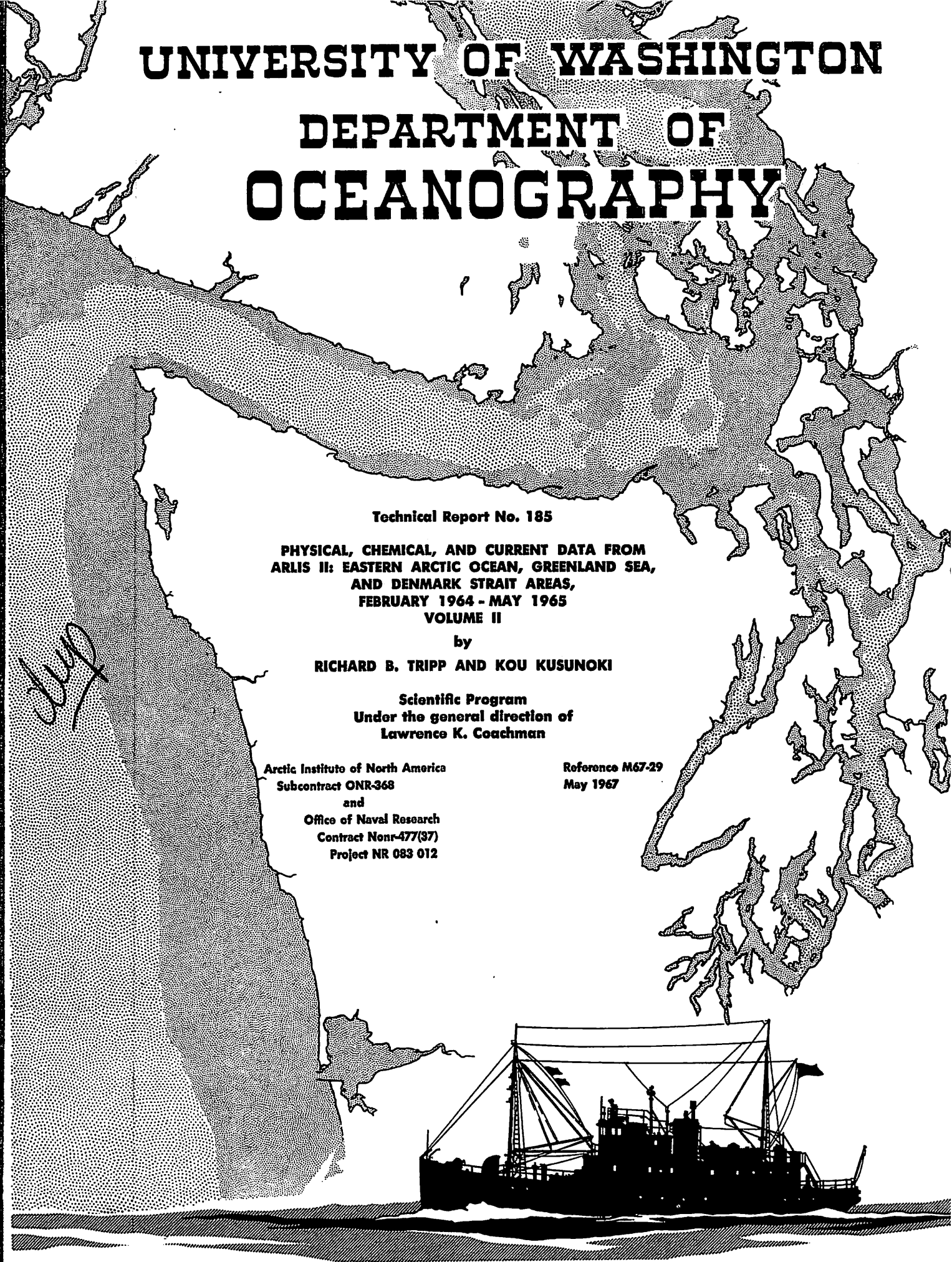
UNIVERSITY OF WASHINGTON
DEPARTMENT OF
OCEANOGRAPHY



Technical Report No. 185

PHYSICAL, CHEMICAL, AND CURRENT DATA FROM ARLIS II: EASTERN ARCTIC OCEAN, GREENLAND SEA, AND DENMARK STRAIT AREAS, FEBRUARY 1964 - MAY 1965 VOLUME II

by

RICHARD B. TRIPP AND KOU KUSUNOKI

Scientific Program
Under the general direction of
Lawrence K. Coachman

Arctic Institute of North America
Subcontract ONR-368
and
Office of Naval Research
Contract Nonr-477(37)
Project NR 083 012

Reference M67-29
May 1967

SEATTLE, WASHINGTON 98105

UNIVERSITY OF WASHINGTON
DEPARTMENT OF OCEANOGRAPHY
Seattle, Washington 98105

Technical Report No. 185

PHYSICAL, CHEMICAL, AND CURRENT DATA FROM ARLIS II: EASTERN ARCTIC OCEAN, GREENLAND SEA, AND DENMARK STRAIT AREAS, FEBRUARY 1964 - MAY 1965

VOLUME II

by

Richard B. Tripp and Kou Kusunoki

Scientific Program

Under the general direction of

Lawrence K. Coachman

Arctic Institute of North America
Subcontract ONR-368
and
Office of Naval Research
Contract Nonr-477(37)
Project NR 083 012

Reference M67-29
May 1967

RICHARD H. FLEMING
Chairman

for LAWRENCE K. COACHMAN
Principal Investigator

ABSTRACT

This report contains tabulated physical, chemical, and current data collected from 1 January to 8 May 1965 at Arctic Research Laboratory Ice Station No. 2 (ARLIS II) as it moved through the Greenland Sea into the Denmark Strait. These data were collected as part of a study of the water characteristics of the Greenland Sea. Emphasis was on the East Greenland Current.

TABLE OF CONTENTS

	Page
LIST OF FIGURES	vii
INTRODUCTION	1
Operation and Types of Observations	1
Determination of Properties and Accuracy of Measurements	1
EXPLANATION OF DATA TABLES	4
Headings and Abbreviations Used in Current Measurement Tables	4
Headings and Abbreviations Used in Drift Meter Measurement Tables	4
Headings and Abbreviations Used in Oceanographic Station Data Tables	5
Codes Used for Reporting Observations	7
REFERENCES	10
DATA TABLES	17
Table 1. Current measurements taken from 18 February - 30 April 1965, Cruise AR2-2 (Part B)	17
Table 2. Drift meter measurements taken from 13 February - 2 May 1965, Cruise AR2-2 (Part B)	30
Table 3. Oceanographic station data: Observed and interpolated values, Cruise AR2-2 (Part B), 1 January - 8 May 1965	36

LIST OF FIGURES

		Page
1.	Map of ice island ARLIS II.	11
2.	Chart of the Greenland Sea and Denmark Strait showing the track of ARLIS II from 1 January - 8 May 1965	12
3.	Location of oceanographic stations accomplished during Cruise AR2-2 (Part B), 1 January - 8 May 1965	13
4.	Graphs showing six-hourly local wind speeds, the mean drift speed of the island between navigational fixes, and the mean of the measured drift speeds of the island	14
5.	Interconnection diagram of drift meter components	15
6.	Diagram of the hydrophone array on ARLIS II	16

INTRODUCTION

This is Volume II of Technical Report No. 185 and contains data from cruise AR2-2 (Part B), 1 January - 8 May 1965. A discussion of the objectives of this cruise can be found in Volume I, together with the methods of collecting samples and a list of the personnel engaged in collecting and preparing the data.

Operation and Types of Observations

A description of the hydrographic observations made during cruise AR2-2 will be found in Volume I (p. 1–2). Fig. 1 is a map of the island (same as Fig. 1 of Volume I). Figs. 2 and 3 of this volume show the island track and location of oceanographic stations accomplished during Part B of the cruise.

From 18 February to 30 April 1965, direct current measurements relative to island motion were obtained at various levels. These measurements are reported in Table 1. Direct measurements were made of the island's speed, direction, and rotation, so that the absolute velocity of the water current could be calculated (Table 2).

A comparison was made (Fig. 4) of six-hourly local wind speeds (Roulet, 1967) (Table 3), the mean drift speed of the island between navigational fixes (report in Volume I), and the measured drift speeds of the island (Table 2).

Determination of Properties and Accuracy of Measurements

The methods of determination of properties of hydrographic samples are given in Volume I.

The direct measurement of the ocean currents was accomplished using two types of meters. Many current measurements at all depths were made with a modified T.S.K. Ekman-Merz current meter (Dermody, 1960). This instrument is a modification of the Ekman meter (Ekman, 1932). Its range is from 2 to 300 cm/sec, and directions are indicated by the lead shots dropped into the compartments of the magnet box. It is messenger operated and has to be raised to the surface each time a reading is made. The meters were obtained with factory calibration certificates. The speeds are probably accurate to ±5 cm/sec and the directions to ±20 degrees.

In depths to 200 m, some current measurements were taken using a Kelvin-Hughes meter [Kelvin & Hughes (Marine) Ltd, England, 1954], which gives a direct indication of the magnetic direction and water speed on a deck unit. Checks at the University of Washington showed the speeds to be accurate within 5 cm/sec and the directions to ±10 degrees. In general though, the presence of a weak horizontal magnetic field in the Arctic implies that current direction data must be viewed with skepticism.

Since ARLIS II was continually drifting, the current measuring platform was not stationary. The current measurements reported in Table 1 have not been corrected for the drift and all reported current velocities are relative to island movement. To subtract island movement, the drift meter measurements in Table 2 should be consulted. However, in other respects the island was an extremely stable measuring platform, and thus many of the oscillation-induced errors in the direct measurement of ocean currents are not present in these data (Paquette, 1963).

The direct measurements of the island's speed, direction, and rotation were made by the use of a drift meter (Mark 1 Model 0, designed by the GM Defense Research Laboratories, General Motors Corporation, Santa Barbara, Calif.). This meter is basically an acoustical positional device. The average speed of drift is obtained by determining the position of the island relative to a sound source resting on the bottom at the beginning and at the end of a known time interval. The distance between the two positions is divided by the time interval and the resultant is the average speed. The drift meter consists of five basic components: pinger or acoustic source, receiving hydrophones, signal processor (including preamplifiers), selector panel, and readout-recording group.

The acoustical source was an especially adapted EG & G Sonar Pinger, Model 220 (Raymond, 1962). The receivers were standard 12-kc hydrophone and amplifier circuits. The signal processor, preamplifiers, and power supply were of General Motors design and manufacture. The selector panel and the readout-recording units were combined in a Model 522B Electric Counter (Hewlett-Packard Co, Palo Alto, Calif.). A diagram of the interconnection between components of the system is shown in Fig. 5.

A 1000-ft^2 hydrophone array was initially planned to detect both rotational and translational motion of the ice island. Unfortunately, this plan had to be abandoned due to inoperative drilling equipment. Two hydrophones were placed at a depth of approximately 10 m beneath the ice island, and another was lowered into the hydro hole at the time of each measurement. This three-hydrophone array had to be changed twice because of technical difficulties in the hydrophones. After the initial installation, the array was changed on 18 March 1965 and again on 6 April 1965. A schematic of the hydrophone array is shown in Fig. 6.

It was desirable to have the hydrophone array in the form of a square. However, installation during the winter darkness period made this virtually impossible. In the case of the second and third array, there was a difference in the distance between hydrophones.

The position of the ice island is given as two coordinates X and Y in the following equations:

$$X^2 = \frac{(\Delta T_x CZ)^2}{dx^2 - (\Delta T_x C)^2} + \frac{1}{4}(\Delta T_x C)^2$$

and

$$Y^2 = \frac{(\Delta T_y CZ)^2}{dy^2 - (\Delta T_y C)^2} + \frac{1}{4}(\Delta T_y C)^2$$

where ΔT_x and ΔT_y are the time differences in signals arriving at two hydrophones parallel to the x or y axis; dx and dy are the distances between the two hydrophones; C is the average speed of sound in seawater; and Z is the depth of the ocean.

Assuming ΔX and ΔY are the differences in the coordinates during the period T, the average speed and the angle between drift vector and x-axis are given by the following equations:

$$\text{Drift speed} = \sqrt{\frac{(\Delta X)^2 + (\Delta Y)^2}{T}}$$

$$\text{Angle} = \arctan\left(\frac{\Delta Y}{\Delta X}\right)$$

Ocean depths were determined by one of three methods. The first method was ordinary cable sounding—the slacking of the wire cable when the pinger touched the ocean floor—observed on a dynamometer attached to the hydro wire. Difficulties in this method were experienced whenever a rapid drift of the island caused a large wire angle, or the depth was greater than 1500 m.

The second method was to take depth values from the sonic sounder operated by the University of Wisconsin. Bottom reflection was not always discernible, and there were some inoperative periods.

The third method was basically the principle of sonic sounding. When the pinger was lowered to a certain depth, usually deeper than 600 m, the time difference between direct and bottom-reflected signals was measured by the electronic counter of the drift meter. The ocean depth (D) is given by the following equation:

$$D = fl_i + \frac{1}{2}CT_i$$

where: l_i is the length of the cable, f the cable factor, C the average speed of sound in seawater, and T_i the time difference. The cable factor was obtained in measuring time differences at two or more depths, usually 100-m intervals from 600 to 1200 m. The error in this method of depth determination is believed to be less than 2%.

EXPLANATION OF DATA TABLES

This section of the report includes definitions of the abbreviations and headings used in the data tables and contains also certain codes used for reporting observations. Some headings appear in the current and drift measurement tables and the oceanographic station data tables. Since there are some differences in method of obtaining or recording the data in these cases, the headings and abbreviations are listed separately below for the different types of data.

Headings and Abbreviations Used in Current Measurement Tables

A blank space in this table indicates that no observation was taken.

DATE	Greenwich day/month/year
TIME	Greenwich mean time (GMT)
DEPTH	Listed in meters below the water surface (The measure is the total amount of wire out *corrected* for wire angle.)
RELATIVE VELOCITY	The current measured relative to the movement of the ice island
SPD	Speed, in cm/sec, rounded to the nearest cm/sec
DIRECTION	The set of the current (The direction in which the water is moving in degrees true. North is given as 360.)
MT	The type of meter used to make the observation (Abbreviated as follows: TSK T.S.K. Ekman-Merz meter KH Kelvin-Hughes meter)

Headings and Abbreviations Used in Drift Meter Measurement Tables

DAY	Greenwich day
TIME	Greenwich mean time (GMT)
LATITUDE	In degrees and minutes (North)
LONGITUDE	In degrees and minutes (West)
DEPTH	Listed in meters (It is the depth of water at the time of observation.)

P.O.M.	The period of measurement, listed in seconds
SPEED	Reported to the nearest tenth of a cm/sec
DIRECTION	The direction in which the island is moving in degrees true (North is given as 360.)

Abbreviations and Headings Used in Oceanographic Station Data Tables

The information in the data tables was transcribed directly from IBM cards using an IBM Type 1401 Data Processing System. A blank space in the tables or headings indicates that no observation was taken. The original data and the interpolated and computed values punched on the cards are recorded or coded in accordance with the procedures used by the U.S. Navy Hydrographic Office (1960). The codes used will be found in the National Oceanographic Data Center Manual Series Publication M-2 (Rev. Aug 1964). Abbreviations and column headings are described below.

DATE	Greenwich month/day/year
HR (Hour)	Greenwich mean time to the nearest hour and tenths of hour of the messenger drop on the first cast
LAT	Latitude in degrees, minutes and on some stations, tenths of minutes
LONG	Longitude in degrees, minutes and on some stations, tenths of minutes
SDG	Depth of water in meters as determined by a PDR (Precision Depth Recorder)
WEA	State of weather (*See* code, page 9.)
WVEL___DIR___	Wind velocity in knots and wind direction (*See* code, page 8.)
VIS	Range of visibility (*See* code, page 8.)
BA	Barometric pressure in millibars and tenths of millibars (To obtain the barometric pressure, add 900 if this number is above 50 and 1000 if below 50.)
CL___AMT___	Cloud type (*See* code, page 7.) Cloud cover in eighths (oktas) (*See* code, page 8.)
DRY	Air temperature, dry bulb, in degrees and tenths of a degree Celsius

WET	Air temperature, wet bulb, in degrees and tenths of a degree Celsius
RELHU	Relative humidity expressed in percent
WA	Wire angle in degrees (The first number is the wire angle for Cast 1; the second for Cast 2, etc. Dashes (--) indicate the wire angle was not recorded for that cast.)
CST	Cast number
DEPTH	Depth in meters from which sample was obtained
TEMP	Temperature in degrees Celsius to hundredths
SAL	Salinity in parts per thousand to thousandths
SIGMA-T (σ_t)	An expression for the density of seawater at atmospheric pressure, and the indicated temperature and salinity (To convert sigma-t values to density, divide by 1000 and add 1; thus sigma-t 22.42 = density 1.02242.)
OXYGEN (Dissolved oxygen)	
ML/L	In milliliters per liter to hundredths
MGA/L	In milligram-atoms per liter to thousandths
AOU	Appent oxygen utilization in milligram-atoms per liter to thousandths
SATN	Percent of oxygen saturation
PHOS	Phosphate-phosphorous in microgram-atoms per liter to hundredths
SIL	Silicate-Silicon in microgram-atoms per liter
SP VOL ANOMALY	The anomaly of specific volume ($10^5\delta$) at the indicated temperature, salinity, and pressure compared to a standard water of 0°C and 35°/$_{oo}$ salinity at the same pressure (Tabular values multiplied by 10^{-5} will give the anomaly in units of cubic centimeters per gram.)
GEOPOT ANOMALY	Geopotential anomaly ($\Sigma\Delta D$) in dynamic meters of the layer of water between the surface and the indicated depth

POT ENERGY	Potential energy anomaly in units of 10^8 ergs/cm^2 of the layer of water between the surface and the indicated depth
OXY (Oxygen)	Interpolated values at standard depths in milliliters per liter to hundredths
VAR RATIO	Ratio of the variance of the interpolation polynomial to the variance of the measurement (The value of the variance ratio is an indication of the vertical spacing of the observed values upon which the interpolation is based. Values close to 1 indicate optimum spacing. Values greater than 3 indicate that the vertical spacing is inadequate to represent faithfully the distribution of properties in this region of the curve. In the case of missing values, where different combinations of observed values may be used to interpolate at the same depth, the variance ratio that indicates the worst spacing has been printed. Values greater than 100 have been printed as 99.99. If the observed depth corresponds to a desired standard depth, no interpolation is made and the variance ratio is not computed.)
E(T)	Interpolation error, in degrees Celsius, of the temperature value at this depth (If the observed depth corresponds to a desired standard depth, the interpolation error will be zero.)
E(S)	Interpolation error, in parts per thousand, of the salinity value at this depth (*See* comments under E(T) above.)
E(O)	Interpolation error, in milliliters per liter, of the oxygen value at this depth (*See* comments under E(T) above.)

Codes Used for Reporting Observations

Taken from National Oceanographic Data Center "Processing Physical and Chemical Data from Oceanographic Stations," Part 1, Coding and Keypunching (1964).

Cloud Type. WMO Code 0500

Code	
0	Cirrus
1	Cirrocumulus
2	Cirrostratus
3	Altocumulus

Cloud Type (continued)

Code	
4	Altostratus
5	Nimbostratus
6	Stratocumulus
7	Stratus
8	Cumulus
9	Cumulonimbus
X	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena

Amount of Cloud Cover. WMO Code 2700

Code		
0	0	0
1	1 okta or less, but not 0	1/10 or less, but not 0
2	2 oktas	2/10 - 3/10
3	3 oktas	4/10
4	4 oktas	5/10
5	5 oktas	6/10
6	6 oktas	7/10 - 8/10
7	7 oktas or more, but not 8	9/10 or more, but not 10/10
8	8 oktas	10/10
9	Sky obscured, or cloud amount cannot be estimated	

Visibility. WMO Code 4300

Code		
0	Less than 50 m	(less than 55 yards)
1	50-200 m	(approx 55-220 yards)
2	200-500 m	(approx 220-550 yards)
3	500-1000 m	(approx 550 yards-5/8 nm)
4	1-2 km	(approx 5/8 nm-1 nm)
5	2-4 km	(approx 1-2 nm)
6	4-10 km	(approx 2-6 nm)
7	10-20 km	(approx 6-12 nm)
8	20-50 km	(approx 12-30 nm)
9	50 km or more	(30 nm or more)

Direction. Compass direction from which wind is coming

Code	
00	Calm, or no value
01 to 36	Each value represents 1/10 of the true direction in degrees, measured clockwise from the north, with 36 representing true north

NUMERICAL WEATHER CODES—PRESENT WEATHER

00 Cloud development NOT observed or NOT observable during past hour.	**01** Clouds generally dissolving or becoming less developed during past hour.	**02** State of sky on the whole unchanged during past hour.	**03** Clouds generally forming or developing during past hour.	**04** Visibility reduced by smoke.	**05** Haze.	**06** Widespread dust in suspension in the air, NOT raised by wind, at time of observation.	**07** Dust or sand raised by wind, at time of observation.	**08** Well developed dust devil(s) within past hour.	**09** Duststorm or sandstorm within sight of or at station during past hour
10 Light fog.	**11** Patches of shallow fog at station, NOT deeper than 6 feet on land.	**12** More or less continuous shallow fog at station, NOT deeper than 6 feet on land.	**13** Lightning visible, no thunder heard.	**14** Precipitation within sight, but NOT reaching the ground.	**15** Precipitation within sight, reaching the ground, but distant from station.	**16** Precipitation within sight, reaching the ground, near to but NOT at station.	**17** Thunder heard, but no precipitation at the station.	**18** Squall(s) within sight during past hour.	**19** Funnel cloud(s) within sight during past hour.
20 Drizzle (NOT freezing and NOT falling as showers) during past hour, but NOT at time of ob.	**21** Rain (NOT freezing and NOT falling as showers) during past hour, but NOT at time of ob.	**22** Snow (NOT falling as showers) during past hour, but NOT at time of observation.	**23** Rain and snow (NOT falling as showers) during past hour, but NOT at time of observation.	**24** Freezing drizzle or freezing rain (NOT falling as showers) during past hour, but NOT at time of observation.	**25** Showers of rain dur. ing past hour, but NOT at time of observation.	**26** Showers of snow, or of rain and snow, during past hour, but NOT at time of observation.	**27** Showers of hail, or of hail and rain, during past hour, but NOT at time of observation.	**28** Fog during past hour, but NOT at time of observation	**29** Thunderstorm (with or without precipitation) during past hour, but NOT at time of observation
30 Slight or moderate duststorm or sandstorm has decreased during past hour.	**31** Slight or moderate duststorm or sandstorm no appreciable change during past hour.	**32** Slight or moderate duststorm or sandstorm has increased during past hour.	**33** Severe duststorm or sandstorm, has decreased during past hour.	**34** Severe duststorm or sandstorm, no appreciable change during past hour.	**35** Severe duststorm or sandstorm, has increased during past hour.	**36** Slight or moderate drifting snow, generally low.	**37** Heavy drifting snow, generally low.	**38** Slight or moderate drifting snow, generally high.	**39** Heavy drifting snow generally high
40 Fog at distance at time of observation, but NOT at station during past hour.	**41** Fog in patches.	**42** Fog, sky discernible, has become thinner during past hour.	**43** Fog, sky NOT discernible, has become thinner during past hour.	**44** Fog, sky discernible, no appreciable change during past hour.	**45** Fog, sky NOT discernible no appreciable change during past hour.	**46** Fog, sky discernible, has begun or become thicker during past hour.	**47** Fog, sky NOT discernible, has begun or become thicker during past hour.	**48** Fog, depositing rime, sky discernible	**49** Fog, depositing rime, sky not discernible
50 Intermittent drizzle (NOT freezing) slight at time of observation.	**51** Continuous drizzle (NOT freezing) slight at time of observation.	**52** Intermittent drizzle (NOT freezing) moderate at time of ob.	**53** Continuous drizzle (NOT freezing), moderate at time of ob.	**54** Intermittent drizzle (NOT freezing), thick at time of observation.	**55** Continuous drizzle (NOT freezing), thick at time of observation.	**56** Slight freezing drizzle.	**57** Moderate or thick freezing drizzle.	**58** Drizzle and rain, slight.	**59** Drizzle and rain, moderate or heavy
60 Intermittent rain (NOT freezing), slight at time of observation.	**61** Continuous rain (NOT freezing), slight at time of observation.	**62** Intermittent rain (NOT freezing), moderate at time of ob.	**63** Continuous rain (NOT freezing), moderate at time of observation.	**64** Intermittent rain (NOT freezing), heavy at time of observation.	**65** Continuous rain (NOT freezing), heavy at time of observation.	**66** Slight freezing rain.	**67** Moderate or heavy freezing rain.	**68** Rain or drizzle and snow, slight.	**69** Rain or drizzle and snow moderate or heavy.
70 Intermittent fall of snowflakes, slight at time of observation.	**71** Continuous fall of snowflakes, slight at time of observation.	**72** Intermittent fall of snowflakes, moderate at time of observation.	**73** Continuous fall of snowflakes, moderate at time of observation.	**74** Intermittent fall of snowflakes, heavy at time of observation.	**75** Continuous fall of snowflakes, heavy at time of observation.	**76** Ice needles (with or without fog)	**77** Granular snow (with or without fog).	**78** Isolated starlike snow crystals (with or without fog).	**79** Ice pellets (sleet, U.S. definition).
80 Slight rain shower(s).	**81** Moderate or heavy rain shower(s).	**82** Violent rain shower(s).	**83** Slight shower(s) of rain and snow mixed.	**84** Moderate or heavy shower(s) of rain and snow mixed.	**85** Slight snow shower(s)	**86** Moderate or heavy snow shower(s).	**87** Slight shower(s) of soft or small hail with or without rain or rain and snow mixed.	**88** Moderate or heavy shower(s) of soft or small hail with or without rain or rain and snow mixed.	**89** Slight shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder
90 Moderate or heavy shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder.	**91** Slight rain at time of ob.; thunderstorm during past hour, but NOT at time of observation.	**92** Moderate or heavy rain at time of ob. thunderstorm during past hour, but NOT at time of observation.	**93** Slight snow or rain and snow mixed or hail at time of observation thunderstorm during past hour, but not at time of observations.	**94** Mod. or heavy snow, or rain and snow mixed or hail at time of ob. thunderstorm during past hour, but NOT at time of observation.	**95** Slight or mod thunderstorm without hail, but with rain and/or snow at time of observation.	**96** Slight or moderate thunderstorm, with hail at time of observation.	**97** Heavy thunderstorm, without hail, but with rain and/or snow at time of observation.	**98** Thunderstorm combined with duststorm or sandstorm at time of observation	**99** Heavy thunderstorm with hail at time of observation

REFERENCES

Dermody, J.
1960. A Modification to the T. S. Ekman-Merz Current Meter. Deep-Sea Res., *7*:218.

