	27.29	79.4	.677
700	3.15	34.31	.39	27.34	74.2	.759
800	2.97	34.37	.45	27.41	68.1	.835
1000	2.65	34.42	.51	27.48	61.6	.976
1200	2.43	34.47	.70	27.53	56.1	1.106
1500	2.11	34.54	1.15	27.62	48.3	1.282

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	SIG*T	D*T	DD	

39 BOREAS EXPEDITION

ARGO, FEBRUARY 9 1966, 1655 1704 GCT, 49 26N 168 39E,
SOUNDING 2859 FM, WIND 240 FORCE 4, WEATHER SNOW,
SEA MODERATE.

0	2.17	33.17	26.52	152.5	0
10	2.17	33.17	26.52	152.5	.015
20	2.17	33.17	26.52	152.5	.031
30	2.17	33.17	26.52	152.5	.046
50	2.17	33.17	26.52	152.5	.076
75	2.17	33.18	26.52	151.7	.114
100	2.17	33.18	26.52	151.7	.152
125	2.17	33.18	26.52	151.7	.190
150	3.44	33.65	26.79	126.5	.225
200	3.77	33.93	26.98	108.5	.285
250	3.75	34.00	27.04	103.0	.339
300	3.69	34.06	27.09	97.9	.390
400	3.55	34.15	27.18	89.8	.486
500	3.43	34.22	27.24	83.5	.577
600	3.24	34.28	27.31	77.2	.661
700	3.09	34.33	27.36	72.1	.740
800	2.94	34.36	27.40	68.6	.815
1000	2.64	34.45	27.50	59.3	.954
1200	2.36	34.48	27.55	54.7	1.080
1500	2.07	34.55	27.63	47.2	1.253

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	SIG*T	D*T	DD	

40

ARGO, FEBRUARY 9 1966, 2127 2139 GCT, 50 08N 168 34E,
SOUNDING 2730 FM, WIND 010 FORCE 1, WEATHER PARTLY CLOUDY,
SEA ROUGH.

0	2.50	33.15	26.47	156.5	0
10	2.50	33.15	26.47	156.5	.016
20	2.50	33.15	26.47	156.5	.031
30	2.50	33.15	26.47	156.5	.047
50	2.50	33.15	26.47	156.5	.078
75	2.50	33.15	26.47	156.5	.117
100	2.80	33.42	26.67	138.4	.154
125	3.85	33.84	26.90	116.0	.186
150	3.84	33.90	26.95	111.4	.215
200	3.78	33.95	27.00	107.1	.270
250	3.73	34.02	27.06	101.3	.323
300	3.66	34.08	27.11	96.1	.374
400	3.53	34.16	27.19	88.9	.469
500	3.39	34.23	27.26	82.3	.558
600	3.24	34.27	27.30	78.0	.642
700	3.09	34.32	27.36	72.9	.722
800	2.94	34.35	27.39	69.3	.798
1000	2.63	34.43	27.49	60.7	.939
1200	2.35	34.50	27.56	53.2	1.065
1500	2.06	34.55	27.63	47.1	1.235

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
41				BOREAS EXPEDITION			41
ARGO, FEBRUARY 10 1966, 0254 0349 0427 0430 GCT, 50 59N 168 27E, SOUNDING 1820 FM, WIND 330 FORCE 3, WEATHER PARTLY CLOUDY, SEA MODERATE, WIRE ANGLE 11 19.							
0	2.44	33.170	7.17	2.29	56	24	154.5
31	2.42	33.173	6.96	2.31	-	-	154.1
60	2.40	33.174	7.14	2.31	57	24	153.9
95	2.42	33.171	7.17	2.32	-	-	154.3
120	2.44	33.183	7.07	2.35	57	32	153.5
153	3.88	33.836	1.32	3.25	-	-	116.6
177	3.82	33.887	1.10	3.29	-	-	112.2
201	3.75	33.937	.77	3.40	103	41	107.8
235	3.71	34.003	.51	3.43	-	-	102.4
261	3.69	34.030	.43	3.43	-	-	100.2
294	3.66	34.061	.41	3.43	116	37	97.6
352	3.60	34.117	.45	3.43	-	-	92.8
473	3.49	34.195	.43	3.39	-	-	85.9
584	3.28	34.264	.42	3.39	141	180	78.8
760	3.02	34.336	.46	3.39	-	-	71.1
894A	2.84	34.398	.42	3.34	-	-	64.9
1110A	2.52	34.465	.56	3.38	170	35	57.2
1332A	2.27	34.522	.81	3.29	-	-	50.9
1649A	2.00	34.575	1.25	3.24	180	35	44.8

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
41		BOREAS EXPEDITION			41
ARGO, FEBRUARY 10 1966, 0254 0349 0427 0430 GCT, 50 59N 168 27E, SOUNDING 1820 FM, WIND 330 FORCE 3, WEATHER PARTLY CLOUDY, SEA MODERATE, WIRE ANGLE 11 19.					
0	2.43	33.17	26.50	154.4	0
10	2.43	33.17	26.50	154.4	.015
20	2.43	33.17	26.50	154.4	.031
30	2.43	33.17	26.50	154.4	.046
50	2.43	33.17	26.50	154.4	.077
75	2.43	33.17	26.50	154.4	.116
100	2.43	33.17	26.50	154.4	.155
125	3.52	33.61	26.75	130.3	.190
150	3.87	33.86	26.92	114.7	.221
200	3.77	33.93	26.98	108.5	.278
250	3.73	34.00	27.04	102.8	.331
300	3.68	34.07	27.10	97.1	.383
400	3.57	34.16	27.18	89.3	.478
500	3.43	34.21	27.24	84.2	.569
600	3.27	34.25	27.28	79.8	.655
700	3.11	34.30	27.34	74.6	.736
800	2.94	34.33	27.38	70.8	.814
1000	2.69	34.41	27.46	62.7	.958
1200	2.43	34.46	27.53	56.8	1.090
1500	2.13	34.52	27.60	49.9	1.270

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
42		BOREAS EXPEDITION			43
ARGO, FEBRUARY 10 1966, 0942 0954 GCT, 51 35N 168 18E, SOUNDING 2052 FM, WIND 340 FORCE 4, WEATHER CLOUDY, SEA ROUGH.					
0	2.32	33.19	26.52	152.1	0
10	2.32	33.19	26.52	152.1	.015
20	2.32	33.19	26.52	152.1	.030
30	2.24	33.19	26.53	151.5	.046
50	2.18	33.19	26.53	151.1	.076
75	2.13	33.19	26.54	150.7	.114
100	2.13	33.19	26.54	150.7	.151
125	3.92	33.77	26.84	121.9	.186
150	3.86	33.87	26.92	113.8	.215
200	3.77	33.94	26.99	107.7	.271
250	3.73	34.00	27.04	102.8	.325
300	3.65	34.07	27.10	96.8	.376
400	3.53	34.16	27.19	88.9	.472
500	3.40	34.22	27.25	83.2	.561
600	3.25	34.26	27.29	78.8	.646
700	3.13	34.30	27.34	74.8	.727
800	2.94	34.34	27.39	70.1	.805
1000	2.71	34.41	27.46	62.9	.949
1200	2.42	34.47	27.54	56.0	1.080
1500	2.11	34.53	27.61	49.0	1.257

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
43		BOREAS EXPEDITION			43
ARGO, FEBRUARY 10 1966, 1215 1225 GCT, 52 02N 168 13E, SOUNDING 2030 FM, WIND 340 FORCE 6, WEATHER SNOW, SEA ROUGH.					
0	2.37	33.19	26.52	152.5	0
10	2.37	33.19	26.52	152.5	.015
20	2.37	33.19	26.52	152.5	.031
30	2.37	33.19	26.52	152.5	.046
50	2.37	33.19	26.52	152.5	.076
75	2.37	33.19	26.52	152.5	.114
100	3.63	33.69	26.80	125.3	.149
125	3.88	33.84	26.90	116.3	.180
150	3.84	33.87	26.93	113.7	.209
200	3.77	33.96	27.00	106.2	.264
250	3.73	34.02	27.06	101.3	.317
300	3.69	34.07	27.10	97.2	.368
400	3.57	34.16	27.18	89.3	.464
500	3.42	34.21	27.24	84.1	.554
600	3.27	34.26	27.29	79.0	.640
700	3.11	34.31	27.35	73.8	.720
800	2.93	34.35	27.39	69.2	.797
1000	2.65	34.41	27.47	62.4	.939
1200	2.40	34.47	27.54	55.8	1.070
1500	2.09	34.53	27.61	48.9	1.246

44		BOREAS EXPEDITION			45
ARGO, FEBRUARY 10 1966, 1502 1513 GCT, 52 20N 168 10E, SOUNDING 2343 FM, WIND 320 FORCE 6, WEATHER PARTLY CLOUDY, SEA VERY ROUGH.					
0	2.17	33.17	26.52	152.5	0
10	2.17	33.17	26.52	152.5	.015
20	2.17	33.17	26.52	152.5	.031
30	2.17	33.17	26.52	152.5	.046
50	2.17	33.17	26.52	152.5	.076
75	2.02	33.19	26.54	149.9	.114
100	2.36	33.34	26.64	141.0	.151
125	3.85	33.79	26.86	119.8	.183
150	3.88	33.84	26.90	116.3	.213
200	3.81	33.95	26.99	107.3	.270
250	3.74	34.02	27.06	101.4	.323
300	3.73	34.04	27.07	99.8	.374
400	3.57	34.14	27.17	90.8	.472
500	3.43	34.20	27.23	85.0	.564
600	3.25	34.27	27.30	78.1	.649
700	3.11	34.31	27.35	73.8	.730
800	2.95	34.35	27.39	69.4	.806
1000	2.66	34.41	27.47	62.5	.949
1200	2.42	34.46	27.53	56.7	1.080
1500	2.13	34.52	27.60	49.9	1.260

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
45		BOREAS EXPEDITION			45
ARGO, FEBRUARY 10 1966, 1909 1920 GCT, 52 41N 168 06E, SOUNDING 2574 FM, WIND 300 FORCE 5, WEATHER PARTLY CLOUDY, SEA VERY ROUGH.					
0	1.60	33.25	26.62	142.5	0
10	1.60	33.25	26.62	142.5	.014
20	1.60	33.25	26.62	142.5	.028
30	1.60	33.25	26.62	142.5	.043
50	1.60	33.25	26.62	142.5	.071
75	1.55	33.24	26.62	142.9	.107
100	1.40	33.24	26.63	141.9	.143
125	2.10	33.43	26.73	132.3	.177
150	3.73	33.85	26.92	114.1	.208
200	3.76	33.95	27.00	106.9	.264
250	3.73	34.03	27.06	100.6	.317
300	3.68	34.08	27.11	96.3	.367
400	3.55	34.15	27.18	89.8	.463
500	3.40	34.22	27.25	83.2	.553
600	3.24	34.27	27.30	78.0	.637
700	3.10	34.31	27.35	73.7	.718
800	2.93	34.35	27.39	69.2	.794
1000	2.65	34.41	27.47	62.4	.937
1200	2.41	34.45	27.52	57.4	1.068
1500	2.14	34.52	27.60	50.0	1.249

A) CAST II.

STANDARD LEVELS OF DEPTH

	INPUT		COMPUTED		
Z	T	S	SIG*T	D*T	DD

46 BOREAS EXPEDITION

ARGO, FEBRUARY 10 1966, 2323 2330 GCT, 53 13N 167 37E,
SOUNDING 2642 FM, WIND 280 FORCE 3, WEATHER CLOUDY,
SEA VERY ROUGH.

0	1.70	33.19	26.57	147.7	0
10	1.70	33.19	26.57	147.7	.015
20	1.70	33.19	26.57	147.7	.030
30	1.70	33.19	26.57	147.7	.044
50	1.70	33.19	26.57	147.7	.074
75	1.70	33.19	26.57	147.7	.111
100	1.83	33.23	26.59	145.5	.148
125	3.14	33.59	26.77	128.4	.182
150	3.72	33.80	26.88	117.8	.213
200	3.74	33.92	26.98	108.9	.270
250	3.74	33.99	27.03	103.7	.324
300	3.70	34.04	27.08	99.5	.376
400	3.54	34.14	27.17	90.5	.474
500	3.41	34.20	27.23	84.8	.565
600	3.26	34.26	27.29	78.9	.651
700	3.08	34.30	27.34	74.3	.732
800	2.92	34.34	27.39	69.9	.809
1000	2.66	34.41	27.47	62.5	.952
1200	2.43	34.45	27.52	57.6	1.084
1500	2.14	34.51	27.59	50.8	1.267

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
47							BOREAS EXPEDITION

ARGO, FEBRUARY 11 1966, 0436 0826 0257 0311 GCT, 53 43N 167 16E, SOUNDING 3570 FM, WIND 060 FORCE 5, WEATHER SNOW,
SEA ROUGH, WIRE ANGLE 23 18.

0	1.80	33.198	7.28	2.28	61	18	147.8
83	1.80	33.198	6.97	2.30	62	19	147.8
110	1.82	33.205	7.19	2.31	61	20	147.4
138	2.21	33.273	8.57U	2.40	65	22	145.0
166	3.80	33.744	2.20	3.05	94	27	122.8
203	3.82	33.856	1.45	3.24	101	33	114.5
239	3.79	33.932	.97	3.33	107	31	108.5
275	3.77	33.987	.69	3.33	111	35	104.2
322	3.71	34.038	.48	3.37	117	32	99.8
368	3.67	34.078	.42	3.40	122	39	96.4
414	3.60	34.123	.43	3.38	129	31	92.3
459	3.54	34.157	.41	3.36	133	34	89.2
643	3.28	34.270	.38	3.41	146	32	78.3
828	2.99	34.348	.42	3.35	157	33	69.9
1107	2.61	34.438	.44	3.33	173	31	59.9
1389	2.31	34.510	.83	3.33	186	32	52.1
1672	2.05	34.561	1.26	3.18	187	33	46.2
1961	1.89	34.604	1.65	3.10	188	29	41.8
2347	1.74	34.633	2.16	3.09	187	28	38.5
2459A	1.70	34.635	2.25	2.97	189	28	38.1
2759A	1.65	34.647	2.61	2.90	184	28	36.8
2840	1.65	34.656	2.56	2.92	183	27	36.1
3049A	1.59	34.657	2.83	2.85	179	26	35.6
3193A	1.57	34.664	3.01	2.82	176	26	34.9
3339A	1.56	34.665	3.12	2.75	174	25	34.8
3483A	1.55	34.669	3.17	2.76	174	26	34.4
3627A	1.55	34.672	3.32	2.78	173	26	34.2
3772A	1.53	34.672	3.35	2.71	168	26	34.1
3917A	1.52	34.677	3.37	2.72	172	26	33.6
4496A	1.56	34.685	3.63	2.67	168	25	33.3
4978A	1.56	34.679	3.60	2.77	141	25	33.7
5561A	1.63	34.690	3.80	2.61	162	25	33.4
6145A	1.70	34.691	3.74	2.62	160	24	33.8
6645A	1.78	34.688	3.85	2.58	160	24	34.6

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD
						47
0	1.82	33.21	7.28	26.57	147.0	0
10	1.82	33.21	7.24	26.57	147.0	.015
20	1.82	33.21	7.20	26.57	147.0	.029
30	1.82	33.21	7.16	26.57	147.0	.044
50	1.82	33.21	7.08	26.57	147.0	.074
75	1.82	33.21	6.99	26.57	147.0	.110
100	1.82	33.21	7.11	26.57	147.0	.147
125	2.26	33.31	-	26.62	142.6	.183
150	3.71	33.73	-	26.83	123.0	.217
200	3.82	33.85	1.51	26.91	115.0	.277
250	3.81	33.93	.90	26.98	108.8	.334
300	3.75	34.00	.59	27.04	103.0	.388
400	3.65	34.10	.43	27.13	94.5	.489
500	3.51	34.16	.40	27.19	88.7	.584
600	3.33	34.24	.38	27.27	81.1	.673
700	3.15	34.28	.40	27.32	76.4	.757
800	3.00	34.32	.41	27.36	72.1	.836
1000	2.76	34.38	.43	27.43	65.5	.985
1200	2.45	34.44	.57	27.51	58.5	1.121
1500	2.14	34.51	1.01	27.59	50.8	1.305
2000	1.87	34.61	1.69	27.69	41.2	1.573
2500	1.69	34.64	2.33	27.73	37.6	1.812
3000	1.60	34.66	2.87	27.75	35.5	2.043
4000	1.52	34.68	3.25	27.77	33.4	2.499
5000	1.57	34.69	3.70	27.78	33.0	2.969
6000	1.68	34.69	3.80	27.77	33.7	3.477

A) OVERLAPPING CASTS, INTERPOLATION ABOVE 2000 METERS FROM STD RECORDING.

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

48 BOREAS EXPEDITION

ARGO, FEBRUARY 11 1966, 1443 1455 GCT, 54 00N 166 29E,
SOUNDING 3118 FM, WIND 110 FORCE 7, WEATHER RAIN,
SEA VERY ROUGH.

0	1.73	33.19	26.57	147.9	0
10	1.73	33.19	26.57	147.9	.015
20	1.73	33.19	26.57	147.9	.030
30	1.73	33.19	26.57	147.9	.044
50	1.73	33.19	26.57	147.9	.074
75	1.73	33.19	26.57	147.9	.111
100	1.96	33.21	26.56	148.0	.148
125	3.40	33.62	26.77	128.4	.183
150	3.81	33.78	26.86	120.1	.214
200	3.82	33.89	26.94	112.0	.273
250	3.79	33.96	27.00	106.4	.328
300	3.72	34.01	27.05	102.0	.381
400	3.59	34.12	27.15	92.5	.481
500	3.47	34.18	27.21	86.8	.574
600	3.30	34.24	27.27	80.8	.662
700	3.15	34.28	27.32	76.4	.745
800	2.99	34.33	27.37	71.3	.824
1000	2.71	34.39	27.45	64.4	.971
1200	2.43	34.44	27.51	58.3	1.106
1500	2.15	34.50	27.58	51.6	1.291

49

ARGO, FEBRUARY 11 1966, 1838 1851 GCT, 54 16N 165 44E,
SOUNDING 2972 FM, WIND 100 FORCE 8, WEATHER RAIN,
SEA VERY ROUGH.

0	1.00	33.22	26.64	141.0	0
10	1.00	33.22	26.64	141.0	.014
20	1.00	33.22	26.64	141.0	.028
30	1.00	33.22	26.64	141.0	.042
50	1.00	33.23	26.65	140.3	.070
75	1.00	33.23	26.65	140.3	.106
100	2.83	33.65	26.85	121.3	.138
125	3.70	33.85	26.92	113.8	.168
150	3.76	33.90	26.96	110.6	.196
200	3.71	33.97	27.02	104.9	.251
250	3.69	34.04	27.08	99.4	.303
300	3.65	34.07	27.10	96.8	.353
400	3.53	34.15	27.18	89.7	.449
500	3.37	34.22	27.25	82.9	.538
600	3.22	34.27	27.30	77.8	.623
700	3.07	34.31	27.35	73.5	.703
800	2.95	34.34	27.39	70.2	.780
1000	2.61	34.41	27.47	62.0	.923
1200	2.40	34.46	27.53	56.6	1.053
1500	2.11	34.52	27.60	49.8	1.232

50 BOREAS EXPEDITION

ARGO, FEBRUARY 11 1966, 2217 2225 GCT, 54 36N 164 59E,
SOUNDING 2310 FM, WIND 250 FORCE 3, WEATHER RAIN,
SEA VERY ROUGH.

0	.69	33.18	26.62	142.3	0
10	.69	33.18	26.62	142.3	.014
20	.69	33.18	26.62	142.3	.028
30	.69	33.18	26.62	142.3	.043
50	.69	33.18	26.62	142.3	.071
75	.69	33.18	26.62	142.3	.107
100	.70	33.18	26.62	142.4	.142
125	3.38	33.78	26.90	116.2	.175
150	3.67	33.84	26.92	114.3	.204
200	3.71	33.95	27.00	106.4	.260
250	3.69	34.02	27.06	100.9	.312
300	3.62	34.07	27.11	96.5	.363
400	3.47	34.16	27.19	88.4	.458
500	3.33	34.21	27.25	83.3	.547
600	3.18	34.26	27.30	78.2	.632
700	3.02	34.31	27.35	73.0	.712
800	2.86	34.36	27.41	67.9	.787
1000	2.64	34.41	27.47	62.3	.928
1200	2.36	34.46	27.53	56.3	1.058
1500	2.07	34.53	27.61	48.7	1.235

51 BOREAS EXPEDITION

ARGO, FEBRUARY 12 1966, 0303 0148 0155 GCT, 54 59N 164 07E, SOUNDING 2540 FM, WIND 220 FORCE 5, WEATHER PARTLY CLOUDY,
SEA VERY ROUGH, WIRE ANGLE 20.

1	1.16	33.224	7.41	2.32	60	20	141.7
30	1.14	33.225	7.31	2.34	-	-	141.5
58	1.12	33.227	7.40	2.35	60	21	141.2
92	1.27	33.260	6.99	2.41	-	-	139.6
116	3.11	33.594	3.17	2.96	85	29	127.9
150	3.61	33.769	1.69	3.19	-	-	119.1
174	3.74	33.851	1.23	3.29	-	-	114.1
198	3.74	33.925	.91	3.37	108	34	108.6
231	3.72	33.963	.70	3.37	-	-	105.5
255	3.70	33.998	.60	3.39	-	-	102.7
288	3.69	34.057	.49	3.42	117	35	98.1
347	3.64	34.104	.42	3.42	-	-	94.1
468	3.45	34.193	.36	3.47	-	-	85.7
579	3.24	34.267	.32	3.42	143	33	78.2
756	3.01	34.345	.36	3.40	-	-	70.3
920	2.78	34.411	.42	3.42	-	-	63.4
1140	2.46	34.467	.57	3.37	175	32	56.5
1365	2.25	34.519	.82	3.34	-	-	50.9
1701	2.00	34.577	1.38	3.24	183	31	44.6

0	1.15	33.23	7.41	26.64	141.1	0
10	1.15	33.23	7.37	26.64	141.1	.014
20	1.15	33.23	7.33	26.64	141.1	.028
30	1.15	33.23	7.31	26.64	141.1	.042
50	1.11	33.23	7.37	26.64	140.9	.071
75	1.19	33.26	7.30	26.66	139.1	.106
100	3.20	33.62	6.35	26.79	126.7	.139
125	3.52	33.70	2.63	26.82	123.5	.170
150	3.67	33.79	1.69	26.88	118.1	.201
200	3.73	33.91	.90	26.97	109.6	.258
250	3.72	33.99	.64	27.03	103.5	.313
300	3.70	34.04	.48	27.08	99.5	.364
400	3.54	34.18	.40	27.20	87.5	.461
500	3.37	34.25	.36	27.27	80.7	.548
600	3.21	34.30	.34	27.33	75.5	.630
700	3.08	34.34	.38	27.37	71.3	.708
800	2.92	34.38	.40	27.42	66.9	.782
1000	2.65	34.44	.49	27.49	60.1	.920
1200	2.38	34.49	.63	27.55	54.1	1.046
1500	2.07	34.54	.98	27.62	48.0	1.219

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

52 BOREAS EXPEDITION

ARGO, FEBRUARY 12 1966, 0852 0901 GCT, 55 08N 163 17E,
SOUNDING 2468 FM, WIND 110 FORCE 3, WEATHER SNOW,
SEA MODERATE.

Z	T	S	SIG*T	D*T	DD
0	.20	33.10	26.59	145.9	0
10	.20	33.10	26.59	145.9	.015
20	.22	33.10	26.59	146.0	.029
30	.22	33.10	26.59	146.0	.044
50	.22	33.10	26.59	146.0	.073
75	.23	33.11	26.59	145.3	.109
100	.25	33.11	26.59	145.4	.146
125	.25	33.11	26.59	145.4	.182
150	.63	33.22	26.66	138.9	.217
200	3.70	33.75	26.84	121.4	.283
250	3.78	33.86	26.92	113.8	.343
300	3.76	33.93	26.98	108.4	.399
400	3.61	34.08	27.12	95.7	.504
500	3.48	34.18	27.21	86.9	.599
600	3.34	34.23	27.26	81.9	.687
700	3.19	34.29	27.32	76.0	.771
800	3.06	34.34	27.38	71.1	.849
1000	2.75	34.41	27.46	63.2	.995
1200	2.52	34.46	27.52	57.5	1.128
1500	2.19	34.53	27.60	49.6	1.310

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

53

ARGO, FEBRUARY 12 1966, 1144 1154 GCT, 55 18N 162 45E,
SOUNDING 2350 FM, WIND 330 FORCE 3, WEATHER MISSING,
SEA MODERATE.

Z	T	S	SIG*T	D*T	DD
0	-1.66	32.63	26.27	175.6	0
10	-1.53	32.64	26.28	175.1	.018
20	-1.45	32.67	26.30	173.0	.035
30	-1.27	32.72	26.34	169.6	.052
50	-.86	32.80	26.39	164.7	.085
75	-.28	32.92	26.46	157.6	.126
100	-.25	32.92	26.46	157.7	.165
125	-.20	32.94	26.48	156.4	.204
150	-.14	32.94	26.47	156.6	.243
200	-.11	32.94	26.47	156.8	.321
250	.10	32.98	26.49	154.6	.399
300	.16	32.99	26.50	154.1	.476
400	.50	33.09	26.56	148.2	.626
500	1.38	33.26	26.65	140.3	.770
600	3.03	33.66	26.84	122.2	.903
700	3.68	34.01	27.05	101.6	1.020
800	3.54	34.12	27.15	92.0	1.122
1000	3.20	34.28	27.31	76.9	1.304
1200	2.83	34.38	27.43	66.1	1.461
1500	2.33	34.49	27.56	53.8	1.663

54 BOREAS EXPEDITION

ARGO, FEBRUARY 12 1966, 1436 1447 GCT, 55 21N 163 02E,
SOUNDING 2320 FM, WIND 350 FORCE 3, WEATHER MISSING,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	-1.10	32.78	26.38	165.5	0
10	-1.10	32.78	26.38	165.5	.017
20	-1.10	32.78	26.38	165.5	.033
30	-1.10	32.78	26.38	165.5	.050
50	-.96	32.80	26.39	164.3	.083
75	-.31	32.95	26.49	155.2	.122
100	-.01	32.96	26.48	155.7	.161
125	.13	32.99	26.50	154.0	.200
150	.09	33.00	26.51	153.1	.238
200	.36	33.03	26.52	152.0	.314
250	.49	33.05	26.53	151.2	.390
300	.70	33.08	26.54	150.0	.465
400	.99	33.15	26.58	146.3	.613
500	2.33	33.45	26.73	132.5	.753
600	3.47	33.86	26.95	111.0	.878
700	3.62	34.08	27.12	95.8	.986
800	3.51	34.16	27.19	88.7	1.084
1000	3.15	34.30	27.33	74.9	1.260
1200	2.86	34.38	27.43	66.4	1.416

55

ARGO, FEBRUARY 12 1966, 2111 2119 GCT, 55 49N 164 30E,
SOUNDING 2274 FM, WIND 250 FORCE 3, WEATHER CLOUDY,
SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	.25	33.13	26.61	143.9	0
10	.25	33.13	26.61	143.9	.014
20	.26	33.13	26.61	143.9	.029
30	.26	33.13	26.61	143.9	.043
50	.26	33.13	26.61	143.9	.072
75	.27	33.14	26.61	143.2	.108
100	.27	33.14	26.61	143.2	.144
125	2.56	33.58	26.81	124.4	.177
150	3.71	33.76	26.85	120.7	.208
200	3.79	33.86	26.92	113.9	.267
250	3.73	33.96	27.01	105.8	.323
300	3.68	34.02	27.06	100.8	.376
400	3.54	34.14	27.17	90.5	.474
500	3.40	34.21	27.24	83.9	.565
600	3.24	34.27	27.30	78.0	.650
700	3.10	34.31	27.35	73.7	.730
800	2.96	34.35	27.39	69.5	.807
1000	2.68	34.42	27.47	61.9	.949
1200	2.41	34.48	27.54	55.1	1.078
1500	2.09	34.54	27.62	48.1	1.253

56 BOREAS EXPEDITION

ARGO, FEBRUARY 13 1966, 0112 0121 GCT, 56 11N 163 43E,
SOUNDING 1070 FM, WIND 280 FORCE 3, WEATHER CLOUDY,
SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	-1.19	32.81	26.41	162.9	0
10	-1.20	32.81	26.41	162.9	.016
20	-1.20	32.81	26.41	162.9	.033
30	-1.18	32.81	26.41	162.9	.049
50	-1.13	32.83	26.42	161.5	.081
75	-.88	32.86	26.44	160.0	.121
100	-.58	32.91	26.47	157.2	.161
125	-.26	32.98	26.51	153.1	.200
150	-.08	33.00	26.52	152.3	.238
200	.28	33.06	26.55	149.4	.313
250	0	33.10	26.60	145.0	.386
300	.51	33.21	26.66	139.1	.457
400	2.93	33.73	26.90	116.1	.585
500	3.68	34.02	27.06	100.8	.697
600	3.60	34.08	27.12	95.6	.799
700	3.45	34.18	27.21	86.7	.895
800	3.30	34.25	27.28	80.0	.984
1000	3.02	34.34	27.38	70.8	1.147

57

ARGO, FEBRUARY 13 1966, 0613 0621 GCT, 56 49N 163 48E,
SOUNDING 1617 FM, WIND 300 FORCE 3, WEATHER SNOW,
SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	.56	33.11	26.58	147.0	0
10	.57	33.11	26.57	147.0	.015
20	.58	33.11	26.57	147.1	.029
30	.60	33.11	26.57	147.2	.044
50	.60	33.11	26.57	147.2	.074
75	.62	33.11	26.57	147.3	.110
100	.64	33.11	26.57	147.4	.147
125	.63	33.12	26.58	146.6	.184
150	.66	33.12	26.58	146.7	.220
200	2.51	33.43	26.70	135.4	.291
250	3.73	33.74	26.83	122.4	.356
300	3.79	33.89	26.95	111.7	.416
400	3.70	34.02	27.06	101.0	.525
500	3.59	34.12	27.15	92.5	.625
600	3.44	34.20	27.23	85.1	.718
700	3.28	34.26	27.29	79.1	.805
800	3.14	34.31	27.34	74.1	.887
1000	2.86	34.38	27.43	66.4	1.039
1200	2.56	34.45	27.51	58.6	1.177
1500	2.21	34.52	27.59	50.5	1.362

STANDARD LEVELS OF DEPTH

INPUT Z	T	S	SIG*T	COMPUTED D*T	DD

58 BOREAS EXPEDITION

ARGO, FEBRUARY 13 1966, 1051 1135 GCT, 57 28N 163 57E,
SOUNDING 1634 FM, WIND 210 FORCE 3, WEATHER MISSING,
SEA MODERATE.

0	-1.19	32.93	26.50	153.7	0
10	-1.19	32.93	26.50	153.7	.015
20	-1.15	32.93	26.50	153.8	.031
30	-1.13	32.94	26.51	153.1	.046
50	-1.10	32.94	26.51	153.2	.077
75	-1.22	32.97	26.54	150.5	.115
100	-.59	33.01	26.55	149.5	.152
125	.56	33.12	26.58	146.2	.189
150	.75	33.15	26.60	144.9	.225
200	.66	33.18	26.63	142.2	.297
250	2.07	33.40	26.71	134.3	.366
300	3.23	33.64	26.80	125.4	.432
400	3.79	33.90	26.96	110.9	.552
500	3.64	34.06	27.10	97.5	.660
600	3.54	34.16	27.19	89.0	.758
700	3.40	34.22	27.25	83.2	.849
800	3.25	34.28	27.31	77.3	.934
1000	2.95	34.36	27.40	68.7	1.092
1200	2.64	34.43	27.48	60.8	1.235
1500	2.29	34.50	27.57	52.7	1.427

STANDARD LEVELS OF DEPTH

INPUT Z	T	S	SIG*T	COMPUTED D*T	DD

59

ARGO, FEBRUARY 13 1966, 1735 1747 GCT, 58 25N 164 21E,
SOUNDING 1740 FM, WIND 040 FORCE 4, WEATHER MISSING,
SEA ROUGH.

0	0	33.00	26.52	152.6	0
10	-.01	33.00	26.52	152.6	.015
20	.07	33.04	26.54	149.9	.030
30	.08	33.04	26.54	150.0	.045
50	.19	33.04	26.54	150.5	.075
75	.23	33.04	26.54	150.7	.113
100	.35	33.07	26.55	148.9	.150
125	.63	33.10	26.56	148.1	.187
150	.86	33.14	26.58	146.3	.224
200	1.13	33.20	26.61	143.3	.297
250	2.74	33.55	26.77	128.1	.365
300	3.78	33.78	26.86	119.9	.428
400	3.75	33.97	27.01	105.3	.543
500	3.63	34.08	27.11	95.9	.647
600	3.53	34.16	27.19	88.9	.744
700	3.37	34.24	27.27	81.4	.834
800	3.23	34.30	27.33	75.6	.918
1000	2.95	34.37	27.41	67.9	1.073
1200	2.63	34.44	27.49	59.9	1.214
1500	2.26	34.50	27.57	52.4	1.404

60 BOREAS EXPEDITION

ARGO, FEBRUARY 14 1966, 0117 GCT, 59 15N 165 40E,
SOUNDING 78 FM, WIND 340 FORCE 5, WEATHER SNOW,
SEA MODERATE.

0	-.15	32.98	26.51	153.5	0
10	-.03	32.99	26.51	153.3	.015
20	.02	33.00	26.51	152.7	.031
30	.04	33.00	26.51	152.8	.046
50	.07	33.00	26.51	153.0	.076
75	-.03	33.01	26.52	151.8	.115
100	-.03	33.01	26.52	151.8	.152
125	-.17	33.03	26.55	149.6	.190

OBSERVED LEVELS OF DEPTH

INPUT Z	T	S	OXY	PHO	SIL	NIT	COMPUTED D*T

61 BOREAS EXPEDITION

ARGO, FEBRUARY 14 1966, 0443 0349 GCT, 59 10N 166 21E, SOUNDING 490 FM, WIND 330 FORCE 5, WEATHER FOG, SEA ROUGH,
WIRE ANGLE 45.

1	.24	33.062A	7.49	2.16	53	17	149.0
74	.30	33.064	7.58	2.20	54	19	149.2
145	.40	33.084	7.65	2.20	53	20	148.1
220	2.12	33.367	5.08	2.55	74	21	137.2
312	3.66	33.808	1.71	3.14	106	26	116.6
416	3.74	33.990A	.78	3.33	113	-	103.7

STANDARD LEVELS OF DEPTH

INPUT Z	T	S	OXY	COMPUTED SIG*T	D*T	DD

61

0	.17	33.00	7.49	26.51	153.4	0
10	.17	33.00	7.50	26.51	153.4	.015
20	.17	33.00	7.52	26.51	153.4	.031
30	.17	33.00	7.54	26.51	153.4	.046
50	.18	33.00	7.56	26.51	153.5	.077
75	.22	33.00	7.58	26.50	153.7	.115
100	.38	33.02	7.60	26.51	152.9	.153
125	.51	33.04	7.62	26.52	152.0	.191
150	.62	33.05	7.57	26.52	151.9	.229
200	.93	33.12	6.12	26.56	148.2	.304
250	2.83	33.42	3.59	26.66	138.7	.376
300	3.67	33.71	2.03	26.82	124.1	.443
400	3.81	33.92	.78	26.97	109.6	.562
500	3.65	34.05	-	27.09	98.3	.670

A) SALINITY BOTTLE NUMBERS WERE NOT RECORDED ON THE DATA SHEET. SINCE STANDARD HANDLING PROCEDURES WERE USED, THESE SALINITY VALUES ARE ASSUMED TO BE IN THE CORRECT ORDER.

STANDARD LEVELS OF DEPTH

INPUT | COMPUTED

Z	T	S	SIG*T	D*T	DD

62 BOREAS EXPEDITION

ARGO, FEBRUARY 14 1966, 0805 0817 GCT, 59 00N 167 30E, SOUNDING 1310 FM, WIND 310 FORCE 4, WEATHER MISSING, SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	.62	33.14	26.60	145.0	0
10	.62	33.14	26.60	145.0	.014
20	.62	33.14	26.60	145.0	.029
30	.62	33.14	26.60	145.0	.043
50	.62	33.14	26.60	145.0	.072
75	.63	33.15	26.60	144.3	.109
100	.64	33.16	26.61	143.6	.145
125	1.38	33.30	26.68	137.2	.180
150	3.73	33.75	26.84	121.7	.212
200	3.82	33.88	26.94	112.7	.272
250	3.79	33.95	26.99	107.2	.327
300	3.74	34.00	27.04	102.9	.381
400	3.60	34.12	27.15	92.6	.481
500	3.47	34.19	27.22	86.1	.574
600	3.32	34.26	27.29	79.5	.661
700	3.19	34.30	27.33	75.3	.743
800	3.03	34.34	27.38	70.9	.821
1000	2.76	34.41	27.46	63.3	.967
1200	2.53	34.46	27.52	57.6	1.100
1500	2.25	34.52	27.59	50.9	1.284

STANDARD LEVELS OF DEPTH

INPUT | COMPUTED

Z	T	S	SIG*T	D*T	DD

63

ARGO, FEBRUARY 14 1966, 1325 1336 GCT, 58 40N 168 12E, SOUNDING 1840 FM, WIND 320 FORCE 3, WEATHER MISSING, SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	.84	33.16	26.60	144.7	0
10	.84	33.16	26.60	144.7	.014
20	.85	33.16	26.60	144.7	.029
30	.85	33.16	26.60	144.7	.043
50	.86	33.16	26.60	144.8	.072
75	.89	33.16	26.60	145.0	.109
100	.98	33.18	26.61	143.9	.145
125	3.53	33.68	26.81	125.1	.178
150	3.80	33.77	26.85	120.8	.209
200	3.86	33.90	26.95	111.6	.268
250	3.82	33.96	27.00	106.7	.324
300	3.77	34.03	27.06	100.9	.377
400	3.62	34.14	27.16	91.2	.476
500	3.42	34.21	27.24	84.1	.567
600	3.30	34.26	27.29	79.3	.652
700	3.17	34.31	27.34	74.3	.734
800	3.03	34.34	27.38	70.9	.812
1000	2.79	34.40	27.45	64.3	.958
1200	2.56	34.44	27.50	59.4	1.095
1500	2.26	34.50	27.57	52.4	1.283

OBSERVED LEVELS OF DEPTH

INPUT | COMPUTED

Z	T	S	OXY	PHO	SIL	NIT	D*T

64 BOREAS EXPEDITION

ARGO, FEBRUARY 14 1966, 1805 1636 1647 GCT, 58 21N 168 58E, SOUNDING 1900 FM, WIND 110 FORCE 3, WEATHER MISSING, SEA ROUGH; WIRE ANGLE 22.

Z	T	S	OXY	PHO	SIL	NIT	D*T
0	.56	33.126	7.71	2.12	55	23	145.7
83	.60	33.122	7.62	2.12	-	-	146.3
111	.58	33.126	7.57	2.12	56	22	145.8
143	.66	33.138	7.62	2.17	-	-	145.4
175	3.46	33.679	2.45	3.03	95	36	124.5
207	3.79	33.820	1.60	3.19	-	-	116.9
257	3.79	33.931	1.09	3.25	-	-	108.6
320	3.74	34.017	.76	3.33	118	31	101.6
392	3.66	34.078	.47	3.37	-	-	96.3
471	3.58	34.126	.47	3.38	-	-	91.9
560	3.43	34.187	.36	3.38	143	33	86.0
677	3.29	34.252	.34	3.35	-	-	79.8
791	3.15	34.292	.37	3.38	-	-	75.5
907	3.00	34.337	.37	3.38	164	34	70.8
1026	2.81	34.378	.38	3.35	-	-	66.1
1145	2.62	34.433	.49	3.35	-	-	60.4
1267	2.42	34.474	.56	3.34	194	32	55.7
1392	2.24	34.510	.73	3.31	-	-	51.5
1536	2.12	34.539	.87	3.29	211	31	48.4

STANDARD LEVELS OF DEPTH

INPUT | COMPUTED

Z	T	S	SIG*T	D*T	DD
0	.65	33.09	7.71	26.55	149.0	0
10	.65	33.09	7.70	26.55	149.0	.015
20	.65	33.09	7.68	26.55	149.0	.030
30	.66	33.09	7.67	26.55	149.0	.045
50	.66	33.09	7.65	26.55	149.0	.074
75	.67	33.09	7.63	26.55	149.1	.112
100	.67	33.09	7.59	26.55	149.1	.149
125	.68	33.09	7.59	26.55	149.1	.186
150	.96	33.19	7.36	26.62	143.1	.223
200	3.64	33.72	1.74	26.83	123.1	.290
250	3.80	33.87	1.13	26.93	113.3	.350
300	3.76	33.94	.86	26.99	107.6	.406
400	3.66	34.08	.47	27.11	96.1	.511
500	3.55	34.15	.44	27.18	89.8	.607
600	3.39	34.21	.35	27.24	83.9	.698
700	3.28	34.25	.35	27.28	79.8	.785
800	3.13	34.30	.37	27.34	74.8	.867
1000	2.90	34.36	.38	27.41	68.2	1.022
1200	2.49	34.45	.53	27.51	58.0	1.161
1500	2.07	34.53	.85	27.61	48.7	1.341

STANDARD LEVELS OF DEPTH

INPUT | COMPUTED

Z	T	S	SIG*T	D*T	DD

65 BOREAS EXPEDITION

ARGO, FEBRUARY 15 1966, 0019 0027 GCT, 57 51N 170 05E, SOUNDING 1284 FM, WIND 180 FORCE 6, WEATHER RAIN, SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	.82	33.12	26.57	147.6	0
10	.82	33.12	26.57	147.6	.015
20	.82	33.12	26.57	147.6	.030
30	.83	33.12	26.57	147.7	.044
50	.83	33.12	26.57	147.7	.074
75	.89	33.14	26.58	146.5	.111
100	.91	33.15	26.59	145.8	.147
125	.82	33.15	26.59	145.3	.183
150	.66	33.14	26.59	145.2	.220
200	3.72	33.71	26.81	124.6	.288
250	3.80	33.86	26.92	114.0	.348
300	3.76	33.96	27.01	106.1	.404
400	3.67	34.08	27.11	96.2	.508
500	3.56	34.16	27.18	89.2	.604
600	3.42	34.22	27.25	83.4	.695
700	3.26	34.28	27.31	77.4	.780
800	3.08	34.32	27.36	72.8	.860
1000	2.82	34.40	27.44	64.5	1.009
1200	2.57	34.44	27.50	59.4	1.146
1500	2.21	34.50	27.58	52.1	1.334

STANDARD LEVELS OF DEPTH

INPUT | COMPUTED

Z	T	S	SIG*T	D*T	DD

66

ARGO, FEBRUARY 15 1966, 1350 1402 GCT, 57 26N 171 00E, SOUNDING 804 FM, WIND 160 FORCE 7, WEATHER MISSING, SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	1.87	33.14	26.52	152.6	0
10	1.87	33.14	26.52	152.6	.015
20	1.87	33.14	26.52	152.6	.031
30	1.87	33.14	26.52	152.6	.046
50	1.87	33.15	26.52	151.9	.076
75	1.87	33.15	26.52	151.9	.114
100	1.89	33.16	26.53	151.3	.152
125	1.89	33.16	26.53	151.3	.190
150	2.16	33.23	26.57	147.9	.228
200	3.81	33.84	26.91	115.6	.294
250	3.78	33.92	26.97	109.3	.351
300	3.73	34.00	27.04	102.8	.405
400	3.59	34.11	27.14	93.2	.506
500	3.44	34.19	27.22	85.8	.599
600	3.29	34.26	27.29	79.2	.685
700	3.13	34.30	27.34	74.8	.767
800	2.98	34.34	27.38	70.4	.845
1000	2.67	34.41	27.47	62.5	.989

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
1	2.10	33.160	7.28	2.23	57	24	152.8
73	2.10	33.157	6.97	2.22	-	-	153.0
96	2.10	33.159	7.25	2.23	56	22	152.8
123	2.11	33.159	7.34	2.23	-	-	152.9
149	2.18	33.173	7.21	2.26	57	22	152.3
174	3.88	33.670	2.71	2.96	-	-	129.1
214	3.84	33.805	1.85	3.13	-	-	118.5
265	3.81	33.892	1.09	3.25	101	34	111.7
321	3.77	33.980	.78	3.35	-	-	104.7
385	3.70	34.055	.57	3.38	-	-	98.4
456	3.59	34.124	.43	3.39	126	35	92.2
552	3.44	34.200	.45	3.34	-	-	85.1
647	3.30	34.255	.36	3.38	-	-	79.7
743	3.15	34.298	.39	3.38	149	34	75.1
842	3.02	34.342	.36	3.34	-	-	70.6
944	2.89	34.373	.42	3.37	-	-	67.2
1056	2.71	34.412	.44	3.37	170	35	62.7
1166	2.55	34.446	.50	3.33	-	-	58.8
1298	2.39	34.481	.60	3.34	184	33	54.9

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD
0	2.08	33.15	7.28	26.51	153.4	0
10	2.08	33.15	7.24	26.51	153.4	.015
20	2.08	33.15	7.20	26.51	153.4	.031
30	2.08	33.15	7.15	26.51	153.4	.046
50	2.09	33.16	7.08	26.51	152.7	.077
75	2.13	33.16	6.97	26.51	153.0	.115
100	2.11	33.16	7.27	26.51	152.8	.153
125	2.15	33.17	7.31	26.52	152.4	.191
150	2.33	33.20	7.21	26.53	151.4	.230
200	3.89	33.79	2.10	26.86	120.2	.298
250	3.85	33.88	1.28	26.93	113.0	.357
300	3.78	33.96	.87	27.00	106.3	.413
400	3.66	34.10	.53	27.13	94.6	.516
500	3.52	34.18	.44	27.20	87.3	.611
600	3.35	34.25	.40	27.28	80.5	.699
700	3.22	34.29	.38	27.32	76.3	.782
800	3.08	34.34	.37	27.37	71.3	.861
1000	2.77	34.41	.43	27.46	63.4	1.007
1200	2.49	34.46	.53	27.52	57.3	1.140
1500	2.18	34.53	-	27.60	49.6	1.321

67 BOREAS EXPEDITION 67

ARGO, FEBRUARY 16-15 1966, 0127 2352 2359 GCT, 57 02N 171 52E, SOUNDING 1600 FM, WIND 210 FORCE 5, WEATHER CLOUDY, SEA HIGH, WIRE ANGLE 35.

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
0	2.09	33.11	26.48	156.5	0
10	2.09	33.11	26.48	156.5	.016
20	2.09	33.11	26.48	156.5	.031
30	2.09	33.11	26.48	156.5	.047
50	2.09	33.11	26.48	156.5	.078
75	2.09	33.11	26.48	156.5	.117
100	2.09	33.11	26.48	156.5	.157
125	2.08	33.11	26.48	156.4	.196
150	3.59	33.56	26.70	134.7	.232
200	3.89	33.74	26.82	123.9	.298
250	3.89	33.84	26.90	116.4	.359
300	3.83	33.93	26.98	109.0	.416
400	3.70	34.05	27.08	98.8	.523
500	3.57	34.15	27.18	90.0	.621
600	3.45	34.21	27.23	84.4	.712
700	3.29	34.27	27.30	78.4	.798
800	3.17	34.30	27.33	75.1	.880
1000	2.93	34.37	27.41	67.7	1.035
1200	2.63	34.43	27.49	60.7	1.177
1500	2.24	34.50	27.57	52.3	1.367

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
0	1.84	33.05	26.45	159.3	0
10	1.84	33.05	26.45	159.3	.016
20	1.84	33.05	26.45	159.3	.032
30	1.84	33.05	26.45	159.3	.048
50	1.84	33.05	26.45	159.3	.080
75	1.84	33.05	26.45	159.3	.120
100	1.85	33.05	26.44	159.3	.159
125	1.84	33.06	26.45	158.5	.199
150	1.95	33.10	26.48	156.2	.239
200	3.80	33.69	26.79	126.8	.310
250	3.86	33.83	26.89	116.9	.372
300	3.82	33.92	26.97	109.7	.429
400	3.68	34.06	27.09	97.8	.536
500	3.57	34.14	27.17	90.8	.634
600	3.42	34.21	27.24	84.1	.725
700	3.30	34.26	27.29	79.3	.812
800	3.17	34.31	27.34	74.3	.894
1000	2.85	34.38	27.43	66.3	1.046
1200	2.58	34.44	27.50	59.5	1.185
1500	2.15	34.52	27.60	50.1	1.370

68 BOREAS EXPEDITION 69

ARGO, FEBRUARY 16 1966, 0753 0803 GCT, 56 16N 173 30E, SOUNDING 2046 FM, WIND 210 FORCE 5, WEATHER SNOW, SEA HIGH.

ARGO, FEBRUARY 16 1966, 2058 2107 GCT, 55 15N 175 00E, SOUNDING 2053 FM, WIND 230 FORCE 7, WEATHER SNOW, SEA HIGH.

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T
1	2.56	33.200	7.03	2.27	62	18	153.2
70	2.56	33.196	6.93	2.29	-	-	153.5
92	2.56	33.199	7.20	2.27	61	24	153.2
119	2.57	33.197	7.24	2.29	-	-	153.5
146	2.60	33.203	7.18	2.31	61	20	153.3
172	3.93	33.726	2.23	3.02	-	-	125.4
212	3.85	33.854	1.52	3.20	-	-	115.0
266	3.77	33.957	.91	3.33	110	33	106.4
327	3.70	34.034	.64	3.34	-	-	100.0
394	3.60	34.117	.55	3.38	-	-	92.8
470	3.51	34.175	.47	3.37	134	36	87.6
572	3.36	34.236	.41	3.35	-	-	81.6
674	3.22	34.279	.38	3.37	-	-	77.1
776	3.09	34.322	.41	3.35	154	36	72.7
880	2.94	34.363	.44	3.37	-	-	68.3
984	2.80	34.400	.46	3.37	-	-	64.4
1099	2.64	34.431	.45	3.36	173	32	60.7
1219	2.50	34.461	.57	3.33	-	-	57.3
1355	2.37	34.492	.67	3.33	185	35	53.9

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD
0	2.60	33.20	7.03	26.51	153.5	0
10	2.60	33.20	7.02	26.51	153.5	.015
20	2.60	33.20	7.00	26.51	153.5	.031
30	2.60	33.20	6.99	26.51	153.5	.046
50	2.60	33.20	6.96	26.51	153.5	.077
75	2.60	33.20	6.98	26.51	153.5	.115
100	2.60	33.20	7.20	26.51	153.5	.154
125	2.61	33.20	7.20	26.51	153.6	.192
150	2.70	33.24	7.15	26.53	151.2	.230
200	3.87	33.85	1.75	26.91	115.4	.298
250	3.79	33.93	1.10	26.98	108.7	.355
300	3.73	34.01	.74	27.05	102.1	.408
400	3.61	34.12	.55	27.15	92.7	.509
500	3.47	34.20	.46	27.23	85.3	.601
600	3.34	34.26	.40	27.29	79.6	.688
700	3.19	34.30	.40	27.33	75.3	.770
800	3.04	34.34	.42	27.38	70.9	.848
1000	2.75	34.41	.46	27.46	63.2	.993
1200	2.52	34.45	.58	27.51	58.3	1.127
1500	2.19	34.52	-	27.59	50.4	1.311

70 BOREAS EXPEDITION 70

ARGO, FEBRUARY 17 1966, 0309 0147 0154 GCT, 54 34N 175 00E, SOUNDING 2080 FM, WIND 190 FORCE 4, WEATHER CLOUDY, SEA HIGH, WIRE ANGLE 40.

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

71 BOREAS EXPEDITION

ARGO, FEBRUARY 17 1966, 0638 0647 GCT, 54 04N 175 00E, SOUNDING 2097 FM, WIND 140 FORCE 6, WEATHER SNOW, SEA HIGH.

0	2.78	33.20	26.49	154.9	0
10	2.78	33.20	26.49	154.9	.015
20	2.78	33.20	26.49	154.9	.031
30	2.78	33.20	26.49	154.9	.046
50	2.78	33.20	26.49	154.9	.078
75	2.78	33.20	26.49	154.9	.116
100	2.79	33.20	26.49	155.0	.155
125	2.89	33.22	26.50	154.3	.194
150	3.98	33.60	26.70	135.3	.230
200	3.95	33.75	26.82	123.7	.296
250	3.95	33.85	26.90	116.2	.357
300	3.80	33.94	26.99	108.0	.414
400	3.68	34.08	27.11	96.3	.519
500	3.57	34.15	27.18	90.0	.616
600	3.45	34.22	27.24	83.6	.707
700	3.30	34.27	27.30	78.5	.792
800	3.17	34.31	27.34	74.3	.874
1000	2.90	34.38	27.42	66.7	1.027
1200	2.65	34.43	27.48	60.9	1.168
1500	2.34	34.51	27.57	52.3	1.360

72 BOREAS EXPEDITION

ARGO, FEBRUARY 17 1966, 1050 1100 GCT, 53 36N 175 00E, SOUNDING 2101 FM, WIND 200 FORCE 6, WEATHER MISSING, SEA HIGH.

0	2.90	33.23	26.51	153.6	0
10	2.90	33.23	26.51	153.6	.015
20	2.90	33.23	26.51	153.6	.031
30	2.90	33.23	26.51	153.6	.046
50	2.90	33.24	26.51	152.9	.077
75	2.90	33.24	26.51	152.9	.115
100	2.90	33.24	26.51	152.9	.153
125	2.94	33.26	26.53	151.7	.192
150	3.43	33.42	26.61	143.8	.229
200	3.93	33.66	26.75	130.3	.298
250	3.90	33.79	26.86	120.2	.361
300	3.82	33.88	26.94	112.7	.421
400	3.71	33.99	27.03	103.4	.532
500	3.63	34.07	27.11	96.6	.635
600	3.57	34.16	27.18	89.3	.732
700	3.43	34.22	27.24	83.5	.824
800	3.28	34.27	27.30	78.3	.910
1000	2.99	34.36	27.40	69.0	1.069
1200	2.68	34.42	27.47	61.9	1.214
1500	2.33	34.50	27.57	53.0	1.408

73 BOREAS EXPEDITION

ARGO, FEBRUARY 17 1966, 1436 1452 GCT, 53 02N 175 00E, SOUNDING 2103 FM, WIND 260 FORCE 3, WEATHER SNOW, SEA MODERATE.

0	2.75	33.20	26.49	154.7	0
10	2.77	33.20	26.49	154.8	.015
20	2.77	33.20	26.49	154.8	.031
30	2.77	33.20	26.49	154.8	.046
50	2.77	33.20	26.49	154.8	.077
75	2.79	33.21	26.50	154.2	.116
100	2.79	33.21	26.50	154.2	.155
125	2.81	33.23	26.51	152.9	.193
150	2.93	33.26	26.53	151.6	.232
200	3.62	33.57	26.71	134.2	.304
250	3.84	33.73	26.82	124.2	.369
300	3.87	33.85	26.91	115.4	.430
400	3.74	34.00	27.04	102.9	.542
500	3.61	34.11	27.14	93.4	.644
600	3.44	34.18	27.21	86.6	.738
700	3.34	34.23	27.26	81.9	.827
800	3.21	34.29	27.32	76.2	.911
1000	2.89	34.37	27.41	67.4	1.067
1200	2.59	34.44	27.50	59.6	1.207
1500	2.23	34.50	27.57	52.2	1.396

74 BOREAS EXPEDITION

ARGO, FEBRUARY 17 1966, 2057 2106 GCT, 53 02N 176 56E, SOUNDING 2100 FM, WIND 300 FORCE 9, WEATHER CLOUDY, SEA PRECIPITOUS.

0	2.96	33.20	26.48	156.4	0
10	2.96	33.20	26.48	156.4	.016
20	2.97	33.20	26.48	156.5	.031
30	2.97	33.20	26.48	156.5	.047
50	2.97	33.20	26.48	156.5	.078
75	2.97	33.20	26.48	156.5	.117
100	3.00	33.20	26.47	156.7	.157
125	2.99	33.21	26.48	155.9	.196
150	3.01	33.21	26.48	156.0	.235
200	3.83	33.46	26.60	144.4	.311
250	3.88	33.59	26.70	135.1	.382
300	3.88	33.67	26.76	129.1	.449
400	3.81	33.91	26.96	110.4	.571
500	3.68	34.03	27.07	100.1	.680
600	3.59	34.08	27.12	95.5	.782
700	3.51	34.16	27.19	88.7	.879
800	3.39	34.22	27.25	83.1	.970
1000	3.08	34.32	27.36	72.8	1.139
1200	2.74	34.40	27.45	63.9	1.289

75 BOREAS EXPEDITION

ARGO, FEBRUARY 18 1966, 0010 0024 GCT, 52 38N 177 17E, SOUNDING 2101 FM, WIND 270 FORCE 9, WEATHER CLOUDY, SEA VERY HIGH.

0	2.87	33.21	26.49	154.9	0
10	2.87	33.21	26.49	154.9	.015
20	2.87	33.21	26.49	154.9	.031
30	2.87	33.21	26.49	154.9	.046
50	2.87	33.21	26.49	154.9	.078
75	2.89	33.22	26.50	154.3	.116
100	2.90	33.22	26.50	154.4	.155
125	2.89	33.22	26.50	154.3	.194
150	2.91	33.22	26.50	154.5	.232
200	3.91	33.52	26.64	140.7	.307
250	3.93	33.67	26.76	129.6	.375
300	3.91	33.80	26.86	119.6	.439
400	3.80	33.94	26.99	108.0	.555
500	3.69	34.04	27.08	99.4	.662
600	3.59	34.12	27.15	92.5	.763
700	3.45	34.19	27.22	85.9	.857
800	3.34	34.24	27.27	81.1	.946
1000	2.83	34.39	27.44	65.4	1.104
1200	2.59	34.44	27.50	59.6	1.242

76 BOREAS EXPEDITION

ARGO, FEBRUARY 18 1966, 0243 0253 GCT, 52 18N 177 25E, SOUNDING 926 FM, WIND 270 FORCE 7, WEATHER CLOUDY, SEA VERY HIGH.

0	2.84	33.20	26.49	155.4	0
10	2.84	33.20	26.49	155.4	.016
20	2.84	33.20	26.49	155.4	.031
30	2.84	33.20	26.49	155.4	.047
50	2.84	33.20	26.49	155.4	.078
75	2.85	33.21	26.49	154.7	.117
100	2.85	33.21	26.49	154.7	.155
125	2.84	33.21	26.49	154.6	.194
150	2.85	33.21	26.49	154.7	.233
200	3.32	33.42	26.62	142.8	.308
250	3.95	33.68	26.76	129.0	.377
300	3.91	33.80	26.86	119.6	.440
400	3.79	33.96	27.00	106.4	.556
500	3.67	34.07	27.10	97.0	.661
600	3.55	34.17	27.19	88.3	.758
700	3.39	34.23	27.26	82.3	.848
800	3.26	34.28	27.31	77.4	.933
1000	2.98	34.36	27.40	68.9	1.092
1200	2.66	34.43	27.48	60.9	1.235

STANDARD LEVELS OF DEPTH

	INPUT		COMPUTED		
Z	T	S	SIG*T	D*T	DD

77 BOREAS EXPEDITION

ARGO, FEBRUARY 18 1966, 0510 GCT, 52 10N 177 43E,
SOUNDING 640 FM, WIND 300 FORCE 5, WEATHER OVERCAST,
SEA VERY HIGH.

0	2.82	33.22	26.50	153.7	0
10	2.82	33.22	26.50	153.7	.015
20	2.82	33.22	26.50	153.7	.031
30	2.82	33.22	26.50	153.7	.046
50	2.82	33.22	26.50	153.7	.077
75	2.83	33.22	26.50	153.8	.115
100	3.07	33.30	26.55	149.7	.154
125	3.27	33.39	26.60	144.7	.190
150	3.40	33.45	26.64	141.3	.226
200	3.45	33.48	26.65	139.5	.297
250	3.49	33.54	26.70	135.3	.367
300	3.60	33.64	26.77	128.7	.434
400	3.71	33.86	26.93	113.2	.557
500	3.66	34.08	27.11	96.1	.665
600	3.54	34.16	27.19	89.0	.762
700	3.44	34.20	27.23	85.1	.854
800	3.28	34.26	27.29	79.1	.942
1000	3.01	34.35	27.39	69.9	1.103

STANDARD LEVELS OF DEPTH

	INPUT		COMPUTED		
Z	T	S	SIG*T	D*T	DD

78

ARGO, FEBPUARY 18 1966, 0702 GCT, 52 00N 177 49E,
SOUNDING 58 FM, WIND 300 FORCE 5, WEATHER OVERCAST,
SEA MISSING.

0	3.17	33.42	26.63	141.5	0
10	3.17	33.42	26.63	141.5	.014
20	3.17	33.42	26.63	141.5	.028
30	3.18	33.42	26.63	141.6	.042
50	3.23	33.45	26.65	139.8	.071
75	3.26	33.46	26.66	139.3	.106

79 BOREAS EXPEDITION

ARGO, FEBRUARY 18 1966, 0802 GCT, 51 50N 177 55E,
SOUNDING 52 FM, WIND 300 FORCE 4, WEATHER CLOUDY,
SEA ROUGH.

0	3.20	33.41	26.62	142.5	0
10	3.21	33.41	26.62	142.6	.014
20	3.21	33.41	26.62	142.6	.029
30	3.23	33.42	26.63	142.1	.043
50	3.24	33.42	26.63	142.1	.071
75	3.26	33.42	26.62	142.3	.107

80

ARGO, FEBRUARY 18 1966, 0907 GCT, 51 40N 178 01E,
SOUNDING 428 FM, WIND 300 FORCE 4, WEATHER CLOUDY,
SEA ROUGH.

0	3.37	33.16	26.41	162.9	0
10	3.38	33.16	26.41	163.0	.016
20	3.39	33.16	26.41	163.1	.033
30	3.40	33.16	26.40	163.2	.049
50	3.44	33.16	26.40	163.5	.082
75	3.48	33.28	26.49	154.8	.122
100	3.82	33.38	26.54	150.4	.160
125	4.15	33.48	26.59	146.0	.197
150	4.13	33.54	26.64	141.3	.233
200	3.94	33.58	26.69	136.4	.303
250	3.83	33.64	26.74	130.9	.371
300	3.90	33.76	26.83	122.5	.436
400	3.69	34.00	27.04	102.4	.551
500	3.53	34.07	27.12	95.7	.653

81 BOREAS EXPEDITION

ARGO, FEBRUARY 18 1966, 1041 1111 GCT, 51 25N 178 11E,
SOUNDING 826 FM, WIND 290 FORCE 4, WEATHER CLOUDY,
SEA ROUGH.

0	3.42	33.02	26.29	173.9	0
10	3.42	33.02	26.29	173.9	.017
20	3.42	33.02	26.29	173.9	.035
30	3.53	33.16	26.39	164.3	.052
50	3.52	33.20	26.43	161.2	.084
75	3.60	33.28	26.48	155.9	.124
100	3.69	33.37	26.54	149.9	.162
125	3.73	33.40	26.56	148.0	.200
150	3.74	33.52	26.66	139.1	.236
200	3.71	33.59	26.72	133.5	.305
250	3.80	33.66	26.76	129.1	.371
300	3.89	33.80	26.87	119.4	.435
400	3.82	33.92	26.97	109.7	.552
500	3.72	33.99	27.03	103.5	.662
600	3.66	34.10	27.13	94.6	.765
700	3.27	34.21	27.25	82.8	.859
800	3.17	34.26	27.30	78.1	.945
1000	3.02	34.35	27.39	70.0	1.105
1200	2.61	34.43	27.49	60.5	1.249

82

ARGO, FEBRUARY 18 1966, MISSING 1355 GCT, 51 05N 178 22E,
SOUNDING 1926 FM, WIND 310 FORCE 5, WEATHER MISSING,
SEA VERY ROUGH.

0	3.41	32.82	26.13	188.9	0
10	3.42	32.82	26.13	189.0	.019
20	3.42	32.82	26.13	189.0	.038
30	3.42	32.82	26.13	189.0	.057
50	3.48	32.86	26.16	186.5	.094
75	3.52	33.15	26.39	165.0	.138
100	3.49	33.18	26.41	162.5	.179
125	3.46	33.29	26.50	153.9	.219
150	3.46	33.31	26.52	152.4	.258
200	3.86	33.78	26.85	120.6	.327
250	3.79	33.87	26.93	113.2	.386
300	3.78				
400	3.55				
500	3.53				
600	3.29				
700	3.19				
800	3.04				
1000	2.77				
1200	2.48				

OBSERVED LEVELS OF DEPTH — STANDARD LEVELS OF DEPTH

	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
83							BOREAS EXPEDITION							83
ARGO, FEBRUARY 18 1966, 1923 1746 1753 2001 GCT, 50 30N 178 43E, SOUNDING 2100 FM, WIND 300 FORCE 3, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 05.														
0	3.17	32.938	7.17	1.98	47	14	177.9	0	3.19	32.94	7.17	26.25	178.0	0
90	3.19	32.937	6.82	1.99	-	-	178.2	10	3.19	32.94	7.11	26.25	178.0	.018
120	3.20	32.940	7.15	1.99	47	17	178.0	20	3.20	32.94	7.07	26.25	178.0	.036
155	3.85	33.740	1.87	3.11	-	-	123.5	30	3.20	32.93	7.03	26.24	178.8	.053
189	3.84	33.890	.97	3.31	101	36	112.1	50	3.20	32.93	6.95	26.24	178.8	.089
224	3.81	33.960	.61	3.39	-	-	106.6	75	3.21	32.93	6.89	26.24	178.9	.134
278	3.73	34.041	.42	3.43	-	-	99.7	100	3.21	32.94	6.90	26.25	178.1	.179
347	3.66	34.121	.36	3.40	123	32	93.0	125	3.20	32.94	7.04	26.25	178.0	.223
425	3.52	34.184	.41	3.34	-	-	87.0	150	3.77	33.63	2.20	26.74	131.1	.262
517	3.38	34.241	.37	3.34	-	-	81.4	200	3.85	33.92	.86	26.97	110.0	.323
615	3.22	34.295	.39	3.37	149	33	75.9	250	3.79	34.01	.51	27.04	102.6	.377
744	3.01	34.349	.37	3.37	-	-	70.0	300	3.75	34.09	.40	27.11	96.2	.428
873	2.81	34.396	.43	3.35	-	-	64.8	400	3.56	34.17	.41	27.19	88.4	.523
1001	2.60	34.445	.47	3.33	169	34	59.3	500	3.38	34.25	.38	27.27	80.7	.611
1129	2.42	34.479	.67	3.29	-	-	55.3	600	3.24	34.30	.40	27.33	75.7	.693
1258	2.31	34.509	.81	3.29	-	-	52.2	700	3.06	34.35	.40	27.38	70.4	.771
1386	2.20	34.537	.93	3.25	180	29	49.2	800	2.89	34.39	.42	27.43	65.9	.844
1515	2.08	34.555	1.18	3.20	-	-	46.9	1000	2.60	34.45	.49	27.50	58.9	.980
1660	2.00	34.572	1.30	3.16	186	29	45.0	1200	2.34	34.50	.77	27.57	53.1	1.104
								1500	2.04	34.56	1.12	27.64	46.2	1.272

STANDARD LEVELS OF DEPTH — STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED			INPUT				COMPUTED	
Z	T	S	SIG*T	D*T	DD	Z	T	S	SIG*T	D*T	DD
84				BOREAS EXPEDITION		85						
ARGO, FEBRUARY 19 1966, 0103 0110 GCT, 50 01N 179 20E, SOUNDING 3055 FM, WIND 200 FORCE 2, WEATHER CLOUDY, SEA VERY ROUGH.						ARGO, FEBRUARY 19 1966, 0522 0559 GCT, 49 36N 179 46W, SOUNDING 2602 FM, WIND 180 FORCE 2, WEATHER MISSING, SEA MODERATE.					
0	3.04	33.01	26.32	171.4	0	0	3.34	33.01	26.29	174.0	0
10	3.04	33.01	26.32	171.4	.017	10	3.34	33.01	26.29	174.0	.017
20	3.04	33.01	26.32	171.4	.034	20	3.34	33.01	26.29	174.0	.035
30	3.04	33.01	26.32	171.4	.051	30	3.34	33.01	26.29	174.0	.052
50	3.04	33.01	26.32	171.4	.086	50	3.34	33.01	26.29	174.0	.087
75	3.04	33.01	26.32	171.4	.129	75	3.34	33.01	26.29	174.0	.131
100	3.04	33.01	26.32	171.4	.172	100	3.34	33.01	26.29	174.0	.174
125	3.26	33.35	26.57	147.6	.212	125	3.40	33.02	26.29	173.7	.218
150	3.55	33.74	26.85	120.7	.245	150	3.81	33.73	26.82	123.9	.255
200	3.63	33.88	26.96	110.9	.304	200	3.71	33.83	26.91	115.4	.316
250	3.64	33.97	27.03	104.2	.359	250	3.63	33.89	26.96	110.2	.373
300	3.60	34.02	27.07	100.1	.411	300	3.60	33.93	27.00	106.9	.428
400	3.52	34.12	27.16	91.8	.509	400	3.62	34.03	27.08	99.5	.534
500	3.37	34.20	27.23	84.4	.601	500	3.51	34.15	27.18	89.5	.632
600	3.23	34.26	27.30	78.6	.686	600	3.35	34.24	27.27	81.2	.722
700	3.05	34.30	27.34	74.1	.767	700	3.13	34.29	27.33	75.5	.805
800	2.92	34.34	27.39	69.9	.844	800	2.97	34.34	27.38	70.3	.882
1000	2.70	34.41	27.46	62.8	.988	1000	2.69	34.42	27.47	61.9	1.026
1200	2.42	34.47	27.54	56.0	1.119	1200	2.43	34.47	27.53	56.1	1.156
1500	2.07	34.54	27.62	48.0	1.294	1500	2.14	34.54	27.61	48.5	1.333

86				BOREAS EXPEDITION		87						
ARGO, FEBRUARY 19 1966, 0935 0942 GCT, 50 05N 179 42W, SOUNDING 3100 FM, WIND 200 FORCE 4, WEATHER MISSING, SEA MODERATE.						ARGO, FEBRUARY 19 1966, 1248 1259 GCT, 50 35N 179 35W, SOUNDING 2648 FM, WIND 180 FORCE 3, WEATHER MISSING, SEA MODERATE.					
0	3.34	32.86	26.17	185.3	0	0	3.40	32.77	26.09	192.6	0
10	3.34	32.86	26.17	185.3	.019	10	3.40	32.77	26.09	192.6	.019
20	3.34	32.86	26.17	185.3	.037	20	3.40	32.77	26.09	192.6	.039
30	3.34	32.87	26.18	184.5	.056	30	3.40	32.77	26.09	192.6	.058
50	3.34	32.87	26.18	184.5	.093	50	3.42	32.77	26.09	192.8	.096
75	3.31	32.87	26.18	184.3	.139	75	3.43	32.78	26.10	192.1	.145
100	3.29	32.96	26.26	177.3	.184	100	3.49	32.83	26.13	188.9	.192
125	3.39	33.36	26.56	148.0	.225	125	3.82	33.68	26.78	127.8	.232
150	3.15	33.63	26.80	125.5	.259	150	3.95	33.84	26.89	117.0	.263
200	3.30	33.80	26.92	114.0	.320	200	3.78	33.96	27.00	106.3	.320
250	3.46	33.92	27.00	106.4	.376	250	3.77	34.01	27.04	102.4	.373
300	3.50	34.01	27.07	99.9	.428	300	3.83	34.06	27.08	99.2	.424
400	3.51	34.09	27.13	94.0	.528	400	3.63	34.15	27.17	90.6	.522
500	3.43	34.20	27.23	85.0	.621	500	3.45	34.22	27.24	83.6	.612
600	3.21	34.26	27.30	78.5	.706	600	3.29	34.28	27.31	77.7	.697
700	3.06	34.31	27.35	73.4	.787	700	3.14	34.33	27.36	72.6	.777
800	2.93	34.36	27.40	68.5	.862	800	2.95	34.36	27.40	68.7	.852
1000	2.63	34.43	27.49	60.7	1.003	1000	2.65	34.43	27.48	60.9	.993
1200	2.38	34.49	27.55	54.1	1.129	1200	2.40	34.48	27.54	55.1	1.121
1500	2.09	34.54	27.62	48.1	1.302	1500	2.12	34.54	27.62	48.3	1.296

STANDARD LEVELS OF DEPTH

INPUT Z	T	S	COMPUTED SIG*T	D*T	DD

88 BOREAS EXPEDITION

ARGO, FEBRUARY 19 1966, 1556 1603 GCT, 51 02N 179 30W,
SOUNDING 2450 FM, WIND 200 FORCE 4, WEATHER MISSING,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	3.65	33.13	26.36	167.7	0
10	3.65	33.13	26.36	167.7	.017
20	3.72	33.16	26.37	166.0	.033
30	3.71	33.21	26.41	162.2	.050
50	3.69	33.24	26.44	159.7	.082
75	3.72	33.28	26.47	157.0	.122
100	3.66	33.29	26.48	155.7	.161
125	3.75	33.34	26.51	152.7	.200
150	3.83	33.41	26.56	148.2	.238
200	3.89	33.49	26.62	142.7	.311
250	3.91	33.59	26.70	135.4	.382
300	4.00	33.63	26.72	133.3	.450
400	3.96	33.90	26.94	112.5	.576
500	3.65	34.00	27.05	102.1	.686
600	3.58	34.11	27.14	93.1	.788
700	3.51	34.18	27.21	87.2	.883
800	3.27	34.27	27.30	78.3	.972
1000	2.86	34.38	27.43	66.4	1.128
1200	2.68	34.41	27.46	62.6	1.270
1500	2.29	34.49	27.56	53.4	1.466

89

ARGO, FEBRUARY 19 1966, 1848 1855 GCT, 51 19N 179 38W,
SOUNDING 1020 FM, WIND 170 FORCE 5, WEATHER CLOUDY,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	3.32	33.02	26.30	173.0	0
10	3.33	33.02	26.30	173.1	.017
20	3.37	33.02	26.30	173.5	.035
30	3.39	33.03	26.30	172.9	.052
50	3.55	33.14	26.37	166.0	.086
75	3.59	33.16	26.39	164.9	.127
100	3.66	33.22	26.43	161.0	.168
125	3.70	33.32	26.50	153.8	.208
150	3.61	33.38	26.56	148.4	.246
200	3.83	33.49	26.63	142.2	.319
250	3.88	33.54	26.66	138.9	.390
300	3.88	33.61	26.72	133.6	.459
400	3.94	33.75	26.82	123.6	.591
500	3.86	33.95	26.99	107.8	.710
600	3.64	34.07	27.11	96.7	.817
700	3.58	34.18	27.20	87.9	.914
800	3.23	34.25	27.29	79.4	1.003
1000	2.87	34.37	27.42	67.2	1.162
1200	2.61	34.43	27.49	60.5	1.302
1500	2.30	34.54	27.60	49.7	1.489

90 BOREAS EXPEDITION

ARGO, FEBRUARY 19 1966, 2052 GCT, 51 35N 179 35W,
SOUNDING 220 FM, WIND 180 FORCE 6, WEATHER OVERCAST,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	3.42	33.15	26.39	164.1	0
10	3.43	33.15	26.39	164.2	.016
20	3.37	33.22	26.46	158.4	.033
30	3.29	33.24	26.48	156.2	.048
50	3.20	33.26	26.50	153.9	.079
75	3.16	33.26	26.51	153.5	.118
100	3.15	33.30	26.54	150.4	.156
125	3.13	33.30	26.54	150.3	.194
150	3.16	33.31	26.55	149.8	.231
200	3.70	33.57	26.70	134.9	.303
250	3.71	33.62	26.74	131.3	.371
300	3.74	33.70	26.80	125.5	.436

91

ARGO, FEBRUARY 19 1966, 2221 2230 GCT, 51 51N 179 40W,
SOUNDING 1070 FM, WIND 170 FORCE 5, WEATHER CLOUDY,
SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	3.17	33.32	26.55	149.1	0
10	3.17	33.32	26.55	149.1	.015
20	3.17	33.32	26.55	149.1	.030
30	3.20	33.33	26.56	148.6	.045
50	3.20	33.34	26.57	147.8	.074
75	3.21	33.34	26.57	147.9	.111
100	3.22	33.35	26.57	147.3	.149
125	3.23	33.35	26.57	147.3	.185
150	3.23	33.36	26.58	146.6	.222
200	3.56	33.51	26.67	138.2	.294
250	3.65	33.63	26.75	130.0	.362
300	3.68	33.70	26.81	125.0	.427
400	3.64	33.90	26.97	109.5	.547
500	3.56	34.04	27.09	98.2	.654
600	3.37	34.13	27.18	89.7	.752
700	3.20	34.22	27.27	81.4	.842
800	2.99	34.30	27.35	73.5	.924
1000	2.77	34.38	27.43	65.6	1.075
1200	2.55	34.43	27.49	60.0	1.213
1500	2.30	34.49	27.56	53.5	1.405

92 BOREAS EXPEDITION

ARGO, FEBRUARY 20 1966, 0010 0018 GCT, 52 01N 179 25W,
SOUNDING 1450 FM, WIND 170 FORCE 6, WEATHER OVERCAST,
SEA ROUGH.

Z	T	S	SIG*T	D*T	DD
0	3.16	33.34	26.57	147.5	0
10	3.16	33.34	26.57	147.5	.015
20	3.16	33.34	26.57	147.5	.030
30	3.16	33.34	26.57	147.5	.044
50	3.17	33.34	26.57	147.6	.074
75	3.17	33.34	26.57	147.6	.111
100	3.17	33.35	26.58	146.8	.148
125	3.16	33.35	26.58	146.7	.185
150	3.21	33.36	26.58	146.4	.221
200	3.53	33.51	26.67	137.9	.293
250	3.68	33.60	26.73	132.5	.361
300	3.70	33.70	26.81	125.1	.427
400	3.69	33.88	26.95	111.5	.548
500	3.58	34.02	27.07	99.9	.657
600	3.32	34.17	27.22	86.2	.754
700	3.17	34.23	27.28	80.4	.842
800	3.06	34.27	27.32	76.4	.925
1000	2.77	34.37	27.43	66.4	1.079
1200	2.66	34.39	27.45	64.0	1.223
1500	2.38	34.48	27.55	54.9	1.423

93

ARGO, FEBRUARY 20 1966, 0233 0241 GCT, 52 15N 179 05W,
SOUNDING 1770 FM, WIND 170 FORCE 5, WEATHER CLOUDY,
SEA VERY ROUGH.

Z	T	S	SIG*T	D*T	DD
0	3.20	33.38	26.60	144.8	0
10	3.20	33.38	26.60	144.8	.014
20	3.20	33.38	26.60	144.8	.029
30	3.20	33.38	26.60	144.8	.043
50	3.20	33.38	26.60	144.8	.072
75	3.20	33.38	26.60	144.8	.109
100	3.22	33.38	26.60	145.0	.145
125	3.23	33.40	26.61	143.6	.181
150	3.26	33.41	26.62	143.1	.217
200	3.65	33.57	26.71	134.5	.287
250	3.68	33.62	26.74	131.0	.355
300	3.72	33.68	26.79	126.8	.420
400	3.74	33.86	26.93	113.5	.543
500	3.67	34.01	27.05	101.5	.654
600	3.47	34.12	27.16	91.4	.754
700	3.38	34.18	27.22	86.0	.848
800	3.30	34.22	27.26	82.3	.937
1000	3.00	34.31	27.36	72.9	1.105
1200	2.69	34.39	27.45	64.2	1.255
1500	2.25	34.48	27.56	53.9	1.454

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

94 BOREAS EXPEDITION

ARGO, FEBRUARY 20 1966, 0454 0505 GCT, 52 30N 178 43W, SOUNDING 1865 FM, WIND 180 FORCE 5, WEATHER OVERCAST, SEA ROUGH.

0	2.96	33.26	26.52	151.8	0
10	2.96	33.26	26.52	151.8	.015
20	2.96	33.26	26.52	151.8	.030
30	2.96	33.26	26.52	151.8	.046
50	2.96	33.26	26.52	151.8	.076
75	2.96	33.27	26.53	151.1	.114
100	2.96	33.27	26.53	151.1	.152
125	3.03	33.29	26.54	150.2	.190
150	3.16	33.33	26.56	148.2	.227
200	3.91	33.58	26.69	136.2	.299
250	3.91	33.70	26.78	127.1	.366
300	3.87	33.79	26.86	120.0	.428
400	3.75	33.95	27.00	106.8	.545
500	3.58	34.06	27.10	96.9	.650
600	3.46	34.14	27.18	89.8	.747
700	3.31	34.21	27.25	83.1	.838
800	3.16	34.26	27.30	78.0	.924
1000	2.93	34.34	27.39	70.0	1.084
1200	2.65	34.41	27.47	62.4	1.230
1500	2.18	34.52	27.59	50.3	1.420

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

95

ARGO, FEBRUARY 24 1966, 0255 0302 GCT, 52 09N 176 31W, SOUNDING 1570 FM, WIND 240 FORCE 4, WEATHER RAIN, SEA VERY ROUGH.

0	3.56	33.34	26.53	151.0	0
10	3.56	33.34	26.53	151.0	.015
20	3.56	33.34	26.53	151.0	.030
30	3.56	33.34	26.53	151.0	.045
50	3.56	33.34	26.53	151.0	.076
75	3.58	33.35	26.54	150.4	.113
100	3.59	33.35	26.54	150.5	.151
125	3.58	33.36	26.55	149.7	.189
150	3.59	33.36	26.55	149.8	.227
200	3.56	33.37	26.56	148.7	.302
250	3.64	33.40	26.57	147.2	.376
300	3.76	33.48	26.62	142.3	.450
400	3.89	33.67	26.76	129.2	.588
500	3.82	33.87	26.93	113.5	.713
600	3.65	34.00	27.05	102.1	.825
700	3.49	34.12	27.16	91.6	.927
800	3.37	34.20	27.23	84.4	1.020
1000	3.05	34.31	27.35	73.3	1.190
1200	2.80	34.38	27.43	65.9	1.343
1500	2.36	34.47	27.54	55.5	1.548

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

96 BOREAS EXPEDITION

ARGO, FEBRUARY 24 1966, 0910 0719 0729 GCT, 52 53N 176 30W, SOUNDING 1982 FM, WIND 200 FORCE 7, WEATHER RAIN, SEA VERY ROUGH, WIRE ANGLE 35.

0	2.82	33.238	7.32	2.29	64	-	152.4
74	2.88	33.258	7.15	2.33	-	-	151.3
98	2.88	33.258	7.28	2.31	64	-	151.3
126	2.88	33.264	7.27	2.30	-	-	150.9
155	2.88	33.285U	7.25	2.34	65	-	149.3
184	2.91	33.274	7.22	2.34	-	-	150.4
227	3.88	33.557	4.07	2.71	-	-	137.6
284	3.86	33.710	2.54	2.98	94	-	125.9
347	3.82	33.874	1.68	3.14	-	-	113.2
417	3.76	33.979	1.05	3.27	-	-	104.7
494	3.62	34.068	.84	3.27	124	-	96.7
594	3.51	34.149	.57	3.32	-	-	89.5
692	3.39	34.203	.43	3.32	-	-	84.4
791	3.24	34.253	.42	3.33	146	-	79.3
889	3.10	34.306	.39	3.31	-	-	74.0
988	2.97	34.349	.43	3.34	-	-	69.7

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD

96

0	2.94	33.25	7.32	26.52	152.4	0
10	2.94	33.25	7.30	26.52	152.4	.015
20	2.94	33.25	7.27	26.52	152.4	.031
30	2.94	33.25	7.24	26.52	152.4	.046
50	2.94	33.25	7.20	26.52	152.4	.076
75	2.94	33.25	7.15	26.52	152.4	.114
100	2.94	33.26	7.28	26.53	151.7	.153
125	2.93	33.26	7.27	26.53	151.6	.191
150	2.94	33.26	7.25	26.53	151.7	.229
200	3.07	33.30	6.20	26.55	149.7	.305
250	3.82	33.60	3.32	26.71	133.8	.376
300	3.89	33.74	2.30	26.82	123.9	.442
400	3.83	33.91	1.17	26.96	110.5	.562
500	3.68	34.05	.82	27.09	98.6	.670
600	3.55	34.13	.56	27.16	91.3	.769
700	3.41	34.20	.42	27.23	84.8	.862
800	3.26	34.26	.41	27.29	78.9	.949
1000	2.92	34.36	.44	27.40	68.4	1.109
1200	2.70	34.41	-	27.46	62.8	1.253
1500	2.34	34.49	-	27.56	53.8	1.450

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

97 BOREAS EXPEDITION

ARGO, FEBRUARY 25 1966, 0810 0817 GCT, 53 29N 178 37W, SOUNDING 2030 FM, WIND 290 FORCE 4, WEATHER RAIN, SEA HIGH.

0	2.44	33.14	26.47	156.8	0
10	2.46	33.14	26.47	156.9	.016
20	2.46	33.14	26.47	156.9	.031
30	2.47	33.14	26.47	157.0	.047
50	2.47	33.14	26.47	157.0	.079
75	2.47	33.14	26.47	157.0	.118
100	2.47	33.14	26.47	157.0	.157
125	2.48	33.14	26.47	157.1	.197
150	2.56	33.15	26.47	157.0	.236
200	3.56	33.46	26.63	142.0	.311
250	3.88	33.69	26.78	127.6	.379
300	3.88	33.80	26.87	119.3	.442
400	3.73	33.99	27.03	103.6	.556
500	3.62	34.09	27.12	95.0	.659
600	3.47	34.18	27.21	86.8	.754
700	3.36	34.22	27.25	82.8	.844
800	3.21	34.28	27.31	77.0	.929
1000	2.88	34.36	27.41	68.1	1.086
1200	2.60	34.43	27.49	60.4	1.228
1500	2.34	34.49	27.56	53.8	1.421

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

98

ARGO, FEBRUARY 25 1966, 1617 GCT, 53 20N 179 30E, SOUNDING 1440 FM, WIND 280 FORCE 8, WEATHER SNOW, SEA HIGH.

0	2.85	33.25	26.53	151.7	0
10	2.85	33.25	26.53	151.7	.015
20	2.86	33.25	26.52	151.8	.030
30	2.87	33.25	26.52	151.9	.046
50	2.87	33.25	26.52	151.9	.076
75	2.87	33.25	26.52	151.9	.114
100	2.88	33.25	26.52	151.9	.152
125	2.88	33.26	26.53	151.2	.190
150	3.31	33.36	26.57	147.3	.228
200	3.65	33.54	26.68	136.7	.299
250	3.72	33.65	26.76	129.1	.366
300	3.82	33.78	26.86	120.2	.430
400	3.81	33.96	27.00	106.6	.546
500	3.55	34.07	27.11	95.9	.651
600	3.50	34.16	27.19	88.6	.747
700	3.41	34.21	27.24	84.0	.838
800	3.26	34.27	27.30	78.2	.925
1000	2.93	34.37	27.41	67.7	1.083

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

99 BOREAS EXPEDITION

ARGO, FEBRUARY 26 1966, 0049 GCT, 53 10N 177 28E,
SOUNDING 2094 FM, WIND 300 FORCE 5, WEATHER SNOW,
SEA HIGH.

0	2.58	33.22	26.52	151.8	0
10	2.58	33.22	26.52	151.8	.015
20	2.58	33.22	26.52	151.8	.030
30	2.58	33.22	26.52	151.8	.046
50	2.58	33.22	26.52	151.8	.076
75	2.59	33.22	26.52	151.9	.114
100	2.59	33.22	26.52	151.9	.152
125	2.58	33.23	26.53	151.1	.190
150	2.60	33.23	26.53	151.2	.228
200	4.01	33.66	26.74	131.1	.299
250	3.97	33.80	26.86	120.2	.363
300	3.89	33.90	26.95	111.9	.422
400	3.77	34.02	27.05	101.7	.532
500	3.67	34.12	27.14	93.2	.633
600	3.56	34.19	27.21	86.9	.727
700	3.42	34.24	27.26	81.9	.816
800	3.26	34.29	27.32	76.7	.901
1000	2.96	34.37	27.41	68.0	1.058
1200	2.67	34.44	27.49	60.3	1.199
1500	2.38	34.49	27.55	54.1	1.393

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

100 BOREAS EXPEDITION

ARGO, FEBRUARY 26 1966, 1253 1052 1100 GCT, 53 00N 175 00E, SOUNDING 2101 FM, WIND 280 FORCE 5, WEATHER SNOW,
SEA VERY ROUGH, WIRE ANGLE 45.

0	2.70	33.261	7.21	2.35	67	26	149.7
64	2.68	33.259	7.09	2.35	-	-	149.7
85	2.68	33.261	7.09	2.39	67	25	149.5
109	2.66	33.260	7.11	2.39	-	-	149.4
134	2.66	33.269	7.05	2.39	67	25	148.7
169	3.50	33.441	5.18	2.59	-	-	142.8
197	3.84	33.596	3.76	2.77	-	-	134.3
246	3.84	33.762	2.60	2.98	97	36	121.8
301	3.80	33.845	2.05	3.05	-	-	115.2
362	3.75	33.911	1.60	3.18	-	-	109.7
430	3.70	33.972	1.37	3.22	114	36	104.6
513	3.64	34.034	.93	3.27	-	-	99.4
590	3.63	34.085	.68	3.32	-	-	95.5
659	3.50	34.161	.55	3.35	131	37	88.6
731	3.40	34.217	.43	3.32	-	-	83.4
805	3.32	34.260	.39	3.34	-	-	79.5
887	3.19	34.290	.34	3.41	149	41	76.0
985	3.04	34.334	.40	3.33	-	-	71.4
1099	2.84	34.379	.42	3.38	164	36	66.3

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD

100

0	2.67	33.29	7.21	26.57	147.2	0
10	2.67	33.29	7.19	26.57	147.2	.015
20	2.67	33.29	7.17	26.57	147.2	.029
30	2.67	33.29	7.15	26.57	147.2	.044
50	2.67	33.29	7.09	26.57	147.2	.074
75	2.68	33.29	7.09	26.57	147.3	.111
100	2.69	33.29	7.10	26.57	147.4	.147
125	2.69	33.30	7.10	26.58	146.6	.184
150	2.83	33.32	5.95	26.58	146.2	.221
200	3.66	33.55	3.68	26.69	136.1	.292
250	3.89	33.79	2.54	26.86	120.2	.357
300	3.85	33.85	2.05	26.91	115.3	.417
400	3.74	34.01	1.46	27.05	102.2	.529
500	3.62	34.10	1.00	27.13	94.3	.630
600	3.61	34.15	.66	27.17	90.4	.727
700	3.47	34.23	.47	27.25	83.1	.819
800	3.33	34.27	.40	27.29	78.8	.905
1000	3.04	34.35	.40	27.38	70.2	1.067
1200	2.74	34.43	-	27.48	61.6	1.212
1500	2.38	34.50	-	27.56	53.4	1.407

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

101 BOREAS EXPEDITION

ARGO, FEBRUARY 26 1966, 1658 1708 GCT, 52 42N 175 00E,
SOUNDING 630 FM, WIND 270 FORCE 6, WEATHER PARTLY CLOUDY,
SEA VERY ROUGH.

0	2.61	33.26	26.55	149.0	0
10	2.61	33.26	26.55	149.0	.015
20	2.61	33.26	26.55	149.0	.030
30	2.61	33.26	26.55	149.0	.045
50	2.62	33.26	26.55	149.1	.075
75	2.62	33.26	26.55	149.1	.112
100	2.62	33.26	26.55	149.1	.149
125	2.61	33.27	26.56	148.3	.187
150	2.62	33.28	26.57	147.6	.224
200	3.06	33.39	26.62	142.9	.297
250	3.63	33.64	26.74	130.9	.366
300	3.83	33.72	26.81	124.9	.431
400	3.70	33.95	27.00	106.3	.549
500	3.60	34.10	27.13	94.1	.653
600	3.50	34.18	27.21	87.1	.748
700	3.33	34.25	27.28	80.3	.836

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

102

ARGO, FEBRUARY 26 1966, 1935 GCT, 52 23N 175 00E,
SOUNDING 384 FM, WIND 260 FORCE 5, WEATHER CLOUDY,
SEA VERY ROUGH.

0	2.94	33.29	26.55	149.4	0
10	2.94	33.29	26.55	149.4	.015
20	2.94	33.29	26.55	149.4	.030
30	2.94	33.29	26.55	149.4	.045
50	2.94	33.29	26.55	149.4	.075
75	2.94	33.29	26.55	149.4	.112
100	2.94	33.30	26.56	148.7	.150
125	2.99	33.31	26.56	148.3	.187
150	3.22	33.36	26.58	146.5	.224
200	3.49	33.48	26.65	139.8	.296
250	3.73	33.60	26.72	133.0	.365
300	3.89	33.77	26.84	121.7	.430
400	3.79	33.93	26.98	108.7	.548
500	3.66	34.06	27.10	97.6	.654
600	3.54	34.14	27.17	90.5	.753

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

103 BOREAS EXPEDITION

ARGO, FEBRUARY 26 1966, 2134 GCT, 52 07N 175 00E, SOUNDING 257 FM, WIND 210 FORCE 6, WEATHER CLOUDY, SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	2.82	33.21	26.50	154.5	0
10	2.82	33.21	26.50	154.5	.015
20	2.82	33.21	26.50	154.5	.031
30	2.82	33.21	26.50	154.5	.046
50	2.82	33.21	26.50	154.5	.077
75	2.84	33.22	26.50	153.9	.116
100	2.85	33.23	26.51	153.2	.154
125	2.84	33.23	26.51	153.1	.193
150	2.84	33.24	26.52	152.4	.231
200	3.85	33.53	26.66	139.4	.305
250	3.97	33.72	26.79	126.2	.372
300	3.90	33.81	26.87	118.7	.434

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

104

ARGO, FEBRUARY 27 1966, 0029 0035 GCT, 51 40N 175 00E, SOUNDING 1581 FM, WIND 210 FORCE 7, WEATHER SNOW, SEA VERY HIGH.

Z	T	S	SIG*T	D*T	DD
0	2.92	33.28	26.54	150.0	0
10	2.92	33.28	26.54	150.0	.015
20	2.93	33.28	26.54	150.1	.030
30	2.94	33.28	26.54	150.2	.045
50	2.94	33.28	26.54	150.2	.075
75	2.94	33.29	26.55	149.4	.113
100	3.12	33.34	26.57	147.1	.150
125	3.24	33.37	26.59	145.9	.187
150	3.32	33.40	26.60	144.3	.223
200	3.73	33.55	26.68	136.7	.294
250	3.81	33.62	26.73	132.2	.362
300	3.95	33.72	26.80	126.0	.428
400	3.88	33.90	26.95	111.8	.549
500	3.80	34.05	27.07	99.7	.659
600	3.60	34.15	27.17	90.3	.758
700	3.45	34.22	27.24	83.6	.850
800	3.38	34.27	27.29	79.2	.937
1000	3.04	34.36	27.39	69.4	1.098
1200	2.72	34.43	27.48	61.4	1.243

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

105 BOREAS EXPEDITION

ARGO, FEBRUARY 27 1966, 0552 0350 0359 GCT, 51 06N 175 00E, SOUNDING 2824 FM, WIND 190 FORCE 6, WEATHER CLOUDY, SEA HIGH, WIRE ANGLE 25.

Z	T	S	OXY	PHO	SIL	NIT	D*T
1	3.12	33.328	7.00	2.45	73	29	148.1
85	3.20	33.355	6.43	2.47	-	-	146.7
113	3.44	33.411	5.51	2.57	80	30	144.6
146	3.71	33.544	4.50	2.67	-	-	137.0
179	3.78	33.592	4.10	2.73	87	31	134.0
212	3.80	33.629	3.82	2.76	-	-	131.4
263	3.86	33.709	3.18	2.86	-	-	126.0
330	3.84	33.804	2.50	2.99	99	33	118.6
405	3.76	34.007	1.14	3.23	-	-	102.6
490	3.68	34.108	.53	3.36	-	-	94.2
585	3.48	34.167	.70	3.32	136	37	87.9
711	3.36	34.259	.38	3.37	-	-	79.9
835	3.16	34.319	.38	3.40	-	-	73.6
964	2.96	34.358	.44	3.37	162	37	68.9
1087	2.78	34.417	.49	3.39	-	-	62.9
1217	2.62	34.450	.56	3.40	-	-	59.1
1348	2.42	34.487	.69	3.38	174	37	54.7
1477	2.30	34.513	.88	3.26	-	-	51.8
1621	2.17	34.546	1.01	3.27	184	36	48.3

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD

105

Z	T	S	OXY	SIG*T	D*T	DD
0	3.26	33.18	7.00	26.43	160.4	0
10	3.26	33.18	7.00	26.43	160.4	.016
20	3.24	33.19	7.00	26.44	159.5	.032
30	3.23	33.21	7.00	26.46	157.9	.048
50	3.17	33.29	6.95	26.53	151.4	.079
75	3.17	33.33	6.60	26.56	148.3	.116
100	3.19	33.34	6.05	26.57	147.7	.154
125	3.17	33.34	5.08	26.57	147.6	.191
150	3.18	33.36	4.43	26.58	146.2	.228
200	4.03	33.66	3.92	26.74	131.3	.298
250	3.84	33.75	3.33	26.83	122.7	.362
300	3.80	33.89	2.80	26.95	111.8	.422
400	3.74	34.05	1.21	27.08	99.1	.530
500	3.63	34.13	.56	27.15	92.1	.629
600	3.51	34.20	.68	27.22	85.7	.722
700	3.39	34.26	.38	27.28	80.1	.810
800	3.20	34.31	.38	27.34	74.6	.893
1000	2.90	34.38	.45	27.42	66.7	1.046
1200	2.59	34.45	.53	27.50	58.9	1.185
1500	2.27	34.52	.93	27.59	51.0	1.371

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

106 BOREAS EXPEDITION

ARGO, FEBRUARY 27 1966, 1147 1112 GCT, 50 41N 175 00E, SOUNDING 3050 FM, WIND 240 FORCE 7, WEATHER SHOWERS, SEA VERY HIGH.

