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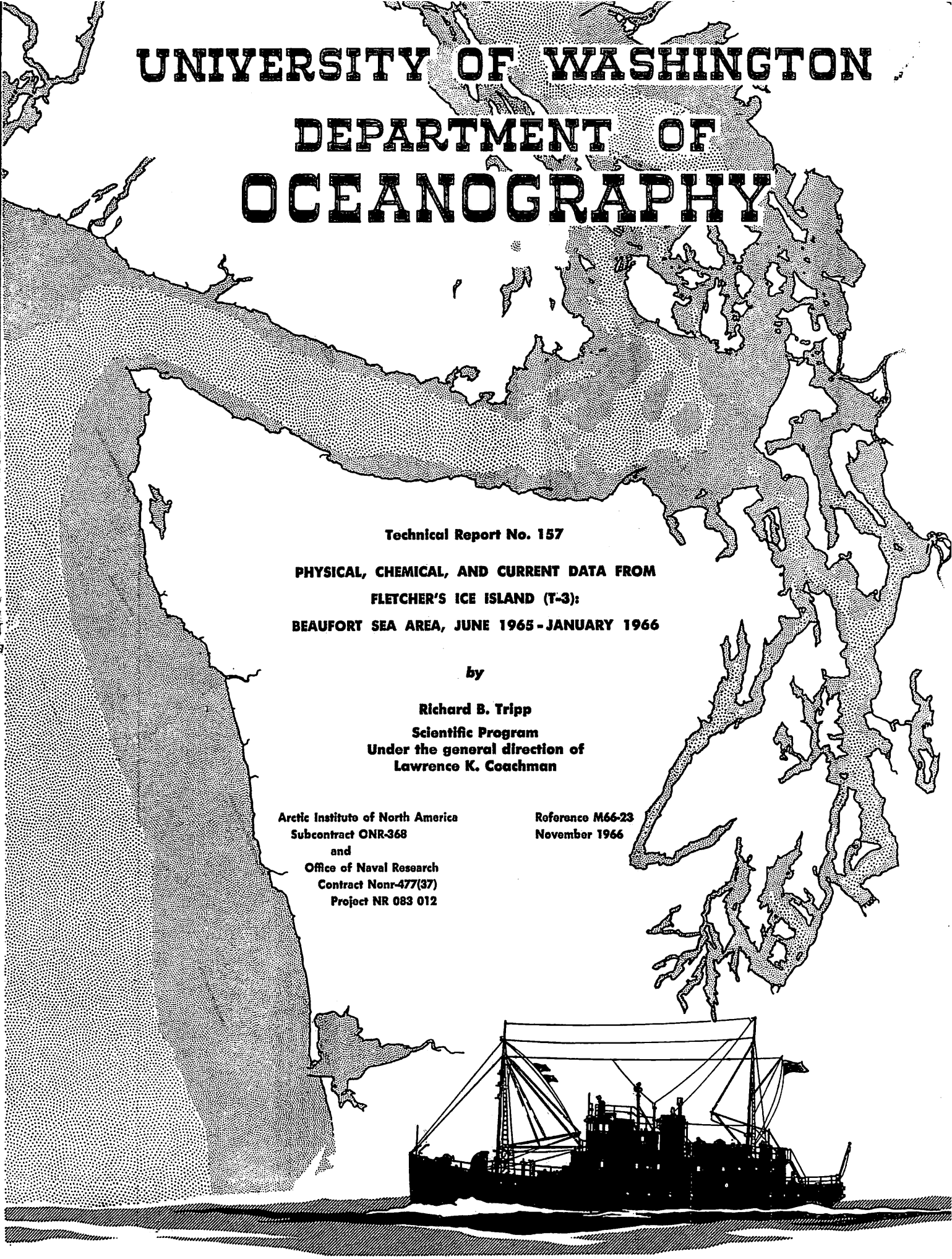