Ekman, V. W.
1932. An improved type of current meter. J. Conseil, Conseil Perm. Intern. Exploration Mer, *7*:3-10.

Kelvin & Hughes (Marine) Ltd
1954. Submarine current indicators. Publ. M 264, London. 2 pp.

National Oceanographic Data Center
1964. Manual series. Processing physical and chemical data from oceanographic stations. Publ. M-2 (Rev. Aug 1964). 117 pp.

Paquette, R. G.
1963. Practical problems in the direct measurements of ocean currents. Marine Sci. Instr., *2*:135-146.

Raymond, S. O.
1962. Instruction Manual EG & G Sonar Pinger. Report No. B-2348, Edgerton, Germeshausen & Grier, Inc., Santa Barbara, California. 33 pp.

Roulet, R. R.
----. Radiation, wind and temperature at drifting station ARLIS II. Dept. Atmospheric Sci., Univ. Wash., Seattle. ONR Contract 477(24), Nonr 307-252, Tech. Rept. 1967 (In press).

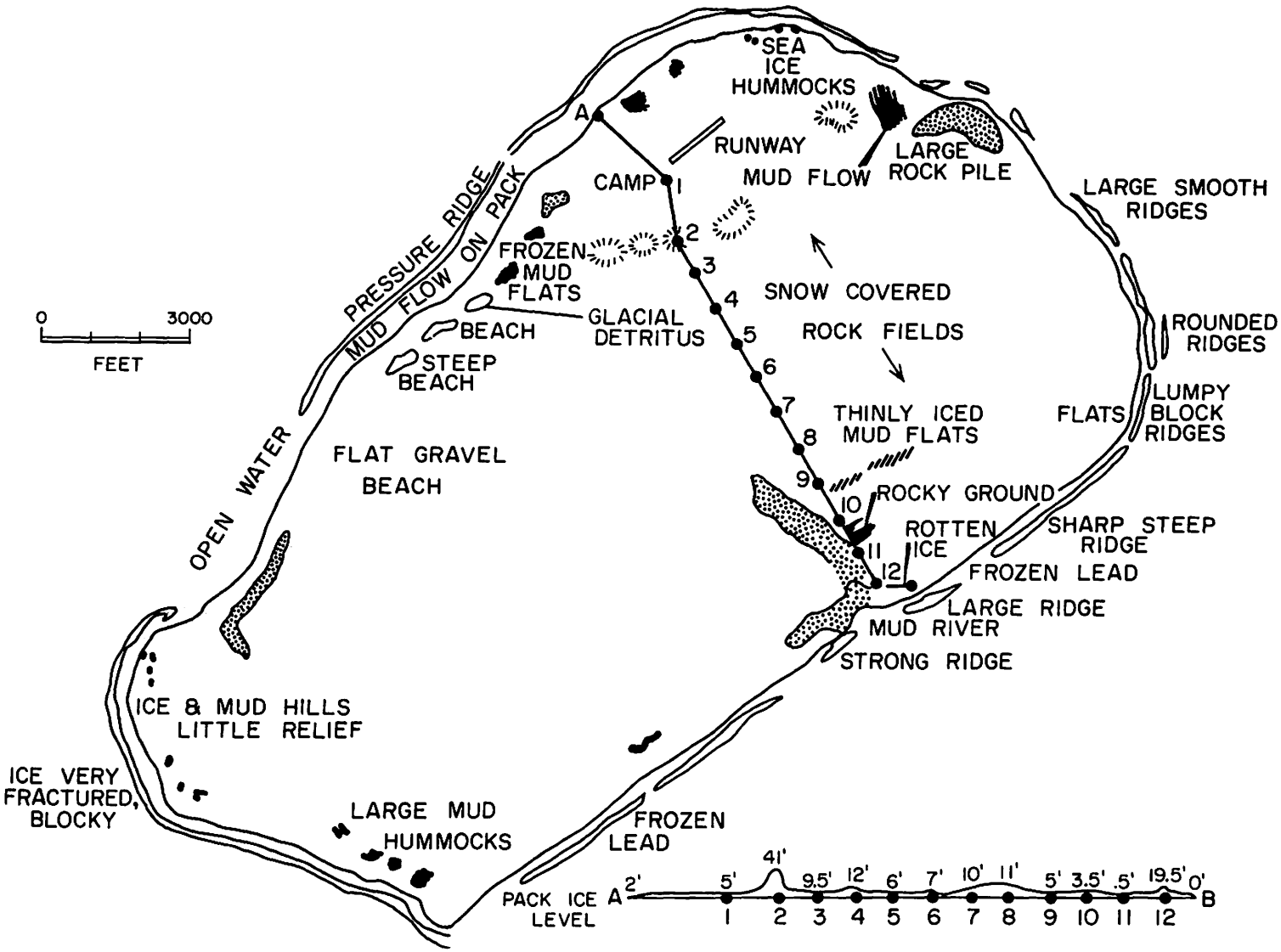


Fig. 1. Map of ice island ARLIS II.

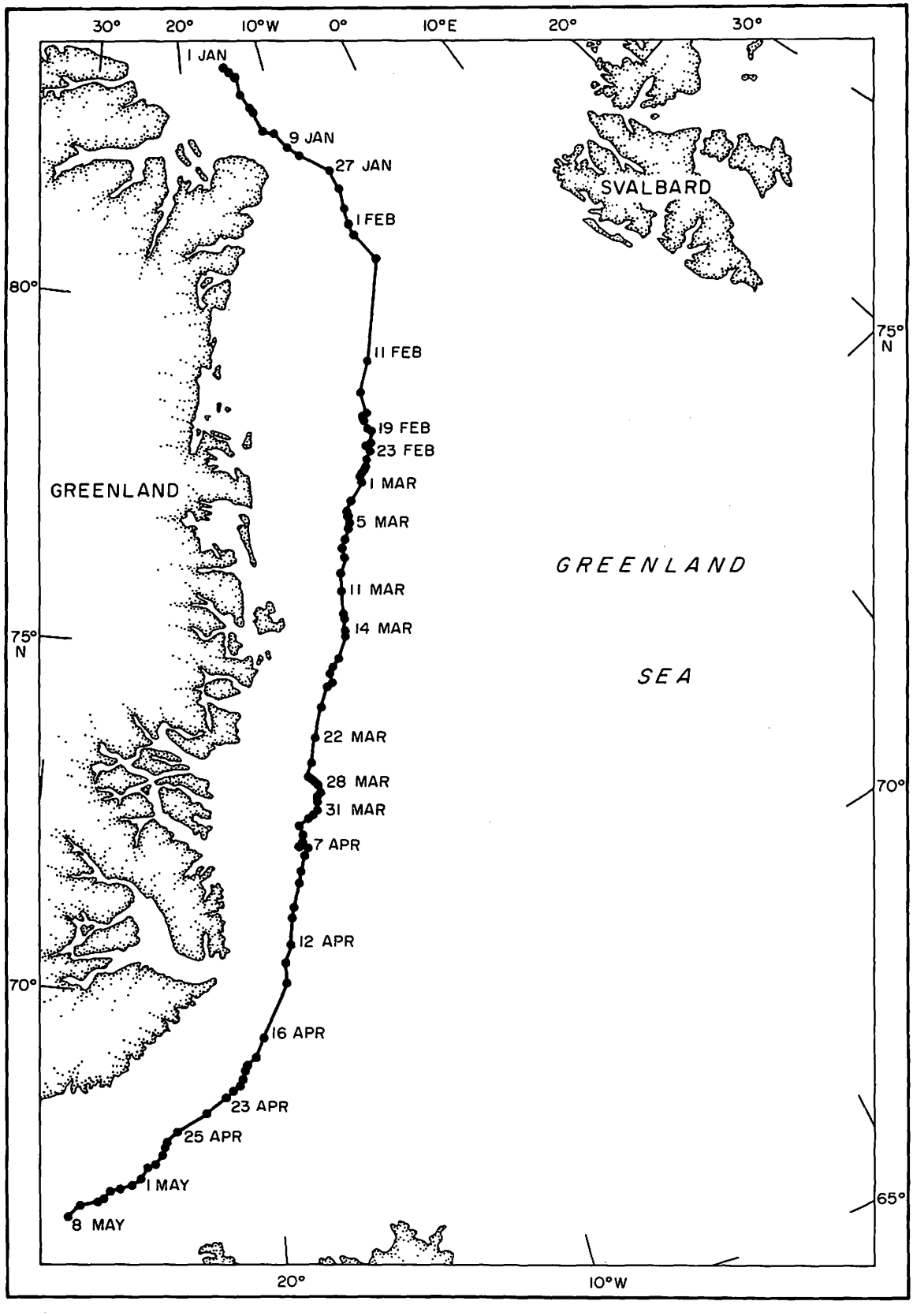


Fig. 2. Chart of the Greenland Sea and Denmark Strait showing the track of ARLIS II from 1 January - 8 May 1965.

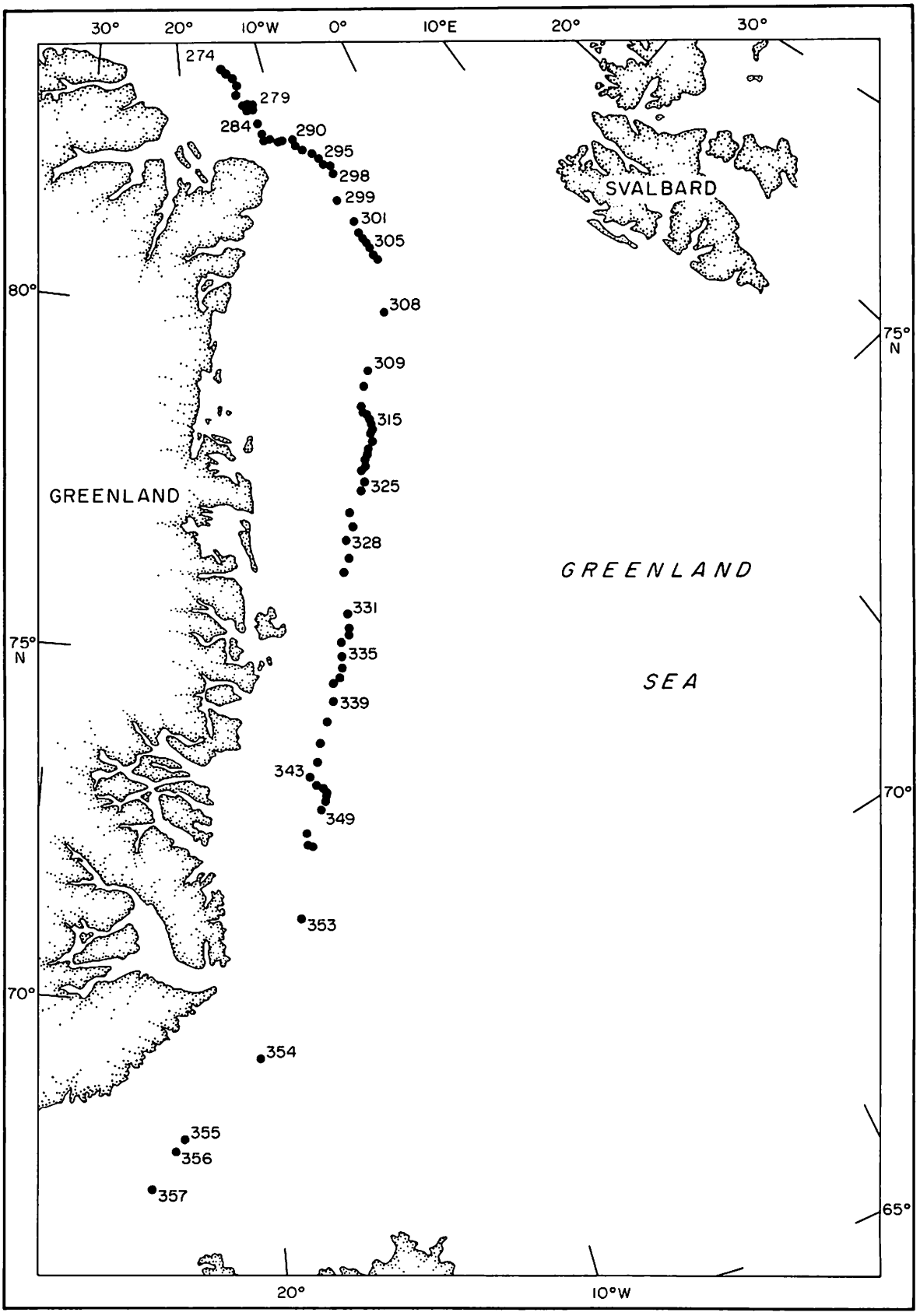


Fig. 3. Location of oceanographic stations accomplished during Cruise AR2-2 (Part B), 1 January - 8 May 1965.

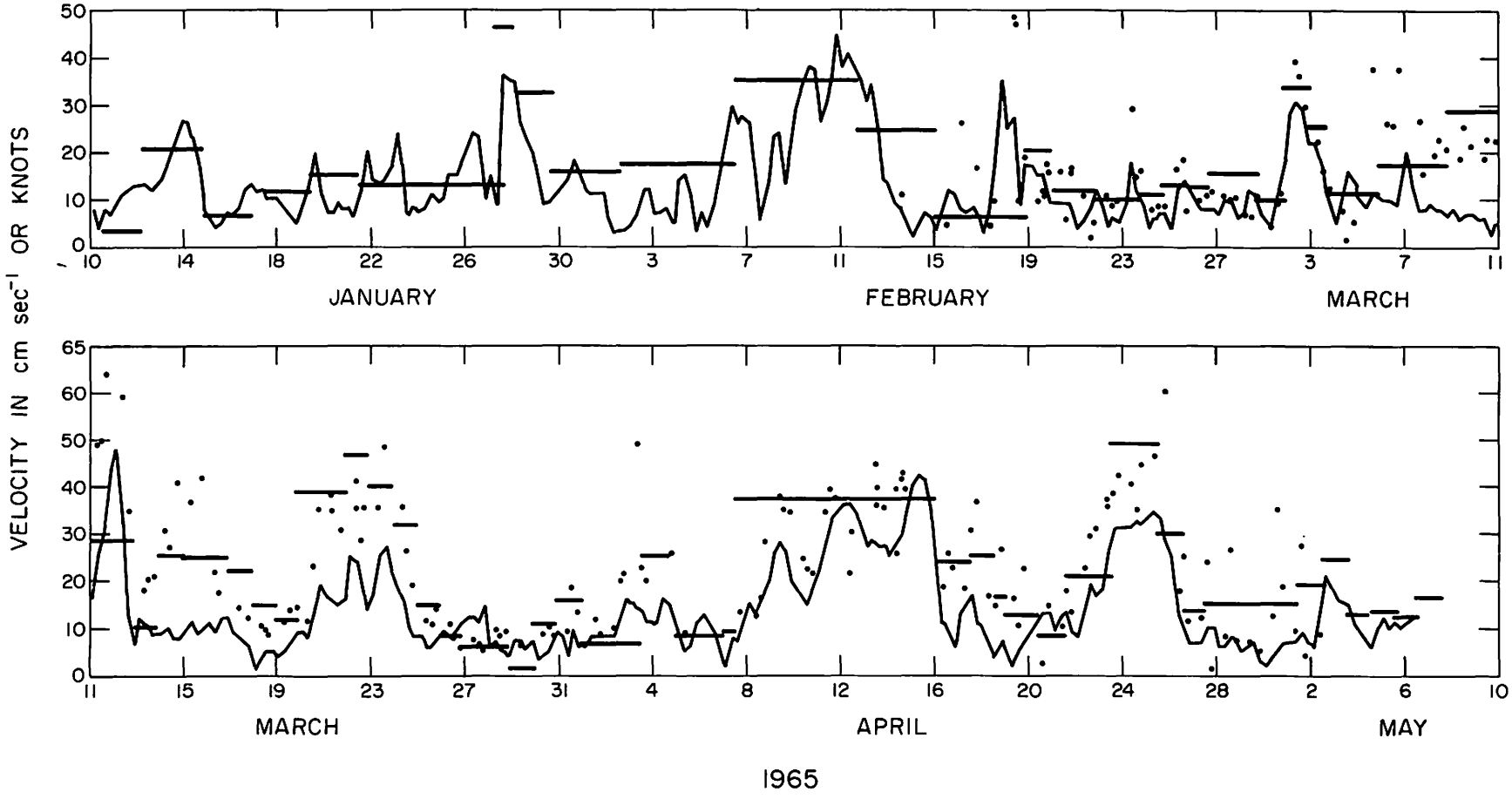


Fig. 4. Chart showing six-hourly local wind speeds, the mean drift speed of the island between navigational fixes, and the mean of the measured drift speeds of the island.

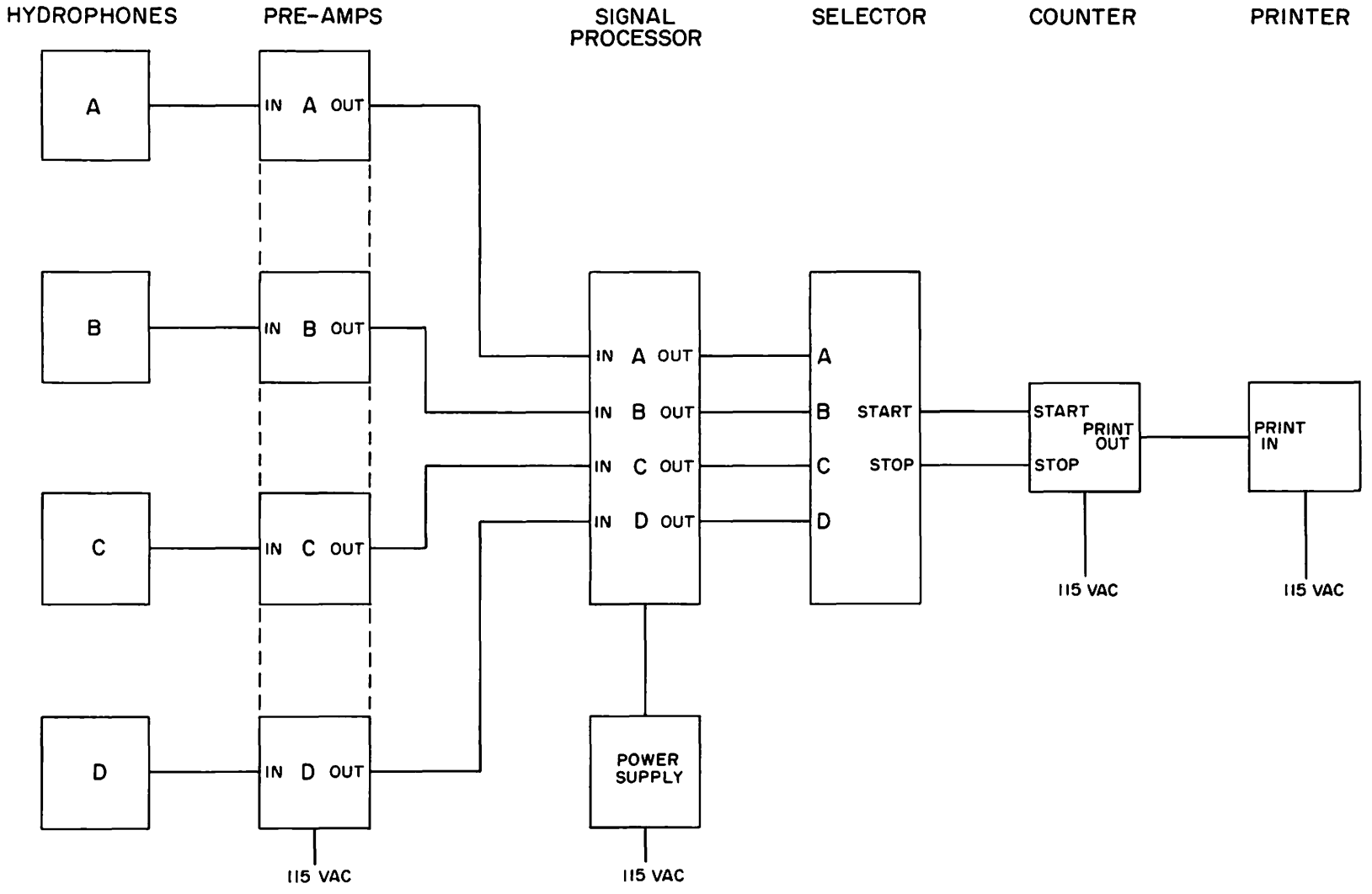


Fig. 5. Interconnection diagram of drift meter components.

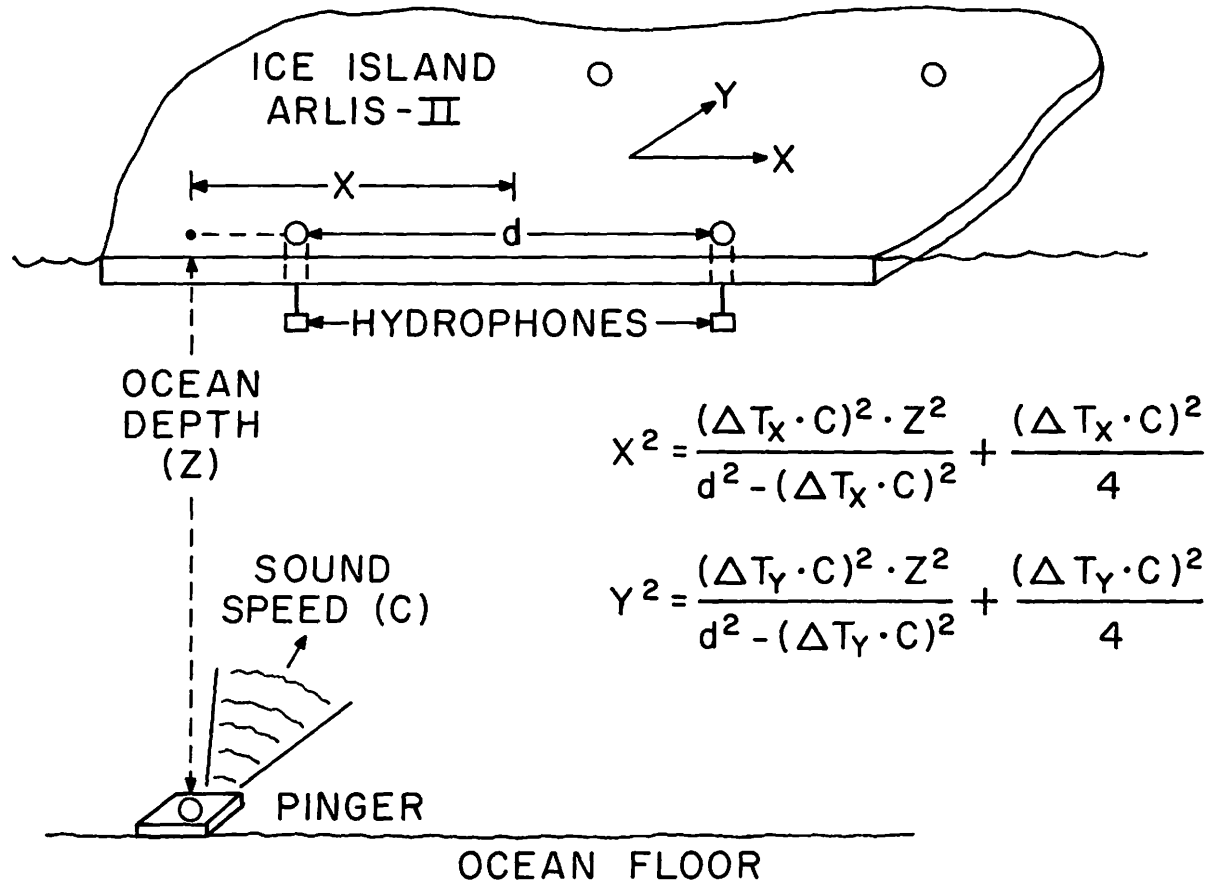


Fig. 6. Diagram of the hydrophone array on ARLIS II.