Z	T	S	SIG*T	D*T	DD
0	3.09	33.09	26.38	165.8	0
10	3.09	33.09	26.38	165.8	.017
20	3.09	33.09	26.38	165.8	.033
30	3.09	33.09	26.38	165.8	.050
50	3.09	33.09	26.38	165.8	.083
75	3.09	33.09	26.38	165.8	.124
100	3.09	33.09	26.38	165.8	.166
125	3.81	33.57	26.69	136.0	.204
150	4.16	33.83	26.86	119.8	.236
200	3.92	33.95	26.98	108.4	.294
250	3.81	34.03	27.06	101.3	.347
300	3.73	34.07	27.10	97.5	.398
400	3.56	34.16	27.18	89.2	.494
500	3.42	34.24	27.26	81.9	.583
600	3.27	34.30	27.32	76.0	.666
700	3.13	34.34	27.37	71.7	.745
800	2.95	34.37	27.41	67.9	.819
1000	2.69	34.44	27.49	60.4	.959
1200	2.42	34.49	27.55	54.5	1.086
1500	2.10	34.56	27.63	46.7	1.258

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

107

ARGO, FEBRUARY 27 1966, 1508 1519 GCT, 50 20N 175 00E, SOUNDING 2500 FM, WIND 250 FORCE 6, WEATHER MISSING, SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	2.99	33.12	26.41	162.7	0
10	2.99	33.12	26.41	162.7	.016
20	2.99	33.12	26.41	162.7	.033
30	3.00	33.13	26.42	162.0	.049
50	3.00	33.13	26.42	162.0	.081
75	3.02	33.13	26.41	162.2	.122
100	3.02	33.13	26.41	162.2	.162
125	3.49	33.43	26.61	143.6	.201
150	3.89	33.79	26.86	120.2	.234
200	3.80	33.92	26.97	109.5	.292
250	3.72	34.01	27.05	102.0	.346
300	3.70	34.07	27.10	97.3	.397
400	3.56	34.16	27.18	89.2	.493
500	3.43	34.23	27.25	82.7	.582
600	3.28	34.28	27.31	77.6	.666
700	3.11	34.33	27.36	72.3	.746
800	2.97	34.37	27.41	68.1	.821
1000	2.72	34.43	27.48	61.4	.962
1200	2.45	34.48	27.54	55.5	1.091

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD
108				BOREAS EXPEDITION	
ARGC, FEBRUARY 27 1966, 1952 2000 GCT, 49 52N 175 03E, SOUNDING 2230 FM, WIND 240 FORCE 6, WEATHER OVERCAST, SEA HIGH.					
0	2.77	33.06	26.38	165.4	0
10	2.77	33.06	26.38	165.4	.017
20	2.77	33.06	26.38	165.4	.033
30	2.77	33.06	26.38	165.4	.050
50	2.77	33.06	26.38	165.4	.083
75	2.77	33.06	26.38	165.4	.124
100	2.79	33.07	26.39	164.8	.166
125	2.88	33.11	26.41	162.5	.207
150	3.83	33.79	26.86	119.6	.242
200	3.73	33.95	27.00	106.6	.299
250	3.67	34.02	27.06	100.7	.352
300	3.63	34.08	27.11	95.9	.402
400	3.54	34.16	27.19	89.0	.497
500	3.36	34.24	27.27	81.3	.586
600	3.24	34.29	27.32	76.5	.669
700	3.12	34.33	27.36	72.4	.748
800	2.98	34.37	27.41	68.2	.823
1000	2.69	34.44	27.49	60.4	.963
1200	2.43	34.49	27.55	54.5	1.090
1500	2.10	34.55	27.63	47.4	1.263

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	
109					BOREAS EXPEDITION			
ARGO, FEBRUARY 28-27 1966, 0124 0200 2350 2358 GCT, 49 21N 174 59E, SOUNDING 2500 FM, WIND 250 FORCE 6, WEATHER SNOW, SEA HIGH, WIRE ANGLE 37 45.								
0	2.73	33.078A	7.26	2.16	56	23	163.7	
70	2.71	33.073A	7.07	2.17	-	-	164.0	
93	2.71	33.079A	7.45	2.19	57	21	163.5	
121	2.72	33.077A	7.37	2.18	-	-	163.7	
148	3.82	33.772A	1.82	3.13	93	33	120.8	
175	3.83	33.886	1.05	3.30	-	-	112.4	
219	3.74	34.005	.52	3.41	-	-	102.5	
274	3.70	34.063	.39	3.41	119	36	97.8	
337	3.62	34.141	.39	3.41	-	-	91.2	
409	3.50	34.206	.42	3.37	-	-	85.2	
489	3.38	34.247A	.41	3.37	142	36	81.0	
597	3.22	34.291A	.42	3.37	-	-	76.2	
668B	3.09	34.339A	.38	3.36	-	-	71.5	
775B	2.91	34.371A	.39	3.36	159	36	67.5	
883B	2.74	34.412A	.46	3.32	-	-	63.0	
997B	2.61	34.443	.61	3.32	-	-	59.5	
1111B	2.42	34.483	.73	3.30	177	36	55.0	
1232B	2.28	34.511	.83	3.24	-	-	51.8	
1371B	2.15	34.541	1.02	3.23	185	35	48.5	

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD
109						109
0	2.79	33.05	7.26	26.37	166.3	0
10	2.79	33.05	7.23	26.37	166.3	.017
20	2.79	33.05	7.21	26.37	166.3	.033
30	2.79	33.05	7.18	26.37	166.3	.050
50	2.79	33.05	7.13	26.37	166.3	.083
75	2.79	33.05	7.16	26.37	166.3	.125
100	2.80	33.06	7.41	26.38	165.7	.166
125	2.79	33.06	7.31	26.38	165.6	.208
150	3.81	33.73	1.72	26.82	123.9	.244
200	3.85	33.93	.68	26.97	109.2	.303
250	3.76	34.03	.42	27.06	100.8	.357
300	3.72	34.08	.39	27.11	96.7	.407
400	3.52	34.19	.42	27.21	86.5	.502
500	3.34	34.26	.41	27.29	79.6	.588
600	3.19	34.29	.42	27.32	76.0	.670
700	3.06	34.34	.38	27.38	71.1	.748
800	2.93	34.39	.40	27.43	66.2	.822
1000	2.60	34.46	.62	27.51	58.2	.957
1200	2.33	34.51	.80	27.57	52.2	1.079
1500	2.09	34.56	1.20	27.63	46.6	1.247

A) SALINITY BOTTLE ORDER DIFFERS ON THE ORIGINAL DATA AND SALINITY DETERMINATION SHEETS. THEY ARE ASSUMED TO BE IN THE CORRECT ORDER.
B) CAST II.

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

110 BOREAS EXPEDITION

ARGO, FEBRUARY 28 1966, 0609 0613 GCT, 48 52N 175 00E,
SOUNDING 2765 FM, WIND 280 FORCE 6, WEATHER CLOUDY,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	2.72	33.07	26.39	164.3	0
10	2.73	33.07	26.39	164.3	.016
20	2.73	33.07	26.39	164.3	.033
30	2.73	33.07	26.39	164.3	.049
50	2.74	33.08	26.40	163.7	.082
75	2.74	33.08	26.40	163.7	.123
100	2.74	33.08	26.40	163.7	.164
125	3.39	33.50	26.68	137.4	.202
150	3.84	33.85	26.91	115.2	.234
200	3.81	33.95	26.99	107.3	.290
250	3.74	34.01	27.05	102.2	.343
300	3.72	34.09	27.11	95.9	.394
400	3.58	34.18	27.20	87.9	.489
500	3.40	34.24	27.26	81.7	.577
600	3.23	34.30	27.33	75.6	.660
700	3.07	34.35	27.38	70.5	.737
800	2.93	34.39	27.43	66.2	.810
1000	2.63	34.46	27.51	58.4	.946
1200	2.36	34.50	27.56	53.2	1.070
1500	2.11	34.54	27.62	48.3	1.242

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

111

ARGO, FEBRUARY 28 1966, 0934 0945 GCT, 48 21N 174 58E,
SOUNDING 2805 FM, WIND 280 FORCE 5, WEATHER MISSING,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	2.64	33.05	26.38	165.2	0
10	2.64	33.05	26.38	165.2	.017
20	2.64	33.05	26.38	165.2	.033
30	2.64	33.05	26.38	165.2	.050
50	2.65	33.05	26.38	165.2	.083
75	2.66	33.06	26.39	164.6	.124
100	2.68	33.06	26.39	164.7	.165
125	3.21	33.61	26.78	127.5	.202
150	3.47	33.72	26.84	121.5	.233
200	3.57	33.88	26.96	110.4	.292
250	3.68	33.98	27.03	103.9	.346
300	3.66	34.04	27.08	99.1	.398
400	3.54	34.14	27.17	90.5	.496
500	3.41	34.22	27.25	83.3	.586
600	3.25	34.28	27.31	77.3	.670
700	3.06	34.33	27.37	71.9	.749
800	2.92	34.36	27.40	68.4	.824
1000	2.64	34.43	27.48	60.8	.964
1200	2.37	34.49	27.56	54.1	1.091
1500	2.11	34.53	27.61	49.0	1.266

112 BOREAS EXPEDITION

ARGO, FEBRUARY 28 1966, 1306 1315 GCT, 47 50N 174 56E,
SOUNDING 2172 FM, WIND 310 FORCE 5, WEATHER MISSING,
SEA HIGH.

Z	T	S	SIG*T	D*T	DD
0	2.52	33.09	26.43	161.2	0
10	2.52	33.09	26.43	161.2	.016
20	2.52	33.09	26.43	161.2	.032
30	2.52	33.09	26.43	161.2	.048
50	2.53	33.09	26.42	161.3	.081
75	2.53	33.09	26.42	161.3	.121
100	2.54	33.10	26.43	160.6	.161
125	2.55	33.12	26.45	159.1	.201
150	3.66	33.76	26.86	120.3	.237
200	3.74	33.92	26.98	108.9	.295
250	3.78	33.98	27.02	104.8	.349
300	3.74	34.04	27.07	99.9	.401
400	3.62	34.15	27.17	90.5	.499
500	3.44	34.23	27.25	82.8	.589
600	3.24	34.30	27.33	75.7	.672
700	3.09	34.34	27.37	71.4	.751
800	2.91	34.38	27.42	66.8	.825
1000	2.62	34.44	27.49	59.9	.962
1200	2.39	34.49	27.55	54.2	1.088
1500	2.08	34.54	27.62	48.0	1.261

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

113 BOREAS EXPEDITION

ARGO, FEBRUARY 28 1966, 2043 1925 1932 GCT, 46 42N 174 54E, SOUNDING 3035 FM, WIND 330 FORCE 5, WEATHER SNOW,
SEA HIGH, WIRE ANGLE 25.

Z	T	S	OXY	PHO	SIL	NIT	D*T
0	3.12	33.011	7.64	1.71	41	16	172.0
27	3.12	33.008	7.59	1.72	-	-	172.2
59	3.13	33.008	7.57	1.72	41	20	172.3
90	3.12	33.008	7.59	1.73	-	-	172.2
122	3.03	33.016	7.58	1.82	44	18	170.9
171	4.06	33.667	4.61	2.20	-	-	131.0
235	3.53	33.726	3.39	2.63	-	-	121.6
308	3.64	33.867	2.19	2.90	99	35	112.0
390	3.58	33.977	1.53	3.08	-	-	103.2
481	3.54	34.096	1.12	3.16	-	-	93.8
602	3.38	34.181	.86	3.22	139	39	86.0
721	3.18	34.273	.69	3.25	-	-	77.2
839	3.00	34.333	.69	3.26	-	-	71.1
958	2.84	34.374	.66	3.27	167	38	66.7
1079	2.68	34.418	.70	3.25	-	-	62.0
1200	2.56	34.451	.78	3.27	-	-	58.5
1322	2.42	34.479	.81	3.22	183	39	55.3
1462	2.30	34.510	.97	3.20	187	38	52.0

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD

113

Z	T	S	OXY	SIG*T	D*T	DD
0	3.09	33.11	7.64	26.39	164.3	0
10	3.09	33.11	7.62	26.39	164.3	.016
20	3.09	33.11	7.60	26.39	164.3	.033
30	3.09	33.11	7.59	26.39	164.3	.049
50	3.09	33.11	7.58	26.39	164.3	.082
75	3.09	33.11	7.58	26,39	164.3	.123
100	3.08	33.13	7.58	26.41	162.7	.164
125	2.99	33.14	7.53	26.43	161.2	.205
150	3.86	33.59	5.95	26.70	134.9	.242
200	3.34	33.65	4.06	26.80	125.7	.308
250	3.41	33.75	3.08	26.87	118.7	.370
300	3.72	33.87	2.28	26.94	112.5	.429
400	3.57	34.00	1.47	27.06	101.3	.538
500	3.54	34.12	1.07	27.15	92.0	.638
600	3.42	34.20	.88	27.23	84.9	.731
700	3.26	34.25	.70	27.28	79.7	.818
800	3.10	34.31	.69	27.35	73.7	.900
1000	2.81	34.39	.67	27.44	65.2	1.050
1200	2.55	34.45	.78	27.51	58.5	1.187
1500	2.28	34.51	1.08	27.58	51.8	1.373

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

114 BOREAS EXPEDITION

ARGO, MARCH 1 1966, 0056 0104 GCT, 46 18N 174 55E, SOUNDING 2970 FM, WIND 310 FORCE 4, WEATHER CLOUDY, SEA HIGH.

0	3.08	32.94	26.26	177.0	0
10	3.08	32.94	26.26	177.0	.018
20	3.08	32.94	26.26	177.0	.035
30	3.08	32.94	26.26	177.0	.053
50	3.07	32.95	26.27	176.2	.089
75	3.04	32.95	26.27	175.9	.133
100	3.01	32.96	26.28	174.9	.177
125	2.99	32.96	26.28	174.8	.220
150	4.50	33.60	26.64	140.5	.260
200	4.14	33.67	26.74	131.6	.329
250	3.81	33.75	26.83	122.4	.393
300	3.73	33.83	26.91	115.6	.454
400	3.77	34.00	27.04	103.2	.566
500	3.67	34.11	27.13	94.0	.668
600	3.47	34.19	27.22	86.1	.762
700	3.33	34.27	27.29	78.8	.850
800	3.14	34.32	27.35	73.3	.931
1000	2.83	34.39	27.44	65.4	1.081
1200	2.54	34.45	27.51	58.4	1.218
1500	2.26	34.51	27.58	51.7	1.404

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

115

ARGO, MARCH 1 1966, 0422 0431 GCT, 45 49N 174 57E, SOUNDING 2950 FM, WIND 330 FORCE 3, WEATHER CLOUDY, SEA VERY ROUGH.

0	4.08	33.09	26.28	174.7	0
10	4.08	33.09	26.28	174.7	.017
20	4.09	33.10	26.29	174.0	.035
30	4.09	33.10	26.29	174.0	.052
50	4.10	33.10	26.29	174.1	.087
75	4.11	33.11	26.30	173.5	.131
100	4.10	33.12	26.30	172.6	.174
125	4.09	33.12	26.31	172.5	.218
150	4.21	33.19	26.35	168.4	.260
200	4.17	33.69	26.75	130.4	.336
250	3.88	33.75	26.83	123.1	.400
300	3.79	33.82	26.89	116.9	.461
400	3.89	34.01	27.03	103.6	.574
500	3.64	34.10	27.13	94.4	.677
600	3.51	34.20	27.22	85.7	.771
700	3.38	34.28	27.30	78.5	.858
800	3.16	34.33	27.36	72.7	.939
1000	2.80	34.41	27.45	63.6	1.087
1200	2.53	34.46	27.52	57.6	1.221
1500	2.26	34.51	27.58	51.7	1.406

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

116 BOREAS EXPEDITION

ARGO, MARCH 1 1966, 1104 0940 0948 GCT, 44 51N 174 57E, SOUNDING 2994 FM, WIND 090 FORCE 3, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 10.

0	4.84	33.242	7.35	1.33	27	14	170.9
89	4.92	33.242	7.28	1.34	-	-	171.7
118	4.91	33.242	7.28	1.34	28	14	171.6
152	4.84	33.235	7.27	1.36	-	-	171.4
187	4.73	33.631	6.02	1.72	37	20	140.5
222	4.42	33.665	5.01	2.04	-	-	134.8
276	4.00	33.715	3.77	2.46	-	-	126.9
344	3.76	33.818	2.65	2.79	88	33	116.8
423	3.67	33.935	1.87	3.01	-	-	107.2
512	3.62	34.058	1.37	3.12	-	-	97.4
610	3.53	34.143	1.03	3.18	129	37	90.2
737	3.34	34.240	.86	3.22	-	-	81.1
863	3.12	34.317	.82	3.25	-	-	73.4
990	2.92	34.369	.77	3.26	162	38	67.7
1116	2.74	34.399	.73	3.27	-	-	63.9
1246	2.57	34.446	.80	3.28	-	-	59.0
1373	2.40	34.483	.88	3.23	183	37	54.8
1501	2.29	34.508	1.03	3.19	-	-	52.1
1642	2.18	34.536	1.11	3.20	187	35	49.1

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD

116

0	4.82	33.24	7.35	26.32	170.8	0
10	4.86	33.24	7.33	26.32	171.2	.017
20	4.87	33.24	7.31	26.32	171.4	.034
30	4.87	33.24	7.30	26.32	171.4	.051
50	4.87	33.24	7.28	26.32	171.4	.086
75	4.87	33.25	7.28	26.33	170.6	.129
100	4.88	33.25	7.28	26.33	170.7	.172
125	4.88	33.25	7.27	26.33	170.7	.214
150	4.87	33.25	7.27	26.33	170.6	.257
200	4.64	33.64	5.60	26.66	138.9	.336
250	4.20	33.69	4.38	26.75	130.7	.404
300	3.93	33.75	3.31	26.82	123.5	.469
400	3.73	33.93	2.09	26.99	108.1	.587
500	3.66	34.05	1.43	27.09	98.4	.694
600	3.53	34.16	1.07	27.19	88.9	.792
700	3.39	34.24	.90	27.26	81.6	.882
800	3.22	34.30	.84	27.33	75.5	.966
1000	2.92	34.38	.76	27.42	66.9	1.120
1200	2.61	34.43	.77	27.49	60.5	1.261
1500	2.28	34.50	1.03	27.57	52.6	1.452

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

117 BOREAS EXPEDITION

ARGO, MARCH 1 1966, 1514 1520 GCT, 44 24N 174 58E, SOUNDING 2660 FM, WIND 110 FORCE 4, WEATHER MISSING, SEA ROUGH.

0	6.43	33.48	26.32	171.2	0
10	6.43	33.48	26.32	171.2	.017
20	6.43	33.48	26.32	171.2	.034
30	6.43	33.48	26.32	171.2	.051
50	6.45	33.49	26.33	170.7	.086
75	6.45	33.49	26.33	170.7	.129
100	6.45	33.49	26.33	170.7	.172
125	6.45	33.49	26.33	170.7	.215
150	6.45	33.50	26.33	169.9	.258
200	6.32	33.81	26.59	145.2	.338
250	6.11	33.86	26.66	138.9	.410
300	5.76	33.92	26.75	130.2	.479
400	4.70	33.97	26.92	114.7	.605
500	4.27	34.06	27.03	103.5	.719
600	3.90	34.12	27.12	95.4	.823
700	3.63	34.21	27.22	86.1	.919
800	3.41	34.28	27.29	78.8	1.007
1000	2.97	34.37	27.41	68.1	1.167
1200	2.70	34.43	27.48	61.3	1.310
1500	2.33	34.49	27.56	53.8	1.504

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

118

ARGO, MARCH 1 1966, 1826 1834 GCT, 43 59N 174 57E, SOUNDING 3220 FM, WIND 100 FORCE 5, WEATHER OVERCAST, SEA ROUGH.

0	6.80	33.55	26.33	170.6	0
10	6.80	33.55	26.33	170.6	.017
20	6.81	33.55	26.32	170.7	.034
30	6.83	33.55	26.32	171.0	.051
50	6.83	33.55	26.32	171.0	.086
75	6.83	33.55	26.32	171.0	.129
100	6.82	33.55	26.32	170.9	.172
125	6.82	33.55	26.32	170.9	.215
150	6.83	33.56	26.33	170.2	.258
200	6.84	33.88	26.58	146.5	.338
250	6.20	33.86	26.65	140.0	.411
300	6.00	33.92	26.72	133.1	.481
400	4.94	33.97	26.89	117.3	.611
500	4.41	34.05	27.01	105.7	.727
600	3.98	34.14	27.13	94.7	.832
700	3.76	34.20	27.20	88.0	.929
800	3.48	34.27	27.28	80.2	1.019
1000	3.09	34.35	27.38	70.6	1.182
1200	2.73	34.42	27.47	62.3	1.329
1500	2.40	34.48	27.54	55.1	1.527

STANDARD LEVELS OF DEPTH

	INPUT		COMPUTED		
Z	T	S	SIG*T	D*T	DD

119 BOREAS EXPEDITION

ARGO, MARCH 1 1966, 2140 2148 GCT, 43 32N 174 56E,
SOUNDING 3160 FM, WIND 120 FORCE 6, WEATHER OVERCAST,
SEA ROUGH.

0	7.17	33.53	26.26	176.9	0
10	7.18	33.53	26.26	177.0	.018
20	7.18	33.53	26.26	177.0	.035
30	7.18	33.53	26.26	177.0	.053
50	7.19	33.54	26.27	176.4	.089
75	7.18	33.54	26.27	176.3	.133
100	7.34	33.58	26.28	175.4	.177
125	7.73	33.70	26.31	171.7	.221
150	7.92	33.99	26.51	152.8	.262
200	6.64	33.87	26.60	144.7	.338
250	6.23	33.88	26.66	138.8	.410
300	5.92	33.92	26.73	132.1	.480
400	4.91	33.98	26.90	116.2	.608
500	4.38	34.05	27.01	105.4	.723
600	4.01	34.13	27.12	95.7	.829
700	3.72	34.19	27.19	88.4	.926
800	3.49	34.26	27.27	81.0	1.017
1000	3.05	34.36	27.39	69.5	1.180
1200	2.68	34.42	27.48	61.1	1.324
1500	2.39	34.48	27.55	55.0	1.521

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

120 BOREAS EXPEDITION

ARGO, MARCH 2 1966, 0234 0103 0110 GCT, 43 05N 174 58E, SOUNDING 3100 FM, WIND 110 FORCE 7, WEATHER RAIN, SEA
VERY ROUGH, WIRE ANGLE 43.

1	6.44	33.355	7.14	1.15	25	11	180.7
65	6.60	33.378	7.02	1.17	-	-	180.9
86	7.66	33.622	6.82	1.00	22	10	176.6
110	8.12	33.740	6.57	1.01	-	-	174.2
134	8.02	33.947	5.72	1.28	29	10	157.4
158	7.32	33.932	5.65	1.39	-	-	148.9
194	6.72	33.881	5.68	1.47	-	-	144.9
242	6.26	33.855	5.40	1.62	39	13	141.1
296	6.00	33.906	4.25	2.03	-	-	134.1
357	5.24	33.941	3.19	2.44	-	-	122.7
425	4.58	33.980	2.46	2.72	88	17	112.7
516	4.11	34.056	1.81	2.98	-	-	102.3
605	3.88	34.132	1.36	3.08	-	-	94.3
696	3.66	34.192	1.07	3.16	128	37	87.7
791	3.40	34.272	.83	3.23	-	-	79.3
891	3.16	34.326	.80	3.29	-	-	73.1
996	2.94	34.370	.72	3.26	158	39	67.8

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED		
Z	T	S	OXY	SIG*T	D*T	DD

120

0	6.31	33.35	7.14	26.23	179.4	0
10	6.31	33.35	7.12	26.23	179.4	.018
20	6.31	33.35	7.10	26.23	179.4	.036
30	6.31	33.35	7.08	26.23	179.4	.054
50	6.31	33.36	7.04	26.24	178.7	.090
75	6.31	33.36	6.94	26.24	178.7	.135
100	6.56	33.42	6.67	26.26	177.3	.179
125	8.21	33.95	5.73	26.44	159.9	.222
150	7.79	33.98	5.65	26.53	151.7	.262
200	6.74	33.90	5.65	26.61	143.7	.337
250	6.22	33.88	5.23	26.66	138.7	.409
300	5.97	33.93	4.17	26.73	132.0	.478
400	4.94	33.97	2.71	26.89	117.3	.607
500	4.30	34.05	1.91	27.02	104.6	.722
600	3.90	34.14	1.38	27.13	93.9	.827
700	3.63	34.21	1.05	27.22	86.1	.922
800	3.42	34.28	.82	27.29	78.8	1.010
1000	2.99	34.36	.72	27.40	69.0	1.170
1200	2.63	34.44	-	27.49	59.9	1.313
1500	2.32	34.49	-	27.56	53.7	1.505

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

121 BOREAS EXPEDITION

ARGO, MARCH 2 1966, 0622 0632 GCT, 42 36N 175 00E,
SOUNDING 2848 FM, WIND 110 FORCE 7, WEATHER RAIN,
SEA VERY HIGH.

0	7.27	33.53	26.25	178.2	0
10	7.27	33.53	26.25	178.2	.018
20	7.27	33.53	26.25	178.2	.036
30	7.27	33.53	26.25	178.2	.054
50	7.27	33.53	26.25	178.2	.089
75	7.27	33.53	26.25	178.2	.134
100	7.27	33.53	26.25	178.2	.179
125	7.28	33.54	26.25	177.6	.224
150	8.07	34.03	26.52	151.9	.266
200	6.74	33.91	26.62	143.6	.341
250	6.28	33.92	26.69	136.5	.412
300	5.75	33.95	26.76	127.9	.480
400	4.88	33.98	26.90	115.9	.606
500	4.26	34.07	27.04	102.7	.719
600	3.86	34.13	27.13	94.3	.823
700	3.68	34.21	27.21	86.5	.918
800	3.41	34.27	27.29	79.5	1.007
1000	3.05	34.37	27.40	68.8	1.168
1200	2.68	34.43	27.48	61.1	1.312

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

122

ARGO, MARCH 2 1966, 1007 1024 GCT, 42 06N 175 00E,
SOUNDING 3000 FM, WIND 120 FORCE 6, WEATHER RAIN,
SEA HIGH.

0	6.83	33.43	26.23	179.9	0
10	6.82	33.43	26.23	179.8	.018
20	6.82	33.43	26.23	179.8	.036
30	6.82	33.43	26.23	179.8	.054
50	6.82	33.43	26.23	179.8	.090
75	6.82	33.43	26.23	179.8	.135
100	6.74	33.42	26.23	179.5	.180
125	7.21	33.65	26.35	168.5	.224
150	7.58	33.92	26.51	153.3	.265
200	6.54	33.88	26.62	142.7	.340
250	6.15	33.89	26.68	137.1	.412
300	5.53	33.91	26.77	128.3	.480
400	4.70	33.99	26.93	113.2	.605
500	4.31	34.07	27.04	103.2	.717
600	3.90	34.15	27.14	93.1	.820
700	3.63	34.23	27.23	84.6	.914
800	3.34	34.29	27.31	77.4	1.001
1000	2.97	34.38	27.42	67.3	1.158
1200	2.65	34.44	27.49	60.1	1.299
1500	2.33	34.50	27.57	53.0	1.490

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

123 BOREAS EXPEDITION

ARGO, MARCH 2 1966, 1434 1443 GCT, 41 29N 175 00E,
SOUNDING 3030 FM, WIND 160 FORCE 5, WEATHER RAIN,
SEA VERY ROUGH.

0	6.46	33.46	26.30	173.1	0
10	6.46	33.46	26.30	173.1	.017
20	6.46	33.46	26.30	173.1	.035
30	6.47	33.46	26.30	173.2	.052
50	6.48	33.47	26.31	172.6	.087
75	6.47	33.47	26.31	172.4	.130
100	7.34	33.69	26.36	167.2	.173
125	7.97	33.84	26.39	164.6	.215
150	8.18	33.92	26.42	161.7	.256
200	7.48	33.95	26.55	149.7	.335
250	6.32	33.89	26.66	139.2	.409
300	5.74	33.88	26.72	133.0	.479
400	4.96	33.96	26.88	118.3	.609
500	4.39	34.04	27.00	106.3	.725
600	4.11	34.11	27.09	98.2	.833
700	3.77	34.21	27.20	87.4	.931
800	3.50	34.26	27.27	81.1	1.021
1000	3.03	34.36	27.39	69.4	1.184
1200	2.71	34.42	27.47	62.1	1.329
1500	2.35	34.48	27.55	54.7	1.527

124

ARGO, MARCH 2 1966, 1800 1807 GCT, 41 02N 175 00E,
SOUNDING 3018 FM, WIND 140 FORCE 5, WEATHER RAIN,
SEA HIGH.

0	10.82	34.24	26.24	179.2	0
10	10.82	34.24	26.24	179.2	.018
20	10.81	34.25	26.25	178.3	.036
30	10.81	34.25	26.25	178.3	.054
50	10.76	34.24	26.25	178.2	.090
75	10.58	34.22	26.26	176.6	.134
100	9.25	34.01	26.32	170.8	.178
125	7.87	33.79	26.36	167.0	.221
150	7.82	33.79	26.37	166.3	.263
200	7.82	33.79	26.37	166.3	.348
250	8.33	34.06	26.51	153.4	.429
300	7.21	33.94	26.58	146.8	.507
400	5.90	33.94	26.75	130.4	.650
500	4.80	33.98	26.91	115.0	.778
600	4.32	34.05	27.02	104.8	.893
700	4.01	34.14	27.12	95.0	.999
800	3.70	34.23	27.23	85.2	1.095
1000	3.18	34.34	27.36	72.2	1.266
1200	2.79	34.41	27.46	63.5	1.416
1500	2.37	34.48	27.55	54.8	1.616

125 BOREAS EXPEDITION

ARGO, MARCH 2 1966, 2341 2347 GCT, 41 02N 173 45E,
SOUNDING 2612 FM, WIND 160 FORCE 4, WEATHER PARTLY CLOUDY,
SEA HIGH.

0	11.14	34.29	26.22	180.9	0
10	11.14	34.29	26.22	180.9	.018
20	11.14	34.29	26.22	180.9	.036
30	11.13	34.29	26.22	180.8	.054
50	11.12	34.29	26.22	180.6	.091
75	11.12	34.29	26.22	180.6	.136
100	11.10	34.29	26.22	180.3	.182
125	10.94	34.28	26.25	178.3	.227
150	10.90	34.27	26.25	178.3	.273
200	10.91	34.27	26.24	178.5	.364
250	9.88	34.23	26.39	164.4	.452
300	8.46	34.11	26.53	151.6	.534
400	6.62	33.96	26.67	137.7	.684
500	5.31	34.00	26.87	119.1	.818
600	4.66	34.04	26.97	109.1	.938
700	4.13	34.13	27.10	96.9	1.047
800	3.70	34.22	27.22	86.0	1.145
1000	3.25	34.32	27.34	74.3	1.318
1200	2.83	34.41	27.45	63.9	1.471
1500	3.39	34.47	27.45	64.3	1.691

126

ARGO, MARCH 3 1966, 0525 0532 GCT, 41 03N 172 34E,
SOUNDING 2678 FM, WIND 130 FORCE 4, WEATHER PARTLY CLOUDY,
SEA VERY ROUGH.

0	10.93	34.27	26.24	178.8	0
10	10.87	34.27	26.25	177.8	.018
20	10.79	34.26	26.26	177.2	.036
30	10.76	34.26	26.26	176.7	.053
50	10.74	34.26	26.27	176.3	.089
75	10.68	34.25	26.27	176.1	.133
100	10.63	34.24	26.27	176.0	.178
125	10.58	34.24	26.28	175.1	.222
150	10.53	34.23	26.28	175.0	.267
200	10.02	34.22	26.36	167.4	.354
250	9.15	34.14	26.44	159.7	.438
300	8.40	34.08	26.51	152.9	.519
400	6.53	33.97	26.69	135.8	.669
500	5.37	34.01	26.87	119.0	.802
600	4.47	34.06	27.01	105.6	.920
700	4.15	34.15	27.12	95.6	1.027
800	3.76	34.21	27.20	87.3	1.124
1000	3.28	34.31	27.33	75.3	1.301
1200	2.91	34.39	27.43	66.1	1.457
1500	2.44	34.47	27.53	56.1	1.663

127 BOREAS EXPEDITION

ARGO, MARCH 3 1966, 1049 1056 GCT, 41 00N 171 12E,
SOUNDING 3140 FM, WIND 120 FORCE 4, WEATHER MISSING,
SEA VERY ROUGH.

0	10.97	34.27	26.23	179.5	0
10	10.97	34.27	26.23	179.5	.018
20	10.97	34.27	26.23	179.5	.036
30	10.97	34.27	26.23	179.5	.054
50	10.87	34.26	26.24	178.5	.090
75	10.85	34.27	26.25	177.5	.135
100	10.85	34.27	26.25	177.5	.180
125	10.73	34.24	26.25	177.6	.225
150	10.22	34.17	26.29	174.4	.269
200	9.74	34.18	26.38	165.9	.356
250	8.87	34.12	26.47	156.9	.439
300	7.71	34.02	26.57	147.6	.518
400	6.13	33.95	26.73	132.4	.663
500	5.20	34.00	26.88	117.9	.793
600	4.51	34.07	27.02	105.2	.911
700	4.05	34.14	27.12	95.3	1.017
800	3.69	34.22	27.22	85.9	1.114
1000	3.21	34.32	27.35	73.9	1.287
1200	2.85	34.39	27.43	65.5	1.441
1500	2.40	34.47	27.54	55.8	1.646

128

ARGO, MARCH 3 1966, 1915 1922 GCT, 41 00N 169 05E,
SOUNDING 3038 FM, WIND 030 FORCE 3, WEATHER PARTLY CLOUDY,
SEA ROUGH.

0	10.85	34.27	26.25	177.5	0
10	10.85	34.27	26.25	177.5	.018
20	10.85	34.27	26.25	177.5	.036
30	10.85	34.27	26.25	177.5	.053
50	10.87	34.28	26.26	177.1	.089
75	10.87	34.28	26.26	177.1	.134
100	10.83	34.28	26.27	176.4	.178
125	10.79	34.28	26.27	175.7	.223
150	10.75	34.27	26.27	175.8	.268
200	10.28	34.24	26.33	170.2	.356
250	9.65	34.17	26.38	165.2	.442
300	8.90	34.12	26.47	157.3	.525
400	6.73	33.98	26.67	137.6	.679
500	5.47	34.02	26.87	119.4	.813
600	4.78	34.07	26.99	108.1	.933
700	4.16	34.13	27.10	97.2	1.042
800	3.75	34.21	27.21	87.2	1.140
1000	3.27	34.32	27.34	74.5	1.315
1200	2.85	34.39	27.43	65.5	1.470
1500	2.37	34.47	27.54	55.6	1.674

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

129 BOREAS EXPEDITION

ARGO, MARCH 4 1966, 0741 0749 GCT, 40 59N 166 54E,
SOUNDING 2995 FM, WIND 360 FORCE 4, WEATHER RAIN,
SEA VERY ROUGH.

0	11.26	34.32	26.22	180.8	0
10	11.26	34.32	26.22	180.8	.018
20	11.26	34.32	26.22	180.8	.036
30	11.26	34.32	26.22	180.8	.054
50	11.11	34.29	26.22	180.4	.091
75	10.97	34.28	26.24	178.8	.136
100	10.81	34.27	26.26	176.8	.181
125	10.72	34.27	26.28	175.3	.225
150	10.50	34.24	26.29	173.8	.270
200	9.68	34.20	26.40	163.4	.356
250	8.76	34.13	26.50	154.5	.438
300	7.66	34.03	26.58	146.2	.515
400	6.38	34.00	26.74	131.7	.659
500	5.32	34.03	26.89	117.0	.789
600	4.63	34.09	27.02	105.0	.906
700	4.17	34.15	27.11	95.8	1.013
800	3.65	34.22	27.22	85.5	1.110
1000	3.18	34.34	27.36	72.2	1.281
1200	2.80	34.41	27.45	63.6	1.431
1500	2.38	34.48	27.55	54.9	1.631

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

130

ARGO, MARCH 4 1966, 2218 2225 GCT, 40 02N 164 09E,
SOUNDING 2660 FM, WIND 030 FORCE 3, WEATHER RAIN,
SEA ROUGH.

0	9.02	34.13	26.45	158.4	0
10	9.02	34.14	26.46	157.7	.016
20	9.02	34.14	26.46	157.7	.032
30	9.02	34.14	26.46	157.7	.047
50	9.03	34.14	26.46	157.8	.079
75	9.02	34.13	26.45	158.4	.119
100	8.85	34.12	26.47	156.6	.159
125	8.68	34.10	26.48	155.5	.198
150	8.18	34.01	26.49	155.0	.238
200	7.32	33.91	26.54	150.5	.316
250	6.20	33.86	26.65	140.0	.390
300	6.07	33.95	26.74	131.7	.459
400	4.82	33.99	26.92	114.5	.587
500	4.45	34.06	27.01	105.4	.701
600	3.94	34.14	27.13	94.3	.806
700	3.69	34.23	27.23	85.1	.901
800	3.45	34.29	27.30	78.4	.988
1000	3.04	34.37	27.40	68.7	1.148
1200	2.68	34.43	27.48	61.1	1.292
1500	2.28	34.50	27.57	52.6	1.484

OBSERVED LEVELS OF DEPTH

	INPUT						COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T

131 BOREAS EXPEDITION

ARGO, MARCH 5 1966, 0522 0407 0415 GCT, 41 01N 164 19E, SOUNDING 2610 FM, WIND 030 FORCE 3, WEATHER CLOUDY,
SEA MODERATE, WIRE ANGLE 12.

0	7.08	33.654	7.02	1.34	25	12	166.4
88	7.18	33.797	6.78	1.07	-	-	157.1
117	7.21	33.804	6.79	1.09	24	12	157.0
152	7.22	33.805	6.77	1.14	-	-	157.0
186	7.12	33.857	6.20	1.26	29	12	151.8
220	6.42	33.902	5.44	1.57	-	-	139.5
274	5.76	33.902	4.13	2.06	-	-	131.6
343	5.20	33.948	3.10	2.43	74	33	121.8
421	4.73	34.022	2.41	2.66	-	-	111.1
510	4.17	34.090	1.80	2.91	-	-	100.3
608	3.84	34.187	1.25	3.06	123	40	89.8
735	3.45	34.279	.91	3.17	-	-	79.2
863	3.16	34.344	.78	3.22	-	-	71.7
991	2.93	34.395	.79	3.23	159	41	65.8
1118	2.74	34.436	.77	3.27	-	-	61.1
1245	2.53	34.475	.86	3.18	-	-	56.5
1372	2.38	34.505	.90	3.01U	177	40	53.0
1498	2.28	34.522	1.02	3.19	-	-	50.9
1637	2.18	34.545	1.12	3.14	182	40	48.4

STANDARD LEVELS OF DEPTH

	INPUT				COMPUTED	
Z	T	S	OXY	SIG*T	D*T	DD

131

0	7.01	33.73	7.02	26.44	159.9	0
10	7.01	33.73	6.99	26.44	159.9	.016
20	7.01	33.73	6.95	26.44	159.9	.032
30	6.99	33.73	6.90	26.44	159.6	.048
50	7.04	33.75	6.83	26.45	158.8	.080
75	7.11	33.79	6.80	26.47	156.7	.120
100	7.15	33.81	6.78	26.48	155.7	.159
125	7.16	33.81	6.78	26.48	155.9	.198
150	7.08	33.79	6.77	26.48	156.3	.238
200	7.09	33.91	5.93	26.57	147.5	.315
250	6.15	33.87	4.68	26.66	138.6	.388
300	5.75	33.91	3.72	26.74	130.9	.457
400	4.84	33.99	2.58	26.92	114.7	.584
500	4.23	34.07	1.85	27.05	102.4	.697
600	3.94	34.17	1.28	27.15	92.0	.799
700	3.61	34.24	.98	27.24	83.6	.892
800	3.33	34.30	.82	27.32	76.5	.978
1000	2.94	34.38	.78	27.42	67.1	1.134
1200	2.62	34.45	.82	27.50	59.1	1.273
1500	2.24	34.50	1.03	27.57	52.3	1.462

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

132 BOREAS EXPEDITION

ARGO, MARCH 5 1966, 1015 1018 GCT, 41 42N 164 14E,
SOUNDING 2543 FM, WIND 110 FORCE 3, WEATHER RAIN,
SEA ROUGH.

0	6.10	33.55	26.42	162.0	0
10	6.11	33.55	26.42	162.1	.016
20	6.11	33.55	26.42	162.1	.032
30	6.11	33.55	26.42	162.1	.049
50	6.11	33.55	26.42	162.1	.081
75	5.97	33.60	26.47	156.7	.121
100	6.07	33.62	26.48	156.4	.161
125	6.10	33.64	26.49	155.2	.200
150	6.17	33.67	26.50	153.8	.239
200	6.47	33.77	26.54	150.0	.316
250	5.82	33.84	26.68	136.9	.389
300	5.32	33.88	26.77	128.2	.457
400	4.27	33.93	26.93	113.3	.582
500	4.29	34.09	27.05	101.5	.693
600	3.97	34.18	27.16	91.6	.794
700	3.64	34.25	27.25	83.1	.887
800	3.30	34.29	27.31	77.0	.973
1000	2.95	34.37	27.41	67.9	1.130
1200	2.63	34.44	27.49	59.9	1.271
1500	2.29	34.50	27.57	52.7	1.462

STANDARD LEVELS OF DEPTH

	INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD

133

ARGO, MARCH 5 1966, 1410 1419 GCT, 42 23N 164 10E,
SOUNDING 2681 FM, WIND 160 FORCE 4, WEATHER MISSING,
SEA MODERATE.

0	5.23	33.47	26.46	158.0	0
10	5.22	33.47	26.46	157.8	.016
20	5.23	33.47	26.46	158.0	.032
30	5.23	33.47	26.46	158.0	.047
50	5.19	33.47	26.46	157.5	.079
75	5.17	33.47	26.47	157.3	.119
100	5.17	33.47	26.47	157.3	.158
125	5.30	33.51	26.48	155.7	.198
150	5.59	33.56	26.49	155.2	.237
200	5.85	33.80	26.65	140.3	.312
250	5.87	33.90	26.72	133.0	.381
300	5.44	33.94	26.81	125.1	.448
400	4.50	34.00	26.96	110.4	.569
500	4.21	34.11	27.08	99.2	.678
600	3.91	34.18	27.17	91.0	.778
700	3.67	34.25	27.25	83.4	.871
800	3.41	34.30	27.31	77.2	.957
1000	2.98	34.39	27.42	66.7	1.113
1200	2.65	34.44	27.49	60.1	1.253
1500	2.26	34.50	27.57	52.4	1.444

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
INPUT							COMPUTED	INPUT				COMPUTED		
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
134					BOREAS EXPEDITION								134	
ARGO, MARCH 5 1966, 1936 1814 1820 GCT, 43 04N 164 06E, SOUNDING 3053 FM, WIND 160 FORCE 5, WEATHER OVERCAST, SEA ROUGH, WIRE ANGLE 39.														
0	5.02	33.467	7.28	1.33	27	16	155.9	0	4.98	33.46	7.28	26.48	156.0	0
67	5.01	33.463	7.22	1.25	-	-	156.1	10	4.98	33.46	7.27	26.48	156.0	.016
90	5.02	33.466	7.23	1.26	28	14	156.0	20	4.98	33.46	7.26	26.48	156.0	.031
117	5.02	33.467	7.22	1.27	-	-	155.9	30	4.98	33.46	7.25	26.48	156.0	.047
143	5.06	33.473	7.20	1.26	28	14	155.9	50	4.98	33.46	7.23	26.48	156.0	.078
170	5.06	33.479	7.19	1.27	-	-	155.4	75	5.00	33.46	7.22	26.48	156.2	.117
211	5.54	33.773	6.05	1.56	-	-	138.7	100	5.01	33.47	7.22	26.48	155.6	.157
265	5.28	33.821	4.61	1.99	55	26	132.2	125	5.02	33.47	7.21	26.48	155.7	.196
324	4.60	33.880	3.14	2.52	-	-	120.4	150	5.03	33.48	7.20	26.49	155.0	.235
393	4.26	33.946	2.48	2.73	-	-	112.0	200	5.66	33.74	6.42	26.62	142.6	.310
469	3.92	34.027	1.84	2.91	106	34	102.6	250	5.45	33.80	5.20	26.69	135.7	.381
568	3.76	34.121	1.42	3.07	-	-	94.0	300	4.89	33.88	3.56	26.82	123.5	.447
666	3.56	34.217	1.11	3.13	-	-	84.9	400	4.45	33.97	2.42	26.94	112.1	.569
764	3.38	34.280	.91	3.18	141	40	78.5	500	4.07	34.07	1.72	27.06	100.8	.679
863	3.18	34.327	.84	3.22	-	-	73.2	600	3.74	34.17	1.31	27.17	90.1	.779
965	3.03	34.371	.80	3.21	-	-	68.5	700	3.55	34.24	1.02	27.25	83.1	.871
1071	2.85	34.414	.90	3.18	162	40	63.7	800	3.27	34.29	.88	27.32	76.7	.957
1178	2.66	34.439	.84	3.24	-	-	60.3	1000	2.97	34.37	.83	27.41	68.1	1.114
1306	2.48	34.464	.88	3.22	175	39	55.4	1200	2.64	34.44	.84	27.49	60.0	1.255
								1500	2.29	34.50	-	27.57	52.7	1.446

STANDARD LEVELS OF DEPTH						STANDARD LEVELS OF DEPTH					
INPUT			COMPUTED			INPUT			COMPUTED		
Z	T	S	SIG*T	D*T	DD	Z	T	S	SIG*T	D*T	DD
135			BOREAS EXPEDITION						BOREAS EXPEDITION		136
ARGO, MARCH 6 1966, 0037 0044 GCT, 43 44N 164 04E, SOUNDING 3078 FM, WIND 150 FORCE 6, WEATHER RAIN, SEA VERY ROUGH.						ARGO, MARCH 6 1966, 0432 0438 GCT, 44 19N 164 02E, SOUNDING 3085 FM, WIND 250 FORCE 4, WEATHER SNOW, SEA ROUGH.					
0	4.97	33.47	26.49	155.1	0	0	3.72	33.34	26.52	152.5	0
10	4.97	33.47	26.49	155.1	.016	10	3.72	33.34	26.52	152.5	.015
20	4.97	33.47	26.49	155.1	.031	20	3.73	33.35	26.52	151.8	.030
30	4.97	33.48	26.50	154.4	.047	30	3.73	33.35	26.52	151.8	.046
50	4.97	33.48	26.50	154.4	.078	50	3.73	33.35	26.52	151.8	.076
75	4.96	33.48	26.50	154.3	.116	75	3.74	33.36	26.53	151.1	.114
100	4.96	33.48	26.50	154.3	.155	100	3.75	33.36	26.53	151.2	.152
125	4.97	33.49	26.50	153.6	.194	125	3.78	33.37	26.54	150.8	.190
150	5.02	33.53	26.53	151.2	.232	150	3.80	33.37	26.53	150.9	.228
200	5.44	33.77	26.67	137.8	.305	200	4.92	33.68	26.66	138.8	.301
250	5.09	33.81	26.74	130.9	.374	250	4.77	33.76	26.74	131.2	.370
300	4.80	33.89	26.84	121.8	.439	300	4.23	33.75	26.79	126.5	.436
400	4.18	33.98	26.98	108.7	.557	400	3.94	33.94	26.97	109.3	.556
500	4.06	34.08	27.07	100.0	.665	500	3.69	34.04	27.08	99.4	.664
600	3.74	34.16	27.17	90.9	.765	600	3.60	34.15	27.17	90.3	.764
700	3.46	34.21	27.23	84.5	.858	700	3.39	34.21	27.24	83.9	.856
800	3.28	34.28	27.31	77.6	.945	800	3.22	34.26	27.30	78.6	.942
1000	2.91	34.37	27.41	67.6	1.102	1000	2.87	34.36	27.41	68.0	1.100
1200	2.58	34.43	27.49	60.3	1.243	1200	2.58	34.42	27.48	61.0	1.242
1500	2.26	34.50	27.57	52.4	1.433	1500	2.29	34.49	27.56	53.4	1.435

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
137					BOREAS EXPEDITION									137
ARGO, MARCH 6 1966, 1005 1307 1042 1058 GCT, 45 03N 163 57E, SOUNDING 2752 FM, WIND 250 FORCE 5, WEATHER SNOW, SEA ROUGH, WIRE ANGLE 21 38.														
0	2.37	33.113	7.76	1.66	36	13	158.3	0	2.45	33.09	7.76	26.43	160.7	0
46	2.31	33.105	7.62	1.60	-	-	158.5	10	2.47	33.10	7.73	26.44	160.0	.016
69	2.32	33.105	7.52	1.62	36	14	158.5	20	2.47	33.10	7.70	26.44	160.0	.032
91	2.30	33.114	7.32	1.64	-	-	157.7	30	2.47	33.10	7.67	26.44	160.0	.048
115	2.58	33.149	7.26	1.61	35	15	157.2	50	2.47	33.10	7.60	26.44	160.0	.080
137	3.98	33.425	6.92	1.53	-	-	148.5	75	2.45	33.10	7.50	26.44	159.9	.120
160	5.16	33.753	5.21	1.82	-	-	136.0	100	2.63	33.14	7.31	26.46	158.3	.160
182	4.46	33.737	4.16	2.18	60	24	129.8	125	3.13	33.25	7.09	26.50	154.0	.199
227	3.56	33.685	3.81	2.47	-	-	125.0	150	4.57	33.57	5.85	26.61	143.4	.237
272	4.22	33.831	3.16	2.54	-	-	120.3	200	4.56	33.72	3.97	26.73	132.1	.306
317	4.10	33.877	2.64	2.66	84	28	115.6	250	4.44	33.81	3.50	26.82	124.1	.371
361	4.00	33.929	2.27	2.81	-	-	110.7	300	4.24	33.86	2.85	26.88	118.3	.433
451	3.78	34.016	1.76	2.98	-	-	102.1	400	3.94	33.96	2.05	26.99	107.8	.549
541	3.68	34.124	1.24	3.08	118	35	93.0	500	3.76	34.07	1.46	27.09	97.8	.656
629	3.42	34.035U	-	-	-	-	97.3	600	3.45	34.15	-	27.19	88.9	.753
766	3.09	34.265	.75	3.20	-	-	77.0	700	3.30	34.22	.82	27.26	82.3	.844
899	2.98	34.337	.64	3.23	154	38	70.7	800	3.11	34.28	.70	27.32	76.1	.928
1076	2.72	34.399	.67	3.26	-	-	63.8	1000	2.85	34.37	.65	27.42	67.1	1.083
1299	2.46	34.472	.83	3.23	-	-	56.1	1200	2.55	34.43	.75	27.49	60.0	1.223
1531	2.26A	34.527	.93	3.20	184	38	50.4	1500	2.22	34.48	.93	27.56	53.7	1.414
1657B	2.12	34.547	1.00	3.16	188	32	47.8	2000	1.92	34.59	1.75	27.67	43.1	1.694
1952B	1.93	34.591	1.68	3.05	191	32	43.1	2500	1.71	34.64	2.33	27.73	37.8	1.940
2255B	1.80	34.623	2.06	2.96	-	32	39.7	3000	1.59	34.66	2.86	27.75	35.4	2.170
2525B	1.69	34.646	2.37	2.91	185	30	37.2	4000	1.51	34.68	3.50	27.77	33.3	2.625
2806B	1.63	34.657	2.71	2.85	182	31	35.9	5000	1.57	34.69	3.67	27.78	33.0	3.095
3097B	1.57	34.667	2.93	2.77	177	27	34.7	6000	1.69	34.69	3.69	27.77	33.8	3.603
3389B	1.54	34.673	3.16	2.74	172	28	34.1							
3681B	1.52	34.678	3.31	2.69	171	26	33.5							
3875B	1.51	34.683	3.39	2.67	170	26	33.1							
4023B	1.51	34.686	3.52	2.67	171	30	32.9							
4170B	1.50	34.686	3.59	2.67	169	29	32.8							
4364B	1.52	34.686	3.61	2.50	167	30	32.9							
4659B	1.53	34.685	3.66	2.63	167	30	33.1							
4953B	1.56	34.691	3.66	2.66	167	30	32.8							
5249B	1.59C	34.690	3.72	2.62	168	29	33.1							
5550B	1.63	34.696	3.71	2.55	171	29	32.9							
5942B	1.68	34.690	3.70	2.58	167	28	33.7							
5989B	1.69	34.690	3.69	2.64	168	28	33.8							

STANDARD LEVELS OF DEPTH						STANDARD LEVELS OF DEPTH					
	INPUT			COMPUTED			INPUT			COMPUTED	
Z	T	S	SIG*T	D*T	DD	Z	T	S	SIG*T	D*T	DD
138				BOREAS EXPEDITION							139
ARGO, MARCH 6 1966, 2009 2018 GCT, 45 40N 163 50E, SOUNDING 3064 FM, WIND 260 FORCE 5, WEATHER PARTLY CLOUDY, SEA HIGH.						ARGO, MARCH 6 1966, 2348 2350 GCT, 46 20N 163 47E, SOUNDING 3210 FM, WIND 260 FORCE 5, WEATHER PARTLY CLOUDY, SEA VERY HIGH.					
0	1.70	33.00	26.42	162.1	0	0	1.57	33.01	26.43	160.5	0
10	1.70	33.00	26.42	162.1	.016	10	1.57	33.01	26.43	160.5	.016
20	1.70	33.00	26.42	162.1	.032	20	1.57	33.01	26.43	160.5	.032
30	1.70	33.00	26.42	162.1	.049	30	1.57	33.01	26.43	160.5	.048
50	1.70	33.00	26.42	162.1	.081	50	1.57	33.01	26.43	160.5	.080
75	1.20	32.99	26.44	159.7	.121	75	1.54	33.01	26.43	160.3	.120
100	1.19	33.00	26.45	158.9	.161	100	1.82	33.08	26.47	156.9	.160
125	1.65	33.09	26.49	154.9	.200	125	2.53	33.31	26.60	144.6	.198
150	4.95	33.75	26.71	133.9	.237	150	4.14	33.67	26.74	131.6	.233
200	3.67	33.66	26.78	127.9	.303	200	3.61	33.66	26.78	127.3	.298
250	3.73	33.78	26.87	119.4	.366	250	3.54	33.80	26.90	116.1	.360
300	3.70	33.85	26.92	113.8	.425	300	3.68	33.88	26.95	111.4	.418
400	3.24	33.91	27.02	105.1	.537	400	3.36	33.96	27.04	102.4	.527
500	3.41	34.07	27.13	94.6	.640	500	3.68	34.11	27.13	94.1	.629
600	3.43	34.18	27.21	86.5	.734	600	3.38	34.19	27.23	85.3	.723
700	3.14	34.24	27.29	79.4	.822	700	3.26	34.25	27.28	79.7	.810
800	2.99	34.29	27.34	74.3	.904	800	3.03	34.29	27.34	74.6	.892
1000	2.76	34.37	27.43	66.3	1.056	1000	2.73	34.37	27.43	66.1	1.044
1200	2.54	34.44	27.50	59.2	1.194	1200	2.52	34.44	27.50	59.0	1.181
1500	2.24	34.50	27.57	52.3	1.382	1500	2.30	34.48	27.55	54.3	1.372

A) ALTERNATE VALUE, 2.20, NOT USED IN INTERPOLATION.
B) CAST II. INTERPOLATION ABOVE 2000 METERS FROM STD RECORDING.
C) ALTERNATE VALUE, 1.64, NOT USED IN INTERPOLATION.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
140					BOREAS EXPEDITION									140
ARGO, MARCH 7 1966, 0536 0402 0410 GCT, 47 00N 163 50E, SOUNDING 3100 FM, WIND 280 FORCE 5, WEATHER PARTLY CLOUDY, SEA VERY HIGH, WIRE ANGLE 32.														
2	1.20	32.996	7.97	1.87	48	17	159.2	0	1.09	32.97	7.97	26.43	160.6	0
77	1.14	32.990	8.02	1.86	-	-	159.3	10	1.09	32.97	7.98	26.43	160.6	.016
101	1.10	32.986	7.85	1.86	47	17	159.4	20	1.09	32.97	7.99	26.43	160.6	.032
130	1.18	33.001	7.72	1.88	-	-	158.7	30	1.09	32.97	8.00	26.43	160.6	.048
159	2.13	33.455	4.39	2.51	78	23	130.6	50	1.09	32.97	8.01	26.43	160.6	.080
188	2.46	33.572	3.48	2.73	-	-	124.2	75	1.07	32.97	8.02	26.43	160.5	.120
231	2.74	33.693	2.59	2.93	-	-	117.3	100	1.09	32.97	7.85	26.43	160.6	.161
288	3.20	33.845	1.37	3.13	108	31	109.7	125	1.03	32.98	7.77	26.44	159.5	.201
354	3.26	33.980	1.08	3.20	-	-	100.0	150	2.12	33.49	4.85	26.78	127.9	.237
427	3.38	34.090	.73	3.22	-	-	92.8	200	2.53	33.58	3.20	26.82	124.2	.300
512	3.28	34.167	.68	3.26	136	31	86.1	250	3.05	33.76	2.17	26.91	114.8	.360
608	3.14	34.240	.57	3.31	-	-	79.4	300	3.11	33.84	1.30	26.97	109.3	.417
727	3.03	34.297	.52	3.30	-	-	74.1	400	3.42	34.04	.82	27.10	96.9	.523
834	2.93	34.355	.41	3.31	163	31	68.9	500	3.34	34.14	.69	27.19	88.7	.619
942	2.78	34.395	.41	3.29	-	-	64.6	600	3.17	34.22	.58	27.27	81.1	.707
1050	2.60	34.430	.50	3.30	-	-	60.4	700	3.15	34.29	.52	27.33	75.7	.790
1162A	2.46	34.472	.62	3.23	180	30	56.1	800	2.98	34.33	.41	27.37	71.2	.869
1276A	2.31	34.494	.81	3.29	-	-	53.3	1000	2.71	34.40	.46	27.45	63.6	1.015
1416A	2.18	34.532	1.00	3.24	187	30	49.4	1200	2.41	34.48	.70	27.54	55.1	1.146
								1500	2.13	34.54	1.10	27.61	48.4	1.321
141					BOREAS EXPEDITION									141
ARGO, MARCH 7 1966, 1648 GCT, 48 20N 163 35E, SOUNDING 3515 FM, WIND 190 FORCE 4, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE MISSING.														
0	1.02B	33.048B	7.90	2.09	51	10	154.2	0	1.02	33.05	7.90	26.50	154.1	0
83	1.04	33.052	7.81	2.03	-	-	154.0	10	1.02	33.05	7.89	26.50	154.1	.015
112	1.06	33.052	7.65	2.05	52	18	154.2	20	1.03	33.05	7.88	26.50	154.1	.031
145	1.06	33.079	7.64	2.06	-	-	152.1	30	1.03	33.05	7.87	26.50	154.1	.046
177	3.55	33.826	1.14	3.22	102	29	114.3	50	1.04	33.05	7.85	26.50	154.2	.077
209	3.56	33.895	.84	3.30	-	-	109.2	75	1.04	33.05	7.82	26.50	154.2	.116
260	3.68	33.993	.57	3.34	-	-	102.9	100	1.05	33.05	7.73	26.50	154.2	.154
325	3.62	34.076	.42	3.34	125	32	96.1	125	1.06	33.05	7.64	26.50	154.3	.193
401	3.54	34.125	.48	3.31	-	-	91.6	150	1.10	33.10	7.50	26.54	150.7	.231
486	3.45	34.210	.43	3.29	-	-	84.4	200	3.56	33.89	.91	26.97	109.5	.296
580	3.30	34.270	.43	3.31	148	30	78.5	250	3.67	33.98	.61	27.03	103.8	.350
705	3.11	34.324	.41	3.29	-	-	72.8	300	3.64	34.05	.46	27.09	98.2	.402
828	2.89	34.379	.43	3.31	-	-	66.7	400	3.54	34.12	.48	27.15	92.0	.500
952	2.68	34.385U	.55	3.27	175	33	64.5	500	3.43	34.22	.43	27.24	83.5	.591
1076	2.48	34.468	.62	3.32	-	-	56.6	600	3.28	34.28	.42	27.31	77.6	.676
1201	2.32	34.501	.77	3.23	-	-	52.8	700	3.12	34.32	.41	27.35	73.2	.755
1326	2.22	34.526	1.00	3.05U	185	28	50.2	800	2.95	34.37	.43	27.41	67.9	.831
1452	2.10	34.538	1.12	3.16	-	-	48.3	1000	2.60	34.44	.58	27.50	59.7	.969
1597	2.00	34.570	1.32	3.09	189	29	45.2	1200	2.32	34.50	.77	27.57	52.9	1.094
								1500	2.07	34.55	1.20	27.63	47.2	1.263
142					BOREAS EXPEDITION									142
ARGO, MARCH 8 1966, 0021 GCT, 49 18N 163 12E, SOUNDING 3040 FM, WIND 120 FORCE 7, WEATHER OVERCAST, SEA HIGH, WIRE ANGLE 27.														
1	1.58	33.140	-	-	-	-	150.7	0	1.58	33.14	-	26.54	150.7	0
77	1.60	33.140	-	-	-	-	150.8	10	1.59	33.14	-	26.54	150.8	.015
103	1.88	33.176	-	-	-	-	150.0	20	1.59	33.14	-	26.54	150.8	.030
135	1.92	33.180	-	-	-	-	150.0	30	1.60	33.14	-	26.53	150.8	.045
166	1.96	33.187	-	-	-	-	149.7	50	1.60	33.14	-	26.53	150.8	.075
196	3.95	33.650	-	-	-	-	131.3	75	1.60	33.14	-	26.53	150.8	.113
244	4.02	33.785	-	-	-	-	121.8	100	1.86	33.17	-	26.54	150.3	.151
305	3.92	33.907	-	-	-	-	111.6	125	1.92	33.18	-	26.54	150.0	.188
372	3.82	33.996	-	-	-	-	104.0	150	1.93	33.18	-	26.54	150.0	.226
453	3.72	34.085	-	-	-	-	96.3	200	3.97	33.66	-	26.75	130.7	.297
537	3.58	34.156	-	-	-	-	89.7	250	4.02	33.80	-	26.85	120.6	.360
614	3.44	34.212	-	-	-	-	84.2	300	3.93	33.90	-	26.94	112.3	.420
736	3.24	34.281	-	-	-	-	77.2	400	3.79	34.03	-	27.06	101.1	.529
848	3.06	34.339	-	-	-	-	71.2	500	3.64	34.13	-	27.15	92.2	.630
960	2.90	34.381	-	-	-	-	66.6	600	3.47	34.20	-	27.23	85.3	.723
1073	2.70	34.421	-	-	-	-	61.9	700	3.30	34.26	-	27.29	79.3	.810
1188	2.54	34.455	-	-	-	-	58.1	800	3.13	34.32	-	27.35	73.2	.891
1305	2.40	34.488	-	-	-	-	54.5	1000	2.83	34.40	-	27.44	64.6	1.041
1441	2.26	34.523	-	-	-	-	50.7	1200	2.53	34.46	-	27.52	57.6	1.176
								1500	2.20	34.55	-	27.62	48.2	1.355

A) STANDARD LEVELS AT 1200 AND 1500 METERS WERE DETERMINED FROM THE BOTTLE CAST.
B) THE STD BECAME INOPERATIVE AFTER STATION 140. ALL INTERPOLATED AND COMPUTED DATA FOR THIS AND THE REMAINDER OF THE STATIONS WILL BE FROM THE BOTTLE CASTS.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
INPUT						COMPUTED		INPUT				COMPUTED		
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
143					BOREAS EXPEDITION								143	
ARGO, MARCH 8 1966, 0809 GCT, 50 09N 162 20E, SOUNDING 2966 FM, WIND 120 FORCE 8, WEATHER SNOW, SEA HIGH, WIRE ANGLE 35.														
2	1.02	33.123	7.66	2.18	56	14	148.5	0	1.02	33.12	7.66	26.56	148.7	0
17A	1.05	33.150L	-	-	-	-	146.6	10	1.04	33.12	7.68	26.56	148.9	.015
41	1.02	33.123	7.74	2.13	-	-	148.5	20	1.05	33.12	7.70	26.55	148.9	.030
66	.86	-	-	-	-	-	-	30	1.04	33.12	7.72	26.56	148.9	.045
88	.44	33.171	7.56	2.26	-	-	141.7	50	.98	33.13	7.72	26.57	147.8	.074
131	.45	33.194	7.58	2.27	-	-	140.0	75	.63	33.16	7.58	26.61	143.5	.111
187	3.61	33.838	1.10	4.26	103	29	113.9	100	.44	33.18	7.57	26.64	141.0	.146
253	3.62	33.972	.58	3.38	-	-	103.9	125	.45	33.19	7.57	26.65	140.3	.181
328	3.55	34.070	.42	3.38	-	-	95.9	150	.87	33.27	6.22	26.69	136.5	.216
416	3.49	34.154	.39	3.36	134	30	89.0	200	3.62	33.86	.98	26.94	112.3	.279
539	3.30	34.241	.34	3.35	-	-	80.7	250	3.62	33.96	.60	27.02	104.8	.334
667	3.12	34.308	.38	3.34	-	-	74.1	300	3.59	34.04	.46	27.09	98.5	.386
798	2.90	34.368	.37	3.31	169	30	66.1	400	3.50	34.14	.40	27.17	90.1	.483
1013	2.62	34.437	.46	3.33	-	-	60.1	500	3.36	34.21	.36	27.24	83.6	.573
1137	2.43	34.470	.55	3.30	-	-	56.1	600	3.21	34.27	.36	27.31	77.7	.657
1267	2.30	34.507	.46	3.23	186	29	52.2	700	3.06	34.33	.38	27.37	71.9	.737
1399	2.16	34.531	.95	3.26	-	-	49.3	800	2.90	34.39	.37	27.43	66.0	.810
1554	2.05	34.567	1.20	3.17	190	28	45.8	1000	2.64	34.43	.47	27.48	60.8	.948
								1200	2.36	34.49	.63	27.56	54.0	1.075
								1500	2.09	34.55	1.11	27.63	47.4	1.246
144					BOREAS EXPEDITION								144	
ARGO, MARCH 8 1966, 1936 GCT, 51 06N 161 29E, SOUNDING 2860 FM, WIND 240 FORCE 7, WEATHER OVERCAST, SEA HIGH, WIRE ANGLE 36.														
3	.44	33.224	-	-	-	-	137.7	0	.44	33.22	-	26.67	138.0	0
70	.48	33.225	-	-	-	-	137.8	10	.45	33.22	-	26.67	138.0	.014
91	.50	33.229	-	-	-	-	137.6	20	.45	33.22	-	26.67	138.0	.028
113	.54	33.236	-	-	-	-	137.3	30	.45	33.22	-	26.67	138.0	.041
140	1.970	33.259	-	-	-	-	144.3	50	.47	33.23	-	26.68	137.3	.069
159	3.40	33.699	-	-	-	-	122.5	75	.49	33.23	-	26.68	137.4	.103
195	3.67	33.880	-	-	-	-	111.3	100	.51	33.23	-	26.67	137.6	.138
239	3.68	33.972	-	-	-	-	104.5	125	.77	33.26	-	26.68	136.7	.172
289	3.62	34.049	-	-	-	-	98.1	150	3.11	33.61	-	26.79	126.7	.205
347	3.55	34.109	-	-	-	-	92.9	200	3.67	33.89	-	26.96	110.5	.265
414	3.43	34.187	-	-	-	-	86.0	250	3.67	34.00	-	27.05	102.3	.319
502	3.28	34.247	-	-	-	-	80.1	300	3.61	34.06	-	27.10	97.2	.370
593	3.17	34.286	-	-	-	-	76.2	400	3.46	34.17	-	27.20	87.5	.465
685	3.04	34.320	-	-	-	-	72.5	500	3.28	34.24	-	27.28	80.6	.552
781	2.93	34.356	-	-	-	-	68.8	600	3.16	34.29	-	27.33	75.8	.634
878	2.76	34.403	-	-	-	-	63.8	700	3.03	34.33	-	27.37	71.6	.712
980	2.64	34.424	-	-	-	-	61.2	800	2.89	34.37	-	27.41	67.4	.787
1083	2.50	34.459	-	-	-	-	57.4	1000	2.62	34.43	-	27.49	60.6	.925
1204	2.36	34.489	-	-	-	-	54.1	1200	2.37	34.49	-	27.56	54.1	1.052
145					BOREAS EXPEDITION								145	
ARGO, MARCH 10 1966, 0353 0430 GCT, 51 28N 160 00E, SOUNDING 2010 FM, WIND 260 FORCE 6, WEATHER CLOUDY, SEA ROUGH, WIRE ANGLE 22 24.														
C	-.66	32.956	8.20	-	55	9	153.4	0	-.66	32.96	8.20	26.51	153.1	0
84	-.64	32.952	8.13	-	-	-	153.8	10	-.66	32.95	8.15	26.50	153.8	.015
111	-.62	32.954	8.12	-	56	13	153.7	20	-.66	32.95	8.15	26.50	153.8	.031
144	-.54	32.961	8.09	-	-	-	153.4	30	-.66	32.95	8.15	26.50	153.8	.046
177	.20	33.056	7.42	-	64	10	149.3	50	-.65	32.95	8.15	26.50	153.9	.077
210	.83	33.147	6.99	-	-	-	145.6	75	-.64	32.95	8.14	26.50	153.9	.115
261	.84	33.211	6.69	-	-	-	140.8	100	-.63	32.95	8.12	26.50	153.9	.154
326	2.37	33.493	4.14	-	87	20	129.5	125	-.59	32.96	8.10	26.51	153.3	.192
401	3.46	33.761	1.90	-	-	-	118.3	150	-.48	32.97	7.98	26.51	153.0	.230
484	3.68	33.930	.98	-	-	-	107.6	200	.71	33.12	7.07	26.57	147.0	.305
578	3.65	34.054	.47	-	131	25	98.0	250	.84	33.20	6.73	26.63	141.6	.377
709B	3.46	34.177	.34	-	-	-	87.0	300	1.76	33.38	5.34	26.72	133.7	.446
833B	3.28	34.254	.33	-	-	-	79.5	400	3.45	33.76	1.93	26.88	118.3	.574
959B	3.06	34.324	.29	-	132	28	72.3	500	3.68	33.96	.87	27.01	105.4	.689
1085B	2.85	34.378	.35	-	-	-	66.5	600	3.63	34.08	.42	27.11	95.9	.794
1208B	2.70	34.418	.39	-	183	25	62.2	700	3.48	34.17	.34	27.20	87.7	.890
1336B	2.54	34.453	.53	-	-	-	58.2	800	3.33	34.24	.33	27.27	81.1	.980
1461B	2.38	34.490	.67	-	-	-	54.1	1000	2.98	34.34	.31	27.38	70.4	1.144
1601B	2.20	34.521	1.17	-	192	25	50.4	1200	2.71	34.42	.39	27.47	62.1	1.290
								1500	2.33	34.50	.74	27.57	53.0	1.485

A) POSSIBLE POSTTRIP BEGINNING WITH THIS DEPTH, DATA MUST BE CONSIDERED DOUBTFUL.
B) CAST II.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED			INPUT			COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
146					BOREAS EXPEDITION								146	
ARGO, MARCH 10 1966, 1235 GCT, 51 20N 158 49E, SOUNDING 1000 FM, WIND 240 FORCE 6, WEATHER MISSING, SEA ROUGH, WIRE ANGLE 10.														
1	-1.31	32.862	-	-	-	-	158.6	0	-1.31	32.86	-	26.45	158.7	0
91	-1.07	32.889	-	-	-	-	157.3	10	-1.30	32.86	-	26.45	158.8	.016
120	-.87	32.917	-	-	-	-	155.7	20	-1.28	32.87	-	26.46	158.1	.032
155	-.21	33.008	-	-	-	-	151.1	30	-1.27	32.87	-	26.46	158.1	.047
189	.27	33.070	-	-	-	-	148.6	50	-1.22	32.87	-	26.46	158.2	.079
224	.45	33.094	-	-	-	-	147.6	75	-1.14	32.88	-	26.46	157.7	.118
277	.58	33.131	-	-	-	-	145.5	100	-1.02	32.90	-	26.47	156.5	.158
344	2.00	33.404	-	-	-	-	133.5	125	-.78	32.94	-	26.50	154.2	.196
421	3.40	33.760	-	-	-	-	117.9	150	-.28	33.00	-	26.53	151.5	.234
508	3.68	33.981	-	-	-	-	103.8	200	.36	33.08	-	26.56	148.2	.309
605	3.58	34.095	-	-	-	-	94.3	250	.40	33.10	-	26.58	146.9	.383
732	3.38	34.217	-	-	-	-	83.2	300	1.03	33.21	-	26.63	142.0	.455
857	3.18	34.291	-	-	-	-	75.9	400	3.09	33.67	-	26.84	122.0	.588
984	2.98	34.346	-	-	-	-	70.0	500	3.68	33.97	-	27.02	104.6	.704
1109	2.82	34.384	-	-	-	-	65.7	600	3.59	34.09	-	27.13	94.7	.808
1234	2.61	34.427	-	-	-	-	60.8	700	3.44	34.20	-	27.23	85.1	.903
1358	2.46	34.467	-	-	-	-	56.5	800	3.27	34.26	-	27.29	79.0	.990
1483	2.27	34.504	-	-	-	-	52.2	1000	2.97	34.35	-	27.39	69.6	1.151
1623	2.14	34.540	-	-	-	-	48.5	1200	2.66	34.42	-	27.47	61.7	1.296
								1500	2.24	34.51	-	27.58	51.5	1.487
147					BOREAS EXPEDITION								147	
ARGO, MARCH 11 1966, 0726 GCT, 49 36N 157 00E, SOUNDING 1265 FM, WIND 290 FORCE 5, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 33.														
1	-.32	33.080	8.08	2.20	57	19	145.2	0	-.32	33.08	8.08	26.59	145.2	0
76	-.18	33.107	8.01	2.22	-	-	143.7	10	-.32	33.08	8.08	26.59	145.2	.015
100	-.02	33.151	7.78	2.22	59	22	141.0	20	-.31	33.08	8.07	26.59	145.2	.029
129	.20	33.196	7.44	2.30	-	-	138.6	30	-.30	33.08	8.06	26.59	145.3	.044
158	2.27	33.543	3.81	2.82	86	33	125.0	50	-.27	33.09	8.05	26.60	144.6	.073
185	3.46	33.794	1.44	3.18	-	-	115.9	75	-.18	33.11	8.01	26.61	143.5	.108
229	3.68	33.932	.82	3.31	-	-	107.5	100	-.02	33.15	7.78	26.64	141.1	.144
286	3.66	34.011	.52	3.36	121	38	101.3	125	.17	33.18	7.53	26.65	139.7	.179
351	3.58	34.085	.41	3.38	-	-	95.0	150	1.60	33.43	4.90	26.77	128.8	.213
423	3.51	34.139	.35	3.36	-	-	90.3	200	3.60	33.86	1.10	26.94	112.2	.273
504	3.38	34.209	.31	3.33	139	35	83.8	250	3.67	33.96	.69	27.01	105.3	.328
611	3.28	34.252	.32	3.35	-	-	79.7	300	3.64	34.03	.48	27.07	99.7	.381
717	3.10	34.313	.31	3.33	-	-	73.5	400	3.54	34.12	.35	27.15	92.0	.479
825	2.93	34.349	.33	3.33	164	35	69.3	500	3.38	34.20	.31	27.23	84.5	.571
935	2.80	34.390	.38	3.34	-	-	65.1	600	3.29	34.25	.32	27.28	79.9	.657
1043	2.56	34.420	.64	3.27	-	-	60.9	700	3.13	34.31	.31	27.34	74.0	.739
1151	2.46	34.453	.63	3.25	180	34	57.6	800	2.97	34.34	.33	27.38	70.3	.816
1271	2.34	34.475	.79	3.29	-	-	55.0	1000	2.65	34.41	.56	27.47	62.4	.960
1418	2.21	34.516	1.02	3.23	187	35	50.9	1200	2.41	34.46	.68	27.53	56.7	1.091
								1500	2.18	34.53	1.11	27.60	49.6	1.270
148					BOREAS EXPEDITION								148	
ARGO, MARCH 11 1966, 1500 GCT, 48 55N 157 57E, SOUNDING 3470 FM, WIND 260 FORCE 4, WEATHER MISSING, SEA ROUGH, WIRE ANGLE 25.														
2	-.32	33.127	-	-	-	-	141.6	0	-.32	33.13	-	26.63	141.4	0
79	-.20	33.128	-	-	-	-	142.0	10	-.30	33.13	-	26.63	141.4	.014
104	-.22	33.128	-	-	-	-	141.9	20	-.28	33.13	-	26.63	141.5	.028
133	.08	33.166	-	-	-	-	140.3	30	-.27	33.13	-	26.63	141.6	.042
162	3.25	33.731	-	-	-	-	118.7	50	-.23	33.13	-	26.63	141.7	.071
192	3.57	33.852	-	-	-	-	112.5	75	-.20	33.13	-	26.63	141.8	.106
237	3.64	33.941	-	-	-	-	106.4	100	-.22	33.13	-	26.63	141.8	.142
294	3.60	34.034	-	-	-	-	99.0	125	-.05	33.15	-	26.64	141.0	.177
359	3.51	34.121	-	-	-	-	91.7	150	1.20	33.33	-	26.71	133.8	.211
432	3.41	34.175A	-	-	-	-	86.7	200	3.58	33.87	-	26.95	111.2	.273
514	3.28	34.237A	-	-	-	-	80.8	250	3.63	33.97	-	27.03	104.1	.327
625	3.12	34.292A	-	-	-	-	75.3	300	3.59	34.04	-	27.09	98.5	.379
733	2.97	34.335A	-	-	-	-	70.7	400	3.45	34.15	-	27.19	88.9	.476
842	2.79	34.373A	-	-	-	-	66.3	500	3.31	34.23	-	27.26	81.6	.564
954	2.67	34.413A	-	-	-	-	62.3	600	3.16	34.28	-	27.32	76.5	.647
1067	2.52	34.443	-	-	-	-	58.8	700	3.02	34.32	-	27.36	72.3	.726
1178	2.40	34.469	-	-	-	-	55.9	800	2.86	34.36	-	27.41	67.9	.801
1293	2.28	34.494	-	-	-	-	53.1	1000	2.62	34.43	-	27.49	60.6	.940
1422	2.20	34.521	-	-	-	-	50.4	1200	2.37	34.47	-	27.54	55.6	1.068
								1500	2.18	34.53	-	27.60	49.6	1.246

A) SALINITY BOTTLE ORDER DIFFERS ON THE ORIGINAL DATA AND SALINITY DETERMINATION SHEETS. THEY ARE ASSUMED TO BE IN THE CORRECT ORDER.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
			INPUT				COMPUTED				INPUT			COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
149					BOREAS EXPEDITION									149
ARGO, MARCH 11 1966, 2222 2255 GCT, 48 10N 158 58E, SOUNDING 2910 FM, WIND 240 FORCE 5, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE MISSING 44.														
1	.36	33.046	8.09	2.06	49	11	150.8	0	.36	33.05	8.09	26.54	150.5	0
82	.23	33.131	7.81	2.19	56	16	143.7	10	.34	33.05	8.05	26.54	150.4	.015
109	.29	33.166	7.61	2.25	-	-	141.3	20	.32	33.06	8.02	26.55	149.6	.030
141	1.72	33.413	4.95	2.65	75	17	130.9	30	.31	33.07	8.00	26.56	148.8	.045
172	3.27	33.764	1.68	3.19	-	-	116.4	50	.27	33.09	7.95	26.57	147.0	.075
203	3.59	33.886	.88	3.33	-	-	110.1	75	.23	33.12	7.85	26.60	144.5	.111
247	3.64	33.961	.52	3.38	113	32	104.9	100	.26	33.16	7.71	26.63	141.6	.147
269	3.63	33.980	.45	3.42	-	-	103.4	125	.62	33.26	7.10	26.69	135.8	.181
313	3.61	34.047	.38	3.40	-	-	98.2	150	2.50	33.54	3.76	26.79	127.0	.214
384	3.52	34.125	.29	3.36	130	39	91.4	200	3.57	33.88	.94	26.96	110.4	.274
463	3.41	34.200	.31	3.35	-	-	84.8	250	3.64	33.97	.51	27.03	104.2	.329
523	3.32	34.234	.29	3.34	-	-	81.4	300	3.62	34.03	.40	27.08	99.5	.381
655	3.09	34.309	.31	3.33	154	30	73.7	400	3.50	34.14	.29	27.17	90.1	.478
785	2.84	34.375	.37	3.32	-	-	66.6	500	3.36	34.22	.30	27.25	82.8	.568
914	2.64	34.421	.41	3.29	-	-	61.5	600	3.18	34.28	.30	27.32	76.7	.652
1090	2.40	34.479	.60	3.25	183	28	55.1	700	3.00	34.34	.33	27.38	70.6	.730
1270	2.20	34.521	.90	3.31	-	-	50.4	800	2.82	34.38	.37	27.43	66.0	.803
1454	2.07	34.551	1.15	3.17	172	26	47.1	1000	2.52	34.45	.49	27.51	58.3	.938
								1200	2.28	34.51	.78	27.58	51.8	1.059
								1500	2.05	34.56	-	27.64	46.3	1.226
150					BOREAS EXPEDITION									150
ARGO, MARCH 12 1966, 0455 GCT, 47 31N 159 53E, SOUNDING 2855 FM, WIND 270 FORCE 5, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 40.														
1	.26	33.051	8.15	2.06	49	17	150.0	0	.26	33.05	8.15	26.54	150.0	0
67	.22	33.051	8.05	2.07	-	-	143.8	10	.25	33.05	8.13	26.54	150.0	.015
90	.22	33.058	7.99	2.07	51	16	149.2	20	.24	33.05	8.11	26.54	149.9	.030
117	.20	33.062	7.99	2.08	-	-	148.8	30	.23	33.05	8.09	26.54	149.9	.045
139	.36	33.086	7.71	2.13	52	16	147.8	50	.22	33.05	8.06	26.54	149.8	.075
166	2.58	33.573	3.23	2.90	-	-	125.1	75	.22	33.05	8.01	26.54	149.8	.112
201	3.57	33.876	.93	3.32	-	-	110.7	100	.21	33.06	7.99	26.55	149.0	.150
219	3.63	33.925	.66	3.37	109	34	107.5	125	.23	33.07	7.95	26.56	148.4	.187
254	3.63	33.981	.46	3.38	-	-	103.3	150	1.00	33.25	5.94	26.66	138.7	.223
308	3.61	34.047	.34	3.40	-	-	98.2	200	3.57	33.88	.95	26.96	110.4	.285
367	3.56	34.109	.35	3.38	127	35	93.0	250	3.63	33.97	.47	27.03	104.1	.340
431	3.44	34.172	.32	3.34	-	-	87.2	300	3.61	34.04	.34	27.08	98.7	.392
530	3.28	34.250	.32	3.32	-	-	79.8	400	3.50	34.14	.34	27.17	90.1	.489
625	3.11	34.303	.30	3.32	154	38	74.3	500	3.33	34.23	.32	27.26	81.8	.578
725	2.95	34.346	.34	3.32	-	-	69.7	600	3.16	34.29	.30	27.33	75.8	.661
866	2.74	34.408	.41	3.28	-	-	63.3	700	2.99	34.34	.32	27.38	70.5	.738
1025	2.47	34.452	.57	3.28	179	35	57.7	800	2.83	34.38	.38	27.43	66.1	.811
1199	2.27	34.507	.85	3.22	184	35	52.0	1000	2.51	34.45	.52	27.51	58.2	.946
								1200	2.27	34.51	.86	27.58	51.8	1.068
151					BOREAS EXPEDITION									151
ARGO, MARCH 12 1966, 1542 GCT, 46 48N 158 42E, SOUNDING 2720 FM, WIND 250 FORCE 4, WEATHER MISSING, SEA ROUGH, WIRE ANGLE 38.														
2	.45	33.074	-	-	-	-	149.1	0	.45	33.07	-	26.55	149.4	0
69	.40	33.077	-	-	-	-	148.7	10	.45	33.07	-	26.55	149.4	.015
89	.27	33.081	-	-	-	-	147.7	20	.45	33.07	-	26.55	149.4	.030
114	.36	33.124	-	-	-	-	144.9	30	.44	33.07	-	26.55	149.4	.045
139	3.32	33.775	-	-	-	-	116.0	50	.43	33.08	-	26.56	148.6	.075
165	3.47	33.860	-	-	-	-	111.0	75	.35	33.08	-	26.56	148.2	.112
205	3.51	33.936	-	-	-	-	105.6	100	.27	33.10	-	26.58	146.3	.148
255	3.56	34.017	-	-	-	-	100.0	125	1.50	33.30	-	26.67	138.0	.184
314	3.50	34.080	-	-	-	-	94.7	150	3.44	33.85	-	26.95	111.5	.215
377	3.41	34.148	-	-	-	-	88.7	200	3.51	33.93	-	27.01	106.1	.270
450	3.23	34.207	-	-	-	-	82.6	250	3.56	34.01	-	27.07	100.5	.323
545	3.06	34.265	-	-	-	-	76.8	300	3.52	34.07	-	27.12	95.6	.373
638	3.02	34.323	-	-	-	-	72.1	400	3.36	34.17	-	27.21	86.6	.467
733	2.85	34.360	-	-	-	-	67.8	500	3.13	34.24	-	27.29	79.3	.553
827	2.74	34.397	-	-	-	-	64.1	600	3.04	34.30	-	27.35	74.0	.633
924	2.56	34.434	-	-	-	-	59.8	700	2.91	34.35	-	27.40	69.1	.709
1023	2.44	34.468	-	-	-	-	56.3	800	2.78	34.39	-	27.44	65.0	.780
1130	2.32	34.490	-	-	-	-	53.7	1000	2.47	34.46	-	27.52	57.1	.913
1256	2.20	34.521	-	-	-	-	50.4	1200	2.25	34.50	-	27.57	52.4	1.034
								1500	2.08	34.55	-	27.63	47.3	1.202

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
			INPUT				COMPUTED				INPUT			COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
152					BOREAS EXPEDITION									152
ARGO, MARCH 13 1966, 0023 GCT, 46 01N 157 17E, SOUNDING 2554 FM, WIND 240 FORCE 3, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 22.														
1	.33	33.063	8.02	2.08	53	18	149.4	0	.33	33.06	8.02	26.55	149.6	0
85	.20	33.064	7.97	2.12	-	-	148.7	10	.32	33.06	8.02	26.55	149.6	.015
113	.19	33.079	7.91	2.12	56	21	147.5	20	.30	33.06	8.01	26.55	149.5	.030
146	2.32	33.439	3.66	2.80	-	-	133.2	30	.28	33.06	8.01	26.55	149.4	.045
178	3.60	33.870	.92	3.28	112	37	111.4	50	.25	33.06	7.99	26.55	149.2	.075
213	3.64	33.943	.61	3.33	-	-	106.3	75	.21	33.06	7.98	26.55	149.0	.112
259	3.64	34.021	.39	3.38	-	-	100.4	100	.20	33.07	7.94	26.56	148.2	.149
283	3.62	34.055	.34	3.39	146	38	97.6	125	.66	33.17	6.60	26.62	142.9	.185
306	3.57	34.076	.31	3.40	-	-	95.6	150	2.95	33.60	2.63	26.80	126.1	.219
330	3.51	34.095	.34	3.37	-	-	93.6	200	3.63	33.92	.70	26.99	107.9	.278
406	3.37	34.156	.40	3.29	141	38	87.7	250	3.64	34.01	.42	27.06	101.2	.331
492	3.29	34.236	.30	3.31	-	-	81.0	300	3.58	34.07	.32	27.11	96.1	.382
587	3.13	34.275	.36	3.29	-	-	76.6	400	3.37	34.15	.39	27.19	88.2	.477
734	2.92	34.313	.42	3.29	164	38	72.0	500	3.28	34.24	.31	27.28	80.6	.564
876	2.70	34.407	.46	3.27	-	-	63.0	600	3.11	34.28	.37	27.32	76.1	.646
1016	2.44	34.450	.76	3.23	-	-	57.6	700	2.97	34.30	.41	27.35	73.4	.725
1205	2.30	34.499	.91	3.19	186	35	52.8	800	2.83	34.36	.44	27.41	67.6	.801
1396	2.15	34.530	1.16	3.13	-	-	49.3	1000	2.46	34.43	.60	27.50	59.3	.938
1590	2.04	34.566	1.38	3.10	190	36	45.8	1200	2.30	34.50	.90	27.57	52.8	1.061
								1500	2.10	34.54	1.25	27.62	48.2	1.232
153					BOREAS EXPEDITION									153
ARGO, MARCH 13 1966, 0804 GCT, 46 41N 156 13E, SOUNDING 2578 FM, WIND 220 FORCE 3, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 17.														
0	-.04	33.133	-	-	-	-	142.3	0	-.04	33.13	-	26.62	142.5	0
86	-.12	33.132	-	-	-	-	142.0	10	-.05	33.13	-	26.62	142.5	.014
114	-.10	33.131	-	-	-	-	142.2	20	-.07	33.13	-	26.62	142.4	.028
148	1.55	33.422	-	-	-	-	129.1	30	-.08	33.13	-	26.62	142.4	.043
181	2.56	33.639	-	-	-	-	119.9	50	-.10	33.13	-	26.62	142.3	.071
215	2.81	33.752	-	-	-	-	113.4	75	-.12	33.13	-	26.63	142.2	.107
263	2.73	33.816	-	-	-	-	107.9	100	-.11	33.13	-	26.63	142.2	.142
286	3.13	33.912	-	-	-	-	104.0	125	-.09	33.13	-	26.62	142.3	.178
311	2.92	33.918	-	-	-	-	101.8	150	1.65	33.44	-	26.77	128.4	.211
335	3.00	33.956	-	-	-	-	99.6	200	2.75	33.71	-	26.90	116.1	.273
412	2.99	34.057	-	-	-	-	91.9	250	2.74	33.80	-	26.97	109.2	.330
499	2.92	34.154	-	-	-	-	84.0	300	2.99	33.92	-	27.05	102.2	.384
596	3.01	34.244	-	-	-	-	77.9	400	2.99	34.04	-	27.14	93.2	.483
746	2.78	34.340	-	-	-	-	68.7	500	2.92	34.16	-	27.24	83.5	.574
892	2.58	34.394	-	-	-	-	63.0	600	3.01	34.25	-	27.31	77.5	.658
1038	2.48	34.435	-	-	-	-	59.1	700	2.87	34.32	-	27.38	71.0	.737
1234	2.34	34.470	-	-	-	-	55.3	800	2.68	34.36	-	27.43	66.4	.810
1432	2.16	34.504	-	-	-	-	51.4	1000	2.50	34.43	-	27.50	59.6	.946
1628	2.10	34.552	-	-	-	-	47.3	1200	2.37	34.46	-	27.53	56.3	1.074
								1500	2.13	34.52	-	27.60	49.9	1.253
154					BOREAS EXPEDITION									154
ARGO, MARCH 13 1966, 1455 GCT, 47 26N 155 03E, SOUNDING 3500 FM, WIND 180 FORCE 5, WEATHER MISSING, SEA MODERATE, WIRE ANGLE 28.														
2	.10	33.153	8.10	2.20	60	21	141.4	0	.10	33.15	8.10	26.63	141.6	0
80	.40	33.235	7.78	2.25	-	-	136.6	10	.10	33.16	8.09	26.64	140.9	.014
105	.42	33.244	7.54	2.22	65	20	136.0	20	.11	33.17	8.05	26.65	140.2	.028
135	.46	33.251	7.67	2.26	-	-	135.7	30	.12	33.18	8.03	26.65	139.4	.042
165	.94	33.327	6.74	2.36	71	22	132.5	50	.17	33.19	7.97	26.66	138.9	.070
194	1.74	33.471	4.96	2.57	-	-	126.6	75	.38	33.23	7.80	26.68	136.9	.104
236	2.28	33.618	3.60	2.75	-	-	119.4	100	.42	33.24	7.54	26.69	136.3	.139
257	2.48	33.686	3.07	2.85	96	28	115.8	125	.43	33.25	7.67	26.69	135.6	.172
278	2.52	33.716	2.89	2.87	-	-	113.8	150	.62	33.28	7.46	26.71	134.3	.206
299	2.56	33.754	2.73	2.92	-	-	111.2	200	1.84	33.50	4.72	26.81	125.1	.271
365	2.87	33.871	1.83	3.08	114	32	104.9	250	2.42	33.67	3.16	26.90	116.5	.332
438	3.36	34.054	.71	3.29	-	-	95.3	300	2.56	33.76	2.70	26.96	110.8	.389
520	3.14	34.121	.85	3.24	-	-	88.3	400	3.16	33.96	1.23	27.06	100.7	.497
648	3.06	34.235	.56	3.26	150	34	79.0	500	3.19	34.11	.84	27.18	89.6	.595
771	2.91	34.305	.60	3.26	-	-	72.5	600	3.10	34.20	.66	27.26	82.0	.685
894	2.76	34.354	.56	3.25	-	-	67.5	700	2.99	34.26	.56	27.32	76.6	.768
1059	2.62	34.405	.59	3.24	173	34	62.5	800	2.87	34.32	.59	27.38	71.0	.847
1228	2.38	34.447	1.01	3.22	-	-	57.4	1000	2.67	34.39	.56	27.45	64.0	.993
1400	2.24	34.489	1.16	3.17	175	32	53.1	1200	2.42	34.44	.97	27.51	58.2	1.127
								1500	2.17	34.50	-	27.58	51.8	1.312

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
155							BOREAS EXPEDITION							155
ARGO, MARCH 14 1966, 0033 GCT, 48 11N 154 14E, SOUNDING 960 FM, WIND 180 FORCE 5, WEATHER RAIN, SEA HIGH, WIRE ANGLE 41.														
1	-.34	33.015	-	-	-	-	150.1	0	-.34	33.02	-	26.55	149.7	0
69	-.21	33.045	-	-	-	-	148.3	10	-.32	33.02	-	26.55	149.8	.015
91	-.20	33.048	-	-	-	-	148.1	20	-.29	33.03	-	26.55	149.1	.030
116	.40	33.150	-	-	-	-	143.1	30	-.27	33.03	-	26.55	149.2	.045
141	.50	33.172	-	-	-	-	141.9	50	-.23	33.04	-	26.56	148.6	.075
165	.62	33.206	-	-	-	-	140.0	75	-.20	33.05	-	26.56	148.0	.112
198	.83	33.270	-	-	-	-	136.2	100	-.13	33.06	-	26.57	147.5	.148
215	.88	33.277	-	-	-	-	136.0	125	.44	33.16	-	26.62	142.5	.185
232	.91	33.291	-	-	-	-	135.1	150	.54	33.18	-	26.63	141.5	.220
248	.99	33.313	-	-	-	-	133.9	200	.83	33.27	-	26.69	136.2	.289
300	1.24	33.362	-	-	-	-	131.7	250	1.00	33.32	-	26.72	133.4	.357
356	2.30	33.570	-	-	-	-	123.2	300	1.24	33.36	-	26.73	131.8	.423
417	2.56	33.672	-	-	-	-	117.5	400	2.53	33.65	-	26.87	118.9	.550
515	2.42	33.823	-	-	-	-	104.9	500	2.42	33.80	-	27.00	106.7	.664
614	2.89	33.985	-	-	-	-	96.5	600	2.83	33.96	-	27.09	97.9	.770
717	3.06	34.154	-	-	-	-	85.2	700	3.04	34.13	-	27.21	86.8	.866
862	2.96	34.258	-	-	-	-	76.4	800	3.04	34.21	-	27.27	80.8	.954
1022	2.61	34.383	-	-	-	-	64.1	1000	2.65	34.37	-	27.44	65.4	1.111
1194	2.40	34.444	-	-	-	-	57.8	1200	2.39	34.45	-	27.52	57.2	1.246
156							BOREAS EXPEDITION							156
ARGO, MARCH 14 1966, 0809 GCT, 48 38N 153 07E, SOUNDING 1438 FM, WIND 260 FORCE 3, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 09.														
0	-.26	33.103	-	-	-	-	143.7	0	-.26	33.10	-	26.61	143.9	0
39	-.10	33.146	-	-	-	-	141.1	10	-.26	33.10	-	26.61	143.9	.014
88	.56	33.336	-	-	-	-	129.7	20	-.26	33.10	-	26.61	143.9	.029
107	.84	33.380	-	-	-	-	127.9	30	-.20	33.12	-	26.62	142.6	.043
126	.96	33.405	-	-	-	-	126.7	50	.02	33.22	-	26.69	135.9	.071
146	1.06	33.422	-	-	-	-	126.0	75	.36	33.30	-	26.74	131.4	.104
170	1.14	33.437	-	-	-	-	125.3	100	.75	33.37	-	26.77	128.2	.137
194	1.14	33.436	-	-	-	-	125.4	125	.95	33.40	-	26.79	127.0	.169
243	1.46	33.499	-	-	-	-	122.6	150	1.08	33.43	-	26.80	125.5	.200
291	1.61	33.537	-	-	-	-	120.7	200	1.15	33.44	-	26.80	125.2	.263
365	1.80	33.610	-	-	-	-	116.5	250	1.49	33.51	-	26.84	122.0	.325
486	2.04	33.768	-	-	-	-	106.2	300	1.64	33.55	-	26.86	120.0	.386
638	2.33	33.966	-	-	-	-	93.4	400	1.87	33.65	-	26.92	114.0	.504
710	2.47	34.056	-	-	-	-	87.7	500	2.07	33.79	-	27.02	104.8	.614
783	2.54	34.147	-	-	-	-	81.4	600	2.26	33.91	-	27.10	97.1	.717
856	2.42	34.217	-	-	-	-	75.1	700	2.45	34.05	-	27.20	88.0	.813
930	2.42	34.294	-	-	-	-	69.3	800	2.53	34.16	-	27.28	80.3	.901
1077	2.30	34.383	-	-	-	-	61.6	1000	2.37	34.34	-	27.44	65.4	1.056
1320	2.20	34.469	-	-	-	-	54.3	1200	2.24	34.43	-	27.52	57.6	1.190
1565	2.04A	34.515	-	-	-	-	49.6	1500	2.09	34.51	-	27.59	50.4	1.370
157							BOREAS EXPEDITION							157
ARGO, MARCH 14 1966, 1345 GCT, 49 11N 153 16E, SOUNDING 1486 FM, WIND 270 FORCE 4, WEATHER MISSING, SEA MODERATE, WIRE ANGLE 08.														
0	.42	33.304	7.37	2.25	65	17	131.4	0	.42	33.30	7.37	26.74	131.8	0
39	.68	33.357	6.97	2.40	-	-	128.8	10	.51	33.32	7.27	26.75	130.7	.013
88	.82	33.389	6.72	2.46	77	18	127.1	20	.58	33.33	7.15	26.75	130.3	.026
123	.90	33.399	6.50	2.48	-	-	126.8	30	.64	33.34	7.04	26.76	129.9	.039
162	1.06	33.426	6.15	2.54	82	19	125.7	50	.72	33.37	6.88	26.78	128.0	.065
198	1.20	33.444	5.84	2.57	-	-	125.2	75	.79	33.38	6.76	26.78	127.6	.097
296	1.32	33.471	5.52	2.62	-	-	123.9	100	.85	33.39	6.65	26.78	127.2	.129
445	1.75	33.587	4.39	2.72	94	21	117.9	125	.90	33.40	6.45	26.79	126.7	.161
594	2.15	33.761	3.10	2.89	-	-	107.6	150	1.01	33.42	6.23	26.80	125.9	.192
693	2.23	33.756U	2.76	2.95	-	-	108.5	200	1.21	33.45	5.89	26.81	124.8	.255
743	2.33	33.913	2.29	3.03	126	26	97.4	250	1.27	33.46	5.62	26.81	124.4	.317
767	2.36	33.967	1.97	3.08	-	-	93.6	300	1.33	33.48	5.48	26.83	123.2	.379
793	2.41	34.012	1.88	3.08	-	-	90.5	400	1.62	33.55	4.75	26.86	119.8	.501
817	2.48	34.083	1.57	3.13	142	27	85.7	500	1.91	33.65	3.91	26.92	114.2	.620
843	2.48	34.103	1.56	3.15	-	-	84.2	600	2.16	33.76	3.07	26.99	107.7	.733
892	2.46	34.146	1.44	3.13	-	-	80.8	700	2.25	33.86	2.70	27.06	100.8	.839
990	2.44	34.259	1.21	3.18	165	28	72.1	800	2.43	34.03	1.81	27.18	89.3	.938
1138	2.34	34.364	1.07	3.20	-	-	63.4	1000	2.43	34.27	1.20	27.37	71.2	1.107
1335	2.28	34.460	1.14	3.17	-	-	55.6	1200	2.32	34.40	1.09	27.49	60.5	1.250
1557	2.21	34.497	1.42	3.13	182	26	52.3	1500	2.23	34.49	1.32	27.57	53.0	1.440