Technical Report No. 157

PHYSICAL, CHEMICAL, AND CURRENT DATA FROM FLETCHER'S ICE ISLAND (T-3): BEAUFORT SEA AREA, JUNE 1965 - JANUARY 1966

by

Richard B. Tripp
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 M66-23
November 1966

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RICHARD H. FLEMING
Chairman

LAWRENCE K. COACHMAN
Principal Investigator

ABSTRACT

This report contains tabulated physical, chemical, and current data collected during 1965 and early 1966 from Fletcher's Ice Island (T-3), located in the Beaufort Gyre of the Arctic Ocean. These data were collected as part of a year-round study of the water characteristics of the Arctic Ocean, in particular, of currents and secular change.

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INTRODUCTION

This report contains oceanographic data collected from Fletcher's Ice Island (T-3) during 1965 and early 1966 on cruises W01 (6 June - 22 September 1965), and W02 (30 September 1965 - 12 January 1966).

The objectives of this continuing study are to provide data on certain problems of Arctic oceanography, in particular with respect to currents and secular change, and also to provide a working unit for the mounting of more intensive studies. The major objectives of Cruise W01 were: to install and establish an oceanographic working area; to initiate a program of current measurements; to monitor the water column for temperature, salinity, and dissolved oxygen. Cruise W02 was a continuation of Cruise W01 with special emphasis placed on oceanography associated with the freezing process.

Operation and Types of Observations

Fletcher's Ice Island (T-3), in the Arctic Ocean, is a large island of thick ice which has presumably formed from breakup of the Ellesmere ice shelf (Koenig et al., 1952). The island measures approximately eight by four miles (Fig. 1), and is 36 to 46 meters thick. The oceanographic working area was located on the sea ice bordering the island (Fig. 1). The thickness of this sea ice was approximately three meters. Sampling was done through a 1.3 meter square hole in the ice, sheltered by an insulated plywood prefab hut approximately 4.5 x 3 x 2.4 meters. The hut housed the hydrographic winch, diesel space heater, and oceanographic sampling and measuring equipment. Electric heating cables and infra-red heating lamps were used to keep the hydro hole free of ice. However, ice is still formed at the surface and at the bottom of the hydro hole and had to be constantly removed. The surface ice could be removed with an ice chisel, but the bottom ice quite often had to be removed with the aid of explosives.

At present the island is located in the Beaufort Gyre of the Canadian Basin. Figures 2 and 4 show, respectively, the island movement during the first and second cruises. Figures 3 and 5 show, respectively, the location of oceanographic stations accomplished during cruises W01 and W02. The island's latitude and longitude were obtained by celestial navigation. Fixes were obtained daily, weather permitting. The fixes for Cruise W01 are shown in Table 1; those for Cruise W02 are shown in Table 4.

Temperature, salinity, and dissolved oxygen were determined at all oceanographic stations taken during Cruise W01. For Cruise W02, temperature and salinity were determined at all oceanographic stations; dissolved oxygen was determined at selected stations. Analysis was made at the base camp located approximately one-half mile from the hydro area (Fig. 1).

During Cruise W01, direct current measurements were obtained at many levels, to ascertain the general flow characteristics of the area. These measurements are shown in Table 2. No current measurements were taken during Cruise W02 due to instrument failure.

Collection of Data

Nansen bottles were used to obtain the water samples for salinity and dissolved oxygen analysis. For the routine monitoring of the water column (cruises W01 and W02) samples were obtained at standard oceanographic depths (U.S. Navy Hydrographic Office, 1955a). For the detailed study of the freezing processes (Cruise W02), five-meter sampling intervals were used between five and 80 meters. Due to the presence of heating lamps and cables, and the accumulation of fresh water in the hydro hole, it was considered that surface readings would be nonrepresentative and hence were not made. For the convenience in programming the computer, it was assumed that the surface temperature, salinity, and dissolved oxygen values were the same as the next sampling depth.