TABLE 1

Current measurements taken from 18 February - 30 April 1965, Cruise AR2-2 (Part B)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
February 1965					
18	1112	25	6	316	TSK
19	1103	25	29	295	TSK
20	1100	25	3	252	TSK
21	1205	5.5	10	227	TSK
	1159	25	0		TSK
	1148	146	0		TSK
	1135	195	0		TSK
	1105	243	12	087	TSK
	1506	20	2	127	TSK
22	1030	20	8	294	TSK
23	1138	10	9	060	TSK
	1002	20	15	081	TSK
	1127	49	25	097	TSK
	1120	97	34	098	TSK
	1107	146	30	087	TSK
	1045	195	42	096	TSK
	1030	243	22	086	TSK
24	1150	49	0		TSK
	1140	146	0		TSK
	1125	243	0		TSK
	1105	291	12	334	TSK
	1040	340	13	046	TSK
25	1145	20	12	089	TSK
	1135	49	13	077	TSK
	1125	97	19	059	TSK
	1115	194	15	057	TSK
	1045	292	20	040	TSK
	1100	389	22	045	TSK
26	1110	20	2	107	TSK
27	1145	20	12	310	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
February 1965					
28	1228	25	19	257	TSK
	1210	49	18	275	TSK
	1202	97	14	295	TSK
	1151	145	14	289	TSK
	1132	193	8	265	TSK
	1115	243	0		TSK
	1055	291	0		TSK
	1031	340	1	222	TSK
	1012	378	2	287	TSK
March					
2	1034	20	18.6	013	TSK
	1144	49	29.0	026	TSK
	1135	97	29.0	035	TSK
	1125	192	28.6	044	TSK
	1105	289	28.3	037	TSK
3	1111	25	11.6	342	TSK
	1103	48	13.2	010	TSK
	1054	96	27.4	038	TSK
	1044	192	20.6	053	TSK
	1028	287	24.0	035	TSK
	1008	315	21.5	029	TSK
4	1125	25	0		TSK
	1109	49	5.0	325	TSK
	1103	97	3.4	359	TSK
	1050	145	0		TSK
	1034	194	2.0	073	TSK
	1019	252	2.9	001	TSK
5	1552	49	12.7	328	TSK
	1605	97	12.2	346	TSK
	1624	145	22.7	336	TSK
	1645	194	9.5	346	TSK
6	1133	25	14.3	336	TSK
	1125	49	15.7	339	TSK
	1115	97	15.2	345	TSK
	1105	145	8.2	019	TSK
	1050	165	21.9	339	TSK
8	1053	25	7.1	335	TSK
	1045	49	10.5	342	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
March 1965					
8	1035	97	6.0	325	TSK
	1022	145	10.8	015	TSK
	1010	194	20.0	043	TSK
9	1218	25	0		TSK
	1204	49	0		TSK
	1156	97	12.0	001	TSK
	1148	145	10.5	015	TSK
	1135	194	4.7	345	TSK
	1120	243	6.6	355	TSK
	1105	291	8.4	337	TSK
	1048	340	6.7	335	TSK
	1021	368	8.2	328	TSK
10	1134	25	0		TSK
	1125	49	0		TSK
	1117	97	3.3	065	TSK
	1100	194	0		TSK
	1045	291	0		TSK
	1030	398	11.2	047	TSK
11	0930	10	17.9	288	KH
	1147	25	23.6	024	TSK
	1045	49	24.1	045	TSK
	1053	97	26.0	045	TSK
	1102	143	22.4	043	TSK
	1112	190	36.9	029	TSK
	1123	237	32.6	034	TSK
12	1117	6	15.4	333	KH
		7	18.0	323	KH
		8	18.0	323	KH
		9	17.5	343	KH
		10	15.4	338	KH
		15	21.6	319	KH
		20	23.2	314	KH
		25	27.3	317	KH
		30	28.8	315	KH
		35	29.8	315	KH
		40	28.3	313	KH
		45	28.3	303	KH
	1145	50	33.5	303	KH
	1415	49	23.0	345	TSK
	1429	97	18.2	345	TSK
	1440	145	76.4	347	TSK
	1450	194	22.8	191	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
March 1965					
13	1120	5.5	0.6	255	TSK
	1113	25	0		TSK
	1103	49	0		TSK
	1050	97	0		TSK
	1040	145	0		TSK
	1025	194	0		TSK
14	1103	25	4.4	028	TSK
	1051	49	8.0	015	TSK
	1042	97	8.9	005	TSK
	1029	146	9.5		TSK
	1019	184	8.1	018	TSK
	1130	5	5.7	340	KH
	1126	10	5.1	345	KH
	1124	15	3.6	343	KH
	1122	20	2.6	334	KH
	1120	25	2.6	326	KH
	1118	30	5.7	326	KH
	1117	35	6.2	324	KH
	1116	40	7.2	323	KH
	1114	45	6.2	323	KH
	1113	50	6.2	313	KH
	1140	10	7.7	327	KH
	1143	20	6.7	327	KH
	1147	30	0		KH
	1152	40	0		KH
	1155	50	0		KH
15	1125	25	0		TSK
	1115	49	0		TSK
	1107	97	4.3	335	TSK
	1059	145	7.0	019	TSK
	1045	194	0		TSK
	1015	242	6.7	015	TSK
16	1135	25	4.2	025	TSK
	1125	49	6.7	006	TSK
	1110	97	13.5	035	TSK
	1055	145	0		TSK
	1036	194	0		TSK
	1045	208	8.3	052	TSK
17	1220	49	34.9	015	TSK
	1212	97	24.6	006	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
March 1965					
17	1146	194	14.9	042	TSK
	1136	242	15.2	065	TSK
	1025	271	11.1		TSK
18	1210	25	7.5	002	TSK
	1200	49	24.8	004	TSK
	1150	97	16.5	035	TSK
	1145	145	6.6	040	TSK
	1135	194	37.3		TSK
	1100	242	8.3	048	TSK
	1040	291	8.8	061	TSK
20	1206	49	4.8	345	TSK
	1200	97	0		TSK
	1145	194	9.4	025	TSK
	1125	291	12.5	087	TSK
	1110	388	0		TSK
	1030	446	3.5	053	TSK
22	0915	5.5	12.8	157	KH
		6	20.6	107	KH
		7	23.1	129	KH
		8	24.1	119	KH
		9	23.1	124	KH
	0920	10	23.6	123	KH
		11	25.7	122	KH
		12	25.7	122	KH
		13	26.2	120	KH
		14	24.1	125	KH
		15	25.7	120	KH
		20	25.2	107	KH
		25	27.3	106	KH
		30	25.7	107	KH
		35	25.7	107	KH
		40	24.7	107	KH
		50	24.7	107	KH
24	1127	25	56.8	337	TSK
	1120	49	20.4	018	TSK
	1115	97	17.9	023	TSK
	1102	145	22.6	013	TSK
	1043	193	22.7	015	TSK
	1030	240	20.3	017	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
March 1965					
25	1158	49	14.8	338	TSK
	1152	97	14.8	343	TSK
	1145	145		351	TSK
	1125	193	22.9	341	TSK
	1100	242	19.1	349	TSK
	1040	290	10.8	353	TSK
	1015	319	7.9	013	TSK
26	1205	25		353	TSK
	1153	49	16.0		TSK
	1145	97	10.0	353	TSK
	1135	193	14.9	342	TSK
	1117	290	6.5	004	TSK
	1104	338	7.7	000	TSK
27	1131	25	8.7	251	TSK
	1124	49	9.7	276	TSK
	1116	97	19.0	220	TSK
	1102	193	22.4	239	TSK
	1047	290	22.8	243	TSK
	1028	387	16.9	239	TSK
April					
2	0956	6	3.0	156	KH
	0959	7	3.0	159	KH
	1000	8	3.0	149	KH
	1001	9	3.0	148	KH
	1002	10	3.0	155	KH
	1005	11	3.0	160	KH
	1007	12	3.0	150	KH
	1008	13	3.0	146	KH
	1009	14	3.0	147	KH
	1010	15	3.0	146	KH
	1012	20	0		KH
	1014	25	0		KH
	1016	30	5.1	101	KH
	1018	35	7.7	100	KH
	1019	40	7.7	105	KH
	1021	45	7.2	112	KH
	1023	50	7.2	117	KH
	1057	48	6.7	343	TSK
	1114	96	7.6	060	TSK
	1125	253	11.0	052	TSK
	1142	506	8.5	050	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
2	1213	757	6.8	053	TSK
	1256	1008	9.0	053	TSK
	1349	1220	5.3	050	TSK
3	1147	48	13.7	002	TSK
	1142	96	9.7	005	TSK
	1132	192	23.9	023	TSK
	1118	286	18.3	020	TSK
	1055	376	17.9	012	TSK
	1010	472	15.0	022	TSK
	1150	6	14.4	112	KH
		7	14.9	112	KH
		8	15.9	112	KH
		9	15.9	112	KH
		10	15.9	112	KH
		11	17.5	112	KH
		12	17.5	105	KH
		13	17.5	105	KH
		14	17.0	105	KH
	1157	15	15.9	101	KH
	1158	20	17.0	101	KH
		25	17.0	101	KH
		30	16.5	103	KH
		35	14.9	106	KH
		40	13.3	104	KH
		45	12.3	104	KH
	1203	50	12.8	104	KH
4	1340	10	18.4	117	KH
		15	23.1	109	KH
		20	22.1	108	KH
	1350	25	24.1	108	KH
		30	24.1	108	KH
		35	22.1	100	KH
		40	20.6	104	KH
		45	21.1	104	KH
	1357	50	19.6	102	KH
8	1145	10	10.3	149	KH
		15	7.6	162	KH
		20	10.8	150	KH
		25	11.9	140	KH
		30	11.9	145	KH
		35	12.4	141	KH

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
8		40	12.8	145	KH
		45	11.9	153	KH
	1158	50	13.8	153	KH
9	1028	93	31.0	002	TSK
	1100	280	25.2	004	TSK
	1122	465	23.3	004	TSK
	1154	750		012	TSK
	1233	6	19.0	300	KH
		7	27.8	300	KH
		8	25.2	295	KH
	1237	9	26.8	286	KH
	1238	10	24.1	286	KH
		11	23.2	291	KH
		12	19.6	290	KH
	1242	13	20.6	318	KH
	1244	14	20.6	300	KH
	1251	15	23.2	293	KH
	1252	20	24.1	293	KH
		25	27.2	293	KH
	1254	30	27.2	293	KH
11	1052	96	34.1	012	TSK
	1103	282	27.5	007	TSK
	1124	470	24.1	012	TSK
	1137	11	20.1	290	KH
		12	19.0	296	KH
		13	20.6	288	KH
		14	20.6	291	KH
		15	17.5	296	KH
		20	19.0	310	KH
		25	18.0	300	KH
		30	23.2	290	KH
		35	19.6	270	KH
		40	23.2	270	KH
		45	27.3	268	KH
	1147	50	27.3	269	KH
	1154	6	13.4	304	KH
		7	16.0	293	KH
		8	19.0	290	KH
		9	19.6	293	KH
		10	20.6	290	KH
	1150	11	20.6	298	KH

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
12	1519	6	27.8	295	KH
		7	30.4	287	KH
		8	33.4	295	KH
		9	30.9	290	KH
		10	35.5		KH
		11	35.5		KH
		12	32.4		KH
		13	34.0		KH
		14	33.4	292	KH
	1525	15	36.0	275	KH
		20	38.6	285	KH
		25	41.2		KH
	1530	30	36.0		KH
	1533	35	34.5	280	KH
		40	34.0	280	KH
		45	36.5	280	KH
	1535	50	31.9	278	KH
	1611	6	19.0	295	KH
		7	25.7	294	KH
		8	28.8	288	KH
		9	28.3	290	KH
		10	28.8	290	KH
		11	29.3	292	KH
		12	29.8	288	KH
		13	30.9	286	KH
		14	30.9	277	KH
	1605	15	28.3	285	KH
		20	30.9	280	KH
		25	35.5	285	KH
		30	31.9	277	KH
		35	43.7	274	KH
		40	35.0	285	KH
		45	41.2	275	KH
	1554	50	43.2	275	KH
14	1150	6	10.3	157	KH
		7	10.8	157	KH
		8	10.3	170	KH
		9	18.0	153	KH
		10	20.6	153	KH
		11	22.1	162	KH
		12	24.7	161	KH
		13	28.3	150	KH
		14	23.2	155	KH

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
14	1159	15	22.6	155	KH
		20	27.8	148	KH
		25	26.8	140	KH
		30	25.7	140	KH
		35	25.7	140	KH
		40	23.7	140	KH
		45	26.2	140	KH
		50	26.8	140	KH
		55	30.9	135	KH
	1108	60	30.4	135	KH
	1114	55	30.9	130	KH
	1118	60	31.4	126	KH
		65	29.8	126	KH
		70	29.8	126	KH
		75	28.8	129	KH
		80	32.4	123	KH
		85	29.8	123	KH
		90	30.9	133	KH
		95	31.9	120	KH
		100	31.2	125	KH
		110	30.4	135	KH
		120	32.9	135	KH
		130	31.4	140	KH
	1152	140	33.4	138	KH
16	1205	96	11.3	322	TSK
	1155	238	6.5	322	TSK
	1143	477	12.5	315	TSK
	1120	668	12.7	324	TSK
	1040	857	16.6	335	TSK
17	1135	1130	12.2	060	TSK
19	1001	96	0		TSK
	1014	192	11.0	022	TSK
	1100	287	14.3	022	TSK
	1115	477	13.8	032	TSK
20	1015	10	11.3	127	KH
	1140	10	16.4	120	KH
	0956	96	6.9	152	TSK
	1016	287	2.2	112	TSK
	1030	478	0		TSK
	1058	716	4.2	092	TSK
	1133	956	1.4	092	TSK

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
21	1020	10	10.3	225	KH
	1020	96	2.7	232	TSK
	1040	287	8.7	230	TSK
	1100	478	13.7	279	TSK
	1125	764	9.2		TSK
22	1040	10	0		KH
	1100	10	0		KH
	1113	10	0		KH
	1140	10	11.3	055	KH
	1040	95	19.7	053	TSK
	1100	285	19.7	062	TSK
	1113	472	18.8	062	TSK
	1140	725	20.3	062	TSK
23	1005	95	35.0	043	TSK
	1025	278	32.6	052	TSK
	1040	10	20.5	345	KH
		11	20.5	350	KH
		12	20.5	340	KH
		13	20.5	327	KH
		14	20.5	327	KH
		15	20.5	326	KH
	1045	20	9.2	302	KH
		25	15.4	270	KH
		30	20.6	262	KH
		35	25.7	255	KH
		40	25.7	251	KH
		45	25.7	245	KH
		50	28.3	245	KH
		55	30.9	245	KH
		60	26.8	251	KH
		65	28.3	251	KH
		70	31.9	248	KH
		75	35.0	251	KH
		80	36.1	250	KH
		85	30.9	254	KH
		90	29.3	257	KH
		95	29.8	257	KH
	1115	100	28.8	263	KH
24	1005	6	18.0	282	KH
	1007	7	19.0	277	KH
	1008	8	20.0	294	KH
	1010	9	27.0	290	KH

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
24	1012	10	24.0	280	KH
	1013	11	25.0	277	KH
	1020	10	18.0	305	KH
	1021	11	18.0	303	KH
	1023	12	19.0	305	KH
	1024	13	19.0	308	KH
	1026	14	18.0	312	KH
	1027	15	21.0	305	KH
	1029	20	21.0	307	KH
	1031	25	17.0	305	KH
	1034	30	29.0	295	KH
	1036	35	33.0	292	KH
	1039	40	35.0	288	KH
	1041	45	36.0	285	KH
	1043	50	36.0	280	KH
	1044	55	38.0	268	KH
	1046	60	39.0	262	KH
	1048	65	40.0	258	KH
	1050	70	42.0	258	KH
	1052	75	42.0	258	KH
	1053	80	42.0	262	KH
	1055	85	42.0	260	KH
	1058	90	42.0	260	KH
	1100	95	42.0	260	KH
	1102	100	42.0	262	KH
	1105	100	44.0	263	KH
	1108	100	47.0	262	KH
	1111	100	48.0	262	KH
	1114	100	47.0	262	KH
	1117	100	48.0	262	KH
27	1022	10	0		KH
	1022	95	0		TSK
	1045	286	1.8	041	TSK
	1108	477	7.2	062	TSK
	1140	763	6.9	062	TSK
28	1100	10	13.0	219	KH
	1100	95	0		TSK
	1116	286	0		TSK
	1140	477	3.2	016	TSK
29	1130	6	13.0	275	KH
	1131	7	10.8	273	KH
	1132	8	11.3	274	KH

TABLE 1 (continued)

Date	Time	Depth	Relative Velocity Spd	Direction	MT
April 1965					
29	1133	9	11.8	270	KH
	1134	10	11.8	266	KH
	1135	11	10.3	263	KH
	1136	12	8.5	258	KH
	1137	13	6.1	246	KH
	1138	14	5.9	241	KH
	1140	15	6.4	239	KH
	1141	20	6.2	249	KH
	1143	25	5.7	265	KH
	1145	30	0		KH
	1148	40	0		KH
30	0930	6	0		KH
		7	0		KH
		8	0		KH
		9	0		KH
		10	0		KH
		11	25.0	225	KH
		12	0		KH
		13	0		KH
		14	0		KH
	0943	15	0		KH
	0946	20	0		KH
	0950	37.5	10.0	055	KH
		40	21.0	062	KH
		45	12.0	058	KH
		50	9.0	065	KH
		55	6.0	075	KH
		60	7.0	080	KH
		65	8.0	068	KH
		70	10.0	060	KH
		75	11.0	066	KH
		80	9.0	066	KH
		85	9.0	082	KH
		90	0		KH
		95	6.0	095	KH
	1020	100	0		KH
	1040	95	1.5	231	TSK
	1052	286	5.5	336	TSK
	1110	477	7.7	048	TSK
	1140	763	6.6	051	TSK

TABLE 2

Drift meter measurements taken from 13 February - 2 May 1965, Cruise AR2-2 (Part B)

Date	Time	Latitude	Longitude	Depth	P.O.M.	Drift Speed	Drift Direction
February							
13	1514	78°14'	09°08'	197	195	10.5	203
	1522			197	204	10.9	201
	1529			197	200	10.9	188
15	1410	77°57'	09°50'	232	2000	4.2	310
16	0928	77°54'	09°46'	238	360	26.0	213
	1331			240	600	7.8	231
	1345			240	200	7.2	226
	2043			240	600	16.4	223
17	0913	77°49'	09°41'	240	900	4.5	236
	1447			240	300	9.8	025
18	0913	77°45'	09°36'	240	200	48.7	245
	0947			240	120	46.9	250
	1439			240	200	9.4	072
	2020			240	300	19.0	192
19	1008	77°40'	09°31'	240	200	9.9	170
	1338			240	600	11.7	141
	1348			240	200	10.3	155
	1922			240	800	17.1	222
	1940			240	200	15.8	214
20	0920	77°36'	09°32'	225	600	15.3	227
	1328			225	900	5.7	180
	1921			225	300	15.6	211
	1934			225	300	16.4	201
21	0905	77°32'	09°43'	235	1000	10.7	222
	1435			240	600	1.9	212
	1920			245	700	4.8	251
22	0900	77°28'	09°54'	255	600	10.5	226
	1329			255	600	8.4	230
	1934			255	700	9.5	221
23	0857	77°23'	10°05'	270	600	29.0	246
	1418			285	600	14.8	258
	1840			285	900	15.8	185
24	0845	77°19'	10°16'	370	900	7.7	208
	1358			370	600	8.7	232
	1919			370	600	8.6	215
25	0855	77°15'	10°27'	405	1000	16.4	230
	1339			405	600	18.7	248
	1936			430	600	7.5	174
26	0908	77°11'	10°38'	490	600	9.7	201
	1424			500	600	10.9	218
	1935			500	600	11.4	208

TABLE 2 (continued)

Date	Time	Latitude	Longitude	Depth	P.O.M.	Drift Speed	Drift Direction
February							
27	0858	77°07'	10°49'	430	600	10.4	197
	1425			410	600	9.8	209
	1854			390	600	10.0	203
28	0922	77°03'	11°00'	380	600	6.7	052
	1249			375	600	6.3	069
	1850			375	600	10.6	237
March							
1	0900	76°58'	10°59'	370	600	4.2	215
	1350			375	600	9.4	207
	1821			380	600	11.4	198
2	0904	76°49'	11°13'	330	710	38.9	227
	0927			330	300	39.4	227
	1208			310	600	36.2	220
	1850			310	340	29.6	218
3	0915	76°38'	11°46'	320	350	22.2	212
	0928			320	330	22.2	214
	1158			305	600	15.9	198
	1840			290	600	12.7	219
4	0849	76°30'	12°02'	255	500	7.5	240
	1143			260	1000	1.3	279
	1940			260	600	5.1	266
5	1713	76°23'	12°01'	235	400	18.9	185
6	0918	76°19'	12°10'	170	300	15.5	225
	1203			170	300	13.8	209
	1852			150	600	20.0	208
7	1508	76°10'	12°30'	180	200	18.7	128
	1939			185	400	7.7	222
8	0854	76°05'	12°43'	210	1200	10.1	209
	1114			225	1100	11.2	203
	1913			265	1200	11.5	197
9	0900	75°55'	12°56'	370	900	7.7	199
	1240			360	600	11.3	199
	1914			385	1000	11.8	193
10	0859	75°42'	13°06'	400	600	9.2	196
	1340			390	900	12.6	193
	1903			390	1000	13.3	196
11	0911	75°29'	13°26'	305	300	28.7	205
	0935			305	600	29.8	195
	1212			270	600	30.1	197
	1845			220	300	39.6	222
12	1038	75°15'	13°27'	215	300	34.9	211
	1837			215	800	15.0	221
13	0901	75°07'	13°30'	215	600	7.4	200
	1348			215	900	8.3	202
	1845			215	1000	10.4	193

TABLE 2 (continued)

Date	Time	Latitude	Longitude	Depth	P.O.M.	Drift Speed	Drift Direction
March							
14	0859	74°58'	13°33'	215	900	13.1	221
	1144			215	500	15.2	210
	1825			215	600	17.2	230
15	0859	74°47'	13°48'	240	700	18.5	223
	2003			315	400	21.0	220
16	0916	74°35'	14°10'	225	500	16.3	225
	1203			220	100	17.7	226
17	0900	74°25'	14°27'	285	700	14.1	234
	2006			265	700	12.1	233
18	0902	74°17'	14°39'	295	1000	10.4	239
	1421			285	200	9.7	181
	1435			285	100	8.9	193
	1914			285	200	14.7	208
	1942			285	500	14.7	211
19	0856	74°12'	14°49'	285	1100	11.6	229
	1425			285	600	13.9	198
	1858			310	700	14.0	216
20	0850	74°04'	15°05'	445	900	11.7	234
	1410			505	600	23.1	220
	1858			675	600	35.2	224
21	0921	73°53'	15°28'	860	300	38.1	213
	0934			860	200	34.8	215
	1832			650	600	30.9	130
22	1111	73°37'	15°51'	620	300	40.9	220
	1122			620	400	35.3	222
	1355			600	600	28.4	203
	1845			450	600	35.8	210
23	0925	73°18'	16°16'	950	200	35.6	200
	1356			1120	400	48.9	202
24	0855	73°03'	16°35'	280	100	35.2	208
	1358			290	100	26.6	193
	1931			330	600	18.8	200
25	0855	72°53'	16°47'	330	700	11.6	187
	1320			330	700	10.9	175
	1850			340	600	14.0	180
26	0849	72°48'	16°42'	340	600	10.9	187
	1348			345	600	8.1	150
	1932			345	400	5.7	144
27	0909	72°46'	16°37'	405	600	7.5	151
	1337			550	600	6.8	147
	1947			655	600	5.6	078
28	0918	72°44'	16°30'	910	600	9.6	223
	1215			930	500	8.4	179
	1901			1010	600	9.1	203

TABLE 2 (continued)

Date	Time	Latitude	Longitude	Depth	P.O.M.	Drift Speed	Drift Direction
March							
29	0916	72°41'	16°28'	1200	600	6.3	166
30	0914	72°37'	16°31'	1290	600	8.9	205
	1305			1305	600	10.1	184
	1857			1320	600	8.1	134
31	0910	72°31'	16°35'	1325	600	9.1	205
	1355			1340	600	18.8	193
	1855			1320	600	13.1	210
April							
1	0903	72°26'	16°48'	1345	600	6.9	179
	1349			1335	600	11.6	192
	1911			1330	600	8.5	200
2	0922	72°21'	17°09'	1235	600	10.0	246
	1459			1225	600	20.0	210
	1925			1220	500	21.5	199
3	0921	72°17'	17°30'	1225	600	49.0	244
	1418			1570	500	22.8	205
	1907			1575	600	19.9	190
4	1903	72°02'	17°27'	1510	600	25.7	201
5	0944	71°59'	17°31'	1545	600	9.0	178
7	2153	71°45'	17°30'	1660	600	13.4	214
8	0926	71°37'	17°37'	1640	600	12.7	237
	1429			1630	700	16.3	249
	1848			1585	600	28.2	219
9	0942	71°23'	17°51'	1550	300	37.5	206
	1251			1540	400	34.9	207
	1910			1690	600	34.6	199
10	0956	71°07'	18°04'	1645	690	24.4	197
	1411			1640	600	22.1	203
	1839			1660	600	21.8	208
11	0943	70°53'	18°17'	1600	600	34.5	209
	1240			1570	400	39.5	212
	1859			1565	500	37.4	233
12	1041	70°38'	18°31'	1430	200	21.8	209
	1102			1430	600	30.1	211
13	1216	70°22'	18°46'	840	400	44.5	206
	1232			840	500	35.8	211
	1304			835	400	39.8	211
	2010			525	500	35.1	214
14	0915	70°09'	18°58'	380	100	34.8	211
	0934			380	100	25.4	217
	0959			385	100	39.3	211
	1407			385	200	41.5	225
	1438			385	300	42.9	232
	1842			375	100	39.2	219

TABLE 2 (continued)