A) ALTERNATE VALUE, 2.09, NOT USED IN INTERPOLATION.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
158					BOREAS EXPEDITION								158	
ARGO, MARCH 14 1966, 2055 GCT, 49 12N 152 00E, SOUNDING 860 FM, WIND 260 FORCE 4, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 15.														
1	.20	33.304	-	-	-	-	130.4	0	.20	33.30	-	26.75	130.7	0
39	.20	33.302	-	-	-	-	130.5	10	.20	33.30	-	26.75	130.7	.013
87	.26	33.325	-	-	-	-	129.0	20	.20	33.30	-	26.75	130.7	.026
121	.30	33.330	-	-	-	-	128.9	30	.20	33.30	-	26.75	130.7	.039
159	1.00	33.413	-	-	-	-	126.3	50	.21	33.31	-	26.75	129.9	.065
192	1.04	33.437	-	-	-	-	124.7	75	.24	33.32	-	26.76	129.3	.098
288	1.93	33.607	-	-	-	-	117.6	100	.27	33.33	-	26.77	128.7	.130
430	2.26	33.775	-	-	-	-	107.3	125	.31	33.34	-	26.77	128.1	.162
572	2.42	33.982	-	-	-	-	92.9	150	.93	33.39	-	26.78	127.7	.194
668	2.54	34.100	-	-	-	-	84.9	200	1.06	33.45	-	26.82	123.9	.257
716	2.56	34.146	-	-	-	-	81.6	250	1.70	33.55	-	26.86	120.4	.318
740	2.58	34.171	-	-	-	-	79.9	300	1.98	33.62	-	26.89	117.0	.378
764	2.60	34.206	-	-	-	-	77.4	400	2.26	33.74	-	26.97	110.0	.493
787	2.59	34.222	-	-	-	-	76.1	500	2.36	33.88	-	27.07	100.1	.599
811	2.60	34.236	-	-	-	-	75.1	600	2.47	34.02	-	27.17	90.4	.697
860	2.58	34.273	-	-	-	-	72.2	700	2.55	34.13	-	27.25	82.7	.787
955	2.46	34.352	-	-	-	-	65.2	800	2.60	34.23	-	27.33	75.6	.870
1004	2.46	34.393	-	-	-	-	62.1	1000	2.46	34.39	-	27.47	62.3	1.018
1100	2.34	34.441	-	-	-	-	57.5	1200	2.28	34.47	-	27.55	54.9	1.146
1297	2.23	34.496	-	-	-	-	52.5	1500	2.18	34.54	-	27.61	48.8	1.322
159					BOREAS EXPEDITION								159	
ARGO, MARCH 15 1966, 0749 0856 GCT, 47 45N 152 00E, SOUNDING 1778 FM, WIND 280 FORCE 4, WEATHER CLOUDY, SEA ROUGH, WIRE ANGLE 26 28.														
0	-.02A	33.158	7.97	1.92	49	11	140.5	0	-.02	33.16	7.97	26.65	140.3	0
37	-.01B	33.158	7.95	1.91	-	-	140.5	10	-.02	33.16	7.97	26.65	140.3	.014
83	.17	33.184	7.76	1.94	53	11	139.4	20	-.01	33.16	7.96	26.64	140.4	.028
115	.36	33.222	7.64	2.01	-	-	137.4	30	-.01	33.16	7.95	26.64	140.4	.042
152	.44	33.234	7.56	2.03	56	12	136.9	50	.03	33.16	7.88	26.64	140.6	.070
185	.47	33.242	7.52	2.05	-	-	136.4	75	.13	33.18	7.78	26.65	139.5	.105
276	1.82	33.445	4.86	2.49	-	-	129.2	100	.29	33.21	7.69	26.67	138.0	.140
414	1.74	33.514	4.41	2.60	84	16	123.4	125	.38	33.22	7.62	26.67	137.7	.174
556	1.67	33.570	4.07	2.69	-	-	118.6	150	.43	33.23	7.56	26.68	137.1	.208
650	1.82	33.653	3.56	2.77	-	-	113.4	200	.61	33.27	7.37	26.70	135.0	.276
686C	1.82	33.718	3.31	2.85	-	-	108.4	250	1.63	33.40	5.40	26.74	131.3	.343
697	-	33.706	3.41	2.83	104	19	-	300	1.81	33.46	4.72	26.78	127.9	.408
708C	1.78	33.738	3.18	2.88	-	-	106.6	400	1.75	33.51	4.45	26.82	123.7	.535
731C	1.92	33.789	3.02	2.89	114	19	103.8	500	1.67	33.55	4.20	26.86	120.2	.658
753C	1.90	33.804	2.80	2.95	-	-	102.5	600	1.74	33.61	3.80	26.90	116.1	.777
799C	1.90	33.854	2.58	2.96	-	-	98.7	700	1.78	33.72	3.25	26.99	108.0	.891
891C	2.02	33.997	1.97	3.11	140	22	88.7	800	1.90	33.86	2.56	27.09	98.2	.996
1034C	2.52	34.221	1.09	3.26	-	-	75.6	1000	2.42	34.17	1.25	27.30	78.7	1.181
1227C	2.30	34.336	1.08	3.26	-	-	65.2	1200	2.33	34.32	1.08	27.42	66.6	1.337
1449C	2.25	34.428	1.27	3.20	183	23	57.8	1500	2.22	34.45	1.32	27.54	55.9	1.540

A) ALTERNATE VALUE, 0.19, NOT USED IN INTERPOLATION.
B) ALTERNATE VALUE, 0.21, NOT USED IN INTERPOLATION.
C) OVERLAPPING CASTS, RECONCILIATION OF PROPERTY CURVES WHEN NECESSARY.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
160					BOREAS EXPEDITION									160
ARGO, MARCH 15 1966, 2021 2308 GCT, 47 47N 150 10E, SOUNDING 1794 FM, WIND 260 FORCE 2, WEATHER SNOW, SEA MODERATE, WIRE ANGLE 03 14.														
0	-1.55	32.755	8.46	1.55	31	10	166.2	0	-1.55	32.76	8.46	26.38	165.9	0
40	-1.46	32.760	8.38	1.58	-	-	166.1	10	-1.52	32.76	8.44	26.38	165.9	.017
90	-1.03	32.919	7.76U	1.74	39	10	155.0	20	-1.50	32.76	8.42	26.37	166.0	.033
125	-.97	32.993	7.79	1.85	-	-	149.5	30	-1.48	32.76	8.40	26.37	166.0	.050
165	-.52	33.079	7.39	1.94	48	14	144.5	50	-1.43	32.78	8.27	26.39	164.6	.083
200	.56	33.241	6.35	2.10	-	-	137.0	75	-1.17	32.87	7.89	26.46	158.4	.123
299	.88	33.417	4.99	2.45	-	-	125.3	100	-1.01	32.94	7.77	26.51	153.5	.162
449	1.56	33.633	3.75	2.71	94	22	113.1	125	-.97	32.99	7.79	26.55	149.7	.200
597	1.85	33.862	2.53	3.00	-	-	97.7	150	-.81	33.03	7.66	26.57	147.2	.237
697	2.08	34.025	1.72	3.12	-	-	87.0	200	.56	33.24	6.35	26.68	137.1	.307
746	2.04	34.061	1.67	3.18	149	28	84.0	250	.81	33.35	5.52	26.75	130.0	.374
770	2.05	34.082	1.57	3.21	-	-	82.5	300	.89	33.42	4.97	26.81	125.2	.438
795	2.09	34.101	1.53	3.22	-	-	81.4	400	1.38	33.57	4.12	26.89	116.7	.559
820	2.14	34.129	1.40	3.20	159	27	79.6	500	1.67	33.71	3.35	26.99	108.0	.672
844	2.19	34.154	1.41	3.23	-	-	78.1	600	1.86	33.87	2.50	27.10	97.2	.777
893	2.22	34.194	1.28	3.22	-	-	75.3	700	2.08	34.03	1.71	27.21	86.7	.871
992	2.30	34.292	1.05	3.23	168	27	68.5	800	2.10	34.11	1.51	27.27	80.8	.958
1137	2.26	34.372	1.10	3.24	-	-	62.1	1000	2.30	34.30	1.06	27.41	67.9	1.114
1332	2.22	34.447	1.13	3.19	175	27	56.2	1200	2.25	34.40	1.11	27.49	59.9	1.253
1419A	2.14	34.477	1.15	3.20	192	18U	53.3	1500	2.14	34.49	1.36	27.57	52.3	1.440
1554	2.14	34.499	1.34	3.18	-	-	51.6	2000	1.99	34.55	1.67	27.63	46.6	1.726
1610A	2.10	34.504	1.48U	3.15	183	22	50.9	2500	1.91	34.59	1.95	27.67	43.0	1.996
1800A	2.04	34.532	-	3.14	187	22	48.3	3000	1.89	34.61	2.10	27.69	41.3	2.262
1992A	1.99	34.548	1.65	3.13	190	21	46.8							
2184A	1.94	34.570	1.85	3.10	192	26	44.7							
2375A	1.91	34.583	1.85	3.07	191	31	43.5							
2518A	1.91	34.591	1.95	3.06	193	24	42.9							
2663A	1.89	34.599	1.94	3.05	193	27	42.2							
2807A	1.89	34.605	2.06	3.05	199	24	41.7							
2954A	1.89	34.608	2.01	3.03	200	22	41.5							
3100A	1.89	34.611	2.05	3.00	200	25	41.3							
3248A	1.89	34.614	2.19	3.02	200	22	41.0							
161					BOREAS EXPEDITION									161
ARGO, MARCH 16 1966, 0833 0914 GCT, 46 59N 150 39E, SOUNDING 1667 FM, WIND 120 FORCE 3, WEATHER PARTLY CLOUDY, SEA SLIGHT, WIRE ANGLE 07 11.														
0	-1.18	32.751	-	-	-	-	167.5	0	-1.18	32.75	-	26.36	167.5	0
40	-1.48	32.857	-	-	-	-	158.6	10	-1.26	32.78	-	26.38	165.0	.017
89	-1.05	32.902	-	-	-	-	156.2	20	-1.36	32.81	-	26.41	162.5	.033
124	-.42	33.047	-	-	-	-	147.3	30	-1.44	32.84	-	26.44	160.0	.049
163	-.32	33.133	-	-	-	-	141.1	50	-1.44	32.87	-	26.46	157.7	.081
198	.06	33.220	-	-	-	-	136.1	75	-1.23	32.89	-	26.47	156.7	.120
297	.82	33.428	-	-	-	-	124.1	100	-.87	32.94	-	26.50	153.9	.159
444	1.35	33.629	-	-	-	-	112.1	125	-.34	33.05	-	26.57	147.4	.196
594	1.67	33.870	-	-	-	-	95.9	150	.10	33.13	-	26.62	143.2	.232
693	2.02	33.997	-	-	-	-	88.7	200	.08	33.22	-	26.69	136.2	.302
743	1.97	34.035	-	-	-	-	85.5	250	.52	33.34	-	26.76	129.2	.368
766B	2.07	34.091	-	-	-	-	82.0	300	.84	33.43	-	26.82	124.1	.431
790B	2.09	34.110	-	-	-	-	80.7	400	1.26	33.57	-	26.90	116.0	.552
814B	2.10	34.130	-	-	-	-	79.2	500	1.42	33.72	-	27.01	105.6	.663
838B	2.16	34.154	-	-	-	-	77.9	600	1.70	33.88	-	27.12	95.3	.765
887B	2.18	34.187	-	-	-	-	75.5	700	2.02	34.00	-	27.19	88.5	.859
984B	2.30	34.273	-	-	-	-	69.9	800	2.10	34.12	-	27.28	80.0	.946
1130B	2.27	34.374	-	-	-	-	62.1	1000	2.30	34.29	-	27.40	68.7	1.103
1326B	2.21	34.439	-	-	-	-	56.7	1200	2.25	34.40	-	27.49	59.9	1.242
1551B	2.14	34.489	-	-	-	-	52.4	1500	2.15	34.48	-	27.57	53.1	1.431

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

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
162					BOREAS EXPEDITION								162	
ARGO, MARCH 16 1966, 1619 GCT, 46 15N 151 12E, SOUNDING 1280 FM, WIND 120 FORCE 5, WEATHER MISSING, SEA ROUGH, WIRE ANGLE 37.														
4	-.71	32.934	-	-	-	-	154.9	0	-.71	32.93	-	26.49	155.2	0
35	.28	33.165	-	-	-	-	141.4	10	-.70	32.93	-	26.49	155.2	.016
73	.85	33.270	-	-	-	-	136.3	20	-.69	32.93	-	26.49	155.3	.031
100	.99	33.344	-	-	-	-	131.5	30	-.50	32.98	-	26.52	152.1	.046
133	1.03	33.370	-	-	-	-	129.8	50	.61	33.21	-	26.65	139.6	.076
159	1.12	33.398	-	-	-	-	128.2	75	.86	33.27	-	26.69	136.4	.110
224	1.46	33.495	-	-	-	-	122.9	100	.99	33.34	-	26.73	131.8	.144
345	1.90	33.645	-	-	-	-	114.5	125	1.02	33.36	-	26.75	130.5	.176
455	2.23	33.766	-	-	-	-	107.8	150	1.08	33.39	-	26.77	128.6	.209
526	2.46	33.848	-	-	-	-	103.3	200	1.33	33.46	-	26.81	124.8	.272
561	2.65	33.882	-	-	-	-	102.3	250	1.55	33.54	-	26.86	120.1	.334
578	2.69	33.896	-	-	-	-	101.6	300	1.74	33.59	-	26.88	117.6	.393
595	2.71	33.908	-	-	-	-	100.8	400	2.08	33.70	-	26.95	111.7	.509
610	2.62	33.942	-	-	-	-	97.5	500	2.36	33.82	-	27.02	104.7	.619
627	2.63	33.947	-	-	-	-	97.2	600	2.67	33.92	-	27.07	99.6	.724
659	2.74	33.978	-	-	-	-	95.8	700	2.75	34.02	-	27.15	92.7	.823
722	2.76	34.051	-	-	-	-	90.4	800	2.97	34.17	-	27.25	83.2	.916
816	2.99	34.190	-	-	-	-	81.8	1000	2.38	34.28	-	27.39	70.0	1.079
951	2.46	34.249	-	-	-	-	73.0	1200	2.20	34.39	-	27.49	60.3	1.220
1125	2.25	34.351	-	-	-	-	63.6							
163					BOREAS EXPEDITION								163	
ARGO, MARCH 17 1966, 0306 0358 GCT, 45 30N 152 40E, SOUNDING 2890 FM, WIND 080 FORCE 8, WEATHER RAIN, SEA HIGH, WIRE ANGLE 44 55.														
0	.07	33.123	7.80	2.19	60	10	143.6	0	.07	33.12	7.80	26.61	143.8	0
36	.06	33.136	7.69	2.21	-	-	142.5	10	.07	33.13	7.75	26.62	143.0	.014
54	.56	33.271	6.77	2.33	69	12	134.7	20	.06	33.13	7.73	26.62	143.0	.029
72	.82	33.321	6.13	2.33	-	-	132.3	30	.06	33.13	7.71	26.62	143.0	.043
89	1.19	33.369	5.48	2.35	68	12	130.8	50	.34	33.22	7.09	26.68	137.5	.071
146	1.16	33.427	5.16	2.47	-	-	126.2	75	.92	33.33	6.00	26.73	132.2	.105
180	1.43	33.493	4.92	2.59	-	-	122.9	100	1.19	33.38	5.40	26.75	130.0	.137
215	1.58	33.536	4.57	2.66	86	15	120.6	125	1.17	33.40	5.27	26.77	128.3	.170
248	1.77	33.584	4.16	2.73	-	-	118.3	150	1.17	33.43	5.14	26.80	126.1	.202
264	1.78	33.609	4.12	2.75	-	-	116.4	200	1.52	33.52	4.68	26.84	121.4	.264
316	2.46	33.743	2.90	2.96	106	19	111.3	250	1.77	33.59	4.15	26.88	117.8	.324
384	2.71	33.845	2.16	3.10	-	-	105.6	300	2.29	33.71	3.24	26.94	112.5	.382
451	2.76	33.930	1.85	3.14	-	-	99.6	400	2.73	33.86	2.09	27.02	104.6	.492
524	3.03	34.029	1.19	3.21	129	22	94.3	500	2.95	33.99	1.41	27.11	96.6	.595
736A	3.05B	34.212	.65	3.31	-	-	80.7	600	3.04	34.09	.92	27.18	89.8	.692
929A	2.84	34.308	.61	3.28	-	-	71.7	700	3.05	34.19	.70	27.26	82.4	.782
1110A	2.46	34.377	.94	3.23	169	23	63.3	800	3.02	34.25	.62	27.31	77.6	.867
1296A	2.38	34.448	1.12	3.26	-	-	57.3	1000	2.67	34.34	.74	27.41	67.8	1.023
1541A	2.26	34.513	1.07	3.21	182	22	51.5	1200	2.42	34.41	1.07	27.49	60.5	1.163
								1500	2.28	34.50	1.07	27.57	52.6	1.354
164					BOREAS EXPEDITION								164	
ARGO, MARCH 17 1966, 1245 GCT, 44 36N 153 44E, SOUNDING 2884 FM, WIND 100 FORCE 4, WEATHER FOG, SEA ROUGH, WIRE ANGLE 25.														
1	.12	33.137	-	-	-	-	142.7	0	.12	33.14	-	26.62	142.5	0
83	.20	33.184	-	-	-	-	139.5	10	.13	33.14	-	26.62	142.5	.014
110	.22	33.201	-	-	-	-	138.3	20	.15	33.15	-	26.63	141.9	.028
136	.34	33.234	-	-	-	-	136.4	30	.16	33.15	-	26.63	141.9	.043
172	1.40	33.415	-	-	-	-	128.6	50	.18	33.16	-	26.64	141.3	.071
204	2.24	33.614	-	-	-	-	119.4	75	.20	33.18	-	26.65	139.8	.106
251	2.92	33.774	-	-	-	-	112.7	100	.22	33.19	-	26.66	139.2	.141
272	3.10	33.825	-	-	-	-	110.3	125	.27	33.22	-	26.68	137.1	.175
294	3.33	33.894	-	-	-	-	107.2	150	.63	33.29	-	26.72	133.6	.209
318	3.40	33.946	-	-	-	-	103.9	200	2.14	33.59	-	26.85	120.5	.273
391	3.16	34.015	-	-	-	-	96.5	250	2.91	33.77	-	26.93	112.9	.332
471	3.24	34.128	-	-	-	-	88.7	300	3.36	33.90	-	27.00	107.0	.388
562	2.74	34.179	-	-	-	-	80.6	400	3.16	34.03	-	27.12	95.4	.491
700	2.84	34.299	-	-	-	-	72.3	500	3.07	34.15	-	27.22	85.6	.584
838	2.70	34.324C	-	-	-	-	69.3	600	2.76	34.22	-	27.31	77.6	.669
980	2.49	34.352C	-	-	-	-	65.5	700	2.84	34.30	-	27.36	72.3	.748
1164	2.35	34.463	-	-	-	-	56.0	800	2.77	34.32	-	27.39	70.2	.824
1355	2.22	34.513	-	-	-	-	51.2	1000	2.48	34.36	-	27.44	64.8	.969
1556	2.14	34.550	-	-	-	-	47.7	1200	2.32	34.47	-	27.54	55.2	1.100
								1500	2.16	34.54	-	27.61	48.7	1.276

A) CAST II.
B) ALTERNATE VALUE, 3.21, NOT USED IN INTERPOLATION.
C) SALINITY SAMPLES AT 838 AND 980 METERS APPEAR TO HAVE BEEN REVERSED, THEY ARE ASSUMED TO BE IN THE CORRECT ORDER.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
			INPUT				COMPUTED				INPUT			COMPUTED
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
165					BOREAS EXPEDITION									165
ARGO, MARCH 17 1966, 2113 GCT, 44 00N 154 27E, SOUNDING 2840 FM, WIND 140 FORCE 5, WEATHER PARTLY CLOUDY, SEA HIGH, WIRE ANGLE 35.														
2	2.90	33.289	7.57	1.73	41	11	149.2	0	2.90	33.29	7.57	26.55	149.1	0
74	2.92	33.278	7.55	1.73	-	-	150.2	10	2.91	33.29	7.57	26.55	149.2	.015
98	2.89	33.274	7.53	1.75	43	10	150.2	20	2.91	33.29	7.56	26.55	149.2	.030
126	1.96	33.244	7.17	2.03	-	-	145.4	30	2.91	33.28	7.56	26.54	149.9	.045
154	3.62	33.559	5.35	2.08	57	15	135.0	50	2.92	33.28	7.56	26.54	150.0	.075
182	2.82	33.562	4.39	2.47	-	-	127.9	75	2.92	33.28	7.55	26.54	150.0	.112
220	3.06	33.650	3.79	2.61	-	-	123.2	100	2.87	33.27	7.50	26.54	150.4	.150
240	2.58	33.645	3.39	2.80	94	22	119.7	125	1.97	33.24	7.18	26.59	145.8	.187
260	2.69	33.690	3.12	2.84	-	-	117.1	150	3.59	33.53	5.53	26.68	136.9	.223
280	2.82	33.735	2.84	2.90	-	-	114.8	200	2.94	33.60	4.08	26.80	126.0	.289
343	3.16	33.880	1.99	3.05	107	24	106.7	250	2.62	33.67	3.25	26.88	118.1	.351
412	3.32	34.012	1.52	3.14	-	-	98.2	300	2.94	33.78	2.56	26.94	112.4	.409
490	3.35	34.136	1.13	3.18	-	-	89.1	400	3.30	33.99	1.59	27.07	99.6	.517
610	3.20	34.231	.98	3.22	144	26	80.6	500	3.35	34.14	1.13	27.19	88.8	.615
727	3.08	34.307	.93	3.22	-	-	73.8	600	3.21	34.22	.99	27.27	81.5	.704
842	2.84	34.346	.85	3.24	-	-	68.8	700	3.12	34.29	.95	27.33	75.4	.786
996	2.70	34.416	.84	3.24	166	26	62.3	800	2.92	34.33	.87	27.38	70.7	.864
1155	2.48	34.463	.87	3.27	-	-	57.0	1000	2.70	34.42	.85	27.47	62.0	1.008
1321	2.34	34.504	1.02	3.23	-	-	52.8	1200	2.44	34.47	.90	27.53	56.1	1.139
1545	2.16	34.552	1.30	3.15	180	24	47.7	1500	2.20	34.54	1.25	27.61	49.0	1.317
166					BOREAS EXPEDITION									166
ARGO, MARCH 18 1966, 0800 GCT, 42 52N 155 58E, SOUNDING 2957 FM, WIND 220 FORCE 4, WEATHER CLOUDY, SEA HIGH, WIRE ANGLE 19.														
2	5.42	33.697	-	-	-	-	143.0	0	5.42	33.70	-	26.62	142.8	0
87	5.57	33.752	-	-	-	-	140.6	10	5.44	33.70	-	26.62	143.0	.014
115	5.54	33.750	-	-	-	-	140.4	20	5.46	33.71	-	26.62	142.5	.029
148	5.46	33.764	-	-	-	-	138.5	30	5.49	33.72	-	26.63	142.1	.043
181	5.43	33.771	-	-	-	-	137.6	50	5.52	33.74	-	26.64	141.0	.071
214	5.16	33.821	-	-	-	-	130.9	75	5.56	33.75	-	26.64	140.7	.107
262	4.80	33.833	-	-	-	-	126.1	100	5.56	33.75	-	26.64	140.7	.142
285	4.69	33.849	-	-	-	-	123.7	125	5.52	33.75	-	26.65	140.2	.178
309	4.67	33.908	-	-	-	-	119.1	150	5.46	33.77	-	26.67	138.0	.213
332	4.54	33.925	-	-	-	-	116.4	200	5.28	33.80	-	26.71	133.8	.282
407	4.23	33.983	-	-	-	-	108.9	250	4.89	33.83	-	26.78	127.3	.348
493	3.98	34.050	-	-	-	-	101.4	300	4.68	33.89	-	26.85	120.5	.411
588	3.69	34.123	-	-	-	-	93.2	400	4.25	33.98	-	26.97	109.4	.530
735	3.28	34.239	-	-	-	-	80.7	500	3.96	34.06	-	27.07	100.5	.639
876	3.02	34.300	-	-	-	-	73.8	600	3.67	34.13	-	27.15	92.5	.740
1018	2.94	34.388	-	-	-	-	66.5	700	3.37	34.22	-	27.25	82.9	.832
1209	2.64	34.448	-	-	-	-	59.4	800	3.13	34.27	-	27.31	77.0	.917
1404	2.38	34.487	-	-	-	-	54.4	1000	2.96	34.38	-	27.42	67.2	1.073
1587	2.22	34.530	-	-	-	-	49.9	1200	2.66	34.44	-	27.49	60.2	1.214
1838	2.08	34.574	-	-	-	-	45.5	1500	2.29	34.51	-	27.58	51.9	1.404

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
167					BOREAS EXPEDITION									167
ARGO, MARCH 18 1966, 1843 2211 GCT, 41 46N 156 47E, SOUNDING 2910 FM, WIND 270 FORCE 5, WEATHER RAIN, SEA HIGH, WIRE ANGLE 34 30.														
1	5.19	33.628A	7.25	1.40	32	12	145.7	0	5.19	33.63	7.25	26.59	145.5	0
76	5.22	33.639	7.16	1.42	-	-	145.2	10	5.19	33.63	7.24	26.59	145.5	.015
99	5.25	33.643	7.13	1.41	32	13	145.2	20	5.19	33.63	7.23	26.59	145.5	.029
126	5.32	33.663	7.11	1.40	-	-	144.5	30	5.20	33.64	7.22	26.60	144.9	.044
157	4.76	33.591	7.16	1.45	34	14	143.8	50	5.20	33.64	7.19	26.60	144.9	.073
185	4.76	33.611	7.05	1.50	-	-	142.3	75	5.22	33.64	7.16	26.59	145.1	.109
226	5.51	33.795	5.52	1.75	-	-	136.7	100	5.26	33.65	7.13	26.60	144.8	.146
245	5.08	33.791	4.80	2.01	54	21	132.2	125	5.32	33.66	7.11	26.60	144.7	.182
263	4.91	33.809	4.29	2.20	-	-	129.0	150	4.79	33.59	7.14	26.60	144.2	.219
285	4.76	33.830	3.89	2.34	-	-	125.9	200	5.00	33.67	6.62	26.64	140.4	.291
349	4.40	33.906	2.90	2.64	83	27	116.4	250	5.02	33.79	4.62	26.74	131.7	.360
419	4.24	34.001	2.30	2.82	-	-	107.7	300	4.66	33.84	3.65	26.82	124.1	.425
500	4.00	34.088	1.75	2.96	-	-	98.8	400	4.28	33.97	2.48	26.96	110.4	.546
625	3.64	34.198	1.25	3.13	126	32	87.1	500	4.00	34.09	1.75	27.08	98.6	.654
745	3.28	34.268	1.01	3.19	-	-	78.5	600	3.72	34.18	1.32	27.18	89.2	.753
865	3.04	34.324	.88	3.23	-	-	72.2	700	3.41	34.25	1.08	27.27	81.0	.843
1023	2.80	34.389	.88	3.32	160	35	65.2	800	3.17	34.30	.93	27.33	75.1	.926
1187	2.57	34.445	.91	3.43	-	-	59.1	1000	2.83	34.38	.88	27.43	66.1	1.079
1361	2.38	34.493	1.02	3.23	177	35	53.9	1200	2.55	34.45	.93	27.51	58.5	1.217
1594	2.23	34.553A	1.26	3.15	-	-	48.2	1500	2.28	34.53	1.17	27.59	50.3	1.401
2314B	1.75	34.630	2.21	2.91	179	31	38.8	2000	1.95	34.60	1.78	27.68	42.5	1.673
2550B	1.66	34.642	2.51	2.86	-	32	37.2	2500	1.68	34.64	2.44	27.73	37.5	1.917
2787B	1.62	34.656	2.86	2.80	175	30	35.9	3000	1.55	34.66	2.95	27.76	35.1	2.145
3024B	1.57	34.662	2.95	2.77	-	32	35.1	4000	1.51	34.68	3.59	27.77	33.3	2.597
3279B	1.54	34.670	3.15	2.71	172	31	34.3	5000	1.55	34.69	3.80	27.78	32.8	3.065
3496B	1.53	34.675	3.28	2.71	-	29	33.8							
3735B	1.51	34.679	3.39	2.69	168	31	33.4							
3975B	1.51	34.681	3.59	2.64	-	20	33.2							
4151B	1.50	34.684	3.60	2.64	168	30	32.9							
4294B	1.51	34.686	3.66	2.66	-	29	32.9							
4436B	1.50	34.686	3.68	2.61	166	30	32.8							
4627B	1.52	34.688	3.73	2.66	-	29	32.8							
4870B	1.55	34.688	3.83	2.57	164	30	33.0							
5113B	1.55	34.697	3.78	2.56	-	30	32.3							
5361B	1.58	-	3.87	2.56	159	30	-							
5462B	1.58	34.698	3.83	2.57	162	30	32.4							
168					BOREAS EXPEDITION									168
ARGO, MARCH 19 1966, 0621 0732 GCT, 41 02N 157 22E, SOUNDING 2903 FM, WIND 270 FORCE 3, WEATHER CLOUDY, SEA ROUGH, WIRE ANGLE 16 26.														
0	6.30	33.761	-	-	-	-	148.6	0	6.30	33.76	-	26.56	148.7	0
86	6.11	33.746	-	-	-	-	147.4	10	6.28	33.76	-	26.56	148.4	.015
114	6.08	33.744	-	-	-	-	147.2	20	6.25	33.76	-	26.56	148.1	.030
148	6.26	33.789	-	-	-	-	146.0	30	6.23	33.75	-	26.56	148.6	.045
182	6.16	33.800	-	-	-	-	144.0	50	6.18	33.75	-	26.56	148.0	.074
215	5.86	33.838	-	-	-	-	137.6	75	6.13	33.75	-	26.57	147.4	.111
262	5.04	33.840	-	-	-	-	128.1	100	6.09	33.75	-	26.58	146.9	.149
286	4.65	33.837	-	-	-	-	124.2	125	6.13	33.76	-	26.58	146.6	.186
310	4.53	33.841	-	-	-	-	122.7	150	6.26	33.79	-	26.59	145.9	.223
333	4.52	33.884	-	-	-	-	119.3	200	6.03	33.82	-	26.64	140.9	.295
409	4.70	34.040	-	-	-	-	109.5	250	5.27	33.84	-	26.75	130.7	.365
494	4.24	34.110	-	-	-	-	99.5	300	4.57	33.84	-	26.83	123.1	.430
589	3.73	34.167	-	-	-	-	90.2	400	4.69	34.02	-	26.96	110.9	.550
726	3.36	34.285	-	-	-	-	77.9	500	4.20	34.11	-	27.08	99.1	.659
858B	3.16	34.335	-	-	-	-	72.4	600	3.70	34.18	-	27.19	89.0	.758
997B	2.86	34.395	-	-	-	-	65.3	700	3.41	34.27	-	27.29	79.5	.847
1178B	2.54	34.441	-	-	-	-	59.1	800	3.26	34.31	-	27.33	75.1	.930
1363B	2.38	34.492	-	-	-	-	54.0	1000	2.85	34.40	-	27.44	64.8	1.082
1550B	2.22	34.532	-	-	-	-	49.7	1200	2.52	34.45	-	27.51	58.3	1.218
1793B	2.05	34.579	-	-	-	-	44.9	1500	2.26	34.53	-	27.60	50.2	1.402

A) SALINITY BOTTLE NUMBERS ON THE FIRST CAST WERE NOT RECORDED ON THE DATA SHEET. SINCE STANDARD HANDLING PROCEDURES WERE USED, THESE SALINITY VALUES ARE ASSUMED TO BE IN THE CORRECT ORDER.
B) CAST II.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
INPUT							COMPUTED	INPUT				COMPUTED		
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
169							BOREAS EXPEDITION							169
ARGO, MARCH 19 1966, 1408 GCT, 40 26N 158 23E, SOUNDING 2970 FM, WIND 190 FORCE 5, WEATHER MISSING, SEA MODERATE, WIRE ANGLE 35.														
3	8.18	34.016	-	-	-	-	154.5	0	8.18	34.02	-	26.50	154.2	0
73	8.03	34.002	-	-	-	-	153.4	10	8.18	34.01	-	26.49	155.0	.015
95	7.84	33.978	-	-	-	-	152.6	20	8.17	34.01	-	26.49	154.8	.031
122	7.40	33.920	-	-	-	-	150.9	30	8.15	34.01	-	26.50	154.5	.046
148	7.07	33.883	-	-	-	-	149.2	50	8.12	34.01	-	26.50	154.1	.078
173	6.68	33.851	-	-	-	-	146.6	75	8.02	34.00	-	26.51	153.4	.116
209	6.33	33.857	-	-	-	-	141.8	100	7.76	33.96	-	26.51	152.8	.155
227	6.32	33.889	-	-	-	-	139.3	125	7.36	33.91	-	26.53	151.1	.193
244	6.09	33.895	-	-	-	-	136.0	150	7.04	33.88	-	26.55	149.1	.231
263	5.78	33.886	-	-	-	-	133.0	200	6.37	33.85	-	26.62	142.8	.306
320	5.18	33.899	-	-	-	-	125.2	250	5.99	33.89	-	26.70	135.2	.377
383	4.66	33.938	-	-	-	-	116.7	300	5.38	33.89	-	26.77	128.1	.444
456	4.20	34.019	-	-	-	-	105.9	400	4.54	33.95	-	26.92	114.6	.569
570	3.82	34.121	-	-	-	-	94.6	500	4.02	34.06	-	27.06	101.1	.681
680	3.58	34.219	-	-	-	-	84.9	600	3.76	34.15	-	27.16	91.8	.782
788	3.32	34.280	-	-	-	-	77.9	700	3.54	34.23	-	27.24	83.7	.875
934	3.05	34.361	-	-	-	-	69.4	800	3.31	34.29	-	27.31	77.1	.961
1083	2.78	34.418	-	-	-	-	62.8	1000	2.93	34.38	-	27.42	67.0	1.117
1245	2.54	34.470	-	-	-	-	56.9	1200	2.61	34.45	-	27.50	59.0	1.256
1461	2.31	34.523	-	-	-	-	51.1	1500	2.28	34.53	-	27.59	50.3	1.442
170							BOREAS EXPEDITION							170
ARGO, MARCH 19 1966, 2116 GCT, 39 30N 158 30E, SOUNDING 2892 FM, WIND 200 FORCE 6, WEATHER RAIN, SEA VERY ROUGH, WIRE ANGLE 21.														
1	11.04	34.301	6.18	0.75	17	11	178.4	0	11.04	34.30	6.18	26.24	178.5	0
84	11.02	34.305	6.15	0.78	17	8	177.8	10	11.04	34.30	6.18	26.24	178.5	.018
111	9.60	34.172	5.88	1.03	24	8	164.3	20	11.04	34.30	6.18	26.24	178.5	.036
144	9.32	34.172	5.16	1.24	29	14	159.9	30	11.04	34.30	6.18	26.24	178.5	.054
176	8.58	34.071	5.59	1.25	30	13	156.2	50	11.04	34.30	6.18	26.24	178.5	.090
207	7.40	33.927	6.08	1.27	30	13	150.3	75	11.04	34.30	6.18	26.24	178.5	.135
253	6.63	33.825	6.75	1.20	27	12	147.9	100	9.99	34.20	6.03	26.35	168.4	.178
276	6.65	33.851	6.59	1.22	29	13	146.2	125	9.47	34.17	5.53	26.41	162.4	.220
298	6.71	33.897	5.82	1.43	36	15	143.5	150	9.24	34.16	5.16	26.44	159.5	.261
322	6.06	33.854	5.28	1.68	48	18	138.7	200	7.65	33.96	5.96	26.53	151.3	.340
394	5.77	33.982	3.49	2.20	67	24	125.7	250	6.63	33.83	6.74	26.57	147.5	.417
477	5.06	34.065	2.42	2.62	-	-	111.5	300	6.70	33.90	5.80	26.61	143.2	.491
570	4.46	34.121	1.91	2.82	-	-	100.9	400	5.72	33.99	3.32	26.81	124.5	.630
716	3.60	34.250	1.01	3.10	133	35	82.8	500	4.92	34.08	2.28	26.98	108.8	.752
856	3.39	34.333	1.05	3.15	-	-	74.6	600	4.24	34.15	1.68	27.11	96.5	.860
996	3.05	34.393	.92	3.17	-	-	67.0	700	3.67	34.24	1.03	27.24	84.2	.956
1183	2.71	34.458	.87	3.22	163	35	59.2	800	3.48	34.31	1.03	27.31	77.1	1.042
1369	2.44	34.502	.92	3.20	-	-	53.7	1000	3.04	34.40	.91	27.42	66.4	1.199
1558	2.25	34.541	1.16	3.18	-	-	49.3	1200	2.68	34.46	.88	27.50	58.8	1.338
1794	2.09	34.582	1.44	3.11	184	35	44.9	1500	2.31	34.53	1.06	27.59	50.6	1.524
171							BOREAS EXPEDITION							171
ARGO, MARCH 20 1966, 2018 GCT, 39 31N 153 42E, SOUNDING 3008 FM, WIND 320 FORCE 4, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 15.														
2	10.74	34.289	-	-	-	-	174.2	0	10.74	34.29	-	26.29	174.1	0
90	9.35	34.142	-	-	-	-	162.6	10	10.73	34.29	-	26.29	174.0	.017
119	9.08	34.119	-	-	-	-	160.1	20	10.72	34.29	-	26.29	173.8	.035
153	8.94	34.099	-	-	-	-	159.5	30	10.67	34.28	-	26.29	173.7	.052
187	8.44	34.036	-	-	-	-	156.8	50	9.74	34.18	-	26.38	165.9	.086
219	7.84	33.987	-	-	-	-	151.9	75	9.52	34.16	-	26.40	163.9	.128
268	6.58	33.886	-	-	-	-	142.7	100	9.23	34.13	-	26.42	161.6	.169
293	6.25	33.899	-	-	-	-	137.7	125	9.06	34.11	-	26.43	160.5	.210
315	5.86	33.902	-	-	-	-	132.8	150	8.96	34.10	-	26.44	159.7	.251
340	5.45	33.899	-	-	-	-	128.2	200	8.21	34.01	-	26.49	155.4	.331
417	5.38	34.043	-	-	-	-	116.7	250	6.97	33.91	-	26.59	145.9	.408
504	4.83	34.090	-	-	-	-	107.1	300	6.14	33.90	-	26.69	136.3	.481
599	4.32	34.150	-	-	-	-	97.3	400	5.41	34.01	-	26.86	119.5	.613
749	3.72	34.260	-	-	-	-	83.1	500	4.87	34.09	-	26.99	107.5	.731
890	3.36	34.337	-	-	-	-	74.0	600	4.32	34.15	-	27.10	97.3	.839
1028	3.04	34.391	-	-	-	-	67.1	700	3.89	34.23	-	27.21	87.0	.937
1214	2.69	34.460	-	-	-	-	58.9	800	3.59	34.29	-	27.29	79.7	1.026
1402	2.43	34.504	-	-	-	-	53.5	1000	3.10	34.38	-	27.40	68.5	1.188
1591	2.30	34.535	-	-	-	-	50.1	1200	2.72	34.46	-	27.50	59.2	1.329
1832	2.09	34.576	-	-	-	-	45.4	1500	2.37	34.52	-	27.58	51.8	1.518

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT					COMPUTED			INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
172					BOREAS EXPEDITION									172
ARGO, MARCH 21 1966, 0253 0411 GCT, 40 18N 153 13E, SOUNDING 3015 FM, WIND 280 FORCE 5, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 32 39.														
0	8.93	34.111	6.58	0.95	20	9	158.5	0	8.93	34.11	6.58	26.45	158.5	0
44	8.92	34.111	6.47	0.93	21	8	158.3	10	8.93	34.11	6.56	26.45	158.5	.016
130	8.90	34.120	6.46	0.93	22	9	157.3	20	8.93	34.11	6.53	26.45	158.5	.032
218	8.91	34.115	6.47	0.94	21	8	157.9	30	8.93	34.11	6.51	26.45	158.5	.048
232	8.90	34.130	6.49	0.93	21	9	156.6	50	8.92	34.11	6.47	26.45	158.4	.079
245	8.90	34.109	6.50	0.94	20	8	158.2	75	8.91	34.11	6.47	26.46	158.2	.119
255	8.89	34.105	6.47	0.94	21	9	158.3	100	8.90	34.12	6.46	26.47	157.3	.159
264	8.67	34.071	6.28	1.02	24	10	157.6	125	8.90	34.12	6.46	26.47	157.3	.199
273	8.18	34.041	6.02	1.18	30	11	152.7	150	8.91	34.12	6.46	26.46	157.5	.239
282	8.03	34.010	6.01	1.19	29	12	152.8	200	8.91	34.12	6.47	26.46	157.5	.320
291	7.80	33.984	5.84	1.27	30	12	151.6	250	8.91	34.11	6.48	26.46	158.2	.401
300	7.62	33.969	5.67	1.35	33	14	150.2	300	7.62	33.97	5.67	26.54	150.1	.480
309	7.50	33.968	5.56	1.44	-	15	148.6	400	5.93	33.90	4.30	26.71	133.7	.627
318	7.22	33.962	5.55	1.45	36	14	145.3	500	4.96	34.01	2.63	26.92	114.5	.756
327	6.99	33.958	5.64	1.46	38	13	142.6	600	4.34	34.09	1.94	27.05	102.0	.870
337	6.82	33.906	5.36	1.54	40	15	144.3	700	3.91	34.16	1.49	27.15	92.5	.973
344A	6.83	33.874	5.40	1.53	39	9	146.8	800	3.59	34.24	1.17	27.25	83.4	1.067
345	6.74	33.901	5.06	1.66	42	15	143.6	1000	3.04	34.35	.98	27.38	70.2	1.233
355	6.49	33.908	4.86	1.72	46	17	140.0							
372	6.36	33.919	4.78	1.79	50	17	137.5							
373A	6.20	33.895	4.65	1.78	50	12	137.4							
402	5.90	33.904	4.30	2.01	58	20	133.1							
403A	5.87	33.902	4.28	2.00	59	13	132.9							
434A	5.32	33.922	3.60	2.22	68	16	125.1							
481A	5.08	33.989	2.87	2.45	82	17	117.4							
560A	4.55	34.069	2.13	2.76	99	23	105.7							
660A	4.06	34.130	1.67	2.82	-	23	96.2							
831A	3.50	34.259	1.09	3.08	138	25	81.2							
1086A	2.82	34.391	.94	3.15	161	26	65.2							
173					BOREAS EXPEDITION									173
ARGO, MARCH 21 1966, 1546 GCT, 41 06N 152 28E, SOUNDING 2676 FM, WIND 270 FORCE 4, WEATHER MISSING, SEA ROUGH, WIRE ANGLE 40.														
2	7.57	33.942	-	-	-	-	151.5	0	7.57	33.94	-	26.53	151.7	0
70	7.30	33.914	-	-	-	-	150.0	10	7.56	33.94	-	26.53	151.5	.015
92	6.79	33.844	-	-	-	-	148.5	20	7.55	33.94	-	26.53	151.4	.030
116	6.56	33.819	-	-	-	-	147.5	30	7.54	33.94	-	26.53	151.3	.046
142	6.48	33.813	-	-	-	-	146.9	50	7.49	33.93	-	26.53	151.3	.076
164	6.34	33.794	-	-	-	-	146.6	75	7.17	33.90	-	26.55	149.3	.114
199	5.97	33.746	-	-	-	-	145.7	100	6.66	33.83	-	26.57	147.9	.151
215	5.57	33.694	-	-	-	-	145.0	125	6.53	33.82	-	26.57	147.0	.188
231	5.28	33.659	-	-	-	-	144.3	150	6.43	33.81	-	26.58	146.5	.226
246	4.80	33.596	-	-	-	-	143.9	200	5.94	33.74	-	26.59	145.8	.300
295	5.30	33.816	-	-	-	-	132.8	250	4.81	33.61	-	26.62	142.9	.373
349	4.48	33.813	-	-	-	-	124.2	300	5.27	33.82	-	26.73	132.1	.444
410	4.64	33.997	-	-	-	-	112.1	400	4.63	33.97	-	26.92	114.0	.570
504	4.30	34.074	-	-	-	-	102.8	500	4.32	34.07	-	27.04	103.3	.683
594	4.02	34.149	-	-	-	-	94.4	600	4.00	34.15	-	27.13	94.1	.787
682	3.67	34.198	-	-	-	-	87.3	700	3.61	34.21	-	27.22	85.9	.882
800	3.35	34.271	-	-	-	-	78.9	800	3.35	34.27	-	27.29	79.0	.970
898	3.19	34.282U	-	-	-	-	76.6	1000	2.96	34.37	-	27.41	68.0	1.129
1021	2.91	34.378	-	-	-	-	67.0	1200	2.67	34.45	-	27.50	59.5	1.270
1226	2.64	34.458	-	-	-	-	58.7							
174					BOREAS EXPEDITION									174
ARGO, MARCH 21-22 1966, 2341 0018 GCT, 41 53N 151 48E, SOUNDING 2760 FM, WIND 280 FORCE 4, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 30 45.														
2	5.76	33.719	6.88	1.36	33	12	145.3	0	5.76	33.72	6.88	26.59	145.2	0
79	5.74	33.717	6.83	1.38	-	-	145.2	10	5.76	33.72	6.87	26.59	145.2	.015
104	5.74	33.715	6.82	1.38	34	11	145.4	20	5.75	33.72	6.86	26.59	145.1	.029
134	5.75	33.719	6.87	1.37	-	-	145.2	30	5.75	33.72	6.85	26.59	145.1	.044
163	5.36	33.669	6.74	1.46	37	12	144.5	50	5.75	33.72	6.84	26.59	145.1	.073
192	4.88	33.694	5.28	1.87	-	-	137.4	75	5.75	33.72	6.83	26.59	145.1	.109
235	4.74	33.800	4.09	2.23	-	-	127.9	100	5.74	33.72	6.82	26.60	145.0	.146
256	4.50	33.815	3.75	2.35	72	20	124.3	125	5.74	33.72	6.85	26.60	145.0	.182
277	3.88	33.781	3.51	2.52	-	-	120.7	150	5.59	33.70	6.79	26.60	144.8	.219
298	2.90	33.703	3.14	2.80	-	-	117.9	200	4.84	33.71	5.02	26.69	135.7	.290
367	2.96	33.819	2.15	3.03	101	29	109.6	250	4.58	33.81	3.82	26.80	125.5	.356
442	4.08	34.072	1.90	2.91	-	-	100.8	300	2.90	33.71	3.14	26.89	117.3	.418
527	4.02	34.172	1.56	2.99	-	-	92.6	400	3.49	33.93	2.02	27.01	105.9	.532
662	3.69	34.306	1.28	3.08	133	29	79.4	500	4.06	34.14	1.66	27.12	95.4	.636
697B	3.60	34.302	1.12	3.10	-	-	78.8	600	3.84	34.26	1.41	27.24	84.3	.731
820B	2.94	34.315	.93	3.22	-	-	72.0	700	3.58	34.30	1.08	27.29	78.8	.818
987B	2.68	34.409	.94	3.23	167	29	62.7	800	3.01	34.31	.96	27.36	73.0	.899
1159B	2.46	34.450	.94	3.37	-	-	57.8	1000	2.66	34.41	.94	27.47	62.5	1.045
1339B	2.34	34.503	1.06	3.22	-	-	52.8	1200	2.44	34.46	.97	27.53	56.9	1.177
1567B	2.17	34.547	1.29	3.17	185	30	48.2	1500	2.22	34.54	1.23	27.61	49.1	1.357

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

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
175							BOREAS EXPEDITION							175
ARGO, MARCH 22 1966, 0539 GCT, 41 55N 151 52E, SOUNDING 2738 FM, WIND 300 FORCE 3, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 15.														
0	3.57	33.417	7.35	1.73	-	-	145.3	0	3.57	33.42	7.35	26.60	145.1	0
49	5.25	33.671	6.76	1.42	-	-	143.1	10	3.69	33.43	7.30	26.59	145.4	.015
89	5.40	33.677	6.85	1.44	-	-	144.3	20	3.81	33.46	7.26	26.60	144.3	.029
117	4.76	33.583	7.00	1.53	-	-	144.4	30	4.00	33.48	7.22	26.60	144.6	.043
138	4.38	33.626	5.53	1.92	-	-	137.3	50	5.27	33.67	6.76	26.61	143.4	.072
157	4.65	33.706	4.94	2.02	-	-	134.0	75	5.39	33.68	6.82	26.61	144.0	.108
177	4.40	33.726	4.53	2.18	-	-	130.0	100	5.32	33.67	6.90	26.61	144.0	.145
196	4.04	33.716	4.16	2.34	-	-	127.2	125	4.55	33.59	6.62	26.63	141.7	.181
215	4.42	33.807	3.82	2.36	-	-	124.1	150	4.61	33.68	5.13	26.70	135.6	.216
235	4.44	33.829	3.56	2.44	-	-	122.6	200	4.07	33.73	4.05	26.79	126.4	.282
255	4.45	33.859	3.35	2.49	-	-	120.5	250	4.55	33.85	3.42	26.84	122.2	.345
274	4.56	33.920	3.01	2.57	-	-	117.0	300	4.10	33.89	2.76	26.92	114.7	.406
303	4.04	33.892	2.75	2.71	-	-	113.9	400	3.53	33.99	1.81	27.05	101.7	.517
333	3.68	33.888	2.48	2.85	-	-	110.8	500	3.23	34.06	1.27	27.14	93.7	.617
362	3.27	33.869	2.21	2.95	-	-	108.5							
391	3.54	33.974A	1.85	2.99	-	-	103.0							
421	3.52	34.017A	1.73	3.03	-	-	99.6							
449	3.44	34.036	1.46	3.10	-	-	97.4							
479	3.20	34.040	1.35	3.13	-	-	95.0							
508	3.23	34.075	1.22	3.17	-	-	92.6							
176							BOREAS EXPEDITION							176
ARGO, MARCH 22 1966, 0811 GCT, 41 59N 151 47E, SOUNDING 2744 FM, WIND 280 FORCE 4, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 06.														
1	1.74	33.183	7.88	2.03	-	-	148.5	0	1.74	33.18	7.88	26.56	148.7	0
50	3.51	33.438	7.23	1.70	-	-	143.2	10	1.77	33.19	7.87	26.56	148.2	.015
91	3.70	33.463	7.15	1.74	-	-	143.0	20	1.80	33.19	7.85	26.56	148.4	.030
120	4.32	33.575	6.29	1.78	-	-	140.5	30	1.83	33.19	7.83	26.56	148.6	.045
140	4.88	33.726	5.04	1.95	-	-	135.0	50	3.51	33.44	7.23	26.62	143.0	.074
160	4.49	33.713	4.63	2.13	-	-	131.9	75	3.63	33.46	7.20	26.62	142.6	.110
180	5.00	33.840	4.04	2.22	-	-	127.7	100	3.75	33.47	7.10	26.62	142.9	.145
200	4.92	33.862	3.70	2.34	-	-	125.2	125	4.51	33.61	5.97	26.65	139.8	.181
219	4.38	33.817	3.59	2.43	-	-	122.9	150	4.68	33.72	4.82	26.72	133.3	.215
239	3.60	33.743	3.53	2.59	-	-	121.0	200	4.92	33.86	3.70	26.80	125.3	.281
259	3.97	33.824	3.21	2.63	-	-	118.4	250	3.70	33.78	3.41	26.87	119.1	.343
278	4.32	33.910	2.87	2.66	-	-	115.3	300	4.31	33.95	2.60	26.94	112.2	.402
308	4.26	33.957	2.50	2.79	-	-	111.2	400	3.12	33.93	1.73	27.04	102.6	.512
338	3.63	33.920	2.27	2.93	-	-	107.9	500	3.11	34.06	1.06	27.15	92.7	.613
367	3.44	33.925	2.09	2.99	-	-	105.8							
397	3.12	33.927	1.79	3.12	-	-	102.8							
426	3.18	33.972	1.55	3.13	-	-	99.9							
456	3.08	33.995	1.44	3.21	-	-	97.3							
485	3.10	34.039	1.07	3.27	-	-	94.2							
515	3.11	34.081	1.05	3.24	-	-	91.1							
177							BOREAS EXPEDITION							177
ARGO, MARCH 22 1966, 1512 GCT, 42 42N 150 49E, SOUNDING 2670 FM, WIND 140 FORCE 3, WEATHER MISSING, SEA MODERATE, WIRE ANGLE 25.														
2	.92	33.093	-	-	-	-	150.2	0	.92	33.09	-	26.54	150.5	0
83	1.02	33.183	-	-	-	-	143.9	10	.94	33.11	-	26.55	149.0	.015
109	1.00	33.191	-	-	-	-	143.2	20	.95	33.12	-	26.56	148.3	.030
141	.96	33.277	-	-	-	-	136.4	30	.97	33.13	-	26.57	147.7	.045
172	2.18	33.529	-	-	-	-	125.4	50	.99	33.15	-	26.58	146.3	.074
203	2.40	33.619	-	-	-	-	120.2	75	1.01	33.18	-	26.61	144.1	.110
248	2.70	33.726	-	-	-	-	114.5	100	1.01	33.19	-	26.61	143.4	.146
270	2.88	33.813	-	-	-	-	109.4	125	.98	33.22	-	26.64	140.9	.182
293	2.90	33.842	-	-	-	-	107.4	150	1.25	33.36	-	26.73	131.9	.216
315	2.98	33.898	-	-	-	-	103.8	200	2.38	33.61	-	26.85	120.7	.279
387	3.09	34.000	-	-	-	-	97.0	250	2.73	33.74	-	26.93	113.7	.338
466	3.10	34.101	-	-	-	-	89.5	300	2.93	33.86	-	27.00	106.3	.394
555	3.02	34.187	-	-	-	-	82.3	400	3.09	34.02	-	27.12	95.5	.497
694	2.85	34.272	-	-	-	-	74.5	500	3.08	34.14	-	27.21	86.4	.591
827	2.68	34.339	-	-	-	-	68.0	600	2.98	34.22	-	27.29	79.5	.678
961	2.52	34.390	-	-	-	-	62.8	700	2.84	34.28	-	27.35	73.8	.758
1140	2.42	34.454	-	-	-	-	57.2	800	2.71	34.33	-	27.40	68.9	.834
1320	2.26	34.503	-	-	-	-	52.2	1000	2.50	34.40	-	27.47	61.9	.975
1503	2.15	34.533	-	-	-	-	49.1	1200	2.36	34.47	-	27.54	55.5	1.104
1734	2.02	34.575	-	-	-	-	44.9	1500	2.15	34.53	-	27.61	49.3	1.281

A) SALINITY SAMPLES AT 391 AND 421 METERS APPEAR TO HAVE BEEN REVERSED, THEY ARE ASSUMED TO BE IN THE CORRECT ORDER.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
178							BOREAS EXPEDITION							178
ARGC, MARCH 22-23 1966, 2334 0328 GCT, 43 33N 149 51E, SOUNDING 4480 FM, WIND 100 FORCE 6, WEATHER SNOW, SEA ROUGH, WIRE ANGLE 22 39.														
C	.79	33.185	7.81	1.97	43	16	142.5	0	.79	33.18	7.81	26.62	142.9	0
9	.78	33.183	7.82	1.97	-	-	142.6	10	.78	33.18	7.82	26.62	142.8	.014
32	.80	33.186	7.79	1.97	50	15	142.5	20	.79	33.18	7.80	26.62	142.9	.029
60	.81	33.208	7.77	2.00	-	-	140.8	30	.80	33.19	7.79	26.63	142.2	.043
84	.85	33.235	7.70	2.02	50	15	139.0	50	.81	33.20	7.77	26.63	141.5	.071
98	.85	33.261	7.57	2.05	-	-	137.0	75	.84	33.22	7.74	26.65	140.1	.106
112	.69	33.269	7.46	2.13	-	-	135.5	100	.84	33.26	7.56	26.68	137.1	.141
145	1.00	33.305	7.07	2.22	53	21	134.5	125	.80	33.28	7.30	26.70	135.3	.175
168	1.16	33.343	6.70	2.23	-	-	132.6	150	1.04	33.31	7.00	26.71	134.4	.209
201	1.62	33.424	5.55	2.42	-	-	129.4	200	1.62	33.42	5.56	26.76	129.7	.275
234	1.96	33.512	4.46	2.60	77	22	125.1	250	2.01	33.54	4.30	26.82	123.3	.338
301	2.12	33.592	3.85	2.72	-	-	120.2	300	2.12	33.59	3.86	26.86	120.3	.400
414	2.76	33.826	2.35	3.05	-	-	107.4	400	2.69	33.80	2.53	26.98	108.8	.516
538	3.02	34.000	1.43	3.20	120	30	96.4	500	2.99	33.96	1.60	27.08	99.2	.622
676	2.91	34.104	1.21	3.24	-	-	87.7	600	2.98	34.05	1.30	27.15	92.3	.722
833	2.82	34.217	1.03	3.25	-	-	78.4	700	2.90	34.12	1.17	27.21	86.4	.815
996	2.70	34.308	.93	3.27	153	30	70.5	800	2.84	34.18	1.07	27.27	81.3	.903
1186	2.46	34.415	1.02	3.32	-	-	60.5	1000	2.70	34.31	.94	27.38	70.3	1.065
1422	2.40	34.487	.99	3.28	-	-	54.5	1200	2.45	34.42	1.01	27.49	60.0	1.208
1577A	2.30	34.538	1.05	3.08	189	36U	49.9	1500	2.35	34.51	1.03	27.57	52.4	1.397
1708	2.20	34.540	1.37	3.25	130	27	49.0	2000	2.02	34.58	1.64	27.66	44.6	1.681
1946A	2.04	34.569	1.56	3.01	-	-	45.5	2500	1.78	34.63	2.28	27.71	39.0	1.935
2310A	1.86	34.616	2.08	2.90	192	29	40.7	3000	1.64	34.65	2.78	27.74	36.5	2.173
2697A	1.71	34.637	2.48	2.85	-	-	38.0	4000	1.51	34.67	3.48	27.77	34.1	2.639
3077A	1.63	34.654	2.85	2.76	178	29	36.1	5000	1.56	34.69	3.70	27.78	32.9	3.111
3305A	1.58	34.657	3.00	2.68	-	-	35.5	6000	1.67	34.69	3.83	27.77	33.7	3.617
3553A	1.55	34.672	3.21	2.62	-	-	34.2							
3642A	1.53	34.670	3.31	2.62	172	29	34.2							
3744A	1.52	34.677	3.35	2.62	-	-	33.6							
3841A	1.52	34.681	3.41	2.61	-	-	33.3							
3936A	1.50	34.674	3.46	2.56	167	30	33.7							
4031A	1.51	34.675	3.50	2.56	-	-	33.7							
4412A	1.51	34.686	3.59	2.57	-	-	32.9							
4802A	1.54	34.680	3.66	2.57	165	28	33.5							
5181A	1.58	34.686	3.76	2.56	-	-	33.3							
5568A	1.61	34.690	3.78	2.49	162	25	33.3							
5955A	1.67	34.685	3.81	2.46	-	-	34.1							
6346A	1.72	34.688	4.08	2.51	162	28	34.2							
179							BOREAS EXPEDITION							179
ARGC, MARCH 23 1966, 1250 GCT, 44 22N 148 51E, SOUNDING 1090 FM, WIND 220 FORCE 3, WEATHER OVERCAST, SEA HIGH, WIRE ANGLE 23.														
2	.28	33.1398	-	-	-	-	143.3	0	.28	33.14	-	26.61	143.3	0
84	.34	33.172	-	-	-	-	141.1	10	.28	33.14	-	26.61	143.3	.014
111	.34	33.175	-	-	-	-	140.9	20	.29	33.15	-	26.62	142.5	.029
143	.42	33.201	-	-	-	-	139.3	30	.30	33.15	-	26.62	142.6	.043
176	.48	33.224	-	-	-	-	137.9	50	.32	33.16	-	26.63	141.9	.071
208	.73	33.282	-	-	-	-	134.8	75	.34	33.17	-	26.64	141.3	.107
256	1.20	33.395	-	-	-	-	128.9	100	.34	33.17	-	26.64	141.3	.142
322	1.60	33.506	-	-	-	-	123.0	125	.37	33.19	-	26.65	139.9	.177
395	1.85	33.587	-	-	-	-	118.6	150	.43	33.21	-	26.66	138.7	.212
477	2.21	33.765	-	-	-	-	107.7	200	.67	33.26	-	26.69	136.1	.280
568	2.84	33.997	-	-	-	-	95.2	250	1.16	33.38	-	26.76	129.8	.347
689	2.99	34.091	-	-	-	-	89.3	300	1.48	33.47	-	26.81	125.0	.411
808	2.72	34.137	-	-	-	-	83.6	400	1.87	33.59	-	26.88	118.5	.533
927	2.58	34.216	-	-	-	-	76.5	500	2.37	33.82	-	27.02	104.8	.647
1047	2.52	34.316	-	-	-	-	68.4	600	2.92	34.03	-	27.14	93.3	.749
1167	2.34	34.343	-	-	-	-	65.0	700	2.98	34.10	-	27.19	88.6	.843
1288	2.32	34.407	-	-	-	-	60.0	800	2.73	34.13	-	27.24	84.2	.934
1411	2.28	34.456	-	-	-	-	55.9	1000	2.55	34.28	-	27.37	71.4	1.100
1548	2.23	34.515B	-	-	-	-	51.1	1200	2.34	34.36	-	27.45	63.7	1.246
								1500	2.25	34.49	-	27.57	53.1	1.441

A) OVERLAPPING CASTS, RECONCILIATION OF PROPERTY CURVES WHEN NECESSARY.
B) SALINITY BOTTLE NUMBERS WERE NOT RECORDED ON THE DATA SHEET. SINCE STANDARD HANDLING PROCEDURES WERE USED, THESE SALINITY VALUES ARE ASSUMED TO BE IN THE CORRECT ORDER.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
180					BOREAS EXPEDITION									180
ARGO, MARCH 24 1966, 0505 GCT, 43 14N 146 48E, SOUNDING 1027 FM, WIND 260 FORCE 4, WEATHER PARTLY CLOUDY, SEA ROUGH, WIRE ANGLE 09.														
1	.86	33.116	7.90	1.87	50	15	148.1	0	.86	33.12	7.90	26.57	147.8	0
30	.76	33.123	7.84	1.86	-	-	147.0	10	.82	33.12	7.89	26.57	147.6	.015
60	1.34	33.183	7.71	1.86	50	15	145.9	20	.78	33.12	7.88	26.57	147.4	.030
95	1.50	33.205	7.66	1.87	-	-	145.2	30	.76	33.12	7.84	26.57	147.3	.044
119	1.49	33.230	7.51	1.93	51	15	143.3	50	1.05	33.16	7.78	26.59	145.9	.074
154	2.19	33.386	6.03	2.18	-	-	136.3	75	1.48	33.20	7.69	26.59	145.5	.110
179	2.70	33.497	4.98	2.34	-	-	131.8	100	1.50	33.21	7.65	26.60	144.9	.146
203	2.67	33.522	4.59	2.45	71	22	129.7	125	1.65	33.26	7.37	26.63	142.0	.182
238	2.59	33.569	4.02	-	-	-	125.5	150	2.12	33.37	6.20	26.68	137.0	.217
263	2.49	33.565	3.79	2.68	-	-	125.0	200	2.67	33.52	4.67	26.76	129.8	.284
298	2.80	33.641	3.57	2.68	86	25	121.7	250	2.54	33.57	3.94	26.81	125.0	.348
357	2.86	33.720	2.89	2.86	-	-	116.3	300	2.81	33.64	3.55	26.84	121.9	.411
482	3.08	33.925	1.54	3.14	-	-	102.6	400	2.93	33.79	2.42	26.95	111.5	.530
596	3.12	34.070	1.12	3.23	129	33	92.0	500	3.10	33.95	1.43	27.06	100.9	.638
778	2.94	34.221	.94	3.29	-	-	79.1	600	3.12	34.08	1.12	27.16	91.3	.738
947	2.82	34.325	.88	3.29	-	-	70.2	700	3.02	34.16	1.01	27.24	84.4	.830
1172	2.66	34.429	.89	3.27	168	38	61.0	800	2.92	34.23	.93	27.30	78.2	.916
1400	2.46	34.483	1.03	3.51	-	-	55.3	1000	2.78	34.35	.88	27.41	68.0	1.073
1732	2.20	34.540	1.23	3.27	176	33	49.0	1200	2.63	34.44	.90	27.49	59.9	1.214
								1500	2.38	34.50	1.10	27.56	53.4	1.406
181					BOREAS EXPEDITION									181
ARGO, MARCH 24 1966, 1058 GCT, 42 41N 147 18E, SOUNDING 2986 FM, WIND 260 FORCE 5, WEATHER MISSING, SEA ROUGH, WIRE ANGLE 12.														
1	1.30	33.239	-	-	-	-	141.4	0	1.30	33.24	-	26.63	141.3	0
30	1.26	33.235	-	-	-	-	141.4	10	1.29	33.24	-	26.64	141.2	.014
60	1.00	33.230	-	-	-	-	140.3	20	1.28	33.24	-	26.64	141.2	.028
94	.90	33.234	-	-	-	-	139.4	30	1.26	33.24	-	26.64	141.1	.042
118	.90	33.251	-	-	-	-	138.1	50	1.08	33.23	-	26.64	140.7	.071
153	.87	33.268	-	-	-	-	136.6	75	.94	33.23	-	26.65	139.9	.106
177	.94	33.301	-	-	-	-	134.5	100	.90	33.24	-	26.66	138.9	.140
202	1.29	33.360	-	-	-	-	132.1	125	.90	33.25	-	26.67	138.2	.175
236	1.46	33.417	-	-	-	-	128.8	150	.87	33.27	-	26.69	136.5	.209
260	1.76	33.476	-	-	-	-	126.4	200	1.27	33.36	-	26.73	132.0	.277
294	1.68	33.512	-	-	-	-	123.1	250	1.65	33.46	-	26.79	126.9	.341
353	2.22	33.632	-	-	-	-	117.9	300	1.72	33.52	-	26.83	122.8	.404
475	2.49	33.825	-	-	-	-	105.3	400	2.33	33.71	-	26.94	112.8	.523
589	3.10	34.049	-	-	-	-	93.4	500	2.62	33.88	-	27.05	102.2	.633
766	3.04	34.222	-	-	-	-	79.9	600	3.10	34.06	-	27.15	92.6	.733
934	2.80	34.317	-	-	-	-	70.6	700	3.07	34.17	-	27.24	84.0	.826
1156	2.64	34.424	-	-	-	-	61.2	800	3.00	34.25	-	27.31	77.4	.911
1384	2.38	34.487	-	-	-	-	54.4	1000	2.75	34.35	-	27.41	67.7	1.068
1714	2.13	34.550	-	-	-	-	47.7	1200	2.60	34.44	-	27.50	59.7	1.208
								1500	2.29	34.51	-	27.58	51.9	1.397
182					BOREAS EXPEDITION									182
ARGO, MARCH 24 1966, 1759 1917 GCT, 41 56N 148 11E, SOUNDING 2752 FM, WIND 260 FORCE 6, WEATHER PARTLY CLOUDY, SEA HIGH, WIRE ANGLE 20 35.														
1	1.24	33.181	7.80	2.08	57	21	145.4	0	1.24	33.18	7.80	26.59	145.5	0
29	1.24	33.180	7.76	2.11	-	-	145.5	10	1.24	33.18	7.79	26.59	145.5	.015
56	1.25	33.176	7.76	2.11	57	19	145.9	20	1.24	33.18	7.78	26.59	145.5	.029
89	1.18	33.211	7.43	2.15	-	-	142.8	30	1.24	33.18	7.76	26.59	145.5	.044
111	1.70	33.348	5.70	2.41	69	25	135.7	50	1.25	33.18	7.76	26.59	145.6	.073
144	2.29	33.525	3.86	2.74	-	-	126.5	75	1.21	33.19	7.65	26.60	144.6	.109
166	2.49	33.611	3.19	2.90	-	-	121.5	100	1.32	33.26	6.75	26.65	139.9	.145
190	2.63	33.658	2.74	2.96	94	34	119.1	125	2.02	33.43	4.85	26.74	131.7	.179
222	2.79	33.730	2.37	2.99	-	-	114.9	150	2.35	33.55	3.70	26.81	125.1	.211
245	2.87	33.763	2.23	3.05	-	-	113.1	200	2.69	33.68	2.58	26.88	117.9	.272
279	2.96	33.824	1.93	3.09	107	34	109.2	250	2.88	33.77	2.18	26.94	112.6	.330
332	3.10	33.930	1.15	3.23	-	-	102.4	300	3.03	33.87	1.64	27.00	106.3	.386
448	3.10	34.085	1.07	3.23	-	-	90.7	400	3.10	34.03	1.10	27.12	94.9	.489
553	3.02	34.173	.83	3.24	146	37	83.4	500	3.07	34.13	.97	27.21	87.1	.582
721	2.88	34.291	.82	3.27	-	-	73.3	600	2.98	34.21	.82	27.28	80.2	.670
878	2.62	34.372	.74	3.29	-	-	65.0	700	2.90	34.28	.82	27.34	74.3	.751
1089	2.41	34.442	.96	3.22	174	38	58.0	800	2.76	34.34	.77	27.40	68.6	.827
1220A	2.36	34.481	-	3.32	-	-	54.7	1000	2.48	34.41	.84	27.48	61.0	.967
1537A	2.16	34.545	1.60	3.14	179	32	48.3	1200	2.37	34.48	1.12	27.55	54.8	1.094
								1500	2.20	34.54	1.53	27.61	49.0	1.270

A) CAST II.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
183					BOREAS EXPEDITION									183
ARGO, MARCH 25 1966, 0207 0253 GCT, 41 05N 148 59E, SOUNDING 2827 FM, WIND 300 FORCE 4, WEATHER CLOUDY, SEA ROUGH, WIRE ANGLE 21 38.														
1	3.88	33.440	-	-	-	-	146.4	0	3.88	33.44	-	26.58	146.4	0
29	3.84	33.440	-	-	-	-	146.0	10	3.86	33.44	-	26.58	146.2	.015
57	3.85	33.440	-	-	-	-	146.1	20	3.85	33.44	-	26.58	146.1	.029
89	3.72	33.435	-	-	-	-	145.3	30	3.84	33.44	-	26.58	146.0	.044
112	3.87	33.500	-	-	-	-	141.8	50	3.84	33.44	-	26.58	146.0	.073
143	4.82	33.789	-	-	-	-	129.6	75	3.82	33.44	-	26.59	145.9	.110
166	5.48	33.932	-	-	-	-	126.1	100	3.67	33.44	-	26.60	144.5	.146
190	3.93	33.756	-	-	-	-	123.1	125	4.28	33.60	-	26.67	138.3	.182
221	2.88	33.671	-	-	-	-	120.1	150	5.17	33.85	-	26.77	128.8	.216
243	2.94	33.726	-	-	-	-	116.5	200	3.29	33.69	-	26.84	122.2	.279
274	2.97	33.753	-	-	-	-	114.7	250	2.95	33.73	-	26.90	116.2	.339
328	3.46	33.890	-	-	-	-	108.6	300	3.16	33.82	-	26.95	111.2	.397
439	3.94	34.107	-	-	-	-	96.8	400	3.83	34.04	-	27.06	100.8	.506
540	3.88	34.209	-	-	-	-	88.5	500	3.92	34.18	-	27.16	91.1	.605
656A	3.62	34.293	-	-	-	-	79.7	600	3.77	34.25	-	27.24	84.4	.698
805A	3.10	34.348	-	-	-	-	70.9	700	3.45	34.31	-	27.31	76.9	.783
1007A	2.77	34.422	-	-	-	-	62.5	800	3.12	34.35	-	27.38	70.9	.863
1212A	2.51	34.481	-	-	-	-	55.9	1000	2.77	34.42	-	27.46	62.6	1.008
1519A	2.22	34.539	-	-	-	-	49.2	1200	2.53	34.48	-	27.53	56.1	1.139
								1500	2.25	34.54	-	27.61	49.3	1.318
184					BOREAS EXPEDITION									184
ARGO, MARCH 25 1966, 1233 1400 GCT, 40 00N 149 26E, SOUNDING 2870 FM, WIND 260 FORCE 5, WEATHER SNOW, SEA ROUGH, WIRE ANGLE 23 22.														
0	11.00	34.336	6.09	0.80	19	7	175.1	0	11.00	34.34	6.09	26.28	174.9	0
28	11.00	34.331	6.05	0.82	-	-	175.5	10	11.00	34.34	6.06	26.28	174.9	.017
54	11.00	34.328	6.04	0.81	19	7	175.7	20	11.00	34.34	6.06	26.28	174.9	.035
86	9.76	34.199	6.35	0.87	-	-	164.8	30	11.00	34.33	6.05	26.27	175.6	.053
107	9.56	34.188	6.41	0.87	19	8	162.4	50	11.00	34.33	6.04	26.27	175.6	.088
136	9.56	34.191	6.35	0.87	-	-	162.2	75	10.05	34.22	6.27	26.35	167.9	.131
157	9.54	34.190	6.36	0.87	-	-	162.0	100	9.61	34.19	6.41	26.41	163.1	.173
179	9.52	34.187	6.36	0.88	19	8	161.9	125	9.56	34.19	6.38	26.41	162.3	.214
209	9.44	34.177	6.35	0.90	-	-	161.4	150	9.55	34.19	6.36	26.42	162.1	.255
231	9.04	34.137	6.34	0.99	-	-	158.2	200	9.47	34.18	6.35	26.42	161.6	.338
260	8.84	34.125	6.12	1.07	23	9	156.1	250	8.91	34.13	6.22	26.47	156.8	.420
320A	7.17	33.909	5.95	1.36	-	-	148.6	300	7.75	33.98	5.98	26.53	151.2	.499
422A	4.30	33.730	7.29	2.26	-	-	128.7	400	4.77	33.74	4.78	26.73	132.7	.646
517A	4.08	33.903	2.68	2.73	91	32	113.5	500	4.11	33.88	2.91	26.91	115.5	.774
668A	3.78	34.099	1.44	3.06	-	-	95.8	600	3.91	34.02	1.83	27.04	103.0	.888
808A	3.57	34.234	1.20	3.15	-	-	83.7	700	3.73	34.13	1.36	27.14	93.0	.991
999A	3.24	34.364	1.06	3.20	147	33	70.9	800	3.58	34.23	1.20	27.24	84.1	1.086
1206A	2.78	34.436	.93	3.31	-	-	61.5	1000	3.23	34.37	1.06	27.38	70.4	1.253
1520A	2.36	34.512	1.07	3.26	176	35	52.3	1200	2.80	34.43	.94	27.47	62.1	1.400
								1500	2.38	34.51	1.06	27.57	52.6	1.595
185					BOREAS EXPEDITION									185
ARGO, MARCH, 26 1966, 0242 GCT, 40 04N 148 05E, SOUNDING 2836 FM, WIND 280 FORCE 5, WEATHER CLOUDY, SEA VERY ROUGH, WIRE ANGLE 14.														
1	10.59	34.296	-	-	-	-	171.2	0	10.59	34.30	-	26.32	170.9	0
30	10.59	34.296	-	-	-	-	171.2	10	10.59	34.30	-	26.32	170.9	.017
59	10.54	34.290	-	-	-	-	170.8	20	10.59	34.30	-	26.32	170.9	.034
93	7.42	33.861	-	-	-	-	155.5	30	10.59	34.30	-	26.32	170.9	.051
118	5.74	33.626	-	-	-	-	152.0	50	10.56	34.30	-	26.33	170.4	.086
153	4.57	33.500	-	-	-	-	148.7	75	9.30	34.10	-	26.39	164.9	.128
178	5.42	33.636	-	-	-	-	147.6	100	6.93	33.79	-	26.50	154.4	.168
202	6.82	33.905	-	-	-	-	144.4	125	5.25	33.56	-	26.53	151.4	.207
236	6.24	33.873	-	-	-	-	139.5	150	4.58	33.50	-	26.56	148.8	.245
260	5.72	33.849	-	-	-	-	135.1	200	6.81	33.90	-	26.60	144.6	.319
294	5.28	33.844	-	-	-	-	130.5	250	5.93	33.86	-	26.68	136.7	.391
353	4.79	33.911	-	-	-	-	120.1	300	5.22	33.85	-	26.76	129.3	.459
475	4.10	34.024	-	-	-	-	104.6	400	4.49	33.96	-	26.93	113.3	.584
586	4.30	34.206	-	-	-	-	92.9	500	4.15	34.08	-	27.06	100.8	.695
762	3.13	34.226	-	-	-	-	80.3	600	4.22	34.21	-	27.16	91.8	.796
928	2.82	34.331	-	-	-	-	69.8	700	3.48	34.21	-	27.23	84.7	.890
1147	2.55	34.425	-	-	-	-	60.4	800	3.02	34.25	-	27.31	77.6	.976
1372	2.32	34.483	-	-	-	-	54.2	1000	2.73	34.37	-	27.43	66.1	1.131
1704	2.10	34.559	-	-	-	-	46.8	1200	2.49	34.44	-	27.51	58.8	1.268
								1500	2.23	34.52	-	27.59	50.7	1.453

A) CAST II.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
	INPUT						COMPUTED		INPUT			COMPUTED		
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
186							BOREAS EXPEDITION							186
ARGO, MARCH 26 1966, 0609 GCT, 40 22N 147 55E, SOUNDING 2800 FM, WIND 300 FORCE 5, WEATHER PARTLY CLOUDY, SEA VERY ROUGH, WIRE ANGLE 35.														
1	3.45	33.274A	-	-	-	-	155.0	0	3.45	33.27	-	26.49	155.3	0
74	3.44	33.294	-	-	-	-	153.4	10	3.45	33.28	-	26.50	154.5	.015
98	3.29	33.289	-	-	-	-	152.5	20	3.45	33.28	-	26.50	154.5	.031
127	3.47	33.344	-	-	-	-	149.9	30	3.45	33.28	-	26.50	154.5	.046
155	3.04	33.394	-	-	-	-	142.4	50	3.44	33.29	-	26.50	153.7	.077
182	2.65	33.431	-	-	-	-	136.4	75	3.43	33.29	-	26.51	153.6	.116
227	2.68	33.562	-	-	-	-	126.7	100	3.30	33.29	-	26.52	152.5	.154
285	2.82	33.676	-	-	-	-	119.2	125	3.47	33.34	-	26.54	150.2	.192
350	3.02	33.628	-	-	-	-	109.4	150	3.13	33.39	-	26.61	143.5	.229
422	3.23	33.963	-	-	-	-	101.1	200	2.66	33.48	-	26.72	132.8	.299
504	3.20	34.078	-	-	-	-	92.1	250	2.73	33.61	-	26.82	123.5	.363
612	3.10	34.200	-	-	-	-	82.0	300	2.87	33.71	-	26.89	117.1	.424
730	2.89	34.300	-	-	-	-	72.7	400	3.17	33.92	-	27.03	103.8	.537
848	2.72	34.360	-	-	-	-	66.7	500	3.20	34.07	-	27.15	92.7	.638
971	2.56	34.416	-	-	-	-	61.2	600	3.11	34.19	-	27.25	82.9	.729
1093	2.43	34.464	-	-	-	-	56.5	700	2.94	34.28	-	27.34	74.6	.812
1218	2.32	34.493	-	-	-	-	53.4	800	2.79	34.34	-	27.40	68.8	.889
1346	2.22	34.522	-	-	-	-	50.5	1000	2.52	34.43	-	27.49	59.8	1.028
1493	2.15	34.550A	-	-	-	-	47.8	1200	2.34	34.49	-	27.56	53.8	1.153
								1500	2.14	34.55	-	27.62	47.7	1.325
187							BOREAS EXPEDITION							187
ARGO, MARCH 26 1966, 1428 GCT, 41 00N 147 00E, SOUNDING 2700 FM, WIND 320 FORCE 4, WEATHER MISSING, SEA MODERATE, WIRE ANGLE 15.														
2	3.69	33.377	-	-	-	-	149.4	0	3.69	33.38	-	26.55	149.2	0
91	3.64	33.370	-	-	-	-	149.5	10	3.68	33.38	-	26.55	149.1	.015
120	3.19	33.351	-	-	-	-	146.9	20	3.68	33.38	-	26.55	149.1	.030
155	2.98	33.360	-	-	-	-	144.5	30	3.67	33.38	-	26.55	149.0	.045
189	3.22	33.498	-	-	-	-	136.1	50	3.66	33.38	-	26.55	148.9	.075
223	2.96	33.515	-	-	-	-	132.6	75	3.64	33.38	-	26.56	148.7	.112
277	2.65	33.612	-	-	-	-	122.7	100	3.59	33.37	-	26.55	149.0	.149
347	2.70	33.750	-	-	-	-	112.7	125	3.05	33.35	-	26.59	145.8	.186
425	3.26	33.935	-	-	-	-	103.4	150	2.98	33.36	-	26.60	144.5	.223
513	3.30	34.054	-	-	-	-	94.8	200	3.16	33.50	-	26.70	135.4	.293
611	3.38	34.198	-	-	-	-	84.7	250	2.78	33.56	-	26.78	127.7	.360
741	2.98	34.257	-	-	-	-	76.7	300	2.66	33.66	-	26.87	119.2	.422
877	2.91	34.355	-	-	-	-	68.7	400	3.08	33.88	-	27.01	106.0	.537
1013	2.61	34.404	-	-	-	-	62.5	500	3.29	34.04	-	27.11	95.8	.640
1149	2.56	34.458	-	-	-	-	58.0	600	3.37	34.18	-	27.22	85.9	.735
1284	2.40	34.486	-	-	-	-	54.6	700	3.10	34.24	-	27.29	79.0	.822
1419	2.32	34.522	-	-	-	-	51.3	800	2.94	34.30	-	27.35	73.1	.903
1554	2.14	34.542	-	-	-	-	48.3	1000	2.63	34.40	-	27.46	63.0	1.050
1699	2.06	34.573	-	-	-	-	45.4	1200	2.50	34.47	-	27.53	56.6	1.182
								1500	2.22	34.54	-	27.61	49.1	1.361
188							BOREAS EXPEDITION							188
ARGO, MARCH 26 1966, 2024 GCT, 41 37N 146 26E, SOUNDING 3670 FM, WIND 340 FORCE 3, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 02.														
1	2.16	33.155	-	-	-	-	153.6	0	2.16	33.16	-	26.51	153.2	0
89	2.22	33.167	-	-	-	-	153.1	10	2.17	33.16	-	26.51	153.3	.015
119	2.09	33.243	-	-	-	-	146.4	20	2.18	33.16	-	26.51	153.3	.031
153	2.81	33.458	-	-	-	-	135.6	30	2.19	33.16	-	26.51	153.4	.046
188	2.89	33.541	-	-	-	-	130.0	50	2.21	33.16	-	26.51	153.6	.077
223	2.98	33.622	-	-	-	-	124.7	75	2.22	33.17	-	26.51	152.9	.115
277	3.28	33.772	-	-	-	-	115.9	100	2.18	33.19	-	26.53	151.1	.153
344	3.45	33.925	-	-	-	-	105.9	125	2.12	33.27	-	26.60	144.6	.190
423	3.47	34.041	-	-	-	-	97.3	150	2.78	33.44	-	26.68	136.8	.225
511	3.53	34.155	-	-	-	-	89.3	200	2.92	33.57	-	26.77	128.1	.292
608	3.30	34.222	-	-	-	-	82.1	250	3.14	33.70	-	26.86	120.1	.355
735	3.13	34.289	-	-	-	-	75.6	300	3.36	33.83	-	26.94	112.2	.414
871	2.89	34.370	-	-	-	-	67.4	400	3.46	34.01	-	27.07	99.6	.522
1008	2.72	34.418	-	-	-	-	62.3	500	3.53	34.14	-	27.17	90.4	.621
1141	2.52	34.467	-	-	-	-	57.0	600	3.33	34.22	-	27.25	82.6	.711
1277	2.33	34.511	-	-	-	-	52.2	700	3.18	34.27	-	27.31	77.5	.796
1412	2.23	34.534	-	-	-	-	49.6	800	3.01	34.33	-	27.37	71.4	.875
1547	2.12	34.555	-	-	-	-	47.2	1000	2.73	34.42	-	27.47	62.3	1.020
1702	2.00	34.581	-	-	-	-	44.3	1200	2.43	34.49	-	27.55	54.5	1.149
								1500	2.16	34.55	-	27.62	47.9	1.323

A) SALINITY BOTTLE NUMBERS WERE NOT RECORDED ON THE DATA SHEET. SINCE STANDARD HANDLING PROCEDURES WERE USED, THESE SALINITY VALUES ARE ASSUMED TO BE IN THE CORRECT ORDER.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
189					BOREAS EXPEDITION								189	
ARGO, MARCH 27 1966, 0226 GCT, 42 21N 145 53E, SOUNDING 1774 FM, WIND 270 FORCE 2, WEATHER CLOUDY, SEA MODERATE, WIRE ANGLE 07.														
0	2.66	33.208	-	-	-	-	153.4	0	2.66	33.21	-	26.51	153.2	0
89	1.98	33.201	-	-	-	-	148.8	10	2.57	33.20	-	26.51	153.2	.015
119	1.86	33.223	-	-	-	-	146.3	20	2.48	33.20	-	26.52	152.6	.031
154	2.83	33.468	-	-	-	-	135.1	30	2.40	33.20	-	26.52	151.9	.046
188	2.88	33.551	-	-	-	-	129.2	50	2.23	33.20	-	26.54	150.7	.076
224	2.80	33.582	-	-	-	-	126.2	75	2.06	33.20	-	26.55	149.4	.114
278	2.62	33.662	-	-	-	-	118.7	100	1.93	33.21	-	26.57	147.8	.151
347	2.68	33.764	-	-	-	-	111.5	125	1.92	33.24	-	26.59	145.4	.188
426	2.99	33.903	-	-	-	-	103.5	150	2.78	33.44	-	26.68	136.8	.223
514	3.36	34.064	-	-	-	-	94.6	200	2.86	33.56	-	26.77	128.3	.290
612	3.26	34.172	-	-	-	-	85.6	250	2.71	33.62	-	26.83	122.6	.353
741	3.17	34.281	-	-	-	-	76.5	300	2.61	33.69	-	26.90	116.5	.414
879	2.84	34.339	-	-	-	-	69.3	400	2.87	33.86	-	27.01	105.8	.526
1015	2.72	34.411	-	-	-	-	62.9	500	3.33	34.04	-	27.11	96.1	.630
1150	2.58	34.453	-	-	-	-	58.5	600	3.28	34.16	-	27.21	86.6	.726
1288	2.44	34.474	-	-	-	-	55.8	700	3.21	34.25	-	27.29	79.2	.813
1426	2.27	34.507	-	-	-	-	52.0	800	3.03	34.31	-	27.35	73.1	.894
1562	2.20	34.534	-	-	-	-	49.4	1000	2.73	34.40	-	27.45	63.8	1.042
1720	2.07	34.561	-	-	-	-	46.4	1200	2.53	34.46	-	27.52	57.6	1.176
								1500	2.23	34.52	-	27.59	50.7	1.360
190					BOREAS EXPEDITION								190	
ARGO, MARCH 27 1966, 0646 GCT, 42 43N 145 28E, SOUNDING 895 FM, WIND 200 FORCE 2, WEATHER PARTLY CLOUDY, SEA SLIGHT, WIRE ANGLE 00.														
0	1.68	33.156	-	-	-	-	150.1	0	1.68	33.16	-	26.54	149.8	0
40	1.69	33.204	-	-	-	-	146.6	10	1.68	33.17	-	26.55	149.1	.015
90	1.90	33.233	-	-	-	-	145.8	20	1.68	33.18	-	26.56	148.3	.030
125	1.72	33.243	-	-	-	-	143.8	30	1.68	33.19	-	26.57	147.6	.045
165	1.62	33.295	-	-	-	-	139.2	50	1.72	33.21	-	26.58	146.3	.074
200	1.92	33.420	-	-	-	-	131.8	75	1.85	33.23	-	26.59	145.7	.111
299	2.75	33.675	-	-	-	-	118.8	100	1.86	33.24	-	26.60	145.0	.147
449	3.11	33.914	-	-	-	-	103.7	125	1.72	33.24	-	26.61	144.0	.183
597	3.16	34.094	-	-	-	-	90.6	150	1.63	33.27	-	26.64	141.1	.219
695	3.10	34.167	-	-	-	-	84.5	200	1.92	33.42	-	26.74	131.8	.287
744	3.06	34.217	-	-	-	-	80.4	250	2.42	33.56	-	26.81	124.8	.352
768	3.04	34.233	-	-	-	-	79.0	300	2.76	33.68	-	26.88	118.5	.413
792	3.06	34.244	-	-	-	-	78.4	400	3.03	33.85	-	26.99	107.9	.528
817	3.04	34.268	-	-	-	-	76.4	500	3.13	33.98	-	27.08	98.9	.635
842	3.03	34.274	-	-	-	-	75.8	600	3.16	34.10	-	27.17	90.1	.733
891	2.95	34.303	-	-	-	-	73.0	700	3.09	34.17	-	27.24	84.2	.824
988	2.86	34.346	-	-	-	-	69.0	800	3.05	34.25	-	27.30	77.8	.910
1133	2.62	34.400	-	-	-	-	62.9	1000	2.84	34.35	-	27.40	68.5	1.068
1329	2.47	34.447	-	-	-	-	58.1	1200	2.55	34.42	-	27.48	60.8	1.210
1555	2.31	34.497	-	-	-	-	53.1	1500	2.37	34.49	-	27.56	54.1	1.404
191					BOREAS EXPEDITION								191	
ARGO, MARCH 27 1966, 1645 GCT, 41 41N 144 09E, SOUNDING 1010 FM, WIND 150 FORCE 3, WEATHER SHOWERS, SEA SLIGHT, WIRE ANGLE 05.														
0	.89	32.821	9.43	1.02	32	-	170.8	0	.89	32.82	9.43	26.32	170.8	0
89	1.20	33.191	7.59	1.97	-	-	144.4	10	.40	32.83	9.32	26.36	167.5	.017
120	1.44	33.288	6.84	2.11	59	-	138.5	20	.40	32.85	9.27	26.37	166.0	.034
155	1.58	33.366	6.07	2.27	-	-	133.5	30	.64	32.89	9.14	26.39	164.2	.050
189	1.99	33.459	5.01	2.50	76	-	129.3	50	.90	33.00	8.74	26.47	157.2	.082
224	2.10	33.519	4.37	2.59	-	-	125.5	75	.90	33.12	8.00	26.56	148.1	.120
278	2.38	33.648	3.38	2.80	-	-	117.9	100	1.20	33.22	7.31	26.63	142.2	.157
347	3.10	33.827	2.37	2.94	103	-	110.2	125	1.50	33.30	6.73	26.67	138.0	.192
427	3.20	33.942	1.67	3.10	-	-	102.4	150	1.57	33.36	6.16	26.71	133.9	.226
515	3.18	34.046	1.18	3.17	-	-	94.4	200	2.03	33.48	4.80	26.78	128.0	.291
615	3.06	34.129	1.00	3.24	139	-	87.0	250	2.22	33.58	3.89	26.84	121.8	.354
745	2.84	34.224	.97	3.25	-	-	78.0	300	2.62	33.71	3.06	26.91	115.1	.414
883	2.80	-	.94	3.24	-	-	-	400	3.18	33.90	1.84	27.01	105.4	.526
1021	2.66	34.357	.91	3.24	166	-	66.5	500	3.18	34.03	1.26	27.12	95.6	.630
1159	2.59	34.385	.94	3.25	-	-	63.8	600	3.08	34.12	1.00	27.20	87.9	.725
1296	2.44	34.463U	.95	3.23	-	-	56.7	700	2.92	34.20	.97	27.28	80.5	.813
1435	2.42	34.475	1.06	3.22	184	-	55.6	800	2.82	34.26	.94	27.33	75.1	.896
1573	2.34	34.496	1.10	3.23	-	-	53.4	1000	2.68	34.35	.92	27.42	67.2	1.049
1731	2.26	34.525	1.18	3.18	199	-	50.6	1200	2.55	34.40	.94	27.47	62.3	1.190
								1500	2.39	34.49	1.09	27.55	54.2	1.387

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED		INPUT				COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
192					BOREAS EXPEDITION									192
ARGO, MARCH 27-28 1966, 2215 2232 0049 0805 GCT, 41 11N 144 52E, SOUNDING 3754 FM, WIND 180 FORCE 2, WEATHER PARTLY CLOUDY, SEA SLIGHT, WIRE ANGLE 04 05 10 MISSING.														
0	7.90	33.917	6.70	0.81	18	-	157.9	0	7.90	33.92	6.70	26.46	157.7	0
39	7.73	33.903	6.66	0.93	-	-	156.6	10	7.85	33.91	6.68	26.46	157.8	.016
123	7.48	33.865	6.70	0.93	20	-	156.0	20	7.82	33.91	6.67	26.47	157.3	.032
148	7.14	33.807	6.74	0.91	-	-	155.8	30	7.77	33.91	6.66	26.47	156.6	.047
162	6.98	33.780	6.77	0.92	21	-	155.7	50	7.70	33.90	6.66	26.48	156.4	.079
177	6.70	33.740	6.81	0.93	-	-	155.1	75	7.63	33.89	6.68	26.48	156.2	.118
198A	7.11	33.821	6.69	0.73	-	-	154.4	100	7.57	33.88	6.69	26.48	156.1	.157
218A	6.97	33.797	6.70	0.83	19	-	154.3	125	7.47	33.86	6.70	26.48	156.3	.197
249A	6.38	33.721	6.57	1.03	-	-	152.6	150	7.13	33.80	6.74	26.48	156.2	.237
274A	5.94	33.663	6.47	1.17	-	-	151.6	200	7.11	33.82	6.70	26.50	154.5	.316
299A	5.49	33.631	6.18	1.43	35	-	148.8	250	6.39	33.72	6.57	26.51	152.8	.394
324A	4.89	33.606	5.94	1.64	-	-	144.1	300	5.48	33.63	6.18	26.56	148.7	.471
348A	4.67	33.607	5.72	1.76	-	-	141.7	400	3.40	33.56	5.10	26.72	133.0	.615
368A	4.28	33.602	5.44	1.91	52	-	138.1	500	3.76	33.81	3.09	26.89	117.4	.743
388A	3.42	33.533	5.41	2.07	-	-	135.2	600	3.73	33.94	2.17	26.99	107.3	.860
408A	3.38	33.574	4.85	2.21	-	-	131.7	700	3.56	34.08	1.36	27.12	95.2	.966
418A	3.31	33.580	4.68	2.28	68	-	130.7	800	3.46	34.19	1.18	27.22	86.0	1.062
428A	4.36	33.746	4.21	2.26	-	-	128.1	1000	2.95	34.29	.89	27.35	73.9	1.235
447A	4.10	33.759	3.87	2.39	-	-	124.5	1200	2.76	34.40	.89	27.45	64.0	1.386
498A	3.74	33.805	3.12	2.66	86	-	117.6	1500	2.40	34.50	1.00	27.56	53.5	1.585
525B	4.04	33.897	2.72	2.67	91	30	113.5	2000	2.03	34.58	1.55	27.65	44.6	1.872
563B	3.70	33.881	2.52	2.78	98	28	111.5	2500	1.80	34.62	2.49	27.70	39.9	2.129
632B	3.77	34.003	1.86	2.94	110	30	103.0	3000	1.61	34.65	2.88	27.74	36.3	2.369
729B	3.48	34.111	1.23	3.08	127	31	92.1	4000	1.54	34.67	3.40	27.76	34.3	2.834
863B	3.42	34.243	1.15	3.13	140	33	81.6							
999B	2.95	34.291	.89	3.19	157	34	73.9							
1133B	2.87	34.376	.90	3.20	163	33	66.8							
1268B	2.66	34.417	.88	3.22	170	32	61.9							
1403B	2.49	34.468	.93	3.19	177	33	56.7							
1547B	2.34	34.507	1.04	3.17	181	31	52.5							
1931B	2.06	34.569	1.44	3.09	184	33	45.7							
2505B	1.79	34.623	2.49	2.90	181	31	39.6							
2751C	1.67	34.653	2.65	2.77	177	30	36.5							
2884B	1.66	34.649	2.79	2.82	176	31	36.7							
3029C	1.60	34.652	2.89	2.71	176	29	36.1							
3308C	1.56	34.658	3.13	-	-	-	35.3							
3309B	1.60	34.656	3.05	2.75	173	28	35.8							
3492C	-	34.668	3.22	2.75	137	29	-							
3543B	1.56	34.661	3.22	2.71	172	29	35.1							
3681B	1.55	34.671	3.22	2.72	172	28	34.3							
3876C	1.54	34.668	3.34	2.67	170	28	34.4							
3925B	1.55	34.668	3.35	2.68	170	29	34.5							
3969B	1.54	34.671	3.40	2.66	169	28	34.2							
4113B	1.53	34.676	3.52	2.60	170	28	33.8							
4171C	-	34.675	3.47	2.74	168	-	-							
4258B	1.54	34.678	3.54	2.61	169	28	33.7							
4493C	1.53	34.681	3.53	2.64	166	29	33.4							
4536C	1.53	34.675	3.56	2.59	166	27	33.8							

Z	T	S
193		BOREAS EXPEDITION

ARGO, MARCH 28 1966, 2109 GCT, 40 27N 145 14E, SOUNDING 2958 FM, WIND 110 FORCE 5, WEATHER RAIN, SEA ROUGH, WIRE ANGLE 17.

1	8.42	33.983	-	-	-	-	160.4	0	8.42	33.98	-	26.43	160.7	0
89	8.34	33.979	-	-	-	-	159.6	10	8.42	33.98	-	26.43	160.7	.016
117	7.98	33.932	-	-	-	-	157.9	20	8.42	33.98	-	26.43	160.7	.032
150	7.15	33.811	-	-	-	-	155.7	30	8.42	33.98	-	26.43	160.7	.048
195	7.02	33.794	-	-	-	-	155.2	50	8.40	33.98	-	26.43	160.4	.081
243	6.19	33.682	-	-	-	-	153.2	75	8.37	33.98	-	26.44	159.9	.121
268	6.12	33.707	-	-	-	-	150.4	100	8.29	33.97	-	26.44	159.5	.161
331	3.08	33.390	-	-	-	-	143.0	125	7.70	33.89	-	26.47	157.2	.201
418	3.76	33.641	-	-	-	-	130.2	150	7.15	33.81	-	26.48	155.7	.241
506	3.61	33.815	-	-	-	-	115.6	200	7.01	33.79	-	26.49	155.4	.320
603	3.17	33.918	-	-	-	-	103.9	250	6.15	33.68	-	26.51	152.8	.399
730	3.38	34.104	-	-	-	-	91.8	300	3.65	33.41	-	26.58	146.5	.475
866	3.26	34.243	-	-	-	-	80.2	400	3.63	33.59	-	26.72	132.8	.617
1003	3.10	34.324	-	-	-	-	72.7	500	3.63	33.80	-	26.89	117.0	.745
1138	2.88	34.382	-	-	-	-	66.4	600	3.17	33.91	-	27.02	104.5	.859
1275	2.72	34.434	-	-	-	-	61.1	700	3.33	34.07	-	27.14	93.9	.963
1413	2.51	34.472	-	-	-	-	56.5	800	3.35	34.18	-	27.22	85.8	1.058
1549	2.36	34.514	-	-	-	-	52.2	1000	3.11	34.32	-	27.35	73.1	1.229
1708	2.24	34.543	-	-	-	-	49.0	1200	2.81	34.41	-	27.45	63.7	1.380
								1500	2.40	34.50	-	27.56	53.5	1.579

A) CAST II.
B) CAST III.
C) CAST IV. A POSTTRIP ON THIS CAST CAUSED OVERLAPPING CASTS, THE DATA APPEAR ACCEPTABLE.