Determination of Properties and Accuracy of Measurements

Two protected reversing thermometers were used on each Nansen bottle. In addition, for deep casts (usually 200 meters and deeper) all the bottles carried an unprotected thermometer. The temperatures shown are, in most cases, the average of two protected thermometer readings.

The depths of subsurface observations were calculated from measured wire angles, and from smoothed curves of wire length minus thermometric depth (L-Z) versus wire length (L), the difference method described by LaFond (1951).

The salinities were titrated using the Knudsen method (Oxner, 1920). The analyses were done within four or five days after the collection of the samples.

The dissolved oxygen analyses were done by a modified Winkler method (Strickland and Parsons, 1965).

The direct measurement of the ocean currents was accomplished using a variety of meters. The mid-depth current measurements were taken with a T.S.K. Ekman-Merz current meter. This instrument is the result of successive modifications of the Ekman meter (Ekman, 1932; Dermody, 1960). 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 therefore 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.

Some current measurements were taken using a Kelvin-Hughes meter (1954). This meter is similar to a Roberts current meter (Roberts, 1952)

and 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 probably to ±10 degrees.

The bottom currents were obtained using a National Institute of Oceanography pisa jelly current indicator (Carruthers, 1958). This instrument can measure bed currents as low as 1 cm/sec, though the direction may be accurate to only ±20 degrees.

In general, the presence of a weak horizontal magnetic field in the Arctic Ocean implies that current direction data must be viewed with some skepticism. Moreover, Fletcher's Ice Island (T-3) is drifting; therefore, the current measuring platform is not stationary. The data shown in Table 2 have not been corrected for this factor and all reported current velocities are therefore relative to island movement. However, in other respects the island is an extremely stable measuring platform, and thus many of the oscillation-induced errors in the direct measurement of ocean currents (Paquette, 1963) are not present in these data.

The following quantities were computed with the IBM 7094 - 7040 Direct Couple System at the research Computer Laboratory of the University of Washington: sigma-t (σ_t), apparent oxygen utilization (AOU) and oxygen saturation for observed values; the interpolated values of temperature, salinity, and oxygen at standard oceanographic depths; the interpolation error for each of the above quantities; sigma-t for interpolated values; specific volume anomaly ($\Sigma\Delta D$), and variance ratio.

Oxygen solubility was calculated according to the equations of Truesdale and Gameson (1957). The interpolation program is based on two three-point Lagrange parabolic interpolation polynomials (Buckingham, 1957). The equations for sigma-t are taken from LaFond (1951), and the equations for specific volume anomaly and geopotential anomaly are those used by the U.S. Navy Hydrographic Office in their computer program (U.S. Navy Hydrographic Office, 1955b), except that the pressure in decibars is used instead of the depth. The equations for pressure and potential energy anomaly are taken from Froese (1960).

The variance ratio is the ratio of the variance of the interpolated polynomial to the variance of the measurement. The magnitude of this ratio gives an indication of whether the vertical spacing of observed values is adequate to accurately portray the distribution of properties in that region of the curve. As shown by Rattray (1962) the value should remain close to unity. The two quantities, variance ratio and error of interpolation, can be taken as joint indications of the accuracy of the interpolated values. A large variance ratio indicates inadequate vertical spacing of observed values; but if the vertical gradient of properties is small in this region of the curve, the error of interpolation will still be small. On the other hand, a small variance ratio may be accompanied by large errors of interpolation in regions of large vertical gradients, such as the thermocline or halocline. Large values of the various ratio which may occur at the final interpolated depth reflect a necessary change in the interpolation

scheme at that depth when there is only one observed value below the desired standard depth.

Personnel

The following persons were members of the scientific party on these cruises. All personnel were staff members or students in the Department of Oceanography.

Cruise WO1

Davies, Warwick J.
Galt, Jerry A. (Scientific Leader)
Haley, David S.