Date	Time	Latitude	Longitude	Depth	P.O.M.	Drift Speed	Drift Direction
April							
16	0948			840	100	18.3	153
	1400	69°24'	19°58'	975	700	25.8	189
	1849			1070	600	22.5	200
17	0935	69°19'	19°48'	1205	600	18.2	238
	1351			1215	600	30.8	231
	1902			1230	600	36.8	223
18	0930	69°01'	20°25'	1380	600	16.5	192
	1356			1430	600	14.7	196
	1828			1480	700	26.6	209
19	0916	68°53'	20°38'	1440	600	16.3	190
	1358			1415	600	10.7	201
	1841			1380	600	22.6	211
20	0908	68°47'	20°44'	1320	600	8.1	183
	1432			1295	600	2.6	281
	1853			1290	600	14.9	247
21	0905			1250	600	10.3	138
	1328	68°43'	20°48'	1235	600	18.0	142
	1857			1205	600	13.4	197
22	0904	68°38'	21°05'	1170	600	22.7	234
	1340			1100	600	29.2	240
	1846			1120	600	31.1	247
23	0902	68°32'	21°26'	1100	600	37.6	246
	0926			1100	300	35.9	246
	1345			1120	600	38.6	245
	1902			1120	600	42.4	247
24	0924	68°19'	22°13'	1145	600	40.1	238
	1428			1230	370	35.1	227
	1902			1230	600	44.8	230
25	1044	68°05'	23°05'	1240	200	46.6	241
	1912			1245	300	60.2	215
26	0900	67°55'	23°35'	1255	600	17.9	215
	1348			1245	600	25.0	220
	1848			1230	600	11.3	190
27	0928	67°48'	23°47'	1180	600	12.3	209
	1335			1180	600	24.0	231
	1854			1180	600	1.7	153
28	0958	67°43'	23°58'	1150	700	8.2	196
	1358			1140	600	26.9	228
	1854			1140	600	7.5	154
29	0927	67°37'	24°10'	1090	600	7.2	157
	1844			1095	600	5.5	144
30	0852	67°32'	24°21'	1070	600	12.9	069
	1341			1060	600	35.2	228
	1825			1080	600	19.0	231

TABLE 2 (continued)

Date	Time	Latitude	Longitude	Depth	P.O.M.	Drift Speed	Drift Direction
May							
1	0847	67°26'	24°32'	1105	600	9.1	039
	1331			1080	600	27.5	215
	2012			1200	600	4.5	328
2	0919	67°19'	24°29'	1230	600	9.0	322

AR CRUISE AR2 STATION 274 OBSERVED VALUES

DATE	01/01/65	BAROMETER	21.9	WEATHER	X4	WIND VELOC	10	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-41.5	VISIBILITY	3	WIND DIREC	28	SECCHI	
LAT	83-27.4N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	14-14. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	3640

MESSENGER TIMES: 00.1, 00.9
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.71						
1	24	-1.71						
1	49	-1.72						
1	59	-1.71						
1	69	-1.65						
1	78	-1.60						
1	88	-1.55						
1	98	-1.54						
1	108	-1.48						
1	118	-1.42						
1	147	-1.04						
1	172	-0.60						
1	196	-0.30						
2	196	-0.30						
2	245	0.30						
2	294	0.59						
2	343	0.62						
2	392	0.56						
2	441	0.54						
2	490	0.44						
2	588	0.27						
2	784	0.03						
2	882	-0.08						
2	980	-0.13						
2	1176	-0.24						
2	1421	-0.40						

AR CRUISE AR2 STATION 275 OBSERVED VALUES

DATE	02/01/65	BAROMETER	22.6	WEATHER	XO	WIND VELOC 09	WAVE PERIOD
HOUR	00.3	TEMP DRY	-44.0	VISIBILITY	6	WIND DIREC 34	SECCHI
LAT	83-23.6N	TEMP WET		CLOUD TYPE	X	WAVE DIREC	WATER COLOR
LONG	14-02. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT	SOUNDING

MESSENGER TIMES: 00.3, 01.1
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.71						
1	24	-1.72						
1	49	-1.72						
1	59	-1.70						
1	69	-1.63						
1	78	-1.59						
1	88	-1.53						
1	98	-1.53						
1	108	-1.47						
1	118	-1.43						
1	147	-0.95						
1	172	-0.63						
1	196	-0.23						
2	245	0.28						
2	294	0.48						
2	343	0.55						
2	392	0.52						
2	441	0.48						
2	490	0.41						
2	588	0.27						
2	784	0.04						
2	882	-0.08						
2	980	-0.14						
2	1176	-0.25						
2	1421	-0.39						

AR CRUISE AR2 STATION 276 OBSERVED VALUES

DATE	03/01/65	BAROMETER	25.3	WEATHER	XO	WIND VELOC	09	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-44.5	VISIBILITY	6	WIND DIREC	30	SECCHI	
LAT	83-19.8N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	13-50. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.1, 01.1
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.75						
1	24	-1.72						
1	49	-1.74						
1	59	-1.77						
1	69	-1.66						
1	78	-1.63						
1	88	-1.57						
1	98	-1.56						
1	108	-1.49						
1	118	-1.46						
1	147	-0.99						
1	172	-0.62						
2	196	-0.26						
2	245	0.27						
2	294	0.50						
2	343	0.55						
2	392	0.53						
2	441	0.50						
2	490	0.39						
2	588	0.22						
2	784	0.03						
2	882	-0.09						
2	980	-0.15						
2	1176	-0.26						
2	1421	-0.36						

AR CRUISE AR2 STATION 277 OBSERVED VALUES

DATE	06/01/65	BAROMETER	31.5	WEATHER	X1	WIND VELOC	10	WAVE PERIOD	
HOUR	01.0	TEMP DRY	-33.0	VISIBILITY	6	WIND DIREC	36	SECCHI	
LAT	83-08.3N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	13-13. W	REL HUMID		CLOUD AMT	5	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 01.0
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.71						
1	24	-1.71						
1	49	-1.73						
1	59	-1.72						
1	69	-1.66						
1	78	-1.56						
1	88	-1.56						
1	98	-1.42						
1	108	-1.48						
1	118	-1.44						
1	147	-1.08						
1	172	-0.65						
1	196	-0.32						

AR CRUISE AR2 STATION 278 OBSERVED VALUES

DATE	08/01/65	BAROMETER	07.8	WEATHER	X2	WIND VELOC	10	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-23.5	VISIBILITY	6	WIND DIREC	28	SECCHI	
LAT	83-00.8N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	12-40. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.1, 01.2
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.70						
1	24	-1.72						
1	49	-1.72						
1	59	-1.72						
1	69	-1.60						
1	78	-1.57						
1	88	-1.55						
1	98	-1.49						
1	108	-1.34						
1	118	-1.25						
1	147	-0.97						
1	172	-0.60						
2	196	-0.17						
2	245	0.49						
2	294	0.64						
2	343	0.70						
2	392	0.62						
2	441	0.56						
2	490	0.50						
2	588	0.31						
2	784	0.04						
2	882	-0.05						
2	980	-0.13						
2	1176	-0.27						
2	1421	-0.40						

AR CRUISE AR2 STATION 279 OBSERVED VALUES

DATE	09/01/65	BAROMETER	21.2	WEATHER	X3	WIND VELOC	24	WAVE PERIOD	
HOUR	00.3	TEMP DRY	-26.0	VISIBILITY	3	WIND DIREC	34	SECCHI	
LAT	82-57.0N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	12-38. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.3, 01.3
WIRE ANGLES: 02, 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.70						
1	24	-1.71						
1	49	-1.72						
1	59	-1.71						
1	69	-1.56						
1	78	-1.53						
1	88	-1.55						
1	98	-1.46						
1	108	-1.50						
1	117	-1.48						
1	147	-1.09						
2	196	-0.22						
2	245	0.36						
2	294	0.69						
2	343	0.67						
2	392	0.65						
2	441	0.62						
2	489	0.57						
2	587	0.30						
2	783	0.01						
2	881	-0.10						
2	979	-0.16						
2	1175	-0.27						
2	1420	-0.45						

AR CRUISE AR2 STATION 280 OBSERVED VALUES

DATE 10/01/65 BAROMETER 20.2 WEATHER X2 WIND VELOC 07 WAVE PERIOD
HOUR 00.0 TEMP DRY -30.0 VISIBILITY 7 WIND DIREC 07 SECCHI
LAT 82-54.1N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 12-25. W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING
MESSENGER TIMES: 00.0, 01.4, 02.8
WIRE ANGLES: 00, 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN	PHOS	SIL
3	10	-1.71	31.663	25.49	8.62	0.770	-0.017	102	1.25	9
1	24	-1.71	31.771	25.58	8.76	0.782	-0.030	104	1.76	12
1	39	-1.71	31.744	25.56	8.75	0.781	-0.029	104	1.39	12
1	49	-1.71	31.753	25.56					1.34	12
1	59	-1.70	31.780	25.59	8.72	0.779	-0.026	104	1.39	12
1	69	-1.58	32.394	26.08	7.77	0.694	0.053	93	1.57	16
1	78	-1.53	33.197	26.73	6.96	0.622	0.119	84	1.57	17
1	88	-1.53	33.486	26.96	6.98	0.623	0.116	84	1.48	16
1	98	-1.46	33.711	27.14	6.86	0.613	0.124	83	1.39	18
1	108	-1.50	33.991	27.37	6.92	0.618	0.118	84	1.16	13
1	117	-1.45	34.135	27.49	6.95	0.621	0.114	85	1.16	11
2	147	-1.10	34.352	27.65	6.93	0.619	0.107	85	1.11	11
2	171	-0.63	34.506	27.76	6.88	0.614	0.101	86	1.20	9
2	196	-0.21	34.623	27.83	6.80	0.607	0.100	86	1.20	9
2	245	0.41	34.803	27.94	6.79	0.606	0.088	87	1.25	8
2	294	0.67	34.894	28.00	6.71	0.599	0.090	87	1.20	8
2	343	0.71	34.912	28.01	6.72	0.600	0.088	87	1.11	8
2	392	0.69	34.903	28.01	6.75	0.603	0.086	88	1.02	8
2	441	0.61	34.903	28.01	6.72	0.600	0.090	87	1.16	9
2	489	0.56	34.912	28.02	6.81	0.608	0.083	88	1.16	9
3	587	0.33	34.921	28.04	6.79	0.606	0.089	87	1.30	9
3	685	0.18	34.939	28.07	6.80	0.607	0.091	87	1.25	9
3	783	0.01	34.957	28.09	6.85	0.612	0.089	87	1.16	9
3	881	-0.09	34.930	28.07	6.86	0.613	0.090	87	1.16	9
3	979	-0.20	34.930	28.08	6.85	0.612	0.093	87	1.16	8
3	1077	-0.24	34.921	28.07	6.84	0.611	0.095	87	1.16	8
3	1175	-0.33	34.921	28.08	6.89	0.615	0.092	87	1.20	9
3	1273	-0.35	34.921	28.08	6.85	0.612	0.096	86	1.20	9
3	1420	-0.46	34.939	28.10	6.84	0.611	0.099	86	1.20	9

AR CRUISE AR2 STATION 280 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.71	0.00	31.663	0.000	25.49	250.0	0.000	0.00	8.62	0.00	
10	-1.71	0.00	31.663	0.000	25.49	249.9	0.026	0.01	8.62	0.00	
20	-1.71	0.00	31.740	0.009	25.55	243.8	0.051	0.05	8.72	0.01	0.72
30	-1.71	0.00	31.766	0.008	25.57	241.7	0.075	0.11	8.77	0.01	0.72
50	-1.71	0.00	31.742	0.009	25.55	243.4	0.124	0.32	8.89	0.10	0.87
75	-1.54	0.00	32.945	0.028	26.53	151.1	0.174	0.62	7.18	0.03	0.66
100	-1.47	0.01	33.770	0.005	27.19	87.9	0.204	0.88	6.87	0.01	0.77
150	-1.04	0.00	34.373	0.000	27.67	42.9	0.237	1.27	6.93	0.00	0.82
200	-0.15	0.00	34.641	0.000	27.84	26.5	0.254	1.58	6.80	0.00	0.96
250	0.45	0.00	34.816	0.000	27.95	16.6	0.265	1.82	6.78	0.00	0.86
300	0.68	0.00	34.899	0.001	28.01	11.9	0.272	2.02	6.71	0.00	0.84
400	0.68	0.00	34.902	0.000	28.01	11.8	0.284	2.45	6.74	0.00	0.80
500	0.54	0.00	34.913	0.000	28.03	10.1	0.295	2.96	6.81	0.01	0.95
600	0.31	0.00	34.923	0.000	28.05	7.9	0.304	3.47	6.79	0.00	0.83
700	0.15	0.00	34.943	0.001	28.07	5.3	0.311	3.91	6.81	0.00	0.81
800	-0.01	0.00	34.953	0.002	28.09	3.5	0.315	4.25	6.85	0.00	0.79
1000	-0.21	0.00	34.928	0.001	28.08	3.8	0.323	4.93	6.85	0.00	0.75
1200	-0.34	0.00	34.921	0.000	28.08	3.2	0.330	5.73	6.88	0.00	0.72

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 281 OBSERVED VALUES

DATE	11/01/65	BAROMETER	09.5	WEATHER	X1	WIND VELOC	08	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-38.5	VISIBILITY	7	WIND DIREC	32	SECCHI	
LAT	82-50.5N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	12-19. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.1, 01.2
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.71						
1	24	-1.71						
1	49	-1.73						
1	59	-1.71						
1	69	-1.60						
1	78	-1.50						
1	88	-1.55						
1	98	-1.50						
1	108	-1.49						
1	117	-1.48						
1	147	-1.00						
1	171	-0.62						
2	196	-0.22						
2	245	0.39						
2	294	0.66						
2	343	0.67						
2	392	0.67						
2	441	0.66						
2	489	0.62						
2	587	0.35						
2	783	0.01						
2	881	-0.09						
2	979	-0.14						
2	1175	-0.26						
2	1420	-0.45						

AR CRUISE AR2 STATION 282 OBSERVED VALUES

DATE	12/01/65	BAROMETER	09.9	WEATHER	X1	WIND VELOC	14	WAVE PERIOD
HOUR	00.4	TEMP DRY	-37.0	VISIBILITY	5	WIND DIREC	34	SECCHI
LAT	82-49.0N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR
LONG	12-18. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 00.4, 01.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.71						
1	24	-1.71						
1	49	-1.71						
1	59	-1.71						
1	69	-1.57						
1	78	-1.55						
1	88	-1.53						
1	98	-1.52						
1	108	-1.48						
1	117	-1.49						
1	147	-1.09						
1	171	-0.68						
2	196	-0.23						
2	245	0.39						
2	294	0.66						
2	343	0.70						
2	392	0.67						
2	441	0.63						
2	489	0.57						
2	587	0.33						
2	783	0.03						
2	881	-0.05						
2	979	-0.15						
2	1175	-0.28						
2	1420	-0.44						

AR CRUISE AR2 STATION 283 OBSERVED VALUES

DATE	12/01/65	BAROMETER	08.8	WEATHER	X4	WIND VELOC	13	WAVE PERIOD
HOUR	23.8	TEMP DRY	-40.0	VISIBILITY	4	WIND DIREC	31	SECCHI
LAT	82-42.4N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR
LONG	12-08. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 23.8, 02.5
WIRE ANGLES: 01, 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.71						
1	49	-1.72						
1	59	-1.71						
1	69	-1.55						
1	78	-1.54						
1	88	-1.51						
1	98	-1.46						
1	108	-1.27						
1	117	-1.16						
1	147	-1.04						
1	171	-0.61						
2	196	-0.26						
2	245	0.38						
2	294	0.63						
2	343	0.65						
2	392	0.75						
2	441	0.65						
2	489	0.59						
2	587	0.32						
2	783	0.03						
2	881	-0.08						
2	979	-0.18						
2	1175	-0.28						
2	1420	-0.42						

AR CRUISE AR2 STATION 284 OBSERVED VALUES

DATE	14/01/65	BAROMETER	14.9	WEATHER	X3	WIND VELOC	26	WAVE PERIOD
HOUR	00.4	TEMP DRY	-36.0	VISIBILITY	3	WIND DIREC	32	SECCHI
LAT	82-30.0N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR
LONG	11-48. W	REL HUMID		CLOUD AMT	3	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 00.4, 01.8
WIRE ANGLES: 04, 10

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.72						
1	24	-1.72						
1	49	-1.72						
1	59	-1.72						
1	69	-1.71						
1	78	-1.45						
1	88	-1.45						
1	98	-1.54						
1	108	-1.48						
1	117	-1.46						
1	147	-1.04						
1	171	-0.66						
2	195	-0.30						
2	244	0.26						
2	293	0.47						
2	342	0.57						
2	390	0.63						
2	439	0.48						
2	487	0.37						
2	536	0.35						
2	585	0.25						

AR CRUISE AR2 STATION 285 OBSERVED VALUES

DATE	15/01/65	BAROMETER	93.4	WEATHER	XO	WIND VELOC	06	WAVE PERIOD
HOUR	00.3	TEMP DRY	-40.5	VISIBILITY	7	WIND DIREC	24	SECCHI
LAT	82-24.2N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR
LONG	11-35. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 00.3, 01.2
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.71						
1	49	-1.73						
1	59	-1.72						
1	68	-1.68						
1	78	-1.59						
1	88	-1.39						
1	98	-1.27						
1	108	-1.14						
1	117	-1.20						
1	147	-0.84						
1	171	-0.44						
2	196	-0.06						
2	244	0.24						
2	293	0.32						
2	342	0.59						
2	391	0.51						
2	440	0.48						
2	489	0.39						
2	587	0.24						
2	782	0.01						
2	880	-0.05						
2	978	-0.09						
2	1174	-0.18						
2	1418	-0.28						

AR CRUISE AR2 STATION 286 OBSERVED VALUES

DATE	16/01/65	BAROMETER	86.7	WEATHER	X7	WIND VELOC	08	WAVE PERIOD
HOUR	00.0	TEMP DRY	-40.5	VISIBILITY	6	WIND DIREC	34	SECCHI
LAT	82-22.7N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR
LONG	11-18. W	REL HUMID		CLOUD AMT	4	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 02,3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.72						
1	49	-1.74						
1	59	-1.74						
1	68	-1.63						
1	78	-1.57						
1	88	-1.48						
1	98	-1.46						
1	108	-1.22						
1	117	-1.12						
1	147	-0.78						
1	171	-0.41						
1	196	-0.09						
1	244	0.19						
1	293	0.37						
1	342	0.45						
1	391	0.61						
1	440	0.38						
1	489	0.37						
1	587	0.27						
1	782	0.06						
1	880	-0.01						
1	978	-0.11						
1	1174	-0.20						
1	1418	-0.37						

AR CRUISE AR2 STATION 287 OBSERVED VALUES

DATE	17/01/65	BAROMETER	83.4	WEATHER	X1	WIND VELOC	13	WAVE PERIOD	
HOUR	00.2	TEMP DRY	-36.0	VISIBILITY	7	WIND DIREC	34	SECCHI	
LAT	82-20.8N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	10-57. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.2, 01.2, 01.7
WIRE ANGLES: 00, 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.72						
1	24	-1.72						
1	49	-1.74						
1	59	-1.73						
1	68	-1.67						
1	78	-1.56						
1	88	-1.47						
1	98	-1.27						
1	108	-1.21						
1	117	-1.10						
1	147	-0.76						
1	171	-0.44						
2	196	-0.08						
2	244	0.25						
2	293	0.30						
3	393	0.58						
3	442	0.50						
3	491	0.41						
3	590	0.29						
3	786	0.07						
3	885	-0.04						
3	983	-0.10						
3	1180	-0.22						
3	1425	-0.37						

AR CRUISE AR2 STATION 288 OBSERVED VALUES

DATE	18/01/65	BAROMETER	95.9	WEATHER	X1	WIND VELOC	10	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-40.0	VISIBILITY	7	WIND DIREC	28	SECCHI	
LAT	82-16.7N	TEMP WET		CLOUD TYPE	2	WAVE DIREC		WATER COLOR	
LONG	10-32. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.1, 01.0
WIRE ANGLES: 00, 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.71						
1	49	-1.72						
1	59	-1.71						
1	68	-1.69						
1	78	-1.60						
1	88	-1.52						
1	98	-1.32						
1	108	-1.27						
1	117	-1.11						
1	147	-0.74						
1	171	-0.42						
2	196	-0.19						
2	244	0.30						
2	293	0.71						
2	342	0.65						
2	391	0.72						
2	440	0.68						
2	489	0.62						
2	589	0.35						
2	782	0.06						
2	880	-0.05						
2	978	-0.12						
2	1174	-0.21						
2	1418	-0.36						

AR CRUISE AR2 STATION 289 OBSERVED VALUES

DATE	18/01/65	BAROMETER	99.3	WEATHER	XO	WIND VELOC	09	WAVE PERIOD	
HOUR	23.4	TEMP DRY	-44.5	VISIBILITY	7	WIND DIREC	33	SECCHI	
LAT	82-12.7N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	10-06. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 23.4, 00.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.72						
1	49	-1.74						
1	59	-1.73						
1	68	-1.72						
1	78	-1.60						
1	88	-1.45						
1	98	-1.38						
1	108	-1.45						
1	117	-1.45						
1	147	-1.04						
1	171	-0.65						
1	196	-0.31						
2	239	0.43						
2	244	0.23						
2	342	0.49						
2	391	0.52						
2	440	0.48						
2	489	0.49						
2	587	0.34						
2	782	0.07						
2	880	-0.07						
2	978	-0.12						
2	1174	-0.27						
2	1418	-0.38						

AR CRUISE AR2 STATION 290 OBSERVED VALUES

DATE 20/01/65 BAROMETER 96.0 WEATHER X1 WIND VELOC 09 WAVE PERIOD
HOUR 00.0 TEMP DRY -36.5 VISIBILITY 6 WIND DIREC 25 SECCHI
LAT 82-07.4N TEMP WET CLOUD TYPE 4 WAVE DIREC WATER COLOR
LONG 9-36. W REL HUMID CLOUD AMT 2 WAVE HEIGHT SOUNDING
MESSENGER TIMES: 00.0, 01.2, 02.2
WIRE ANGLES: 00, 00, 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ********				PHOS	SIL
					ML/L	MGA/L	AOU	SATN		
1	10	-1.72	31.979	25.75	8.63	0.771	-0.019	103	1.16	11
1	19	-1.74	32.033	25.79	8.59	0.767	-0.015	102	1.06	10
1	29	-1.73	32.069	25.82	8.59	0.767	-0.016	102	1.16	10
1	39	-1.73	32.123	25.86	8.56	0.765	-0.013	102	1.16	11
1	49	-1.74	32.186	25.92	8.67	0.774	-0.023	103	1.16	11
1	59	-1.74	32.267	25.98	8.52	0.761	-0.010	101	1.16	11
1	68	-1.74	32.267	25.98	8.56	0.765	-0.014	102	1.20	9
1	78	-1.58	32.701	26.33	7.51	0.671	0.074	90	1.43	15
1	88	-1.55	33.413	26.91	6.84	0.611	0.129	83	1.34	17
1	98	-1.30	33.711	27.14	6.86	0.613	0.121	84	1.30	15
2	108	-1.29	33.883	27.28	6.82	0.609	0.123	83	1.20	14
2	117	-1.23	34.145	27.49	6.85	0.612	0.118	84	1.16	13
2	147	-0.76	34.460	27.73	6.79	0.606	0.112	84	1.06	10
2	171	-0.45	34.560	27.79	6.77	0.605	0.107	85	1.06	10
2	196	-0.18	34.668	27.87	6.69	0.598	0.109	85	1.16	10
2	244	0.43	34.876	28.00	6.73	0.601	0.093	87	1.06	9
2	293	0.66	34.939	28.04	6.76	0.604	0.085	88	0.97	9
2	342	0.64	34.930	28.03	6.75	0.603	0.087	87	1.06	9
2	391	0.69	34.948	28.04	6.78	0.606	0.083	88	1.16	9
2	440	0.64	34.939	28.04	6.75	0.603	0.087	87	1.16	9
2	489	0.58	34.939	28.04	6.76	0.604	0.087	87	1.20	10
3	587	0.34	34.939	28.06	6.76	0.604	0.091	87	1.20	10
3	685	0.17	34.912	28.05	6.73	0.601	0.097	86	1.16	10
3	782	0.08	34.930	28.07	6.75	0.603	0.097	86	1.20	11
3	880	-0.05	34.930	28.07	6.72	0.600	0.102	85	1.16	11
3	978	-0.13	34.957	28.10	6.74	0.602	0.102	86	1.16	10
3	1076	-0.16	34.948	28.09	6.76	0.604	0.101	86	1.25	10
3	1174	-0.24	34.939	28.09	6.76	0.604	0.102	86	1.25	10

(CONTINUED)

AR CRUISE AR2 STATION 290 OBSERVED VALUES (CONTINUED)

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ********				PHOS	SIL
					ML/L	MGA/L	AOU	SATN		
3	1271	-0.29	34.957	28.11	6.78	0.606	0.101	86	1.25	10
3	1418	-0.37	34.966	28.12	6.75	0.603	0.106	85	1.25	11

AR CRUISE AR2 STATION 290 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.72	0.00	31.979	0.000	25.75	225.6	0.000	0.00	8.63	0.00	
10	-1.72	0.00	31.979	0.000	25.75	225.5	0.023	0.01	8.63	0.00	
20	-1.74	0.00	32.037	0.001	25.79	220.9	0.046	0.05	8.59	0.00	0.88
30	-1.73	0.00	32.074	0.000	25.82	218.0	0.068	0.10	8.58	0.00	0.87
50	-1.74	0.00	32.196	0.002	25.92	208.4	0.111	0.28	8.66	0.01	0.87
75	-1.63	0.01	32.532	0.006	26.19	182.6	0.160	0.59	7.87	0.05	0.70
100	-1.29	0.01	33.745	0.007	27.17	90.3	0.194	0.88	6.85	0.00	0.77
150	-0.72	0.00	34.476	0.003	27.74	36.4	0.226	1.26	6.79	0.00	0.82
200	-0.12	0.01	34.688	0.002	27.88	23.0	0.241	1.52	6.69	0.00	0.95
250	0.48	0.00	34.890	0.001	28.01	11.2	0.250	1.71	6.74	0.00	0.84
300	0.66	0.01	34.939	0.002	28.04	8.7	0.255	1.85	6.76	0.00	0.82
400	0.68	0.00	34.947	0.001	28.04	8.5	0.264	2.16	6.78	0.00	0.78
500	0.56	0.00	34.940	0.000	28.05	8.3	0.272	2.55	6.76	0.00	0.95
600	0.31	0.00	34.935	0.001	28.06	7.0	0.280	2.99	6.76	0.00	0.83
700	0.15	0.00	34.914	0.001	28.05	7.6	0.287	3.48	6.73	0.00	0.81
800	0.06	0.00	34.930	0.001	28.07	5.7	0.294	3.99	6.74	0.00	0.78
1000	-0.14	0.00	34.957	0.001	28.10	2.2	0.302	4.70	6.75	0.00	0.75
1200	-0.25	0.00	34.943	0.001	28.09	2.2	0.306	5.20	6.77	0.00	0.71