OBSERVED LEVELS OF DEPTH								STANDARD LEVELS OF DEPTH						
		INPUT					COMPUTED			INPUT			COMPUTED	
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD
194					BOREAS EXPEDITION								194	
ARGO, MARCH 29 1966, 0613 GCT, 39 57N 145 30E, SOUNDING 2977 FM, WIND 110 FORCE 6, WEATHER RAIN, SEA HIGH, WIRE ANGLE 43.														
0	6.07	33.602	-	-	-	-	157.7	0	6.07	33.60	-	26.46	157.9	0
22	6.04	33.602	-	-	-	-	157.3	10	6.06	33.60	-	26.46	157.7	.016
45	5.99	33.594	-	-	-	-	157.4	20	6.04	33.60	-	26.46	157.5	.032
72	6.16	33.619	-	-	-	-	157.5	30	6.02	33.60	-	26.47	157.3	.047
91	6.74	33.742	-	-	-	-	155.5	50	5.99	33.60	-	26.47	156.9	.079
119	7.04	33.803	-	-	-	-	154.8	75	6.21	33.63	-	26.47	157.3	.118
138	6.84	33.765	-	-	-	-	155.1	100	6.94	33.78	-	26.49	155.2	.158
157	6.52	33.721	-	-	-	-	154.3	125	7.01	33.80	-	26.49	154.6	.197
184	6.23	33.691	-	-	-	-	153.0	150	6.62	33.73	-	26.49	154.9	.236
205	5.76	33.662	-	-	-	-	149.6	200	5.96	33.68	-	26.54	150.6	.314
211A	5.09	33.637U	-	-	-	-	143.9	250	4.40	33.51	-	26.58	146.2	.389
232	4.45	33.481	-	-	-	-	148.9	300	4.31	33.66	-	26.71	134.0	.460
294	4.36	33.656	-	-	-	-	134.8	400	3.33	33.70	-	26.84	121.8	.591
368	3.34	33.654	-	-	-	-	125.3	500	3.37	33.87	-	26.97	109.3	.709
488	3.40	33.852	-	-	-	-	110.9	600	3.00	33.98	-	27.09	97.8	.816
60C	3.C0	33.981	-	-	-	-	97.7	700	3.08	34.11	-	27.19	88.7	.914
745	3.12	34.163	-	-	-	-	85.0	800	3.13	34.21	-	27.27	81.5	1.004
889	3.14	34.277	-	-	-	-	76.6	1000	3.01	34.34	-	27.38	70.7	1.168
1C71	2.88	34.368	-	-	-	-	67.5							

Station 3.

Z m	NO_2-N µg at/L
1	0.08
31	0.01
61	0.07
96	0.01
121	0.00
155	0.00
180	0.01
206	0.01
240	0.02
265	0.02
300	0.02
359	0.02
483	0.02
599	0.02
779	0.01
948	0.01
1171	0.01
1401	0.02
1736	0.02

Station 6.

Z m	NO_2-N µg at/L
1	0.13
30	0.14
60	0.13
94	0.14
119	0.00
153	0.00
178	0.00
203	0.01
237	0.01
262	0.00
296	-
356	0.00
479	0.00
592	0.00
770	0.00
938	0.00
1159	0.00
1386	0.00
1719	0.00

Station 9.

Z m	NO_2-N µg at/L
0	0.29
26	0.30
52	0.30
82	0.30
104	0.30
133	0.09
154	0.00
175	0.00
204	0.01
224	0.00
252	-
302	0.00
404	0.00
499	0.00
649	0.00
794	-
995	0.00
1212	-
1544	0.00

Station 13.

Z m	NO_2-N µg at/L
1	0.21
29	0.22
57	0.22
90	0.22
114	0.23
147	0.00
170	0.00
193	0.00
225	0.00
248	0.00
280	0.00
335	0.00
449	0.00
553	0.00
717	0.00
872	0.00
1080	0.00
1299	0.00
1631	0.00

Station 19.

Z m	NO_2-N µg at/L
0	0.27
29	0.26
59	0.25
93	0.23
117	0.26
151	0.13
174	0.00
199	0.00
233	0.00
257	0.00
290	0.00
347	0.00
468	0.00
578	0.00
751	0.00
914	0.00
1132	0.00
1360	0.00
1694	0.00

Station 31.

Z m	NO_2-N µg at/L
2	0.19
30	0.17
56	0.20
87	0.20
109	0.20
141	0.20
163	0.05
185	0.01
221	0.01
238	0.01
268	0.00
320	0.00
428	0.00
526	0.00
681	0.00
829	0.00
1029	0.00
1246	0.00
1579	0.00

Station 34.

Z m	NO_2-N µg at/L
0	0.15
30	0.16
58	0.17
92	0.17
116	0.17
150	0.15
174	0.01
199	0.00
232	0.00

Station 36.

Z m	NO_2-N µg at/L
1	0.10
26	0.11
52	0.11
82	0.11
103	0.08
132	0.01
153	0.00
175	0.00

Station 38.

Z m	NO_2-N µg at/L
0	0.06
28	0.05
56	0.06
88	0.06
111	0.08
144	0.00
167	0.00
191	0.00

Station 41.

Z m	NO_2-N µg at/L
0	0.05
31	0.05
60	0.04
95	0.05
120	0.05
153	0.00
177	0.00
201	0.00

Station 47.

Z m	NO_2-N µg at/L
0	0.04
83	0.04
110	0.04
138	0.03
166	0.00
203	0.00
239	0.01
275	0.00
322	0.01
368	0.00

Station 51.

Z m	NO_2-N µg at/L
1	0.04
30	0.03
58	0.04
92	0.02
116	0.00
150	0.00
174	0.00
198	0.00

SIO

BOREAS

Station 61.

Z m	NO_2-N µg at/L
1	0.02
74	0.02
145	0.01
220	0.02
312	0.00
416	0.00

Station 64.

Z m	NO_2-N µg at/L
0	0.03
83	0.03
111	0.03
143	0.03
175	0.00
207	0.00
257	0.00
320	0.00

Station 67.

Z m	NO_2-N µg at/L
1	0.03
73	0.03
96	0.03
123	0.03
149	0.03
174	0.01
214	0.00
265	0.00

Station 70.

Z m	NO_2-N µg at/L
1	0.02
70	0.02
92	0.02
119	0.02
146	0.02
172	0.00
212	0.00
266	0.00

Station 83.

Z m	NO_2-N µg at/L
0	0.09
90	0.09
120	0.09
155	0.00
189	0.00
224	0.00
278	0.00
347	0.01

Station 96.

Z m	NO_2-N µg at/L
0	0.05
74	0.06
98	0.05
126	0.06
155	0.06
184	0.06
227	0.01
284	0.00

Station 100.

Z m	NO_2-N µg at/L
0	0.04
64	0.05
85	0.05
109	0.05
134	0.05
159	0.01
197	0.00
246	0.00

Station 105.

Z m	NO_2-N µg at/L
1	0.03
85	0.04
113	0.02
146	0.01
179	0.00
212	0.00
263	0.00
330	0.00

Station 109.

Z m	NO_2-N µg at/L
0	0.12
70	0.12
93	0.12
121	0.12
148	0.00
175	0.00
219	0.00
274	0.00

Station 113.

Z m	NO_2-N µg at/L
0	0.19
27	0.19
59	0.20
90	0.19
122	0.19
171	0.01
235	0.00
308	0.00

Station 116.

Z m	NO_2-N µg at/L
0	0.20
89	0.20
118	0.20
152	0.20
187	0.01
222	0.00
276	0.01
344	0.00

Station 120.

Z m	NO_2-N µg at/L
1	0.20
65	0.23
86	0.22
110	0.04
134	0.03
158	0.01
194	0.01
242	0.00

Station 131.

Z m	NO_2-N µg at/L
0	0.27
88	0.25
117	0.24
152	0.24
186	0.09
220	0.02
274	0.01
343	0.01

Station 134.

Z m	NO_2-N µg at/L
0	0.22
67	0.21
90	0.21
117	0.21
143	0.21
170	0.21
211	0.02
265	0.01

Station 137.

Z m	NO_2-N µg at/L
0	0.18
46	0.17
69	0.17
91	0.17
115	0.19
137	0.10
160	0.01
182	0.01

Station 140.

Z m	NO_2-N µg at/L
2	0.16
77	0.15
101	0.14
130	0.13
159	0.01
188	0.00
231	0.00
288	0.00

Station 141.

Z m	NO_2-N µg at/L
0	0.10
83	0.10
112	0.10
145	0.09
177	0.00
209	0.00
260	0.00
325	0.00

Station 143.

Z m	NO_2-N µg at/L
2	0.11
17a)	-
41	0.10
66	-
88	0.10
131	0.10
187	0.00

Station 145.

Z m	NO_2-N µg at/L
0	0.04
84	0.05
111	0.04
144	0.04
177	0.01
210	0.01
261	0.00
326	0.00

Station 147.

Z m	NO_2-N µg at/L
1	0.07
76	0.06
100	0.08
129	0.06
158	0.01
185	0.00
229	0.00
286	0.00
351	0.00
423	0.00
504	0.00
611	0.00
717	0.00
825	0.00
935	0.00
1043	0.00
1151	0.00
1271	0.00
1418	0.00

Station 149.

Z m	NO_2-N µg at/L
1	0.12
82	0.10
109	0.09
141	0.02
172	0.00
203	0.00
247	0.00

Station 150.

Z m	NO_2-N µg at/L
1	0.11
67	0.11
90	0.11
117	0.11
139	0.10
166	0.01
201	0.00
219	0.00

Station 152.

Z m	NO_2-N µg at/L
1	0.14
85	0.14
113	0.13
146	0.02
178	0.01
213	0.00
259	0.00
283	0.00

Station 154.

Z m	NO_2-N µg at/L
2	0.11
80	0.10
105	0.07
135	0.08
165	0.04
194	0.00
236	0.00
257	0.00

Station 157.

Z m	NO_2-N µg at/L
0	0.05
39	0.05
88	0.04
123	0.04
162	0.03
198	0.03
296	0.03
445	0.01

Station 159.

Z m	NO_2-N µg at/L
0	0.07
37	0.08
83	0.06
115	0.06
152	0.06
185	0.05
276	0.00
414	0.00

Station 160.

Z m	NO_2-N µg at/L
0	0.09
40	0.09
90	0.07
125	0.07
165	0.04
200	0.00
299	0.01
449	0.00

Station 163.

Z m	NO_2-N µg at/L
0	0.07
36	0.07
54	0.06
72	0.03
89	0.01
146	0.01
180	0.01
215	0.01

a) Possible postrip beginning with this depth; data must be considered doubtful.

Station 165.

Z m	NO_2-N µg at/L
2	0.28
74	0.28
98	0.27
126	0.17
154	0.03
182	0.01
220	0.01
240	0.00

Station 167.

Z m	NO_2-N µg at/L
1	0.20
76	0.22
99	0.22
126	0.21
157	0.20
185	0.11
226	0.01
245	0.00

Station 170.

Z m	NO_2-N µg at/L
1	0.21
84	0.22
111	0.19
144	0.04
176	0.07
207	0.09
253	0.10
276	0.05
298	0.02
322	0.01

Station 172.

Z m	NO_2-N µg at/L
0	0.15
44	0.15
130	0.14
218	0.14
232	0.14
245	0.13
255	0.13
264	0.08
273	0.03
282	0.03
291	0.02
300	0.01
309	-
318	0.03
327	0.02
337	0.02
344a)	-
345	0.01
355	0.01
372	0.01
402	0.01

Station 174.

2	0.21
79	0.22
104	0.21
134	0.21
163	0.20
192	0.02
235	0.01
256	0.02

Station 175.

0	0.17
49	0.15
89	0.15
117	0.14
138	0.01
157	0.01
177	0.00
196	0.00

Station 176.

1	0.22
50	0.19
91	0.17
120	0.08
140	0.00
160	0.00
180	0.00
200	0.00

Station 178.

0	0.11
9	0.11
32	0.11
60	0.11
84	0.13
98	0.10
112	0.06
145	0.03

Station 180.

1	0.12
30	0.11
60	0.13
95	0.16
119	0.14
154	0.03
179	0.01
203	0.01

Station 184.

0	0.23
28	0.22
54	0.22
86	0.22
107	0.23
136	0.22
157	0.23
179	0.23

Station 191.

0	0.19
89	0.04
120	0.04
155	0.02
189	0.02
224	0.02
278	0.02
347	0.01

Station 192.

0	0.21
39	0.23
123	0.22
148	0.20
162	0.20
177	0.20
198b)	0.18
218	0.18
249	0.11
274	0.06
299	0.02
324	0.01

a) Overlapping casts; reconciliation of property curves when necessary.
b) Cast II.

Z m	Chl a mg/m^3

Station 3.

0	0.29
10	0.50
35	0.34
75	0.26
100	0.14
150	0.06

Station 83.

0	0.32
10	0.31
35	0.42
75	0.35
100	0.32
150	0.04

Station 116.

0	0.31
10	0.34
35	0.32
75	0.33
100	0.34
150	0.30

Station 137.

0	0.41
10	0.47
35	0.44
75	0.40
100	0.34
150	0.12

Station 162.

0	0.43
10	0.42
35	0.43
75	0.42
100	0.20
150	0.11

Station 172.

0	0.22
10	0.25
35	0.24
75	0.22
100	0.31
150	0.25

Z m	Chl a mg/m^3

Station 19.

0	0.40
10	0.41
35	0.40
75	0.40
100	0.34
150	0.36

Station 100.

0	0.21
10	0.22
35	0.25
75	0.26
100	0.24

Station 120.

0	0.39
10	0.42
35	0.51
75	0.48
100	0.43
150	0.41

Station 140.

0	0.29
10	0.34
35	0.33
75	0.33
100	0.31
150	0.08

Station 165.

0	0.32
10	0.33
35	0.24
75	0.09
100	0.08
150	0.06

Station 173.

0	0.27
10	0.25
35	0.26
75	0.26
100	0.25
150	0.25

Z m	Chl a mg/m^3

Station 51.

0	0.22
10	0.24
35	0.26
75	0.20
100	0.18
150	0.01

Station 109.

0	0.37
10	0.42
35	0.43
75	0.42
100	0.40
150	0.07

Station 131.

0	0.58
10	0.64
35	0.45
75	0.30
100	0.23
150	0.22

Station 159.

0	0.32
10	0.33
35	0.30
75	0.26
150	0.24

Station 167.

0	0.32
10	0.37
35	0.32
75	0.34
100	0.24
150	0.13

Station 184.

0	0.52
10	0.61
35	0.59
75	0.52
100	0.31
150	0.28

Z m	Chl a mg/m^3

Station 64.

0	0.13
10	0.18
35	0.25
75	0.23
100	0.21
150	0.17

Station 113.

0	0.27
10	0.30
35	0.30
75	0.32
100	0.31
150	0.06

Station 134.

0	0.33
10	0.38
35	0.31
75	0.33
100	0.29

Station 160.

0	0.39
10	0.45
35	0.34
75	0.21
100	0.17
150	0.21

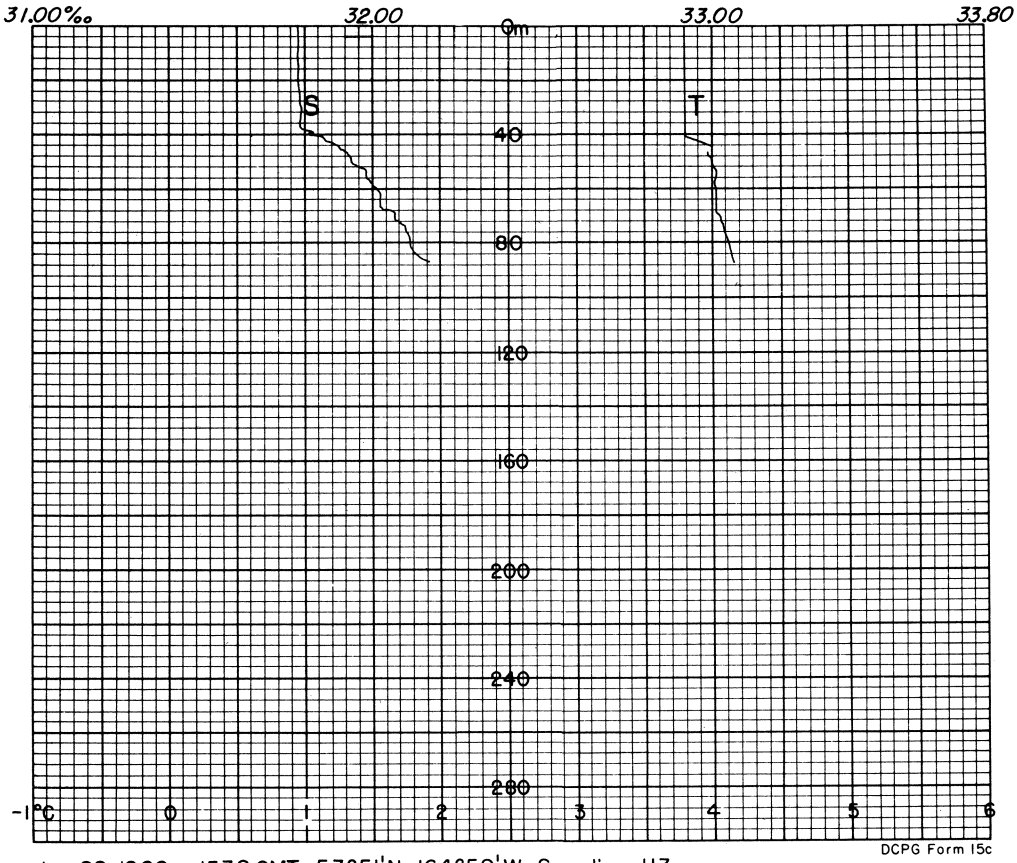
Station 170.

0	0.65
10	0.69
35	0.62
75	0.58
100	0.61
150	0.11

Station 191.

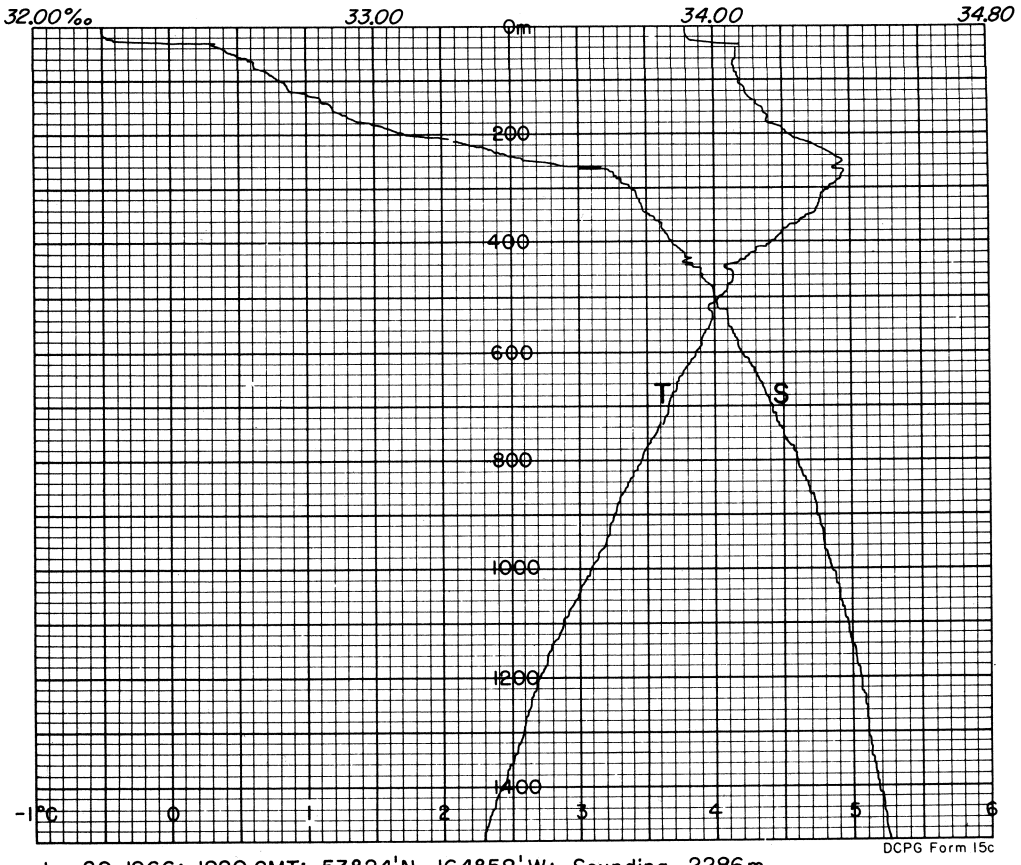
0	6.84
10	6.58
35	0.92
75	0.24
100	0.16
150	0.09

1



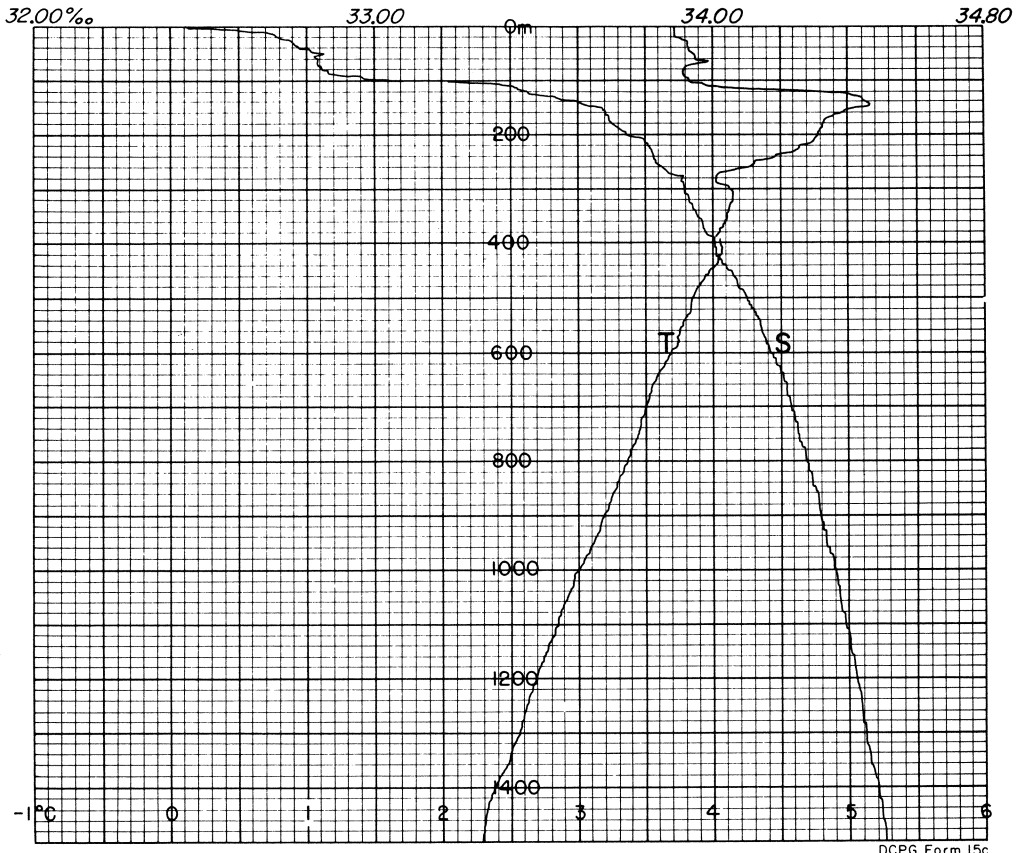
Jan. 29, 1966; 1530 GMT; 53°51'N, 164°59'W; Sounding 113m.

2



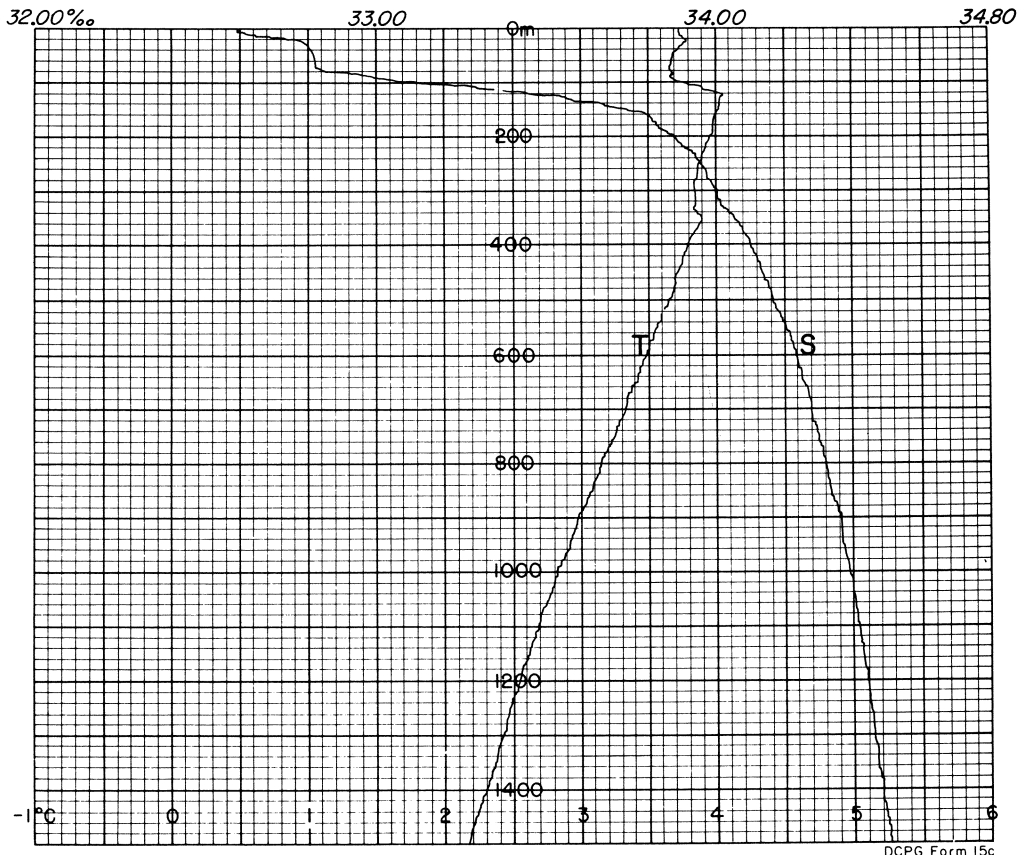
Jan. 29, 1966; 1820 GMT; 53°24'N, 164°58'W; Sounding 2286m.

3



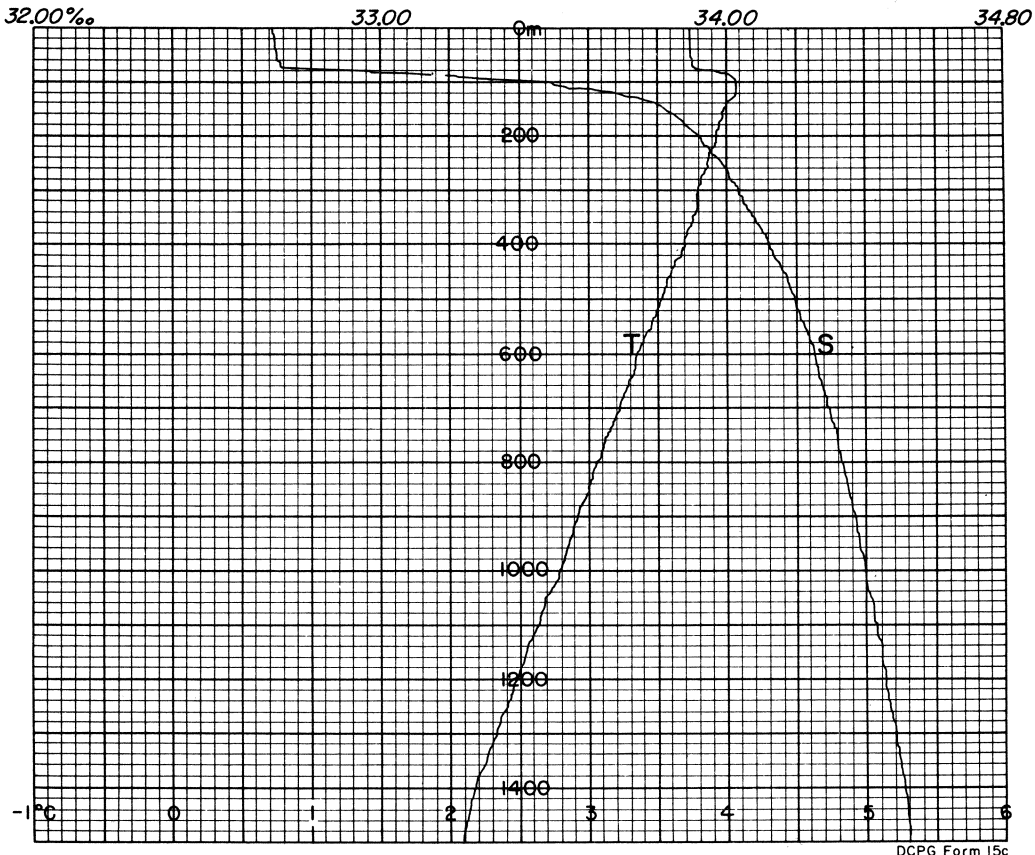
Jan. 29, 1966; 2250 GMT; 52°58'N, 164°58'W; Sounding 3402m.

4



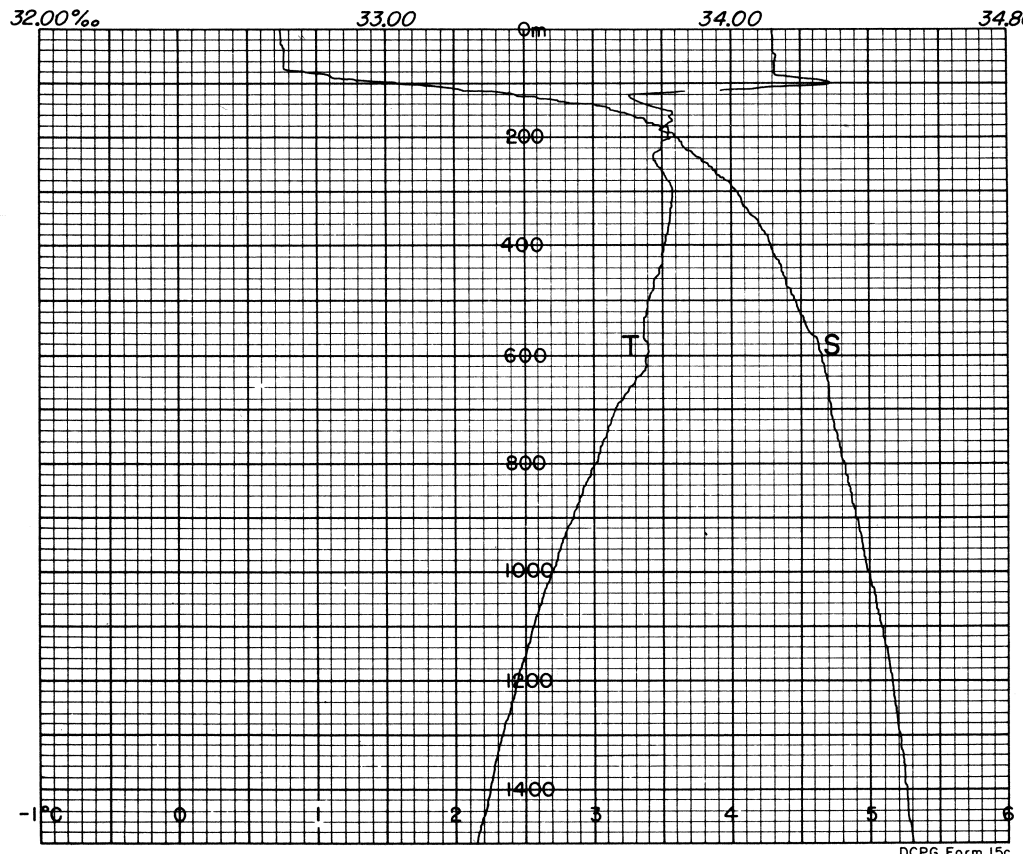
Jan. 30, 1966; 0425 GMT; 52°31'N, 164°57'W; Sounding 6192m.

5



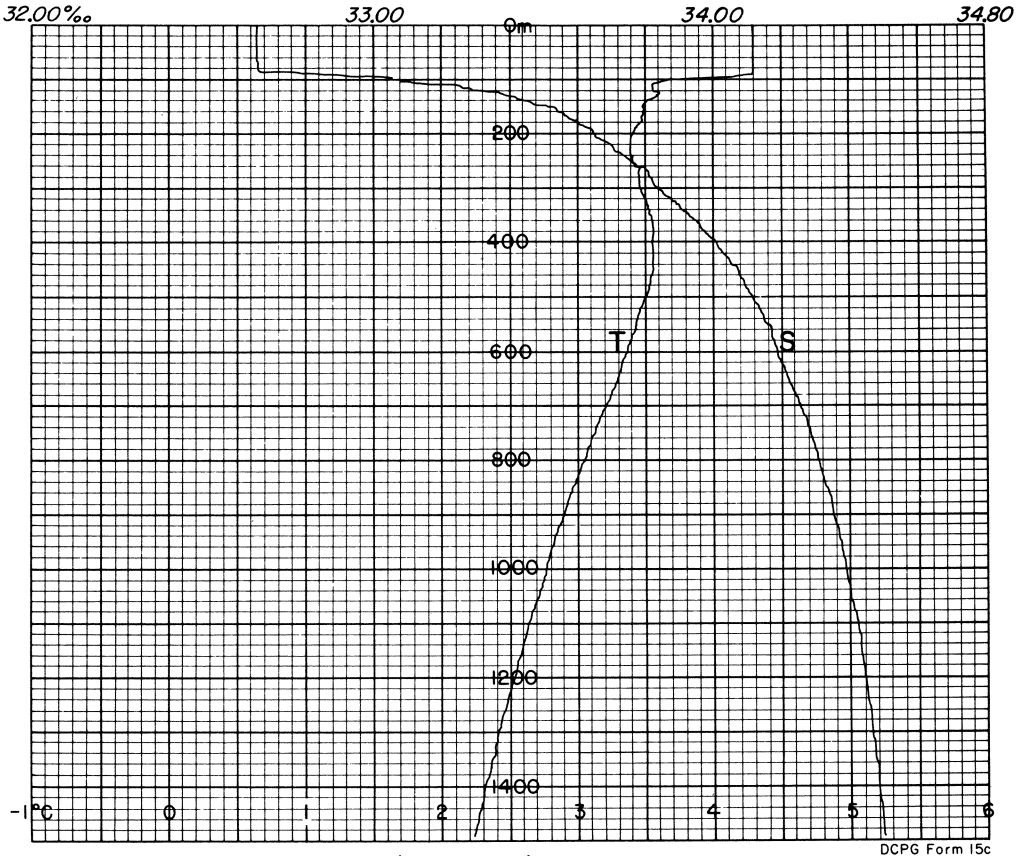
Jan. 30, 1966; 0924 GMT; 51°49'N, 164°54'W; Sounding 4239m.

6



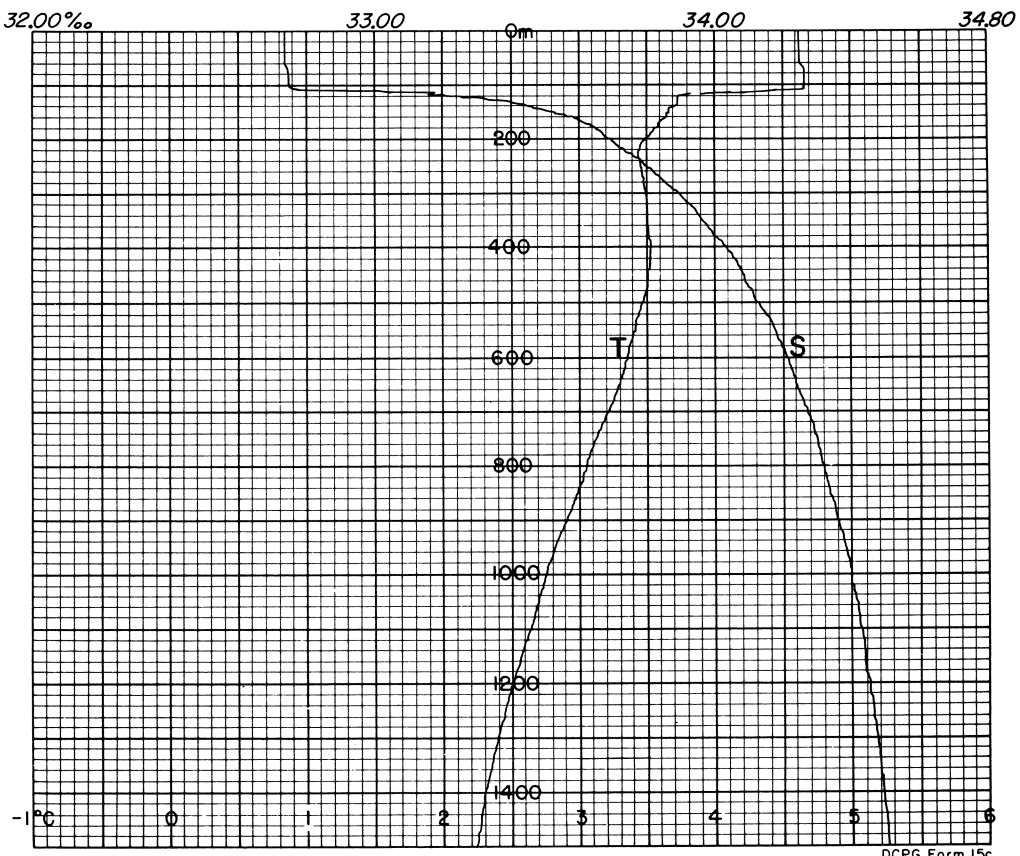
Jan. 30, 1966; 1838 GMT; 50°46'N, 165°20'W; Sounding 4009m.

7



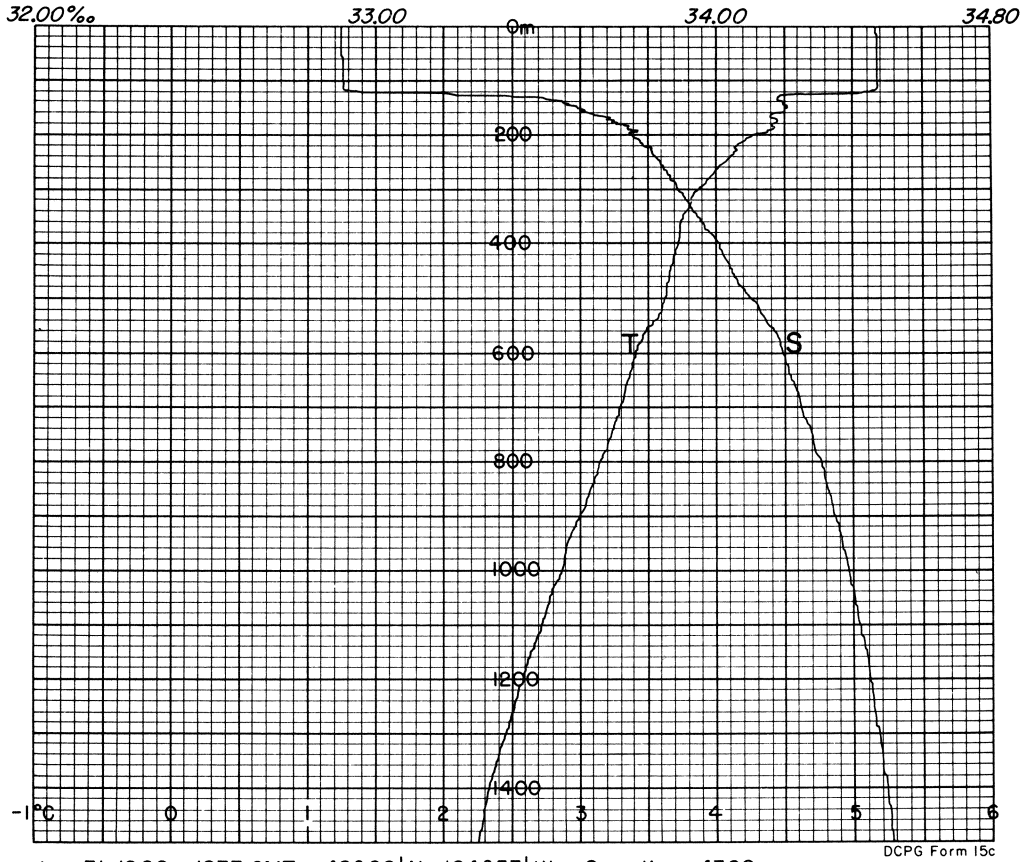
Jan. 31, 1966; 0110 GMT; 49°55'N, 165°00'W; Sounding 4157m.

8



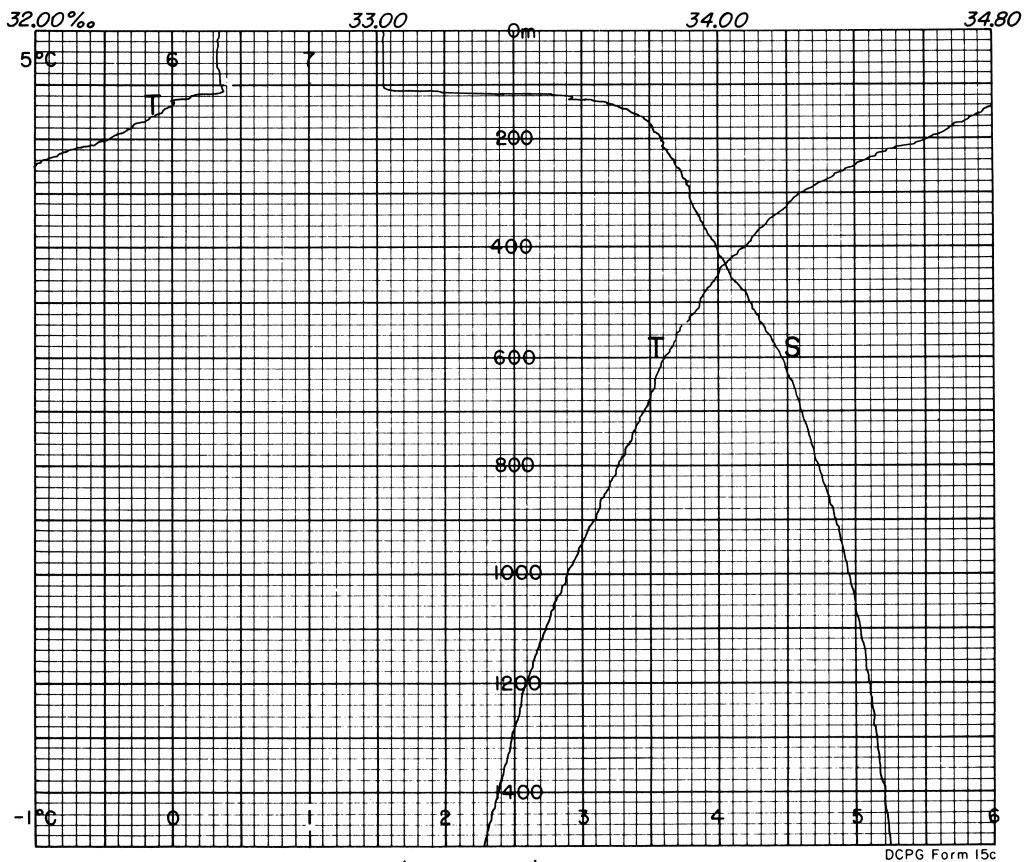
Jan. 31, 1966; 0639 GMT; 49°02'N, 164°57'W; Sounding 4254m.

9



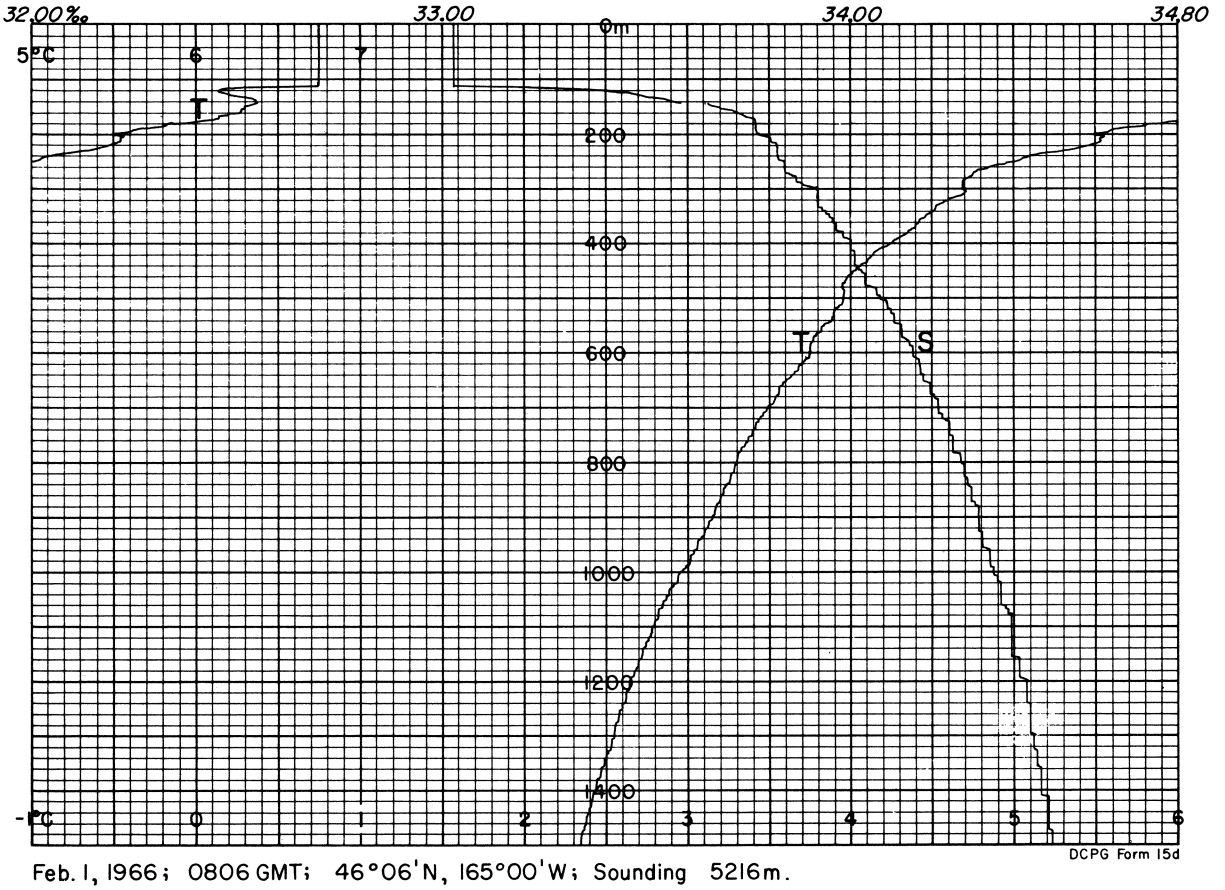
Jan. 31, 1966; 1233 GMT; 48°09'N, 164°53'W; Sounding 4360m.

10



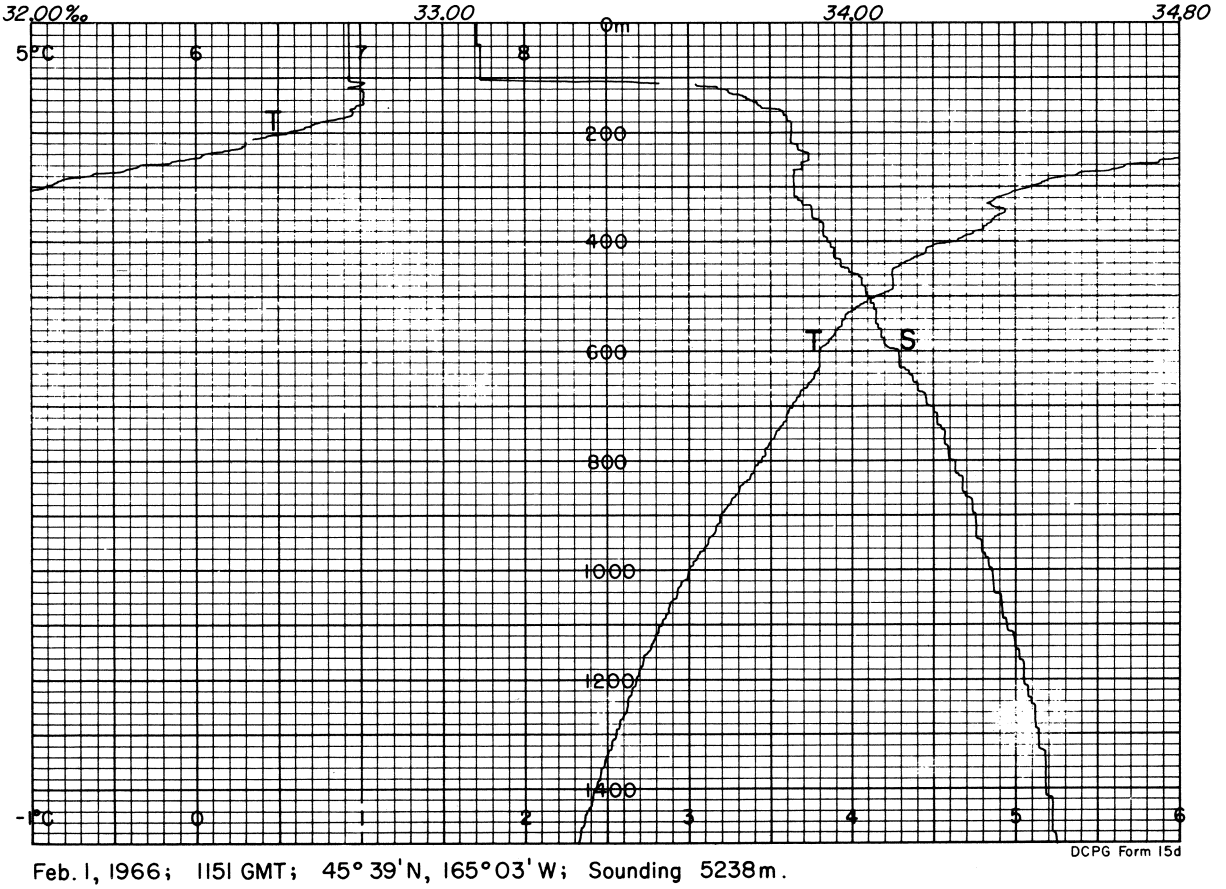
Feb. 1, 1966; 0046 GMT; 47°02'N, 165°00'W; Sounding 5183m.

11



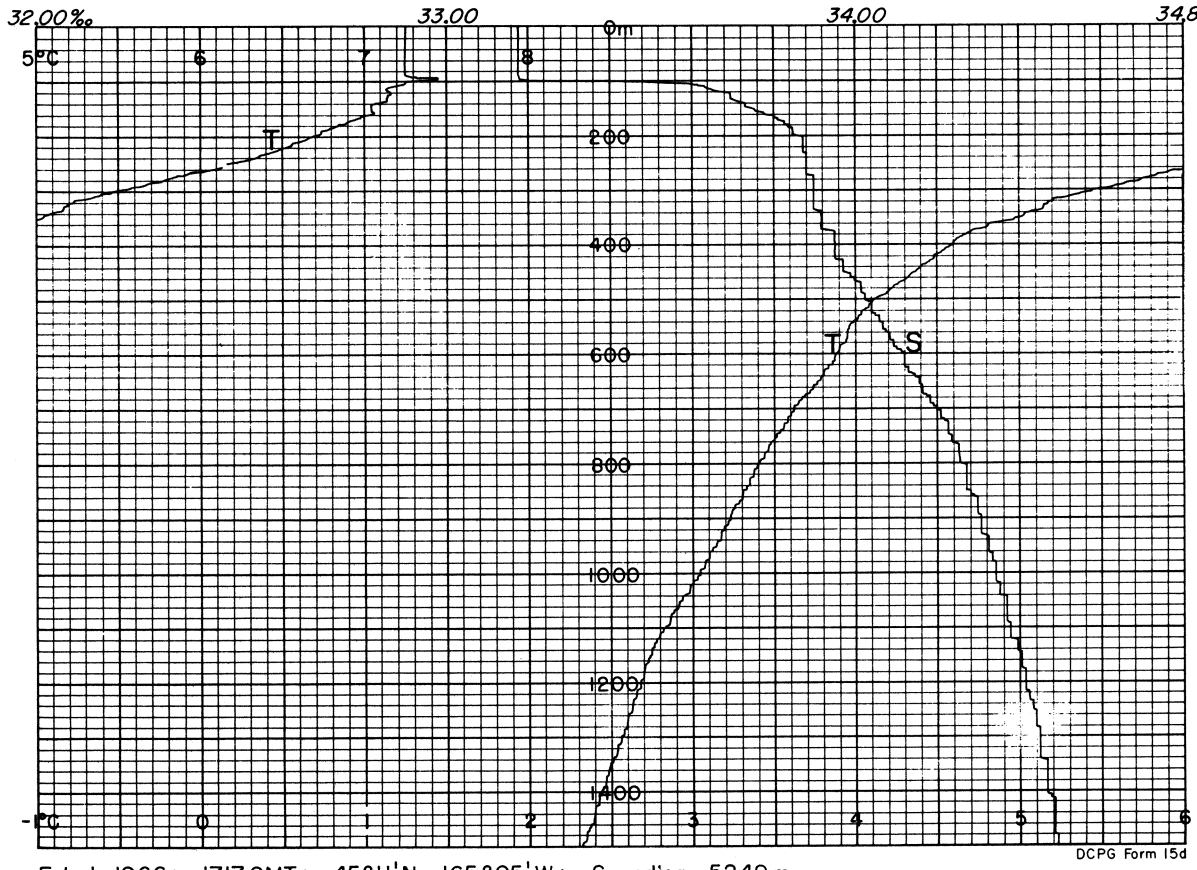
Feb. 1, 1966; 0806 GMT; 46°06'N, 165°00'W; Sounding 5216m.

12



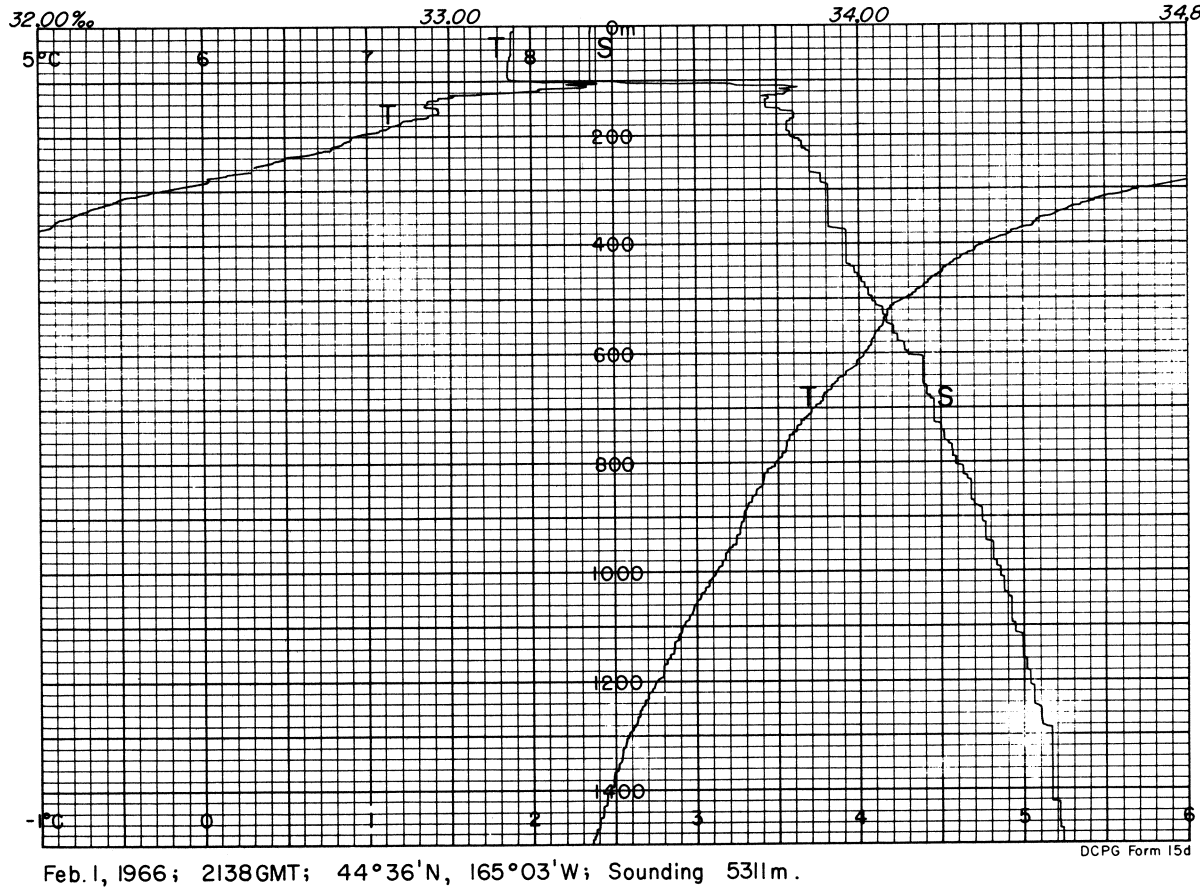
Feb. 1, 1966; 1151 GMT; 45° 39'N, 165°03'W; Sounding 5238m.

13



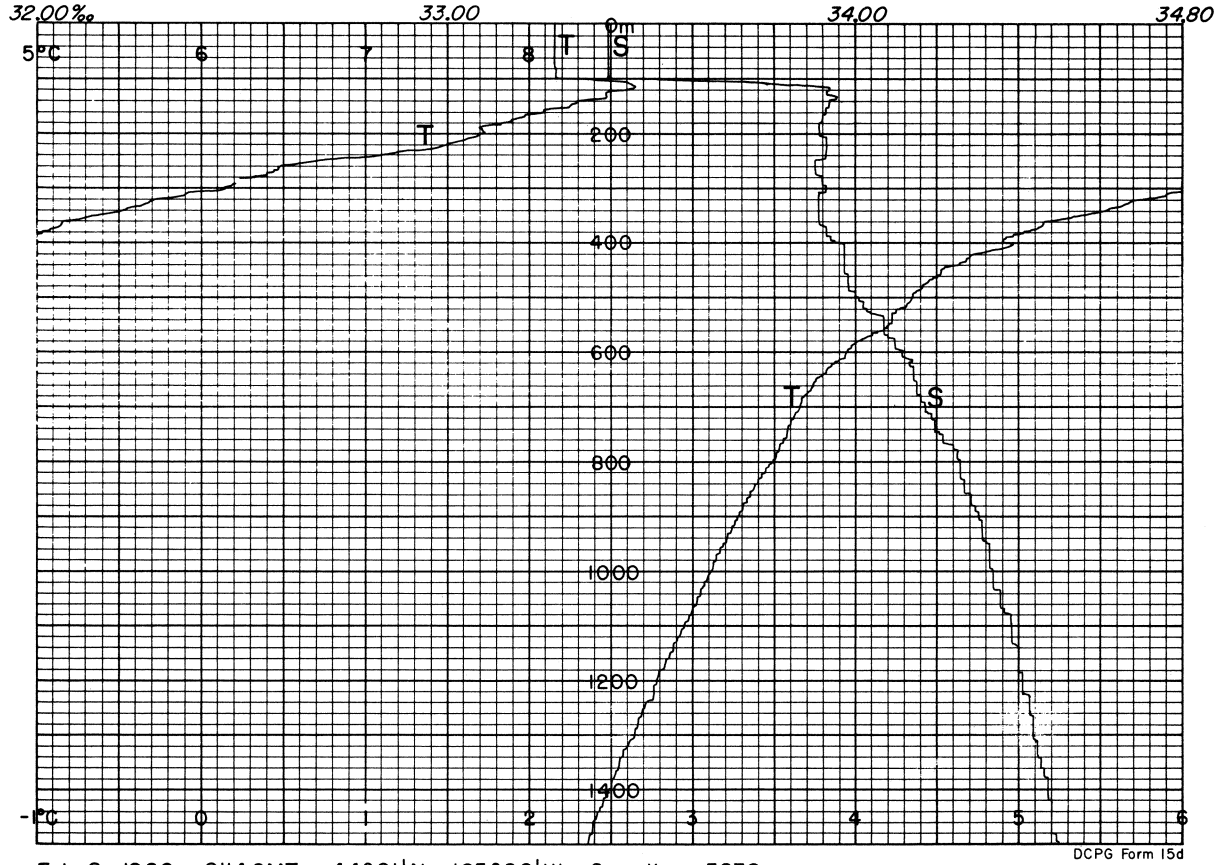
Feb. 1, 1966; 1717 GMT; 45°11'N, 165°05'W; Sounding 5249 m.

14



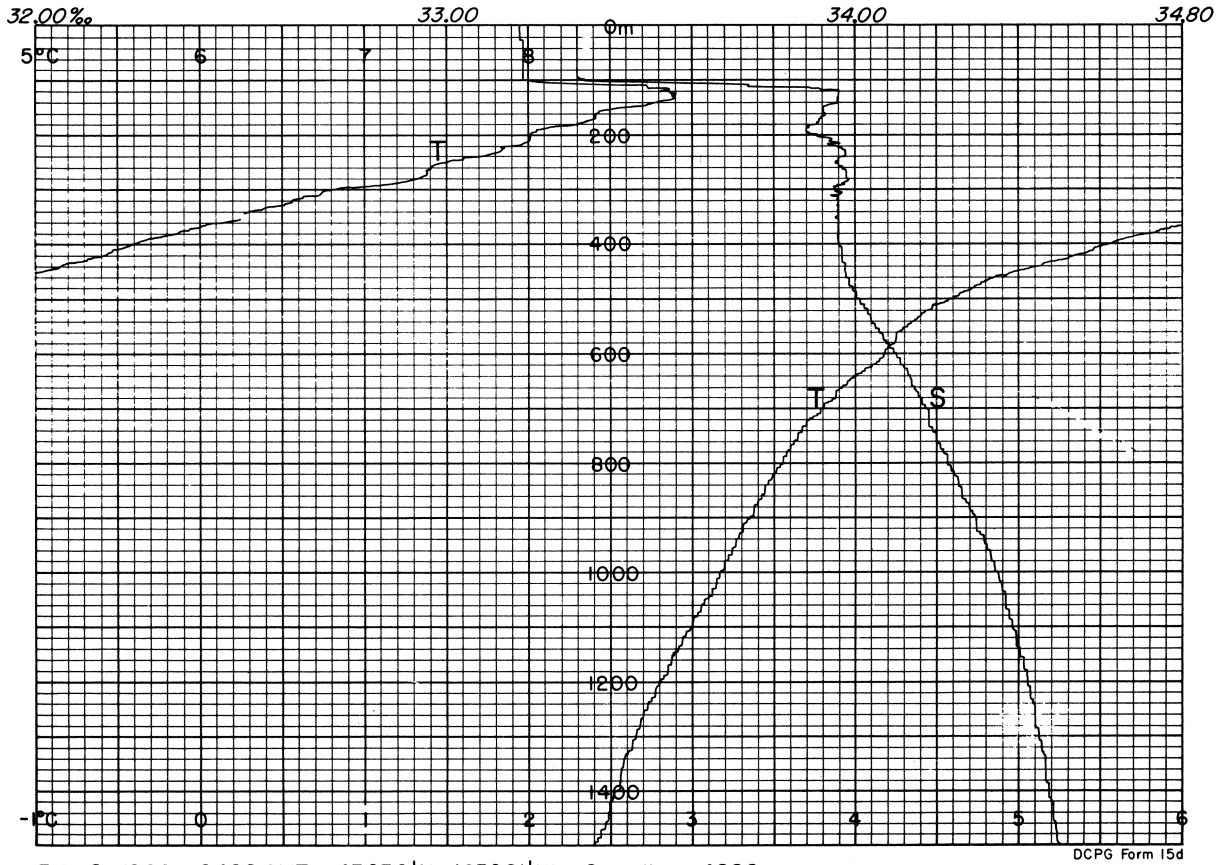
Feb. 1, 1966; 2138 GMT; 44°36'N, 165°03'W; Sounding 5311 m.

15



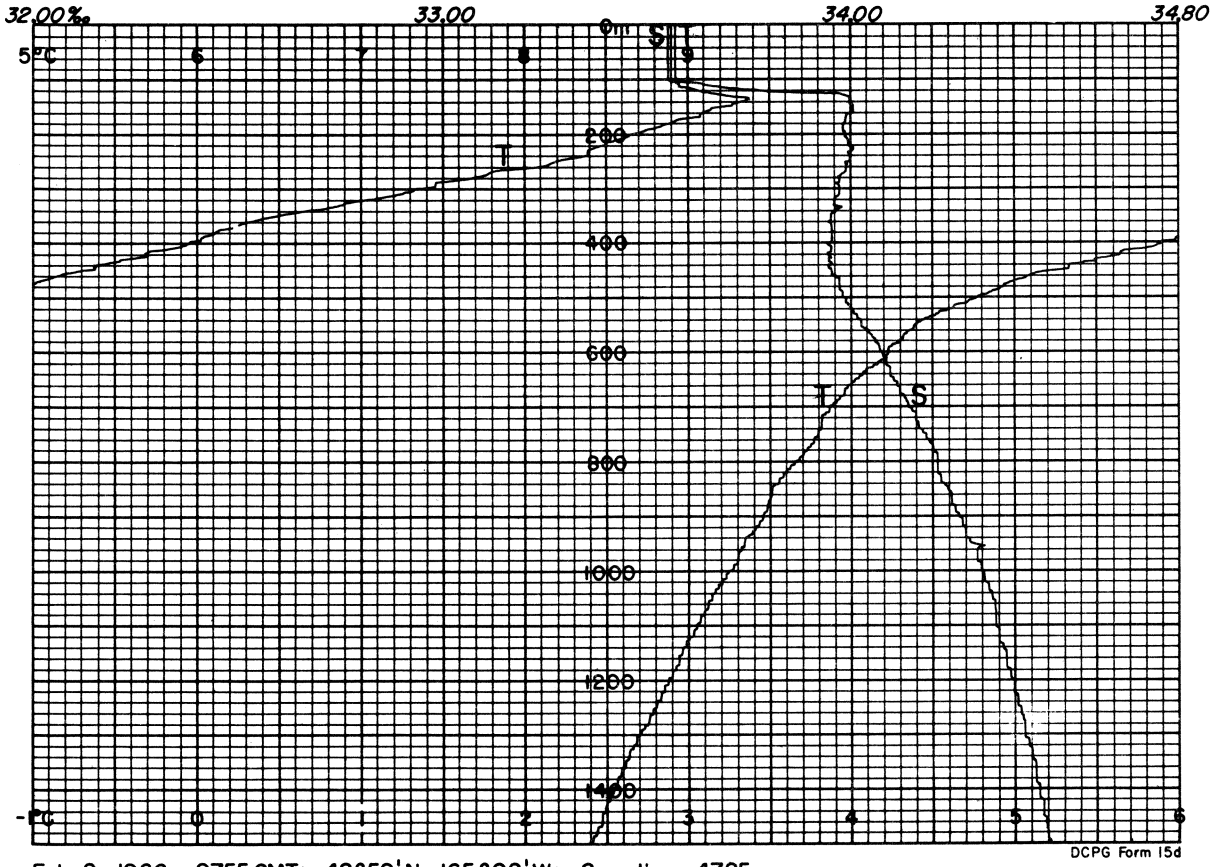
Feb. 2, 1966; 0114 GMT; 44°01'N, 165°00'W; Sounding 5238 m.

16



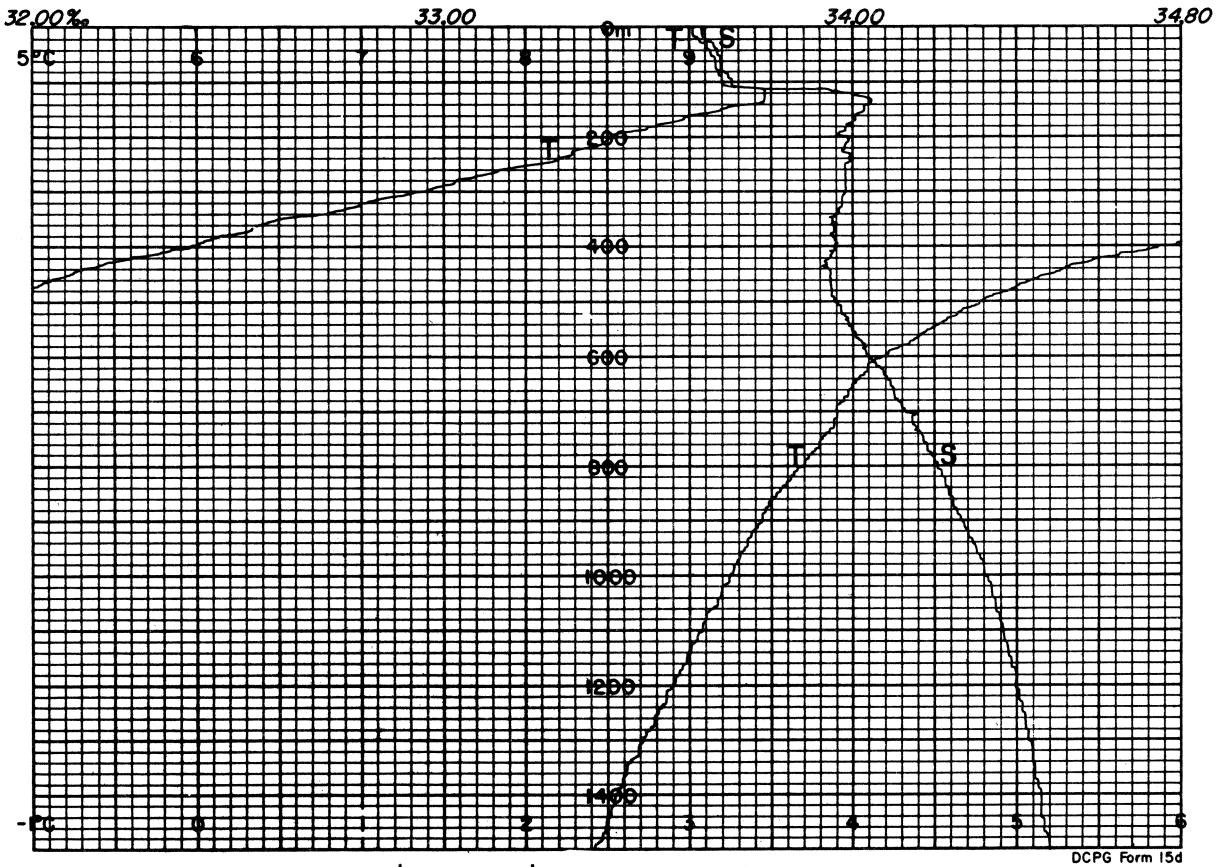
Feb. 2, 1966; 0428 GMT; 43°30'N, 165°01'W; Sounding 4828 m.

17



Feb. 2, 1966; 0755 GMT; 42°59'N, 165°02'W; Sounding 4725 m.

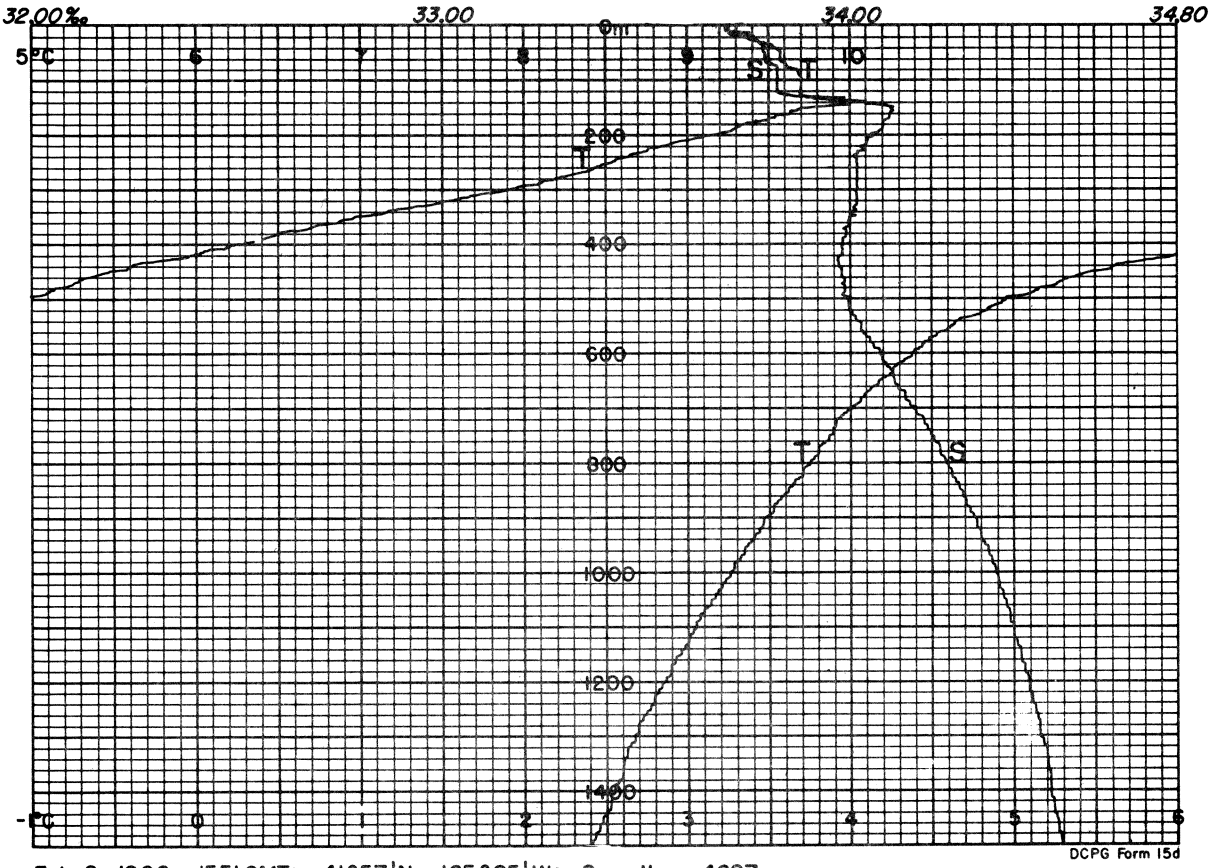
18



Feb. 2, 1966; 1106 GMT; 42°28'N, 165°03'W; Sounding 4907 m.

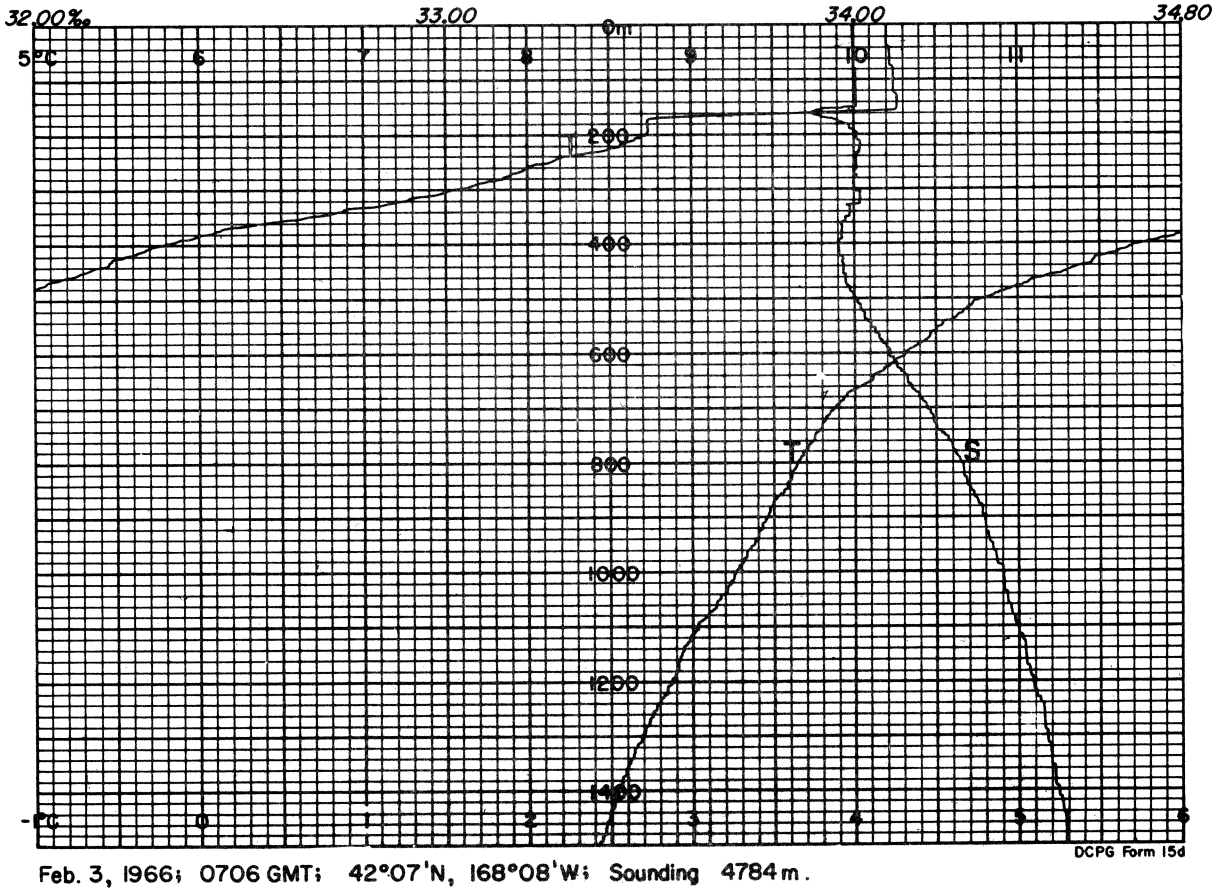
SIO
BOREAS

19



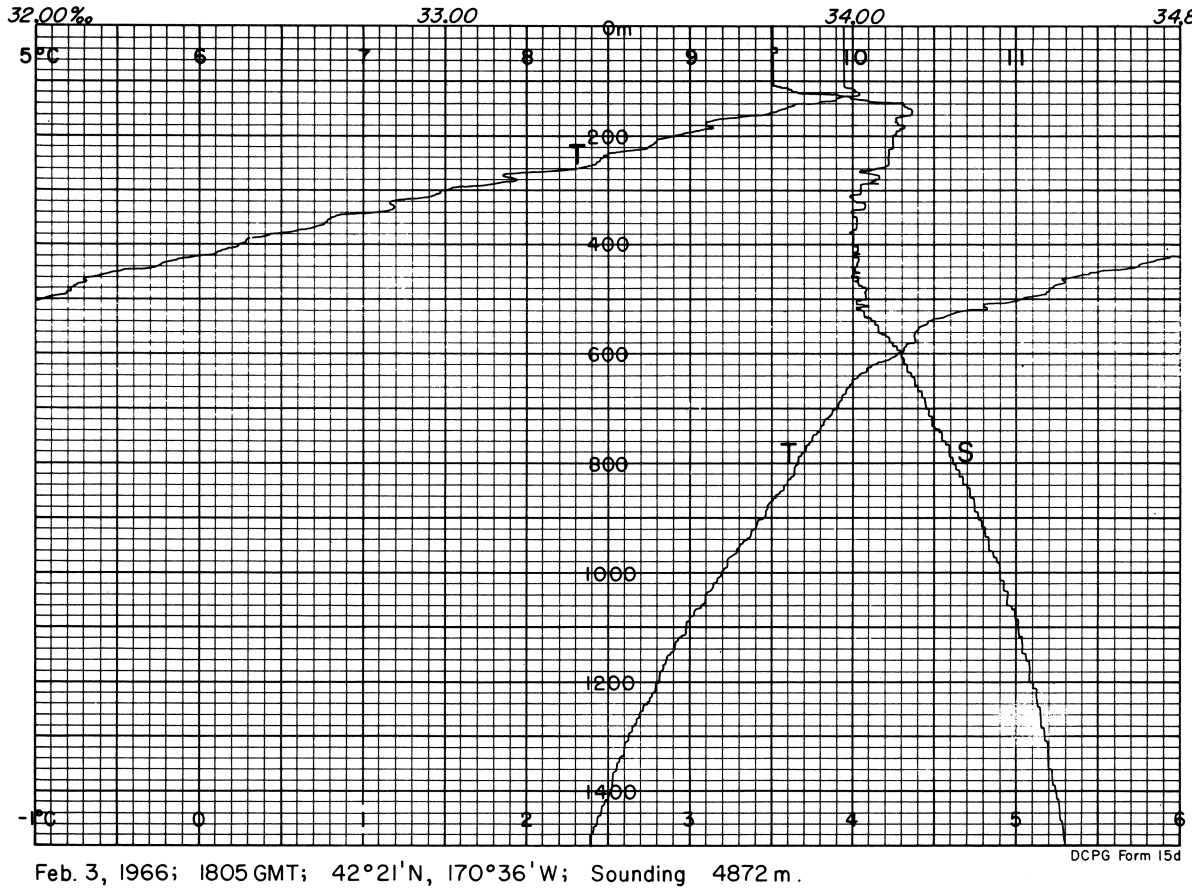
Feb. 2, 1966; 1551 GMT; 41°57'N, 165°05'W; Sounding 4627 m.

20



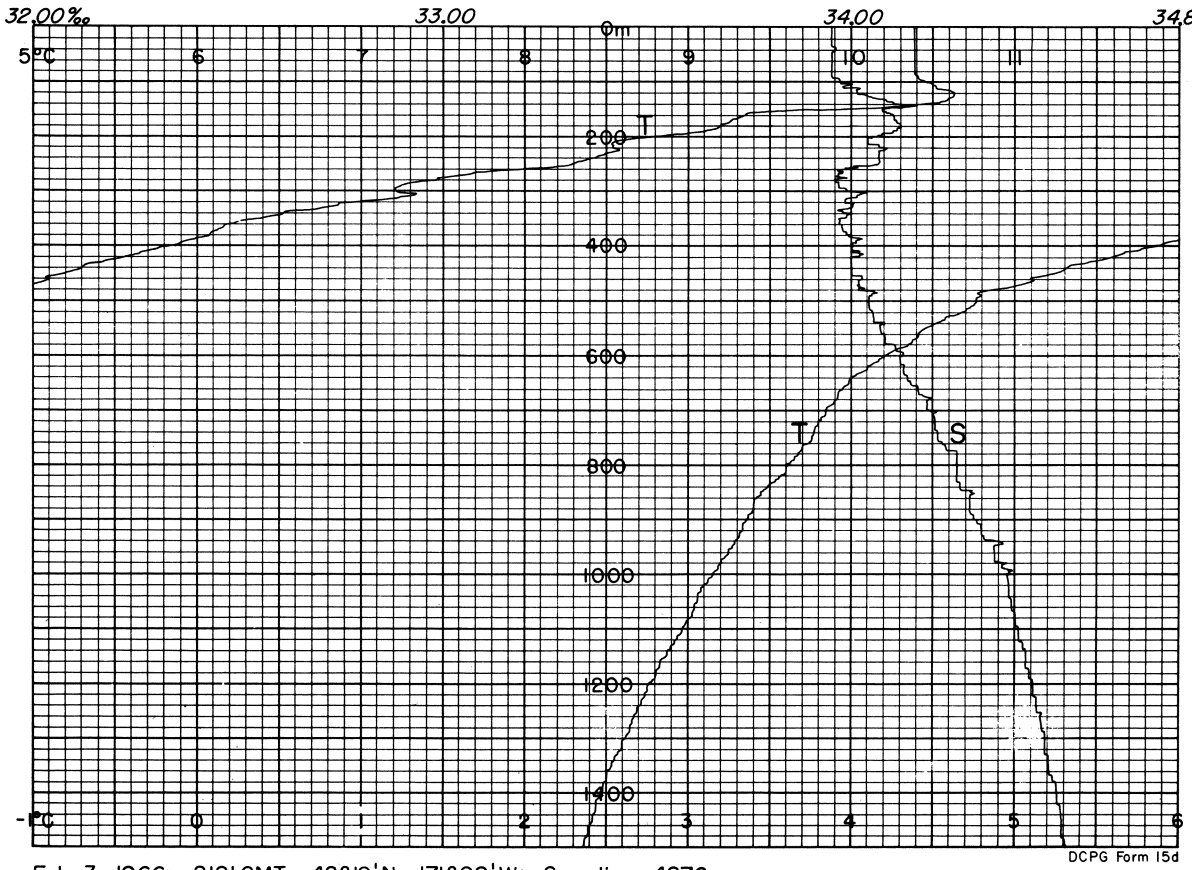
Feb. 3, 1966; 0706 GMT; 42°07'N, 168°08'W; Sounding 4784 m.

21



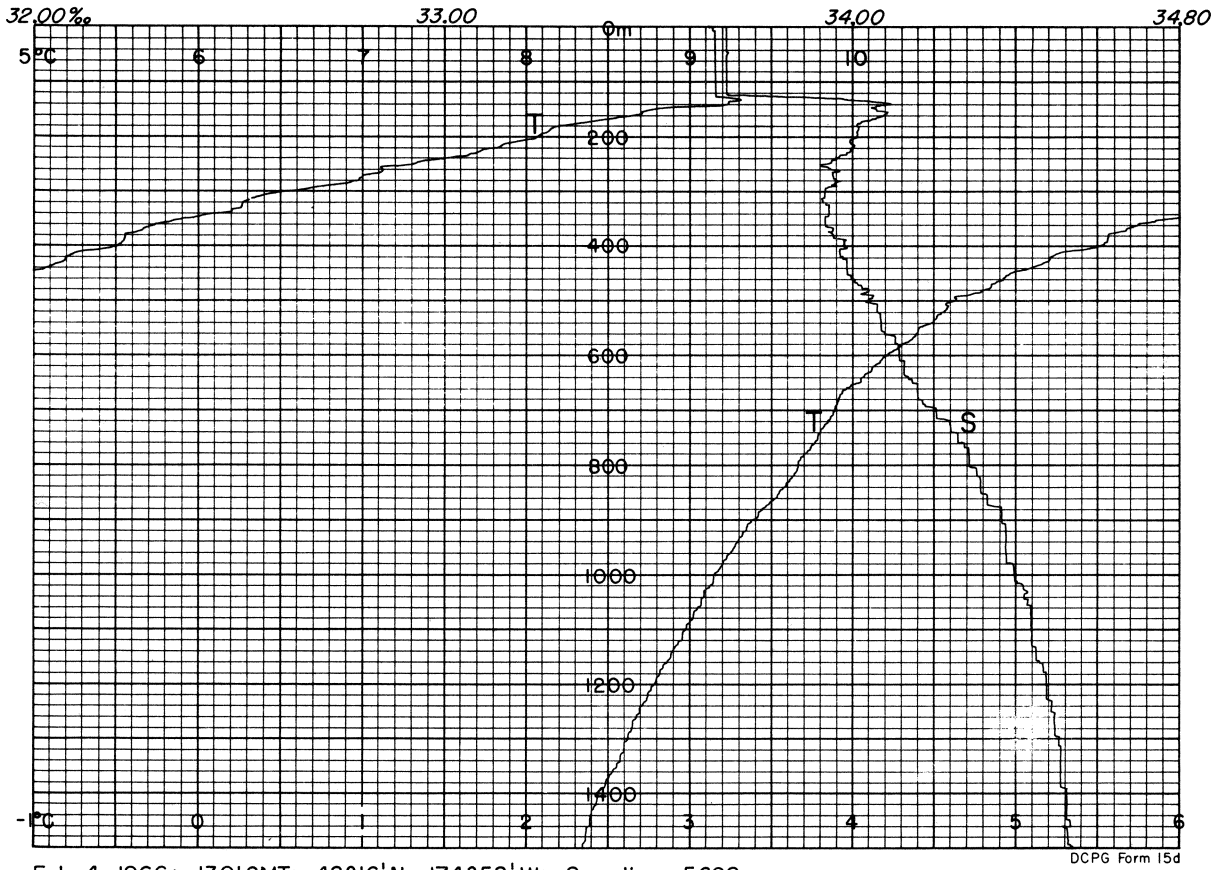
Feb. 3, 1966; 1805 GMT; 42°21'N, 170°36'W; Sounding 4872 m.

22



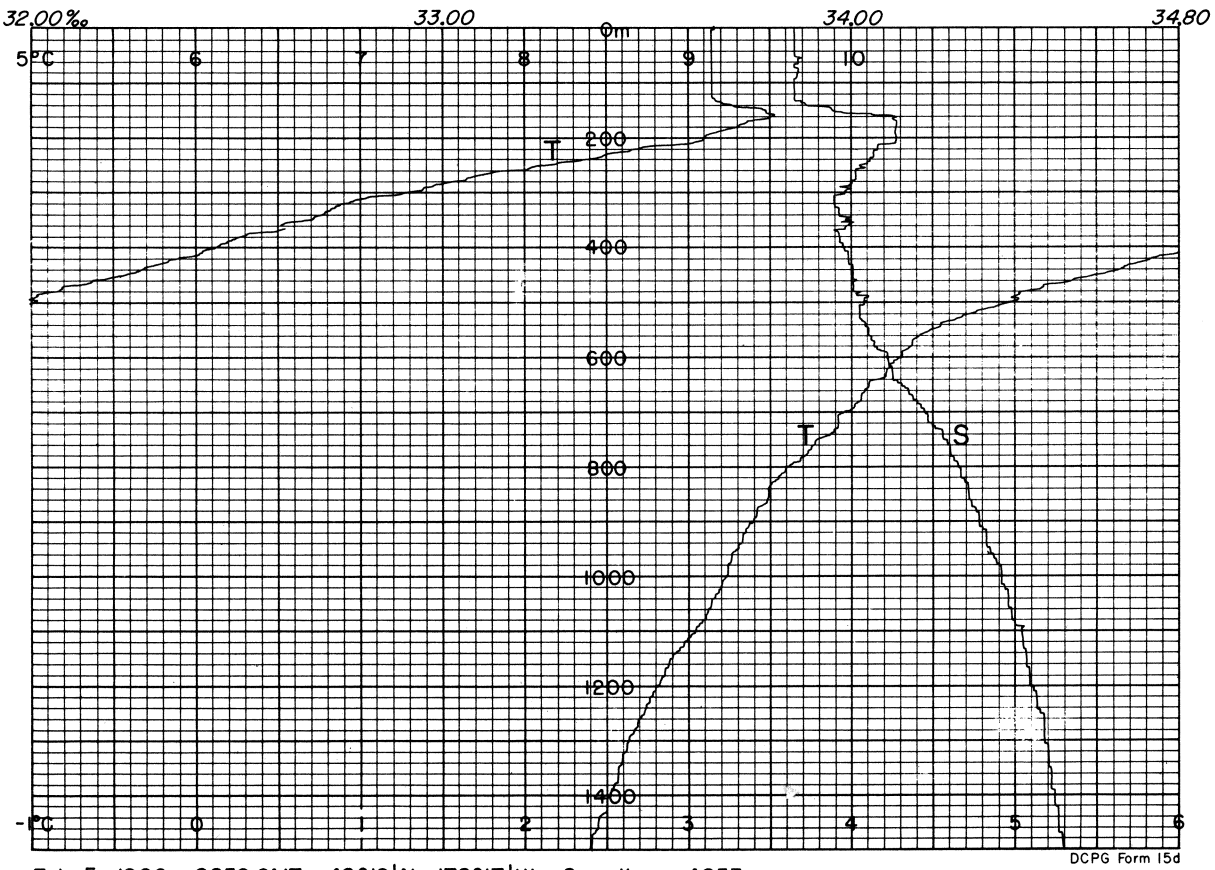
Feb. 3, 1966; 2121 GMT; 42°19'N, 171°08'W; Sounding 4876 m.

23



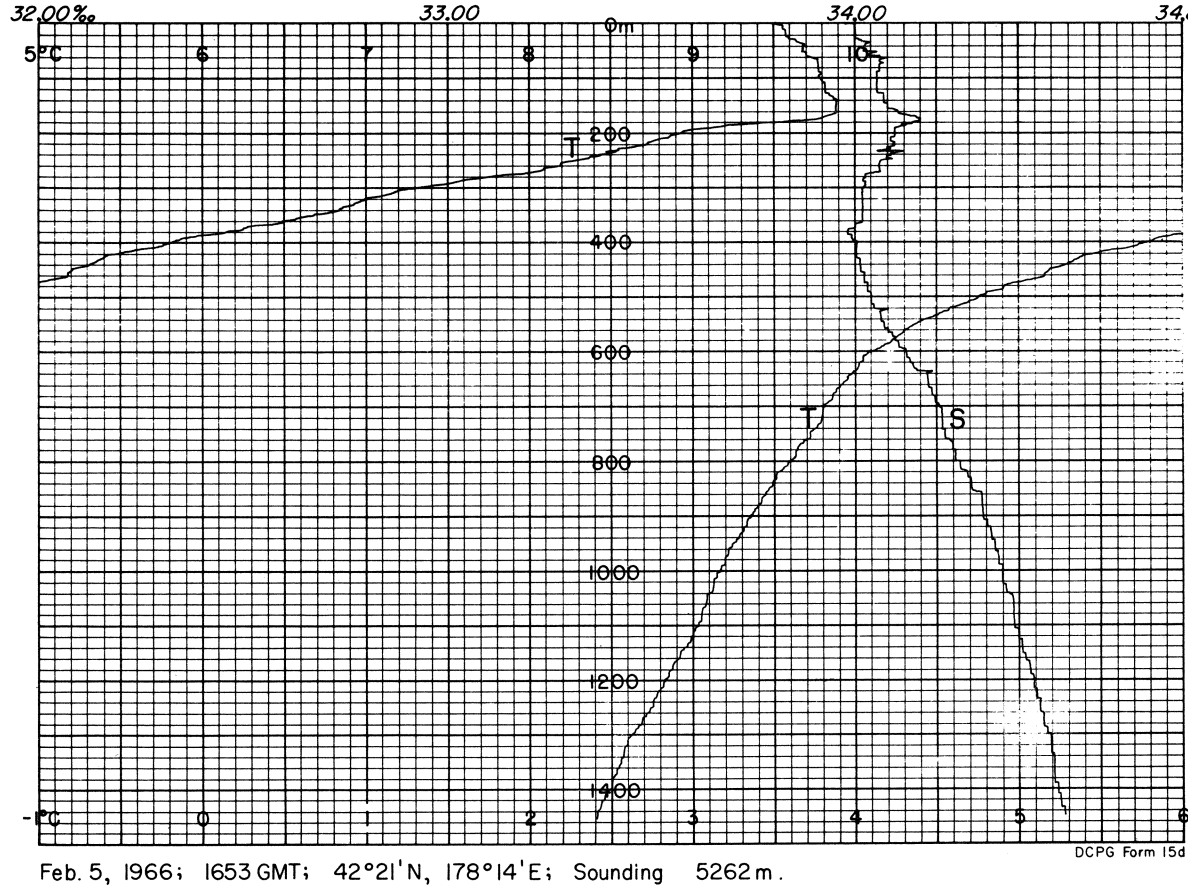
Feb. 4, 1966; 1301 GMT; 42°16'N, 174°52'W; Sounding 5698 m.

24



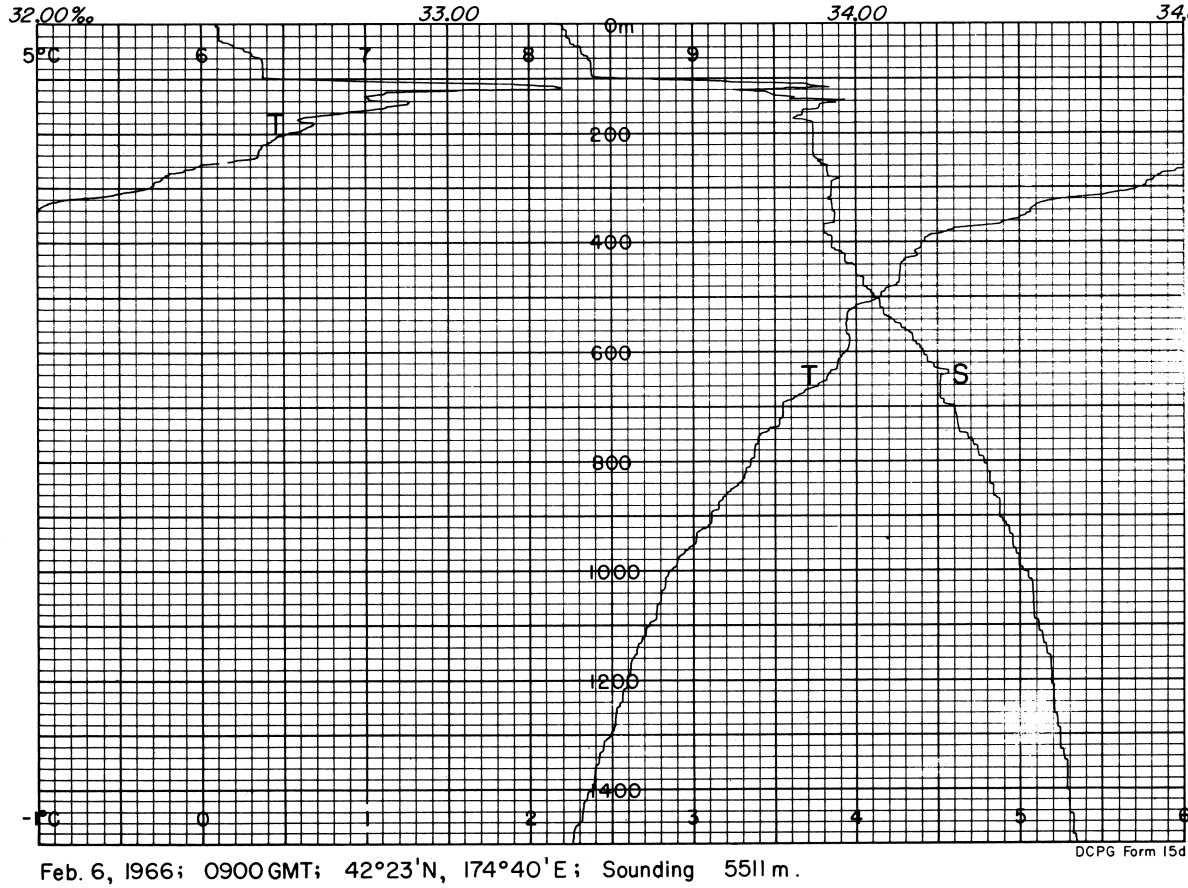
Feb. 5, 1966; 0259 GMT; 42°19'N, 178°17'W; Sounding 4053 m.

25



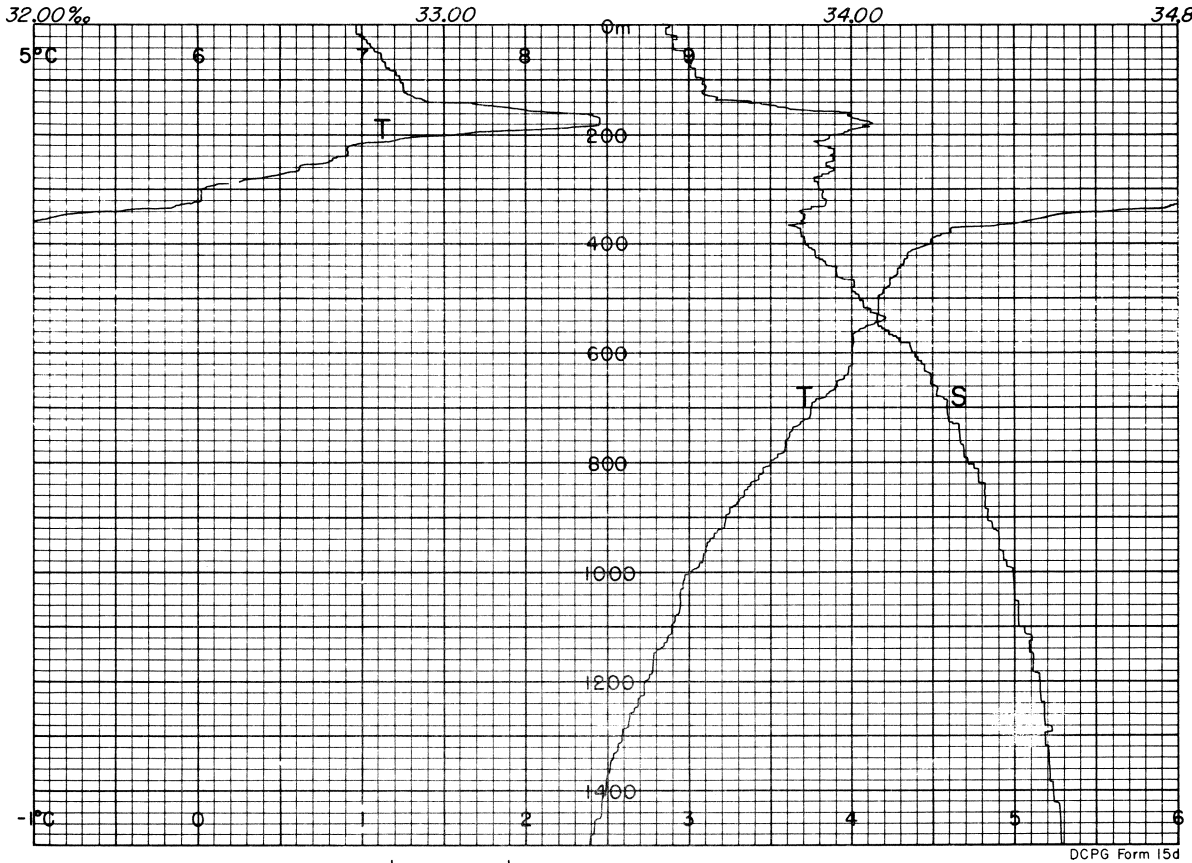
Feb. 5, 1966; 1653 GMT; 42°21'N, 178°14'E; Sounding 5262 m.