Cruise WO2

Tripp, Richard B. (Scientific Leader)

Acknowledgments

Funds for this investigation are being provided by the United States Office of Naval Research through Contract Nonr-477(37), Project NR 083 012, and by the Arctic Institute of North America, Subcontract ONR-368. In the preparation of this report, the contributions of the Data Analysis and the Publications sections and of Mr. Donald Doyle and the Cartography Section are gratefully acknowledged.

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 both the current measurements table 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 two types of data.

Headings and Abbreviations Used in the Current Measurements Table

A blank space in this table indicates that no observation was taken. An "x" adjacent to any value denoted that the accuracy of the datum is questionable. A dash (-) in the direction column denotes no direction obtained, as the speed was not measurable.

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 and has not been corrected for wire angle.
WIRE ANGLE	In degrees
SPD	Speed, in centimeters per second, rounded to the nearest centimeter per second.
DIR	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
K-H Kelvin-Hughes meter
CUR Carruthers pisa jelly meter

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. N(North).
LONG (Longitude)	In degrees and minutes and, on some stations, tenths of minutes. W(West).
SDG (Depth of Water)	Depth of water in meters as determined by a PDR (Precision Depth Recorder)
WEA (Weather)	State of weather. See code, page .
WVEL_DIR_(Wind velocity and direction)	Wind velocity in knots. Wind direction, see code, page .
VIS (Visibility)	Rang of visibility. See code, page .
BA (Barometric pressure)	In millibars and tenths of millibars. To obtain the barometric pressure, add 900 if this number is above 50; add 1000 if below 50.
CL__AMT__(Cloud type and cloud cover)	Cloud type, see code, page . Cloud cover in eights (oktas), see code, page .
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 per cent.
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)	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 sea water at atmospheric pressure, having 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 (Apparent utilization)	In milligram-atoms per liter to thousandths
SATN (Saturation)	Per cent of oxygen saturation
SP VOL ANOMALY (Specific volume anomaly, $10^5\delta$)	The anomaly of specific volume at the indicated temperature, salinity, and pressure compared to a standard water of 0°C temperature 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, $\Sigma\Delta D$)	Geopotential anomaly in dynamic meters of the layer of water between the surface and the indicated depth.
POT ENERGY (Potential energy anomaly)	Potential energy anomaly in units of 10^8 ergs per square centimeter 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 (Variance ratio)	The 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 which 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) (Temperature interpolation error)	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) (Salinity interpolation error)	Interpolation error, in parts per thousand, of the salinity value at this depth. See comments under E(T) above.
E(O) (Oxygen interpolation error)	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 Key-punching (1964).

Cloud Type

Code	WMO Code 0500
0	Cirrus
1	Cirrocumulus
2	Cirrostratus
3	Altocumulus
4	Altostratus
5	Nimbostratus
6	Stratocumulus
7	Stratus
8	Cumulus
9	Cumulonimbus
X	Cloud not visible owing to darkness, fog, dust-storm, sandstorm, or other analogous phenomena

Amount of Cloud Cover

Code	WMO Code 2700	
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	8/10 or more, but not 10/10
8	8 oktas	10/10
9	Sky obscured, or cloud amount cannot be estimated	

Visibility

Code	WMO Code 4300	
0	Less than 50 metres	(less than 55 yards)
1	50-200 metres	(approx. 55-220 yards)
2	200-500 metres	(approx. 220-550 yards)
3	500-1000 metres	(approx. 550 yards-5/8 n.m.)
4	1-2 km	(approx. 5/8 n.m.-1 n.m.)
5	2-4 km	(approx. 1-2 n.m.)
6	4-10 km	(approx. 2-6 n.m.)
7	10-20 km	(approx. 6-12 n.m.)
8	20-50 km	(approx. 12-30 n.m.)
9	50 km or more	(30 n.m. 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 during 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