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 291 OBSERVED VALUES

DATE	20/01/65	BAROMETER	03.0	WEATHER	XO	WIND VELOC	08	WAVE PERIOD
HOUR	23.8	TEMP DRY	-37.0	VISIBILITY	7	WIND DIREC	17	SECCHI
LAT	82-01.8N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR
LONG	9-06. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 23.8, 00.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.73						
1	24	-1.73						
1	49	-1.76						
1	59	-1.77						
1	68	-1.74						
1	78	-1.59						
1	88	-1.54						
1	98	-1.51						
1	107	-1.33						
1	117	-1.34						
1	147	-0.80						
1	171	-0.44						
2	195	-0.11						
2	244	0.37						
2	293	0.33						
2	342	0.65						
2	391	0.73						
2	440	0.62						
2	488	0.56						
2	586	0.28						
2	782	0.09						
2	879	-0.03						
2	977	-0.08						
2	1172	-0.23						
2	1417	-0.35						

AR CRUISE AR2 STATION 292 OBSERVED VALUES

DATE	21/01/65	BAROMETER	99.5	WEATHER	X3	WIND VELOC	23	WAVE PERIOD	
HOUR	23.9	TEMP DRY	-30.5	VISIBILITY	2	WIND DIREC	27	SECCHI	
LAT	81-56.7N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	8-39. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 23.9
WIRE ANGLES: 05, 10

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.73						
1	24	-1.73						
1	49	-1.75						
1	59	-1.75						
1	68	-1.68						
1	78	-1.57						
1	88	-1.55						
1	98	-1.33						
1	107	-1.18						
1	117	-0.99						
1	147	-0.71						
1	171	-0.36						
1	195	-0.18						

AR CRUISE AR2 STATION 293 OBSERVED VALUES

DATE	23/01/65	BAROMETER	23.8	WEATHER	X3	WIND VELOC	24	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-25.5	VISIBILITY	4	WIND DIREC	19	SECCHI	
LAT	81-51.9N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	8-15. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.1
WIRE ANGLES: 10

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.73						
1	24	-1.74						
1	48	-1.76						
1	58	-1.74						
1	67	-1.58						
1	77	-1.55						
1	86	-1.45						
1	96	-1.16						
1	105	-0.99						
1	115	-0.93						
1	145	-0.62						
1	169	-0.29						
1	193	0.01						

AR CRUISE AR2 STATION 294 OBSERVED VALUES

DATE	24/01/65	BAROMETER	23.4	WEATHER	X4	WIND VELOC	08	WAVE PERIOD	
HOUR	01.4	TEMP DRY	-12.5	VISIBILITY	2	WIND DIREC	18	SECCHI	
LAT	81-46.8N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	7-50. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 01.4, 02.2
WIRE ANGLES: 00, 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.72						
1	49	-1.67						
1	59	-1.58						
1	68	-1.58						
1	78	-1.55						
1	88	-1.48						
1	98	-1.46						
1	107	-1.41						
1	117	-1.34						
1	147	-0.78						
1	171	-0.41						
2	195	-0.14						
2	244	0.24						
2	293	0.65						
2	342	0.55						
2	391	0.48						
2	440	0.47						
2	488	0.42						
2	586	0.25						
2	782	0.05						
2	879	-0.05						
2	977	-0.11						
2	1172	-0.25						
2	1417	-0.40						

AR CRUISE AR2 STATION 295 OBSERVED VALUES

DATE	24/01/65	BAROMETER	24.6	WEATHER	X1	WIND VELOC	09	WAVE PERIOD
HOUR	23.9	TEMP DRY	-07.0	VISIBILITY	7	WIND DIREC	15	SECCHI
LAT	81-42.1N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR
LONG	7-27. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 23.9, 01.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.73						
1	24	-1.73						
1	49	-1.73						
1	59	-1.64						
1	68	-1.53						
1	78	-1.53						
1	88	-1.39						
1	98	-1.18						
1	107	-1.07						
1	117	-0.89						
1	147	-0.52						
1	171	-0.26						
1	195	-0.01						
2	244	0.24						
2	293	0.32						
2	342	0.51						
2	391	0.54						
2	440	0.51						
2	488	0.46						
2	586	0.32						
2	879	-0.03						
2	977	-0.10						
2	1172	-0.24						
2	1417	-0.40						

AR CRUISE AR2 STATION 296 OBSERVED VALUES

DATE	25/01/65	BAROMETER	19.6	WEATHER	X1	WIND VELOC	19	WAVE PERIOD	
HOUR	23.5	TEMP DRY	-06.5	VISIBILITY	6	WIND DIREC	18	SECCHI	
LAT	81-37.3N	TEMP WET		CLOUD TYPE	6	WAVE DIREC		WATER COLOR	
LONG	7-03. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	
MESSENGER TIMES:		, , 00.5							
WIRE ANGLES:		01, 04							

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.73						
1	24	-1.72						
1	49	-1.70						
1	59	-1.53						
1	68	-1.55						
1	78	-1.39						
1	88	-1.37						
1	98	-1.17						
1	107	-1.03						
1	117	-1.09						
1	147	-0.58						
1	171	-0.30						
1	195	-0.04						
2	244	0.24						
2	293	0.29						
2	342	0.52						
2	391	0.68						
2	440	0.56						
2	488	0.46						
2	586	0.30						
2	782	0.06						
2	879	-0.05						
2	977	-0.11						
2	1172	-0.28						
2	1417	-0.46						

AR CRUISE AR2 STATION 297 OBSERVED VALUES

DATE	27/01/65	BAROMETER	88.2	WEATHER	x1	WIND VELOC	06	WAVE PERIOD
HOUR	00.0	TEMP DRY	-14.5	VISIBILITY	6	WIND DIREC	21	SECCHI
LAT	81-32.4N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR
LONG	6-39. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 00.0, 01.1
WIRE ANGLES: 00, 05

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.74						
1	24	-1.75						
1	49	-1.78						
1	59	-1.74						
1	68	-1.75						
1	78	-1.82						
1	88	-1.57						
1	98	-1.38						
1	107	-1.41						
1	117	-1.06						
1	147	-0.92						
1	171	-0.41						
1	195	0.27						
2	244	1.52						
2	293	1.31						
2	342	1.31						
2	391	1.16						
2	440	1.07						
2	488	1.01						
2	586	0.69						
2	782	0.21						
2	879	-0.02						
2	977	-0.16						
2	1172	-0.33						
2	1417	-0.51						

AR CRUISE AR2 STATION 298 OBSERVED VALUES

DATE	29/01/65	BAROMETER	18.0	WEATHER	X1	WIND VELOC	16	WAVE PERIOD	
HOUR	00.7	TEMP DRY	-19.5	VISIBILITY	6	WIND DIREC	28	SECCHI	
LAT	80-59.5N	TEMP WET		CLOUD TYPE	6	WAVE DIREC		WATER COLOR	
LONG	6-12. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.7, 02.1
WIRE ANGLES: 02, 10

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.72						
1	24	-1.74						
1	49	-1.74						
1	59	-1.68						
1	68	-1.51						
1	78	-1.41						
1	88	-1.24						
1	98	-1.04						
1	107	-0.86						
1	117	-0.81						
1	146	-0.32						
2	171	-0.01						
2	195	0.07						
2	244	0.30						
2	293	0.41						
2	342	0.46						
2	390	0.51						

AR CRUISE AR2 STATION 299 OBSERVED VALUES

DATE 30/01/65 BAROMETER 22.0 WEATHER X1 WIND VELOC 15 WAVE PERIOD
HOUR 00.5 TEMP DRY -26.0 VISIBILITY 6 WIND DIREC 00 SECCHI
LAT 80-59.5N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 6-15. W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 1288
MESSENGER TIMES: 00.5, 01.6, 03.2
WIRE ANGLES: 00, 06, 10

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN	PHOS
1	10	-1.74			8.37	0.748			0.53
1	20	-1.74			8.42	0.752			0.53
1	29	-1.75			8.39	0.749			0.67
1	39	-1.76			8.44	0.754			0.53
1	49	-1.74			8.34	0.745			0.67
1	59	-1.70			8.11	0.724			0.73
1	68	-1.58			7.58	0.677			0.73
1	78	-1.31			6.98	0.623			0.93
1	88	-1.20			6.85	0.612			0.93
1	98	-1.17			6.84	0.611			0.80
1	107	-1.06			6.83	0.610			0.87
2	117	-0.96			6.82	0.609			0.80
2	146	-0.61			6.78	0.606			0.80
2	171	-0.34			6.71	0.599			0.87
2	195	0.01			6.65	0.594			0.67
2	244	0.26			6.61	0.590			0.93
2	292	0.38			6.61	0.590			0.80
2	341	0.47			6.65	0.594			1.00
2	389	0.50			6.65	0.594			0.87
2	438	0.45			6.66	0.595			0.73
2	486	0.40			6.67	0.596			0.80
2	584	0.28			6.71	0.599			0.67
2	681	0.14			6.75	0.603			0.93
3	766	0.12			6.75	0.603			0.80
3	862	-0.01			6.81	0.608			0.67
3	960	-0.07			6.80	0.607			0.80
3	1057	-0.17			6.84	0.611			
3	1154	-0.22			6.81	0.608			
3	1251	-0.25			6.80	0.607			

AR CRUISE AR2 STATION 299 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.74	0.00							8.37	0.00	
10	-1.74	0.00							8.37	0.00	
20	-1.74	0.00							8.42	0.00	
30	-1.75	0.00							8.40	0.00	0.88
50	-1.74	0.00							8.33	0.00	0.87
75	-1.39	0.01							7.14	0.02	0.70
100	-1.15	0.00							6.84	0.00	0.73
150	-0.57	0.00							6.77	0.00	0.79
200	0.05	0.01							6.64	0.00	0.96
250	0.28	0.00							6.61	0.00	0.84
300	0.40	0.00							6.62	0.00	0.80
400	0.49	0.00							6.65	0.00	0.75
500	0.38	0.00							6.67	0.00	0.94
600	0.25	0.00							6.72	0.00	0.80
700	0.14	0.01							6.75	0.00	0.73
800	0.08	0.01							6.77	0.01	0.69
1000	-0.11	0.00							6.82	0.00	0.65
1200	-0.23	0.00							6.80	0.00	4.16

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 300 OBSERVED VALUES

DATE	31/01/65	BAROMETER	23.7	WEATHER	XO	WIND VELOC	14	WAVE PERIOD	
HOUR	00.5	TEMP DRY	-31.0	VISIBILITY	6	WIND DIREC	01	SECCHI	
LAT	80-40.0N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	6-15. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.5
WIRE ANGLES: 01

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.74						
1	24	-1.75						
1	49	-1.75						
1	59	-1.71						
1	68	-1.33						
1	78	-1.31						
1	88	-1.26						
1	98	-1.19						
1	107	-1.04						
1	117	-0.99						
1	146	-0.52						
1	171	-0.15						
1	195	0.04						
1	244	0.20						
1	293	0.33						

AR CRUISE AR2 STATION 301 OBSERVED VALUES

DATE	01/02/65	BAROMETER	28.2	WEATHER		WIND VELOC	07	WAVE PERIOD	
HOUR	06.4	TEMP DRY	-38.0	VISIBILITY	7	WIND DIREC	06	SECCHI	
LAT	80-30.8N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR	
LONG	6-15. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 06.4
WIRE ANGLES: 06

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.74						
1	24	-1.74						
1	49	-1.73						
1	59	-1.55						
1	68	-1.34						
1	78	-1.12						
1	88	-1.02						
1	98	-1.05						
1	107	-1.04						
1	116	-0.96						
1	146	-0.60						
1	170	-0.21						
1	194	0.00						
1	243	0.15						
1	291	0.19						

AR CRUISE AR2 STATION 302 OBSERVED VALUES

DATE	02/02/65	BAROMETER	24.6	WEATHER		WIND VELOC	00	WAVE PERIOD
HOUR	00.4	TEMP DRY	-31.0	VISIBILITY	7	WIND DIREC	00	SECCHI
LAT	80-25.2N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR
LONG	6-11. W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 00.4
WIRE ANGLES: 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.75						
1	24	-1.74						
1	49	-1.76						
1	59	-1.68						
1	68	-1.37						
1	78	-1.31						
1	88	-1.20						
1	98	-1.03						
1	107	-0.97						
1	117	-0.85						
1	146	-0.42						
1	171	-0.02						
1	195	0.16						
1	244	0.22						
1	293	0.23						

AR CRUISE AR2 STATION 303 OBSERVED VALUES

DATE	03/02/65	BAROMETER	14.8	WEATHER		WIND VELOC	11	WAVE PERIOD	
HOUR	02.1	TEMP DRY	-14.0	VISIBILITY	7	WIND DIREC	12	SECCHI	
LAT	80-16.8N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	5-59. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 02.1
WIRE ANGLES: 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.75						
1	24	-1.75						
1	49	-1.74						
1	59	-1.67						
1	68	-1.39						
1	78	-1.30						
1	88	-1.13						
1	98	-1.07						
1	107	-0.95						
1	117	-0.78						
1	146	-0.38						
1	171	-0.04						
1	195	0.10						
1	244	0.29						
1	293	0.39						

AR CRUISE AR2 STATION 304 OBSERVED VALUES

DATE	03/02/65	BAROMETER	10.1	WEATHER		WIND VELOC	07	WAVE PERIOD	
HOUR	23.6	TEMP DRY	-19.5	VISIBILITY	7	WIND DIREC	25	SECCHI	
LAT	80-09.8N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	5-49. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 23.6, 00.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L.	MGA/L	AOU	SATN
1	7	-1.75						
1	24	-1.75						
1	49	-1.76						
1	59	-1.76						
1	68	-1.49						
1	78	-1.08						
1	88	-0.86						
1	98	-0.82						
1	107	-1.02						
1	117	-0.74						
1	146	-0.58						
1	171	-0.31						
1	195	-0.05						
2	244	0.20						
2	293	0.34						
2	342	0.45						
2	390	0.46						
2	439	0.53						
2	488	0.47						
2	586	0.40						
2	683	0.36						
2	781	0.25						
2	878	0.04						

AR CRUISE AR2 STATION 305 OBSERVED VALUES

DATE	05/02/65	BAROMETER	16.6	WEATHER		WIND VELOC	08	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-26.0	VISIBILITY	7	WIND DIREC	32	SECCHI	
LAT	80-01.9N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	5-37. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 00.1, 01.4, 02.0
WIRE ANGLES: 00, 02, 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.73						
1	24	-1.75						
1	49	-1.78						
1	59	-1.79						
1	68	-1.37						
1	78	-1.12						
1	88	-0.97						
1	98	-0.88						
1	107	-0.95						
1	117	-0.93						
1	146	-0.74						
1	171	-0.33						
1	195	-0.05						
1	244	0.28						
1	293	0.44						
2	340	0.55						
2	389	0.57						
2	438	0.54						
2	487	0.52						
3	583	0.36						
3	680	0.24						

AR CRUISE AR2 STATION 306 OBSERVED VALUES

DATE	05/02/65	BAROMETER	07.8	WEATHER		WIND VELOC	01	WAVE PERIOD
HOUR	13.8	TEMP DRY	-23.5	VISIBILITY	4	WIND DIREC	19	SECCHI
LAT	79-57.4N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR
LONG	5-31. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 14.0, 14.9
WIRE ANGLES: 01, 01, 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
2	7	-1.75						
2	24	-1.75						
2	49	-1.73						
2	59	-1.26						
2	68	-1.72						
2	78	-1.78						
2	88	-1.69						
2	98	-1.83						
2	107	-1.82						
2	117	-1.80						
2	127	-1.47						
2	146	-1.33						
2	171	-0.86						
2	195	-0.24						
3	244	0.22						
3	292	0.42						
3	341	0.48						
3	390	0.53						
3	438	0.51						
3	487	0.45						
3	584	0.32						
3	682	0.22						
3	779	0.11						
3	877	0.02						
3	974	-0.13						

AR CRUISE AR2 STATION 307 OBSERVED VALUES

DATE	06/02/65	BAROMETER	13.0	WEATHER		WIND VELOC	25	WAVE PERIOD
HOUR	14.1	TEMP DRY	-19.5	VISIBILITY	2	WIND DIREC	34	SECCHI
LAT	79-49.0N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR
LONG	5-22. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING

MESSENGER TIMES: 14.1
WIRE ANGLES: 09

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.75						
1	24	-1.76						
1	48	-1.74						
1	58	-1.79						
1	67	-1.69						
1	77	-1.82						
1	86	-1.80						
1	96	-1.79						
1	106	-1.79						
1	115	-1.82						
1	144	-1.03						
1	168	-0.64						
1	192	-0.36						

AR CRUISE AR2 STATION 308 OBSERVED VALUES

DATE	08/02/65	BAROMETER	96.4	WEATHER		WIND VELOC	24	WAVE PERIOD	
HOUR	13.9	TEMP DRY	-06.0	VISIBILITY	3	WIND DIREC	16	SECCHI	
LAT	79-00.6N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	6-20. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 13.9
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ********			
					ML/L	MGA/L	AOU	SATN
1	7	-1.74						
1	24	-1.74						
1	49	-1.75						
1	59	-1.73						
1	68	-1.70						
1	78	-1.81						
1	88	-1.68						
1	98	-1.70						
1	107	-1.69						
1	117	-1.51						
1	146	-0.91						
1	171	-0.47						
1	195	-0.13						
1	244	0.25						
1	292	0.39						

AR CRUISE AR2 STATION 309 OBSERVED VALUES

DATE	12/02/65	BAROMETER	16.4	WEATHER		WIND VELOC	33	WAVE PERIOD	
HOUR	15.2	TEMP DRY	-22.0	VISIBILITY	1	WIND DIREC	02	SECCHI	
LAT	78-22.5N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	8-38. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	

MESSENGER TIMES: 15.2
WIRE ANGLES: 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.78						
1	24	-1.79						
1	49	-1.79						
1	59	-1.79						
1	68	-1.77						
1	78	-1.66						
1	88	-1.65						
1	98	-1.65						
1	107	-1.63						
1	117	-1.28						
1	146	-1.16						
1	170	-0.33						
1	195	0.03						

AR CRUISE AR2 STATION 310 OBSERVED VALUES

DATE	13/02/65	BAROMETER	20.8	WEATHER		WIND VELOC	09	WAVE PERIOD	
HOUR	13.8	TEMP DRY	-34.0	VISIBILITY	7	WIND DIREC	35	SECCHI	
LAT	78-13.7N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	9-08. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0197

MESSENGER TIMES: 13.8, 14.6
WIRE ANGLES: 00, --

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.79			8.37	0.748		
1	20	-1.80			8.36	0.747		
1	29	-1.29			8.38	0.748		
1	39	-1.80			8.27	0.739		
1	49	-1.79			8.66	0.773		
1	58	-1.79			8.39	0.749		
1	68	-1.78	33.288	26.81	8.42	0.752	-0.006	101
1	78	-1.78	33.310	26.83	8.34	0.745	0.001	100
1	88	-1.71	33.324	26.84	8.21	0.733	0.011	99
1	97	-1.40	33.598	27.05	7.84	0.700	0.036	95
1	107	-1.63	33.793	27.22	8.00	0.715	0.025	97
1	117	-1.53	33.954	27.34	7.71	0.689	0.048	93
1	126	-1.18	34.025	27.39	8.07	0.721	0.009	99
2	146	-0.56	34.427	27.69	7.34	0.656	0.059	92
2	170	-0.20	34.442	27.69	7.07	0.631	0.076	89
2	185	0.06	34.559	27.77	6.86	0.613	0.090	87

AR CRUISE AR2 STATION 310 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	DXY ML/L	E(O)	VAR RATIO
10	-1.79	0.00							8.37	0.00	
20	-1.80	0.00							8.36	0.00	
30	-1.33	0.02							8.36	0.01	0.88
50	-1.79	0.00							8.64	0.01	0.85
75	-1.78	0.00	33.304	0.000	26.82	123.0			8.37	0.00	0.70
100	-1.45	0.03	33.664	0.003	27.11	96.0			7.88	0.04	0.71
150	-0.49	0.01	34.440	0.017	27.70	40.2			7.27	0.02	0.83

AR CRUISE AR2 STATION 311 OBSERVED VALUES

DATE 15/02/65 BAROMETER 96.8 WEATHER WIND VELOC 12 WAVE PERIOD
HOUR 13.8 TEMP DRY -10.5 VISIBILITY 6 WIND DIREC 20 SECCHI
LAT 77-57.2N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 9-50. W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 0232
MESSENGER TIMES: 13.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.79						
1	24	-1.79						
1	49	-1.79						
1	58	-1.79						
1	68	-1.77						
1	78	-1.77						
1	88	-1.74						
1	97	-1.74						
1	107	-1.62						
1	117	-1.70						
1	146	-1.02						
1	170	-0.68						
1	195	0.05						

AR CRUISE AR2 STATION 312 OBSERVED VALUES

DATE	16/02/65	BAROMETER	94.9	WEATHER		WIND VELOC	09	WAVE PERIOD	
HOUR	10.2	TEMP DRY	-20.5	VISIBILITY	6	WIND DIREC	34	SECCHI	
LAT	77-53.7N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	9-46. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	0238

MESSENGER TIMES: 10.2
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.77	32.952	26.54				
1	24	-1.79	33.046	26.61				
1	49	-1.80	33.348	26.86				
1	58	-1.80						
1	68	-1.80	33.408	26.91				
1	78	-1.81						
1	88	-1.79						
1	97	-1.73	33.622	27.08				
1	107	-1.62						
1	117	-1.46	33.829	27.24				
1	146	-0.96	34.139	27.47				
1	170	-0.40	34.372	27.64				
1	195	-0.17	34.535	27.76				
1	234	0.30	34.658	27.83				

AR CRUISE AR2 STATION 312 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.77	0.00	32.952	0.000	26.54	150.6	0.000	0.00			
10	-1.77	0.00	32.960	0.001	26.54	149.9	0.016	0.01			0.99
20	-1.78	0.00	33.014	0.001	26.59	145.7	0.031	0.03			0.78
30	-1.79	0.00	33.121	0.014	26.67	137.3	0.045	0.07			0.92
50	-1.80	0.00	33.352	0.002	26.86	119.4	0.071	0.17			0.92
75	-1.81	0.00	33.448	0.001	26.94	111.8	0.100	0.36			0.83
100	-1.70	0.00	33.651	0.001	27.10	96.3	0.126	0.59			0.78
150	-0.86	0.01	34.181	0.001	27.50	58.3	0.165	1.07			0.78
200	-0.14	0.01	34.559	0.000	27.78	32.8	0.188	1.46			7.18

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 313 OBSERVED VALUES

DATE	17/02/65	BAROMETER	95.8	WEATHER		WIND VELOC	10	WAVE PERIOD	
HOUR	10.1	TEMP DRY	-19.5	VISIBILITY	7	WIND DIREC	17	SECCHI	
LAT	77-49.1N	TEMP WET		CLOUD TYPE	6	WAVE DIREC		WATER COLOR	
LONG	9-41. W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING	0245

MESSENGER TIMES: 10.1
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.78						
1	24	-1.81						
1	49	-1.79						
1	58	-1.81						
1	68	-1.78						
1	78	-1.78						
1	88	-1.77						
1	97	-1.77						
1	107	-1.80						
1	117	-1.59						
1	146	-0.65						
1	170	-0.24						
1	195	-0.08						
1	243	0.47						

AR CRUISE AR2 STATION 314 OBSERVED VALUES

DATE	18/02/65	BAROMETER	81.1	WEATHER		WIND VELOC	35	WAVE PERIOD	
HOUR	10.6	TEMP DRY	-16.5	VISIBILITY	0	WIND DIREC	35	SECCHI	
LAT	77-44.5N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	9-36. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0240

MESSENGER TIMES: 10.6
WIRE ANGLES: 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.78						
1	24	-1.79						
1	49	-1.79						
1	58	-1.80						
1	68	-1.79						
1	78	-1.79						
1	88	-1.77						
1	97	-1.62						
1	107	-1.51						
1	117	-1.24						
1	146	-0.54						
1	170	-0.25						
1	193	0.24						
1	233	0.41						

AR CRUISE AR2 STATION 315 OBSERVED VALUES

DATE	19/02/65	BAROMETER	28.4	WEATHER		WIND VELOC	17	WAVE PERIOD	
HOUR	10.6	TEMP DRY	-22.0	VISIBILITY	7	WIND DIREC	25	SECCHI	
LAT	77-39.9N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	9-31. W	REL HUMID		CLOUD AMT	4	WAVE HEIGHT		SOUNDING	0240

MESSENGER TIMES: 10.6
WIRE ANGLES: 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.81						
1	24	-1.81						
1	49	-1.82						
1	58	-1.83						
1	68	-1.82						
1	78	-1.81						
1	88	-1.80						
1	97	-1.79						
1	107	-1.72						
1	117	-1.69						
1	146	-0.74						
1	170	-0.18						
1	194	0.01						
1	233	0.58						