26



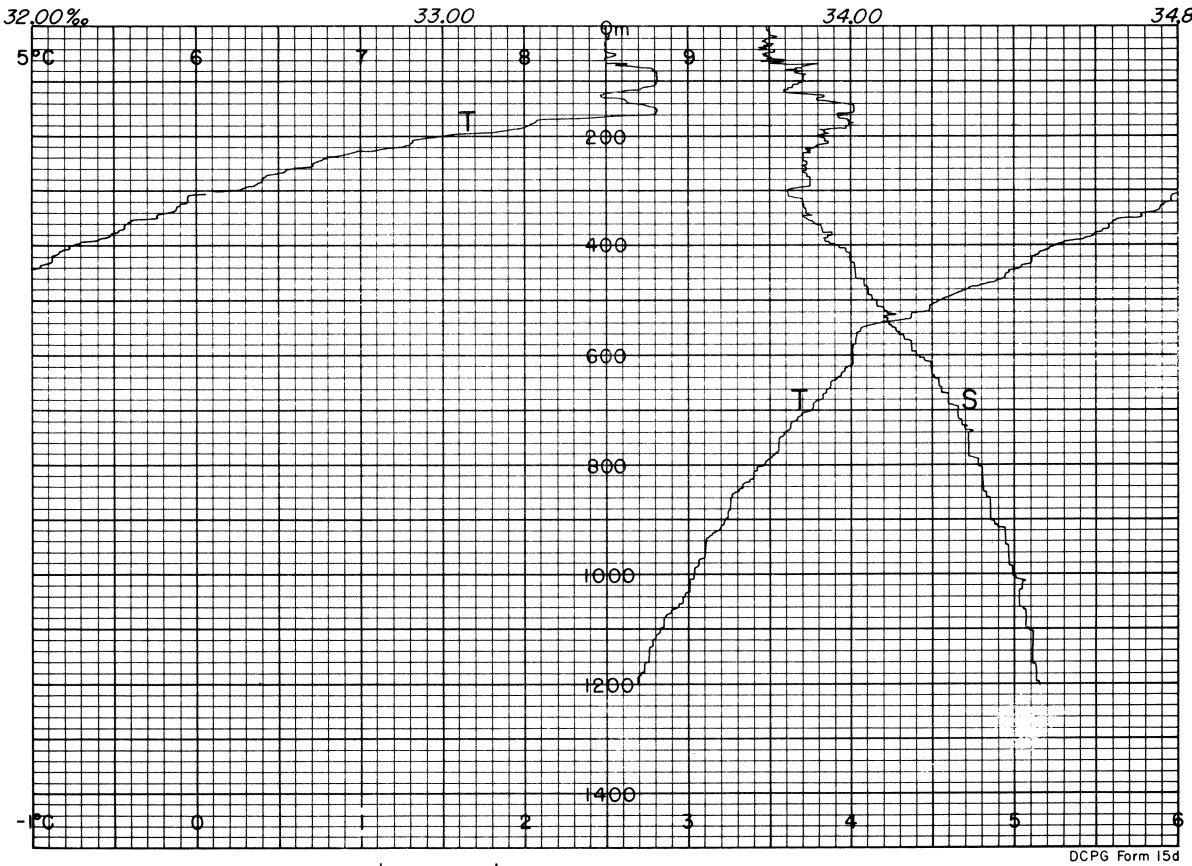
Feb. 6, 1966; 0900 GMT; 42°23'N, 174°40'E; Sounding 5511 m.

27

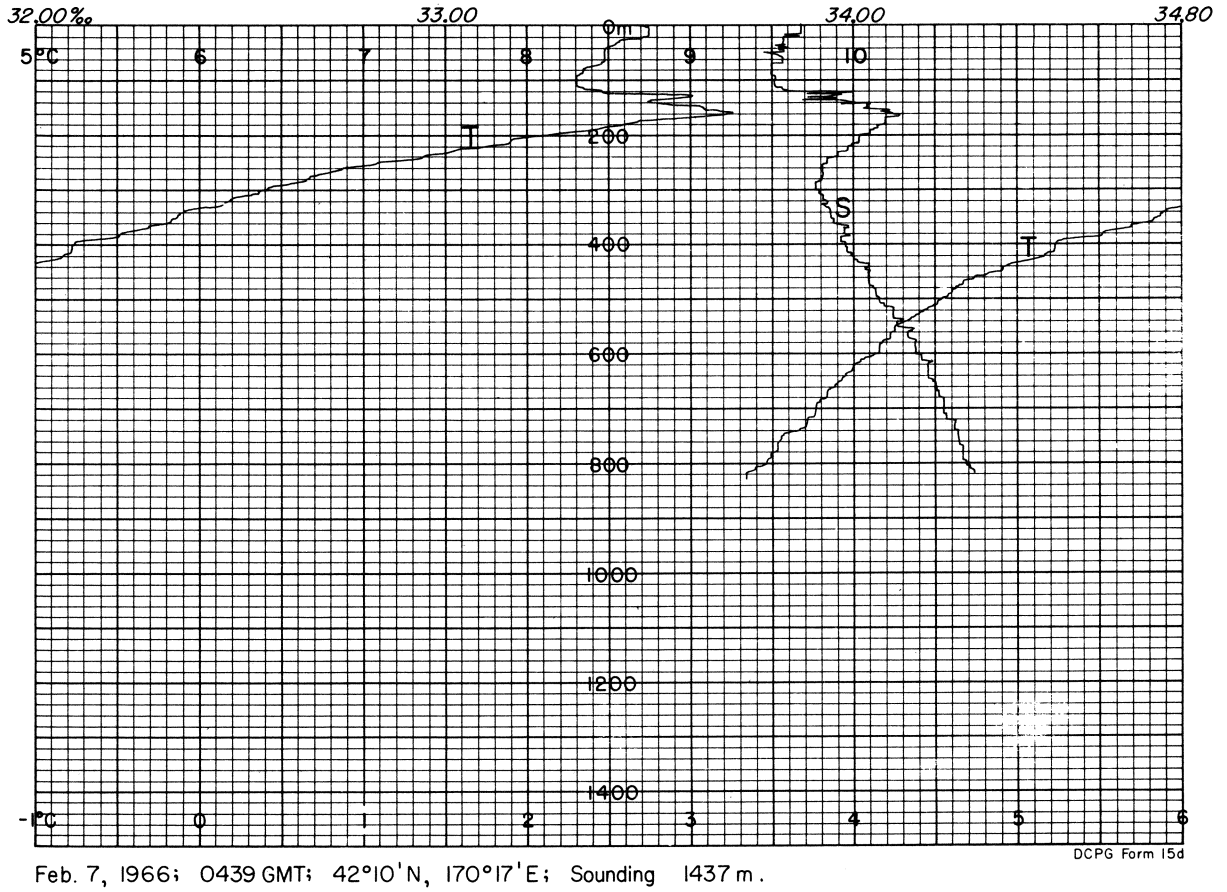


Feb. 7, 1966; 0251 GMT; 42°10'N, 170°13'E; Sounding 2919 m.

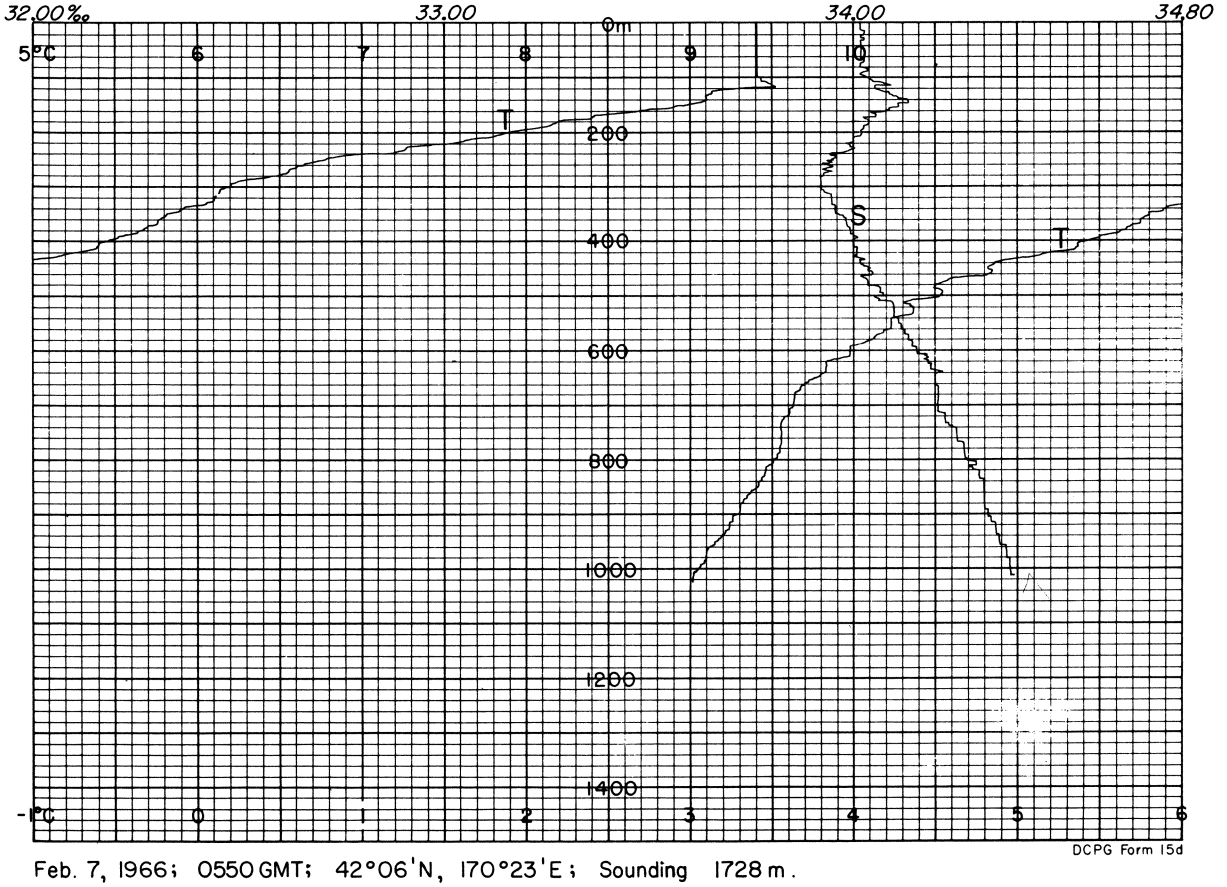
28



Feb. 7, 1966; 0351 GMT; 42°10'N, 170°15'E; Sounding 1591 m.

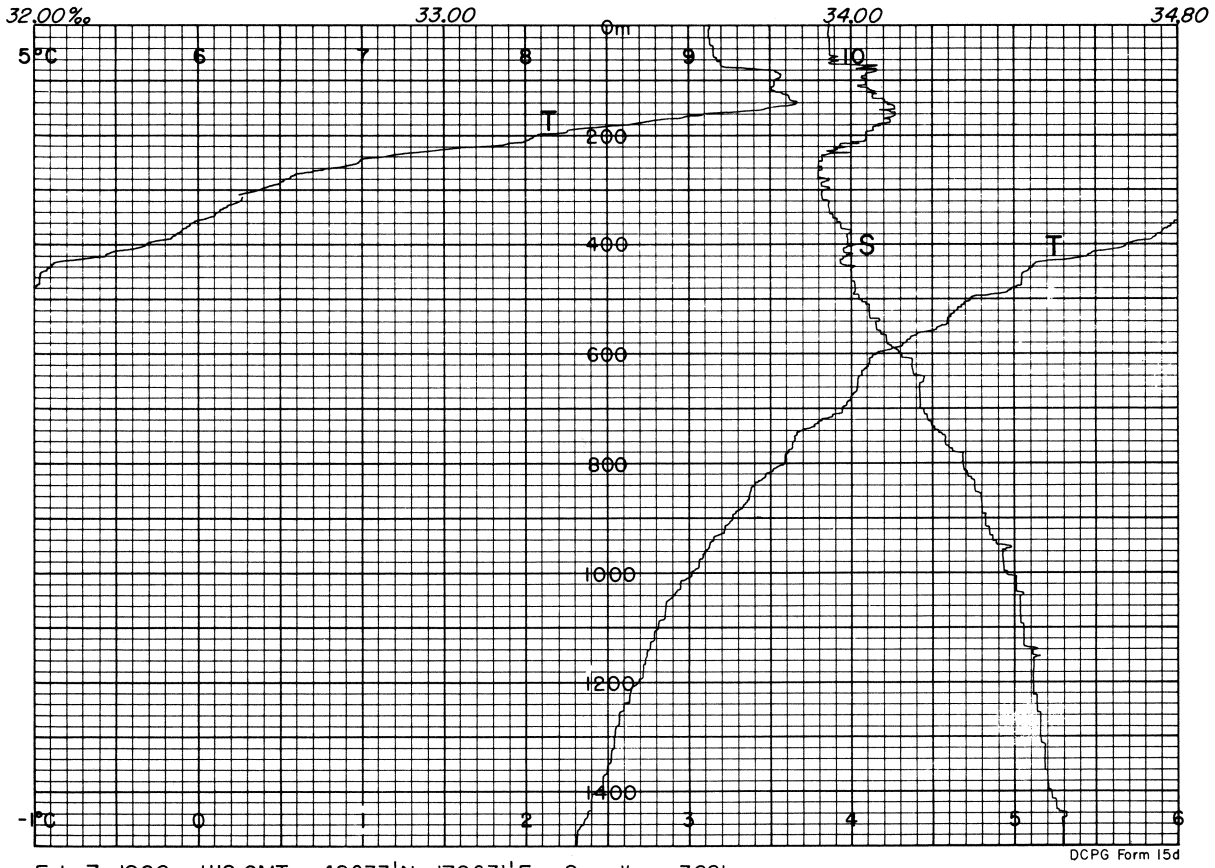


Feb. 7, 1966; 0439 GMT; 42°10'N, 170°17'E; Sounding 1437 m.



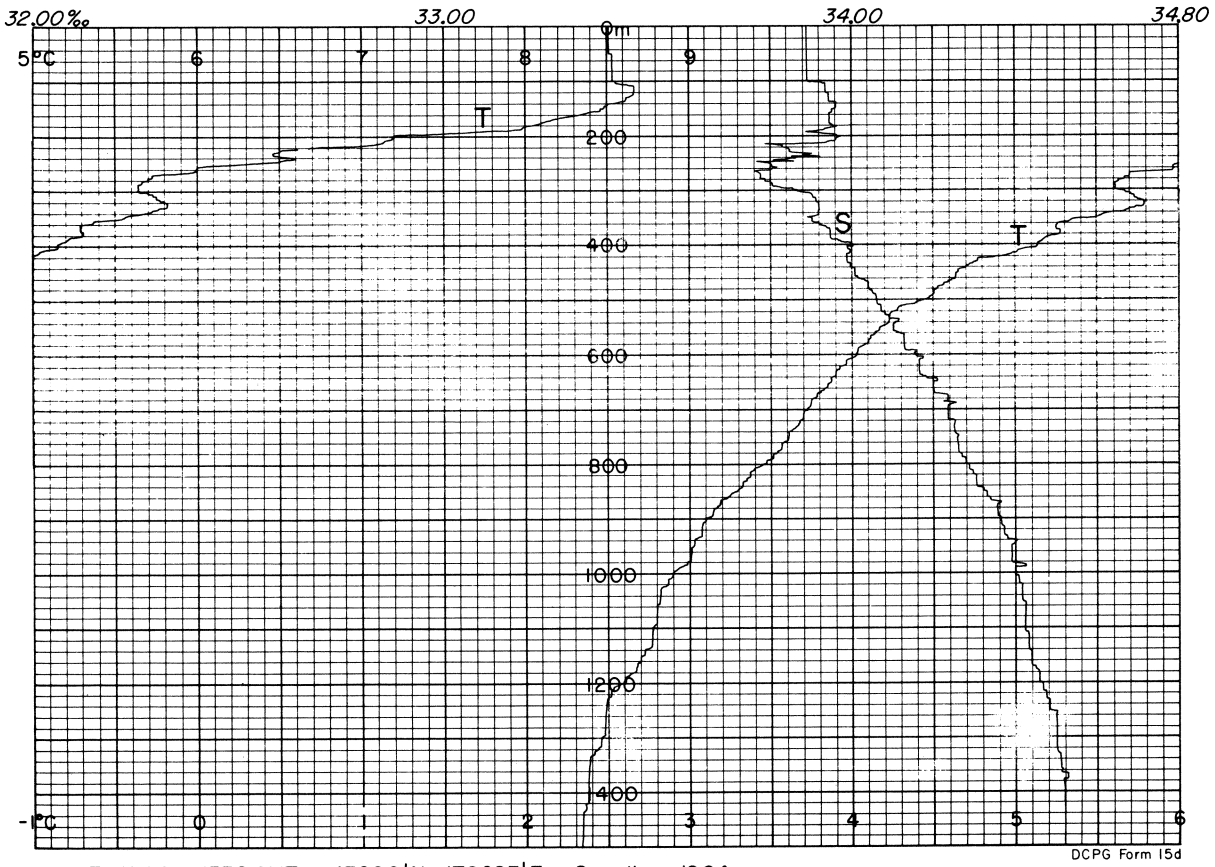
Feb. 7, 1966; 0550 GMT; 42°06'N, 170°23'E; Sounding 1728 m.

31



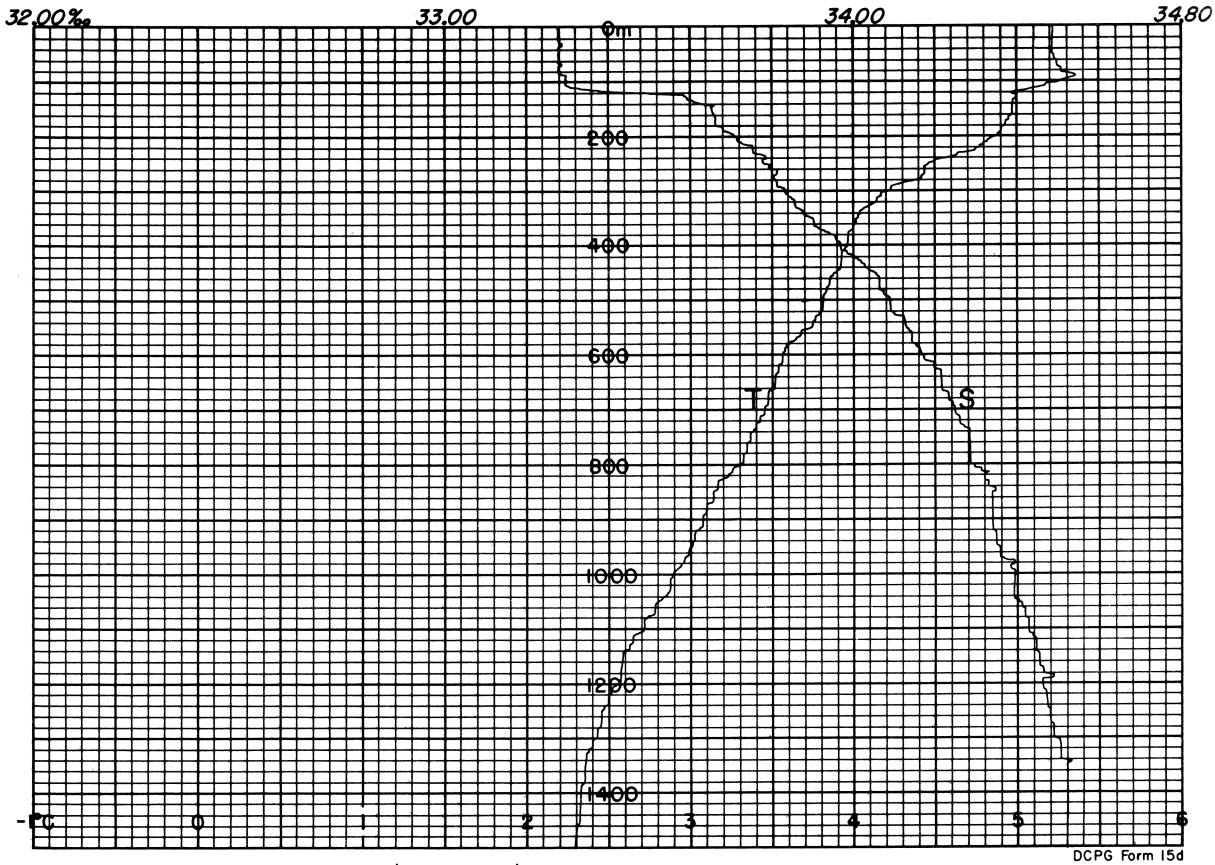
Feb. 7, 1966; 1112 GMT; 42°33'N, 170°31'E; Sounding 3621 m.

32



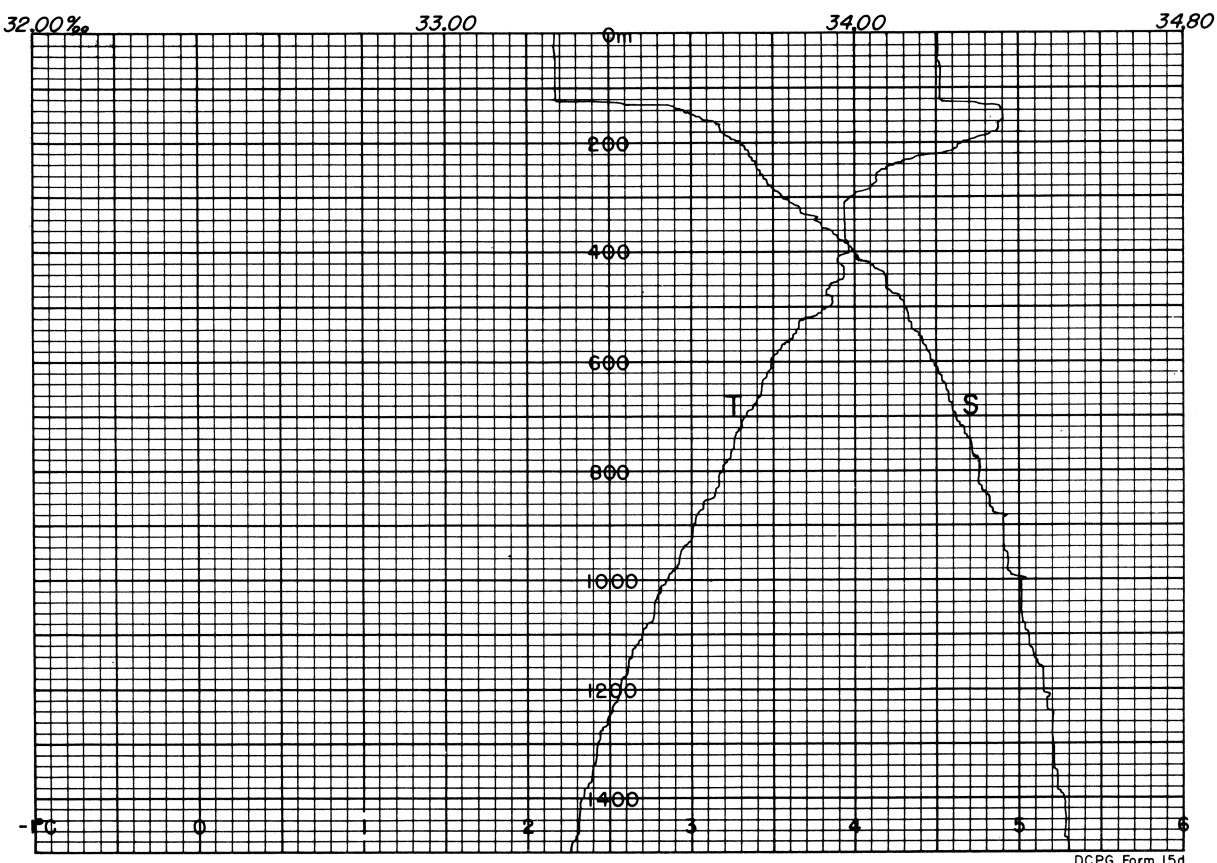
Feb. 7, 1966; 1538 GMT; 43°00'N, 170°23'E; Sounding 1964 m.

33



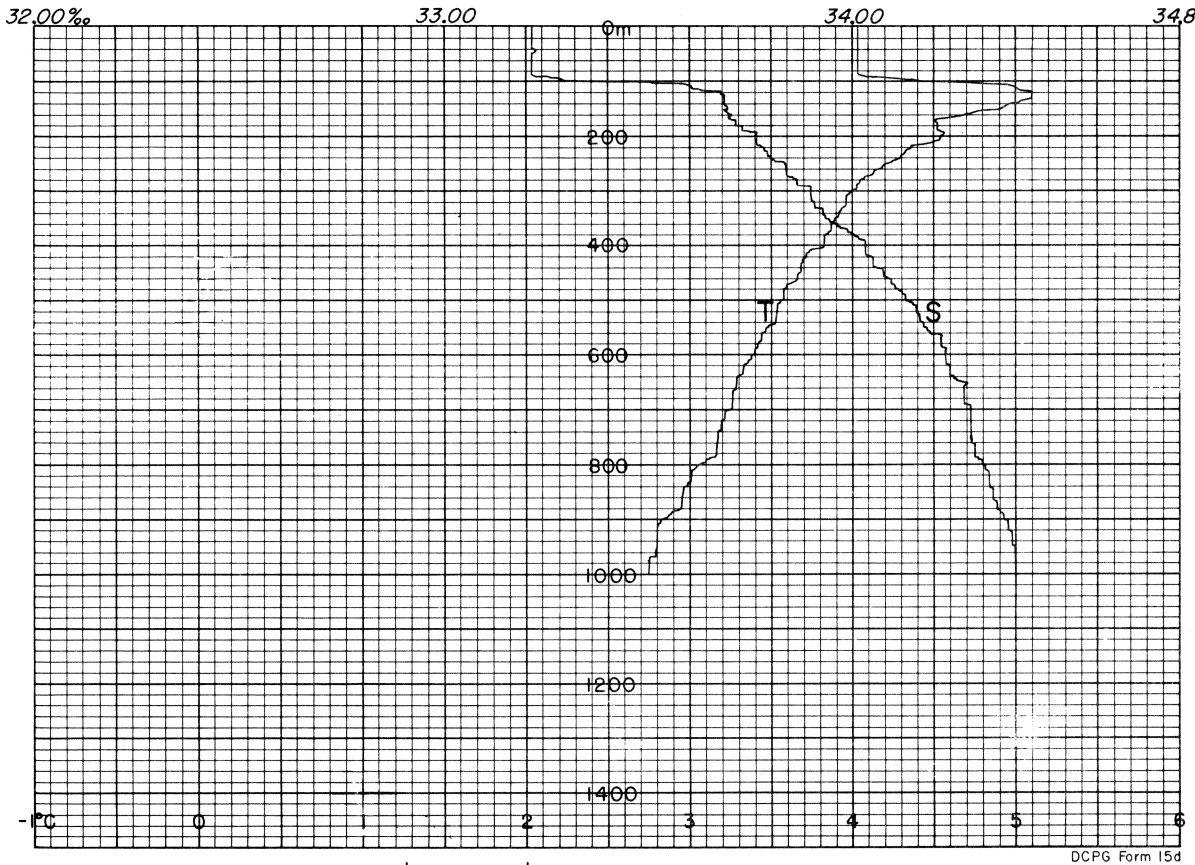
Feb. 7, 1966; 2114 GMT; 43°58'N, 170°15'E; Sounding 4280 m.

34



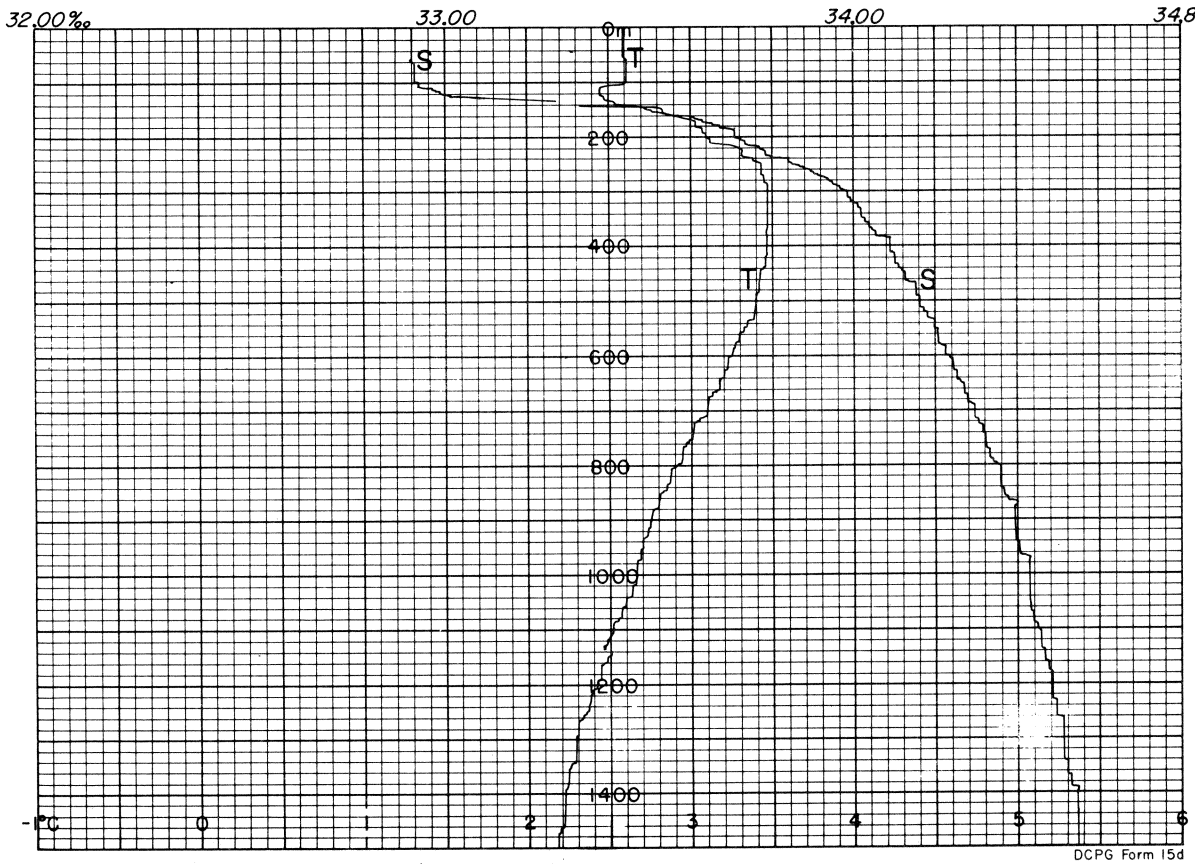
Feb. 8, 1966; 0536 GMT; 45°00'N, 170°15'E; Sounding 2227 m.

35



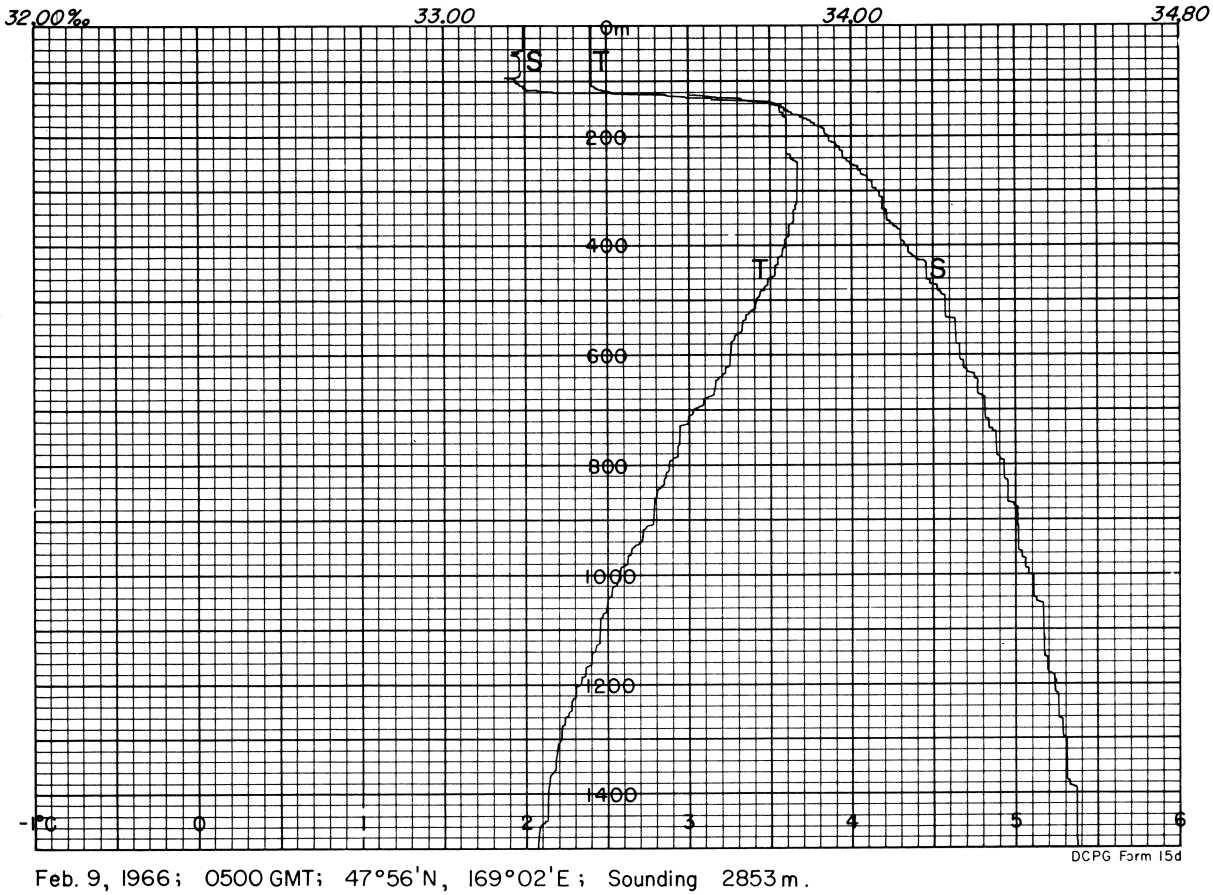
Feb. 8, 1966; 1309 GMT; 46°00'N, 169°43'E; Sounding 1353 m.

36



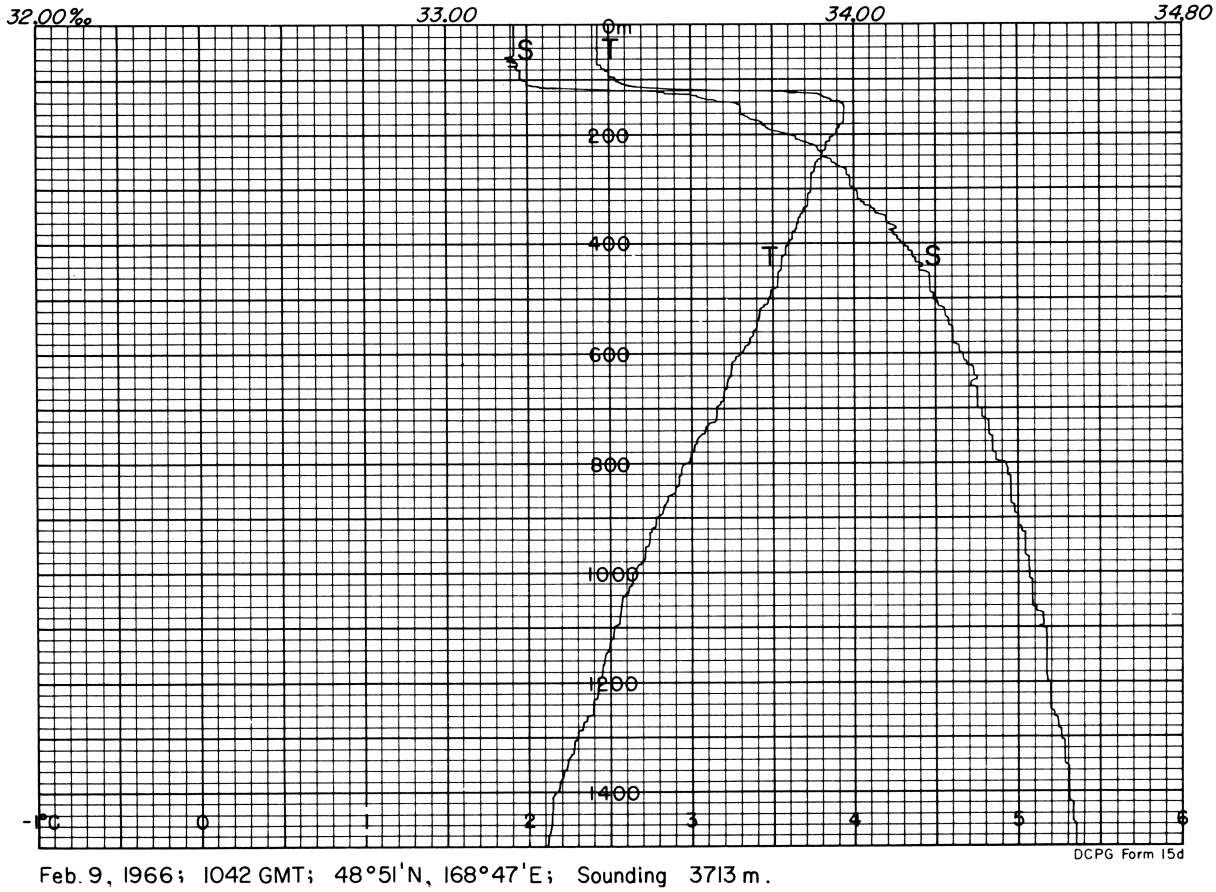
Feb. 8, 1966; 1902 GMT; 46°59'N, 169°23'E; Sounding 4005 m.

37



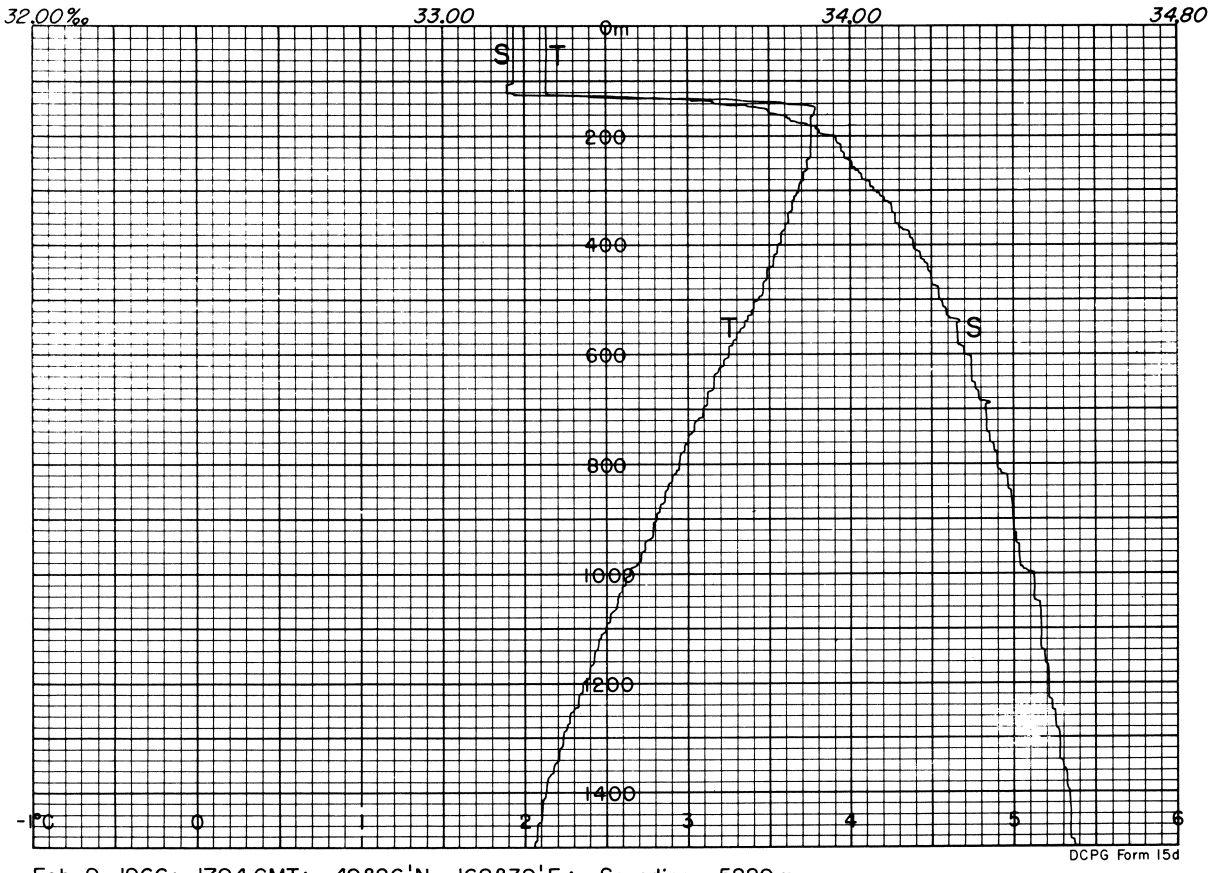
Feb. 9, 1966; 0500 GMT; 47°56'N, 169°02'E; Sounding 2853 m.

38



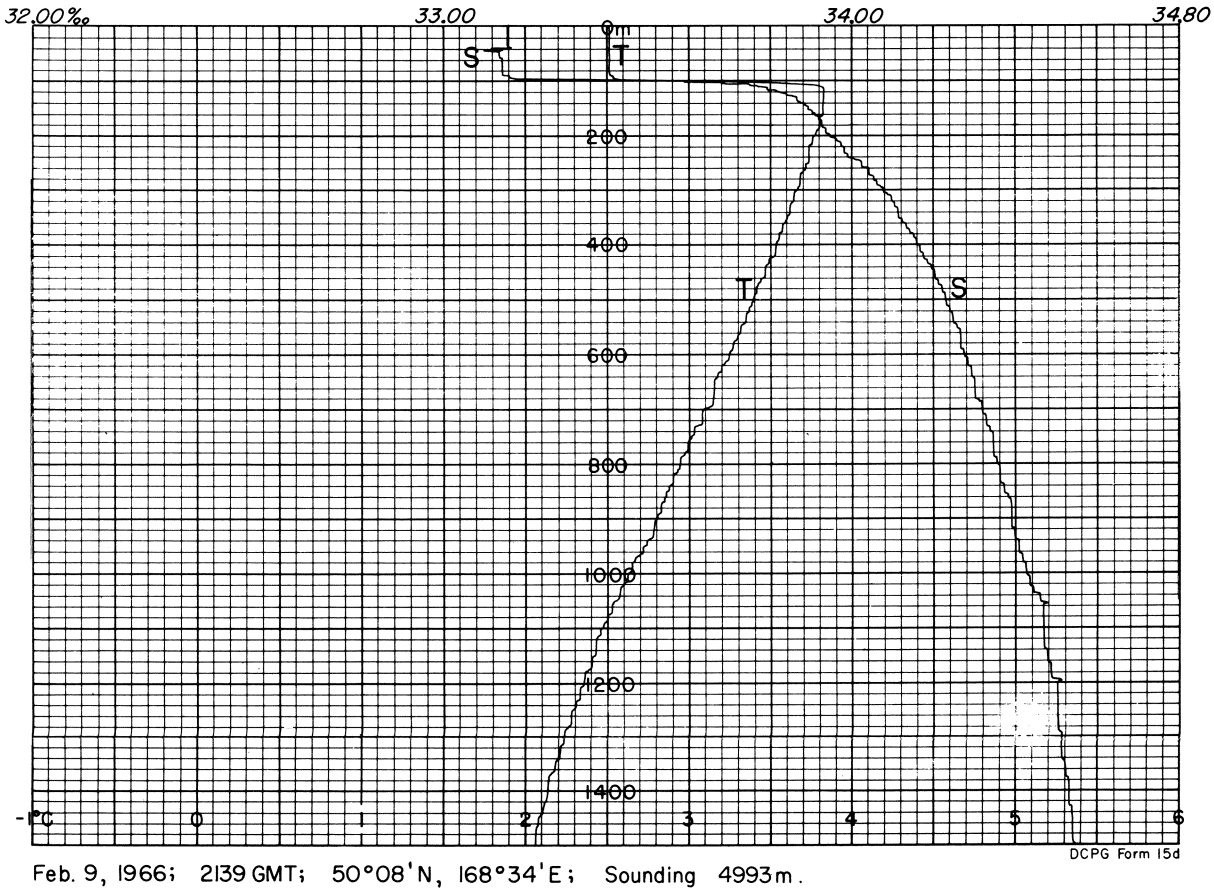
Feb. 9, 1966; 1042 GMT; 48°51'N, 168°47'E; Sounding 3713 m.

39



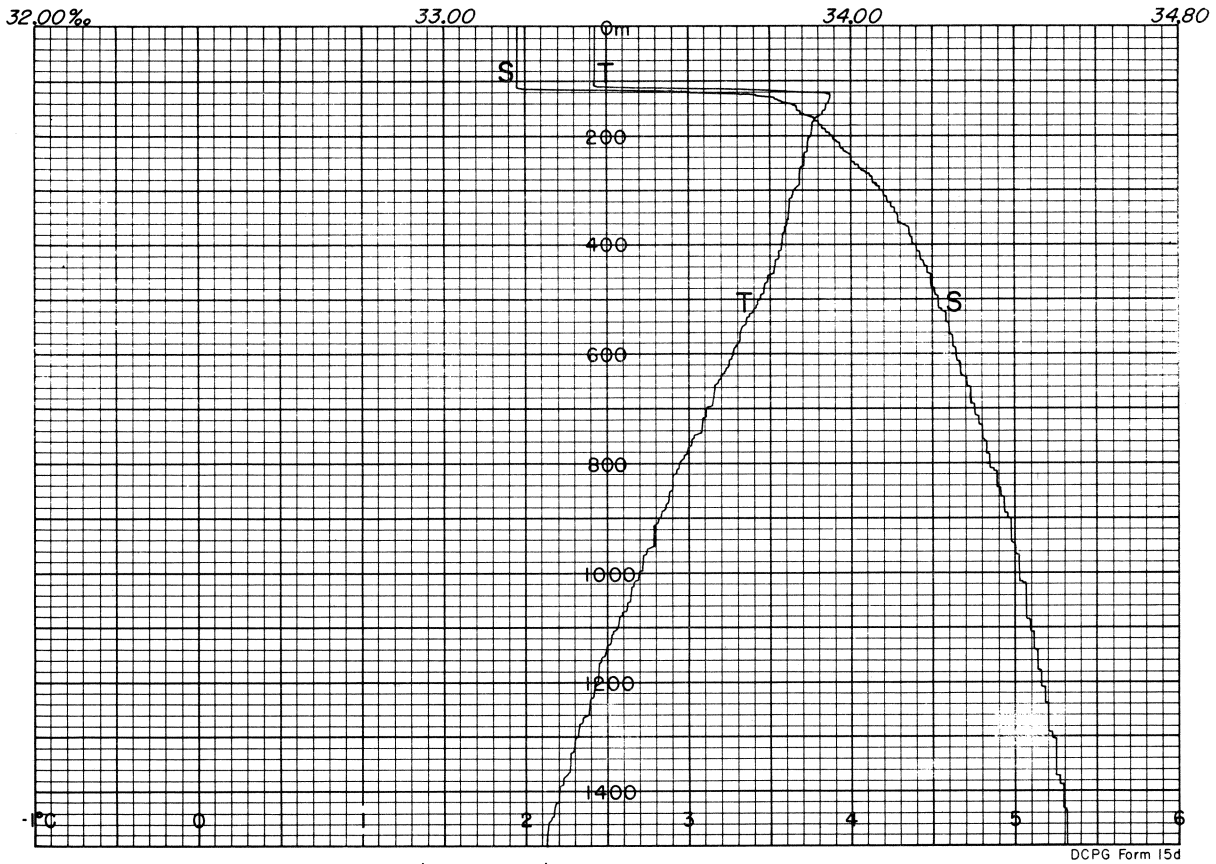
Feb. 9, 1966; 1704 GMT; 49°26'N, 168°39'E; Sounding 5229 m.

40



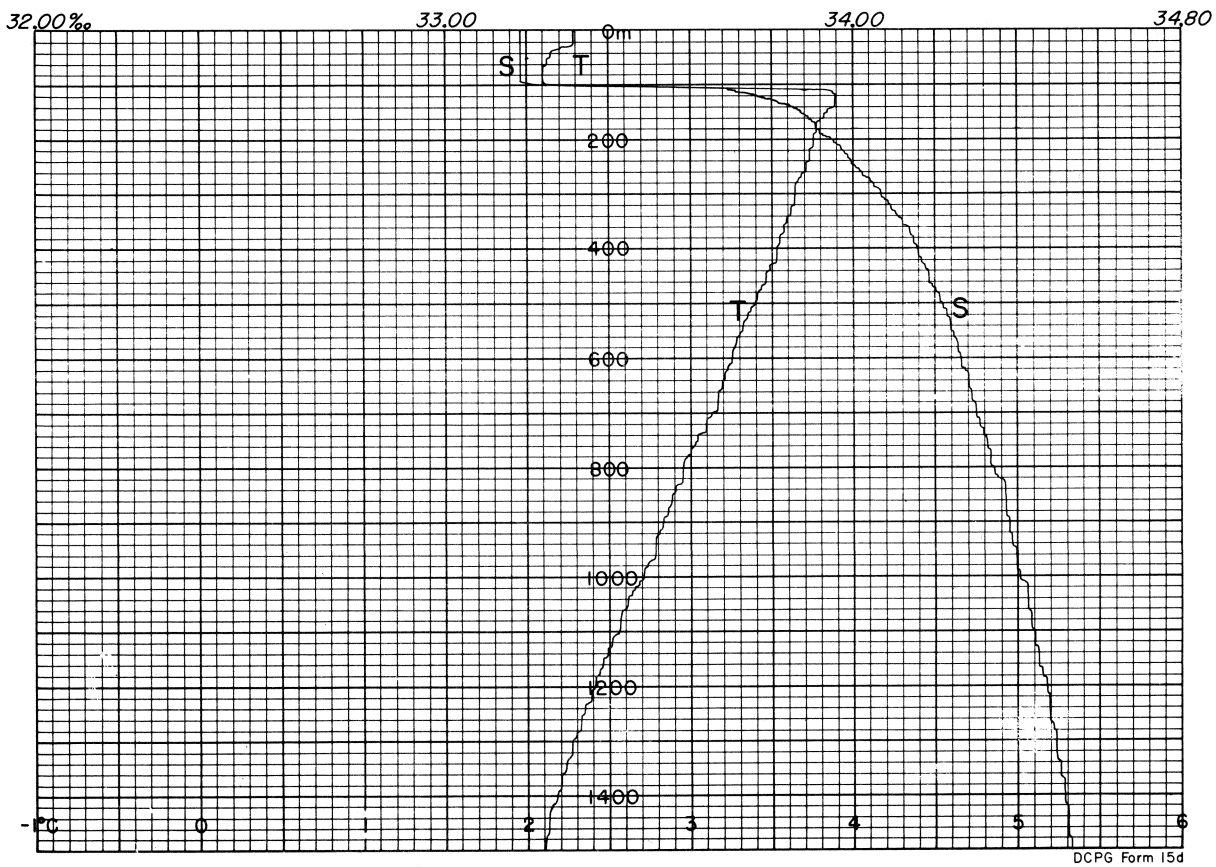
Feb. 9, 1966; 2139 GMT; 50°08'N, 168°34'E; Sounding 4993 m.

41



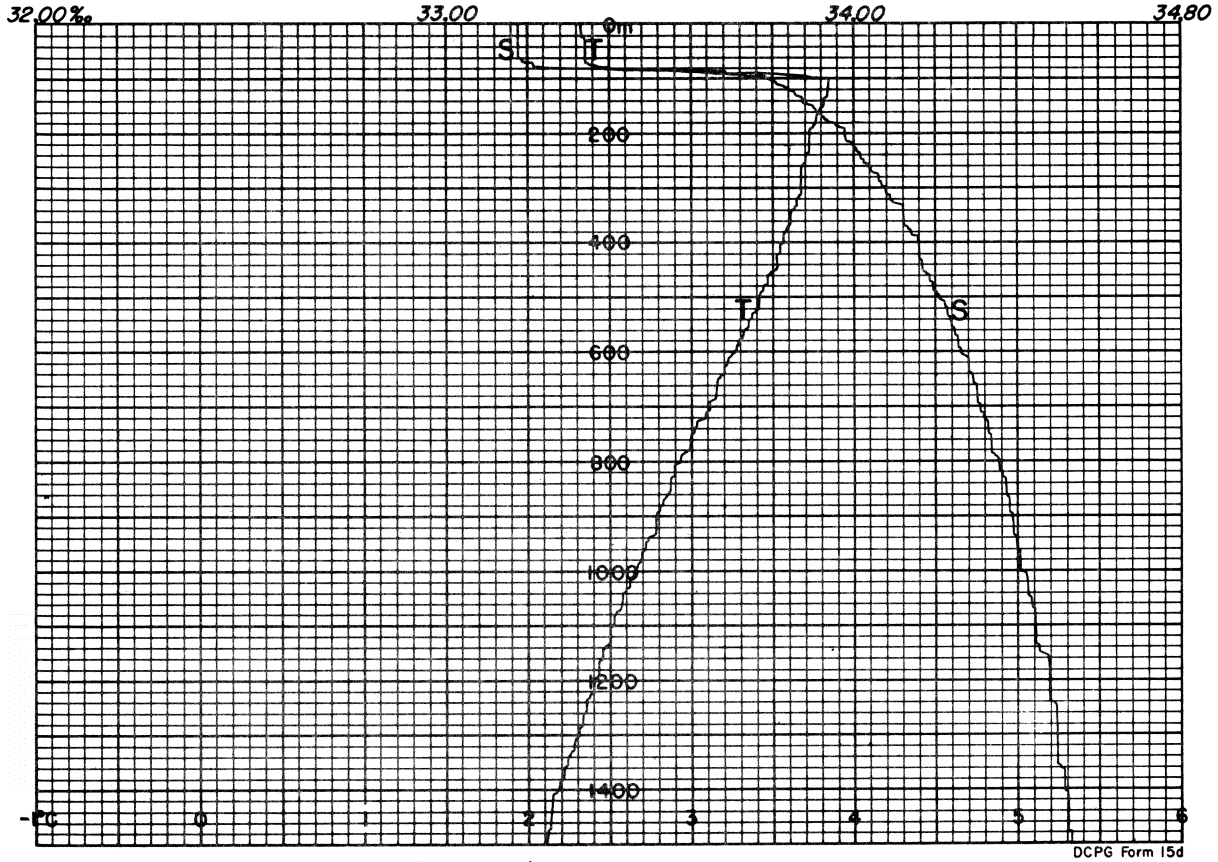
Feb. 10, 1966; 0430 GMT; 50°59'N, 168°27'E; Sounding 3328 m.

42



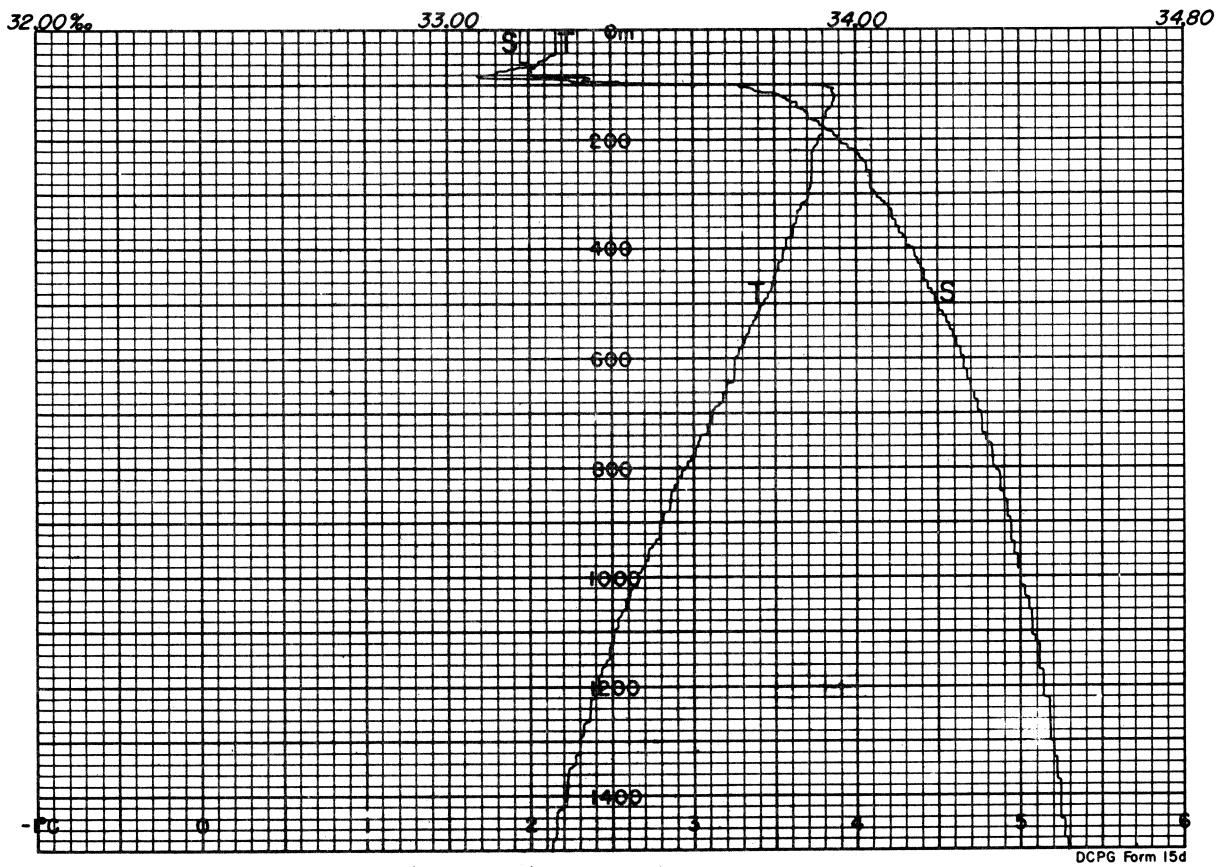
Feb. 10, 1966; 0954 GMT; 51°35'N, 168°18'E; Sounding 3753 m.

43



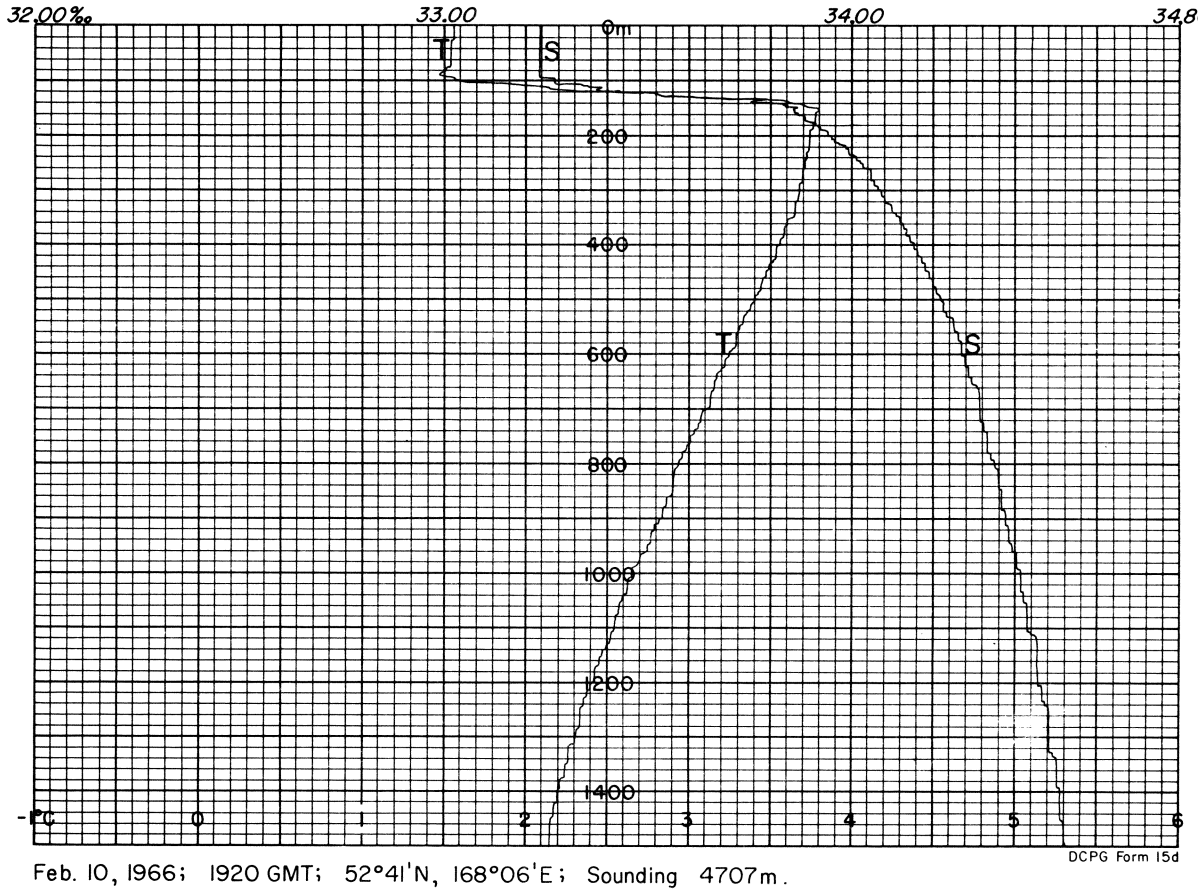
Feb. 10, 1966; 1225 GMT; 52°02'N, 168°13'E; Sounding 3713 m.

44



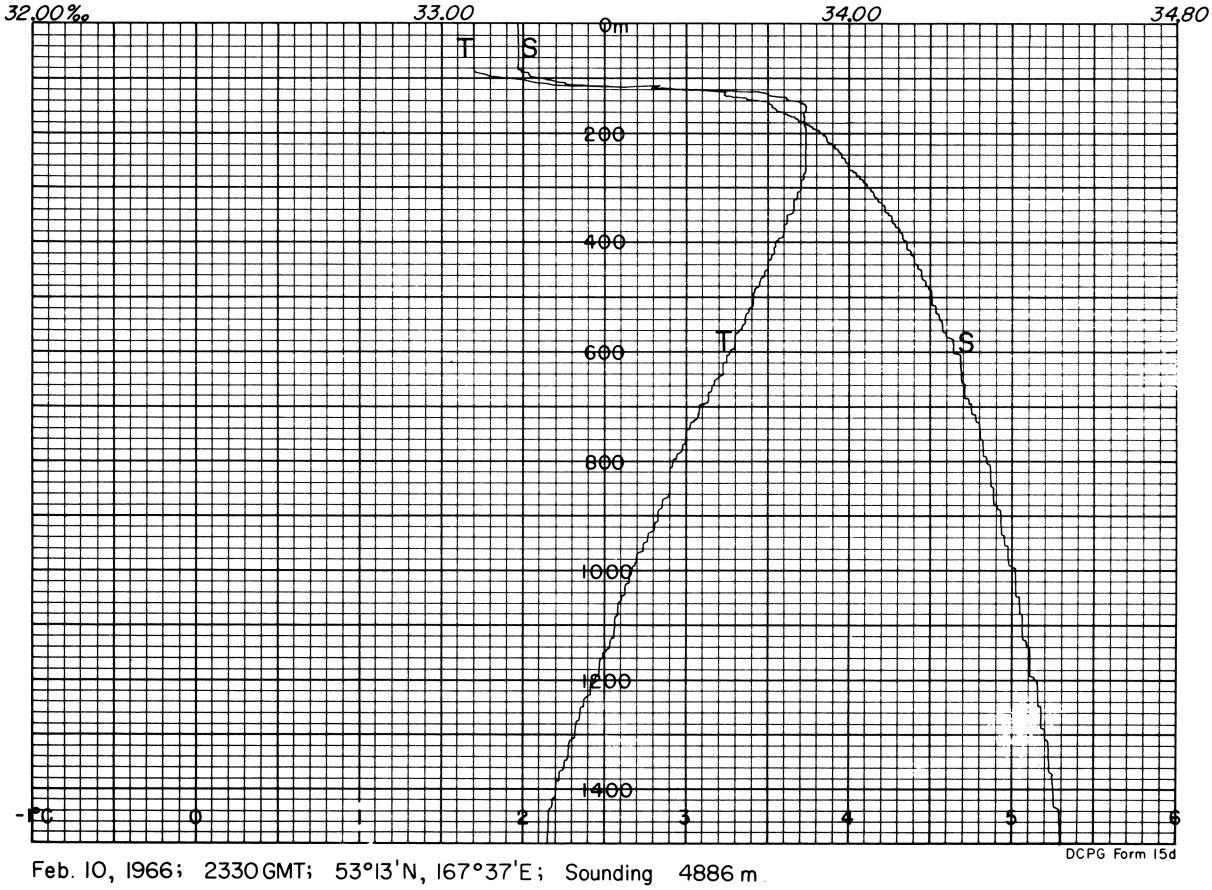
Feb. 10, 1966; 1513 GMT; 52°20'N, 168°10'E; Sounding 4280 m.

45



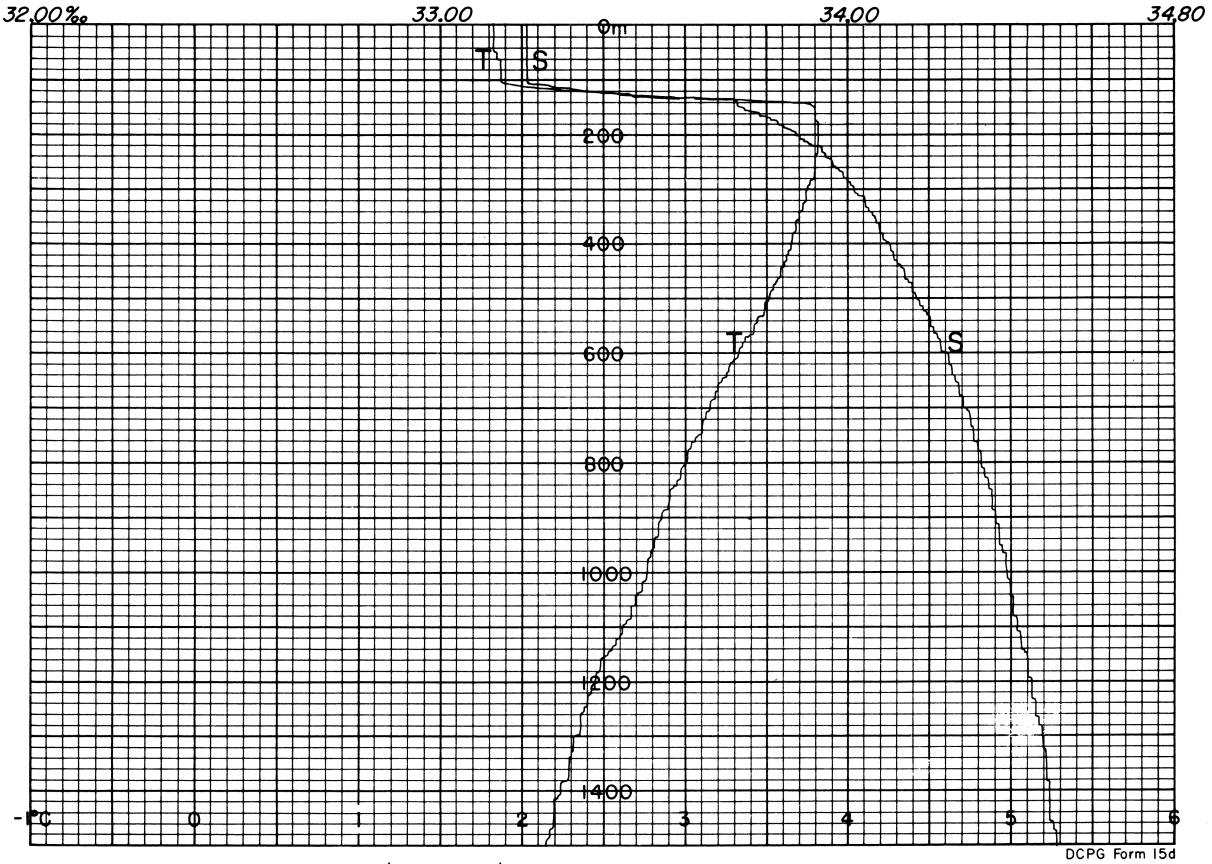
Feb. 10, 1966; 1920 GMT; 52°41'N, 168°06'E; Sounding 4707m.

46



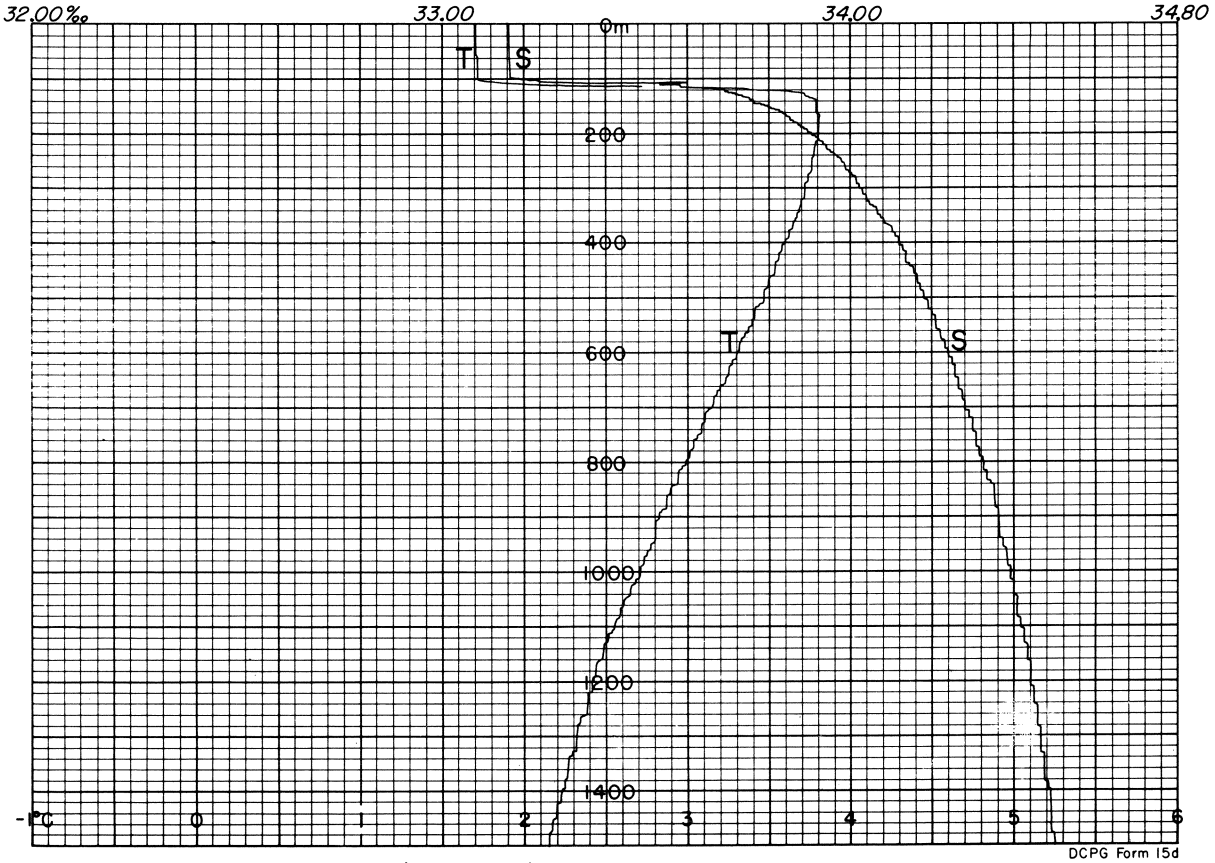
Feb. 10, 1966; 2330 GMT; 53°13'N, 167°37'E; Sounding 4886 m

47



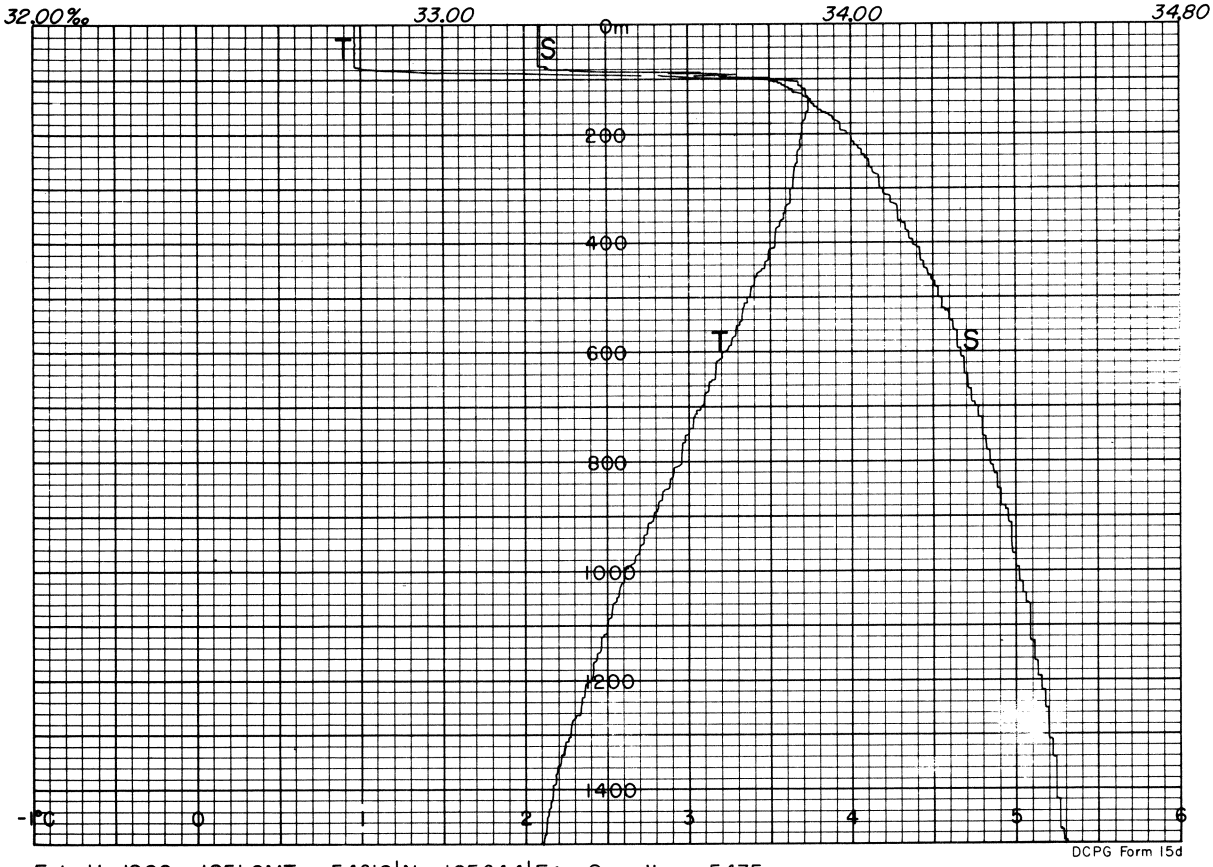
Feb. 11, 1966; 0311 GMT; 53°43'N, 167°16'E; Sounding 6529 m.

48



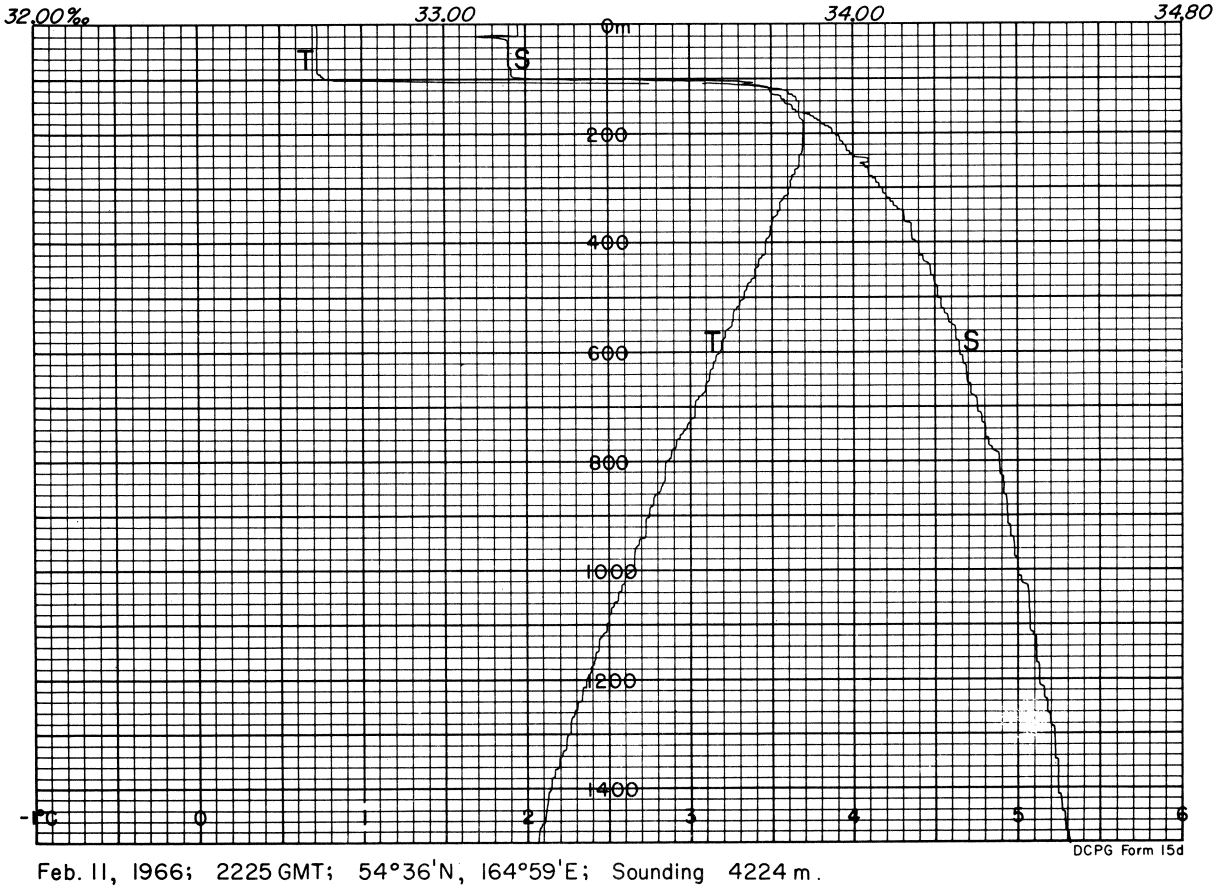
Feb. 11, 1966; 1455 GMT; 54°00'N, 166°29'E; Sounding 5702 m.

49



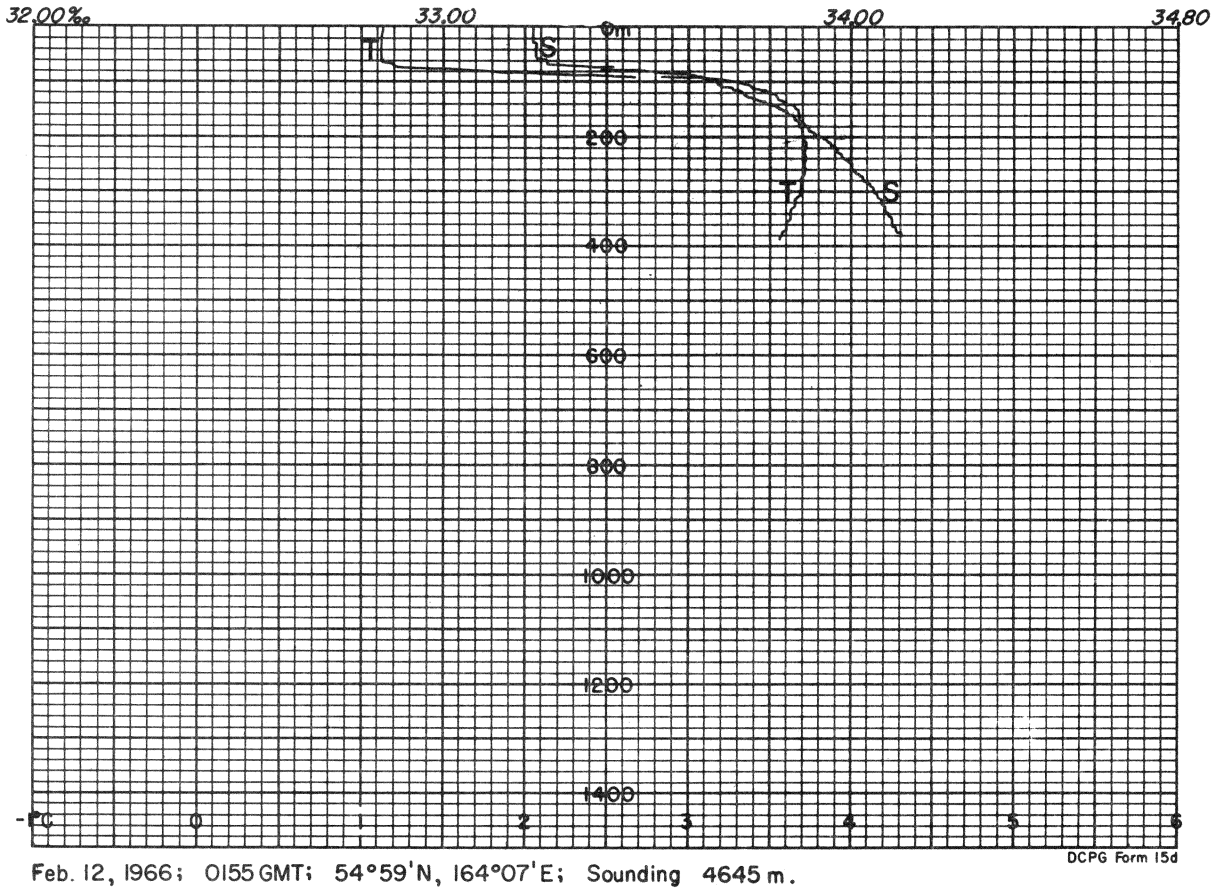
Feb. 11, 1966; 1851 GMT; 54°16'N, 165°44'E; Sounding 5435 m.

50



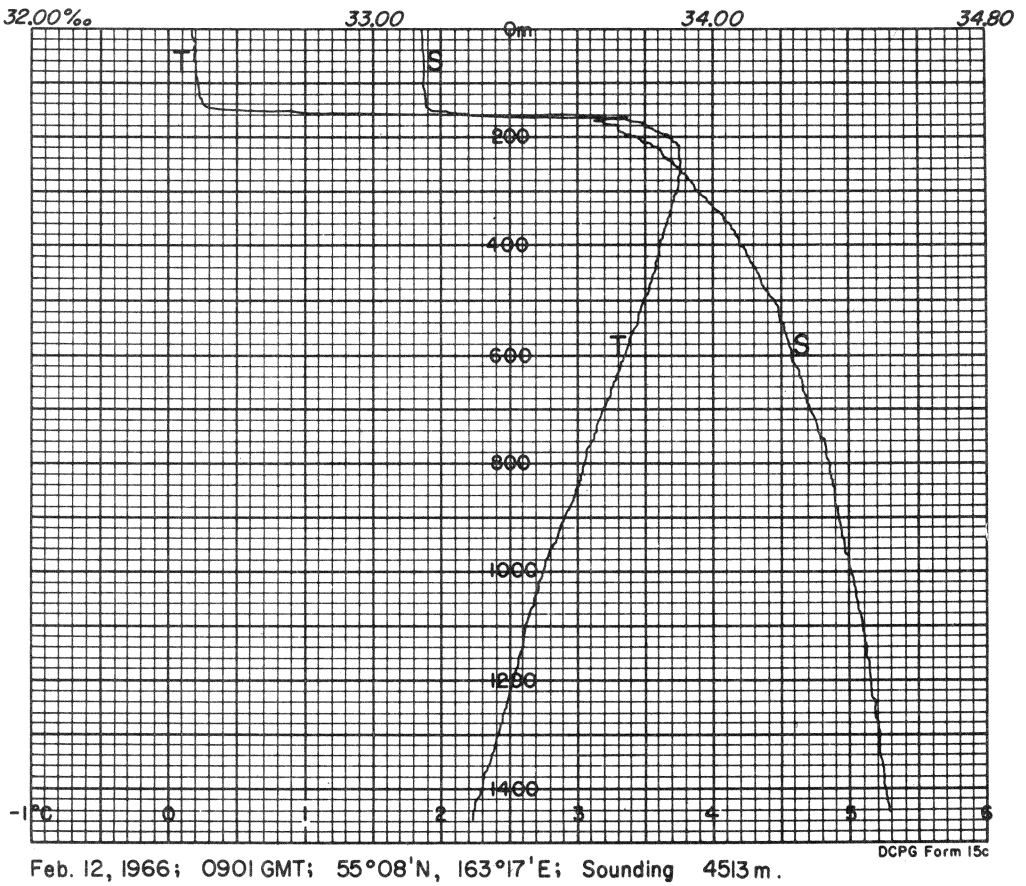
Feb. 11, 1966; 2225 GMT; 54°36'N, 164°59'E; Sounding 4224 m.

51



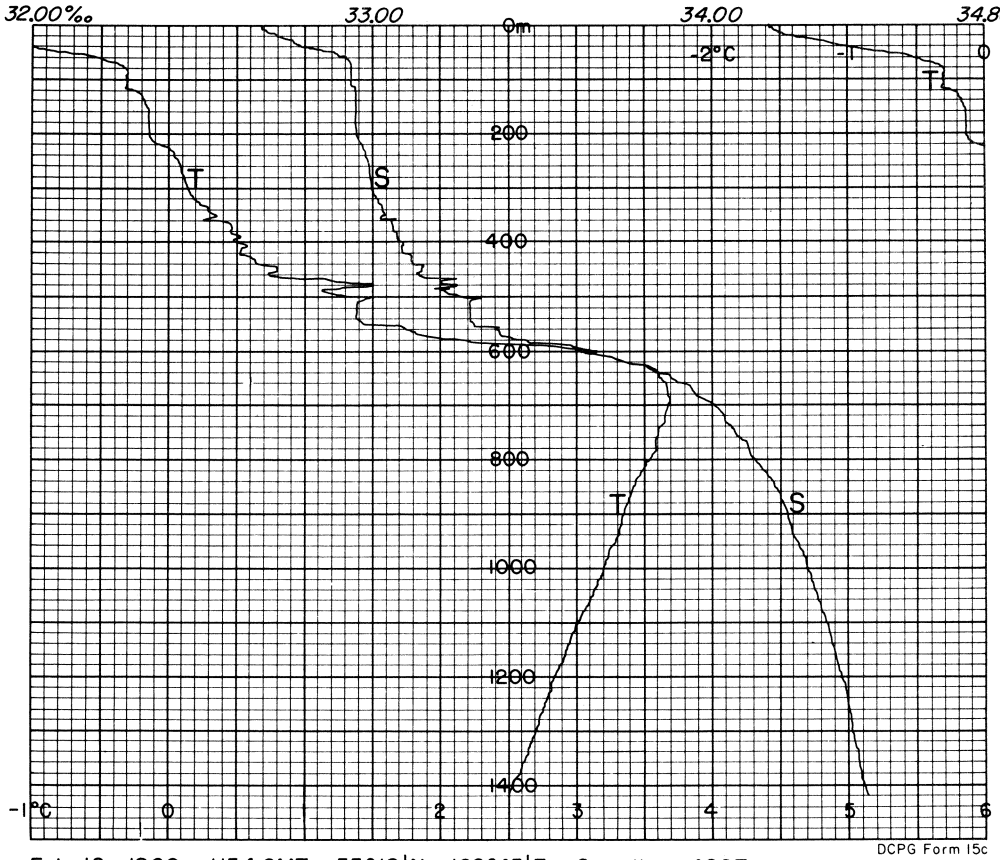
Feb. 12, 1966; 0155 GMT; 54°59'N, 164°07'E; Sounding 4645 m.

52



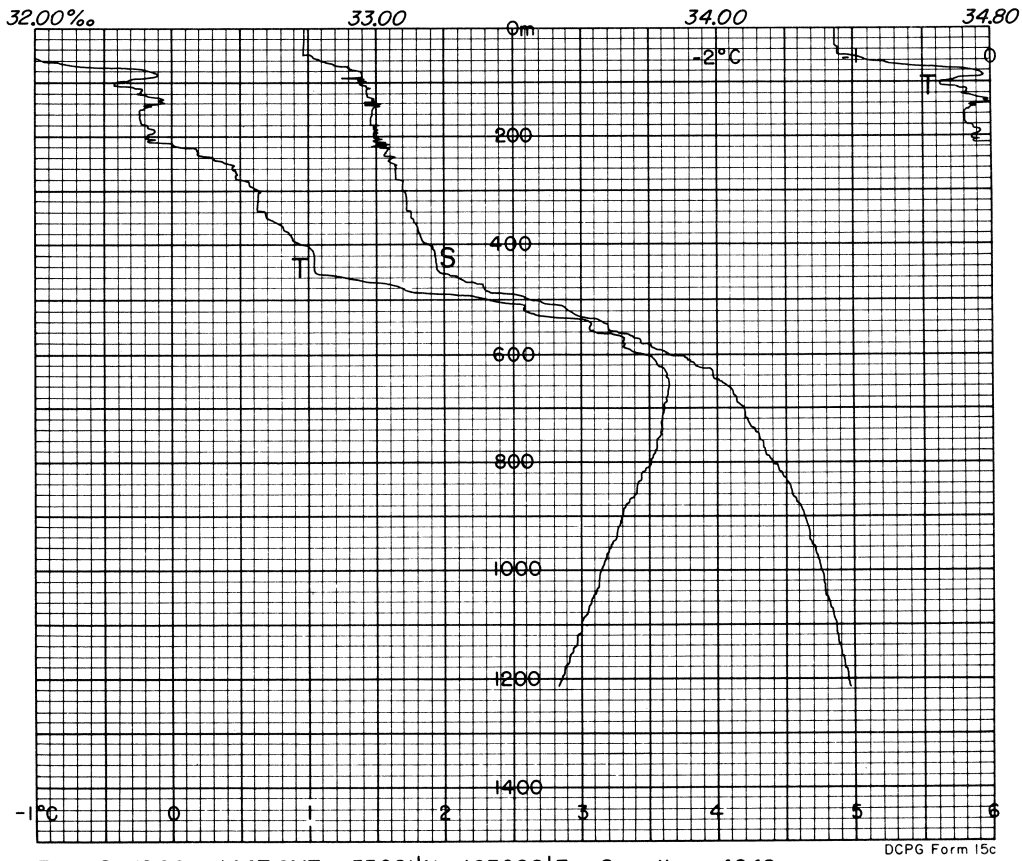
Feb. 12, 1966; 0901 GMT; 55°08'N, 163°17'E; Sounding 4513 m.

53



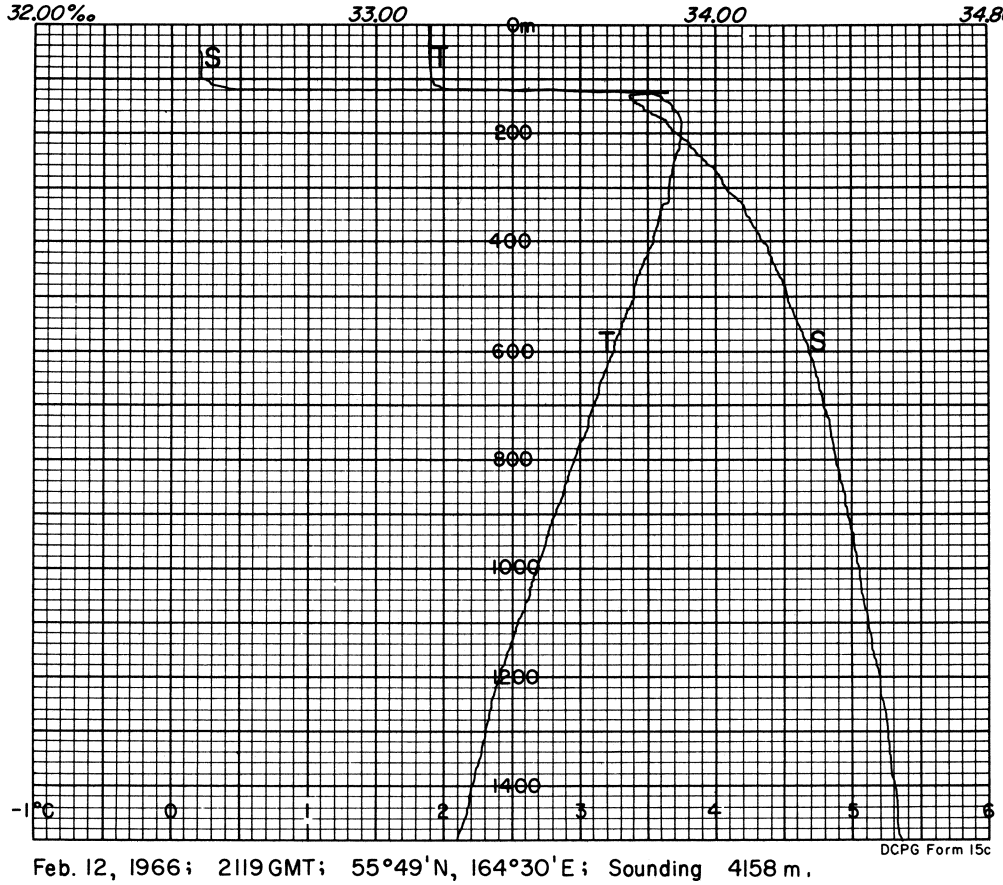
Feb. 12, 1966; 1154 GMT; 55°18'N, 162°45'E; Sounding 4297 m.

54



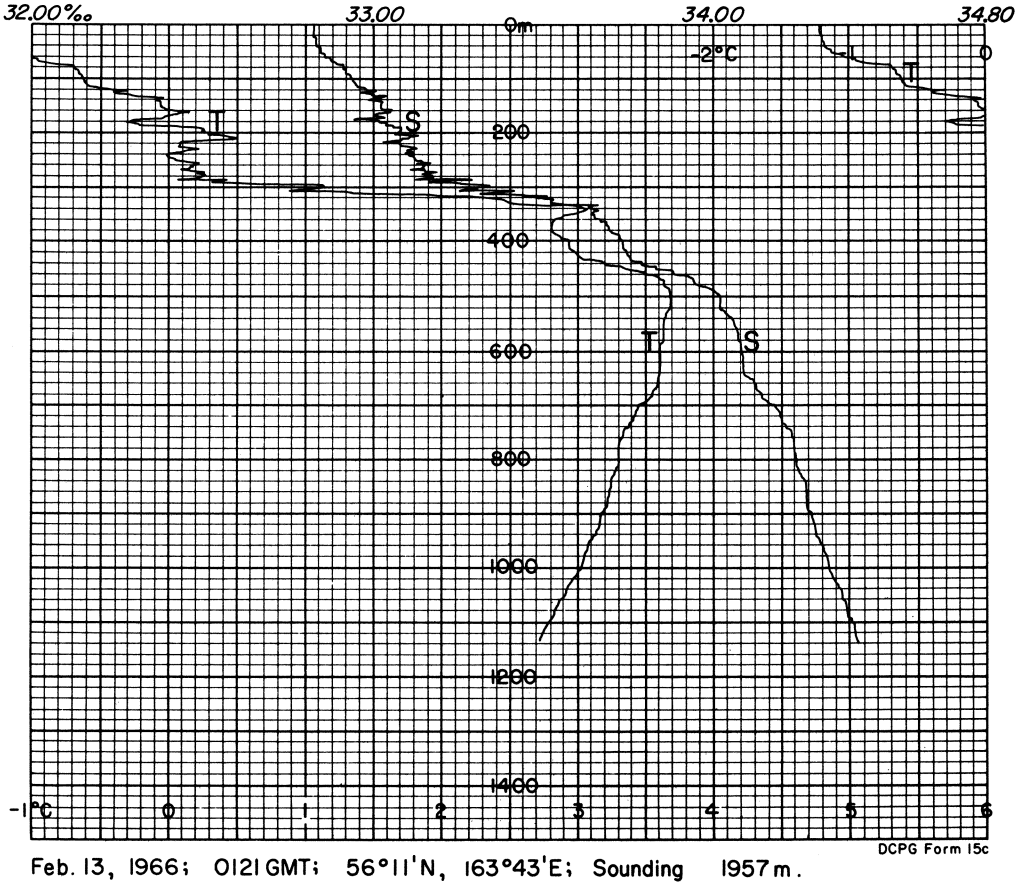
Feb. 12, 1966; 1447 GMT; 55°21'N, 163°02'E; Sounding 4242 m.

55



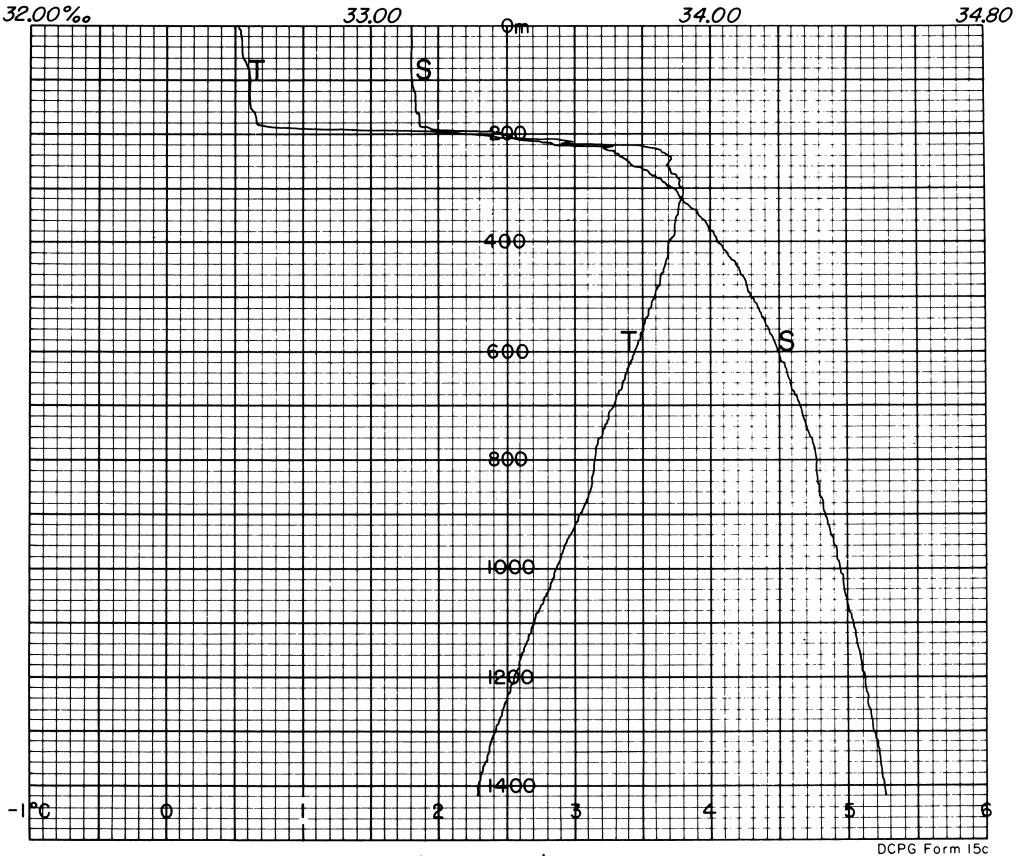
Feb. 12, 1966; 2119 GMT; 55°49'N, 164°30'E; Sounding 4158 m.

56



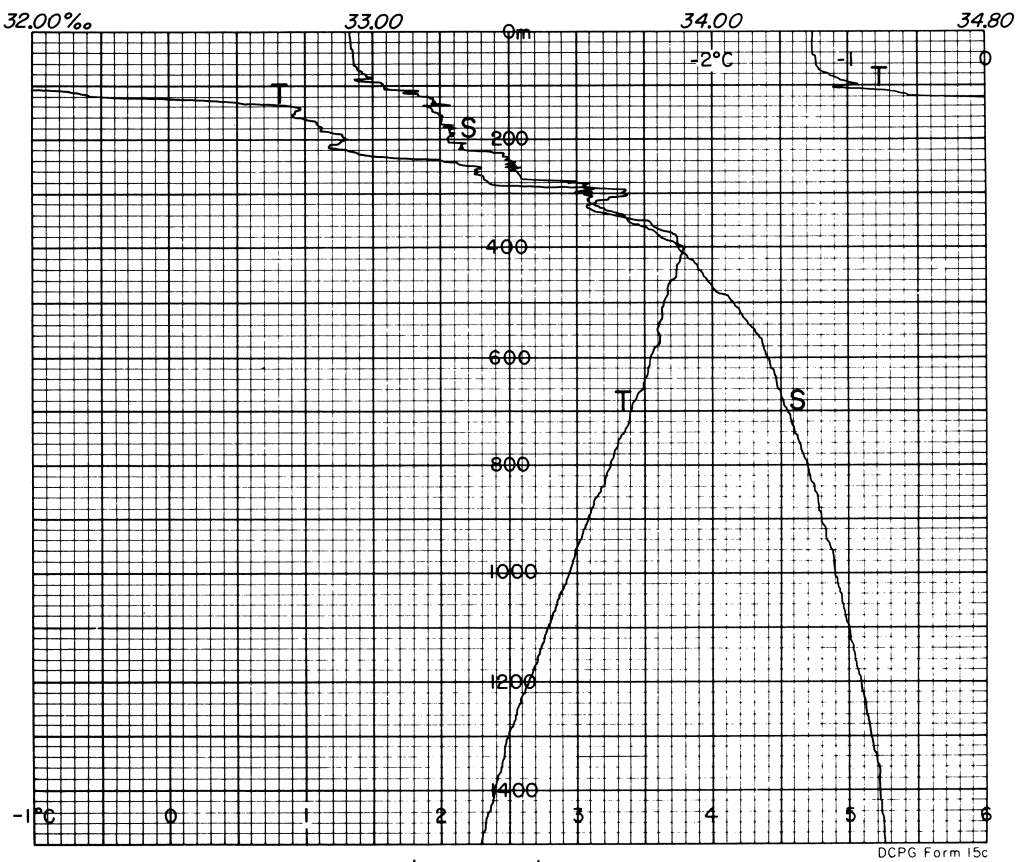
Feb. 13, 1966; 0121 GMT; 56°11'N, 163°43'E; Sounding 1957 m.

57



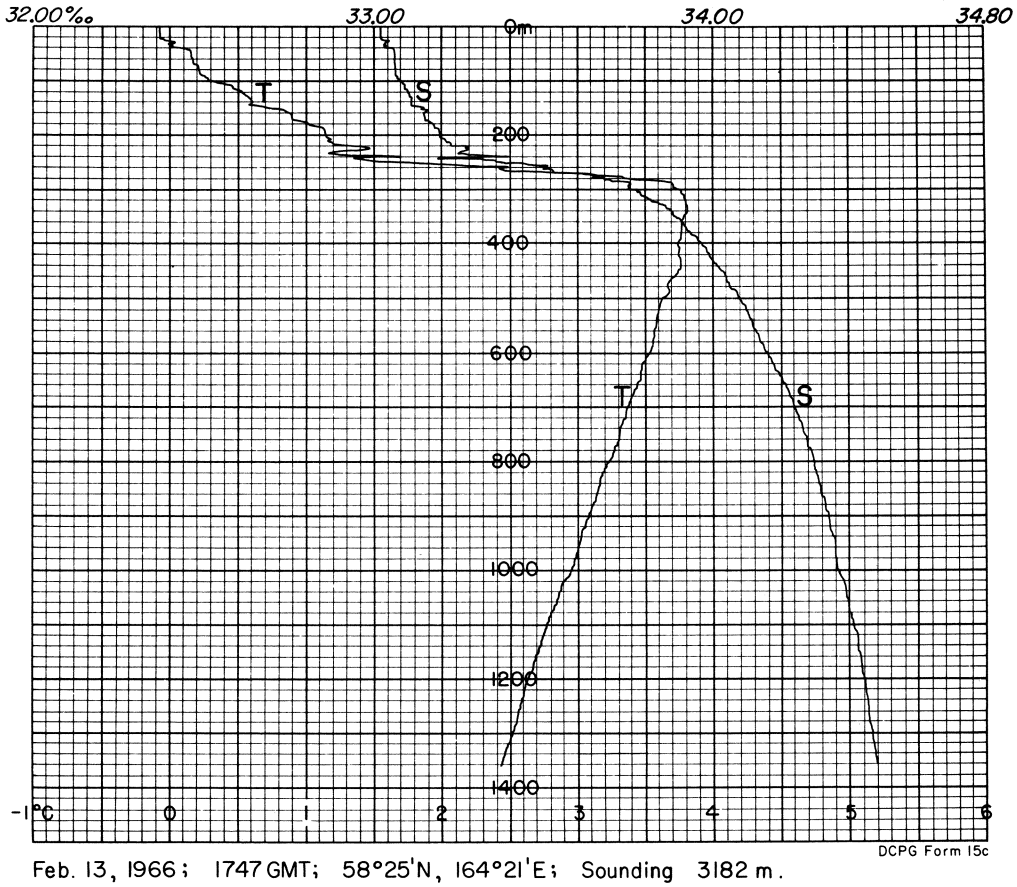
Feb. 13, 1966; 0621 GMT; 56°49'N, 163°48'E; Sounding 2957 m.

58



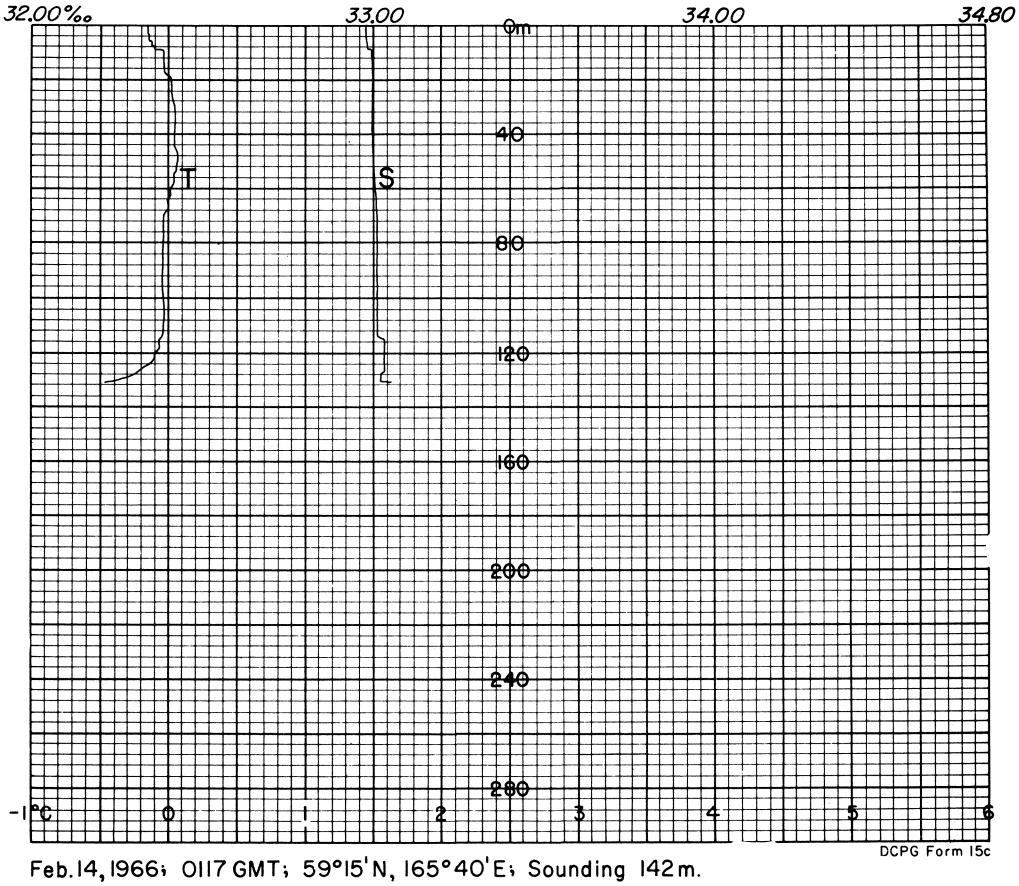
Feb. 13, 1966; 1135 GMT; 57°28'N, 163°57'E; Sounding 2988 m.

59



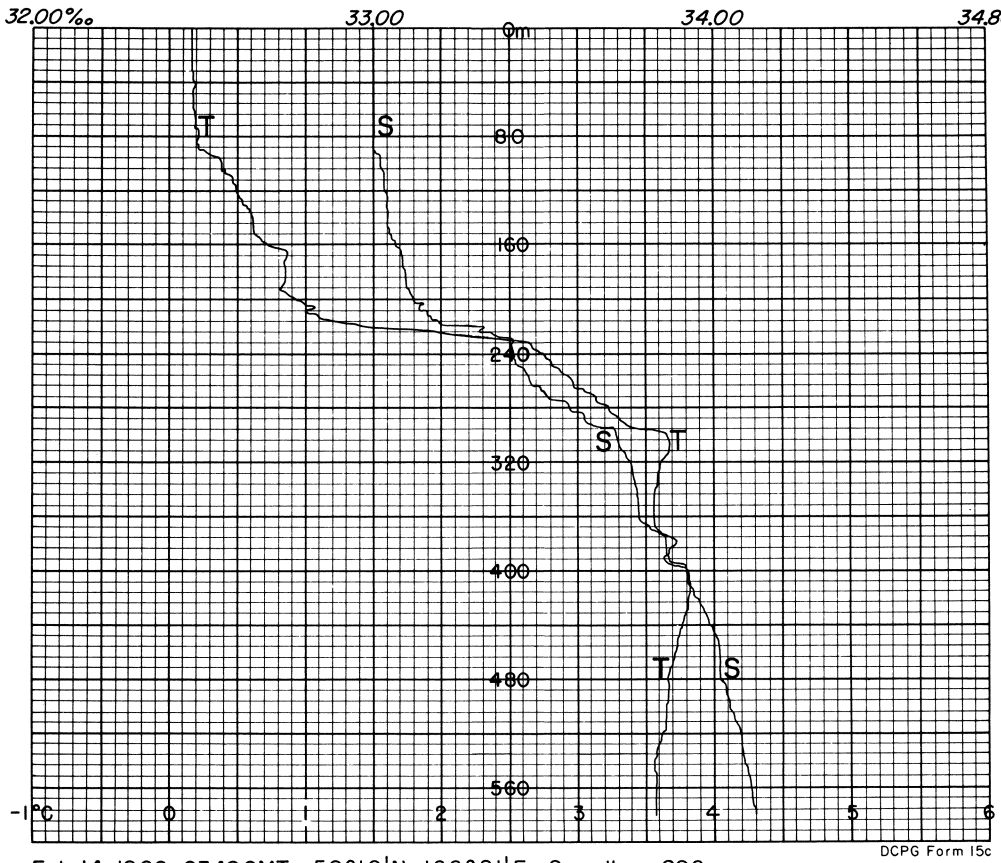
Feb. 13, 1966; 1747 GMT; 58°25'N, 164°21'E; Sounding 3182 m.

60



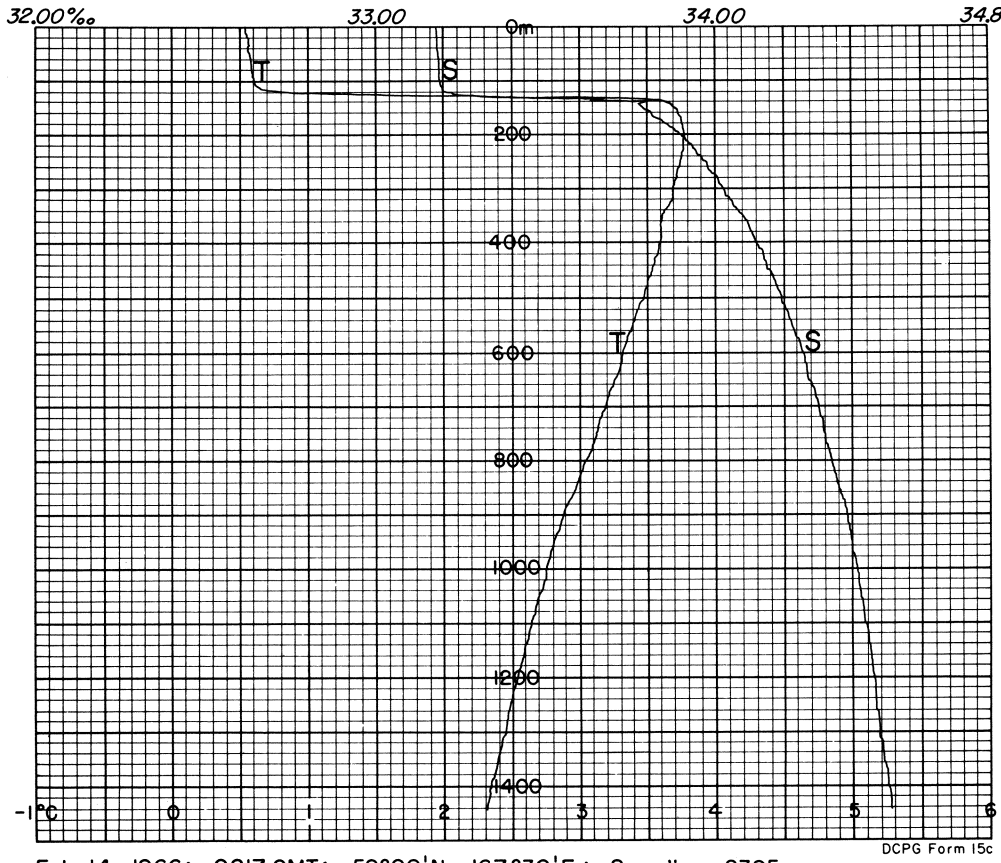
Feb.14, 1966; 0117 GMT; 59°15'N, 165°40'E; Sounding 142 m.

61



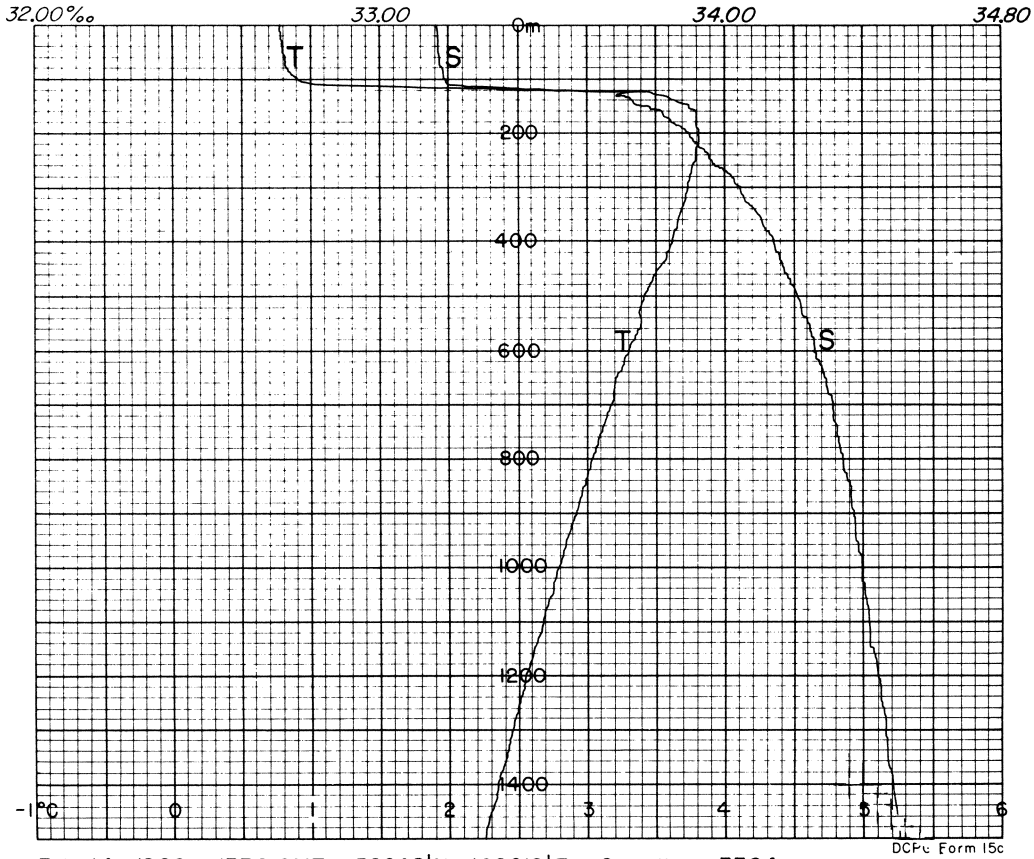
Feb. 14, 1966; 0349GMT; 59°10'N, 166°21'E; Sounding 896m.

62



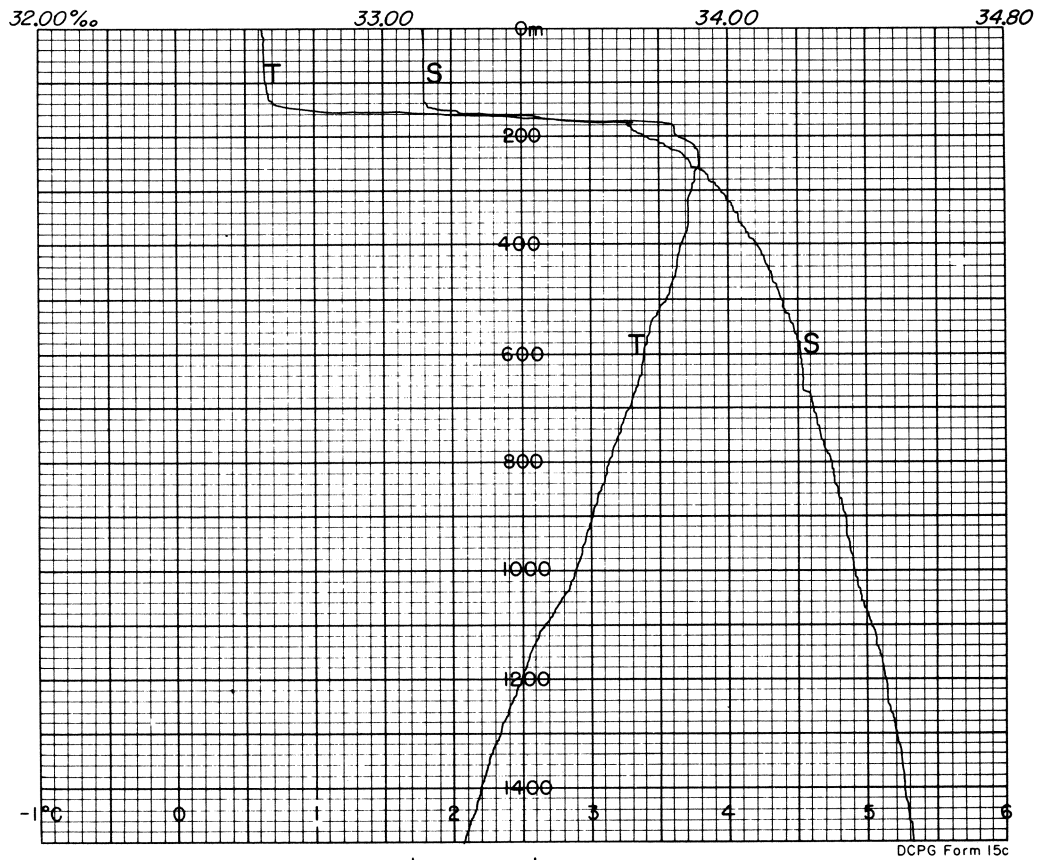
Feb. 14, 1966; 0817 GMT; 59°00'N, 167°30'E; Sounding 2395 m.

63



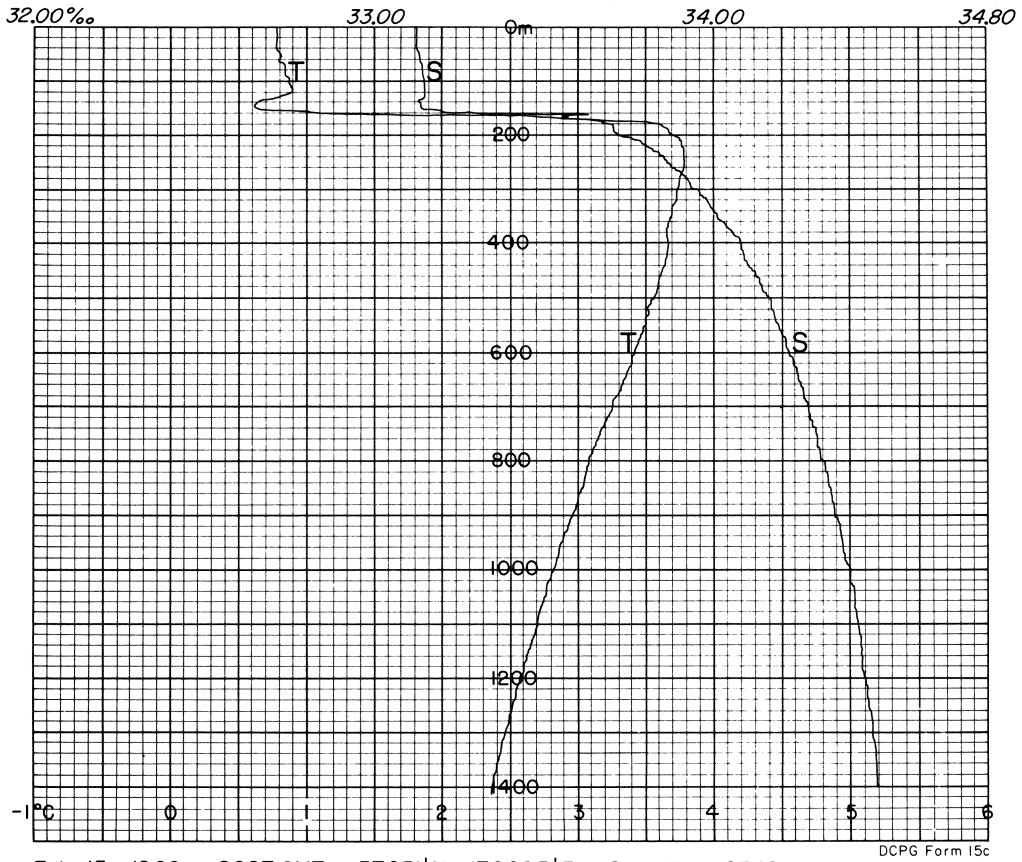
Feb. 14, 1966; 1336 GMT; 58°40'N, 168°12'E; Sounding 3364 m.

64



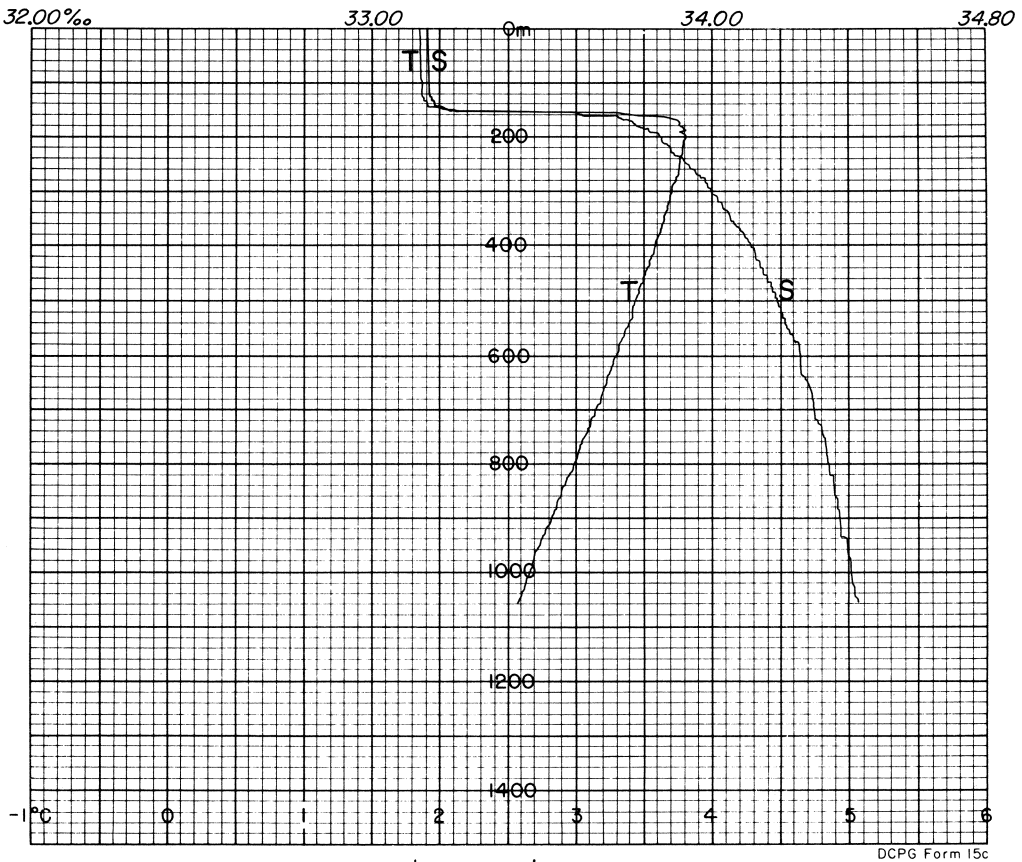
Feb. 14, 1966; 1647 GMT; 58°21'N, 168°58'E; Sounding 3474 m.

65



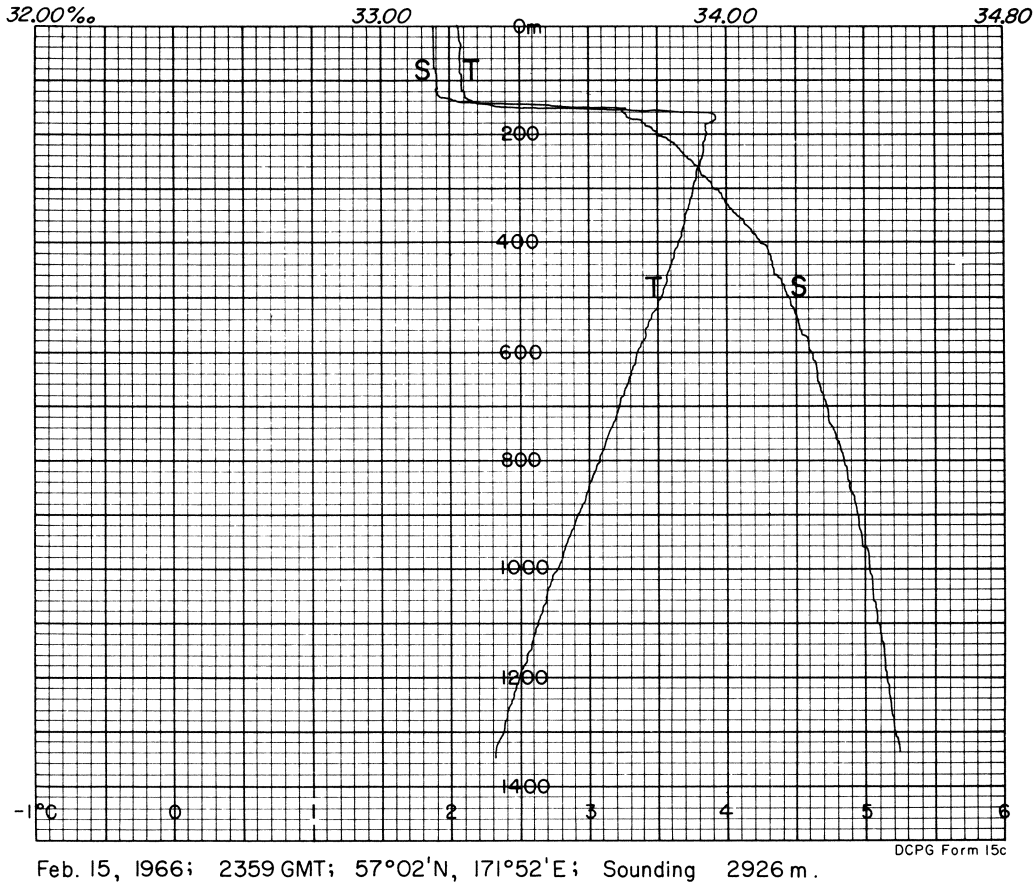
Feb. 15, 1966; 0027 GMT; 57°51'N, 170°05'E; Sounding 2348 m.

66



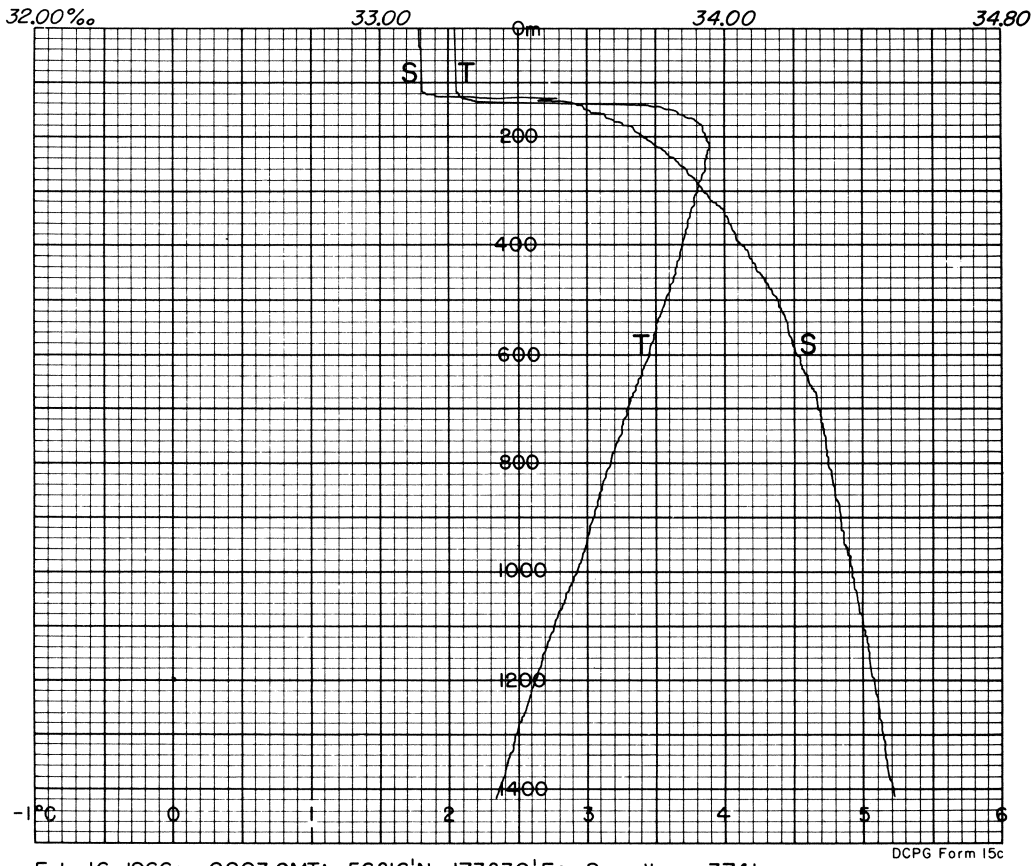
Feb. 15, 1966; 1402 GMT; 57°26'N, 171°00'E; Sounding 1470 m.

67



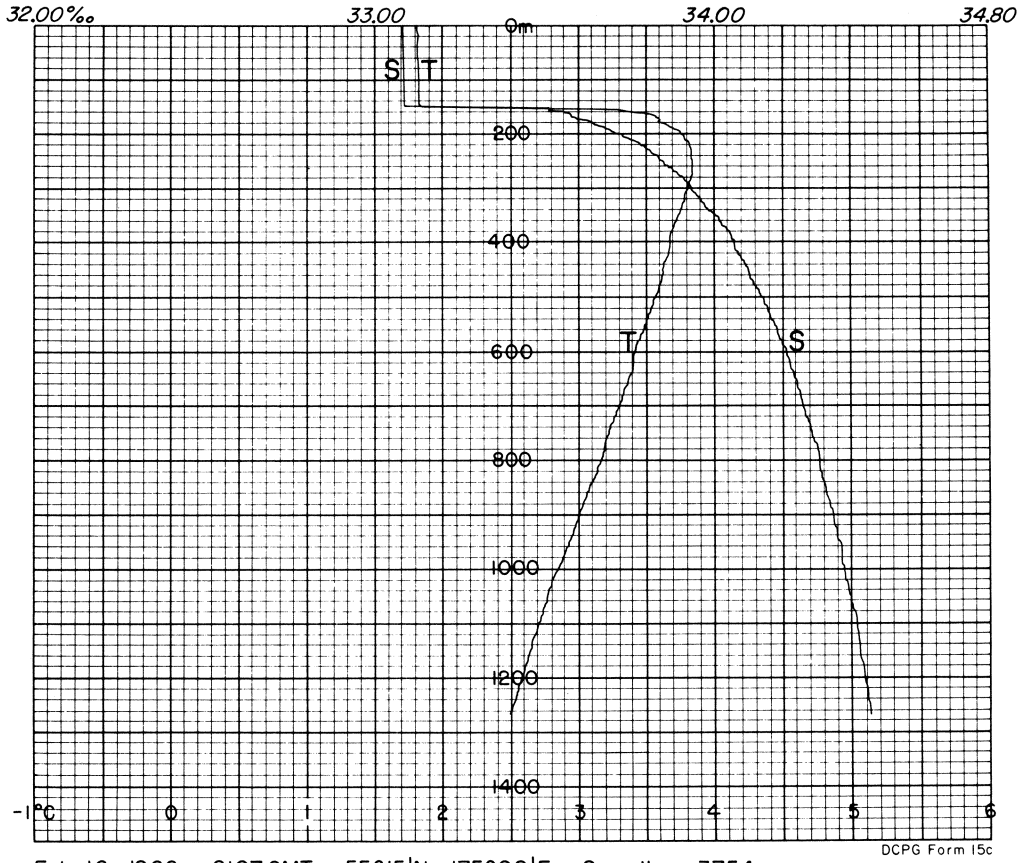
Feb. 15, 1966; 2359 GMT; 57°02'N, 171°52'E; Sounding 2926 m.

68



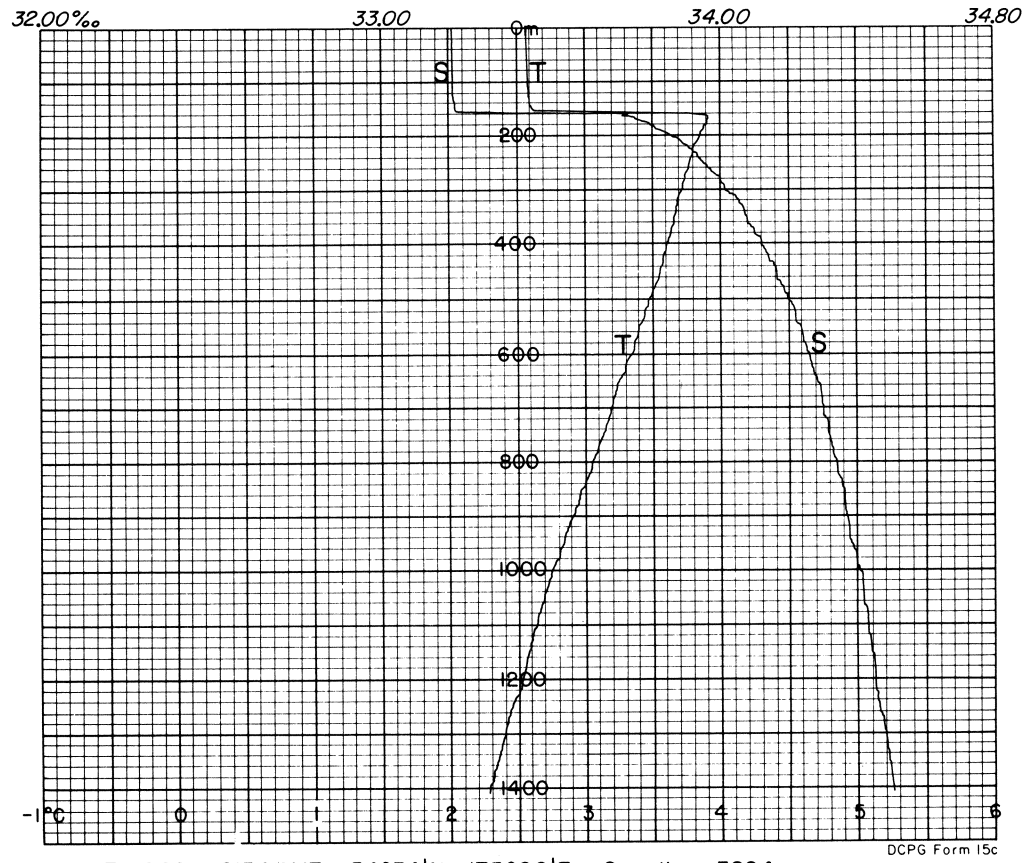
Feb. 16, 1966; 0803 GMT; 56°16'N, 173°30'E; Sounding 3741 m.

69



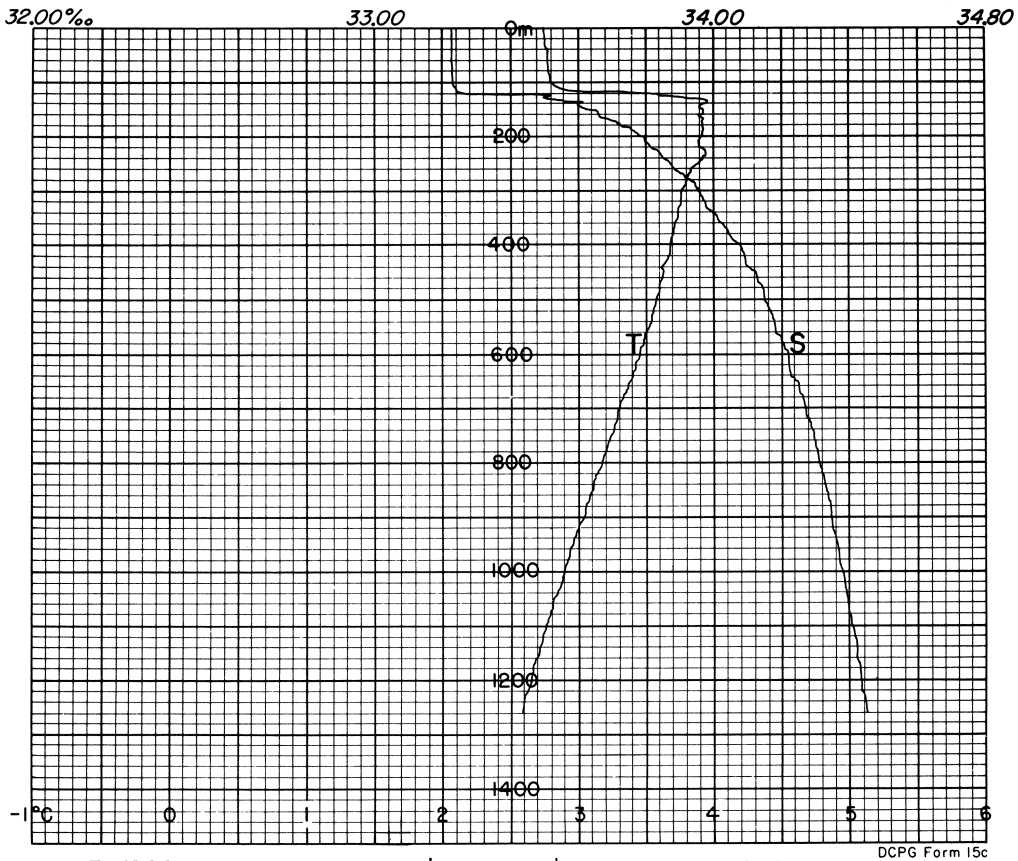
Feb. 16, 1966; 2107 GMT; 55°15'N, 175°00'E; Sounding 3754 m.

70



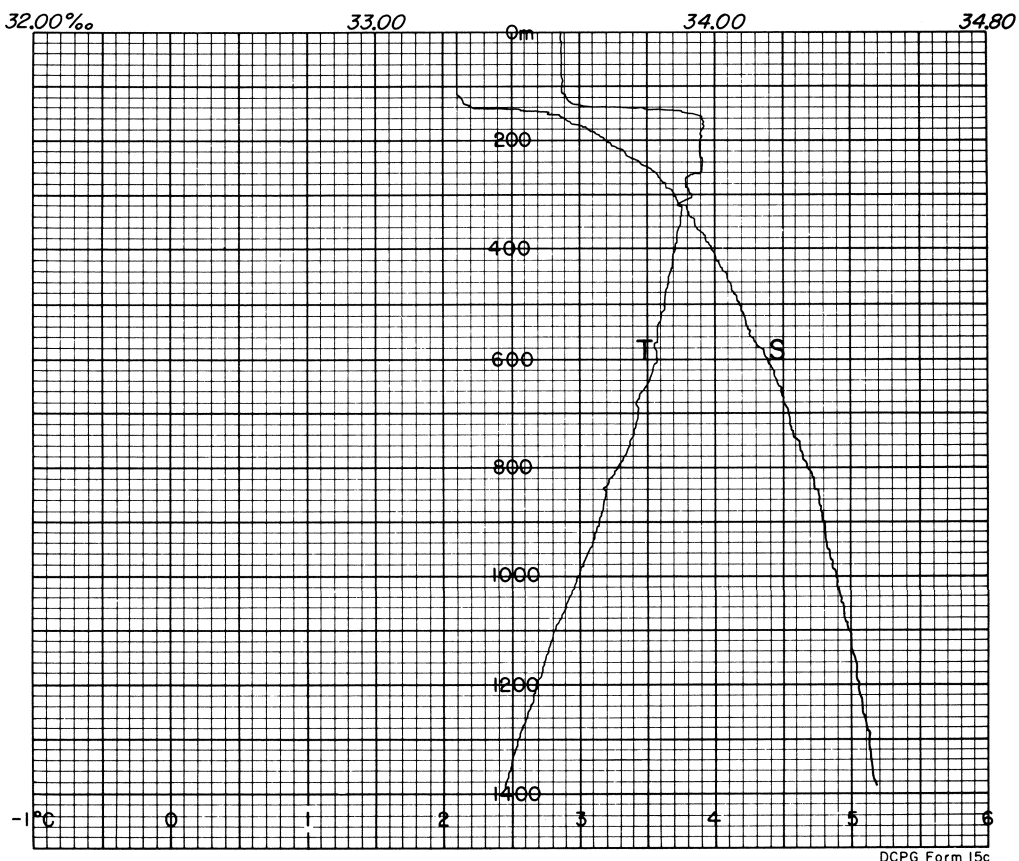
Feb. 17, 1966; 0154 GMT; 54°34'N, 175°00'E; Sounding 3804 m.

71



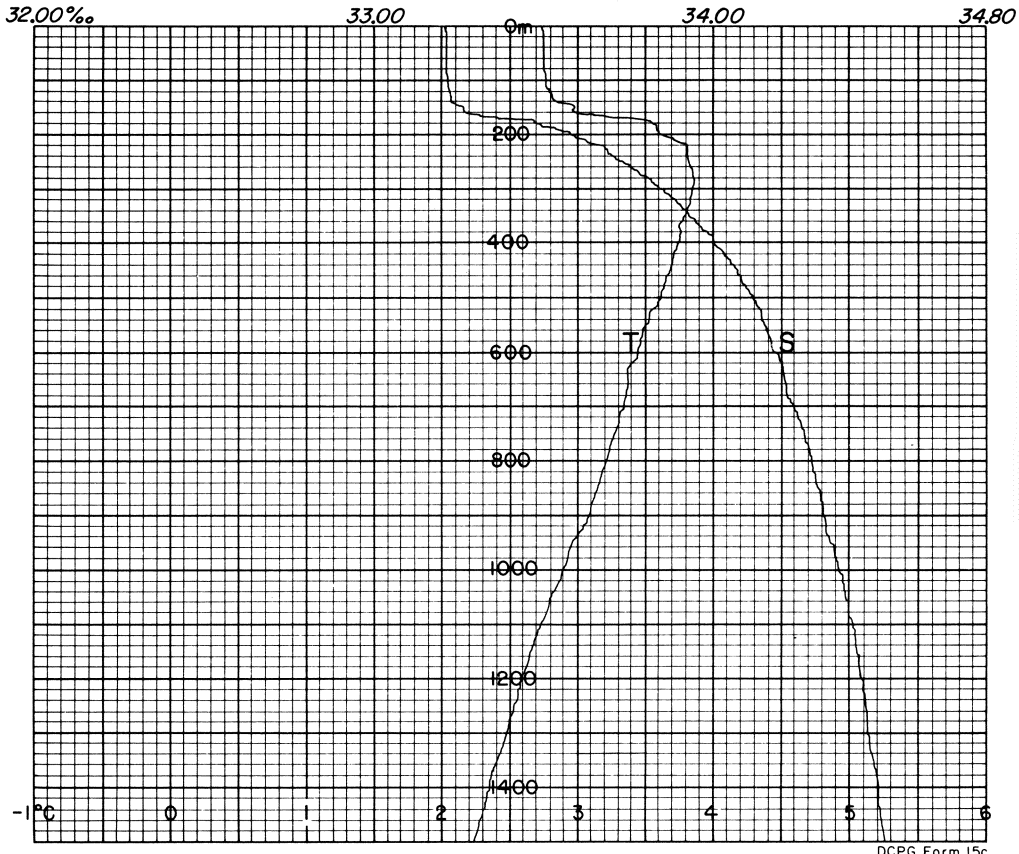
Feb. 17, 1966; 0647 GMT; 54°04'N, 175°00'E; Sounding 3834 m.

72



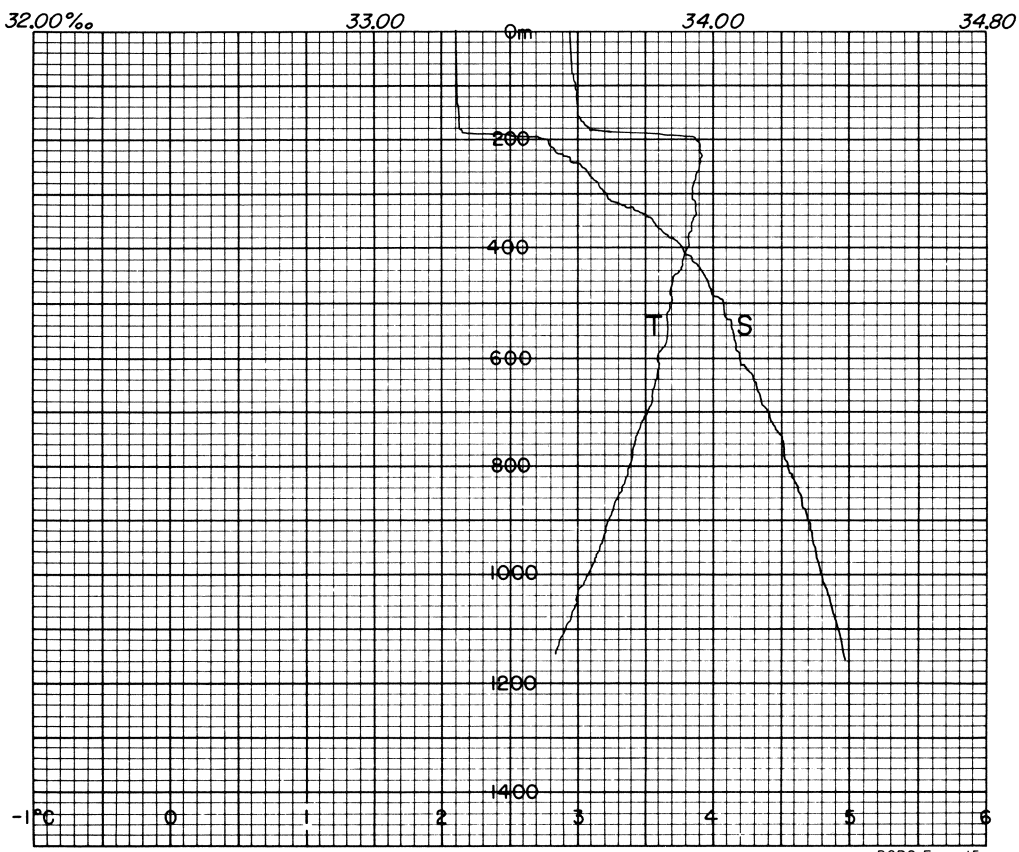
Feb. 17, 1966; 1100 GMT; 53°36'N, 175°00'E; Sounding 3842 m.

73



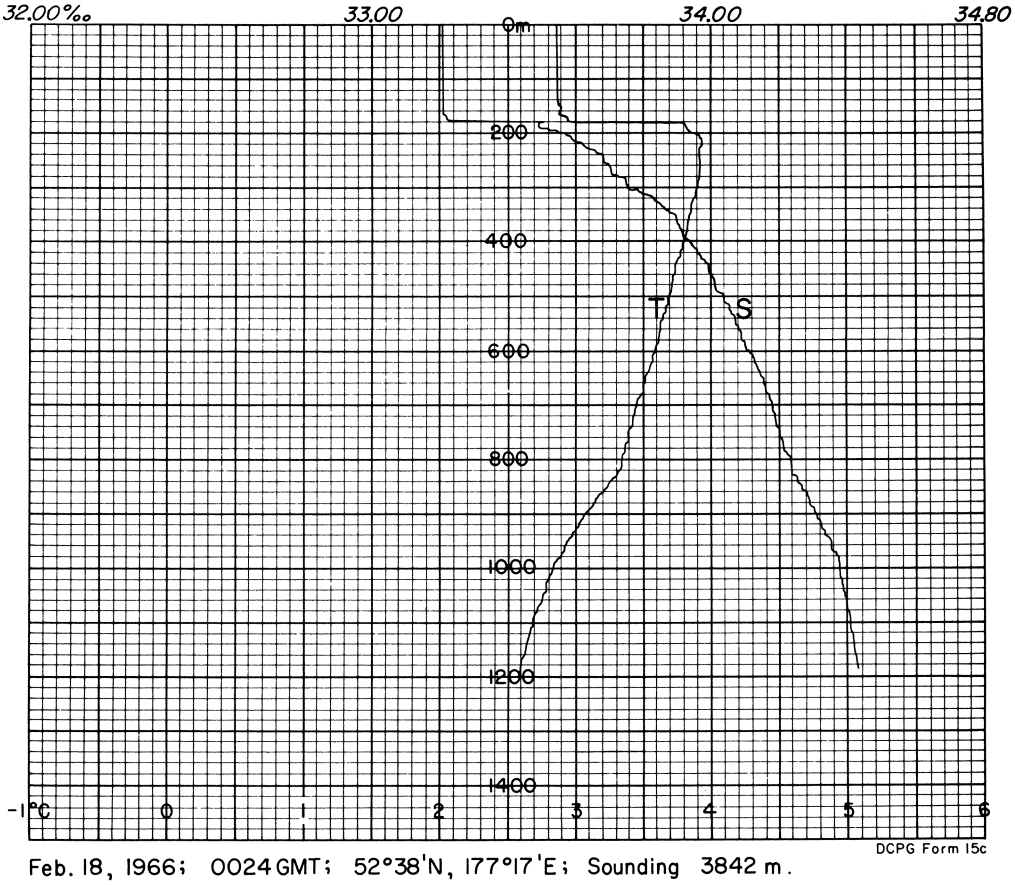
Feb. 17, 1966; 1452 GMT; 53°02'N, 175°00'E; Sounding 3845 m.

74



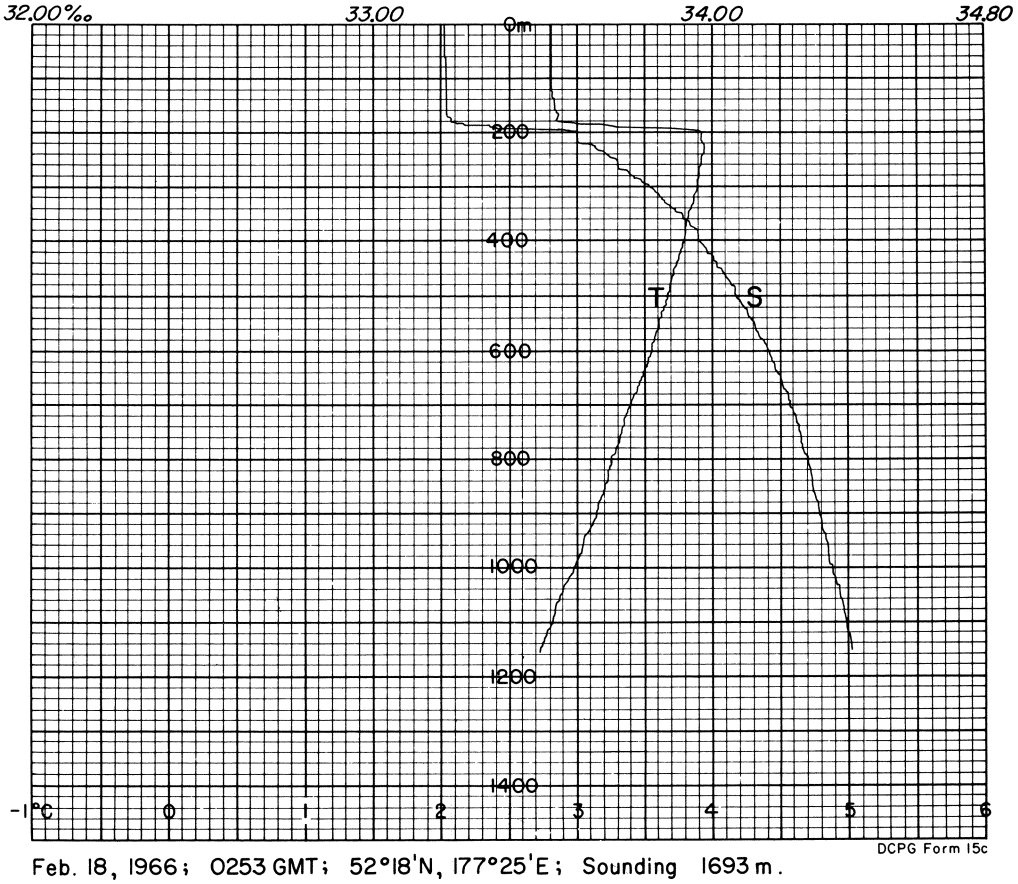
Feb. 17, 1966; 2106 GMT; 53°02'N, 176°56'E; Sounding 3840 m.

75



Feb. 18, 1966; 0024 GMT; 52°38'N, 177°17'E; Sounding 3842 m.

76



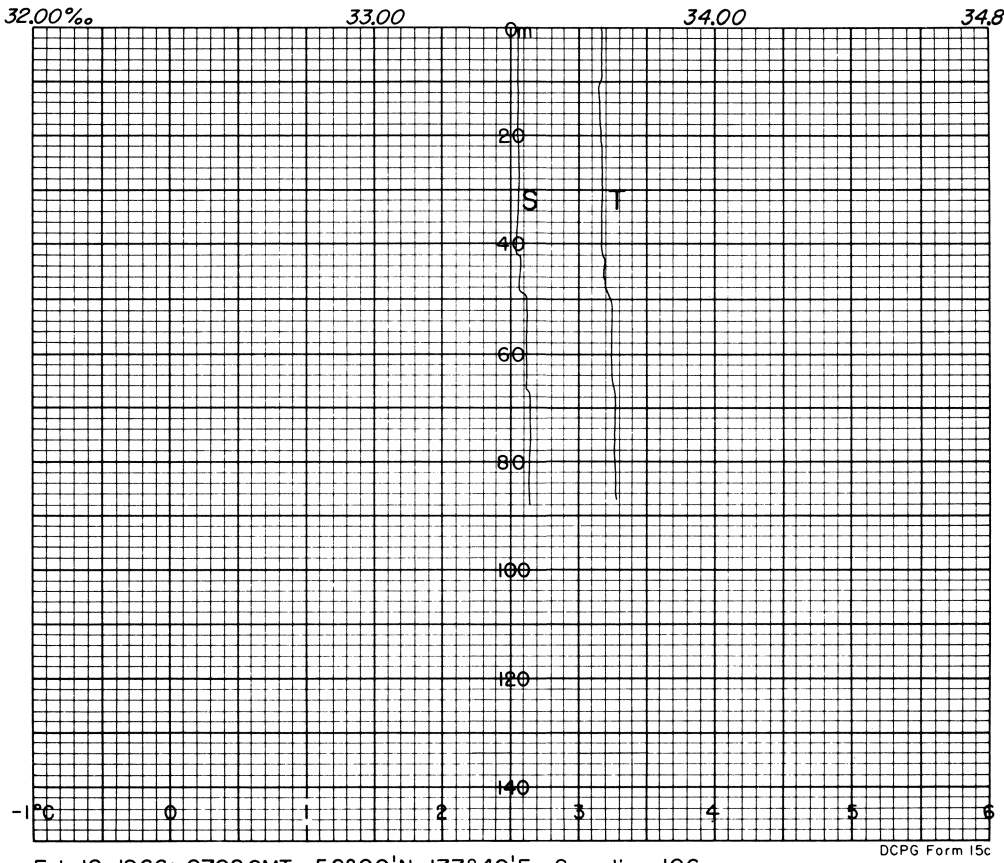
Feb. 18, 1966; 0253 GMT; 52°18'N, 177°25'E; Sounding 1693 m.

77



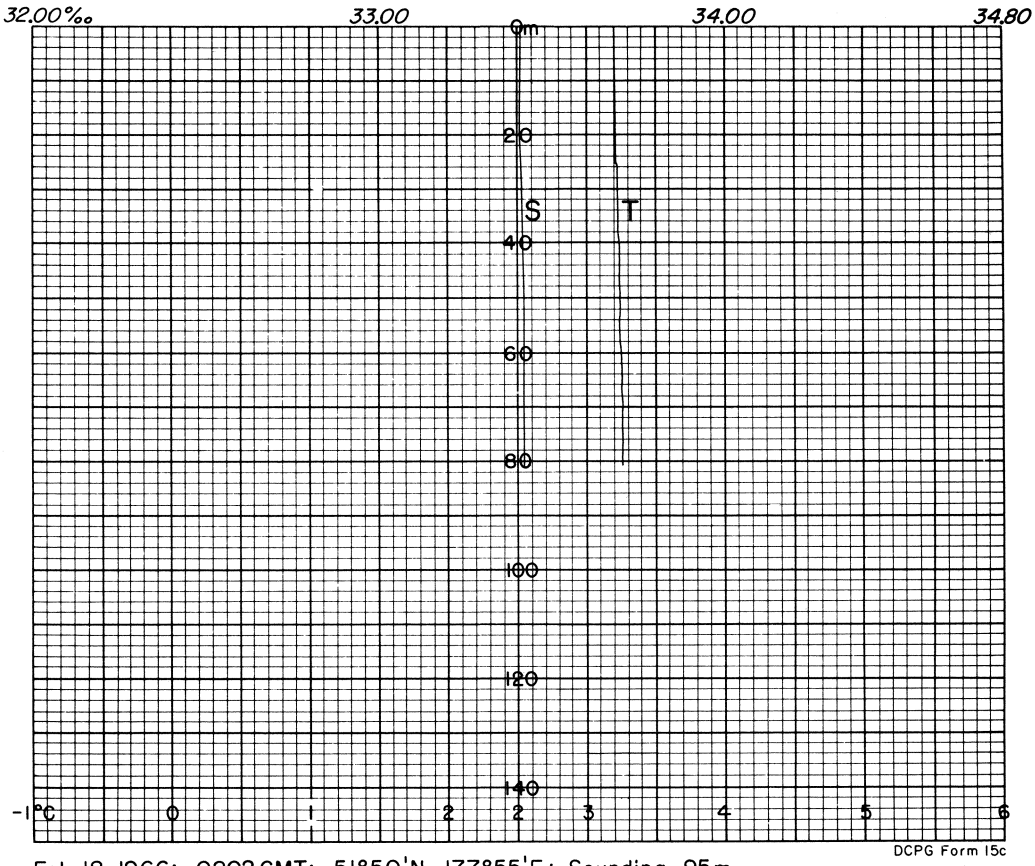
Feb. 18, 1966; 0510 GMT; 52°10'N, 177°43'E; Sounding 1170 m.

78



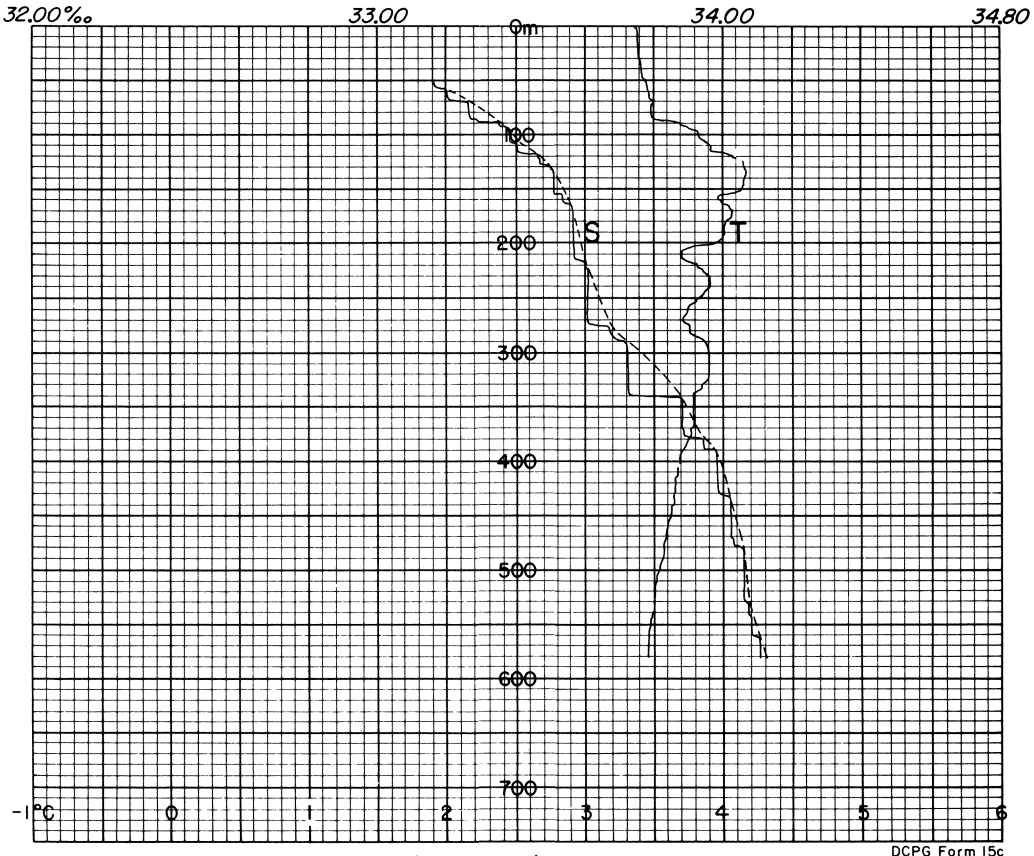
Feb. 18, 1966; 0702 GMT; 52°00'N, 177°49'E; Sounding 106 m.

79



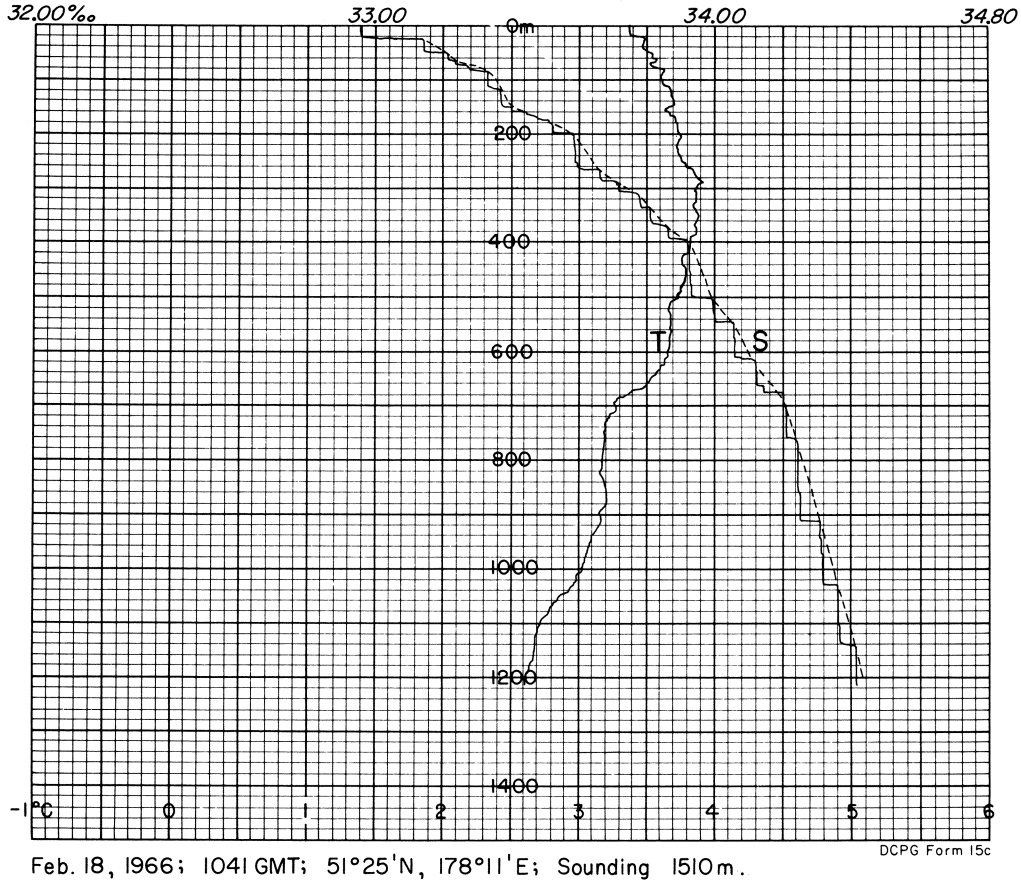
Feb. 18, 1966; 0802 GMT; 51°50'N, 177°55'E; Sounding 95m.

80



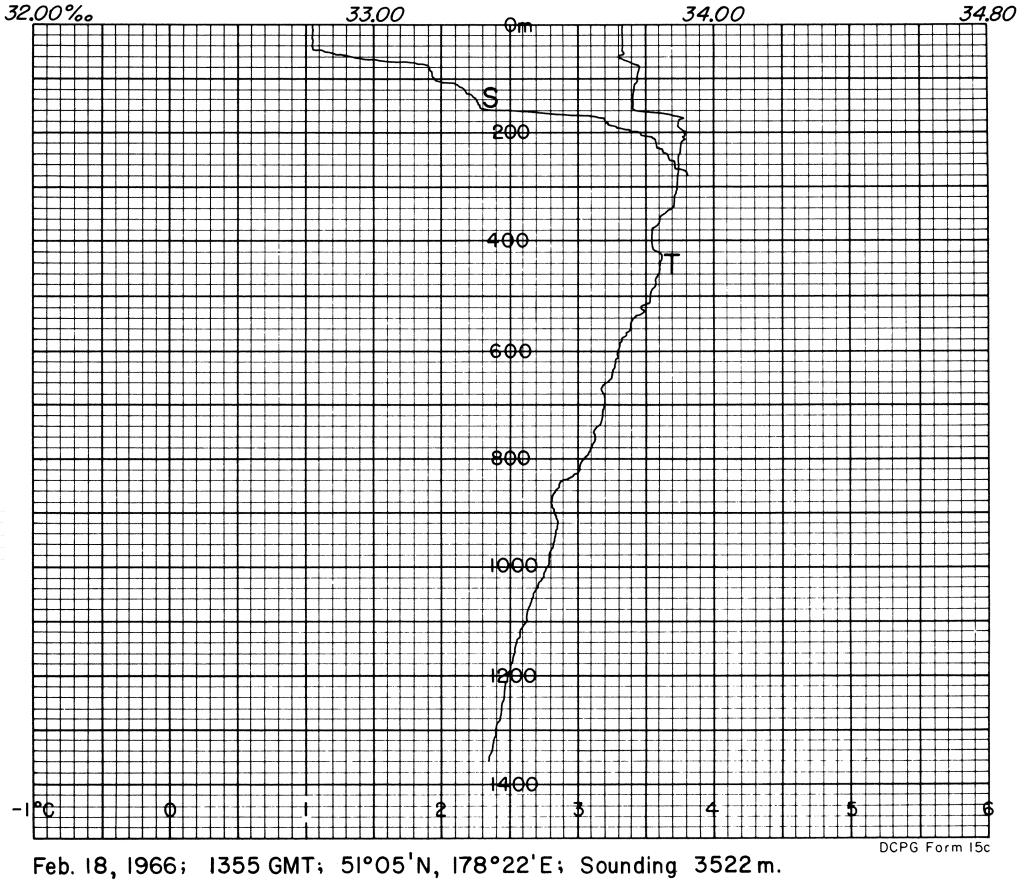
Feb. 18, 1966; 0907 GMT; 51°40'N, 178°01'E; Sounding 782 m.

81



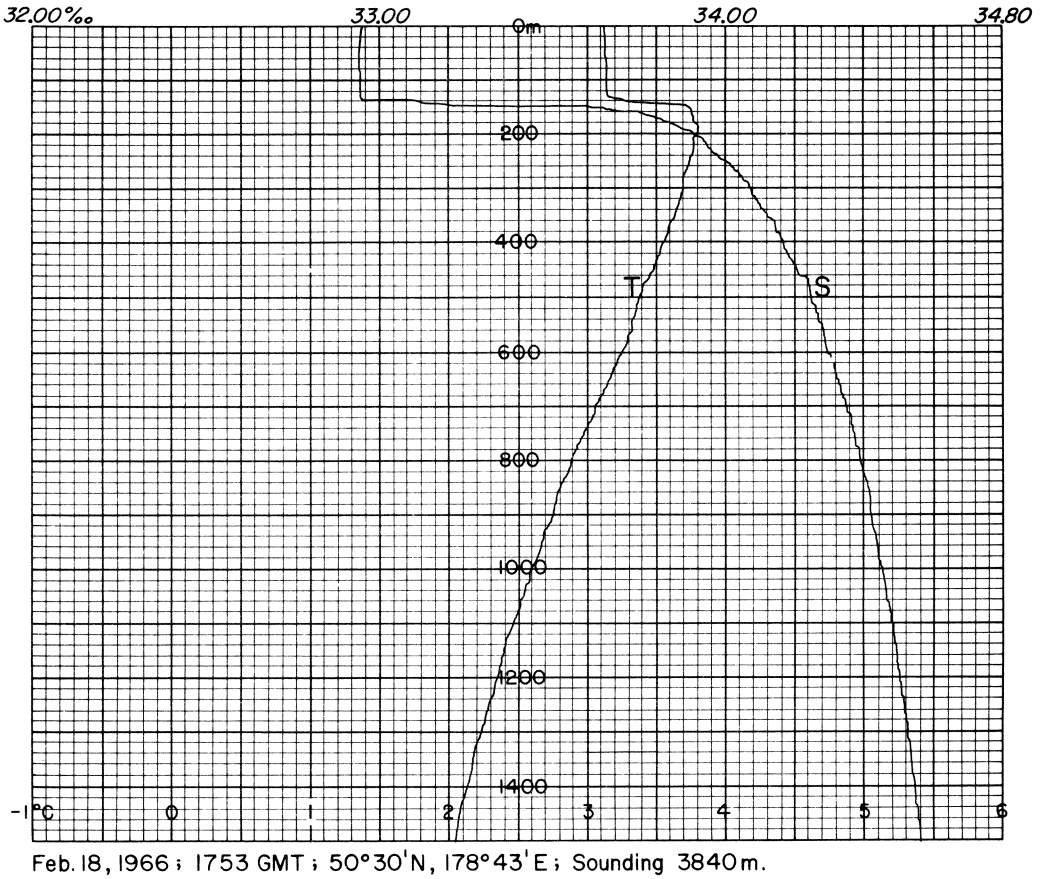
Feb. 18, 1966; 1041 GMT; 51°25'N, 178°11'E; Sounding 1510 m.

82



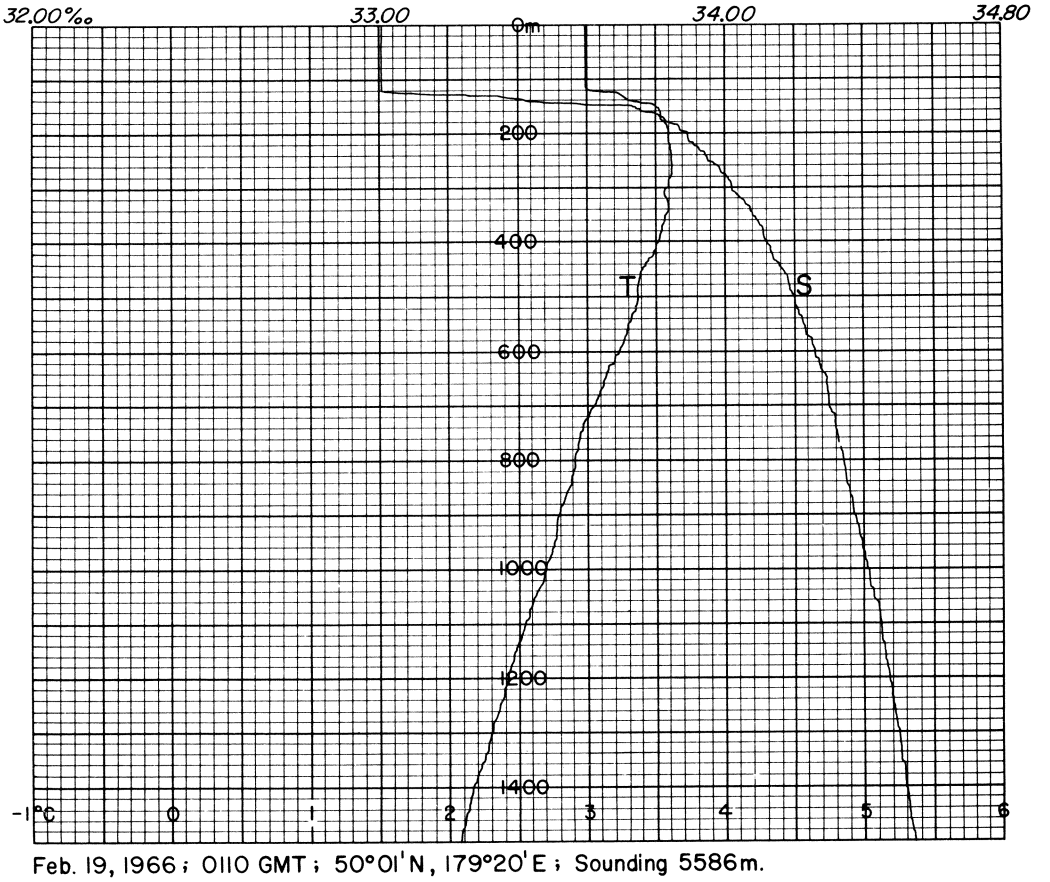
Feb. 18, 1966; 1355 GMT; 51°05'N, 178°22'E; Sounding 3522 m.

83



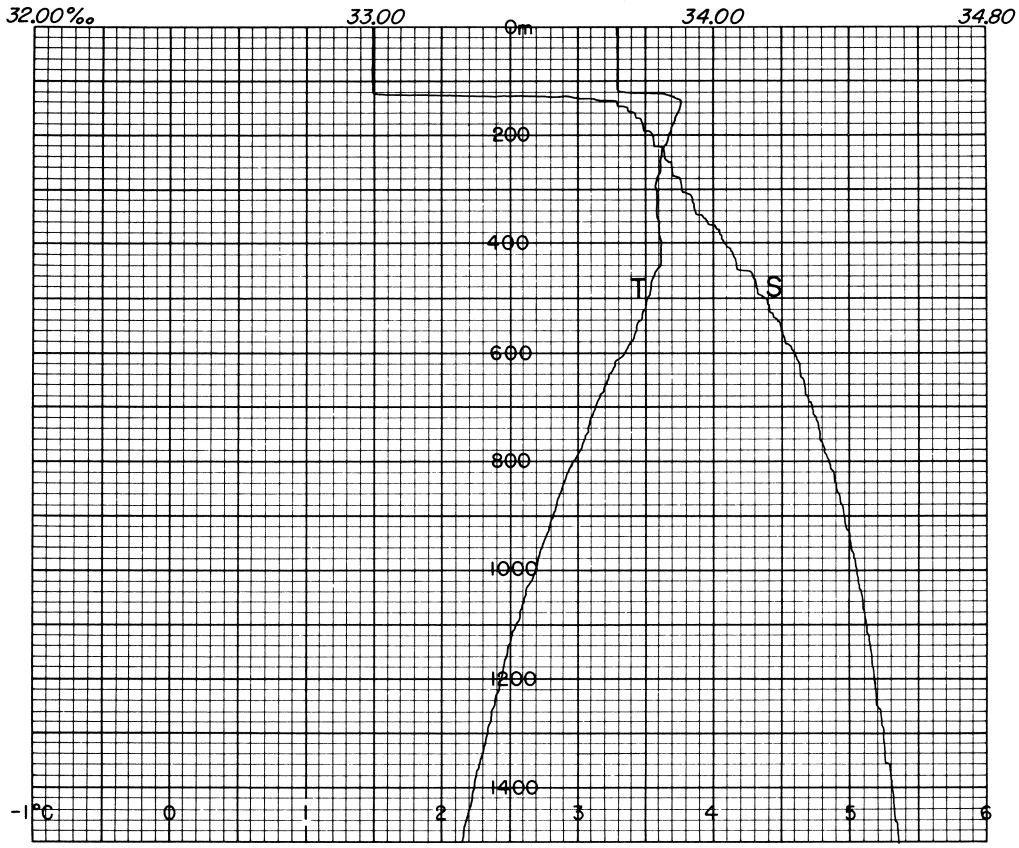
Feb. 18, 1966 ; 1753 GMT ; 50°30'N, 178°43'E ; Sounding 3840m.

84



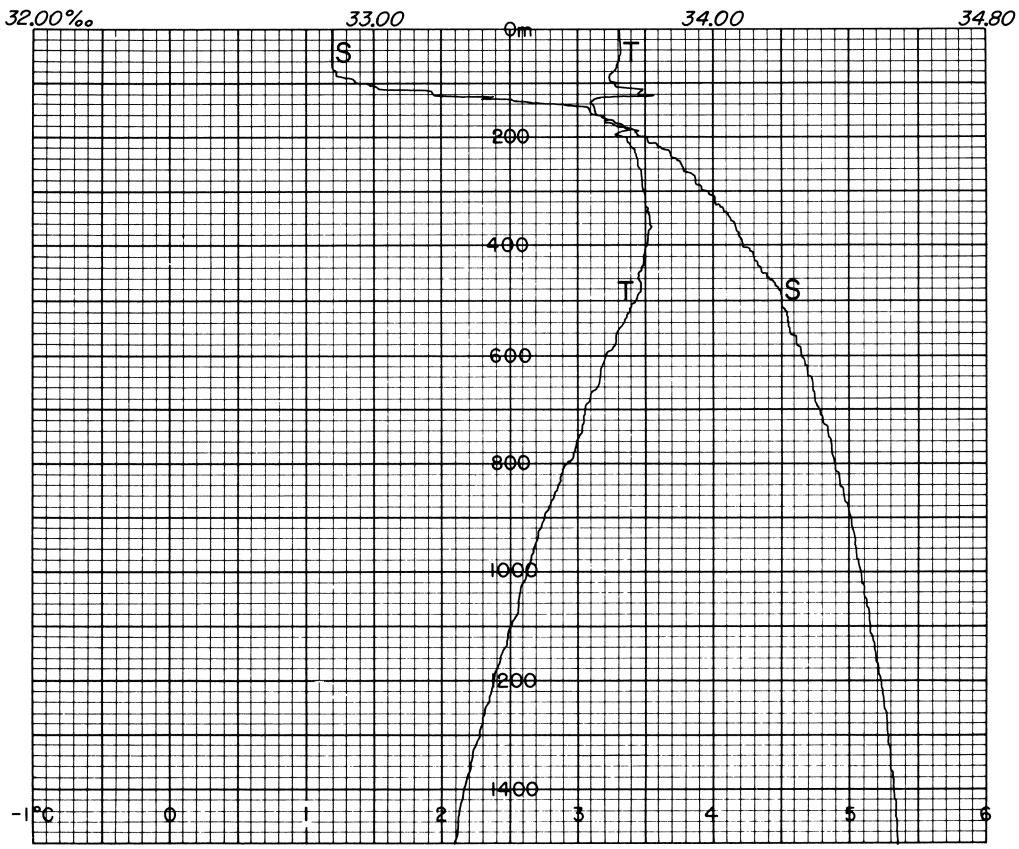
Feb. 19, 1966 ; 0110 GMT ; 50°01'N, 179°20'E ; Sounding 5586m.

85



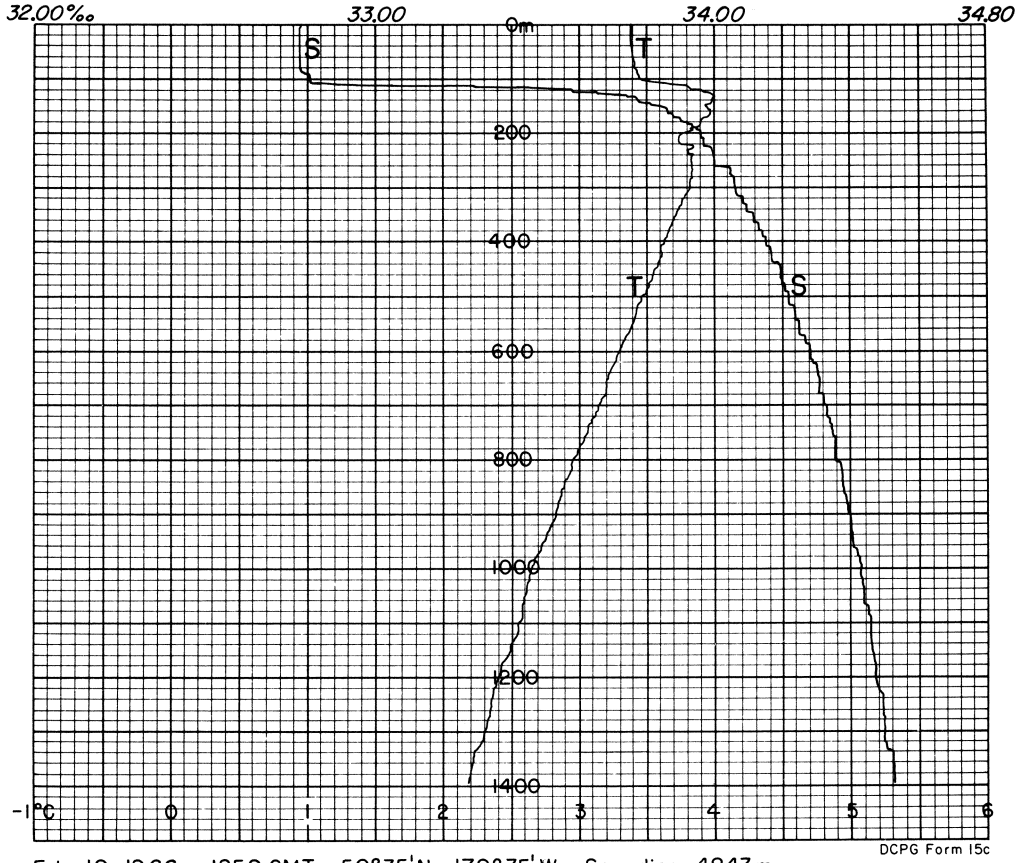
Feb. 19, 1966; 0522 GMT; 49°36'N, 179°46'E; Sounding 4758 m.

86



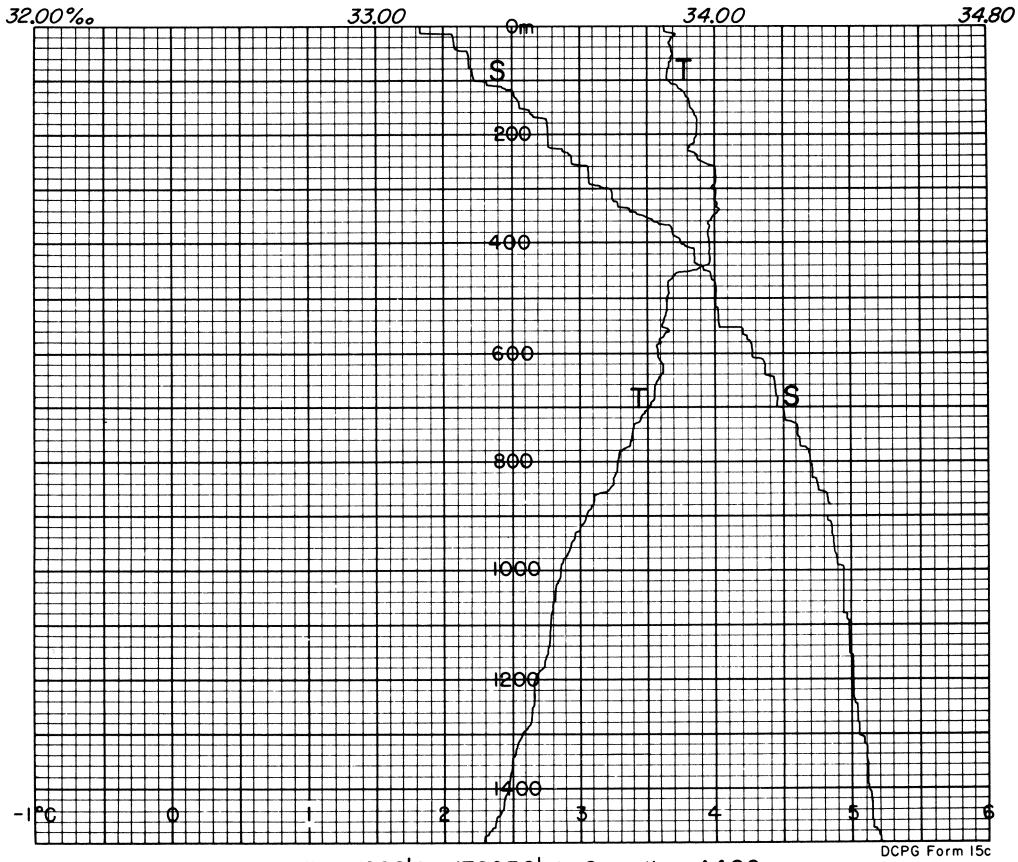
Feb. 19, 1966; 0942 GMT; 50°05'N, 179°42'E; Sounding 5669 m.

87



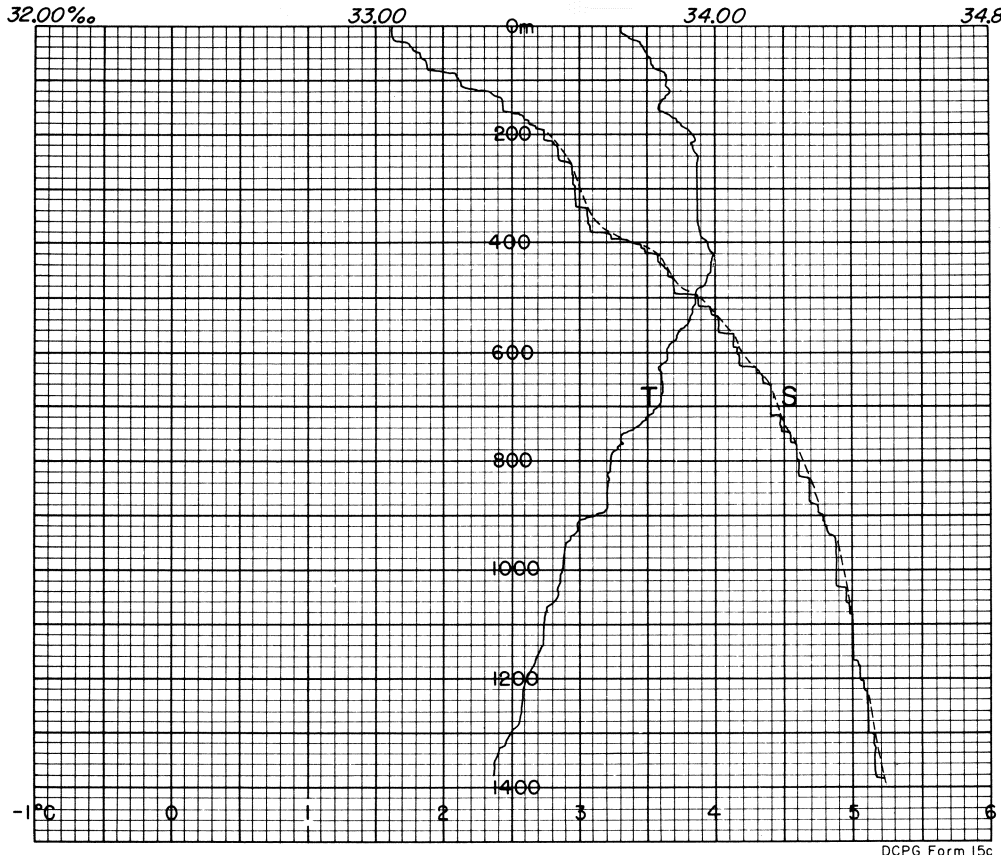
Feb. 19, 1966; 1259 GMT; 50°35'N, 179°35'W; Sounding 4843m.

88



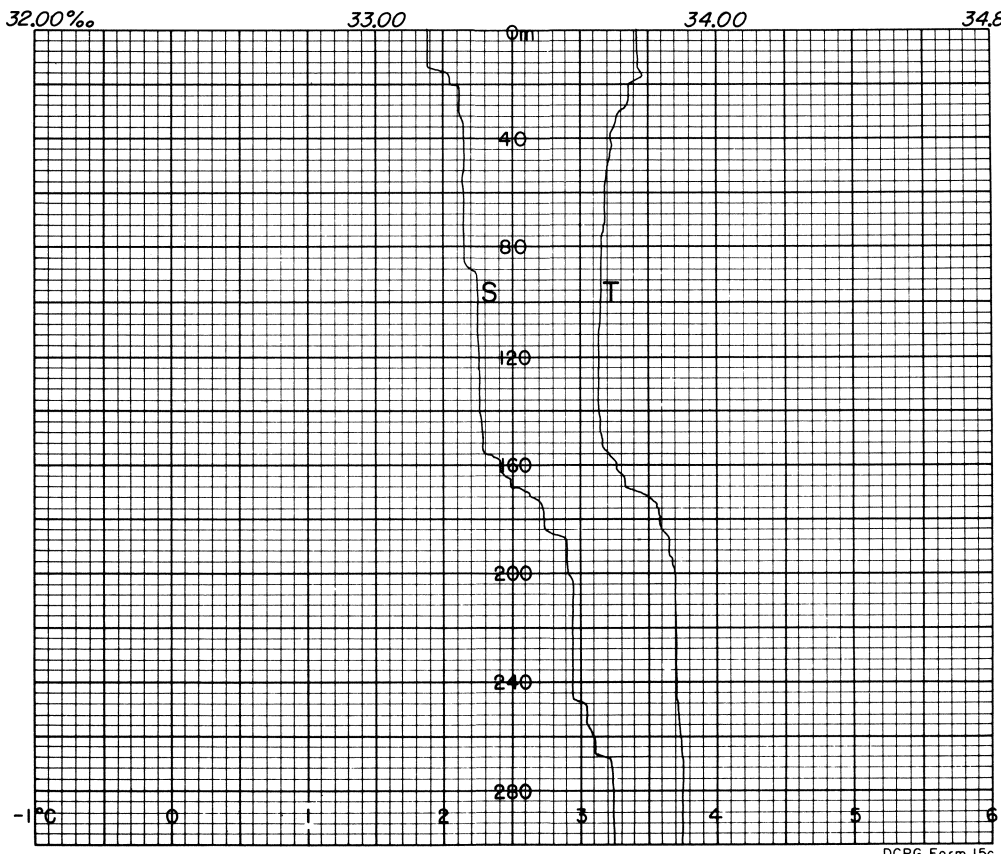
Feb. 19, 1966; 1603 GMT; 51°02'N, 179°30'W; Sounding 4480m.

89



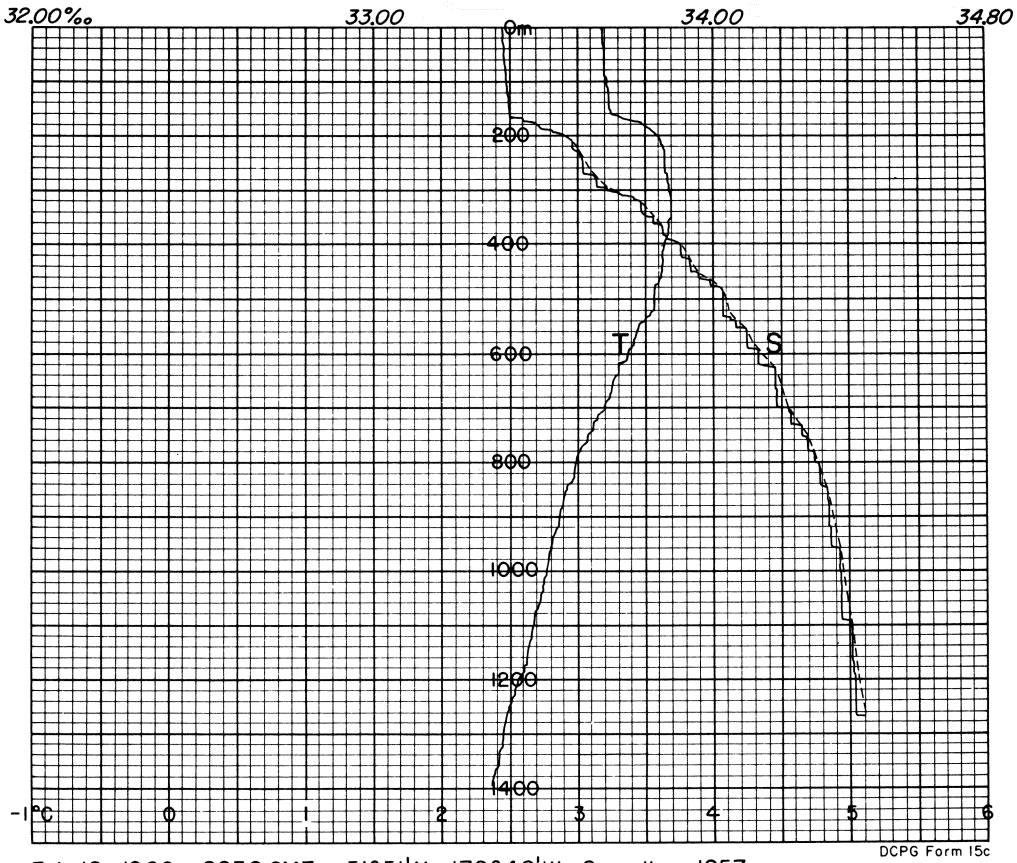
Feb. 19, 1966; 1855 GMT; 51° 19' N, 179° 38' W; Sounding 1866 m.

90



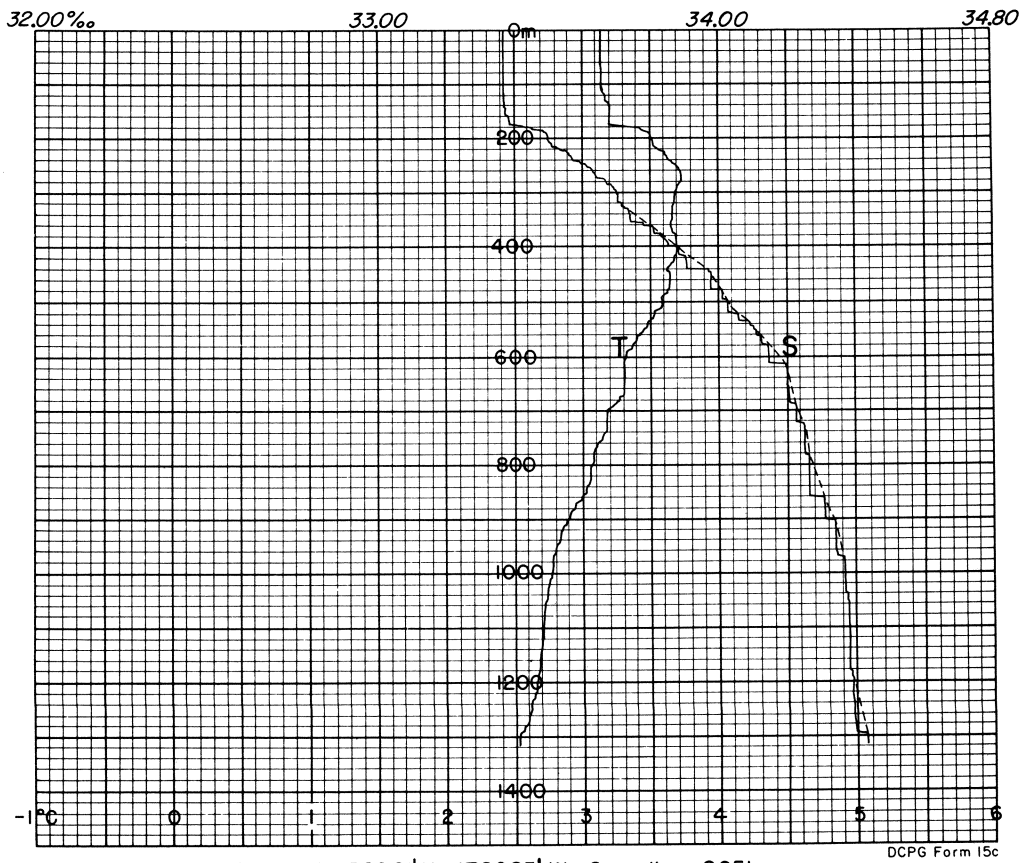
Feb. 19, 1966; 2052 GMT; 51° 35' N, 179° 35' W; Sounding 402 m.