AR CRUISE AR2 STATION 316 OBSERVED VALUES

DATE	20/02/65	BAROMETER	32.2	WEATHER		WIND VELOC	07	WAVE PERIOD	
HOUR	10.1	TEMP DRY	-33.0	VISIBILITY	7	WIND DIREC	24	SECCHI	
LAT	77-35.6N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	9-32. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0225

MESSENGER TIMES: 10.1
WIRE ANGLES: 01

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.81						
1	24	-1.81						
1	48	-1.82						
1	58	-1.82						
1	67	-1.81						
1	77	-1.82						
1	86	-1.80						
1	96	-1.77						
1	105	-1.65						
1	115	-1.19						
1	143	-0.95						
1	167	-0.13						
1	191	0.17						
1	220	0.50						

AR CRUISE AR2 STATION 317 OBSERVED VALUES

DATE	21/02/65	BAROMETER	37.4	WEATHER		WIND VELOC	07	WAVE PERIOD	
HOUR	10.0	TEMP DRY	-30.1	VISIBILITY	7	WIND DIREC	17	SECCHI	
LAT	77-31.6N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	9-43. W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING	0245

MESSENGER TIMES: 10.0
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82	33.533	27.01				
1	24	-1.82						
1	49	-1.84	33.654	27.11				
1	58	-1.83						
1	68	-1.82	33.776	27.21				
1	78	-1.82						
1	88	-1.80						
1	97	-1.65	33.868	27.28				
1	107	-1.37	33.980	27.36				
1	117	-1.32	34.075	27.43				
1	146	-0.85	34.236	27.55				
1	170	-0.48	34.509	27.75				
1	195	0.03	34.709	27.89				
1	243	0.37	34.807	27.95				

AR CRUISE AR2 STATION 317 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	33.533	0.000	27.01	105.8	0.000	0.00			
10	-1.82	0.00	33.535	0.000	27.01	105.6	0.011	0.01			1.27
20	-1.82	0.00	33.548	0.000	27.02	104.5	0.022	0.02			2.12
30	-1.83	0.00	33.574	0.000	27.04	102.5	0.032	0.05			2.19
50	-1.84	0.00	33.661	0.001	27.11	95.6	0.052	0.13			0.90
75	-1.82	0.00	33.788	0.014	27.22	85.7	0.075	0.28			0.94
100	-1.56	0.01	33.900	0.002	27.30	77.6	0.096	0.46			0.71
150	-0.79	0.00	34.280	0.005	27.58	51.0	0.128	0.86			0.78
200	0.12	0.01	34.738	0.000	27.91	20.6	0.146	1.16			7.76

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 318 OBSERVED VALUES

DATE	22/02/65	BAROMETER	29.7	WEATHER		WIND VELOC	03	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-16.5	VISIBILITY	7	WIND DIREC	17	SECCHI	
LAT	77-27.5N	TEMP WET		CLOUD TYPE	6	WAVE DIREC		WATER COLOR	
LONG	9-54. W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING	0255

MESSENGER TIMES: 09.7
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.83						
1	24	-1.84						
1	49	-1.84						
1	58	-1.84						
1	68	-1.85						
1	78	-1.84						
1	88	-1.84						
1	97	-1.83						
1	107	-1.57						
1	117	-1.51						
1	146	-0.92						
1	170	-0.53						
1	195	0.05						
1	243	0.48						

AR CRUISE AR2 STATION 319 OBSERVED VALUES

DATE	23/02/65	BAROMETER	34.9	WEATHER		WIND VELOC	15	WAVE PERIOD	
HOUR	09.8	TEMP DRY	-21.5	VISIBILITY	7	WIND DIREC	06	SECCHI	
LAT	77-23.4N	TEMP WET		CLOUD TYPE	6	WAVE DIREC		WATER COLOR	
LONG	10-05. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	0285

MESSENGER TIMES: 09.8
WIRE ANGLES: 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.83						
1	24	-1.83						
1	49	-1.84						
1	58	-1.84						
1	68	-1.83						
1	78	-1.60						
1	88	-1.63						
1	97	-1.62						
1	107	-1.65						
1	116	-1.62						
1	145	-0.54						
1	169	-0.33						
1	194	0.10						
1	242	0.52						
1	281	0.65						

AR CRUISE AR2 STATION 320 OBSERVED VALUES

DATE 24/02/65 BAROMETER 33.9 WEATHER WIND VELOC 07 WAVE PERIOD
HOUR 09.5 TEMP DRY -33.0 VISIBILITY 7 WIND DIREC 13 SECCHI
LAT 77-19.4N TEMP WET CLOUD TYPE 6 WAVE DIREC WATER COLOR
LONG 10-16. W REL HUMID CLOUD AMT 2 WAVE HEIGHT SOUNDING 0370
MESSENGER TIMES: 09.5, 10.0
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.84	33.650	27.10				
1	24	-1.85						
1	49	-1.85	33.725	27.17				
1	58	-1.84						
1	68	-1.82	33.757	27.19				
1	78	-1.84						
1	87	-1.83						
1	97	-1.79	33.897	27.30				
1	107	-1.65	33.992	27.38				
1	117	-1.44	33.864	27.27				
1	146	-1.16	34.137	27.48				
1	170	-0.46	34.352	27.63				
1	194	-0.05	34.473	27.70				
2	243	0.35						
2	292	0.55	34.719	27.87				
2	340	0.73	34.876	27.98				

AR CRUISE AR2 STATION 320 INTERPOLATED AND COMPUTED VALUES

DFPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.84	0.00	33.650	0.000	27.10	96.8	0.000	0.00			
10	-1.84	0.00	33.653	0.001	27.11	96.5	0.010	0.01			1.27
20	-1.85	0.00	33.667	0.005	27.12	95.4	0.020	0.02			2.12
30	-1.85	0.00	33.683	0.006	27.13	94.0	0.029	0.04			2.19
50	-1.85	0.00	33.726	0.000	27.17	90.6	0.048	0.12			0.90
75	-1.83	0.00	33.777	0.003	27.21	86.6	0.070	0.26			0.94
100	-1.76	0.00	33.936	0.009	27.33	74.3	0.091	0.44			0.70
150	-1.05	0.02	34.176	0.002	27.51	57.9	0.124	0.86			0.78
200	0.02	0.01	34.492	0.005	27.72	38.7	0.148	1.29			1.09
250	0.39	0.00	34.632	0.020	27.81	30.2	0.166	1.68			1.43
300	0.58	0.00	34.738	0.002	27.88	23.4	0.179	2.06			35.44

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 321 OBSERVED VALUES

DATE	25/02/65	BAROMETER	35.9	WEATHER		WIND VELOC	14	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-22.0	VISIBILITY	7	WIND DIREC	05	SECCHI	
LAT	77-15.3N	TEMP WET		CLOUD TYPE	6	WAVE DIREC		WATER COLOR	
LONG	10-27. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0405

MESSENGER TIMES: 09.7
WIRE ANGLES: 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.81						
1	49	-1.81						
1	68	-1.85						
1	78	-1.85						
1	87	-1.83						
1	97	-1.83						
1	107	-1.81						
1	121	-1.78						
1	145	-1.50						
1	170	-0.86						
1	194	-0.31						
1	242	0.66						
1	291	0.96						
1	339	0.96						
1	387	0.90						

AR CRUISE AR2 STATION 322 OBSERVED VALUES

DATE	26/02/65	BAROMETER	35.9	WEATHER		WIND VELOC	09	WAVE PERIOD	
HOUR	09.8	TEMP DRY	-28.5	VISIBILITY	7	WIND DIREC	04	SECCHI	
LAT	77-11.1N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	10-38. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	0490

MESSENGER TIMES: 09.8, 10.6
WIRE ANGLES: 02, 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82						
1	24	-1.84						
1	49	-1.83						
1	58	-1.80						
1	68	-1.79						
1	78	-1.68						
1	87	-1.62						
1	97	-1.59						
1	107	-1.29						
1	117	-1.62						
1	146	-1.50						
1	170	-1.37						
1	194	-0.73						
2	242	0.31						
2	291	0.78						
2	339	0.83						
2	387	0.91						
2	436	0.92						
2	484	0.93						

AR CRUISE AR2 STATION 323 OBSERVED VALUES

DATE	27/02/65	BAROMETER	38.3	WEATHER		WIND VELOC	11	WAVE PERIOD	
HOUR	09.6	TEMP DRY	-33.0	VISIBILITY	7	WIND DIREC	35	SECCHI	
LAT	77-07.1N	TEMP WET		CLOUD TYPE	0	WAVE DIREC		WATER COLOR	
LONG	10-49. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	0425

MESSENGER TIMES: 09.6, 09.9, 10.8
WIRE ANGLES: 00, 00, 08

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.80	33.349	26.86				
1	24	-1.80						
1	49	-1.83	33.623	27.08				
1	58	-1.82						
2	68	-1.82	33.663	27.11				
2	78	-1.82						
2	87	-1.82						
2	97	-1.82	33.860	27.27				
2	107	-1.82						
2	117	-1.82	33.896	27.30				
2	146	-1.82	33.948	27.35				
2	170	-1.57	34.071	27.44				
2	194	-0.79	34.307	27.60				
3	242	0.22						
3	290	0.79	34.784	27.91				
3	338	0.80						
3	386	0.93	34.899	27.99				
3	420	0.89	34.900	27.99				

AR CRUISE AR2 STATION 323 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.80	0.00	33.349	0.000	26.86	120.0	0.000	0.00			
10	-1.80	0.00	33.365	0.008	26.87	118.7	0.013	0.01			1.27
20	-1.80	0.00	33.422	0.026	26.92	114.2	0.024	0.02			2.12
30	-1.81	0.00	33.486	0.030	26.97	109.3	0.036	0.05			2.19
50	-1.83	0.00	33.625	0.001	27.08	98.4	0.056	0.14			0.90
75	-1.82	0.00	33.711	0.010	27.15	91.6	0.080	0.29			0.83
100	-1.82	0.00	33.868	0.002	27.28	79.4	0.102	0.48			0.78
150	-1.80	0.01	33.962	0.001	27.36	71.9	0.140	0.97			0.78
200	-0.63	0.01	34.353	0.004	27.63	46.0	0.170	1.48			1.10
250	0.35	0.00	34.653	0.016	27.83	28.4	0.188	1.91			1.23
300	0.81	0.02	34.808	0.003	27.92	19.6	0.201	2.24			0.88
400	0.89	0.02	34.912	0.007	28.00	12.6	0.217	2.81			0.58

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 324 OBSERVED VALUES

DATE	01/03/65	BAROMETER	00.4	WEATHER		WIND VELOC	05	WAVE PERIOD	
HOUR	09.8	TEMP DRY	-19.5	VISIBILITY	7	WIND DIREC	04	SECCHI	
LAT	76-58.1N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	10-59. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0370

MESSENGER TIMES: 09.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.78						
1	49	-1.70						
1	58	-1.58						
1	68	-1.58						
1	78	-1.58						
1	87	-1.54						
1	97	-1.65						
1	107	-1.49						
1	117	-1.37						
1	146	-1.26						
1	170	-0.74						
1	194	-0.20						
1	243	0.61						
1	292	0.89						
1	369	0.91						

AR CRUISE AR2 STATION 325 OBSERVED VALUES

DATE	02/03/65	BAROMETER	10.5	WEATHER		WIND VELOC	33	WAVE PERIOD	
HOUR	10.2	TEMP DRY	-17.0	VISIBILITY	2	WIND DIREC	03	SECCHI	
LAT	76-49.1N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	11-13. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0325

MESSENGER TIMES: 10.2
WIRE ANGLES: 08

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82	33.114	26.67				
1	24	-1.78	33.207	26.74				
1	48	-1.74	33.437	26.93				
1	58	-1.65	33.682	27.13				
1	67	-1.68						
1	77	-1.81	33.745	27.18				
1	86	-1.81						
1	96	-1.81	33.940	27.34				
1	106	-1.83						
1	115	-1.83	33.930	27.33				
1	144	-1.78	34.067	27.44				
1	168	-1.40	34.272	27.60				
1	192	-1.54	34.439	27.74				

AR CRUISE AR2 STATION 325 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	33.114	0.000	26.67	138.1	0.000	0.00			
10	-1.80#		33.136#		26.69	136.3	0.014	0.01			
20	-1.79#		33.182#		26.72	132.7	0.028	0.03			
30	-1.78	0.01	33.234	0.012	26.77	128.7	0.041	0.06			0.82
50	-1.72	0.00	33.488	0.006	26.97	109.1	0.065	0.16			0.70
75	-1.79	0.01	33.748	0.010	27.18	88.9	0.090	0.32			0.86
100	-1.82	0.00	33.943	0.008	27.34	73.6	0.110	0.50			0.76
150	-1.68	0.03	34.116	0.004	27.48	60.4	0.144	0.92			0.70
0	-1.82	0.00	33.114	0.000	26.67	138.1	0.000	0.00			
10	-1.81	0.00	33.124	0.002	26.68	137.3	0.014	0.01			0.99
20	-1.79	0.00	33.177	0.002	26.72	133.2	0.028	0.03			0.78
30	-1.78	0.01	33.235	0.012	26.77	128.6	0.041	0.06			0.87
50	-1.72	0.00	33.488	0.006	26.97	109.1	0.065	0.16			0.70
75	-1.68	0.00	33.748	0.010	27.18	89.2	0.090	0.32			0.86
100	-1.81	0.00	33.943	0.008	27.34	73.7	0.111	0.50			0.76
150	-1.72	0.01	34.116	0.004	27.48	60.3	0.144	0.92			0.70

AR CRUISE AR2 STATION 326 OBSERVED VALUES

DATE	04/03/65	BAROMETER	16.5	WEATHER		WIND VELOC	16	WAVE PERIOD	
HOUR	09.4	TEMP DRY	-20.5	VISIBILITY	6	WIND DIREC	16	SECCHI	
LAT	76-30.2N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	12-02. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0266

MESSENGER TIMES: 09.4
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.81						
1	24	-1.82						
1	49	-1.85						
1	58	-1.85						
1	68	-1.82						
1	78	-1.82						
1	87	-1.80						
1	97	-1.79						
1	107	-1.80						
1	117	-1.77						
1	146	-1.62						
1	170	-1.25						
1	194	-0.84						
1	243	-0.01						

AR CRUISE AR2 STATION 327 OBSERVED VALUES

DATE	06/03/65	BAROMETER	15.0	WEATHER		WIND VELOC 09	WAVE PERIOD
HOUR	09.9	TEMP DRY	-30.0	VISIBILITY	7	WIND DIREC 31	SECCHI
LAT	76-18.7N	TEMP WET		CLOUD TYPE	0	WAVE DIREC	WATER COLOR
LONG	12-10. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT	SOUNDING 0180

MESSENGER TIMES: 09.9
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.82	33.629	27.09				
1	24	-1.84	33.662	27.11				
1	49	-1.84	33.752	27.19				
1	58	-1.82	33.864	27.28				
1	68	-1.79	33.884	27.29				
1	78	-1.82	33.905	27.31				
1	87	-1.83	33.992	27.38				
1	97	-1.78	34.044	27.42				
1	107	-1.77	34.069	27.44				
1	117	-1.69	34.133	27.49				
1	146	-0.87	34.327	27.62				
1	165	-0.91	34.356	27.65				

AR CRUISE AR2 STATION 327 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	33.629	0.000	27.09	98.5	0.000	0.00			
10	-1.82	0.00	33.629	0.000	27.09	98.4	0.010	0.01			
20	-1.83	0.00	33.650	0.001	27.10	96.7	0.020	0.02			0.67
30	-1.85	0.00	33.667	0.009	27.12	95.3	0.030	0.05			0.97
50	-1.84	0.00	33.766	0.002	27.20	87.6	0.048	0.12			0.80
75	-1.81	0.00	33.894	0.003	27.30	77.6	0.069	0.25			0.71
100	-1.78	0.00	34.051	0.002	27.43	65.5	0.087	0.41			0.70
150	-1.03	0.13	34.343	0.001	27.64	45.2	0.115	0.76			20.95

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 328 OBSERVED VALUES

DATE	08/03/65	BAROMETER	16.4	WEATHER		WIND VELOC	09	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-34.5	VISIBILITY	7	WIND DIREC	29	SECCHI	
LAT	76-04.8N	TEMP WET		CLOUD TYPE	0	WAVE DIREC		WATER COLOR	
LONG	12-43. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0215

MESSENGER TIMES: 09.7
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82						
1	24	-1.84						
1	49	-1.84						
1	58	-1.84						
1	68	-1.75						
1	78	-1.79						
1	87	-1.83						
1	97	-1.79						
1	107	-1.67						
1	116	-1.67						
1	146	-0.51						
1	170	0.05						
1	194	0.40						

AR CRUISE AR2 STATION 329 OBSERVED VALUES

DATE	09/03/65	BAROMETER	14.1	WEATHER		WIND VELOC 09	WAVE PERIOD
HOUR	09.7	TEMP DRY	-34.5	VISIBILITY	7	WIND DIREC 32	SECCHI
LAT	75-54.8N	TEMP WET		CLOUD TYPE	7	WAVE DIREC	WATER COLOR
LONG	12-56. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT	SOUNDING 0370

MESSENGER TIMES: 09.7
WIRE ANGLES: 01

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.84	33.957	27.35				
1	24	-1.85	33.979	27.37				
1	49	-1.86	34.013	27.40				
1	58	-1.86						
1	68	-1.84						
1	78	-1.83	34.179	27.53				
1	87	-1.81						
1	97	-1.80	34.227	27.57				
1	116	-1.71	34.275	27.61				
1	145	-0.36	34.344	27.62				
1	170	-0.87	34.416	27.69				
1	194	-0.58	34.515	27.76				
1	242	0.40	34.772	27.92				
1	291	0.86	34.870	27.97				
1	340	0.91	34.883	27.98				

AR CRUISE AR2 STATION 329 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.84	0.00	33.957	0.000	27.35	73.2	0.000	0.00			
10	-1.84		33.965		27.36	72.5	0.008	0.00			
20	-1.85		33.975		27.37	71.7	0.015	0.02			
30	-1.85	0.00	33.982	0.003	27.37	71.0	0.022	0.03			0.86
50	-1.86	0.00	34.019	0.001	27.40	68.1	0.036	0.09			0.95
75	-1.84	0.00	34.161	0.004	27.52	57.0	0.052	0.19			0.91
100	-1.81	0.01	34.235	0.000	27.58	51.3	0.066	0.31			0.92
150	-0.43	0.06	34.357	0.001	27.63	46.8	0.090	0.63			0.75
200	-0.46	0.02	34.549	0.004	27.79	31.9	0.110	0.97			0.94
250	0.51	0.00	34.797	0.002	27.93	18.5	0.123	1.26			0.80
300	0.90	0.00	34.876	0.001	27.97	15.1	0.131	1.49			5.50

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 330 OBSERVED VALUES

DATE	10/03/65	BAROMETER	12.3	WEATHER		WIND VELOC	06	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-33.0	VISIBILITY	7	WIND DIREC	24	SECCHI	
LAT	75-41.6N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	13-06. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0400

MESSENGER TIMES: 09.7
WIRE ANGLES: 01

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.83	33.919	27.32				
1	24	-1.85						
1	49	-1.85	33.941	27.34				
1	68	-1.85						
1	78	-1.85						
1	87	-1.81						
1	97	-1.80	34.111	27.48				
1	116	-1.74						
1	145	-1.22						
1	170	-0.69						
1	194	-0.92	34.523	27.78				
1	242	0.35						
1	291	0.89	34.788	27.90				
1	340	1.00						
1	388	1.10	34.851	27.94				

AR CRUISE AR2 STATION 330 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.83	0.00	33.919	0.000	27.32	76.1	0.000	0.00			
10	-1.83	0.00	33.919	0.000	27.32	76.1	0.008	0.00			
20	-1.84	0.00	33.918	0.002	27.32	76.0	0.016	0.02			1.31
30	-1.85	0.00	33.922	0.003	27.32	75.7	0.023	0.04			1.26
50	-1.85	0.00	33.944	0.000	27.34	73.9	0.039	0.10			0.98
75	-1.85	0.00	34.022	0.006	27.41	67.7	0.056	0.21			0.70
100	-1.80	0.00	34.124	0.001	27.49	59.8	0.072	0.35			0.99
150	-1.09	0.02	34.340	0.010	27.64	45.3	0.099	0.68			0.79
200	-0.80	0.06	34.544	0.001	27.80	30.7	0.118	1.02			0.94
250	0.48	0.01	34.697	0.002	27.86	25.8	0.132	1.35			0.80
300	0.93	0.01	34.803	0.000	27.91	20.8	0.144	1.67			5.29

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 331 OBSERVED VALUES

DATE	13/03/65	BAROMETER	05.3	WEATHER		WIND VELOC	22	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-26.0	VISIBILITY	6	WIND DIREC	24	SECCHI	
LAT	75-06.5N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	13-30. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0215

MESSENGER TIMES: 09.7
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82	34.076	27.45				
1	24	-1.83	34.076	27.45				
1	49	-1.85	34.091	27.46				
1	58	-1.85	34.093	27.46				
1	68	-1.84	34.096	27.47				
1	78	-1.84	34.098	27.47				
1	87	-1.84	34.107	27.47				
1	97	-1.82	34.123	27.49				
1	107	-1.51	34.128	27.48				
1	116	-1.36	34.224	27.56				
1	146	-0.96	34.359	27.65				
1	170	-0.38	34.481	27.73				
1	194	0.19	34.604	27.80				

AR CRUISE AR2 STATION 331 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	34.076	0.000	27.45	64.1	0.000	0.00			
10	-1.82	0.00	34.076	0.000	27.45	64.0	0.007	0.00			0.99
20	-1.83	0.00	34.076	0.000	27.45	64.0	0.013	0.01			0.78
30	-1.84	0.00	34.079	0.001	27.45	63.6	0.020	0.03			0.92
50	-1.85	0.00	34.091	0.000	27.46	62.5	0.033	0.08			0.80
75	-1.84	0.00	34.097	0.000	27.47	61.9	0.048	0.18			0.71
100	-1.73	0.02	34.119	0.004	27.48	60.3	0.064	0.32			0.70
150	-0.87	0.01	34.379	0.000	27.66	43.2	0.090	0.64			0.77

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 332 OBSERVED VALUES

DATE	14/03/65	BAROMETER	00.2	WEATHER		WIND VELOC	12	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-26.5	VISIBILITY	6	WIND DIREC	27	SECCHI	
LAT	74-58.2N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	13-33. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0215

MESSENGER TIMES: 09.7
WIRE ANGLES: 01

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.81						
1	24	-1.82						
1	49	-1.82						
1	58	-1.78						
1	68	-1.78						
1	78	-1.78						
1	87	-1.78						
1	97	-1.78						
1	107	-1.78						
1	116	-1.59						
1	146	-0.25						
1	170	0.22						
1	194	0.40						

AR CRUISE AR2 STATION 333 OBSERVED VALUES

DATE	15/03/65	BAROMETER	16.3	WEATHER		WIND VELOC	09	WAVE PERIOD	
HOUR	09.7	TEMP DRY	-29.5	VISIBILITY	6	WIND DIREC	29	SECCHI	
LAT	74-46.9N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	13-48. W	REL HUMID		CLOUD AMT	3	WAVE HEIGHT		SOUNDING	0258

MESSENGER TIMES: 09.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.80						
1	24	-1.81						
1	48	-1.76						
1	58	-1.76						
1	68	-1.74						
1	78	-1.72						
1	87	-1.72						
1	97	-1.62						
1	107	-1.61						
1	116	-0.67						
1	145	-0.04						
1	170	0.20						
1	194	0.38						
1	242	0.44						

AR CRUISE AR2 STATION 334 OBSERVED VALUES

DATE	16/03/65	BAROMETER	21.0	WEATHER		WIND VELOC 16	WAVE PERIOD
HOUR	09.7	TEMP DRY	-23.0	VISIBILITY 6		WIND DIREC 34	SECCHI
LAT	74-35.3N	TEMP WET		CLOUD TYPE 7		WAVE DIREC	WATER COLOR
LONG	14-10. W	REL HUMID		CLOUD AMT 7		WAVE HEIGHT	SOUNDING 0225

MESSENGER TIMES: 09.7
WIRE ANGLES: 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.79	34.181	27.53				
1	24	-1.80	34.180	27.53				
1	48	-1.79	34.169	27.52				
1	58	-1.76	34.201	27.55				
1	68	-1.74	34.204	27.55				
1	78	-1.72	34.209	27.55				
1	87	-1.21						
1	97	-0.53	34.449	27.71				
1	107	-0.43	34.475	27.72				
1	116	0.09	34.537	27.75				
1	145	0.46	34.691	27.85				
1	169	0.47	34.701	27.86				
1	193	0.59	34.732	27.88				

AR CRUISE AR2 STATION 334 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.79	0.00	34.181	0.000	27.53	56.1	0.000	0.00			
10	-1.79	0.00	34.181	0.000	27.53	56.0	0.006	0.00			0.99
20	-1.80	0.00	34.181	0.000	27.53	56.0	0.012	0.01			0.78
30	-1.80	0.00	34.172	0.004	27.53	56.6	0.017	0.03			0.87
50	-1.78	0.00	34.176	0.001	27.53	56.2	0.029	0.07			0.70
75	-1.76	0.02	34.203	0.003	27.55	54.0	0.043	0.16			0.71
100	-0.50	0.04	34.458	0.004	27.71	38.9	0.054	0.26			0.70
150	0.47	0.01	34.697	0.004	27.86	25.7	0.071	0.47			0.74

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 335 OBSERVED VALUES

DATE	17/03/65	BAROMETER	25.0	WEATHER		WIND VELOC	08	WAVE PERIOD	
HOUR	09.8	TEMP DRY	-30.0	VISIBILITY	7	WIND DIREC	31	SECCHI	
LAT	74-25.2N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR	
LONG	14-27. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	0285

MESSENGER TIMES: 09.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82						
1	24	-1.82						
1	48	-1.80						
1	58	-1.79						
1	68	-1.77						
1	78	-1.46						
1	87	-0.66						
1	97	-0.54						
1	107	-0.21						
1	116	0.08						
1	145	0.58						
1	170	0.64						
1	194	0.65						
1	242	0.78						
1	271	0.86						

AR CRUISE AR2 STATION 336 OBSERVED VALUES

DATE	18/03/65	BAROMETER	25.5	WEATHER		WIND VELOC	04	WAVE PERIOD	
HOUR	09.9	TEMP DRY	-30.0	VISIBILITY	3	WIND DIREC	23	SECCHI	
LAT	74-17.4N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	14-39. W	REL HUMID		CLOUD AMT	3	WAVE HEIGHT		SOUNDING	0295

MESSENGER TIMES: 09.9
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.81						
1	24	-1.80						
1	48	-1.79						
1	58	-1.78						
1	68	-1.76						
1	78	-1.23						
1	87	-0.64						
1	97	-0.24						
1	107	-0.16						
1	116	0.01						
1	145	0.57						
1	170	0.68						
1	194	0.83						
1	242	0.98						
1	291	1.02						

AR CRUISE AR2 STATION 337 OBSERVED VALUES

DATE	19/03/65	BAROMETER	29.8	WEATHER		WIND VELOC 08	WAVE PERIOD
HOUR	09.8	TEMP DRY	-28.0	VISIBILITY 4		WIND DIREC 05	SECCHI
LAT	74-12.0N	TEMP WET		CLOUD TYPE 0		WAVE DIREC	WATER COLOR
LONG	14-49. W	REL HUMID		CLOUD AMT 2		WAVE HEIGHT	SOUNDING 0285

MESSENGER TIMES: 09.8
WIRE ANGLES: --

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.82	34.158	27.52				
1	24	-1.82	34.171	27.53				
1	48	-1.79	34.251	27.59				
1	58	-1.78						
1	68	-1.76	34.260	27.60				
1	78	-1.41	34.284	27.61				
1	87	-0.66						
1	97	-0.28	34.497	27.73				
1	107	0.09						
1	116	0.31	34.635	27.82				
1	145	0.77	34.711	27.85				
1	169	0.82	34.720	27.85				
1	193	0.84	34.775	27.90				
1	241	0.87	34.824	27.93				
1	280	0.98	34.824	27.93				

AR CRUISE AR2 STATION 337 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	34.158	0.000	27.52	57.8	0.000	0.00			
10	-1.82	0.00	34.158	0.000	27.52	57.7	0.006	0.00			0.99
20	-1.82	0.00	34.165	0.001	27.52	57.1	0.012	0.01			0.78
30	-1.81	0.00	34.191	0.005	27.54	55.1	0.018	0.03			0.87
50	-1.79	0.00	34.252	0.002	27.59	50.3	0.028	0.07			0.86
75	-1.56	0.01	34.273	0.002	27.60	49.2	0.041	0.15			0.71
100	-0.16	0.00	34.524	0.000	27.75	35.4	0.052	0.24			0.81
150	0.79	0.01	34.713	0.003	27.85	26.5	0.067	0.44			0.74
200	0.84	0.00	34.786	0.001	27.91	21.3	0.079	0.65			0.93
250	0.88	0.00	34.830	0.002	27.94	18.4	0.089	0.88			12.63

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 338 OBSERVED VALUES

DATE	20/03/65	BAROMETER	21.2	WEATHER		WIND VELOC	07	WAVE PERIOD	
HOUR	09.8	TEMP DRY	-21.0	VISIBILITY	5	WIND DIREC	04	SECCHI	
LAT	74-04.1N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	15-05. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	0460

MESSENGER TIMES: 09.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.80						
1	24	-1.80						
1	48	-1.59						
1	68	-0.86						
1	78	-0.48						
1	97	-0.27						
1	116	0.31						
1	145	0.80						
1	170	0.88						
1	194	0.90						
1	242	0.95						
1	291	0.98						
1	339	0.97						
1	388	0.87						
1	436	0.86						

AR CRUISE AR2 STATION 339 OBSERVED VALUES

DATE	21/03/65	BAROMETER	31.5	WEATHER		WIND VELOC	15	WAVE PERIOD	
HOUR	10.2	TEMP DRY	-25.5	VISIBILITY	6	WIND DIREC	35	SECCHI	
LAT	73-53.1N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	15-28. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0860

MESSENGER TIMES: 10.2, 11.3
WIRE ANGLES: 05, 12

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.76						
1	24	-1.78						
1	48	-1.78						
1	58	-1.77						
1	67	-1.75						
1	77	-1.58						
1	86	-0.90						
1	96	-0.59						
1	106	-0.44						
1	115	-0.35						
1	144	0.03						
1	167	0.28						
1	192	0.81						
1	240	0.99						
1	288	1.00						
2	444	0.80						
2	533	0.69						
2	622	0.50						
2	710	0.40						
2	799	0.28						
2	843	0.20						

AR CRUISE AR2 STATION 340 OBSERVED VALUES

DATE 22/03/65 BAROMETER 29.5 WEATHER WIND VELOC 21 WAVE PERIOD
HOUR 10.1 TEMP DRY -22.5 VISIBILITY 3 WIND DIREC 36 SECCHI
LAT 73-37.1N TEMP WET CLOUD TYPE X WAVE DIREC WATER COLOR
LONG 15-51. W REL HUMID CLOUD AMT 2 WAVE HEIGHT SOUNDING 0620
MESSENGER TIMES: 10.1, 12.0
WIRE ANGLES: 04, 07

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.75						
1	24	-1.75						
1	48	-1.75						
1	58	-1.75						
1	67	-1.70						
1	77	-1.50						
1	87	-0.85						
1	97	-0.44						
1	106	-0.13						
1	116	0.06						
1	145	0.74						
1	169	0.86						
1	193	1.11						
2	240	1.10						
2	288	1.21						
2	335	1.05						
2	383	0.89						
2	431	0.85						
2	479	0.80						
2	575	0.72						

AR CRUISE AR2 STATION 341 OBSERVED VALUES

DATE	23/03/65	BAROMETER	31.4	WEATHER		WIND VELOC 23	WAVE PERIOD
HOUR	10.6	TEMP DRY	-23.0	VISIBILITY	2	WIND DIREC 36	SECCHI
LAT	73-18.1N	TEMP WET		CLOUD TYPE	0	WAVE DIREC	WATER COLOR
LONG	16-16. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT	SOUNDING 1000

MESSENGER TIMES: 10.6, 11.6
WIRE ANGLES: 04, --

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.76	34.279	27.61				
1	24	-1.76	34.278	27.61				
1	48	-1.76						
1	58	-1.59	34.320	27.64				
1	68	-1.05	34.415	27.70				
1	77	-0.73	34.485	27.75				
1	87	-0.60	34.521	27.77				
1	97	-0.16	34.608	27.82				
1	106	0.16						
1	116	0.43	34.725	27.88				
1	145	0.93	34.844	27.95				
1	169	1.20	34.875	27.95				
1	193	1.21	34.892	27.97				
2	239	1.30	34.894	27.96				
2	287	1.12	34.915	27.99				
2	334	1.08	34.901	27.98				
2	382	0.98	34.909	27.99				
2	477	0.81	34.916	28.01				

AR CRUISE AR2 STATION 341 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.76	0.00	34.279	0.000	27.61	48.6	0.000	0.00			
10	-1.76	0.00	34.278	0.000	27.61	48.6	0.005	0.00			0.99
20	-1.76	0.00	34.278	0.000	27.61	48.6	0.010	0.01			0.78
30	-1.79	0.02	34.268	0.009	27.60	49.3	0.015	0.02			1.02
50	-1.74	0.01	34.288	0.011	27.62	47.7	0.025	0.06			1.21
75	-0.79	0.00	34.472	0.001	27.74	36.7	0.036	0.13			0.73
100	-0.05	0.00	34.630	0.001	27.83	28.0	0.044	0.20			0.92
150	1.00	0.00	34.854	0.001	27.95	17.2	0.055	0.34			0.74
200	1.23	0.01	34.893	0.001	27.97	15.9	0.063	0.49			0.92
250	1.26	0.01	34.900	0.002	27.97	15.8	0.071	0.67			0.75
300	1.11	0.01	34.912	0.002	27.99	13.9	0.079	0.88			0.91
400	0.94	0.00	34.914	0.001	28.00	12.8	0.092	1.37			9.80

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 342 OBSERVED VALUES

DATE 24/03/65	BAROMETER 29.1	WEATHER		WIND VELOC	12	WAVE PERIOD	
HOUR 09.9	TEMP DRY -24.5	VISIBILITY	7	WIND DIREC	34	SECCHI	
LAT 73-03.2N	TEMP WET	CLOUD TYPE	0	WAVE DIREC		WATER COLOR	
LONG 16-35. W	REL HUMID	CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0280

MESSENGER TIMES: 09.9
WIRE ANGLES: --

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.69						
1	24	-1.65						
1	48	-1.08						
1	57	-0.18						
1	67	0.10						
1	76	0.24						
1	86	0.26						
1	95	0.44						
1	105	0.60						
1	114	0.75						
1	143	1.14						
1	167	1.00						
1	191	0.88						
1	239	0.93						

AR CRUISE AR2 STATION 344 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.73	0.00	34.264	0.000	27.60	49.9	0.000	0.00			
10	-1.74	0.01	34.270	0.002	27.60	49.3	0.005	0.00			0.99
20	-1.73	0.01	34.296	0.002	27.63	47.3	0.010	0.01			0.78
30	-1.65	0.02	34.311	0.009	27.64	46.3	0.015	0.02			0.87
50	-0.91	0.02	34.393	0.003	27.68	42.3	0.024	0.06			0.70
75	0.18	0.01	34.658	0.006	27.84	27.0	0.033	0.11			0.68
100	0.76	0.01	34.810	0.001	27.93	18.8	0.038	0.16			0.80
150	1.26	0.00	34.846	0.000	27.93	19.5	0.048	0.29			0.74
200	1.26	0.01	34.871	0.001	27.95	17.8	0.058	0.45			0.94
250	1.08	0.01	34.892	0.001	27.97	15.1	0.066	0.64			0.79
300	1.08	0.00	34.892	0.000	27.97	15.2	0.073	0.86			5.19

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 342 OBSERVED VALUES

DATE	24/03/65	BAROMETER	29.1	WEATHER		WIND VELOC	12	WAVE PERIOD	
HOUR	09.9	TEMP DRY	-24.5	VISIBILITY	7	WIND DIREC	34	SECCHI	
LAT	73-03.2N	TEMP WET		CLOUD TYPE	0	WAVE DIREC		WATER COLOR	
LONG	16-35. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	0280

MESSENGER TIMES: 09.9
WIRE ANGLES: --

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.69						
1	24	-1.65						
1	48	-1.08						
1	57	-0.18						
1	67	0.10						
1	76	0.24						
1	86	0.26						
1	95	0.44						
1	105	0.60						
1	114	0.75						
1	143	1.14						
1	167	1.00						
1	191	0.88						
1	239	0.93						

AR CRUISE AR2 STATION 343 OBSERVED VALUES

DATE	25/03/65	BAROMETER	21.0	WEATHER		WIND VELOC	04	WAVE PERIOD	
HOUR	09.6	TEMP DRY	-26.0	VISIBILITY	7	WIND DIREC	26	SECCHI	
LAT	72-53.4N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR	
LONG	16-47. W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	0330

MESSENGER TIMES: 09.6
WIRE ANGLES: 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.68						
1	19	-1.69						
1	29	-1.69						
1	39	-1.67						
1	49	-1.47						
1	73	0.21						
1	97	0.48						
1	116	0.80						
1	145	1.02						
1	169	0.90						
1	193	0.95						
1	242	1.30						
1	290	1.02						
1	319	0.97						

AR CRUISE AR2 STATION 344 OBSERVED VALUES

DATE 26/03/65 BAROMETER 15.1 WEATHER WIND VELOC 07 WAVE PERIOD
HOUR 09.8 TEMP DRY -22.5 VISIBILITY 7 WIND DIREC 23 SECCHI
LAT 72-48.3N TEMP WET CLOUD TYPE 0 WAVE DIREC WATER COLOR
LONG 16-42. W REL HUMID CLOUD AMT 2 WAVE HEIGHT SOUNDING 0340
MESSENGER TIMES: 09.8
WIRE ANGLES: 01

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.73	34.264	27.60				
1	24	-1.71	34.309	27.64				
1	48	-1.06	34.370	27.66				
1	58	-0.36	34.480	27.72				
1	68	-0.09	34.523	27.75				
1	77	0.26	34.699	27.87				
1	97	0.72	34.803	27.93				
1	116	0.90	34.832	27.94				
1	145	1.24	34.844	27.92				
1	169	1.29	34.856	27.93				
1	193	1.29	34.867	27.94				
1	242	1.09	34.892	27.97				
1	290	1.08	34.892	27.97				
1	338	1.02	34.905	27.99				

AR CRUISE AR2 STATION 344 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.73	0.00	34.264	0.000	27.60	49.9	0.000	0.00			
10	-1.74	0.01	34.270	0.002	27.60	49.3	0.005	0.00			0.99
20	-1.73	0.01	34.296	0.002	27.63	47.3	0.010	0.01			0.78
30	-1.65	0.02	34.311	0.009	27.64	46.3	0.015	0.02			0.87
50	-0.91	0.02	34.393	0.003	27.68	42.3	0.024	0.06			0.70
75	0.18	0.01	34.658	0.006	27.84	27.0	0.033	0.11			0.68
100	0.76	0.01	34.810	0.001	27.93	18.8	0.038	0.16			0.80
150	1.26	0.00	34.846	0.000	27.93	19.5	0.048	0.29			0.74
200	1.26	0.01	34.871	0.001	27.95	17.8	0.058	0.45			0.94
250	1.08	0.01	34.892	0.001	27.97	15.1	0.066	0.64			0.79
300	1.08	0.00	34.892	0.000	27.97	15.2	0.073	0.86			5.19

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 345 OBSERVED VALUES

DATE	27/03/65	BAROMETER	08.3	WEATHER		WIND VELOC 11	WAVE PERIOD
HOUR	10.0	TEMP DRY	-19.5	VISIBILITY	7	WIND DIREC 18	SECCHI
LAT	72-45.6N	TEMP WET		CLOUD TYPE	3	WAVE DIREC	WATER COLOR
LONG	16-37. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT	SOUNDING 0435

MESSENGER TIMES: 10.0
WIRE ANGLES: 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.77						
1	39	-1.71						
1	48	-1.42						
1	58	-1.11						
1	77	-0.20						
1	96	0.54						
1	120	0.95						
1	144	1.17						
1	168	1.21						
1	192	1.17						
1	241	1.06						
1	289	0.88						
1	337	0.96						
1	385	0.98						

AR CRUISE AR2 STATION 346 OBSERVED VALUES

DATE	29/03/65	BAROMETER	14.7	WEATHER		WIND VELOC	08	WAVE PERIOD	
HOUR	10.2	TEMP DRY	-19.0	VISIBILITY	7	WIND DIREC	26	SECCHI	
LAT	72-41.3N	TEMP WET		CLOUD TYPE	0	WAVE DIREC		WATER COLOR	
LONG	16-28. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	1200

MESSENGER TIMES: 10.2, 11.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.81						
1	24	-1.81						
1	48	-1.77						
1	58	-1.75						
1	68	-1.66						
1	77	-1.44						
1	87	-0.95						
1	97	-0.97						
1	106	0.07						
1	116	0.52						
1	145	1.01						
1	169	1.13						
1	193	1.26						
2	241	1.19						
2	290	1.15						
2	338	0.96						
2	386	0.88						
2	435	0.82						
2	483	0.60						
2	580	0.44						
2	773	0.14						
2	869	-0.13						
2	966	-0.28						

AR CRUISE AR2 STATION 347 OBSERVED VALUES

DATE	30/03/65	BAROMETER	30.1	WEATHER		WIND VELOC	04	WAVE PERIOD	
HOUR	10.4	TEMP DRY	-19.0	VISIBILITY	7	WIND DIREC	14	SECCHI	
LAT	72-37.0N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	16-31. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	1295

MESSENGER TIMES: 10.4, 11.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.80						
1	24	-1.80						
1	48	-1.74						
1	58	-1.62						
1	68	-1.15						
1	77	-0.71						
1	87	-0.53						
1	97	-0.75						
1	106	-0.38						
1	116	0.02						
1	145	0.95						
1	169	1.22						
1	193	1.26						
2	241	1.20						
2	290	0.97						
2	386	0.82						
2	435	0.72						
2	483	0.59						
2	580	0.44						
2	773	0.14						
2	869	-0.16						
2	966	-0.30						
2	1062	-0.37						
2	1159	-0.48						
2	1256	-0.55						

AR CRUISE AR2 STATION 348 OBSERVED VALUES

DATE	31/03/65	BAROMETER	28.0	WEATHER		WIND VELOC	08	WAVE PERIOD	
HOUR	10.2	TEMP DRY	-18.5	VISIBILITY	7	WIND DIREC	35	SECCHI	
LAT	72-31.0N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	16-35. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT		SOUNDING	1330

MESSENGER TIMES: 10.2; 11.2
WIRE ANGLES: 00; 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.82						
1	24	-1.79						
1	48	-1.75						
1	58	-1.75						
1	68	-1.47						
1	77	-1.03						
1	87	-0.15						
1	97	0.09						
1	106	0.30						
1	116	0.58						
1	145	0.93						
1	169	1.23						
1	193	1.26						
2	241	1.23						
2	290	1.02						
2	338	0.88						
2	386	0.88						
2	435	0.77						
2	483	0.61						
2	580	0.45						
2	773	0.14						
2	869	-0.06						
2	966	-0.28						
2	1062	-0.37						
2	1159	-0.45						
2	1256	-0.56						

AR CRUISE AR2 STATION 349 OBSERVED VALUES

DATE	01/04/65	BAROMETER	29.6	WEATHER		WIND VELOC	08	WAVE PERIOD	
HOUR	09.8	TEMP DRY	-16.5	VISIBILITY	7	WIND DIREC	11	SECCHI	
LAT	72-25.5N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	16-48. W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING	1345

MESSENGER TIMES: 09.8, 10.8
WIRE ANGLES: 00, 02

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.80						
1	24	-1.80						
1	48	-1.79						
1	58	-1.79						
1	68	-1.29						
1	77	-0.86						
1	87	-0.02						
1	97	0.32						
1	106	0.39						
1	116	0.47						
1	145	0.90						
1	169	1.20						
2	193	1.28						
2	240	1.25						
2	288	1.14						
2	336	0.93						
2	384	0.88						
2	432	0.82						
2	480	0.71						
2	576	0.49						
2	768	0.19						
2	864	-0.02						
2	960	-0.21						
2	1056	-0.36						
2	1152	-0.41						
2	1344	-0.78						

AR CRUISE AR2 STATION 350 OBSERVED VALUES

DATE	04/04/65	BAROMETER	17.8	WEATHER		WIND VELOC	16	WAVE PERIOD	
HOUR	11.4	TEMP DRY	-30.5	VISIBILITY	8	WIND DIREC	36	SECCHI	
LAT	72-03.7N	TEMP WET		CLOUD TYPE	0	WAVE DIREC		WATER COLOR	
LONG	17-25. W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	1530

MESSENGER TIMES: 11.4
WIRE ANGLES: 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	7	-1.83	34.407	27.72				
1	24	-1.84	34.407	27.72				
1	48	-1.84	34.403	27.72				
1	58	-1.86	34.406	27.72				
1	67	-1.83	34.414	27.72				
1	77	-1.79	34.425	27.73				
1	87	-1.72	34.448	27.75				
1	96	-0.84	34.524	27.78				
1	106	-0.12						
1	115	0.31	34.691	27.86				
1	144	0.83	34.817	27.93				
1	168	1.13	34.881	27.96				
1	192	1.18	34.889	27.97				

AR CRUISE AR2 STATION 350 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.83	0.00	34.407	0.000	27.72	38.6	0.000	0.00			
10	-1.83	0.00	34.407	0.000	27.72	38.6	0.004	0.00			0.99
20	-1.84	0.00	34.407	0.000	27.72	38.5	0.008	0.01			0.78
30	-1.84	0.00	34.405	0.001	27.72	38.6	0.012	0.02			0.87
50	-1.85	0.00	34.403	0.000	27.72	38.6	0.020	0.05			0.70
75	-1.80	0.00	34.422	0.000	27.73	37.1	0.029	0.11			0.77
100	-0.52	0.00	34.562	0.002	27.80	30.9	0.038	0.19			0.93
150	0.92	0.00	34.837	0.001	27.94	17.9	0.050	0.34			0.70

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 351 OBSERVED VALUES

DATE	05/04/65	BAROMETER	25.4	WEATHER		WIND VELOC	05	WAVE PERIOD	
HOUR	10.7	TEMP DRY	-21.5	VISIBILITY	7	WIND DIREC	22	SECCHI	
LAT	71-58.5N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	17-31. W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	1545

MESSENGER TIMES: 10.7, 11.6
WIRE ANGLES: 00, --

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.84						
1	24	-1.84						
1	48	-1.82						
1	58	-1.81						
1	67	-1.79						
1	77	-1.77						
1	87	-1.58						
1	96	-1.66						
1	106	-1.35						
1	116	-1.21						
1	144	0.32						
1	169	0.97						
2	241	1.02						
2	289	0.96						
2	337	0.84						
2	385	0.68						
2	433	0.49						
2	481	0.48						
2	578	0.28						
2	674	0.25						
2	770	-0.02						
2	963	-0.28						
2	1156	-0.52						
2	1348	-0.72						
2	1541	-0.83						

AR CRUISE AR2 STATION 352 OBSERVED VALUES

DATE 06/04/65 BAROMETER 22.6 WEATHER WIND VELOC 11 WAVE PERIOD
HOUR 09.8 TEMP DRY -17.0 VISIBILITY 7 WIND DIREC 17 SECCHI
LAT 71-55.0N TEMP WET CLOUD TYPE 0 WAVE DIREC WATER COLOR
LONG 17-26. W REL HUMID CLOUD AMT 7 WAVE HEIGHT SOUNDING 1585
MESSENGER TIMES: 09.8, 11.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.83	34.384	27.70	7.51	0.671	0.070	91
1	19	-1.82	34.436	27.74	7.46	0.666	0.074	90
1	29	-1.82	34.431	27.74	7.44	0.664	0.076	90
1	48	-1.84	34.439	27.74	7.45	0.665	0.075	90
1	72	-1.84	34.452	27.75	7.41	0.662	0.079	89
1	96	-1.79	34.525	27.81	7.52	0.672	0.067	91
1	120	-1.83	34.576	27.86	7.57	0.676	0.064	91
1	144	-1.30	34.616	27.87	7.50	0.670	0.059	92
1	193	0.18	34.814	27.97	7.15	0.639	0.060	91
1	241	0.22	34.904	28.04	7.09	0.633	0.064	91
1	289	0.72	34.925	28.02	6.92	0.618	0.070	90
1	385	0.52	34.932	28.04	7.00	0.625	0.066	90
1	481	0.36	34.938	28.06	7.06	0.631	0.064	91
1	578	0.35	34.941	28.06	6.94	0.620	0.075	89
2	770	-0.03	34.947	28.09	6.97	0.623	0.079	89
2	963	-0.32	34.935	28.09	6.96	0.622	0.086	88
2	1156	-0.53	34.939	28.10	6.95	0.621	0.091	87
2	1445	-0.76	34.930	28.11	6.92	0.618	0.098	86
2	1541	-0.80						

AR CRUISE AR2 STATION 352 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.83	0.00	34.384	0.000	27.70	40.4	0.000	0.00	7.51	0.00	
10	-1.83	0.00	34.384	0.000	27.70	40.3	0.005	0.00	7.51	0.00	
20	-1.82	0.00	34.437	0.001	27.74	36.3	0.008	0.01	7.46	0.00	0.88
30	-1.82	0.00	34.431	0.000	27.74	36.6	0.012	0.02	7.44	0.00	0.97
50	-1.84	0.00	34.439	0.001	27.74	35.9	0.019	0.05	7.44	0.00	0.91
75	-1.83	0.00	34.460	0.001	27.76	34.1	0.028	0.10	7.42	0.00	0.84
100	-1.81	0.02	34.535	0.000	27.82	28.3	0.036	0.17	7.53	0.00	0.80
150	-1.09	0.04	34.639	0.005	27.88	22.4	0.049	0.33	7.46	0.01	0.95
200	0.21	0.04	34.832	0.001	27.98	13.9	0.058	0.49	7.14	0.01	0.81
250	0.31	0.02	34.911	0.001	28.04	8.6	0.064	0.62	7.06	0.01	0.78
300	0.74	0.03	34.927	0.001	28.02	10.2	0.068	0.76	6.92	0.01	0.95
400	0.49	0.00	34.933	0.000	28.04	8.2	0.078	1.08	7.02	0.00	0.81
500	0.36	0.01	34.939	0.000	28.06	7.0	0.085	1.43	7.04	0.01	0.78
600	0.32	0.01	34.942	0.000	28.06	6.5	0.092	1.82	6.94	0.01	0.94
700	0.13	0.02	34.946	0.001	28.08	5.0	0.098	2.20	6.94	0.02	0.77
800	-0.08	0.00	34.945	0.001	28.09	3.5	0.102	2.53	6.97	0.00	0.81
1000	-0.37	0.00	34.935	0.001	28.09	2.1	0.108	3.05	6.96	0.00	0.77
1200	-0.57	0.00	34.933	0.004	28.10	0.5	0.111	3.32	6.95	0.00	6.88
1500	-0.79	0.00									3.06

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 353 OBSERVED VALUES

DATE	10/04/65	BAROMETER	98.4	WEATHER		WIND VELOC	15	WAVE PERIOD	
HOUR	10.8	TEMP DRY	-13.0	VISIBILITY	6	WIND DIREC	01	SECCHI	
LAT	70-55.4N	TEMP WET		CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	18-05. W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING	1645