91



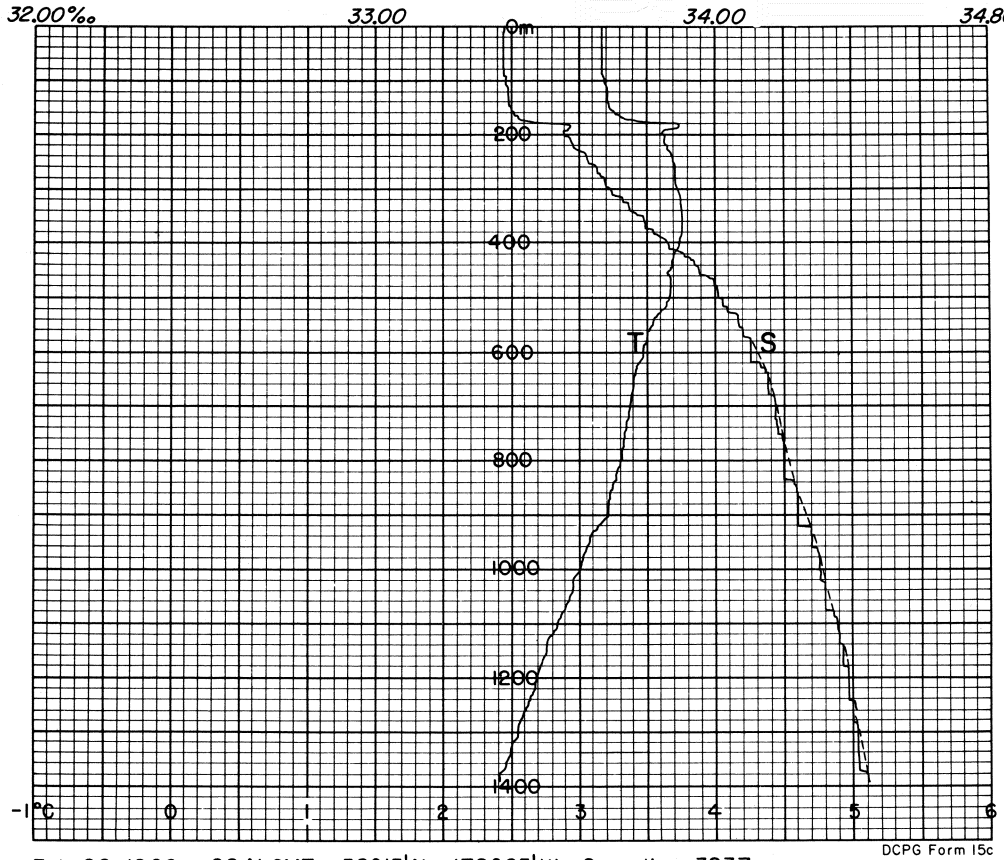
Feb. 19, 1966; 2230 GMT; 51°51'N, 179°40'W; Sounding 1957 m.

92



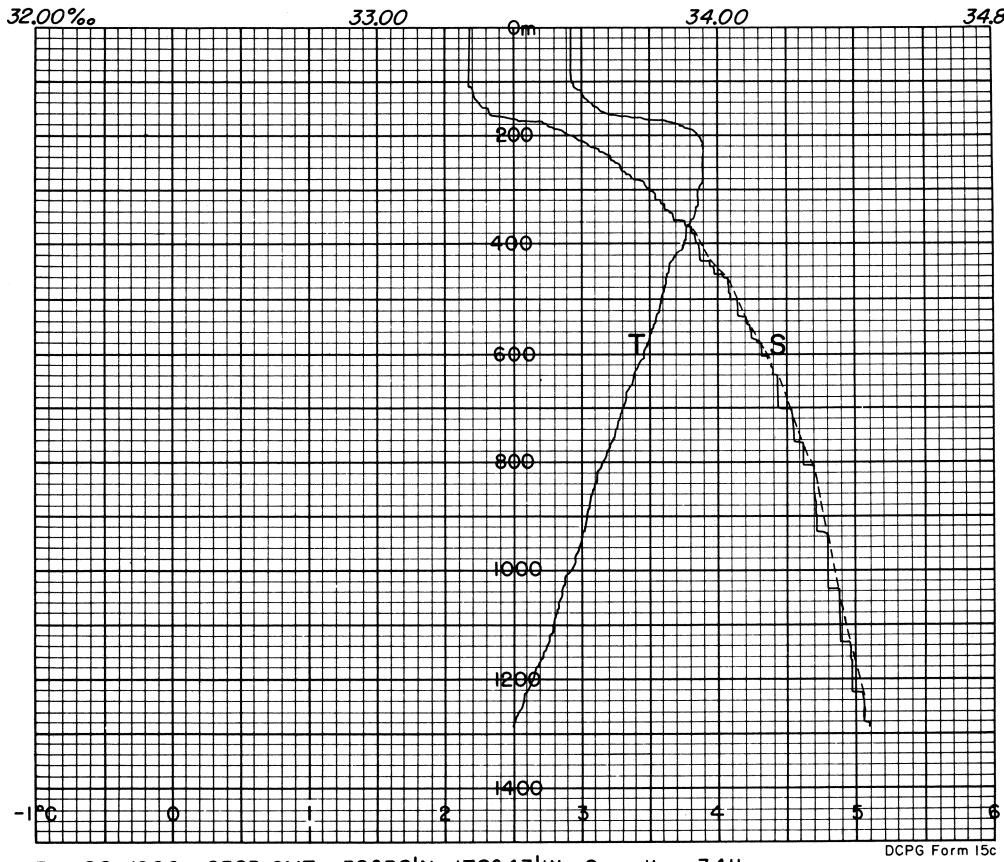
Feb. 20, 1966; 0018 GMT; 52°01'N, 179°25'W; Sounding 2651m.

93



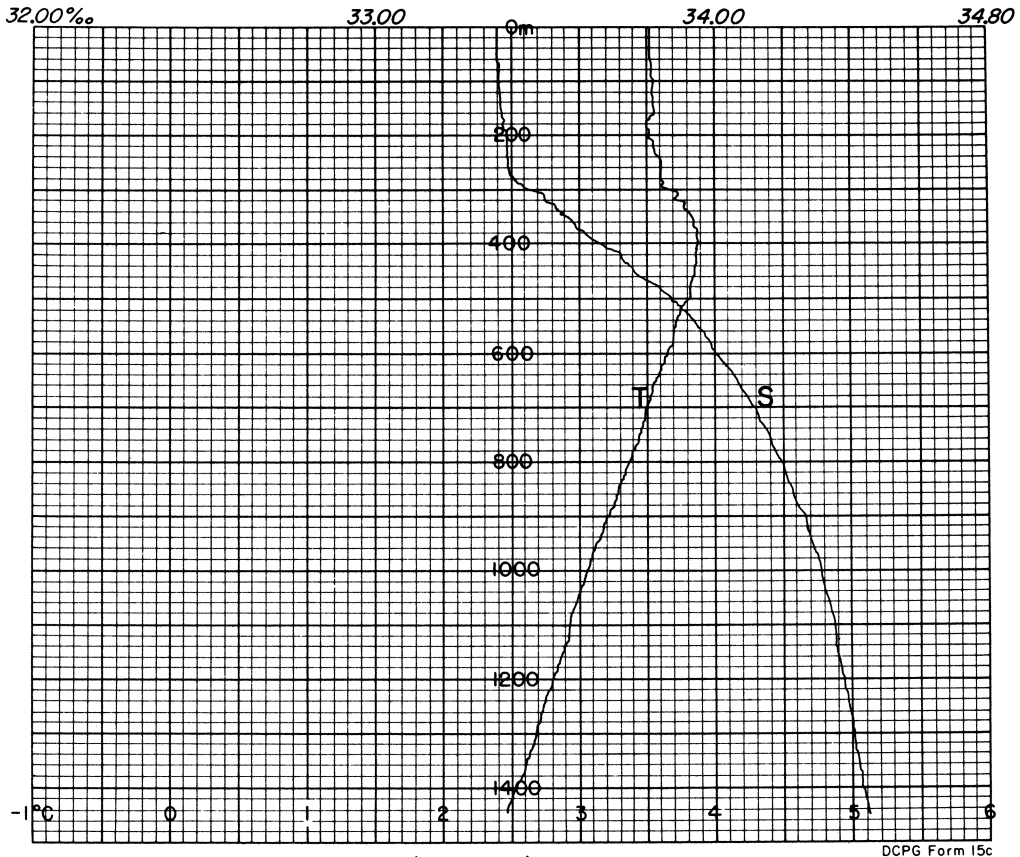
Feb. 20, 1966; 0241 GMT; 52°15'N, 179°05'W; Sounding 3237m.

94



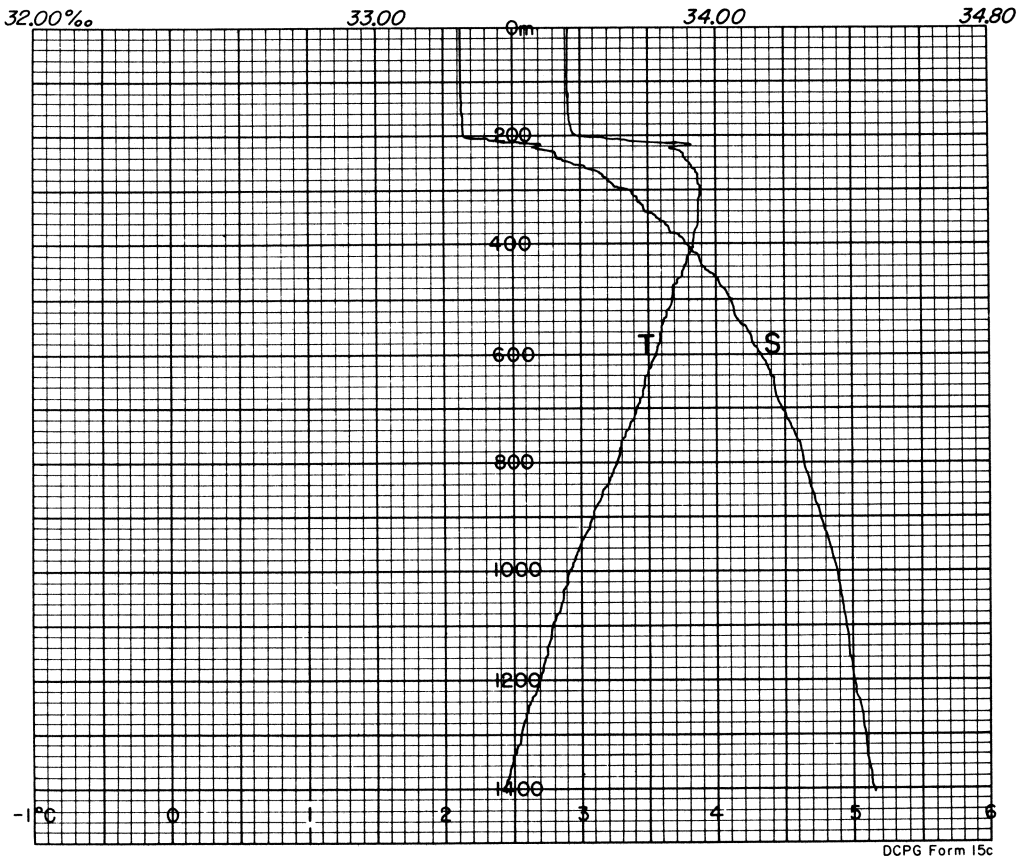
Feb. 20, 1966; 0505 GMT; 52°30'N, 178°43'W; Sounding 3411m.

95



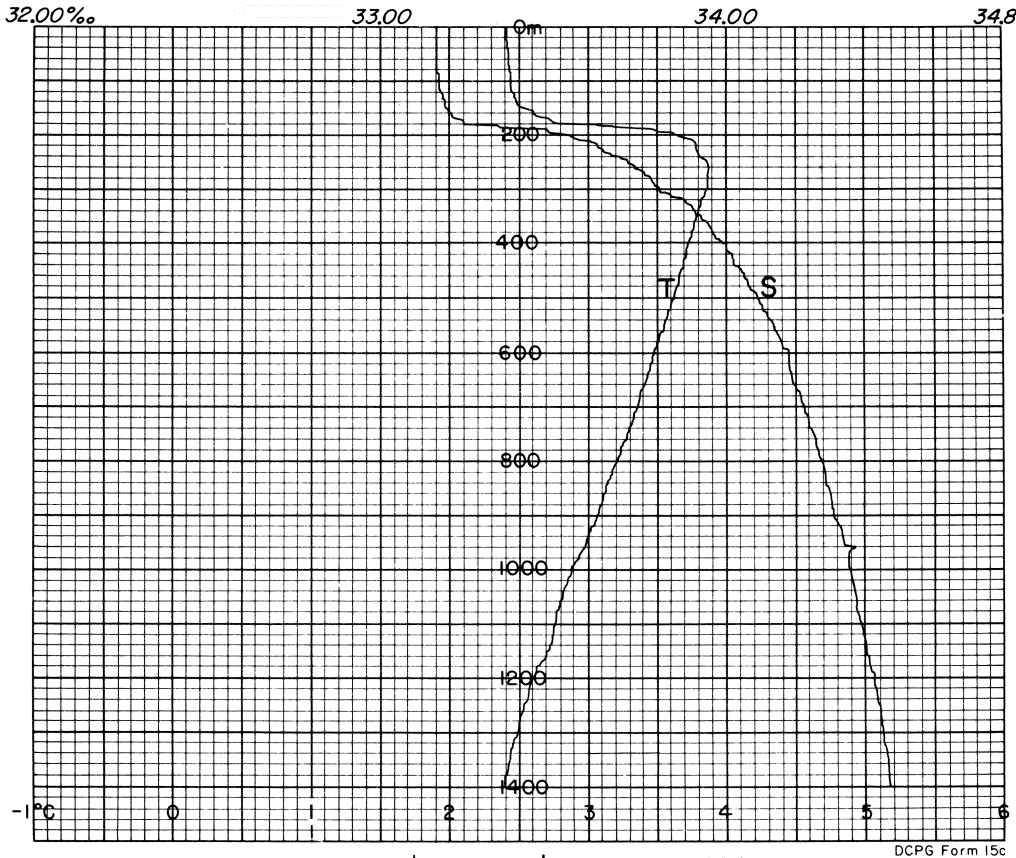
Feb. 24, 1966; 0302 GMT; 52°09'N, 176°31'W; Sounding 2871 m.

96



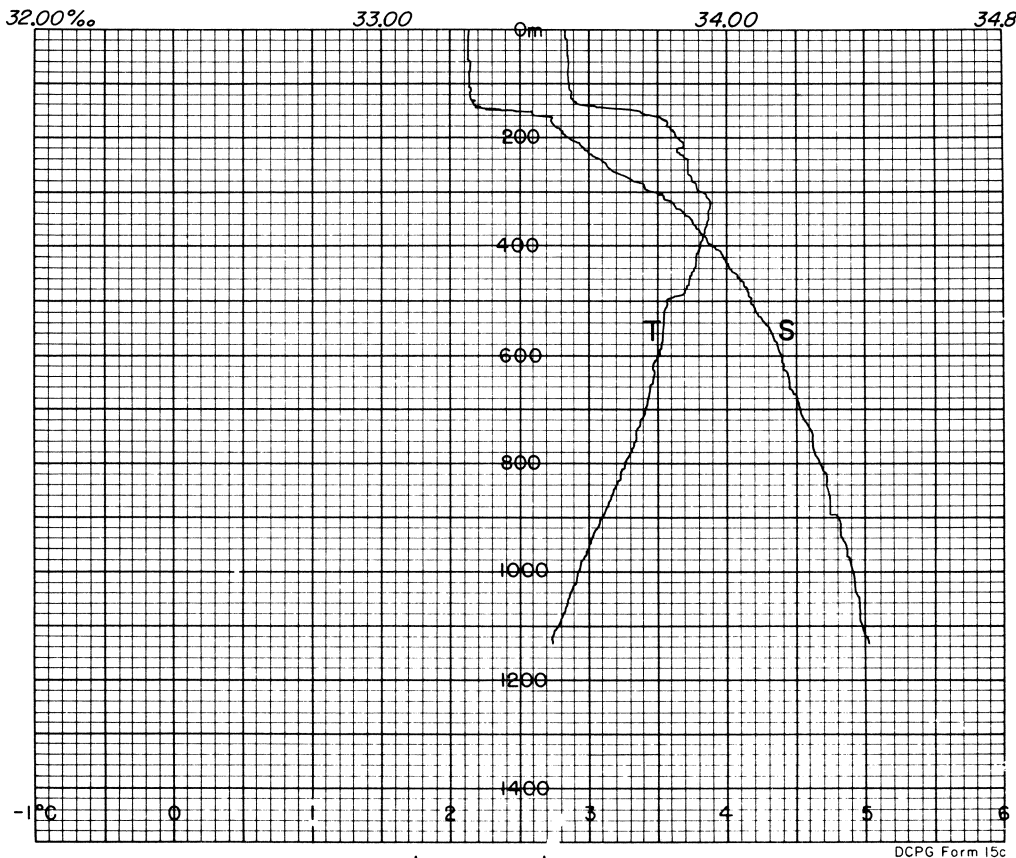
Feb. 24, 1966; 0729 GMT; 52°53'N, 176°30'W; Sounding 3625 m.

97



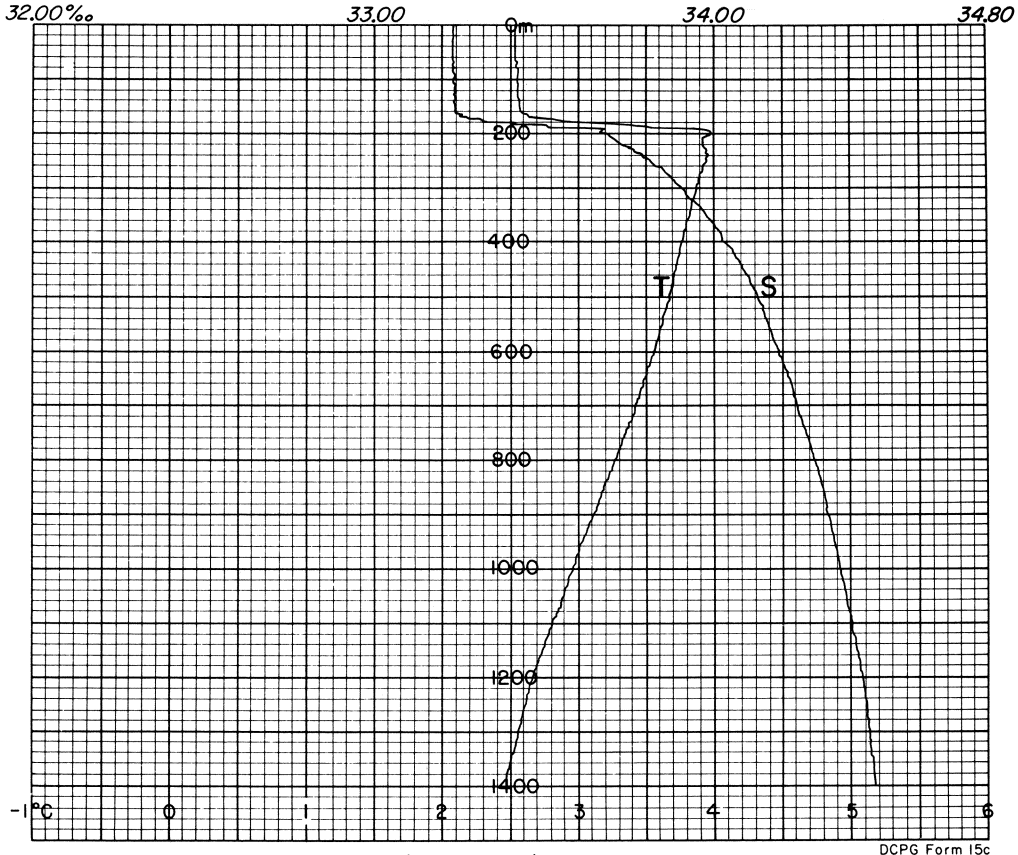
Feb. 25, 1966; 0817 GMT; 53°29'N, 178°37'W; Sounding 3712 m.

98



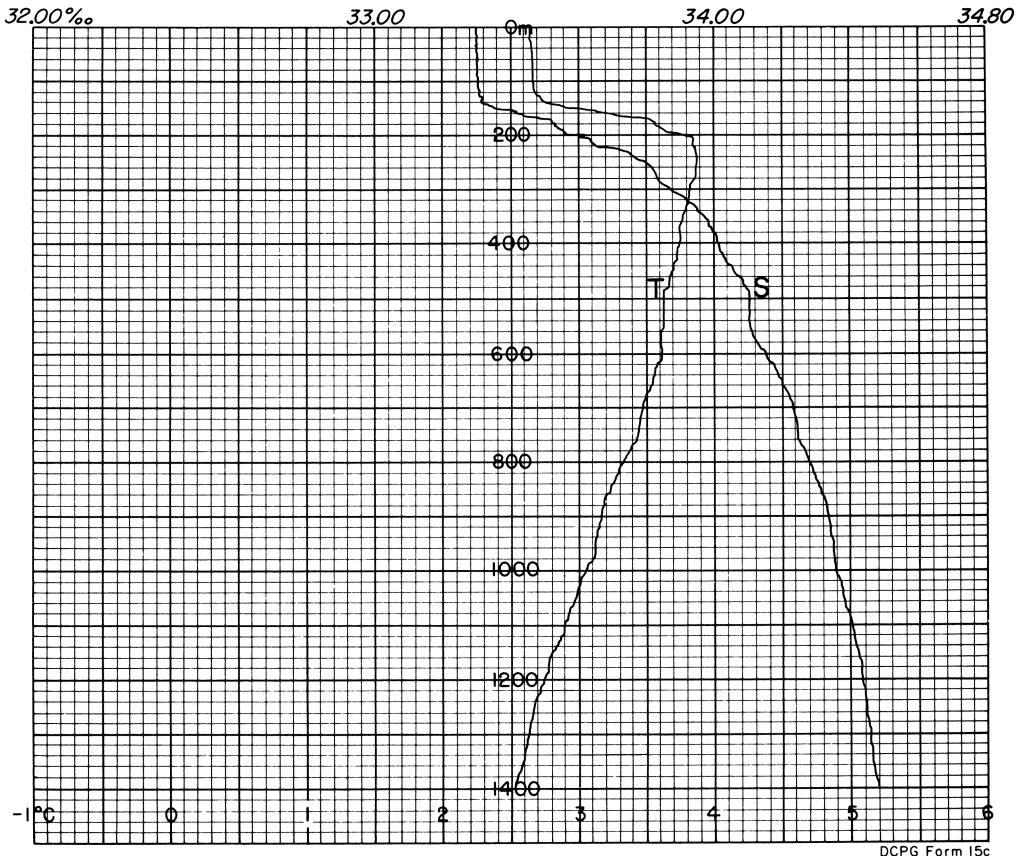
Feb. 25, 1966; 1617 GMT; 53°20'N, 179°30'E; Sounding 2633m.

99



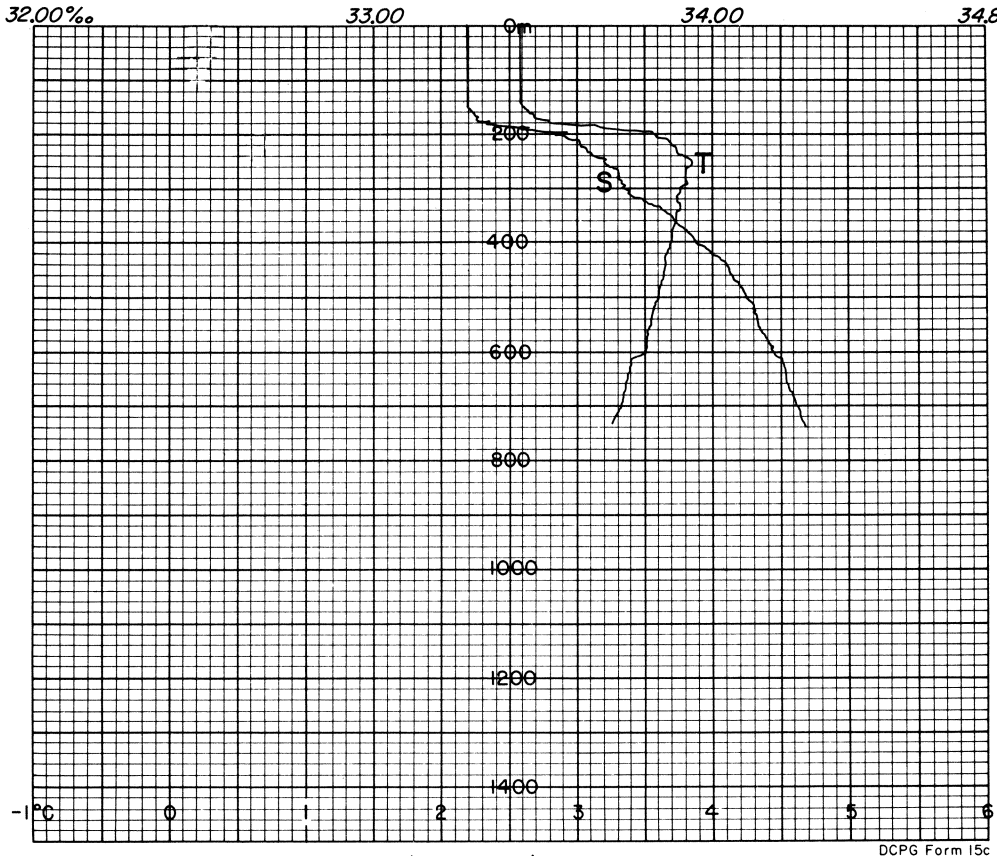
Feb. 26, 1966; 0049 GMT; 53°10'N, 177°28'E; Sounding 3830m.

100



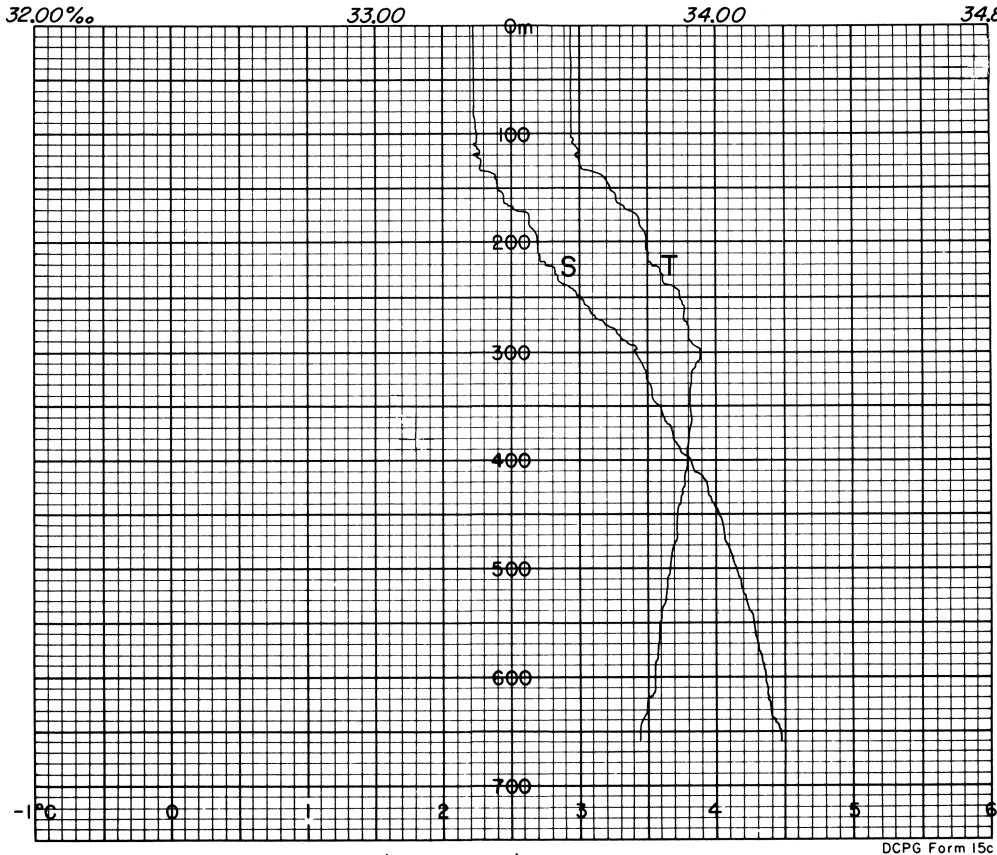
Feb. 26, 1966; 1100 GMT; 53°00'N, 175°00'E; Sounding 3842m.

101



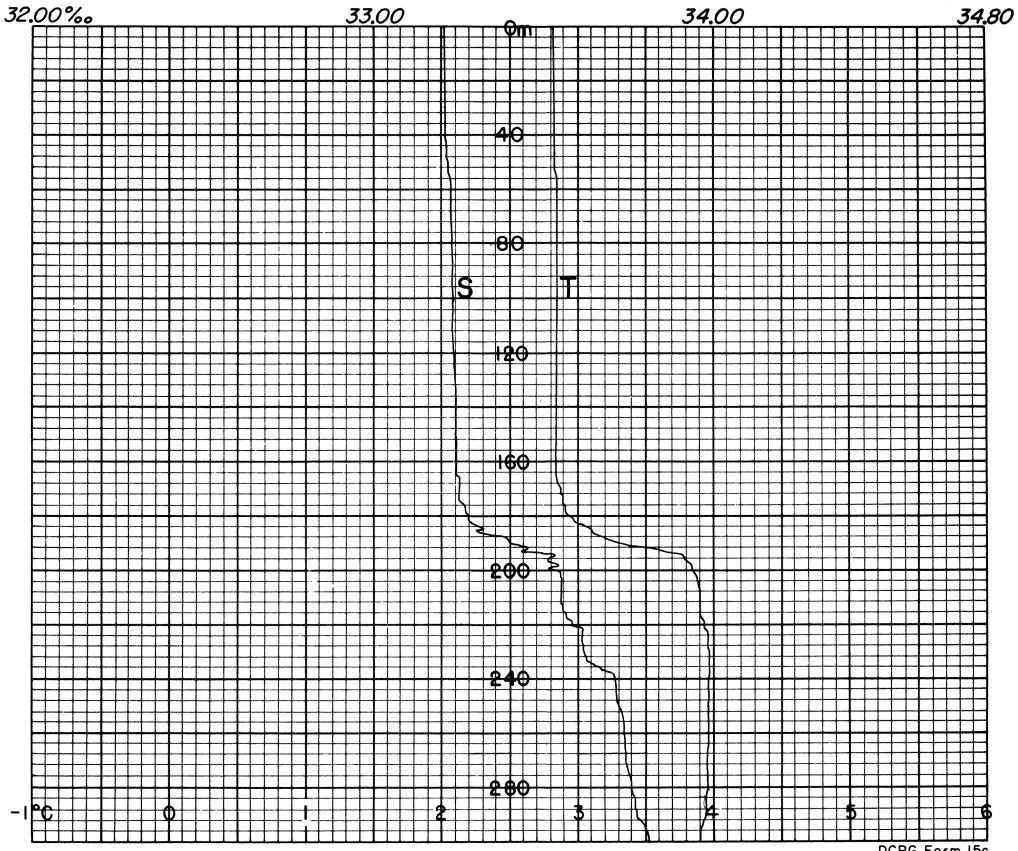
Feb. 26, 1966; 1708 GMT; 52°42'N, 175°00'E; Sounding 1152 m.

102



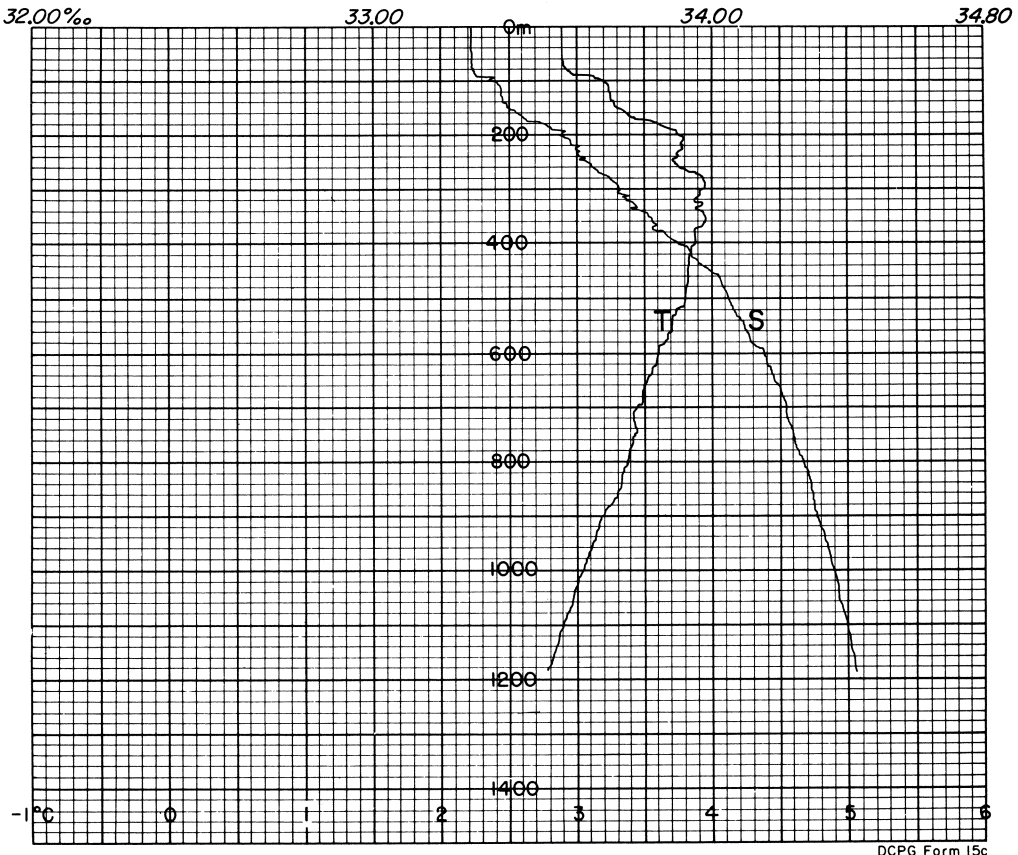
Feb. 26, 1966; 1935 GMT; 52°23'N, 175°00'E; Sounding 702 m.

103



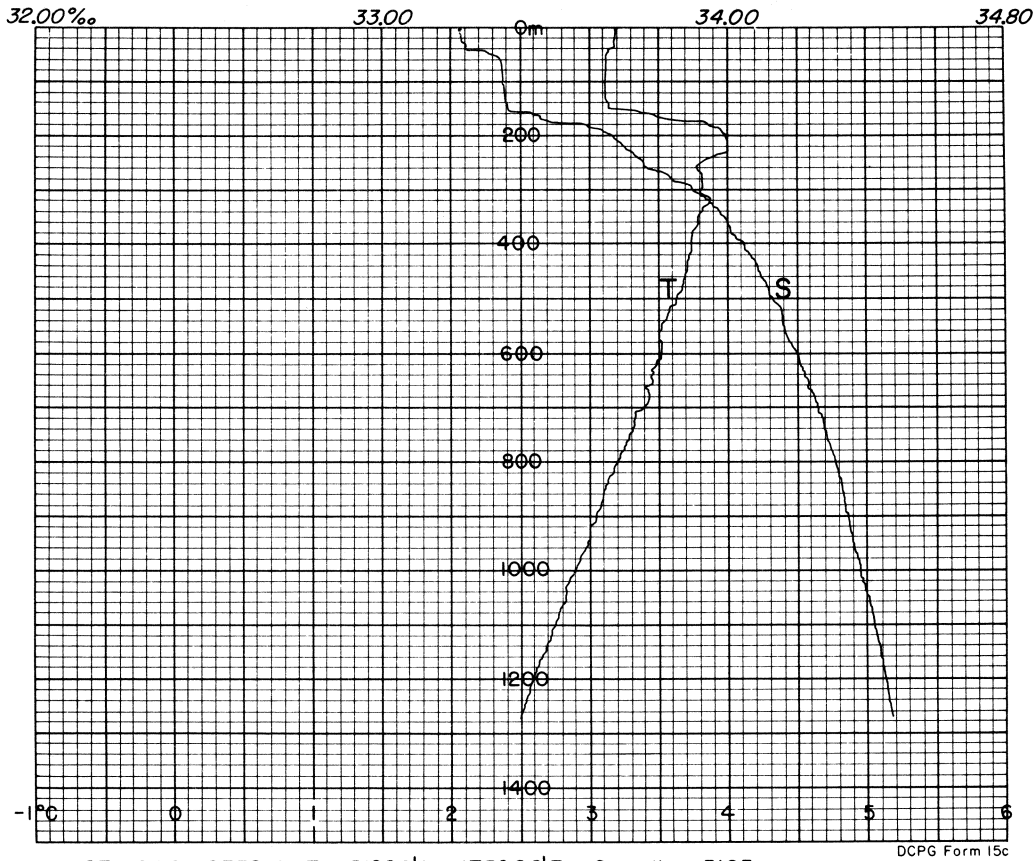
Feb. 26, 1966; 2134 GMT; 52°07'N, 175°00'E; Sounding 470m.

104



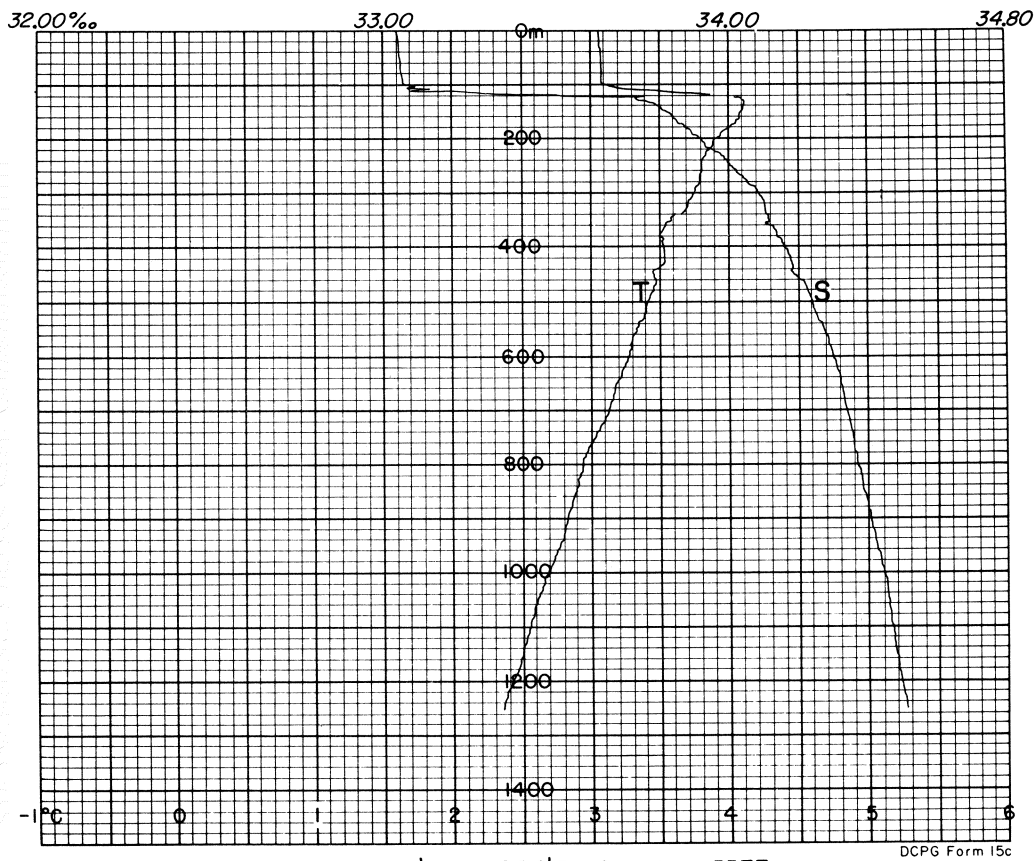
Feb. 27, 1966; 0035 GMT; 51°40'N, 175°00'E; Sounding 2891m.

105



Feb. 27, 1966; 0359 GMT; 51°06'N, 175°00'E; Sounding 5165m.

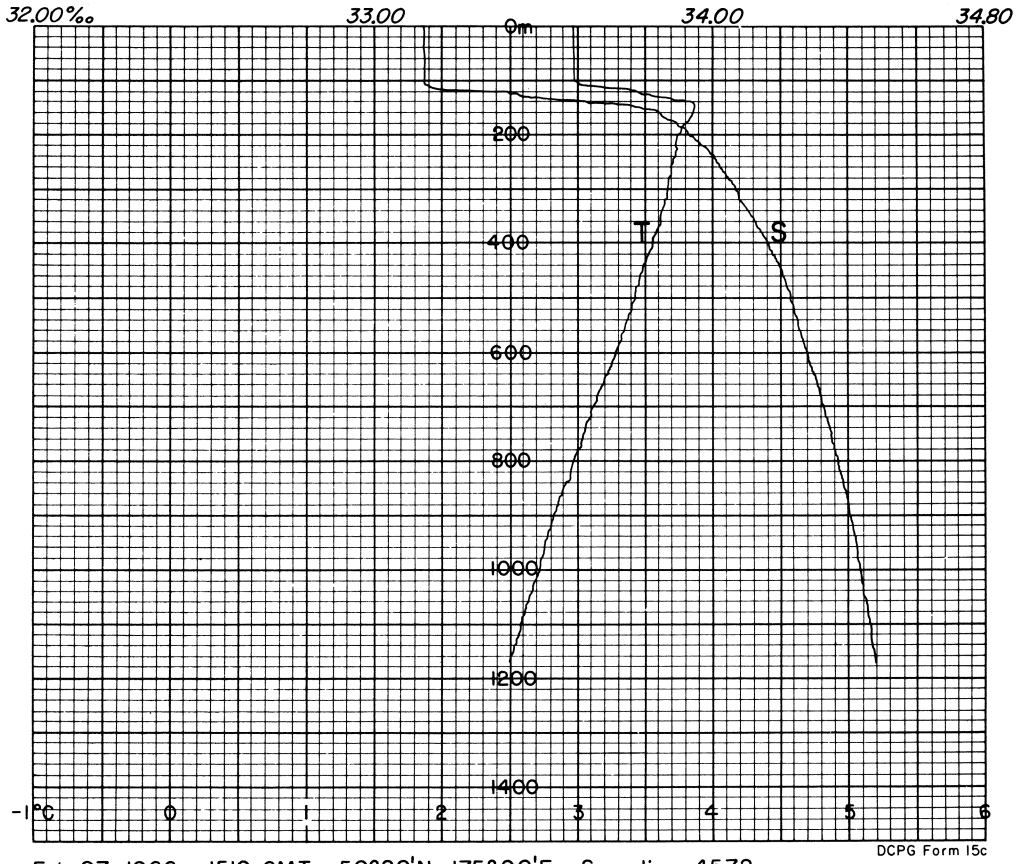
106



Feb. 27, 1966; 1112 GMT; 50°41'N, 175°00'E; Sounding 5577m.

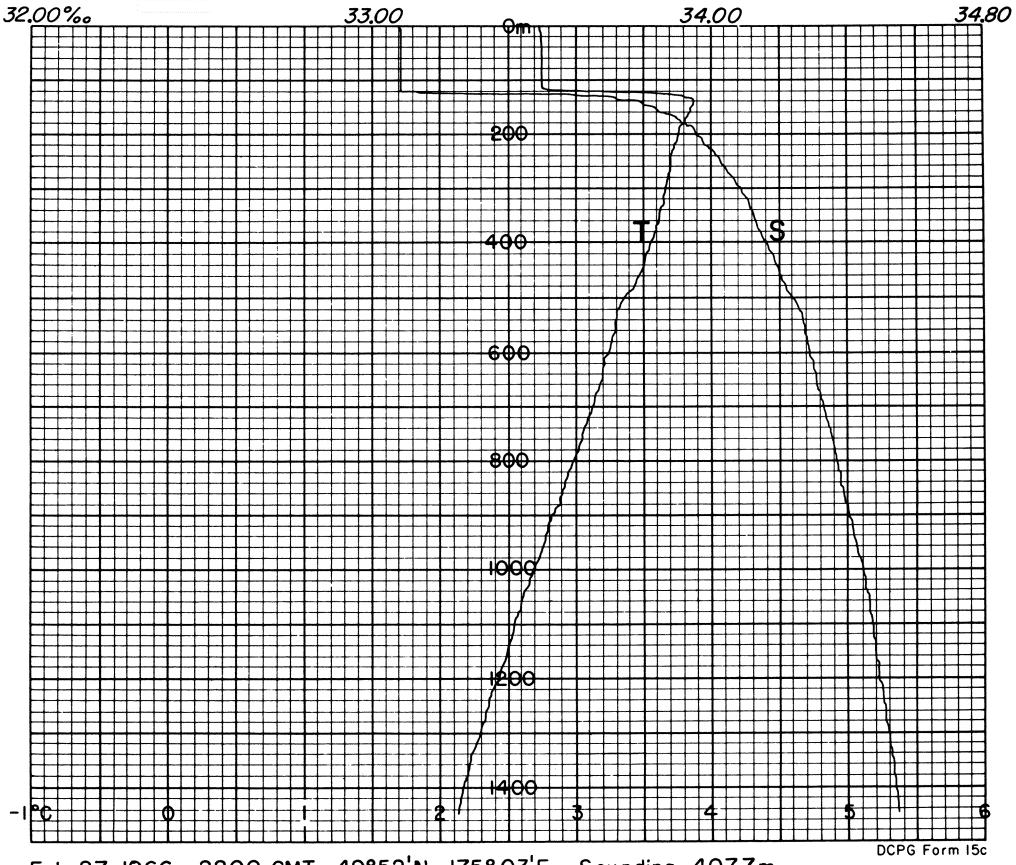
SIO
BOREAS

107



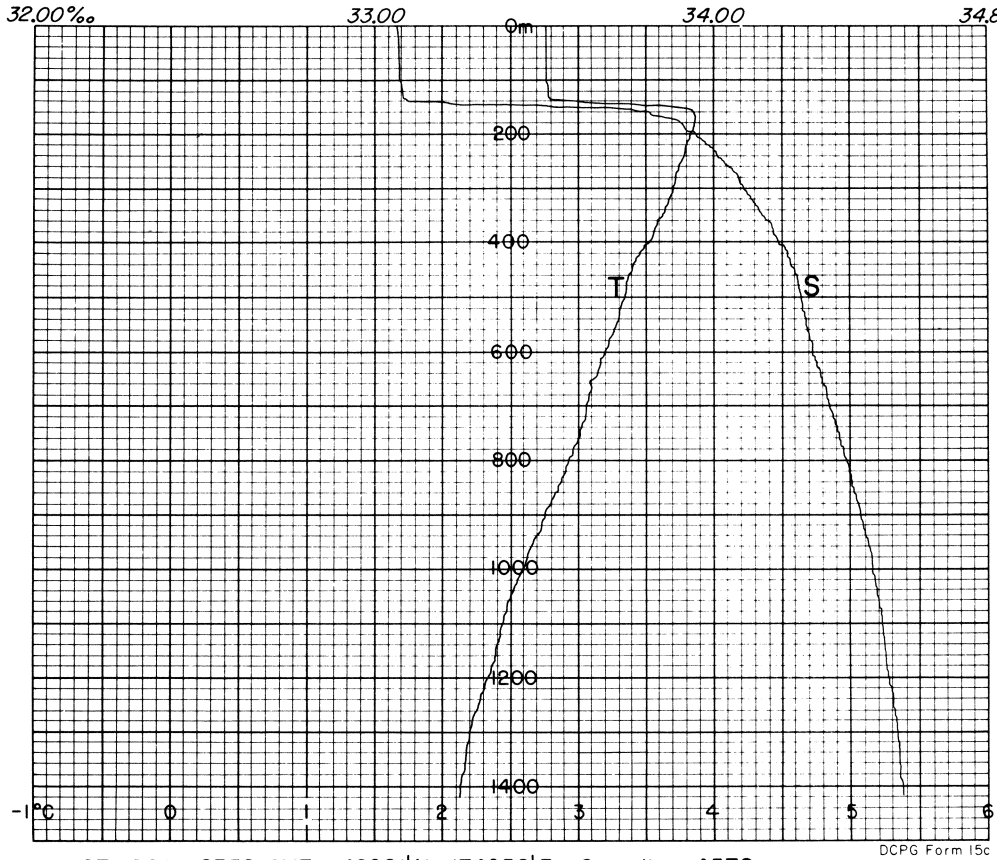
Feb. 27, 1966; 1519 GMT; 50°20'N, 175°00'E; Sounding 4572 m.

108



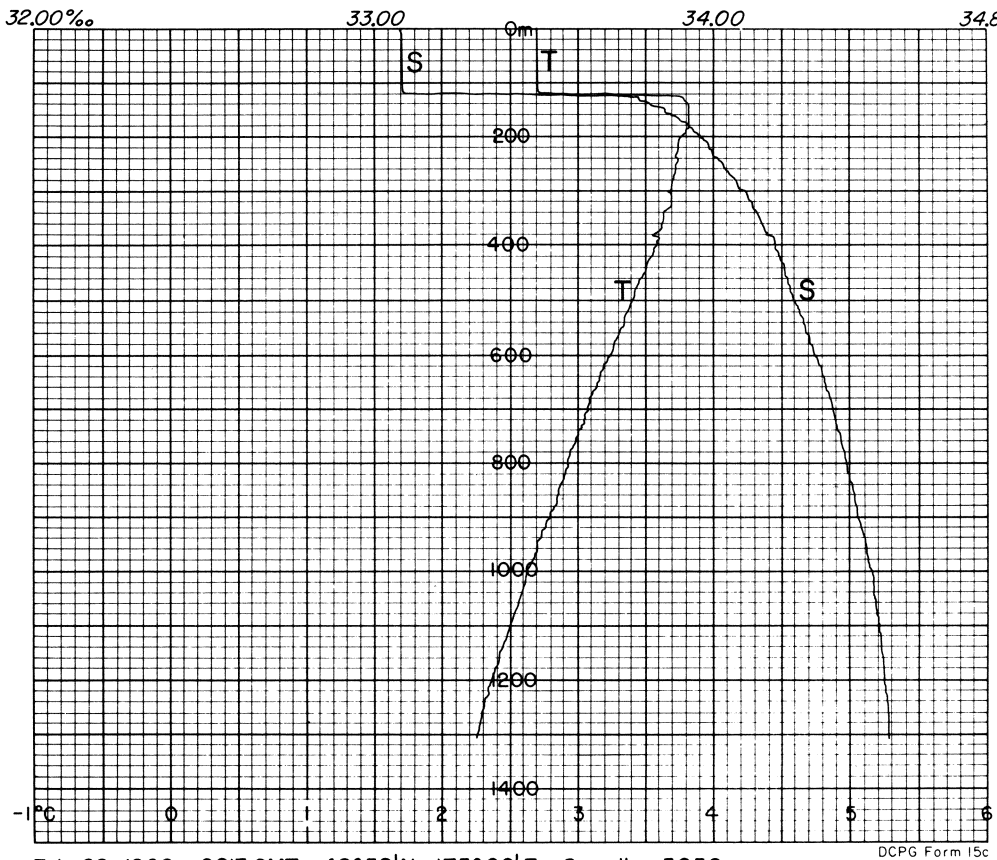
Feb. 27, 1966; 2200 GMT; 49°52'N, 175°03'E; Sounding 4077m.

109



Feb. 27, 1966; 2358 GMT; 49°21'N, 174°59'E; Sounding 4572 m.

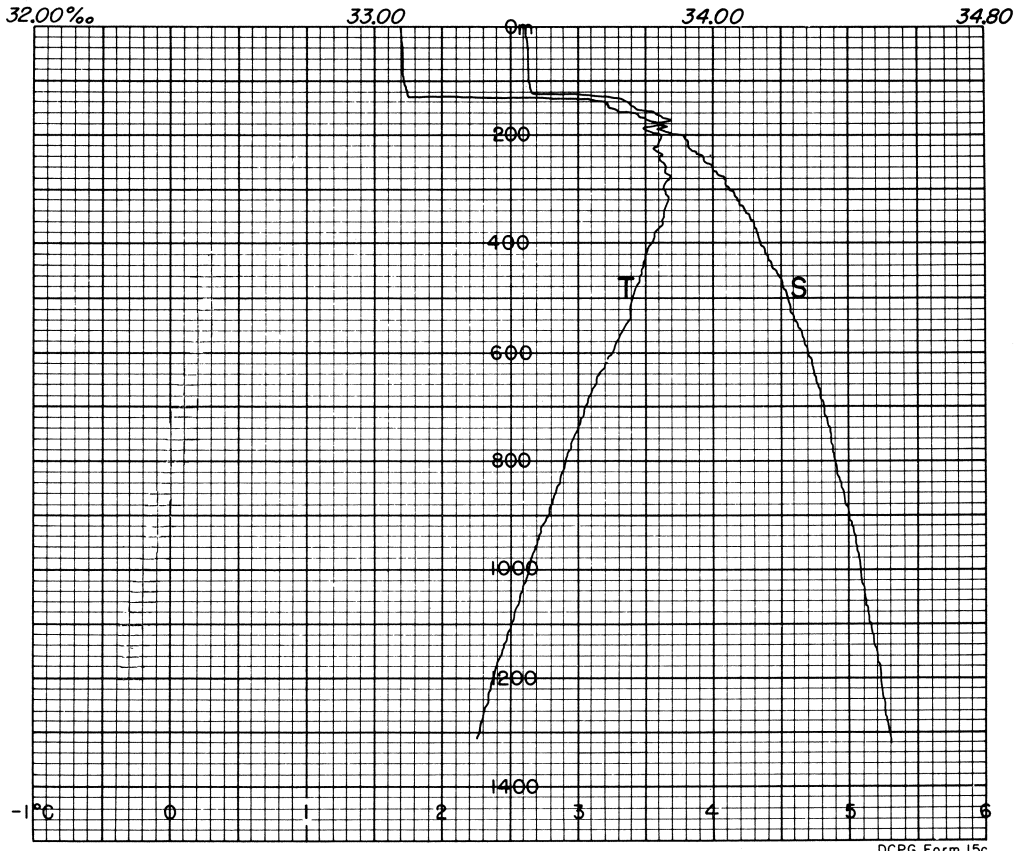
110



Feb. 28, 1966; 0613 GMT; 48°52'N, 175°00'E; Sounding 5056 m.

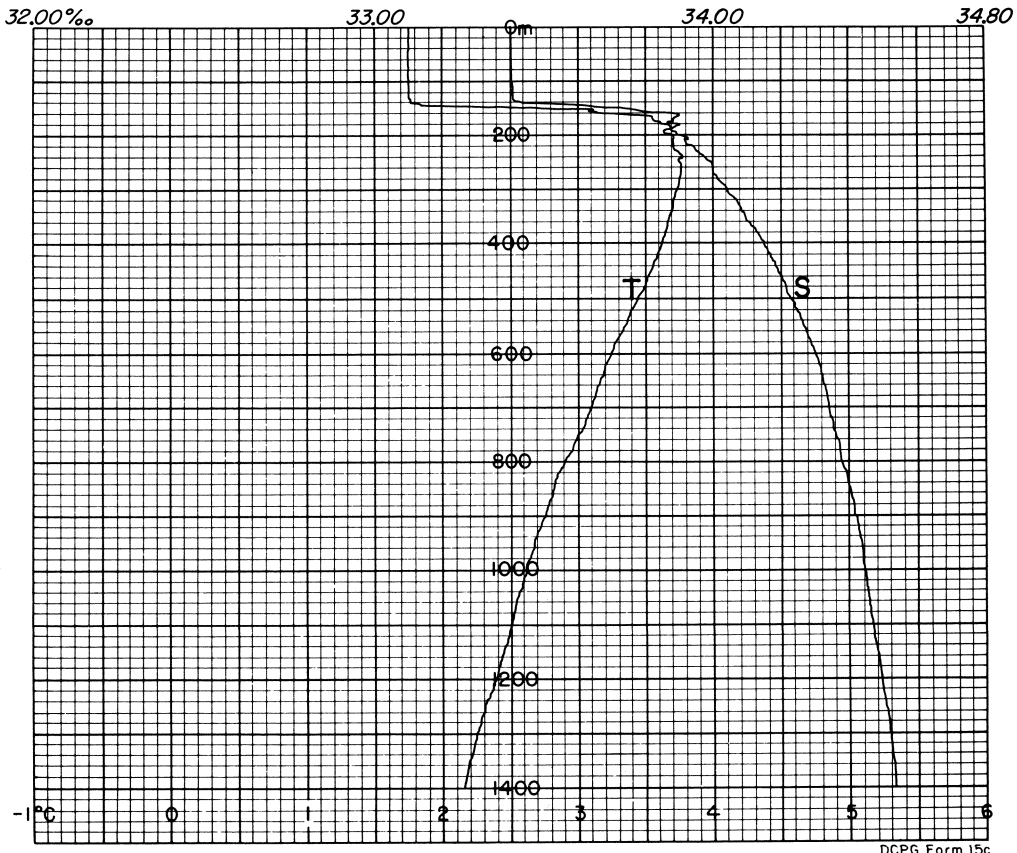
SIO
BOREAS

111

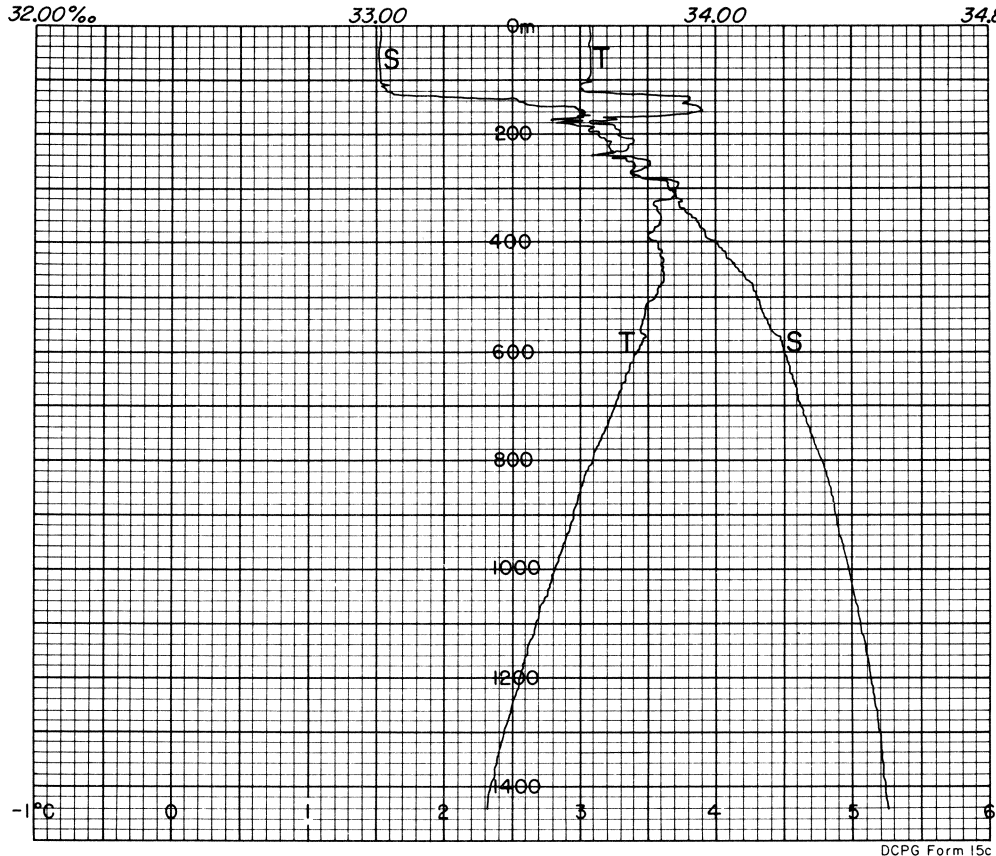


Feb. 28, 1966 ; 0945 GMT ; 48°21' N, 174°58' E ; Sounding 5129 m.

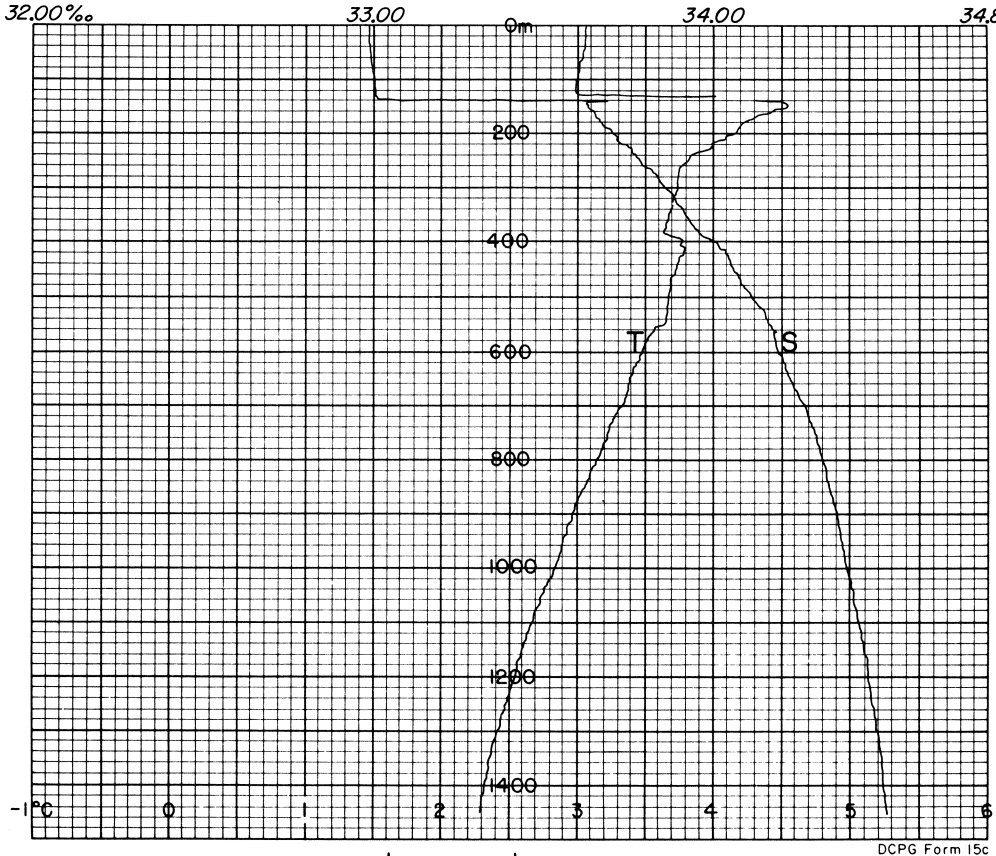
112



Feb. 28, 1966; 1315 GMT ; 47°50' N, 174°56' E ; Sounding 3972 m.



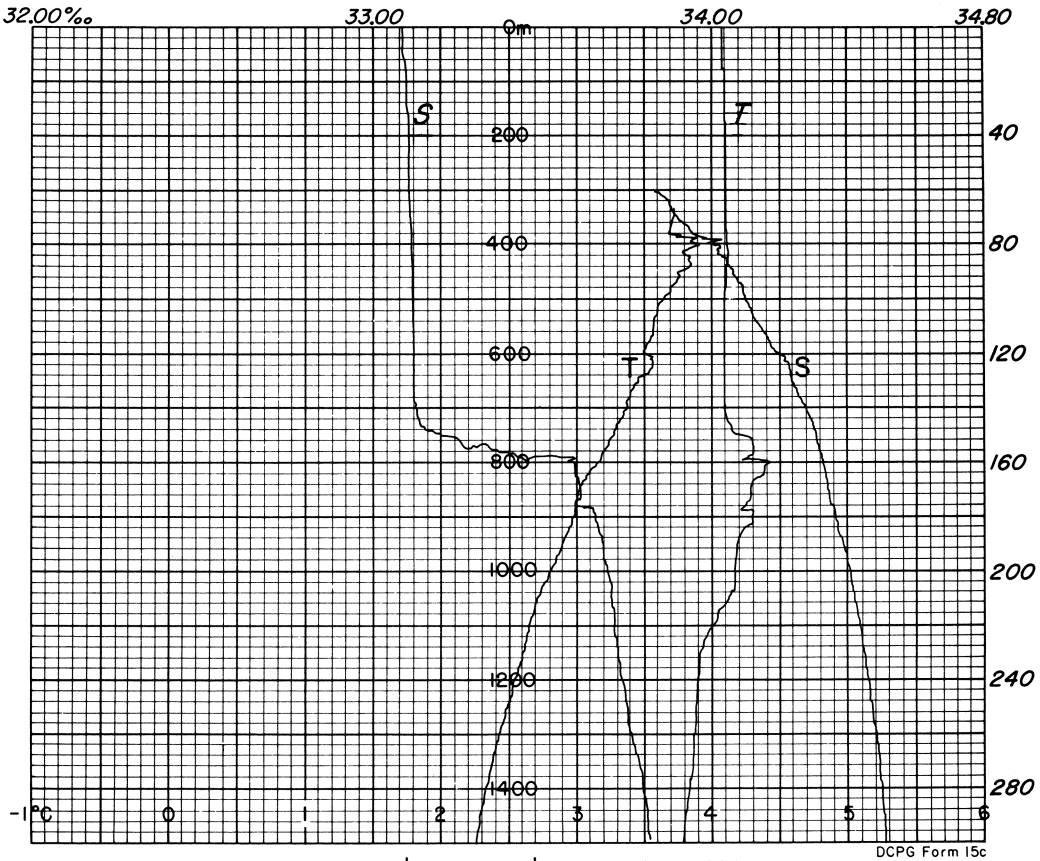
Feb. 28, 1966; 1932 GMT; 46°42'N, 174°54'E; Sounding 5550 m.



Mar. 1, 1966; 0104 GMT; 46°18'N, 174°55'E; Sounding 5431 m.

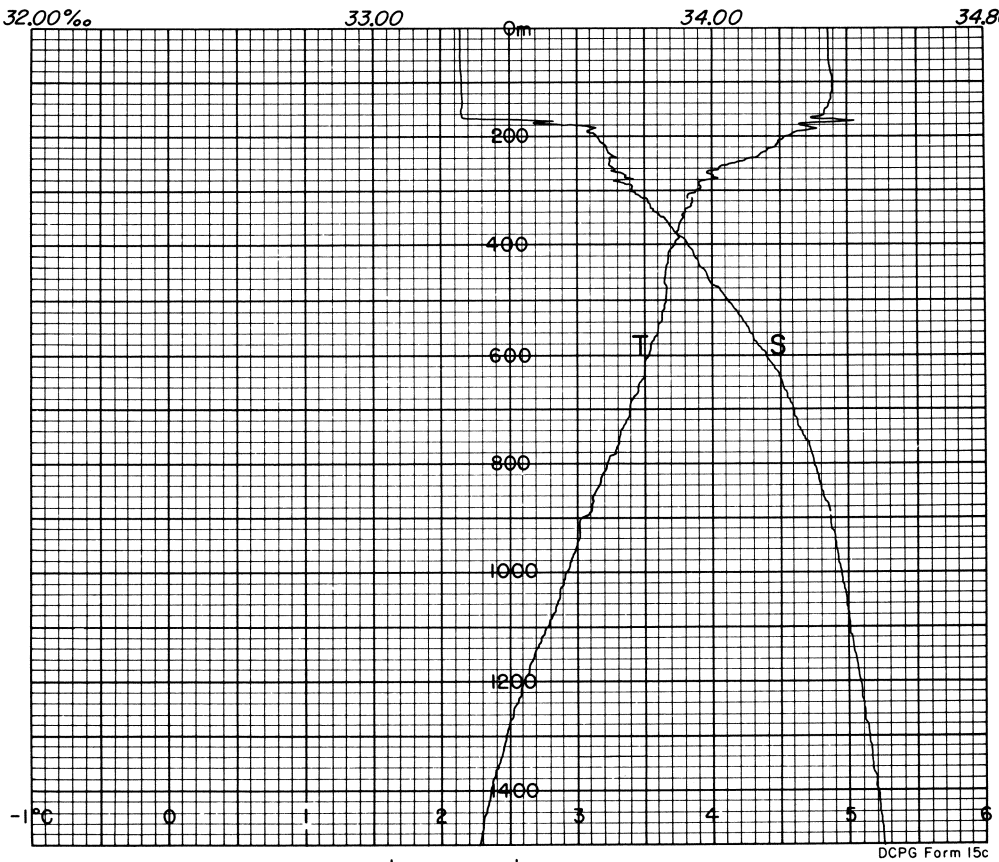
SIO
BOREAS

115 A
115 B

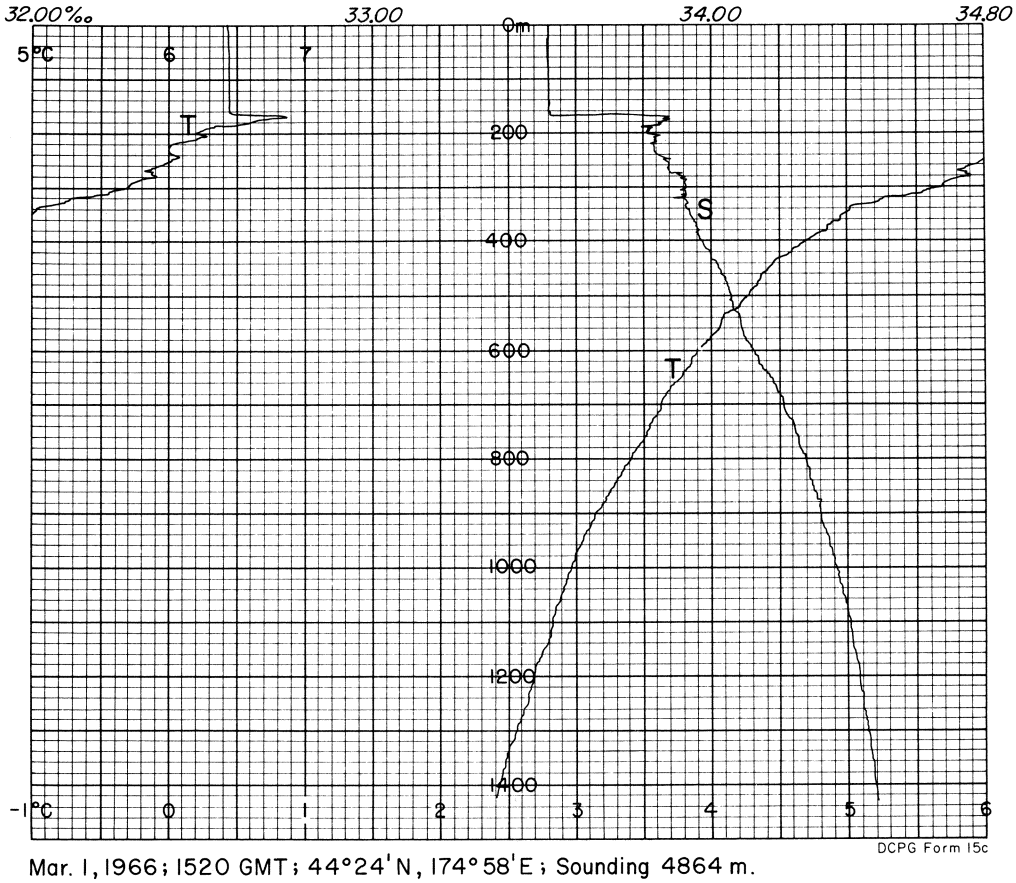


Mar. 1, 1966 ; 0422 GMT ; 45° 49' N, 174° 57' E ; Sounding 5395 m.
0431

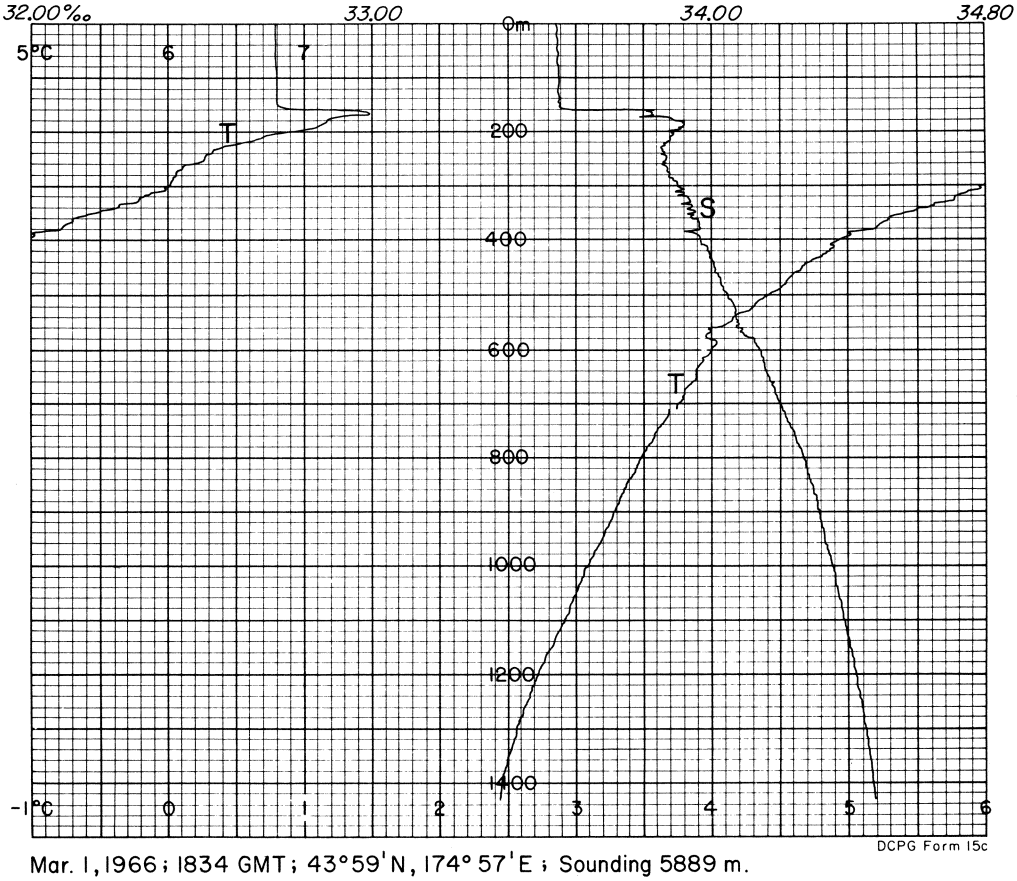
116



Mar. 1, 1966; 0948 GMT ; 44° 51' N, 174° 57' E ; Sounding 5074 m.



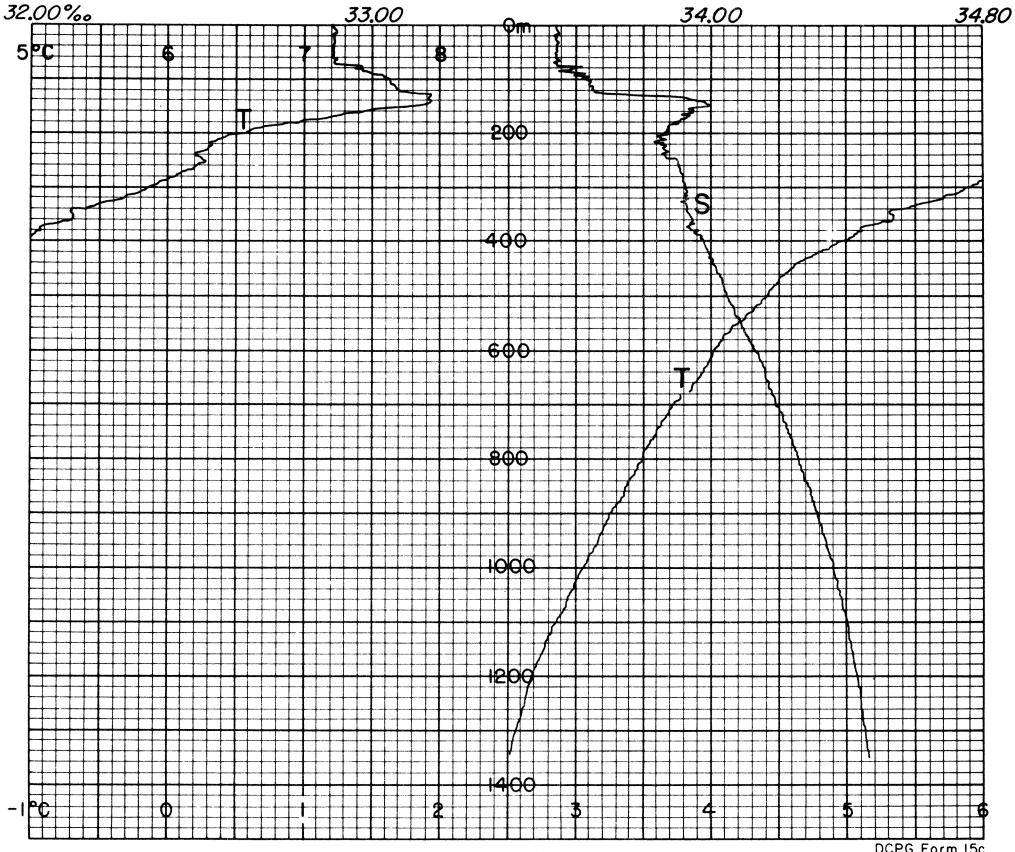
Mar. 1, 1966; 1520 GMT; 44°24'N, 174°58'E; Sounding 4864 m.



Mar. 1, 1966; 1834 GMT; 43°59'N, 174°57'E; Sounding 5889 m.

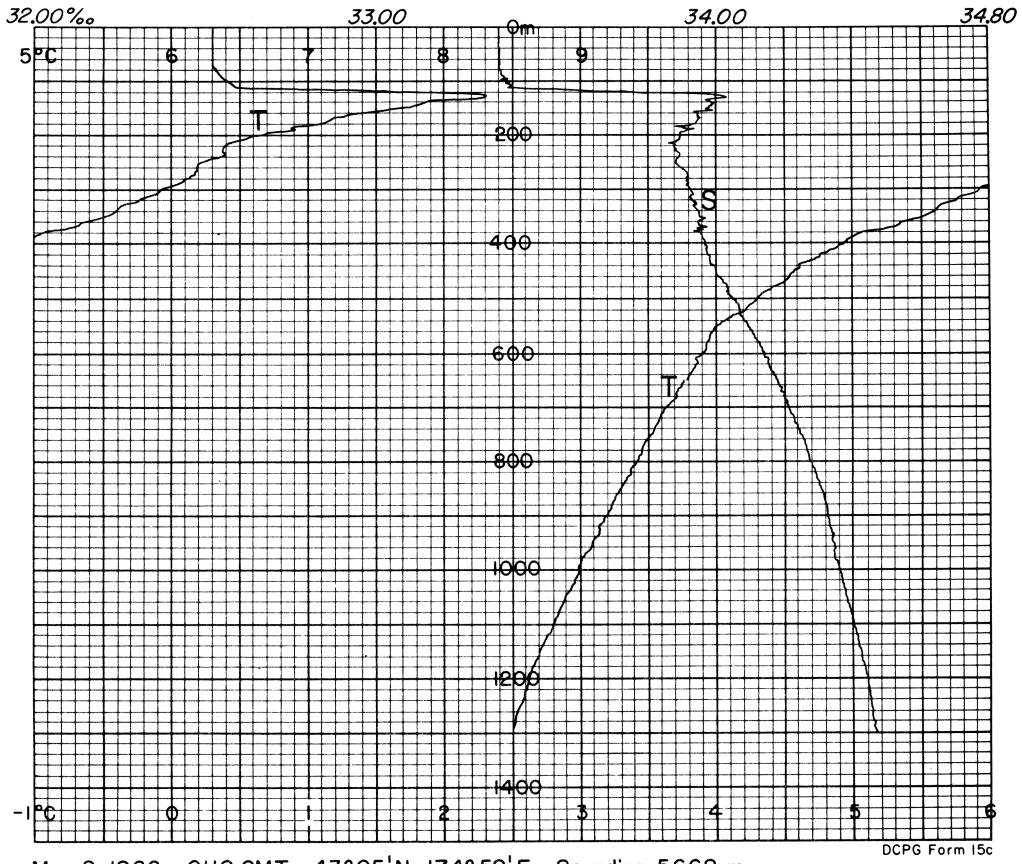
SIO
BOREAS

119

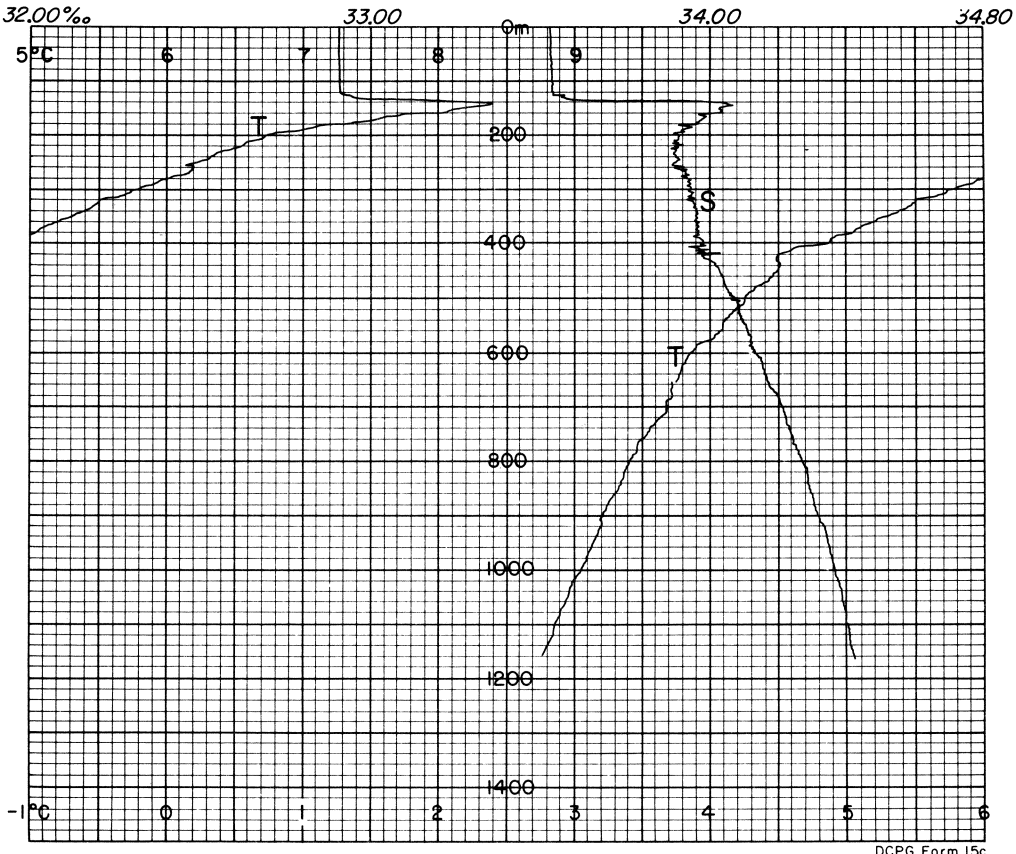


Mar. 1, 1966; 2148 GMT; 43°32'N, 174°56'E; Sounding 5778 m.

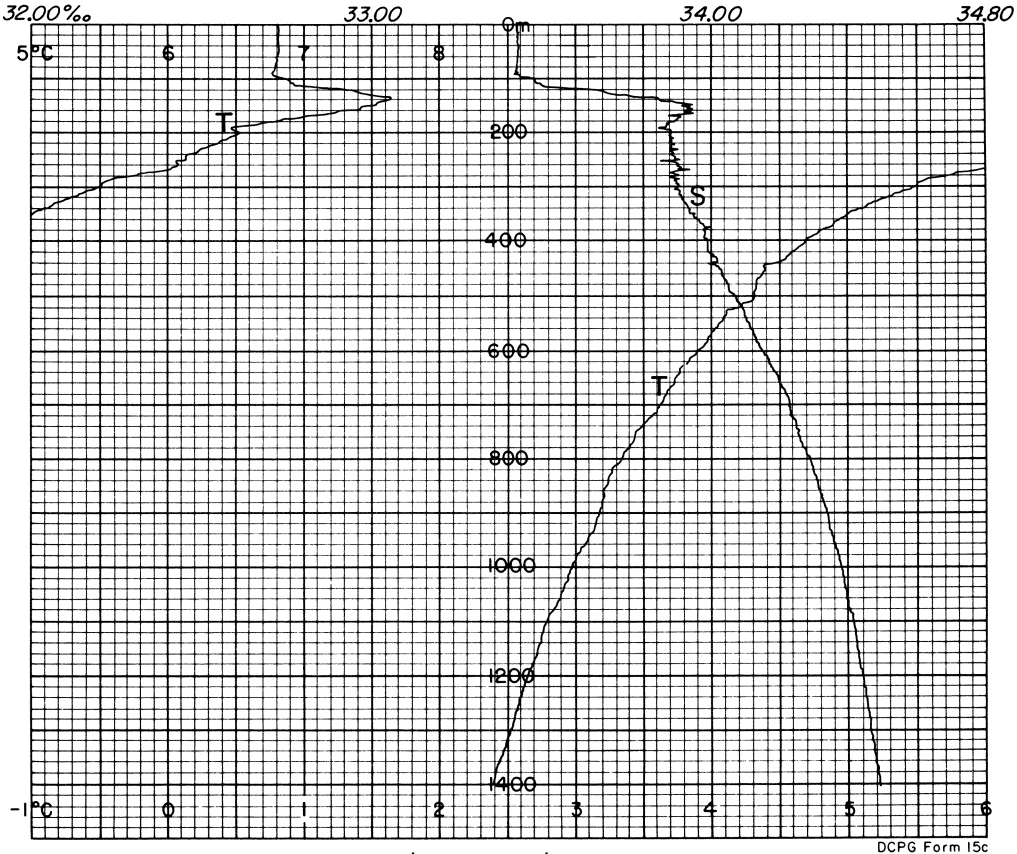
120



Mar. 2, 1966; 0110 GMT; 43°05'N, 174°58'E; Sounding 5668 m.

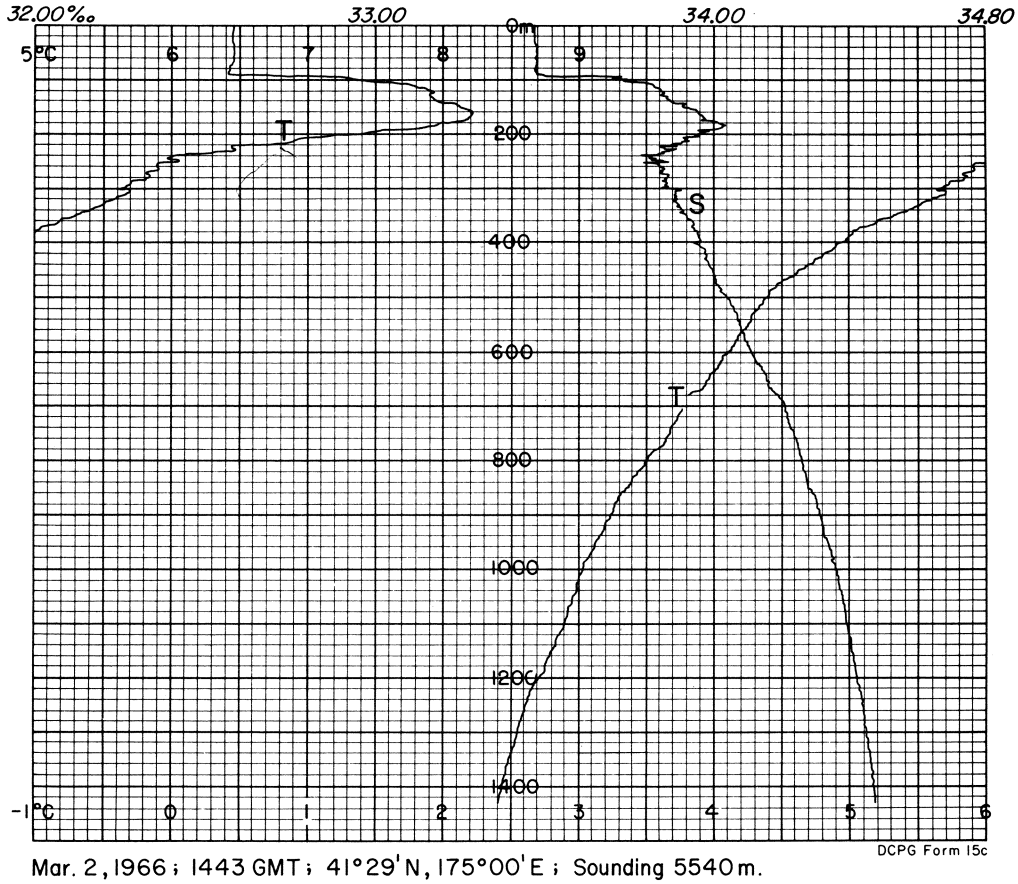


Mar. 2, 1966; 0632 GMT; 42°36'N, 175°00'E; Sounding 5208 m.



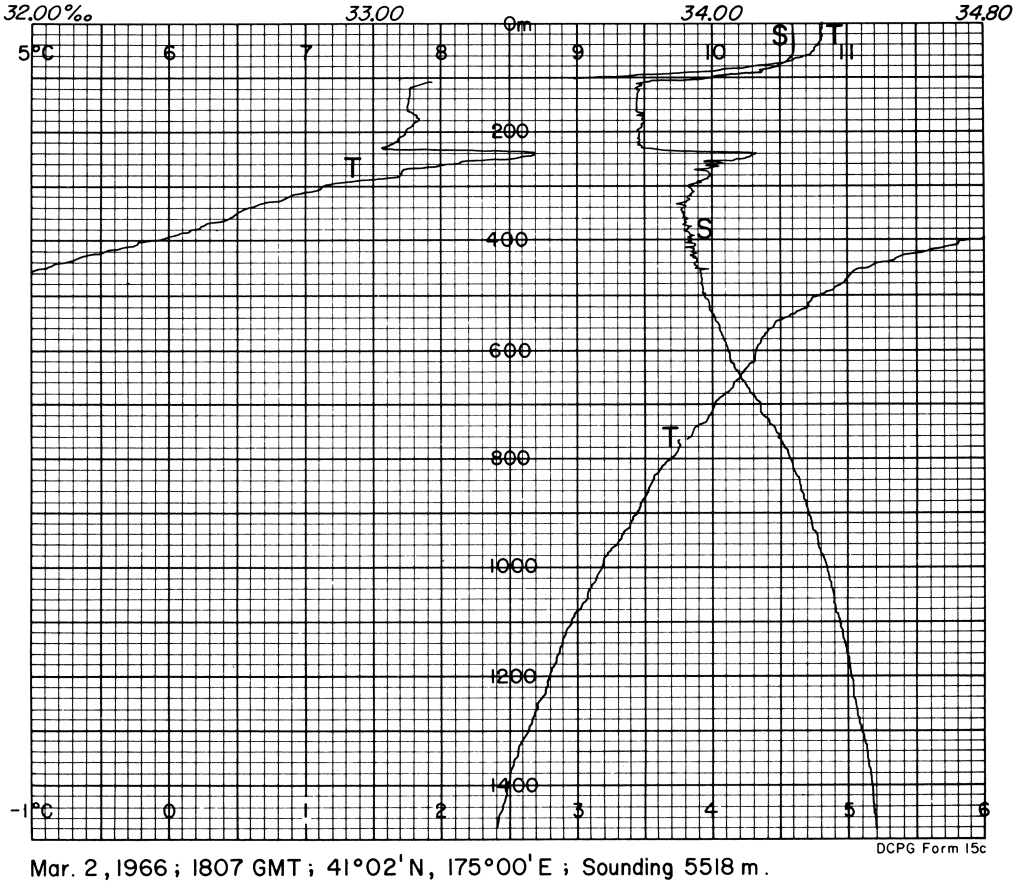
Mar. 2, 1966; 1024 GMT; 42°06'N, 175°00'E; Sounding 5486 m.

123



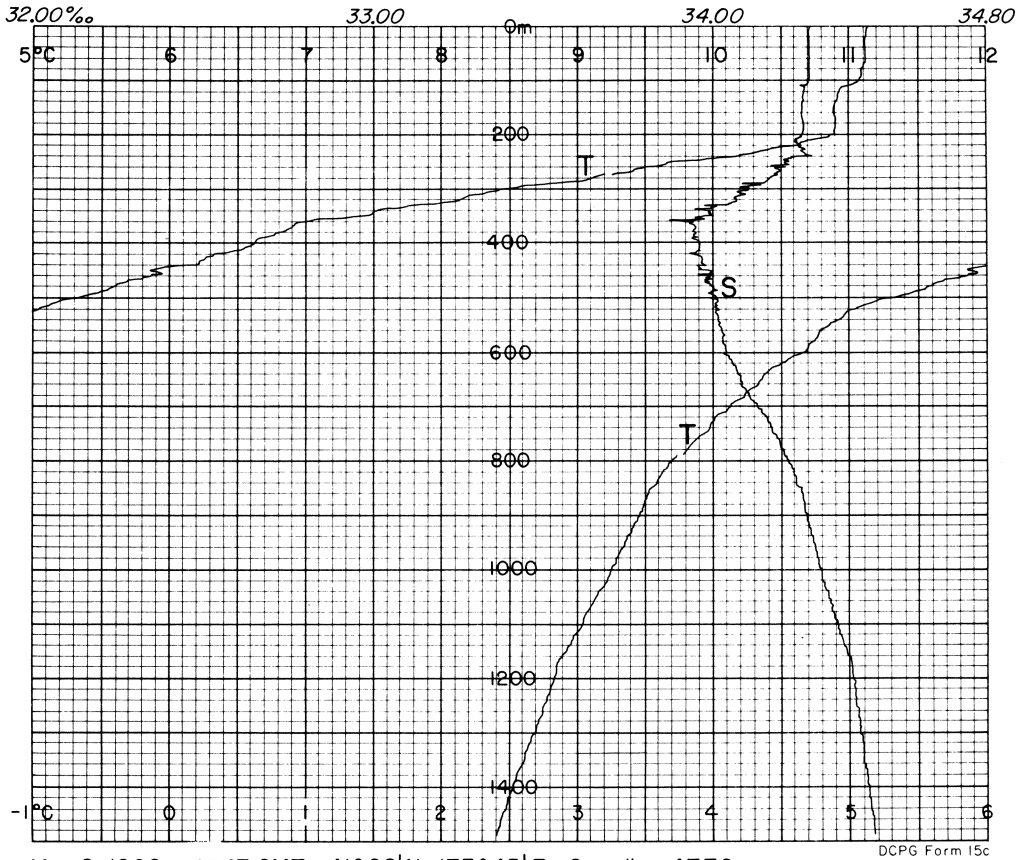
Mar. 2, 1966; 1443 GMT; 41°29'N, 175°00'E; Sounding 5540 m.

124



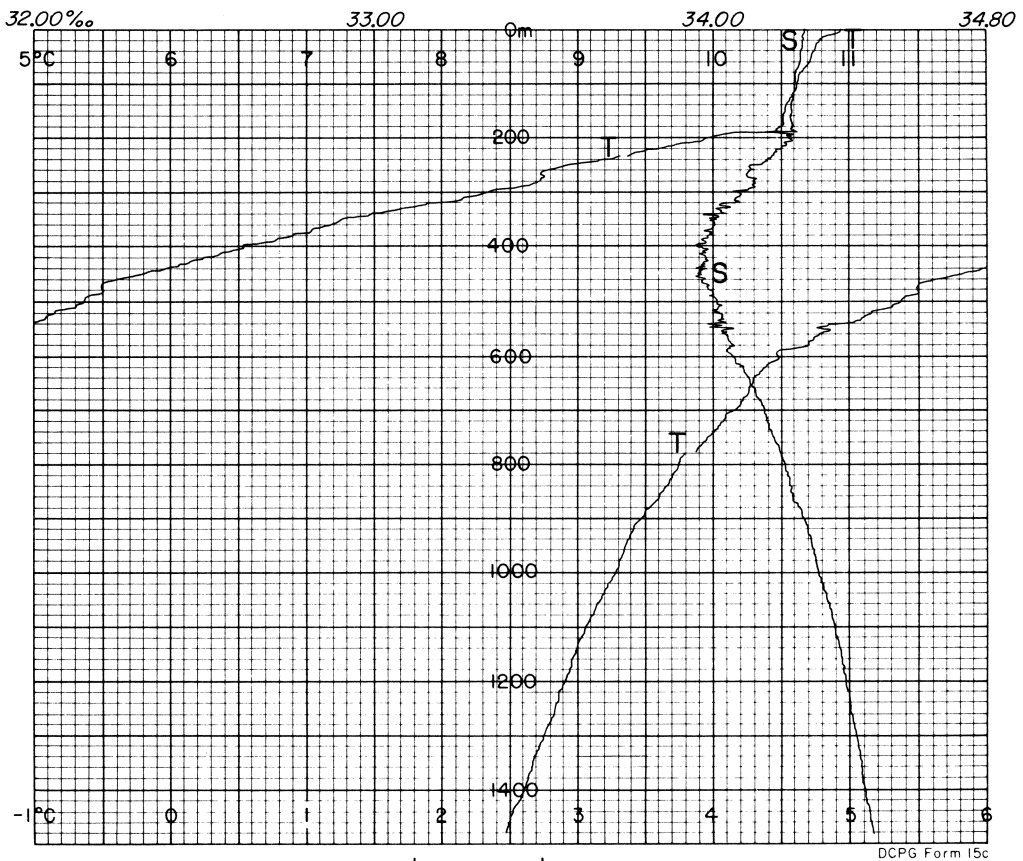
Mar. 2, 1966; 1807 GMT; 41°02'N, 175°00'E; Sounding 5518 m.

125



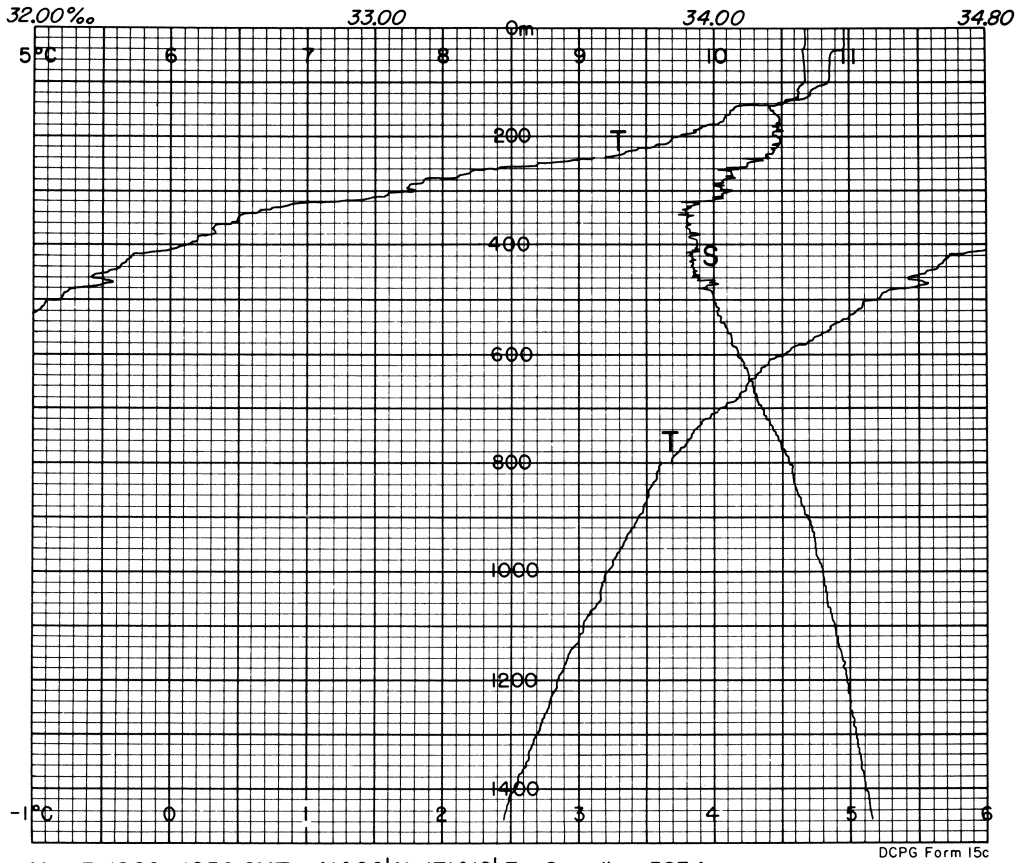
Mar. 2, 1966; 2347 GMT; 41°02'N, 173°45'E; Sounding 4776 m.