MESSENGER TIMES: 10.8, 11.6
WIRE ANGLES: 02, 09

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	7	-1.78						
1	24	-1.77						
1	48	-1.78						
1	58	-1.78						
1	67	-1.78						
1	77	-1.75						
1	86	-1.73						
1	96	-0.82						
1	106	-0.23						
1	115	0.00						
1	144	0.92						
1	168	0.98						
1	192	1.09						
2	238	1.14						
2	285	1.09						
2	380	0.93						
2	475	0.60						
2	570	0.45						

AR CRUISE AR2 STATION 354 OBSERVED VALUES

DATE 18/04/65 BAROMETER 08.5 WEATHER WIND VELOC 04 WAVE PERIOD
HOUR 10.6 TEMP DRY -07.5 VISIBILITY 7 WIND DIREC 25 SECCHI
LAT 69-00.8N TEMP WET CLOUD TYPE 0 WAVE DIREC WATER COLOR
LONG 20-25. W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 1390
MESSENGER TIMES: 10.6, 11.7
WIRE ANGLES: 03, 06

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.82	34.340	27.66				
1	19	-1.82	34.350	27.67				
1	29	-1.82	34.350	27.67				
1	48	-1.76	34.360	27.68				
1	73	-1.76	34.370	27.69				
1	97	-1.75	34.400	27.71				
1	143	-1.73	34.480	27.77				
1	191	-0.08	34.690	27.88				
1	239	0.15	34.750	27.92				
1	287	0.36	34.820	27.96				
1	383	0.78	34.910	28.01				
1	478	0.85	34.910	28.00				
1	574	0.66	34.920	28.02				
2	667	0.50	34.950	28.06				
2	761	0.34	34.940	28.06				
2	952	-0.06	34.930	28.07				
2	1142	-0.33	34.930	28.09				
2	1381	-0.68	34.930	28.10				

AR CRUISE AR2 STATION 354 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	34.340	0.000	27.66	43.8	0.000	0.00			
10	-1.82	0.00	34.340	0.000	27.66	43.7	0.005	0.00			
20	-1.82	0.00	34.350	0.000	27.67	42.9	0.009	0.01			0.88
30	-1.82	0.00	34.350	0.000	27.67	42.8	0.014	0.02			0.97
50	-1.76	0.00	34.360	0.000	27.68	42.1	0.022	0.06			0.91
75	-1.76	0.00	34.372	0.000	27.69	41.1	0.033	0.12			0.89
100	-1.77	0.02	34.403	0.001	27.71	38.5	0.043	0.21			0.96
150	-1.50	0.06	34.511	0.006	27.79	30.7	0.060	0.43			0.82
200	0.02	0.04	34.707	0.004	27.89	22.4	0.073	0.67			0.78
250	0.20	0.00	34.766	0.001	27.93	18.9	0.084	0.90			0.74
300	0.43	0.01	34.837	0.000	27.97	15.0	0.092	1.14			0.95
400	0.82	0.00	34.913	0.002	28.01	12.0	0.106	1.62			0.81
500	0.81	0.01	34.911	0.000	28.01	12.3	0.118	2.19			0.78
600	0.60	0.00	34.929	0.002	28.04	9.5	0.129	2.81			0.94
700	0.45	0.00	34.949	0.002	28.06	7.1	0.138	3.36			0.77
800	0.26	0.01	34.937	0.000	28.06	6.6	0.145	3.89			0.91
1000	-0.13	0.00	34.930	0.000	28.08	4.3	0.155	4.88			0.77
1200	-0.41	0.00	34.928	0.001	28.09	2.1	0.162	5.59			6.88

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 355 OBSERVED VALUES

DATE 25/04/65 BAROMETER 04.2 WEATHER WIND VELOC 35 WAVE PERIOD
HOUR 10.6 TEMP DRY -02.5 VISIBILITY 1 WIND DIREC 04 SECCHI
LAT 68-04.8N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 23-05. W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 1240
MESSENGER TIMES: 10.6
WIRE ANGLES: 09

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	9	-1.83	34.057	27.43				
1	19	-1.83	34.053	27.43				
1	28	-1.83	34.057	27.43				
1	47	-1.83	34.060	27.44				
1	70	-1.82	34.162	27.52				
1	94	-1.78	34.277	27.61				
1	117	-1.77	34.300	27.63				
1	140	-1.73	34.340	27.66				
1	187	-1.19	34.493	27.77				

AR CRUISE AR2 STATION 355 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.83	0.00	34.057	0.000	27.43	65.5	0.000	0.00			
10	-1.83	0.00	34.056	0.000	27.43	65.5	0.007	0.00			0.88
20	-1.83	0.00	34.053	0.000	27.43	65.7	0.014	0.01			0.85
30	-1.83	0.00	34.056	0.001	27.43	65.4	0.020	0.03			0.96
50	-1.83	0.00	34.070	0.002	27.44	64.2	0.033	0.08			0.85
75	-1.81	0.00	34.189	0.003	27.54	54.9	0.048	0.18			0.77
100	-1.78	0.00	34.286	0.003	27.62	47.4	0.061	0.29			0.71
150	-1.68	0.00	34.364	0.000	27.68	41.5	0.084	0.58			10.40

AR CRUISE AR2 STATION 356 OBSERVED VALUES

DATE	26/04/65	BAROMETER	22.0	WEATHER		WIND VELOC 11	WAVE PERIOD
HOUR	10.1	TEMP DRY	-04.0	VISIBILITY	7	WIND DIREC 07	SECCHI
LAT	67-54.5N	TEMP WET		CLOUD TYPE	6	WAVE DIREC	WATER COLOR
LONG	23-35. W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT	SOUNDING 1255

MESSENGER TIMES: 10.1, 11.3
WIRE ANGLES: 03, 06

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	10	-1.82	33.901	27.31				
1	24	-1.81	33.903	27.31				
1	48	-1.80	33.974	27.37				
1	71	-1.80	33.969	27.36				
1	95	-1.61	34.073	27.44				
1	119	-1.46	34.180	27.52				
1	143	-1.55	34.293	27.62				
1	191	-1.25	34.447	27.73				
1	286	0.43	34.737	27.89				
1	381	1.00	34.873	27.96				
1	477	1.11	34.914	27.99				
1	573	0.90	34.924	28.01				
2	807	0.41	34.937	28.05				
2	1007	0.01	34.933	28.07				
2	1245	-0.56	34.926	28.09				

AR CRUISE AR2 STATION 356 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.82	0.00	33.901	0.000	27.31	77.5	0.000	0.00			
10	-1.82	0.00	33.901	0.000	27.31	77.5	0.008	0.00			
20	-1.81	0.00	33.901	0.001	27.31	77.4	0.016	0.02			0.67
30	-1.81	0.00	33.920	0.005	27.32	75.9	0.024	0.04			0.84
50	-1.80	0.00	33.973	0.002	27.37	71.7	0.039	0.10			0.88
75	-1.77	0.01	33.982	0.003	27.37	70.9	0.057	0.21			0.80
100	-1.57	0.01	34.095	0.000	27.46	62.7	0.073	0.36			0.76
150	-1.54	0.01	34.319	0.002	27.64	45.4	0.101	0.70			0.94
200	-1.10	0.04	34.478	0.002	27.75	34.5	0.121	1.06			0.95
250	-0.23	0.10	34.637	0.005	27.85	26.3	0.136	1.40			0.77
300	0.56	0.01	34.765	0.001	27.91	21.3	0.148	1.74			0.91
400	1.05	0.00	34.886	0.002	27.97	15.7	0.167	2.40			0.89
500	1.07	0.01	34.918	0.001	28.00	13.7	0.182	3.08			0.97
600	0.84	0.00	34.926	0.000	28.02	11.6	0.194	3.80			0.99
700	0.63	0.00	34.933	0.000	28.04	9.6	0.205	4.50			0.89
800	0.42	0.00	34.937	0.000	28.05	7.9	0.214	5.18			0.96
1000	0.02	0.00	34.933	0.000	28.07	5.2	0.227	6.38			0.95
1200	-0.44	0.00	34.927	0.000	28.09	2.0	0.234	7.17			4.40

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

AR CRUISE AR2 STATION 357 OBSERVED VALUES

DATE	02/05/65	BAROMETER	21.0	WEATHER		WIND VELOC 16	WAVE PERIOD
HOUR	10.1	TEMP DRY	-05.3	VISIBILITY	7	WIND DIREC 04	SECCHI
LAT	67-19.3N	TEMP WET		CLOUD TYPE	7	WAVE DIREC	WATER COLOR
LONG	24-29. W	REL HUMID		CLOUD AMT	6	WAVE HEIGHT	SOUNDING 1230

MESSENGER TIMES: 10.1, 11.5
WIRE ANGLES: 01, 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.84	33.626	27.08	7.96	0.711	0.034	95
1	29	-1.83	33.657	27.11	7.93	0.708	0.037	95
1	48	-1.81	33.931	27.33	7.68	0.686	0.056	92
1	71	-1.82	34.114	27.48	7.57	0.676	0.066	91
1	95	-1.82	34.142	27.50	7.61	0.680	0.062	92
1	119	-1.66	34.273	27.61	7.53	0.673	0.065	91
1	143	-1.57	34.370	27.68	7.49	0.669	0.067	91
1	190	-0.96	34.504	27.77	7.25	0.648	0.075	90
1	238	-0.01	34.686	27.87	7.02	0.627	0.076	89
1	286	0.54	34.812	27.94	6.85	0.612	0.080	88
1	381	1.06	34.928	28.00	6.75	0.603	0.079	88
2	520	0.92	34.988	28.06	6.74	0.602	0.082	88
2	615	0.62	34.980	28.07	6.82	0.609	0.080	88
2	833	0.31	33.912*	27.23	6.95	0.621	0.080	89
2	1040	-0.16	34.689*	27.88	7.00	0.625	0.081	89
2	1228	-0.50	34.953	28.11	6.90	0.616	0.095	87

AR CRUISE AR2 STATION 357 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.84	0.00	33.626	0.000	27.08	98.6	0.000	0.00	7.96	0.00	
10	-1.84	0.00	33.626	0.000	27.08	98.6	0.010	0.01	7.96	0.00	
20	-1.84	0.00	33.625	0.008	27.08	98.6	0.020	0.02	7.96	0.01	0.77
30	-1.83	0.00	33.670	0.003	27.12	95.1	0.030	0.05	7.92	0.00	0.93
50	-1.81	0.00	33.953	0.000	27.35	73.2	0.047	0.11	7.66	0.00	0.90
75	-1.83	0.00	34.121	0.006	27.49	60.1	0.064	0.22	7.58	0.01	0.80
100	-1.79	0.01	34.166	0.004	27.52	56.6	0.079	0.35	7.60	0.00	0.76
150	-1.51	0.01	34.391	0.002	27.70	39.9	0.103	0.65	7.46	0.00	0.93
200	-0.76	0.02	34.542	0.003	27.79	31.0	0.121	0.97	7.20	0.00	0.76
250	0.16	0.01	34.722	0.000	27.89	22.0	0.134	1.27	6.97	0.00	0.72
300	0.66	0.01	34.837	0.002	27.96	16.5	0.144	1.54	6.82	0.00	0.93
400	1.08	0.01	34.943	0.001	28.01	11.7	0.158	2.04	6.74	0.00	0.88
500	0.98	0.01	34.986	0.001	28.06	7.9	0.168	2.49	6.73	0.00	0.87
600	0.67	0.01	34.982	0.001	28.07	6.0	0.175	2.88	6.81	0.00	0.82
700	0.48	0.03	34.978#		28.08	5.1	0.181	3.25	6.88	0.00	0.90
800	0.35	0.02	34.974#		28.09	4.5	0.185	3.63	6.94	0.00	0.84
1000	-0.07	0.01	34.964#		28.10	2.2	0.192	4.23	7.00	0.00	0.78
1200	-0.46	0.00	34.955#		28.11	-0.3	0.194	4.42	6.93	0.00	5.18

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

Unclassified
Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*

University of Washington, Department of Oceanography, Seattle, Washington 98105

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE

PHYSICAL, CHEMICAL, AND CURRENT DATA FROM ARLIS II: EASTERN ARCTIC OCEAN, GREENLAND SEA, AND DENMARK STRAIT AREAS, FEBRUARY 1964 - MAY 1965. VOLUME II

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*
Interim Report February 1964 - May 1965

5. AUTHOR(S) *(First name, middle initial, last name)*

Richard B. Tripp and Kou Kusunoki

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
May 1967	140	7

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
Nonr-477(37) ONR-368	Technical Report No. 185
b. PROJECT NO. NR 083 012	
c.	9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*
d.	Reference M67-29

10. DISTRIBUTION STATEMENT

Distribution of this document is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	Office of Naval Research San Francisco, California

13. ABSTRACT

This report contains tabulated physical, chemical, and current data collected from 1 January to 8 May 1965 at Atctic Research Laboratory Ice Station No. 2 (ARLIS II) as it moved through the Greenland Sea into the Denmark Strait. These data were collected as part of a study of the water characteristics of the Greenland Sea. Emphasis was on the East Greenland Current.

DD FORM 1 NOV 65 1473 (PAGE 1)
S/N 0101-807-6801

Unclassified
Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Oceanographic data						
Physical oceanographic data						
Chemical oceanographic data						
Current data						
Oceanographic cruises						
Arctic Research Laboratory Ice Station No. 2						
Ice Island						
ARLIS II						
Arctic Ocean						
Greenland Sea						
East Greenland Current						
Denmark Straits						

UNCLASSIFIED TECHNICAL REPORTS DISTRIBUTION LIST
FOR OCEANOGRAPHIC CONTRACTORS
OF THE OCEAN SCIENCE & TECHNOLOGY GROUP
OF THE OFFICE OF NAVAL RESEARCH
(Revised November 1967)

DEPARTMENT OF DEFENSE

Director of Defense Research and Engineering
Office of the Secretary of Defense
Washington, D.C. 20301
1 Attn: Office, Assistant Director (Research)

Navy

2 Office of Naval Research
Ocean Science and Technology Group
Department of the Navy
Washington, D.C. 20360
1 Attn: Srfc. & Amphib. Programs (Code 463)
1 Attn: Oceanic Biology (Code 408-B)
1 Attn: Undersea Programs (Code 466)
1 Attn: Field Projects (Code 418)
1 Attn: Geography Branch (Code 414)

1 Commanding Officer
Office of Naval Research Branch Office
495 Summer Street
Boston, Massachusetts 02210

1 Commanding Officer
Office of Naval Research Branch Office
219 South Dearborn Street
Chicago, Illinois 60604

3 Commanding Officer
Office of Naval Research Branch Office
1030 East Green Street
Pasadena, California 91101

1 ONR Resident Representative
University of California, San Diego
P. O. Box 109
La Jolla, California 92037

5 Commanding Officer
Office of Naval Research Branch Office
Navy #100, Fleet Post Office
New York, New York 09510

Director
Naval Research Laboratory
Washington, D.C. 20390
6 Attn: Code 5500

2 Commander
Naval Oceanographic Office
Washington, D.C. 20390
1 Attn: Code 1640 (Library)
1 Attn: Code 031
1 Attn: Code 70
1 Attn: Code 90

1 West Coast Support Group
Naval Oceanographic Office
c/o Navy Electronics Laboratory
San Diego, California 92152

1 Naval Oceanographic Office
Liaison Officer (Code 332)
Anti-Submarine Warfare Force
Atlantic Fleet
Norfolk, Virginia 23511

1 Chief
Naval Ordnance Systems Command
Department of the Navy
Washington, D.C. 20360

1 Commander-in-Chief
Submarine Force Pacific Fleet
Fleet Post Office
San Francisco, California 96610

1 Commander-in-Chief
Pacific Fleet
Fleet Post Office
San Francisco, California 96610

Naval Oceanographic Office
Anti-Submarine Warfare Force, Pacific
Fleet Post Office
San Francisco, California 96610
1 Attn: Commander
1 Attn: Liaison Officer

1 Chief
Naval Air Systems Command
Department of the Navy
Washington, D.C. 20360
1 Attn: AIR 370E

1 Office of the U.S. Naval Weather Service
Washington Navy Yard
Washington, D.C. 20390

1 Chief
Naval Facilities Engineering Command
Department of the Navy
Washington, D.C. 20390
1 Attn: Code 70

U.S. Navy Electronics Laboratory
San Diego, California 92152
1 Attn: Code 3102
1 Attn: Code 3060C

1 Commanding Officer and Director
Naval Civil Engineering Laboratory
Hueneme, California 93041

1 Commanding Officer
Pacific Missile Range
Pt. Mugu, Hueneme, California 93041

1 Commander, Naval Ordnance Laboratory
White Oak, Silver Spring, Maryland 20910

1 Commanding Officer
Naval Ordnance Test Station
China Lake, California 93557

1 Commanding Officer
Naval Radiological Defense Laboratory
San Francisco, California 94135

1 Commanding Officer
U.S. Naval Underwater Ordnance Station
Newport, Rhode Island 02884

1 Chief, Naval Ship Systems Command
Department of the Navy
Washington, D.C. 20360
1 Attn: Code 1622B

1 Officer-in-Charge
Navy Weather Research Facility
Naval Air Station, Bldg. R-48
Norfolk, Virginia 23511

1 Naval Air Development Center (ADL)
Johnsville, Warminster, Pa. 18974

1 Fleet Weather Central
Joint Typhoon Warning Center
COMNAVMARIANAS Box 12
San Francisco, California 94101

1 Superintendent, Naval Academy
Annapolis, Maryland 21402

2 Department of Meteorology and Oceanography
Naval Postgraduate School
Monterey, California 93940

1 Commanding Officer
U.S. Navy Mine Defense Laboratory
Panama City, Florida 32402

1 Commanding Officer
Naval Underwater Sound Laboratory
New London, Connecticut 06321

1 Officer-in-Charge
Fleet Numerical Weather Facility
Naval Postgraduate School
Monterey, California 93940

Air Force

1 Headquarters, Air Weather Service (AWSS/TIPD), Air Force
Scott AFB, Illinois 62225

1 AFCRL (CRZF)
L. G. Hanscom Field
Bedford, Massachusetts 01730

Army

1 Coastal Engineering Research Center
Corps of Engineers
Department of the Army
Washington, D.C. 20310

1 Army Research Office
Office of the Chief of R & D
Department of the Army
Washington, D.C. 20310

1 Army Beach Erosion Board
5201 Little Falls Road, N.W.
Washington, D.C. 20016

1 Director
U.S. Army Engineers Waterways
Experiment Station
Vicksburg, Mississippi 49097
1 Attn: Research Center Library

OTHER GOVERNMENT AGENCIES

20 Defense Documentation Center
Cameron Station, Alexandria, Va. 20305

National Research Council
2101 Constitution Avenue, N.W.
Washington, D.C. 20418
1 Attn: Committee on Undersea Warfare
1 Attn: Committee on Oceanography

1 Director, Coast & Geodetic Survey,
ESSA
Attn: Office of Hydrography &
Oceanography
Washington Science Center
Rockville, Maryland 20852

1 Director, Atlantic Marine Center
Coast & Geodetic Survey, ESSA
439 West York Street
Norfolk, Virginia 23510

1 Director, Institute for Oceanography
ESSA, Gramax Bldg.
Silver Spring, Maryland 20910

1 ESSA, Geophysical Sciences Library
(AD 712)
Washington Science Center
Rockville, Maryland 20852

1 Commanding Officer
Coast Guard Oceanographic Unit
Bldg. 159, Navy Yard Annex
Washington, D.C. 20390

1 Chief, Office of Marine Geology
& Hydrology
Geological Survey
Menlo Park, California 94025

1 Director
Pacific Marine Center
Coast and Geodetic Survey, ESSA
Seattle, Washington 98102

1 Geological Division
Marine Geology Unit
Geological Survey
Washington, D.C. 20240

1 National Science Foundation
Office of Sea Grant Programs
1800 G Street, N.W.
Washington, D.C. 20550

1 Laboratory Director
Bureau of Commercial Fisheries
Ocean Research Laboratory
South Rotunda, Museum Bldg.
Stanford, California 94035

1 Bureau of Commercial Fisheries
Fish & Wildlife Service
P. O. Box 3830
Honolulu, Hawaii 96812

1 Laboratory Director
Biological Laboratory
Bureau of Commercial Fisheries
P. O. Box 3098, Fort Crockett
Galveston, Texas 77552

1 Laboratory Director
Biological Laboratory
Bureau of Commercial Fisheries
P. O. Box 1155
Juneau, Alaska 99801

1 Laboratory Director
Biological Laboratory
Bureau of Commercial Fisheries
P. O. Box 6
Woods Hole, Massachusetts 02543

1 Laboratory Director
Biological Laboratory
Bureau of Commercial Fisheries
P. O. Box 280
Brunswick, Georgia 31521

1 Laboratory Director
Tuna Resources Laboratory
Bureau of Commercial Fisheries
P. O. Box 271
La Jolla, California 92038

1 Bureau of Commercial Fisheries & Wildlife
Fish and Wildlife Service
Librarian, Sandy Hook Marine Laboratory
P. O. Box 428
Highlands, New Jersey 07732

1 Director
National Oceanographic Data Center
Washington, D.C. 20390

1 Laboratory Director
Biological Laboratory
Bureau of Commercial Fisheries
#75 Virginia Beach Drive
Miami, Florida 33149

1 Director, Bureau of Commercial Fisheries
Fish and Wildlife Service
Department of the Interior
Washington, D.C. 20240

1 Bureau of Commercial Fisheries
Biological Laboratory, Oceanography
2725 Montlake Boulevard, East
Seattle, Washington 98102

1 Dr. Gene A. Rusnak
U.S. Geological Survey
Marine Geology & Hydrology
345 Middlefield Road
Menlo Park, California 94025

1 Head, Office of Oceanography & Limnology
Smithsonian Institution
Washington, D.C. 20560

Advanced Research Projects Agency
The Pentagon, Washington, D.C. 20310
1 Attn: Nuclear Test Detection Office

RESEARCH LABORATORIES

2 Director, Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

1 Director, Narragansett Marine Laboratory
University of Rhode Island
Kingston, Rhode Island 02881

1 Chairman, Department of Meteorology and Oceanography
New York University
New York, New York 10453

1 Director, Lamont Geological Observatory
Columbia University
Palisades, New York 10964

1 Director, Hudson Laboratories
145 Palisade Street
Dobbs Ferry, New York 10522

1 Great Lakes Research Division
Institute of Science & Technology
University of Michigan
Ann Arbor, Michigan 48105

1 Department of Physics
Northern Michigan University
Marquette, Michigan 49855

1 Director, Chesapeake Bay Institute
Johns Hopkins University
Baltimore, Maryland 21218

1 Director, Marine Laboratory
University of Miami
#1 Rickenbacker Causeway
Miami, Florida 33149

2 Head, Department of Oceanography & Meteorology
Texas A&M University
College Station, Texas 77843

1 Director
Scripps Institution of Oceanography
University of California, San Diego
La Jolla, California 92038

1 Allan Hancock Foundation
University Park
Los Angeles, California 90007

1 Head, Department of Oceanography
Oregon State University
Corvallis, Oregon 97331

1 Director, Arctic Research Laboratory
Pt. Barrow, Alaska 99723

1 Head, Department of Oceanography
University of Washington
Seattle, Washington 98105

1 Director, Institute of Marine Science
University of Alaska
College, Alaska 99735

1 Director, Bermuda Biological Station for Research
St. Georges, Bermuda

1 Director, Hawaiian Marine Laboratory
University of Hawaii
Honolulu, Hawaii 96825

1 President, Osservatorio Geofisico Sperimentale
Trieste, Italy

1 Department of Engineering
University of California
Berkeley, California 94720

1 Applied Physics Laboratory
University of Washington
1013 N.E. Fortieth Street
Seattle, Washington 98105

1 Physical Oceanographic Laboratory
Nova University
1786 S.E. Fifteenth Avenue
Fort Lauderdale, Florida 33316

1 Director, Ocean Research Institute
University of Tokyo
Tokyo, Japan

1 Marine Biological Association of the United Kingdom
Citadel Hill
Plymouth, England

1 Serials Department
University of Illinois Library
Urbana, Illinois 61801

1 New Zealand Oceanographic Institute
Department of Scientific and Industrial Research
P. O. Box 8009
Wellington, New Zealand
Attn: Librarian

1 Director, Instituto Nacional de Oceanographia
Rivadavia 1917-R25
Buenos Aires, Argentina

1 Lieutenant Nestor C. L. Granelli
Head, Geophysics Branch
Montevideo 459, 4° "A"
Buenos Aires, Argentina

1 Oceanographische Forschungsantalt der Bundeswehr
Lornsenstrasse 7
Kiel, Federal Republic of Germany

1 Underwater Warfare Division of the Norwegian Defense Research Establishment
Karljohansvern, Horten, Norway

1 Department of Geodesy & Geophysics
Columbia University
Cambridge, England

1 Institute of Oceanography
University of British Columbia
Vancouver, B.C., Canada

1 Department of the Geophysical Sciences
University of Chicago
Chicago, Illinois 60637

1 Coastal Engineering Laboratory
University of Florida
Gainesville, Florida 32601

1 Institute of Geophysics
University of Hawaii
Honolulu, Hawaii 96825

1 Dr. J. A. Gast
Wildlife Building
Humboldt State College
Arcata, California 95521

1 Department of Geology & Geophysics
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

1 Division of Engineering and Applied Physics
Harvard University
Cambridge, Massachusetts 02138

1 Department of Geology
Yale University
New Haven, Connecticut 06520

1 Westinghouse Electric Corporation
1625 K Street, N.W.
Washington, D.C. 20006

1 Great Lakes Studies
University of Wisconsin, Milwaukee
Milwaukee, Wisconsin 53201
Attn: Dr. C. H. Mortimer