126



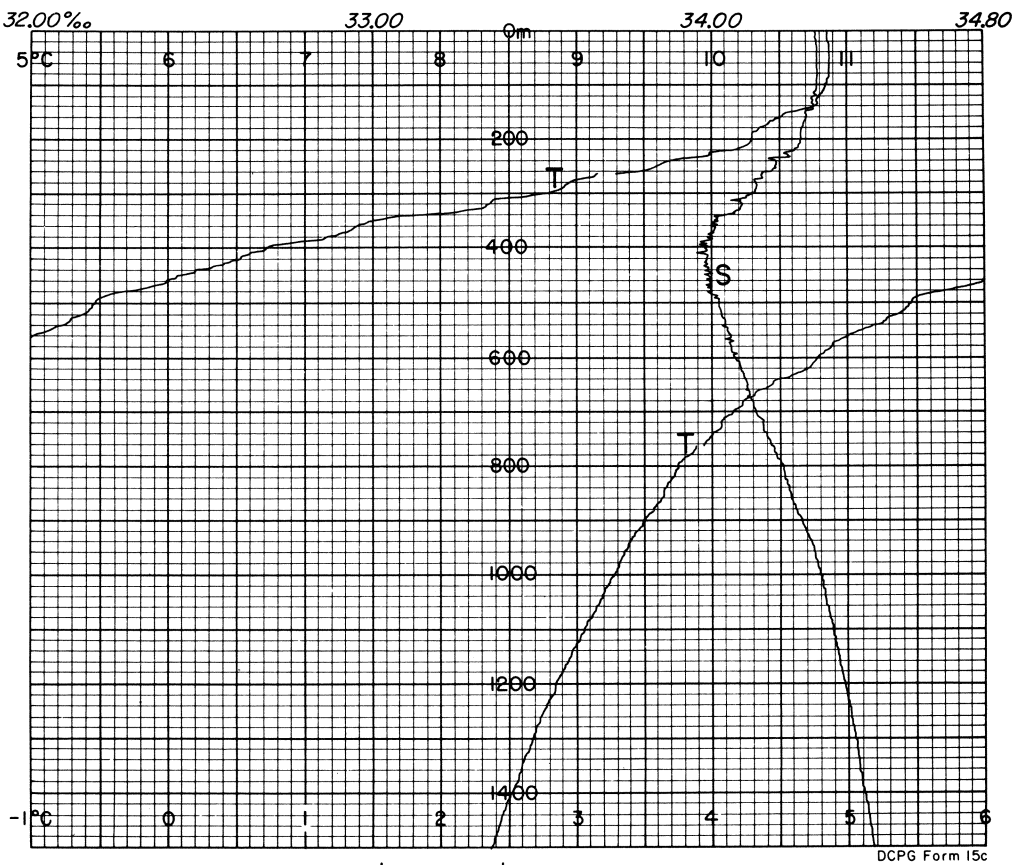
Mar. 3, 1966; 0532 GMT; 41°03'N, 172°34'E; Sounding 4897 m.

127



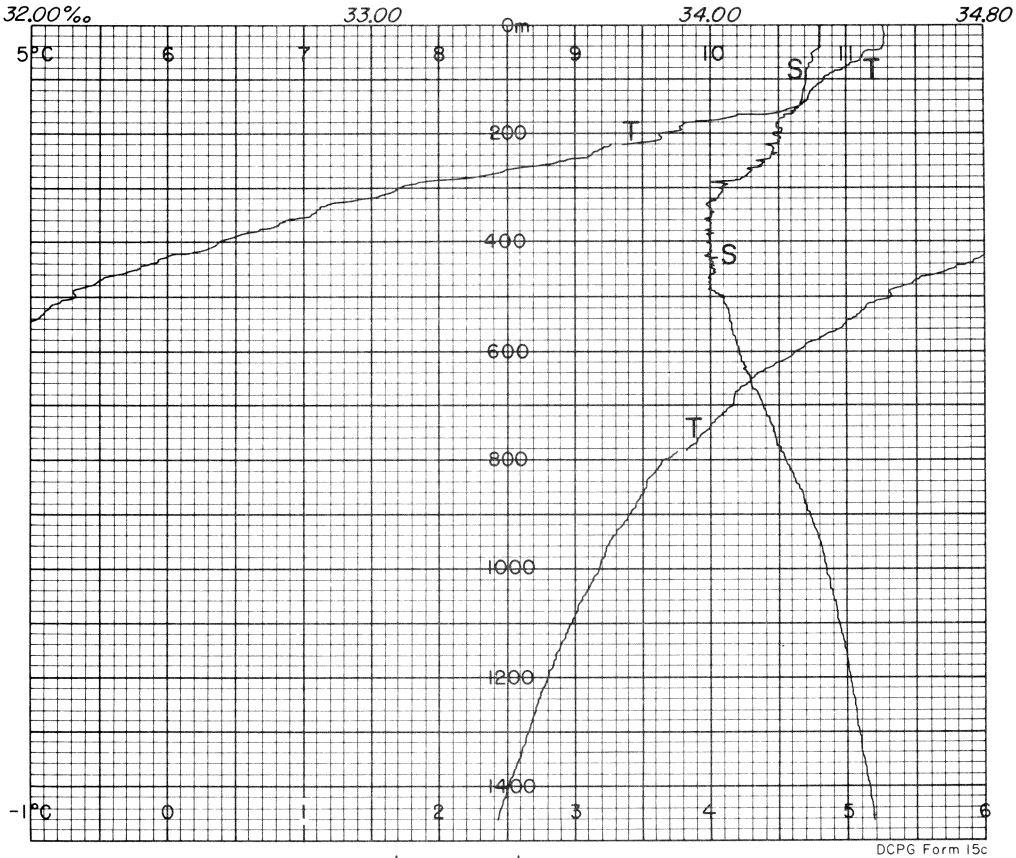
Mar. 3, 1966; 1056 GMT; 41°00'N, 171°12'E; Sounding 5834 m.

128



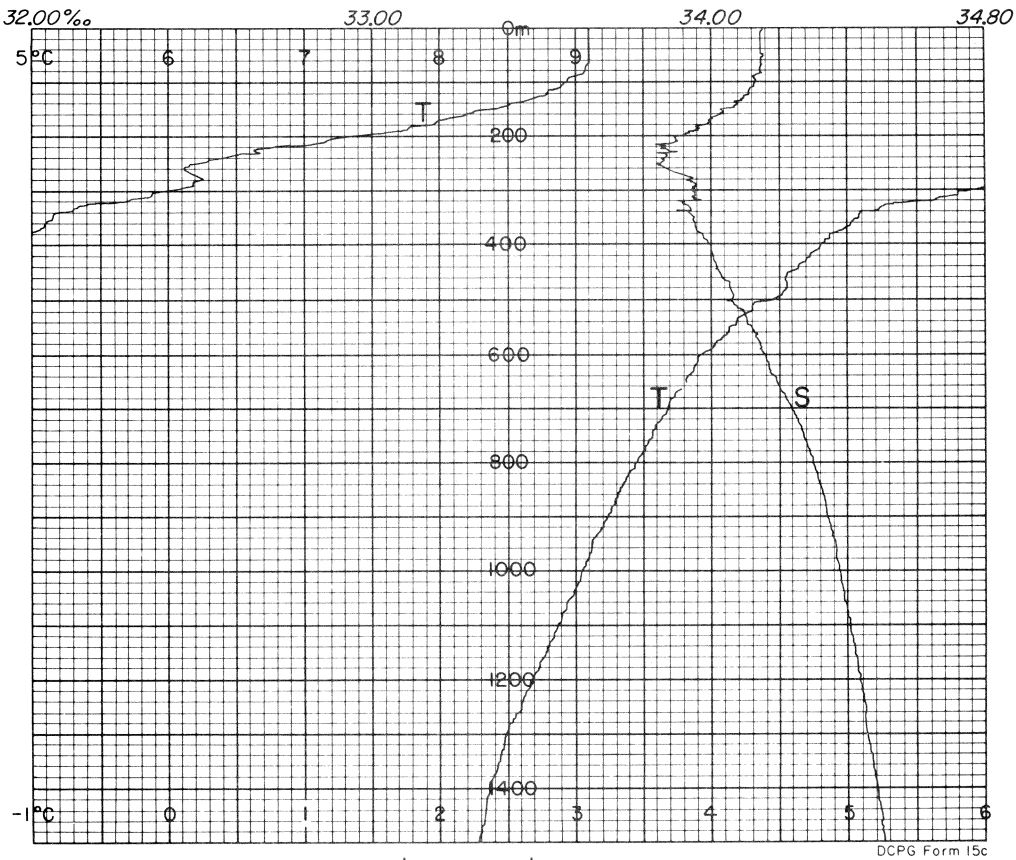
Mar. 3, 1966; 1922 GMT; 41°00'N, 169°05'E; Sounding 5555 m.

129



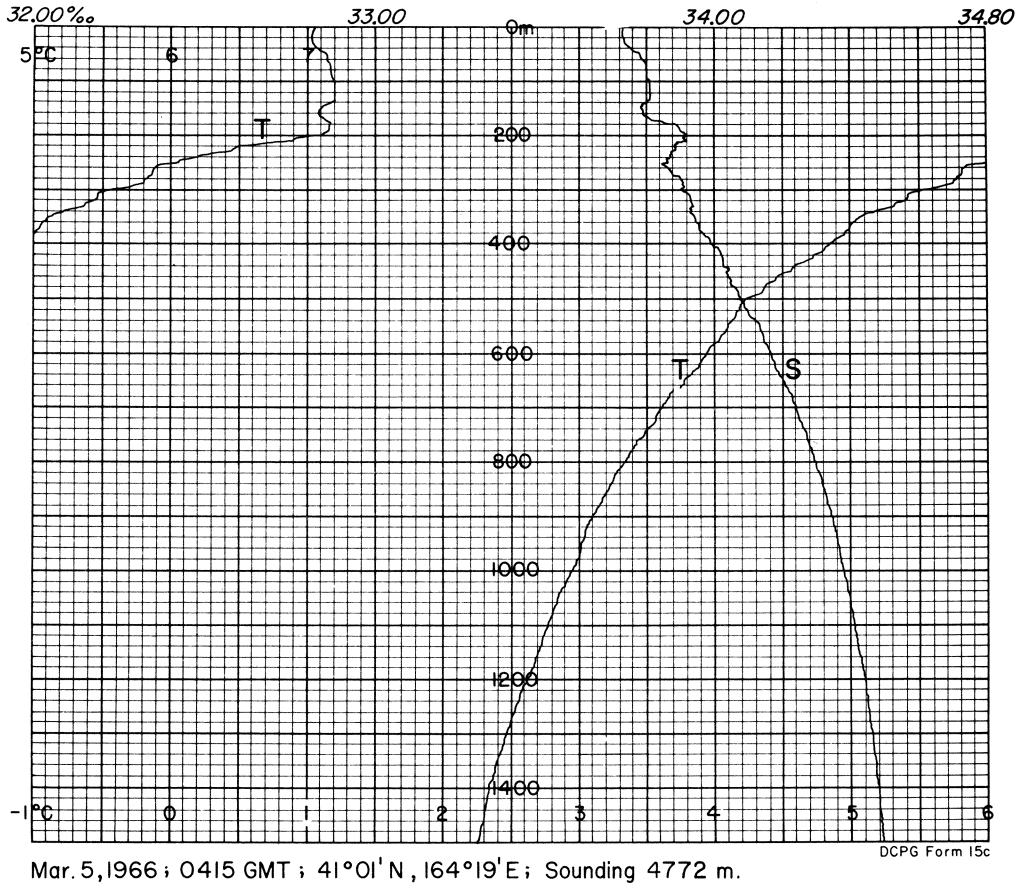
Mar. 4, 1966; 0749 GMT; 40°59'N, 166°54'E; Sounding 5476 m.

130



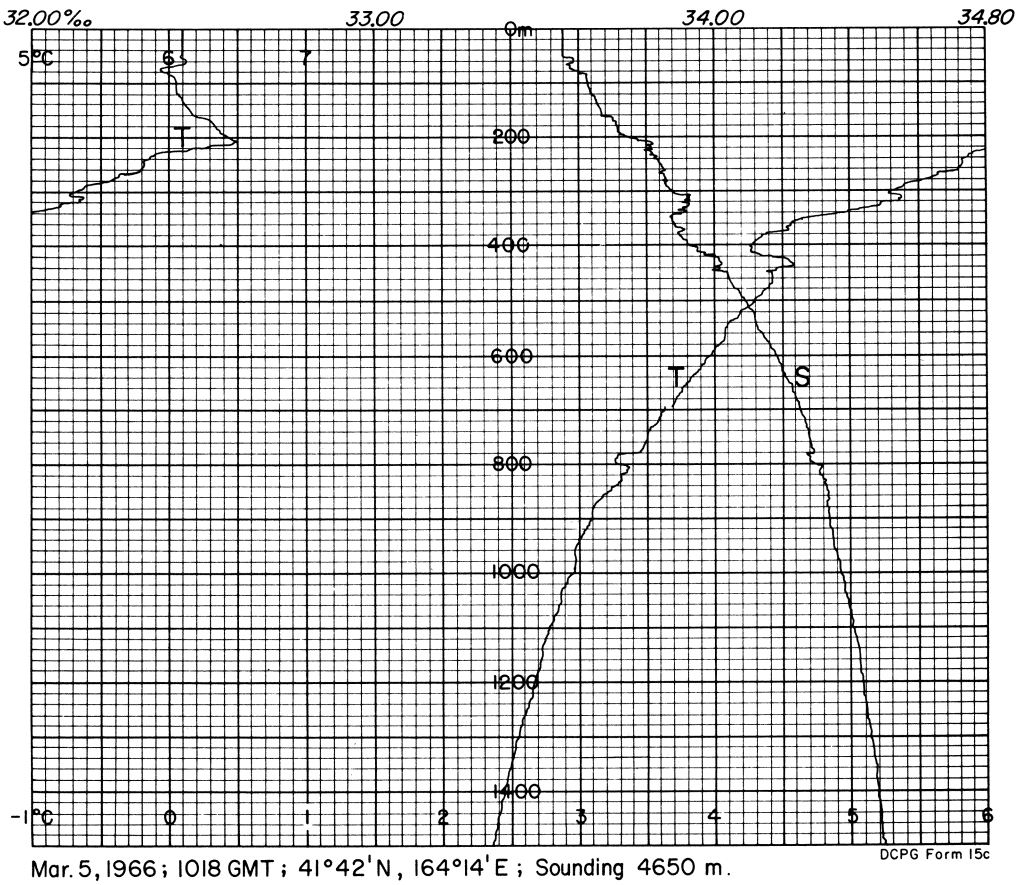
Mar. 4, 1966; 2225 GMT; 40°02'N, 164°09'E; Sounding 4864 m.

131



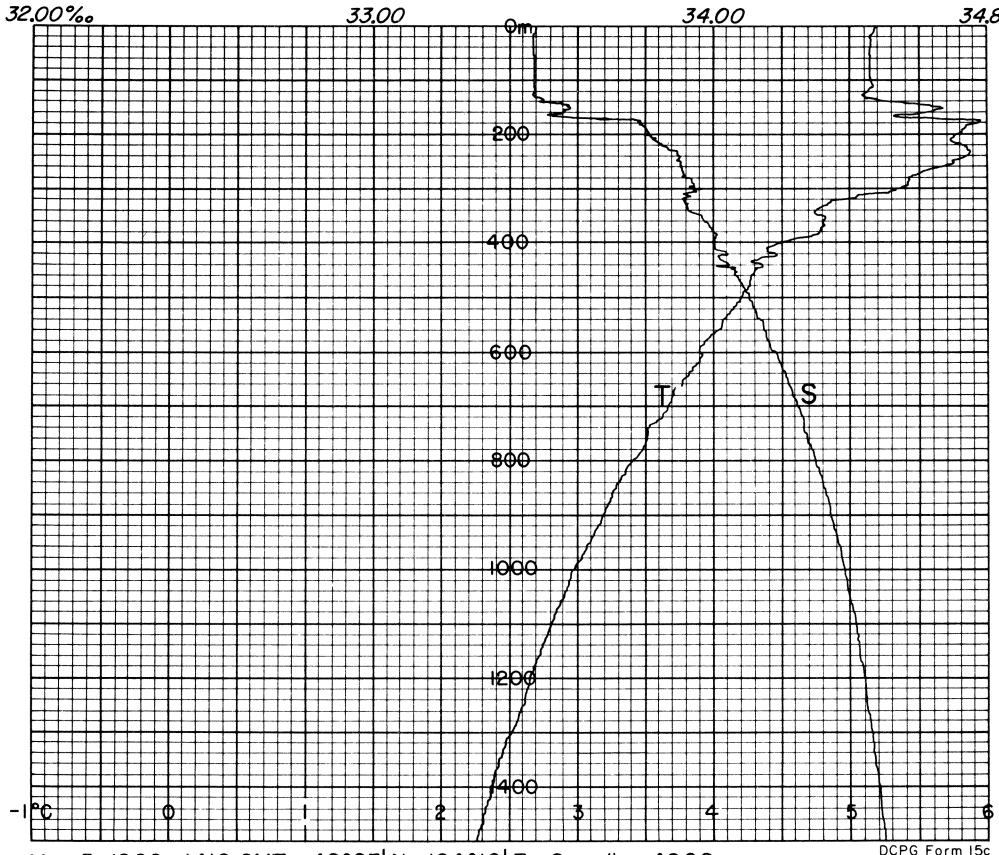
Mar. 5, 1966; 0415 GMT; 41°01'N, 164°19'E; Sounding 4772 m.

132



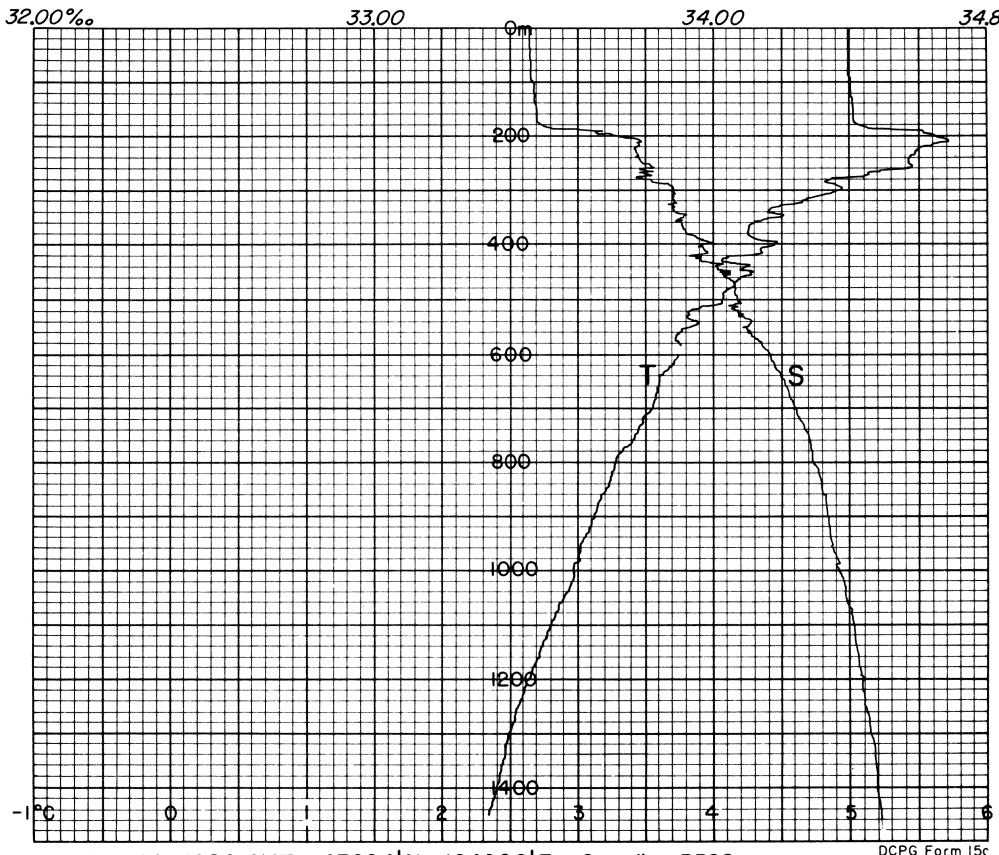
Mar. 5, 1966; 1018 GMT; 41°42'N, 164°14'E; Sounding 4650 m.

133



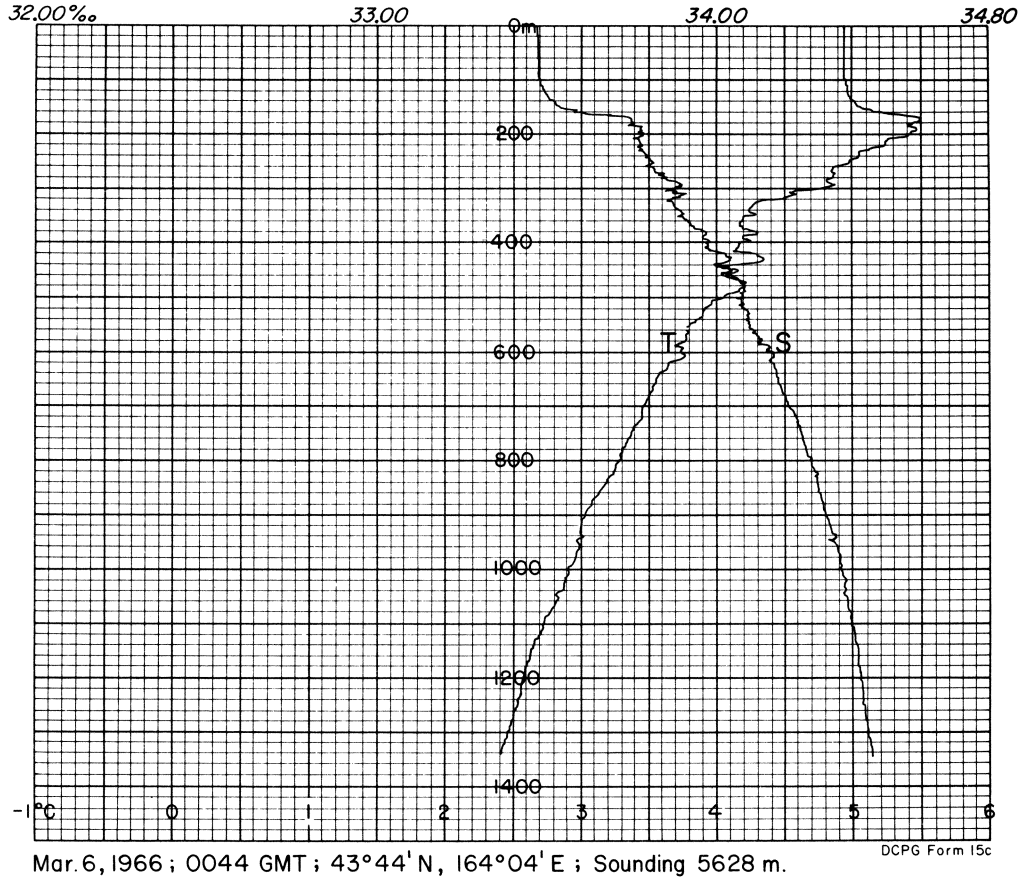
Mar. 5, 1966; 1419 GMT; 42°23'N, 164°10'E; Sounding 4902 m.

134



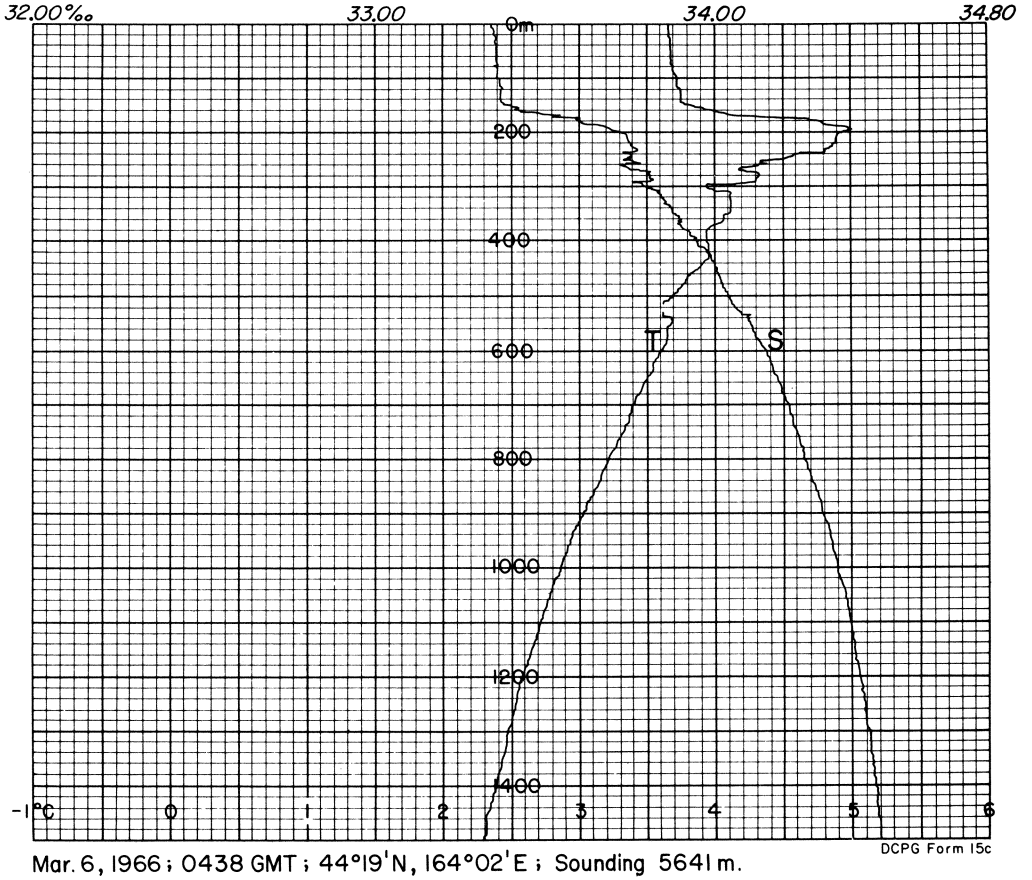
Mar. 5, 1966; 1820 GMT; 43°04'N, 164°06'E; Sounding 5582 m.

135



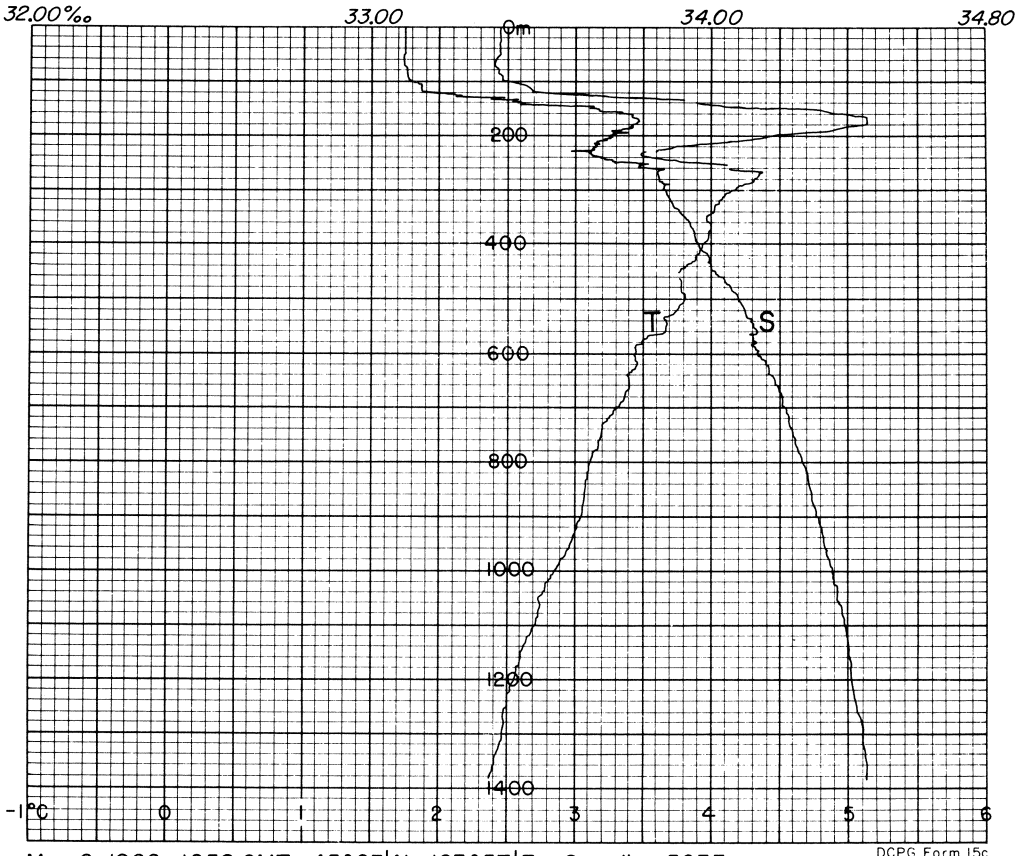
Mar. 6, 1966 ; 0044 GMT ; 43°44'N, 164°04'E ; Sounding 5628 m.

136



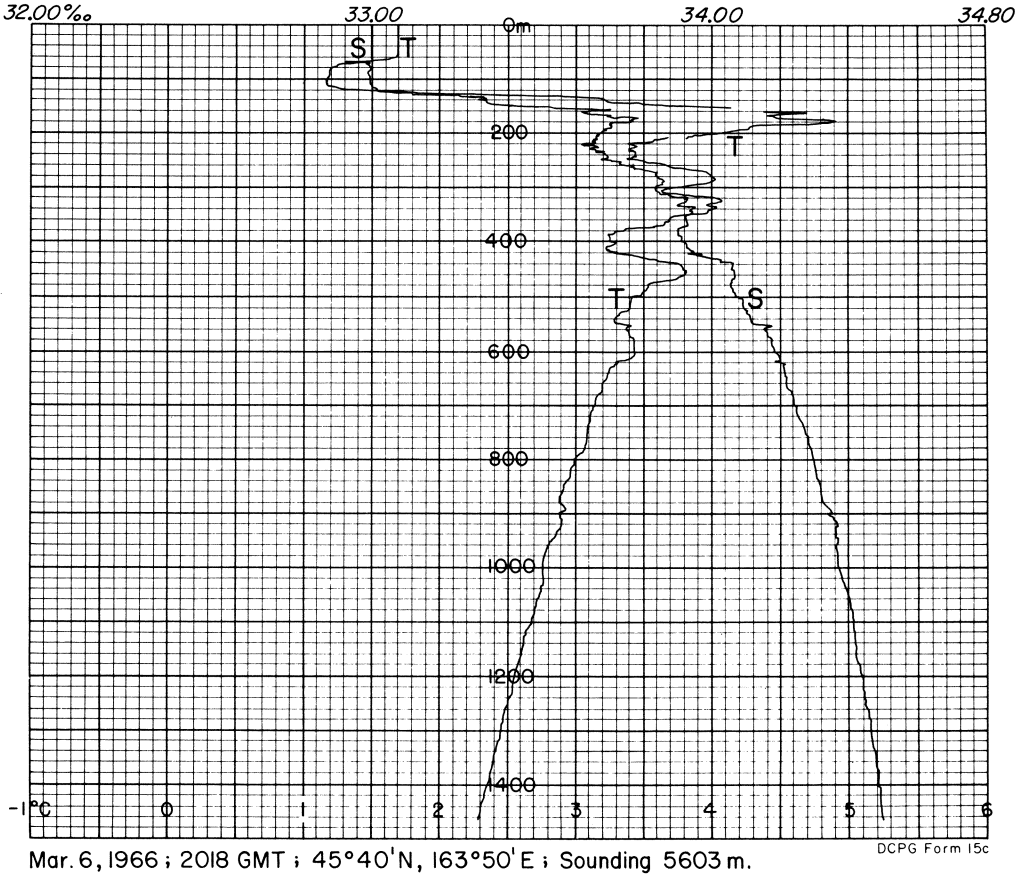
Mar. 6, 1966 ; 0438 GMT ; 44°19'N, 164°02'E ; Sounding 5641 m.

137



Mar. 6, 1966; 1058 GMT; 45°03'N, 163°57'E; Sounding 5033 m.

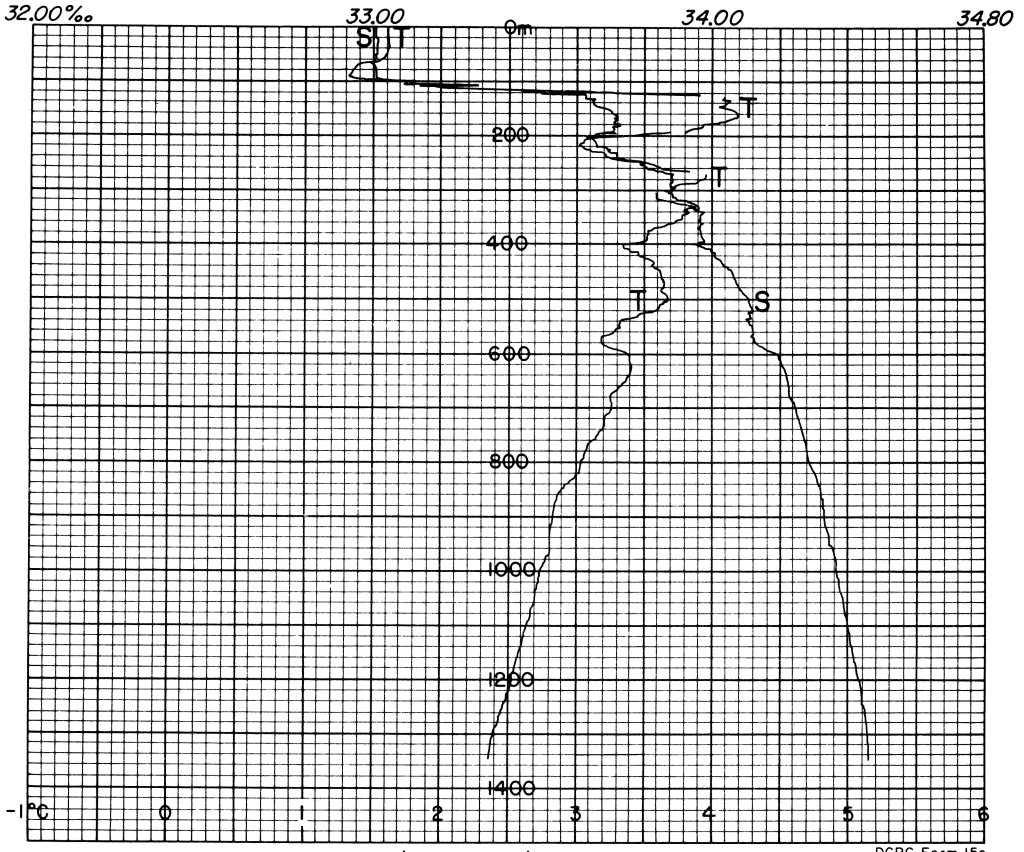
138



Mar. 6, 1966; 2018 GMT; 45°40'N, 163°50'E; Sounding 5603 m.

SIO
BOREAS

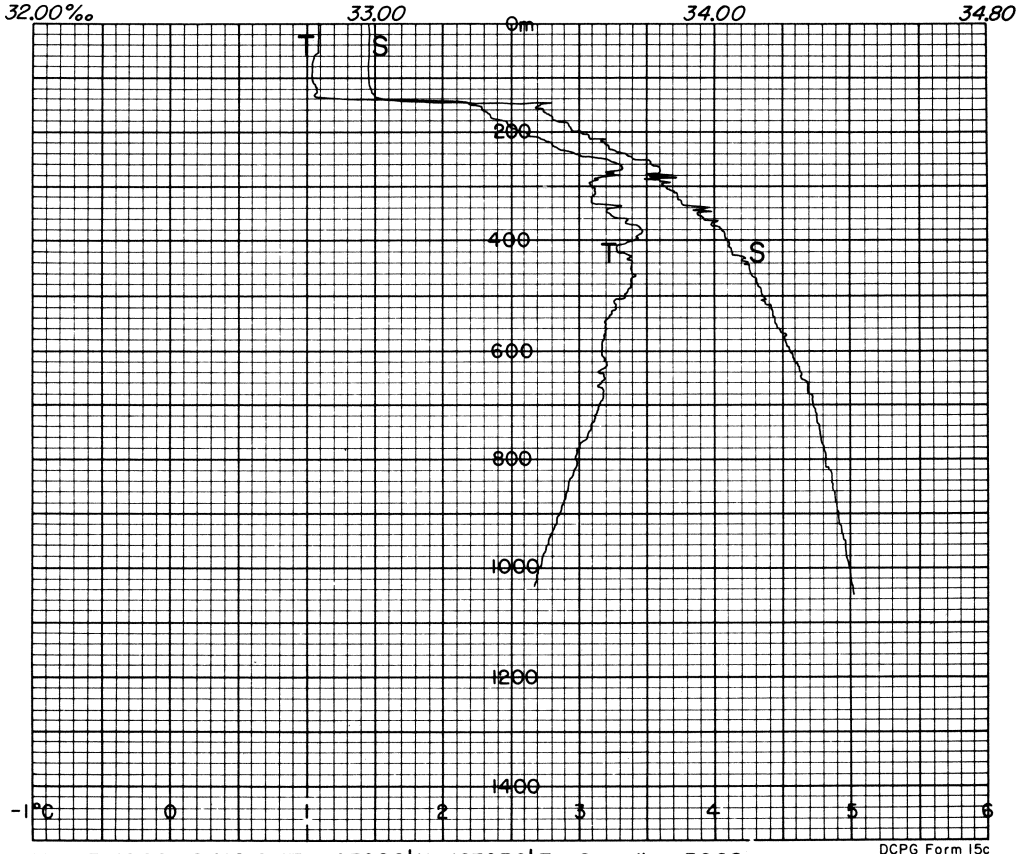
139



DCPG Form 15c

Mar. 6, 1966 ; 2350 GMT ; 46°20'N, 163°47'E ; Sounding 5870 m.

140



DCPG Form 15c

Mar. 7, 1966; 0410 GMT ; 47°00'N, 163°50'E ; Sounding 5669 m.

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
				I-28	0300	56°59'	152°48'						-	32.463	-
				28	0510	56°39'	153°21'						-	32.493	-
				28	0700	56°21'	153°53'						-	32.570	-
				28	0900	56°05'	154°34'						-	32.616	-
				28	1100	55°51'	155°12'						-	32.637	-
				28	1300	55°35'	155°48'						-	32.639	-
				28	1500	55°23'	156°29'						2.9	31.765	264
				28	1700	55°10'	157°10'						2.8	31.769	263
				28	1900	54°58'	157°49'						3.3	31.893	258
				28	2100	54°45'	158°29'						3.3	31.758	268
				28	2300	54°37'	159°13'						3.2	31.678	273
				29	0100	54°31'	159°57'						3.5	31.758	270
				29	0300	54°25'	160°41'						3.5	31.795	267
				29	0500	54°18'	161°25'						3.5	31.919	258
				29	0700	54°12'	162°09'						3.5	31.830	265
				29	0900	54°06'	162°52'						3.8	-	-
				29	1300	53°55'	164°23'						3.4	32.893	183
1				29	1530	53°51'	164°59'	62	130°	6	missing	missing	3.7	31.781	270
				29	1800	53°25'	164°58'						3.4	32.223	234

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
2				I-29	1820	53°24'	164°58'	1250	150°	5	rain	very rough	3.7	32.203	238
	3			29	2201	52°58'	164°58'	1860	170°	5	overcast	very rough	3.77	32.453	220
4				30	0412	52°31'	164°57'	3340	250°	6	overcast	high	3.7	32.614	207
5				30	1030	51°49'	164°54'	2318	260°	5	cloudy	high	3.6	32.766	195
	6			30	1600	50°46'	165°20'	2196	180°	7	snow	very rough	4.36	32.701	207
7				31	0102	49°55'	165°00'	2273	260°	5	partly cloudy	very rough	4.2	32.684	206
8				31	0630	49°02'	164°02'	2326	280°	5	overcast	rough	4.6	32.754	205
				31	0900	48°41'	164°55'						4.9	32.873	199
				31	1100	48°18'	164°54'						5.0	32.873	200
	9			31	1405	48°09'	164°53'	2384	270°	5	partly cloudy	very rough	5.16	32.898	200
10				II-1	0040	47°02'	165°00'	2834	220°	4	overcast	rough	6.4	33.023	205
				1	0300	46°57'	164°59'						6.5	33.007	208
				1	0500	46°21'	164°59'						6.4	32.983	208
11				1	0759	46°06'	165°00'	2852	170°	4	cloudy	rough	6.6	33.037	206
				1	1000	45°54'	165°01'						6.5	33.020	206
12				1	1140	45°39'	165°03'	2864	210°	4	rain	very rough	7.0	33.094	207
				1	1400	45°21'	165°04'						7.3	-	-
	13			1	1606	45°11'	165°05'	2870	200°	5	rain	rough	7.22	33.120	208
				1	1900	45°02'	165°03'						7.75	33.180	211

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
				II-1	2100	44°41'	165°03'						7.7	33.277	203
14				1	2129	44°36'	165°03'	2904	300°	3	partly cloudy	rough	7.8	33.333	200
				1	2300	44°27'	165°03'						8.0	33.335	202
15				2	0108	44°01'	165°00'	2864	300°	3	partly cloudy	moderate	8.2	33.365	203
				2	0300	43°46'	165°00'						8.3	33.363	205
16				2	0420	43°30'	165°01'	2640	320°	4	cloudy	rough	7.9	33.334	201
				2	0600	43°19'	165°01'						8.5	-	-
17				2	0749	42°59'	165°02'	2584	360°	3	partly cloudy	moderate	8.9	33.573	198
				2	1000	42°40'	165°03'						8.7	33.565	196
18				2	1056	42°28'	165°03'	2683	340°	3	partly cloudy	rough	9.0	33.631	195
				2	1200	42°25'	165°04'						9.1	33.635	196
	19			2	1506	41°57'	165°05'	2530	010°	1	partly cloudy	rough	9.32	33.695	195
				2	2000	41°58'	165°36'						10.0	33.863	194
				2	2200	42°00'	165°54'						10.4	34.020	188
				3	0020	42°02'	166°20'						11.25	34.000	204
				3	0230	42°04'	166°56'						10.7	34.028	193
				3	0430	42°05'	167°31'						10.2	33.964	189
				3	0600	42°07'	167°56'						10.2	33.979	188
20				3	0700	42°07'	168°08'	2616	190°	4	missing	moderate	10.2	33.972	189

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
				II-3	1000	42°08'	168°30'						10.2	33.868	196
				3	1200	42°11'	169°03'						10.2	33.903	194
				3	1400	42°14'	169°34'						10.53	34.065	187
				3	1620	42°18'	170°13'						-	33.980	-
21				3	1805	42°21'	170°36'	2664	190°	6	overcast	very rough	9.9	33.778	198
				3	2015	42°21'	170°51'						10.1	33.773	202
22				3	2115	42°19'	171°08'	2666	330°	2	cloudy	rough	10.4	33.926	195
				3	2300	42°20'	171°25'						10.0	33.846a)	195a)
				4	0100	42°21'	171°57'						8.6	33.549	195
				4	0200	42°22'	172°13'						8.6	33.605	191
				4	0700	42°26'	173°29'						8.6	33.553	195
				4	0900	42°22'	174°00'						9.1	33.634	196
				4	1100	42°18'	174°31'						9.5	33.676	199
23				4	1252	42°16'	174°52'	3116	290°	4	missing	rough	9.1	33.701	192
				4	1500	42°17'	175°14'						9.2	33.654	196
				4	1700	42°18'	175°45'						9.5	33.667	200
				4	2100	42°19'	176°47'						9.8	33.565	212

a) Alternate value, 33.927‰; 189 cl/ton.

SURFACE WATER SAMPLES														
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	West	(fm)	Dir	Force			°C	‰	cl/ton
				II-4	2300	42°19'	177°17'						8.0	33.684	177
				5	0100	42°19'	177°49'						9.0	33.844	179
24				5	0245	42°19'	178°17'	2763	210°	5	overcast	high	9.2	33.870	180
				5	0400	42°19'	178°40'						8.5	33.669	185
				5	0700	42°19'	179°12'						7.4	33.430	187
				5	0900	42°20'	179°44'						7.5	33.487	184
				5	1100	42°20'	179°44'a)						7.5	33.522	182
				5	1300	42°21'	179°12'						9.2	33.893	179
				5	1500	42°21'	178°41'						10.0	34.063	179
25				5	1653	42°21'	178°14'	2877	200°	7	overcast	high	9.5	33.967	178
				5	1900	42°21'	177°59'						9.0	33.773	184
				5	2100	42°21'	177°29'						8.2	33.599	186
				5	2300	42°21'	176°59'						8.2	33.621	184
				6	0300	42°21'	175°58'						7.5	33.494	184
				6	0500	42°21'	175°29'						7.5	33.465b)	186b)
				6	0700	42°22'	175°02'						6.6	33.266	189
26				6	0851	42°23'	174°40'	3014	330°	1	rain	very rough	6.1	33.238	185

a) Remainder of stations on this page are east longitude.
b) Alternate value, 33.858‰; 157 cl/ton.

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
				II-6	1400	42°21'	173°34'						6.4	33.384	178
				6	1600	42°20'	173°04'						6.8	33.475	176
				6	1800	42°20'	172°30'						9.1	34.018	168
				6	2045	42°17'	171°47'						8.7	33.881	172
				6	2200	42°15'	171°27'						9.0	33.913	174
				7	0000	42°12'	170°54'						10.5	34.206	176
27				7	0245	42°10'	170°13'	1590	270°	4	partly cloudy	high	7.0	33.554	173
28				7	0344	42°10'	170°15'	870	250°	4	missing	high	8.4	33.808	173
29				7	0529	42°10'	170°17'	786	260°	4	overcast	high	8.8	33.858	175
30				7	0542	42°06'	170°23'	945	320°	5	cloudy	very rough	9.4	34.021	172
				7	0800	42°22'	170°34'						9.3	33.978	174
	31			7	1011	42°33'	170°31'	1980	250°	6	missing	very rough	8.38	33.783	174
				7	1400	42°43'	170°24'						9.5	33.925	181
32				7	1527	43°00'	170°23'	1074	260°	4	snow	rough	8.3	33.888	166
				7	1800	43°18'	170°20'						6.7	33.544	170
				7	2000	43°45'	170°17'						5.2	33.259	173
33				7	2107	43°58'	170°15'	2340	250°	3	cloudy	very rough	5.1	33.277	171
				7	2300	44°07'	170°24'						4.7	33.217	171
				8	0200	44°33'	170°18'						4.7	33.542	147

SURFACE WATER SAMPLES														
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	East	(fm)	Dir	Force			°C	‰	cl/ton
	34			II-8	0404	45°00'	170°15'	1218	280°	5	cloudy	very rough	4.51	33.258	166
				8	1000	45°35'	169°54'						4.5	33.238	168
35				8	1257	46°00'	169°43'	740	260°	6	partly cloudy	very rough	4.0	-	-
				8	1500	46°15'	169°38'						2.7	32.983	171
				8	1700	46°39'	169°29'						2.5	32.948	172
	36			8	2118	46°59'	169°23'	2190	280°	7	partly cloudy	very high	2.61	32.934	174
				9	0200	47°26'	169°10'						2.2	33.035	163
				9	0400	47°49'	169°04'						2.0	33.066	159
37				9	0450	47°56'	169°02'	1560	260°	6	overcast	high	2.3	33.193	152
				9	0700	48°14'	168°57'						2.2	33.194	151
				9	0910	48°41'	168°50'						2.2	33.156	154
	38			9	1202	48°51'	168°47'	2036	240°	4	snow	rough	2.29	33.134	156
39				9	1655	49°26'	168°39'	2859	240°	4	snow	moderate	2.0	33.160	152
				9	2000	49°51'	168°32'						1.7	33.146	151
40				9	2127	50°08'	168°34'	2730	010°	1	partly cloudy	rough	2.4	33.188	153
				10	0000	50°31'	168°29'						4.7	33.161	175
	41			10	0254	50°59'	168°27'	1820	330°	3	partly cloudy	moderate	2.44	33.170	154
				10	0700	51°08'	168°25'						2.1	33.175	152
42				10	0942	51°35'	168°18'	2052	340°	4	cloudy	rough	2.3	33.192	152

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
43				II-10	1215	52°02'	168°13'	2030	340°	6	snow	rough	2.3	33.183	152
				10	1435	52°17'	168°10'						-	33.182	-
44				10	1502	52°20'	168°10'	2343	320°	6	partly cloudy	very rough	1.9	33.197	148
45				10	1909	52°41'	168°06'	2574	300°	5	partly cloudy	very rough	1.5	33.233	143
				10	2100	52°51'	167°58'						1.4	33.244	142
46				10	2323	53°13'	167°37'	2642	280°	3	cloudy	very rough	1.6	33.191	147
				11	0100	53°21'	167°31'						2.1	33.159	153
	47			11	0436	53°43'	167°16'	3570	060°	5	snow	rough	1.80	33.198	148
48				11	1443	54°00'	166°29'	3118	110°	7	rain	very rough	1.5	33.208	145
49				11	1838	54°16'	165°44'	2972	100°	8	rain	very rough	1.0	33.228	140
				11	2100	54°29'	165°17'						1.0	33.207	142
50				11	2317	54°36'	164°59'	2310	250°	3	rain	very rough	0.7	33.194	141
				12	0030	54°48'	164°37'						0.70	33.196	141
	51			12	0303	54°59'	164°07'	2540	220°	5	partly cloudy	very rough	1.16	33.224	141
52				12	0852	55°08'	163°17'	2468	110°	3	snow	moderate	0.1	33.138	142
				12	1035	55°13'	163°02'						-0.75	32.923	156
				12	1115	55°16'	162°51'						-0.95	-	-
53				12	1144	55°18'	162°45'	2350	330°	3	missing	moderate	-1.6	32.923	153
54				12	1436	55°21'	163°02'	2320	350°	3	missing	rough	-1.2	32.787	165

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
				II-12	1600	55°23'	163°09'						-1.0	32.778	166
				12	1800	55°33'	163°39'						-1.5	32.729	168
				12	2000	55°44'	164°13'						0.0	33.136	142
55				12	2111	55°49'	164°30'	2274	250°	3	cloudy	very rough	0.2	33.149	142
56				13	0112	56°11'	163°43'	1070	280°	3	cloudy	very rough	-1.3	32.846	160
				13	0530	56°41'	163°47'						0.5	33.109	146
57				13	0613	56°49'	163°48'	1617	300°	3	snow	very rough	0.5	33.121	146
				13	0900	57°12'	163°53'						0.3	33.085	147
58				13	1051	57°28'	163°57'	1634	210°	3	missing	moderate	-1.3	32.940	152
				13	1300	57°36'	163°58'						0.4	33.093	147
				13	1500	57°57'	164°08'						0.4	33.102	147
				13	1700	58°20'	164°19'						-1.4	32.855	159
59				13	1735	58°25'	164°21'	1740	040°	4	missing	rough	-0.10	-	-
				13	1900	58°30'	164°28'						0.0	33.097	145
				13	2100	58°46'	164°53'						0.0	33.052	149
				13	2300	59°01'	165°18'						0.0	33.040	150
60				14	0117	59°15'	165°40'	78	340°	5	snow	moderate	-0.2	32.978	153

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
	61			II-14	0443	59°10'	166°21'	490	330°	5	fog	rough	0.24	33.062a)	149
				14	0700	59°02'	167°15'						0.0	33.188	138
62				14	0805	59°00'	167°30'	1310	310°	4	missing	rough	0.5	33.198	140
63				14	1325	58°40'	168°12'	1840	320°	3	missing	rough	0.7	33.156	144
				14	1500	58°35'	168°25'						0.7	33.158	144
	64			14	1805	58°21'	168°58'	1900	110°	3	missing	rough	0.56	33.126	146
				14	2320	57°57'	169°51'						0.7	33.091	149
65				15	0019	57°51'	170°05'	1284	180°	6	rain	very rough	0.8	33.148	145
				15	0200	57°49'	170°09'						0.5	33.125	145
66				15	1450	57°26'	171°00'	804	160°	7	missing	very rough	1.8	33.208	147
	67			16	0127	57°02'	171°52'	1600	210°	5	cloudy	high	2.10	33.160	153
				16	0300	56°48'	172°23'						2.5	33.151	156
				16	0500	56°36'	172°48'						2.1	33.159	153
				16	0700	56°22'	173°17'						2.6	33.151	157
68				16	0753	56°16'	173°30'	2046	210°	5	snow	high	2.0	33.134	154
69				16	2158	55°15'	175°00'	2053	230°	7	snow	high	1.8	33.101	155
	70			17	0409	54°34'	175°00'	2080	190°	4	cloudy	high	2.56	33.200	153

a) See footnote page 14.

SURFACE WATER SAMPLES														
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	East	(fm)	Dir	Force			°C	‰	cl/ton
71				II-17	0738	54°04'	175°00'	2097	140°	6	snow	high	2.7	33.232	152
72				17	1150	53°36'	175°00'	2101	200°	6	missing	high	2.8	33.237	152
73				17	1536	53°02'	175°00'	2103	260°	3	snow	moderate	2.6	33.198	154
				17	1800	53°02'	175°54'						2.8	33.233	152
				17	2000	53°02'	176°39'						2.5	33.232	150
74				17	2157	53°02'	176°56'	2100	300°	9	cloudy	precipitous	3.0	33.255	152
75				18	0010	52°38'	177°17'	2101	270°	9	cloudy	very high	3.0	33.214	156
76				18	0243	52°18'	177°25'	926	270°	7	cloudy	very high	2.8	33.215	154
77				18	0510	52°10'	177°43'	640	300°	5	overcast	very high	2.9	33.218	154
78				18	0702	52°00'	177°49'	58	300°	5	overcast	missing	3.2	33.425	141
79				18	0802	51°50'	177°55'	52	300°	4	cloudy	rough	3.0	33.445	138
80				18	0907	51°40'	178°01'	428	300°	4	cloudy	rough	3.1	33.186	159
81				18	1041	51°25'	178°11'	826	290°	4	cloudy	rough	3.2	32.994	174
82				18	1355	51°05'	178°22'	1926	310°	5	missing	very rough	3.3	32.829	187
	83			18	1923	50°30'	178°43'	2100	300°	3	cloudy	very rough	3.17	32.938	178
84				19	0103	50°01'	179°20'	3055	200°	2	cloudy	very rough	3.0	32.987	173
				19	0300	49°51'	179°42'						3.0	32.987	173

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
85				II-19	0522	49°36'	179°46'a)	2602	180°	2	missing	moderate	3.1	32.983	174
86				19	0935	50°05'	179°42'	3100	200°	4	missing	moderate	3.2	32.871	183
87				19	1248	50°35'	179°35'	2648	180°	3	missing	moderate	3.3	32.758	193
88				19	1556	51°02'	179°30'	2450	200°	4	missing	rough	3.6	33.110	169
89				19	1848	51°19'	179°38'	1020	170°	5	cloudy	rough	3.2	33.038	170
90				19	2052	51°35'	179°35'	220	180°	6	overcast	rough	3.45	33.173	162
91				19	2221	51°51'	179°40'	1070	170°	5	cloudy	very rough	3.2	33.376	145
92				20	0010	52°01'	179°25'	1450	170°	6	overcast	rough	3.2	33.358	146
93				20	0233	52°15'	179°05'	1770	170°	5	cloudy	very rough	3.2	33.365	146
94				20	0454	52°30'	178°43'	1865	180°	5	overcast	rough	3.0	33.246	153
95				24	0355	52°09'	176°31'	1570	240°	4	rain	very rough	3.55	33.346	150
				24	0600	52°37'	176°30'						3.1	33.353	146
	96			24	0910	52°53'	176°30'	1982	200°	5	rain	very rough	2.82	33.238	152
				24	1200	53°07'	176°33'						2.6	33.230	151
				24	1400	53°31'	176°31'						2.25	33.152	154
97				25	0810	53°29'	178°37'	2030	290°	4	rain	high	2.3	33.175	153

a) Note change of longitude.

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
98				II-25	1617	53°20'	179°30'a)	1440	280°	8	snow	high	2.4	33.268	147
99				26	0049	53°10'	177°28'	2094	300°	5	snow	high	2.4	33.222	150
				26	0600	53°04'	176°02'						2.75	33.267	150
	100			26	1253	53°00'	175°00'	2101	280°	5	snow	very rough	2.70	33.261	150
101				26	1658	52°42'	175°00'	630	270°	6	partly cloudy	very rough	2.6	33.251	150
102				26	1935	52°23'	175°00'	384	260°	5	cloudy	very rough	3.0	33.297	150
103				26	2134	52°07'	175°00'	257	210°	6	cloudy	high	2.8	33.257	151
104				27	0029	51°40'	175°00'	1581	210°	7	snow	very high	2.8	33.268	150
	105			27	0552	51°06'	175°00'	2824	190°	6	cloudy	high	3.12	33.328	148
106				27	1147	50°41'	175°00'	3050	240°	7	rain	very high	3.1	33.065	168
107				27	1508	50°20'	175°00'	2500	250°	6	missing	high	3.0	33.133	162
				27	1700	50°13'	175°01'						2.75	33.065	165
108				27	1952	49°52'	175°03'	2230	240°	6	overcast	high	2.7	33.073	164
	109			28	0124	49°21'	174°59'	2500	250°	6	snow	high	2.73	33.078b)	164
110				28	0609	48°52'	175°00'	2765	280°	6	cloudy	high	2.6	33.068	163
111				28	0934	48°21'	174°58'	2805	280°	5	missing	high	2.5	33.081	162
112				28	1306	47°50'	174°56'	2172	310°	5	missing	high	2.4	33.098	160

a) Note change of longitude.
b) See footnote page 24.

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
	113			II-28	2043	46°42'	174°54'	3035	330°	5	snow	high	3.12	33.011	172
114				III-1	0056	46°18'	174°55'	2970	310°	4	cloudy	high	3.1	32.986	174
115				1	0422	45°49'	174°57'	2950	330°	3	cloudy	very rough	4.1	33.131	172
				1	0600	45°38'	174°58'						4.3	33.183	170
				1	0730	45°18'	174°58'						4.8	33.215	172
				1	0830	45°04'	174°58'						4.4	33.135	174
	116			1	1104	44°51'	174°57'	2994	090°	3	cloudy	very rough	4.84	33.242	171
117				1	1514	44°24'	174°58'	2660	110°	4	missing	rough	6.5	33.502	170
				1	1740	44°06'	174°57'						6.5	33.483	172
118				1	1826	43°59'	174°57'	3220	100°	5	overcast	rough	6.8	33.534	172
				1	2000	43°51'	174°56'						7.7	33.728	169
				1	2100	43°39'	174°56'						7.7	33.679	173
119				1	2140	43°32'	174°56'	3160	120°	6	overcast	rough	7.2	33.542	176
	120			2	0234	43°05'	174°58'	3100	110°	7	rain	very high	6.44	33.355	180
121				2	0622	42°36'	175°00'	2848	110°	7	rain	very high	7.4	33.504	182
122				2	1007	42°06'	175°00'	3000	120°	6	rain	high	7.0	33.408	184
				2	1200	41°55'	175°00'						7.0	33.382	186
				2	1300	41°44'	175°00'						6.3	33.350	179
123				2	1434	41°29'	175°00'	3030	160°	5	rain	very rough	6.6	33.447	176

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
				III-2	1605	41°21'	175°00'						8.8	33.928	170
124				2	1800	41°02'	175°00'	3018	140°	5	rain	high	11.0	34.216	184
				2	2000	41°02'	174°40'						9.2	33.993	171
				2	2200	41°02'	174°10'						10.5	34.191	177
125				2	2341	41°02'	173°45'	2612	160°	4	partly cloudy	high	11.3	34.277	185
				3	0400	41°03'	172°59'						11.1	34.244	183
126				3	0525	41°03'	172°34'	2678	130°	4	partly cloudy	very rough	11.1	34.270	182
				3	0800	41°03'	172°00'						10.2	34.121	178
				3	1000	41°01'	171°25'						10.9	34.224	182
127				3	1049	41°00'	171°12'	3140	120°	4	missing	very rough	11.2	34.261	184
				3	1700	41°00'	169°40'						11.0	34.279	179
128				3	1915	41°00'	169°05'	3038	030°	3	partly cloudy	rough	10.9	34.299	176
				4	0615	40°58'	167°12'						11.1	34.275	181
				4	0700	40°58'	167°03'						10.9	34.264	179
129				4	0741	40°59'	166°54'	2995	360°	4	rain	very rough	10.2	34.321	163
				4	1200	40°59'	165°56'						10.8	34.314	173
				4	1500	40°59'	165°06'						10.8	34.236	179
				4	1700	41°00'	164°30'						7.4	33.852	156
				4	1900	40°42'	164°10'						7.10	33.640	168

SURFACE WATER SAMPLES															
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	East	(fm)	Dir	Force			°C	‰	cl/ton
				III-4	2100	40°18'	164°10'						6.5	33.655	159
130				4	2218	40°02'	164°09'	2660	030°	3	rain	rough	9.0	34.144	157
				5	0100	40°26'	164°07'						6.5	33.648	160
				5	0300	40°50'	164°11'						6.7	33.672	160
	131			5	0522	41°01'	164°19'	2610	030°	3	cloudy	moderate	7.08	33.654	166
				5	0900	41°29'	164°15'						6.4	33.602	162
132				5	1015	41°42'	164°14'	2543	110°	3	rain	rough	6.2	33.565	162
133				5	1410	42°23'	164°10'	2618	160°	4	missing	moderate	6.2	33.492	168
				5	1700	42°49'	164°07'						4.9	33.449	156
	134			5	1936	43°04'	164°06'	3053	160°	5	overcast	rough	5.02	33.467	156
				5	2300	43°24'	164°06'						5.0	33.490	154
135				6	0037	43°44'	164°04'	3078	150°	6	rain	very rough	5.0	33.479	155
136				6	0432	44°19'	164°02'	3085	250°	4	snow	rough	3.7	33.355	151
	137			6	1005	45°03'	163°57'	2752	250°	5	snow	rough	2.37	33.113	158
138				6	2009	45°40'	163°50'	3064	260°	5	partly cloudy	high	1.6	32.995	162
139				6	2348	46°20'	163°47'	3210	260°	5	partly cloudy	very high	1.6	33.023	160
				7	0210	46°39'	163°48'						0.9	32.986	158
				7	0300	46°50'	163°49'						0.7	32.967	158
	140			7	0536	47°00'	163°50'	3100	280°	5	partly cloudy	very high	1.20	32.996	159

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
	141	141		III-7	1648	48°20'	163°35'	3515	190°	4	cloudy	very rough	1.02	33.048	155
				7	2000	48°40'	163°32'						0.9	33.078	151
			1	7	2230	49°09'	163°21'	3052	140°	6	overcast	high	1.5	33.125	151
	142	H-1		8	0021	49°18'	163°12'	3040	120°	7	overcast	high	1.58	33.140	151
			2	8	0250	49°34'	162°56'	2930	140°	8	overcast	high	1.6	33.150	150
			3	8	0445	49°52'	162°38'	2878	100°	8	overcast	very high	1.6	33.088	155
	143	H-2		8	0809	50°09'	162°20'	2966	120°	8	snow	high	1.02	33.123	149
			4	8	1249	50°35'	161°58'	2944	210°	7	missing	very high	1.0	33.162	145
			5	8	1605	51°01'	161°34'	2980	240°	8	cloudy	very high	0.5	33.220	138
	144	H-3		8	1936	51°06'	161°29'	2860	240°	7	overcast	high	0.44	33.224	138
			6	8	2250	51°18'	161°26'	2890	260°	8	cloudy	very high	0.2	33.225	136
			7	9	0055	51°38'	161°22'	-	250°	7	missing	very high	-0.3	33.133	141
			8	9	0500	51°57'	161°11'	3163	250°	7	cloudy	very high	-0.9	32.922	155
			9	9	0930	52°11'	160°58'	3576	250°	7	missing	very high	-0.5	33.077	144
			10	9	1800	52°31'	160°39'	1350	240°	8	missing	high	-1.4	32.851	159
			11	9	2115	52°08'	160°36'	2250	270°	4	partly cloudy	very high	-1.0	32.927	154
			12	10	0000	51°41'	160°24'	1700	260°	6	partly cloudy	high	-0.6	32.953	154
	145	145		10	0353	51°28'	160°00'	2010	260°	6	cloudy	rough	-0.66	32.956	153
			13	10	0900	51°23'	159°20'	1600	250°	7	missing	very rough	-1.1	32.909	159

SURFACE WATER SAMPLES															
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	East	(fm)	Dir	Force			°C	‰	cl/ton
	146	146		III-10	1235	51°20'	158°49'	1000	240°	6	missing	rough	-1.31	32.862	159
			14	10	1625	51°16'	157°58'	95	290°	3	missing	slight	-1.6	32.822	161
			15	10	1915	50°56'	157°38'	92	260°	6	missing	moderate	-1.6	32.796	163
			16	10	2220	50°37'	157°15'	78	280°	4	snow	moderate	-1.5	32.846	159
			17	10	2326	50°27'	157°02'	70	310°	4	snow	moderate	-1.8	32.893	155
				11	0200	50°18'	156°49'						-1.5	32.872	157
			18	11	0239	50°12'	156°40'	164	300°	4	snow	moderate	-1.7	32.894	155
			19	11	0430	49°53'	156°45'	544	290°	5	partly cloudy	rough	-1.2	32.962	151
	147	147		11	0726	49°36'	157°00'	1265	290°	5	partly cloudy	rough	-0.32	33.080	145
			20	11	1100	49°16'	157°28'	3267	270°	2	missing	moderate	-0.3	33.105	143
	148	148		11	1500	48°55'	157°57'	3470	260°	4	missing	rough	-0.32	33.127	142
			21	11	1845	48°34'	158°26'	2880	260°	4	missing	moderate	0.3	33.080	148
	149	149		11	2227	48°10'	158°58'	2910	240°	5	cloudy	moderate	0.36	33.046	151
			22	12	0145	47°49'	159°28'	2858	210°	5	snow	moderate	0.4	33.048	151
	150	150		12	0455	47°31'	159°53'	2855	270°	5	partly cloudy	rough	0.26	33.051	150
				12	1000	47°21'	159°38'						0.1	33.062	148
			23	12	1130	47°10'	159°18'	2695	240°	3	missing	moderate	0.4	33.076	149
				12	1300	47°00'	159°02'						0.0	33.083	146
	151	151		12	1542	46°48'	158°42'	2720	250°	4	missing	rough	0.45	33.074	149

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
			24	III-12	1939	46°26'	158°08'	2610	260°	4	partly cloudy	rough	0.4	33.047	151
	152	152		13	0023	46°01'	157°17'	2554	240°	3	partly cloudy	rough	0.33	33.063	149
			25	13	0420	46°21'	156°44'	2622	240°	4	cloudy	rough	0.1	33.078	147
	153	153		13	0804	46°41'	156°13'	2578	220°	3	cloudy	moderate	-0.04	33.133	142
			26	13	1115	47°04'	155°44'	2654	200°	4	missing	moderate	0.3	33.287	132
	154	154		13	1455	47°26'	155°03'	3500	180°	5	missing	moderate	0.10	33.153	142
			27	13	2115	47°46'	154°45'	1196	170°	4	missing	rough	-0.5	32.988	151
	155	155		14	0033	48°11'	154°14'	960	180°	5	rain	high	-0.34	33.015	150
			28	14	0409	48°22'	153°36'	1100	190°	4	rain	rough	1.0	33.293	135
			29	14	0630	48°36'	153°10'	893	260°	3	missing	moderate	0.1	33.127	144
	156	156		14	0809	48°38'	153°07'	1438	260°	3	cloudy	moderate	-0.26	33.103	143
			30	14	1106	48°50'	153°06'	1596	280°	3	missing	moderate	0.2	33.277	132
	157	157		14	1345	49°11'	153°16'	1486	270°	4	missing	moderate	0.42	33.304	131
			31	14	1730	49°11'	152°38'	1056	270°	3	missing	slight	1.7	33.354	135
	158	158		14	2055	49°12'	152°00'	860	260°	4	cloudy	moderate	0.20	33.304	130
			32	14	2348	48°48'	152°02'	1140	260°	5	partly cloudy	moderate	0.3	33.326	129
			33	15	0220	48°23'	152°03'	1730	280°	5	snow	moderate	-0.6	33.118	141
			34	15	0417	48°10'	152°03'	1760	280°	5	cloudy	moderate	-0.5	33.036	148

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
	159	159		III-15	0749	47°45'	152°00'	1778	280°	4	cloudy	rough	-0.02a)	33.158	141a)
			35	15	1410	47°46'	151°08'	1790	200°	4	snow	slight	-1.0	33.043	146
			36	15	1830	47°47'	150°25'	1792	350°	3	snow	missing	-1.7	32.821	161
	160	160		15	2021	47°47'	150°10'	1794	260°	2	snow	moderate	-1.55	32.755	166
			37	16	0557	47°18'	150°38'	1420	140°	2	cloudy	moderate	-0.6	32.996	150
	161	161		16	0833	46°59'	150°39'	1667	120°	3	partly cloudy	slight	-1.18	32.751	168
			38	16	1910	46°42'	151°09'	1647	120°	4	missing	slight	-1.8	32.729	168
	162	162		16	1619	46°15'	151°12'	1280	120°	5	missing	rough	-0.71	32.934	155
			39	16	1910	46°00'	151°42'	1356	090°	6	overcast	very rough	0.2	33.159	141
			40	16	2215	45°45'	152°12'	810	100°	8	rain	high	0.4	33.202	139
	163	163		17	0306	45°30'	152°40'	2890	080°	8	rain	high	0.07	33.123	144
			41	17	0755	45°06'	153°09'	4582	100°	5	missing	very rough	0.2	33.162	141
	164	164		17	1245	44°36'	153°44'	2884	100°	4	fog	rough	0.12	33.137	143
			42	17	1655	44°09'	154°16'	2700	120°	4	rain	rough	1.0	33.085	151
	165	165		17	2113	43°00'	154°27'	2840	140°	5	partly cloudy	high	2.90	33.289	149
			43	18	0145	43°37'	155°04'	2890	160°	5	partly cloudy	very rough	3.5	33.345	150
	166	166		18	0800	42°52'	155°58'	2957	220°	4	cloudy	high	5.42	33.697	143

a) Alternate value, 0.19°C; 140 cl/ton.

SURFACE WATER SAMPLES															
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	East	(fm)	Dir	Force			°C	‰	cl/ton
			44	III-18	1136	42°21'	156°08'	2888	240°	5	missing	high	5.2	33.686	141
	167	167		18	1843	41°46'	156°47'	2910	270°	5	rain	high	5.19	33.628a)	146
			45	19	0150	41°36'	156°45'	2930	310°	4	cloudy	very rough	6.7	33.835	148
	168	168		19	0621	41°02'	157°22'	2903	270°	3	cloudy	rough	6.30	33.761	148
			46	19	1030	40°43'	157°55'	2920	170°	4	missing	moderate	7.8	33.964	153
	169	169		19	1408	40°26'	158°23'	2970	190°	5	missing	moderate	8.18	34.016	154
			47	19	1730	39°58'	158°28'	-	170°	5	drizzle	very rough	10.0	34.180	170
	170	170		19	2116	39°30'	158°30'	2892	200°	6	rain	very rough	11.04	34.301	178
			48	20	0050	39°31'	157°51'	2960	310°	3	partly cloudy	rough	11.8	34.344	188
			49	20	0352	39°31'	157°12'	2994	310°	2	missing	moderate	11.2	34.291	182
			50	20	0658	39°31'	156°33'	2976	160°	2	partly cloudy	moderate	12.0	34.368	190
			51	20	0951	39°31'	155°51'	2948	150°	4	missing	rough	11.7	34.355	186
			52	20	1300	39°31'	155°07'	2996	330°	5	rain	rough	7.8	33.926	156
			53	20	1600	39°31'	154°24'	2978	020°	4	rain	rough	9.0	34.099	160
	171	171		20	2018	39°31'	153°42'	3008	320°	4	cloudy	very rough	10.74	34.289	174
			54	20	2350	39°55'	153°20'	3030	270°	4	cloudy	rough	10.4	34.247	172
	172	172		21	0253	40°18'	153°13'	3015	280°	5	cloudy	very rough	8.93	34.111	158

a) See footnote A) page 42.

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
			55	III-21	1050	40°39'	152°51'	2968	280°	4	missing	moderate	8.5	34.098	153
	173	173		21	1546	41°06'	152°28'	2676	270°	4	missing	rough	7.57	33.942	152
			56	21	2000	41°28'	152°09'	2860	300°	4	partly cloudy	very rough	6.9	33.865	148
	174	174		21	2341	41°53'	151°48'	2760	280°	4	partly cloudy	rough	5.76	33.719	145
			57	22	0330	41°54'	151°51'	2754	310°	4	partly cloudy	rough	5.8	33.718	146
	175	175		22	0539	41°55'	151°52'	2738	300°	3	partly cloudy	rough	3.57	33.417	145
	176	176		22	0811	41°59'	151°47'	2744	280°	4	partly cloudy	rough	1.74	33.183	148
			58	22	1115	42°19'	151°17'	2686	-	2	missing	moderate	1.6	33.145	150
	177	177		22	1512	42°42'	150°49'	2670	140°	3	missing	moderate	0.92	33.093	150
			59	22	1850	43°06'	150°22'	2660	120°	6	snow	rough	0.6	33.208	140
	178	178		22	2334	43°33'	149°51'	4260	100°	6	snow	rough	0.79	33.185	142
			60	23	0920	44°01'	149°14'	2320	110°	4	missing	rough	0.4	33.198	139
	179	179		23	1250	44°22'	148°51'	1090	220°	3	overcast	high	0.28	33.139a)	143
			61	23	1530	44°41'	148°32'	623	320°	4	drizzle	rough	0.2	33.039	150
			62	23	1835	44°24'	148°05'	158	260°	5	missing	rough	-0.4	32.974	153
			63	23	2130	44°07'	147°37'	95	270°	4	partly cloudy	rough	-0.2	32.889	160
			64	23	2320	43°50'	147°09'	76	260°	5	rain	rough	-0.4	32.907	158

a) See footnote B) page 46.

SURFACE WATER SAMPLES															
Station Number		BT Number		Date	Time	Latitude	Longitude	Sounding	Wind		Weather	Sea	T	S	δ_T
S/T/D	Hydro.	Sta.	U/W		GCT	North	East	(fm)	Dir	Force			°C	‰	cl/ton
			65	III-24	0150	43°34'	146°41'	62	260°	3	cloudy	rough	-0.3	32.959	154
			66	24	0258	43°27'	146°36'	65	260°	3	cloudy	rough	0.0	32.897	160
	180	180		24	0505	43°14'	146°48'	1027	260°	4	partly cloudy	rough	0.86	33.116	148
			67	24	0750	42°58'	147°02'	2050	240°	5	cloudy	high	1.8	33.231	145
	181	181		24	1058	42°41'	147°18'	2986	260°	5	missing	rough	1.30	33.239	141
			68	24	1413	42°18'	147°45'	3290	320°	6	partly cloudy	high	1.2	33.224	142
	182	182		24	1759	41°56'	148°11'	2752	260°	6	partly cloudy	high	1.24	33.181	145
			69	24	2244	41°31'	148°34'	2749	210°	3	cloudy	rough	1.5	33.132	151
	183	183		25	0207	41°05'	148°59'	2827	300°	4	cloudy	rough	3.88	33.440	146
			70	25	0640	40°37'	149°26'	2844	260°	5	partly cloudy	very rough	6.8	33.807	151
	184	184		25	1233	40°00'	149°26'	2870	260°	5	snow	rough	11.00	34.336	175
	185	185		26	0242	40°04'	148°05'	2836	280°	5	cloudy	very rough	10.59	34.296	171
	186	186		26	0609	40°22'	147°55'	2800	300°	5	partly cloudy	very rough	3.45	33.274a)	155
			71	26	1000	40°48'	147°42'	2941	310°	4	clear	very rough	5.0	33.528	151
	187	187		26	1428	41°00'	147°00'	2700	320°	4	missing	moderate	3.69	33.377	149
			72	26	1740	41°18'	146°45'	2920	350°	3	partly cloudy	slight	2.2	33.204	150
	188	188		26	2024	41°37'	146°26'	3670	340°	3	cloudy	moderate	2.16	33.155	154

a) See footnote page 49.

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
			73	III-26	2330	41°59'	146°09'	3076	350°	2	snow	slight	2.4	33.170	154
	189	189		27	0226	42°21'	145°53'	1774	270°	2	cloudy	moderate	2.66	33.208	153
			74	27	0455	42°35'	145°37'	1173	220°	1	partly cloudy	slight	3.3	33.228	157
	190	190		27	0646	42°43'	145°28'	890	200°	2	partly cloudy	slight	1.68	33.156	150
			75	27	0940	42°25'	144°53'	1200	180°	3	missing	smooth	1.6	33.132	151
			76	27	1200	42°08'	144°24'	774	180°	3	missing	smooth	1.6	33.139	151
			77	27	1405	41°54'	143°53'	500	160°	3	partly cloudy	slight	0.8	32.573	189
	191	191		27	1645	41°41'	144°09'	1010	150°	3	rain	slight	0.89	32.821	171
			78	27	1930	41°25'	144°32'	1960	060°	2	cloudy	slight	3.9	33.255	160
	192	192		27	2215	41°11'	144°52'	3754	180°	2	partly cloudy	slight	7.90	33.917	158
			79	28	1535	40°47'	145°09'	3200	100°	4	missing	moderate	8.2	33.947	160
	193	193		28	2109	40°27'	145°14'	2958	110°	5	rain	rough	8.42	33.983	160
			80	29	0115	40°12'	145°22'	2944	100°	7	rain	very rough	8.0	33.912	160
	194	194		29	0613	39°57'	145°30'	2977	110°	6	rain	high	6.07	33.602	158
			81	29	1040	39°39'	145°30'	2910	220°	7	missing	high	1.2	32.810	173
			82	29	1615	39°02'	145°16'	2910	260°	8	partly cloudy	high	8.8	34.098	157
			83	29	2030	39°02'	144°35'	3260	240°	8	cloudy	very high	6.1	33.740	148
			84	29	2345	38°58'	144°05'	3530	270°	8	cloudy	very high	9.4	34.176	161
			85	30	0410	39°21'	143°42'	1654	300°	7	cloudy	very high	8.6	34.125	152

SURFACE WATER SAMPLES

Station Number S/T/D	Hydro.	BT Number Sta.	U/W	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
			86	III-30	0840	39°46'	143°19'	1118	310°	7	overcast	very high	5.7	33.728	144
			87	30	1400	40°10'	142°54'	654	290°	7	missing	very rough	6.3	33.833	143
			88	30	2017	40°33'	142°30'	620	290°	6	partly cloudy	rough	7.5	33.918	152
			89	31	0230	40°54'	142°17'	580	260°	4	cloudy	moderate	6.1	33.801	143
			90	31	1135	41°23'	142°49'	700	190°	4	missing	moderate	2.8	33.069	165
			91	31	1435	41°31'	142°10'	577	180°	5	missing	moderate	5.6	33.742	142
			92	31	1800	41°38'	142°12'	105	220°	3	missing	slight	8.8	33.801	180

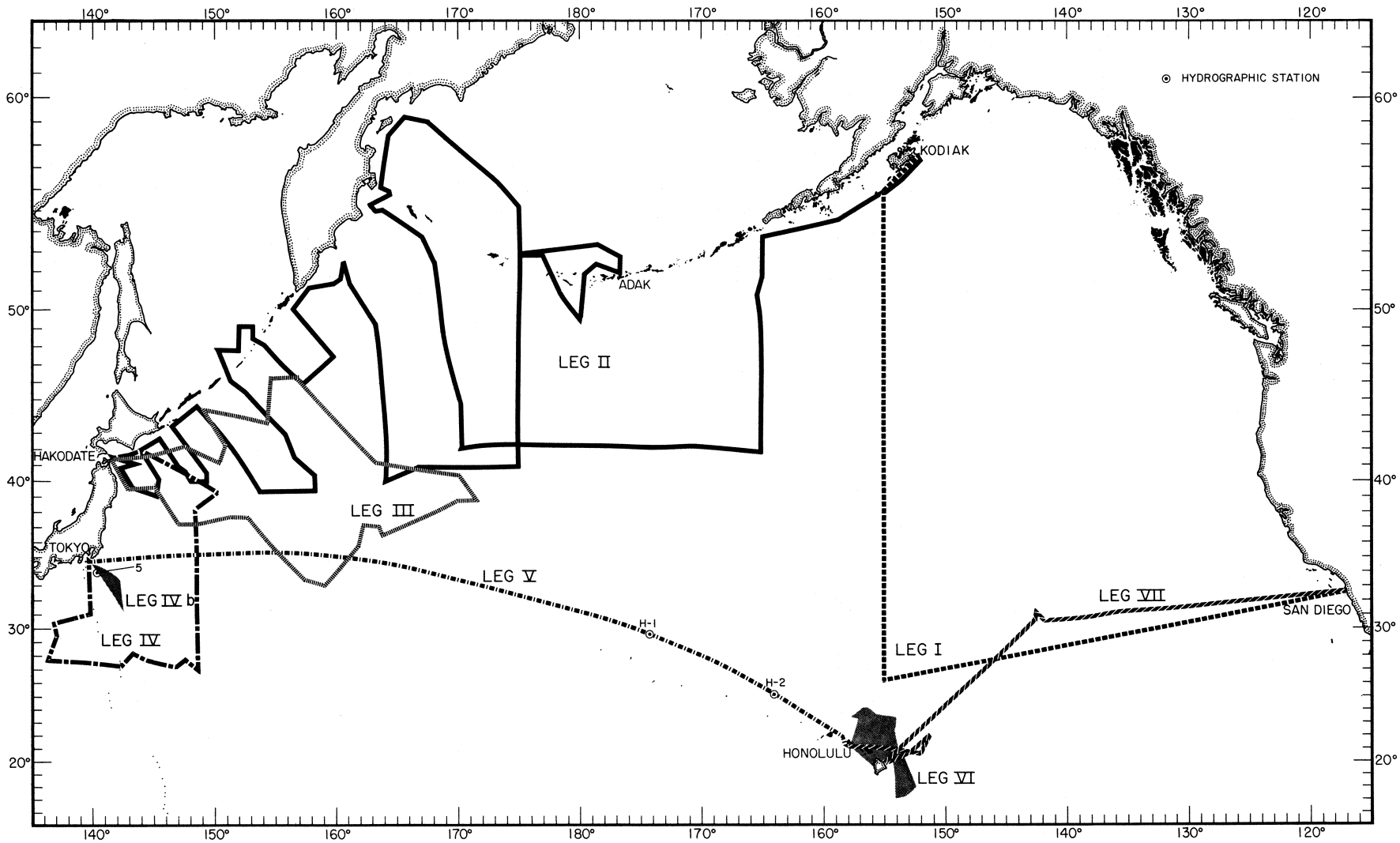


Figure 4. Track of Zetes expedition showing positions of hydrographic casts on Legs IV through V.

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
1	IV-7	2205	37°15.0'	146°56.0'	3010	330°	6	cloudy	high	12.1	34.46	185
2	8	1025	37°17.0'	148°34.0'	3040	360°	4	missing	missing	12.4	34.45	192
3	8	2305	37°55.0'	150°32.0'	3060	250°	2	partly cloudy	very rough	13.6	-	
4	9	1000	37°38.0'	152°50.0'	-	220°	3	partly cloudy	missing	11.4	34.36	180
5	9	1940	37°08.0'	153°32.0'	3072	220°	3	overcast	missing	11.5	-	
6	10	0830	35°49.0'	154°45.0'	2926	360°	6	rain	high	15.4	34.70	233
7	10	1845	34°38.0'	156°16.0'	2890	360°	5	overcast	very rough	13.5	-	
8	11	0215	33°35.0'	157°19.0'	2532	360°	5	cloudy	very rough	14.0	34.54	216
9	11	1000	33°18.0'	158°02.0'	1630	030°	4	missing	very rough	14.3	34.52	223
10	11	2015	33°03.0'	159°08.0'	1800	070°	4	cloudy	very rough	16.9	34.77	260
11	12	0645	34°49.0'	160°48.0'	2134	070°	3	cloudy	very rough	15.1	34.55	238
12	12	1410	35°50.0'	161°52.0'	2405	130°	4	cloudy	very rough	14.3	34.55	221
13	13	0500	37°16.0'	162°24.0'	1790	090°	6	rain	high	14.1	34.52	219
14	13	1040	37°09.0'	163°11.5'	2153	060°	5	overcast	high	13.7	34.52	211
15	13	1530	37°02.0'	163°45.0'	1792	040°	3	partly cloudy	high	11.4	34.35	181
16	15	1900	37°34.0'	166°03.0'	2672	320°	6	partly cloudy	high	13.6	34.55	207
17	16	0600	38°06.0'	168°06.0'	2895	330°	5	partly cloudy	high	11.2	34.33	179
18	16	1930	38°50.0'	169°58.0'	3215	330°	5	cloudy	very rough	11.8	34.44	182

SURFACE WATER SAMPLES

BT Slide Number	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
19	IV-17	0330	38°50.0'	171°12.0'	500	350°	2	cloudy	very rough	13.3	34.48	206
20	19	0850	39°30.0'	170°51.0'	3276	250°	4	missing	missing	9.8	34.04	177
21	20	0715	39°30.0'	169°51.0'	3180	290°	4	cloudy	high	11.9	34.34	191
22	21	1900	40°17.0'	169°38.0'	3058	290°	4	cloudy	very rough	10.8	34.08	191
23	22	1355	40°44.0'	166°12.0'	2900	200°	6	overcast	rough	10.9	34.38	170
24	23	1330	41°16.0'	162°49.0'	2950	360°	5	cloudy	rough	8.2	-	
25	24	0040	42°17.0'	161°12.0'	2850	320°	4	cloudy	very rough	7.9	-	
26	24	1255	43°54.0'	159°46.0'	2910	240°	3	cloudy	moderate	4.6	33.50	149
27	25	0200	45°16.0'	158°10.0'	-	230	4	rain	missing	1.9	33.02	162
28	25	1115	46°06.0'	156°49.0'	2602	220°	4	cloudy	moderate	1.2	33.04	156
29	25	2130	46°06.0'	154°41.0'	2838	260°	3	fog	moderate	0.5	33.01	154
30	26	2100	43°52.0'	154°18.0'	2858	170°	4	fog	moderate	2.8	33.13	160
31	27	1145	44°06.0'	151°42.0'	3020	320°	3	missing	missing	1.3	32.94	164
32	27	2120	44°14.0'	150°14.0'	3970	040°	3	partly cloudy	missing	1.4	33.08	154
33	28	0515	44°19.0'	149°13.0'	2300	240°	1	partly cloudy	missing	2.2	33.08	160
34	28	2130	42°47.0'	150°14.0'	2442	-	-	clear	missing	2.1	33.07	160
35	29	0930	41°18.0'	150°35.0'	2792	190°	4	fog	slight	7.5	33.71	168

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
36	IV-29	1930	41°40.0'	149°30.0'	2835	290°	3	missing	missing	5.7	33.40	168
37	V-1	0100	42°02.0'	146°46.0'	3850	220°	4	overcast	missing	2.8	33.13	160
38[a)]	8	0530	39°56.0'	148°55.0'	2970	170°	7	rain	high	13.3	34.49	206
39	8	2350	38°34.0'	149°07.0'	2985	260°	3	partly cloudy	very rough	13.5	34.44	213
40	9	0715	38°02.0'	148°05.0'	3014	240°	4	partly cloudy	missing	14.0	34.39	227
41	9	1815	36°18.0'	148°24.0'	3063	220°	5	clear	rough	19.5	-	
42	10	0400	34°59.0'	148°30.0'	3176	230°	4	clear	rough	21.4	-	
43	10	1410	33°30.0'	148°24.0'	3309	220°	4	clear	rough	20.5	-	
44	10	2200	32°26.0'	148°20.0'	3050	230°	4	missing	moderate	19.2	-	
45	11	0720	31°05.0'	148°21.0'	3268	220°	5	cloudy	rough	19.9	34.75	333
46	13	2320	28°22.0'	148°14.0'	1740	090°	4	partly cloudy	missing	23.6	-	
47	14	0645	27°51.0'	148°20.0'	3090	100°	4	cloudy	rough	24.1	34.98	428
48	15	1920	27°00.0'	148°40.0'	660	180°	3	cloudy	missing	26.0	35.11	474
49	16	0545	27°57.0'	147°34.0'	1360	180°	3	cloudy	missing	23.3	34.87	414
50	17	0245	27°42.0'	146°46.0'	3070	340°	3	overcast	missing	22.6	34.70	407
51	18	0345	27°53.0'	144°06.0'	3264	050°	4	partly cloudy	moderate	23.6	34.84	424
52	18	1930	27°47.0'	142°45.0'	1467	060°	5	cloudy	missing	23.9	34.76	439

a) Remainder of data taken on Zetes IV.

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude East	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
53	V-19	1000	27°30.0'	141°25.0'	2197	090°	4	cloudy	missing	23.2	34.938	406
54	20	1030	27°48.0'	140°09.0'	1981	100°	6	rain	missing	23.2	34.916	408
55	20	2330	27°58.0'	138°12.0'	2467	130°	5	drizzle	missing	24.6	34.935	446
56	22	0450	29°12.0'	136°46.0'	2388	240°	3	rain	missing	22.5	-	
57	24	0330	30°22.0'	137°28.0'	2242	010°	1	partly cloudy	missing	21.0	34.558	375

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

5 ZETES IVB 5

ARGC, JUNE 4 1966, 0142 GCT, 34 00N 140 26E, SOUNDING 896 FM, WIND 110 FORCE 7, WEATHER AND SEA MISSING, WIRE ANGLE 17.

0	22.06	34.728	-	-	-	-	390.5
9	22.08	34.714	-	-	-	-	392.1
19	22.06	34.719	-	-	-	-	391.3
43	22.08	34.715	-	-	-	-	392.0
69	22.08	34.726	-	-	-	-	391.2
175	19.50	34.767	-	-	-	-	322.0
497	10.86	34.372	-	-	-	-	170.1
710	5.48	34.239	-	-	-	-	103.1
925	3.80	34.320	-	-	-	-	79.4
1441	2.58	34.492	-	-	-	-	55.6
1660	2.22	34.561	-	-	-	-	47.5

H-1 ZETES V H-1

ARGC, JUNE 17 1966, 1836 GCT, 29 36N 174 14W, SOUNDING 2790 FM, WIND 110 FORCE 3, WEATHER CLOUDY, SEA MISSING, WIRE ANGLE 20.

0	22.80	35.048	-	-	-	-	387.4
10	22.74	35.050	5.02	-	-	-	385.6
105	17.08	34.834	5.40	-	-	-	259.9
1054	3.47	34.353	.53	-	-	-	73.8
2001	1.98	34.607	1.70	-	-	-	42.2
2964	1.56	34.662	2.81	-	-	-	35.0
3451	1.49	34.674	3.23	-	-	-	33.6
3548	1.51	34.675	3.18	-	-	-	33.7
3645	1.49	34.676	3.20	-	-	-	33.5
3695	1.48	34.676	3.24	-	-	-	33.4
3744	1.47	34.680	3.27	-	-	-	33.0
3794	1.48	34.679	3.24	-	-	-	33.2
3843	1.48	34.680	3.25	-	-	-	33.1
3891	1.48	34.681	3.32	-	-	-	33.0
3938	1.49	34.681	3.34	-	-	-	33.1
4036	1.48	34.684	3.34	-	-	-	32.8
4232	1.330	34.685	3.40	-	-	-	31.7
4428	1.52	34.689	3.43	-	-	-	32.7
4625	1.52	34.687	3.52	-	-	-	32.9
4822	1.52	34.690	3.61	-	-	-	32.6
5019	1.50	34.695	-	-	-	-	32.1

H-2 ZETES V H-2

ARGC, JUNE 20 1966, 0015 GCT, 25 08N 164 01W, SOUNDING 2626 FM, WIND 080 FORCE 4, WEATHER CLOUDY, SEA MISSING, WIRE ANGLE 45.

0	25.60	35.294	-	-	-	-	449.2
10	25.46	35.285	4.71	-	-	-	445.7
570	6.54	34.058	2.44	-	-	-	129.4
1210	3.40	34.407	1.02	-	-	-	69.1
2029	2.00	34.612	2.10	-	-	-	42.0
3080	1.52	34.666	2.97	-	-	-	34.5
3262	1.50	34.670	3.12	-	-	-	34.0
3352	1.50	34.670	3.16	-	-	-	34.0
3398	1.48	34.670	3.15	-	-	-	33.9
3444	1.48	34.669	3.17	-	-	-	33.9
3488	1.48	34.671	3.20	-	-	-	33.8
3535	1.46	34.672	3.15	-	-	-	33.6
3579	1.48	34.673	3.23	-	-	-	33.6
3624	1.48	34.673	3.23	-	-	-	33.6
3671	1.48	34.672	3.24	-	-	-	33.7
3716	1.46	34.674	3.29	-	-	-	33.4
3806	1.47	34.677	3.29	-	-	-	33.3
3897	1.48	34.684	3.36	-	-	-	32.8
4079	1.50	34.684	3.45	-	-	-	32.9
4265	1.50	34.685	3.42	-	-	-	32.9
4450	1.51	34.686	3.42	-	-	-	32.9

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
1	VI-24	1430	22°44.0'	157°12.0'	2390	110°	4	partly cloudy		25.1	-	
2	25	1830	22°52.0'	159°06.0'	2363	080°	4	partly cloudy		25.1	34.920	462
3	27	1630	23°36.0'	155°47.0'	2272	080°	4	missing		24.4	-	
4	28	0135	24°14.0'	156°19.0'	2322	100°	5	partly cloudy		24.8	35.277	427
5	29	0000	24°11.0'	156°47.0'	2310	090°	5	partly cloudy		24.9	35.273	430
5A	29	0010	24°11.0'	156°47.0'	2310	090°	5	partly cloudy		24.9	-	
6	29	1500	23°30.0'	157°42.0'	-	100°	5	cloudy		25.0	-	
7	30	0400	23°35.0'	157°50.0'	2370	090°	5	cloudy		24.8	35.138	437
8	VII-1	0400	23°42.0'	157°42.0'	2340	110°	6	cloudy		24.8	-	
9	2	0645	23°23.0'	157°03.0'	2293	090°	4	partly cloudy		25.0	-	
10	4	0140	21°36.0'	156°37.0'	2760	070°	4	cloudy		25.2	35.036	456
11	4	2200	22°06.0'	155°56.0'	2556	090°	4	partly cloudy		24.8	34.975	449
12	5	0900	22°16.0'	155°32.0'	2408	090°	4	partly cloudy		25.1	34.929	461
13	5	2200	22°19.0'	155°05.0'	2370	090°	4	cloudy		25.0	35.006	452
14	6	1040	22°30.0'	154°22.0'	2460	090°	4	partly cloudy		24.6	35.209	426
15	7	1800	23°33.0'	154°02.0'	2490	080°	4	partly cloudy		24.2	-	
16	8	0500	23°34.0'	154°04.0'	2448	070°	4	cloudy		24.5	35.156	427
17	8	2220	23°26.0'	155°22.0'	2208	060°	3	cloudy		24.9	35.098	443
18	9	1230	23°03.0'	156°39.0'	2280	070°	4	cloudy		25.0	34.926	458

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
19	VII-10	0000	22°32.0'	155°39.0'	2326	090°	4	partly cloudy		25.2	34.958	462
20	10	0800	22°32.0'	155°40.0'	2337	080°	4	partly cloudy		25.0	34.939	457
21	10	2300	22°21.0'	155°26.0'	2368	090°	4	partly cloudy		25.2	34.968	461
22	11	1000	22°39.0'	154°45.0'	2270	080°	4	partly cloudy		24.8	35.192	433
23	11	2200	-	-	2550	080°	4	partly cloudy		25.0	35.176	440
24	12	0200	21°58.0'	154°06.0'	2446	060°	3	partly cloudy		25.0	35.221	437
25	12	1150	21°15.0'	153°58.0'	2601	070°	4	partly cloudy		25.0	34.931	458
26	18	1520	20°52.0'	156°17.0'	1000	070°	3	clear		25.6	-	
27	18	1720	21°07.0'	156°38.0'	300	070°	4	cloudy		25.6	-	

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
1	VII-26	1200	21°12.0'	153°44.0'	2597	090°	4	overcast	rough	25.1	34.995	456
2	26	2040	21°43.0'	153°14.0'	2682	090°	4	cloudy	rough	24.9	35.074	445
-	27	0300	21°56.0'	153°00.0'	-	-	-	missing	missing	-	35.074	
3	27	0920	22°28.0'	152°27.0'	2804	090°	4	partly cloudy	rough	24.7	34.983	445
4	27	1755	23°01.0'	151°45.0'	2868	090°	4	partly cloudy	rough	24.6	35.051	438
5	28	0310	24°02.0'	150°49.0'	2805	070°	4	partly cloudy	rough	24.2	35.197	416
6	28	2040	25°10.0'	149°30.0'	2892	070°	3	partly cloudy	rough	23.8	35.231	402
7	29	0020	25°10.0'	149°34.0'	2800	090°	3	partly cloudy	rough	23.8	35.228	402
8	29	1615	26°42.0'	147°29.0'	2844	080°	3	partly cloudy	moderate	23.5	35.279	390
9	30	0825	28°40.0'	144°55.0'	2674	090°	4	partly cloudy	rough	23.1	35.310	377
10	30	1015	28°40.0'	144°54.0'	2684	060°	4	rain	rough	22.9	35.301	372
11	30	1415	29°13.0'	144°23.0'	2630	090°	3	partly cloudy	rough	21.9	35.254	348
12	30	2130	29°15.0'	144°33.0'	2645	080°	3	partly cloudy	moderate	22.8	35.268	372
13	31	0450	30°12.0'	143°17.0'	2700	080°	3	cloudy	moderate	21.9	35.094	360
14a)	31	2155	30°46.0'	142°37.0'	1375	080°	3	partly cloudy	moderate	22.1	35.212	357
15b)	VIII-2	0315	30°55.0'	141°47.0'	1042	090°	3	cloudy	moderate	21.8	35.150	353
16	3	1910	31°01.0'	137°41.0'	2468	080°	4	overcast	rough	21.0	35.082	337

a) Buoy position one.
b) Buoy position two.

SURFACE WATER SAMPLES												
BT Slide Number	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
17	VIII-4	0315	31°00.0'	137°00.0'	2450	080°	4	overcast	rough	20.5	34.476	368
18	4	0745	31°10.0'	135°56.0'	2448	080°	5	overcast	rough	19.9	34.035	385
19	4	1800	31°06.0'	134°58.0'	2495	070°	3	drizzle	moderate	20.2	34.520	357
20	5	0100	31°13.0'	134°01.0'	2495	060°	4	overcast	rough	20.0	34.199	376
21	5	0735	31°18.0'	133°00.0'	2396	060°	4	drizzle	moderate	19.8	34.344	360
22	5	1300	31°24.0'	132°00.0'	2477	050°	3	overcast	moderate	19.5	33.723	398
23	5	2305	31°22.0'	131°03.0'	2420	060°	4	overcast	moderate	19.8	33.910	392
24	6	0720	31°33.0'	129°58.0'	2508	080°	4	overcast	rough	19.4	33.681	398
25	6	1145	31°40.0'	128°59.0'	2320	030°	4	cloudy	rough	18.6	33.458	395