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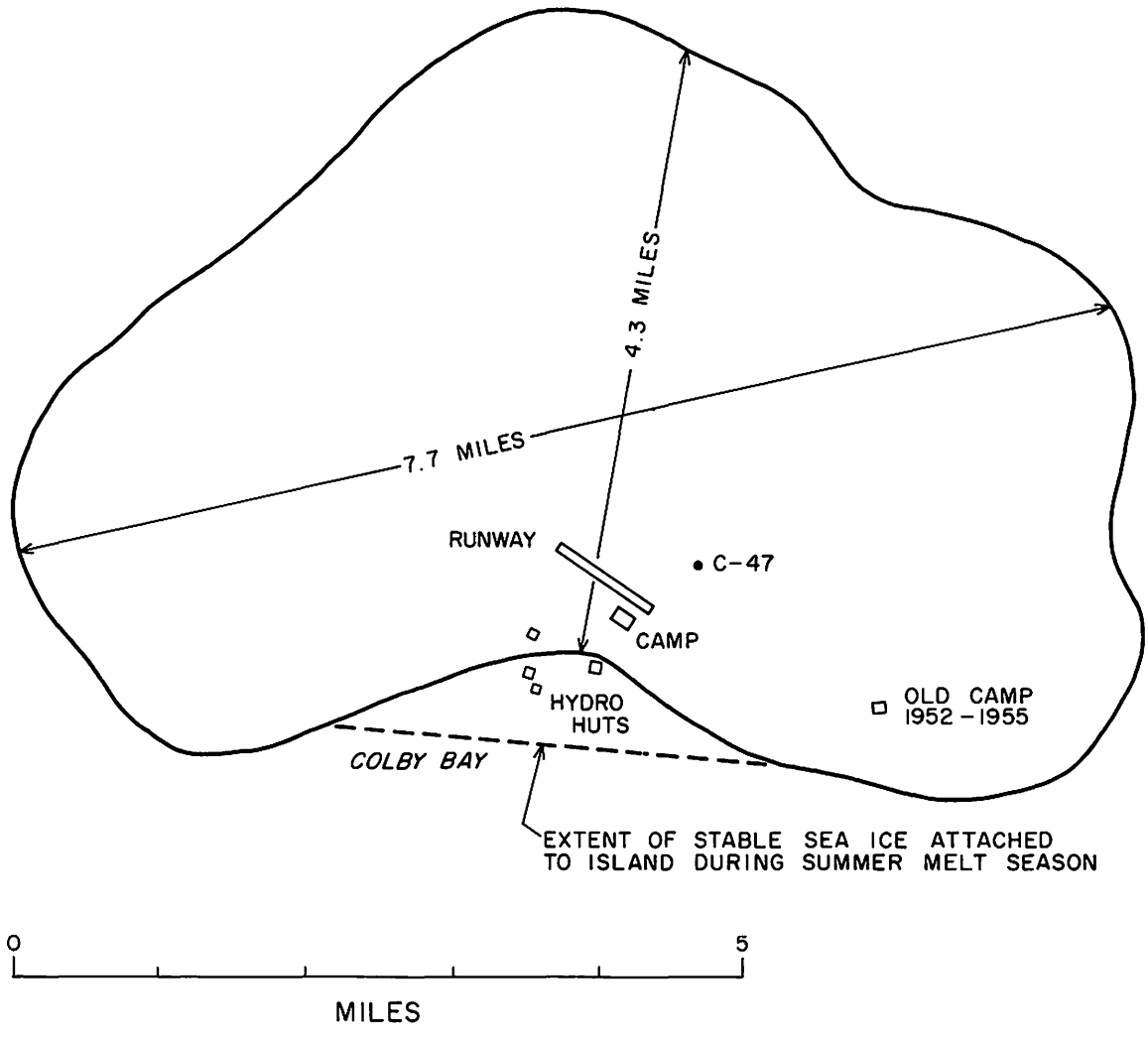

Fig. 1. Map of Fletcher's Ice Island (T-3)

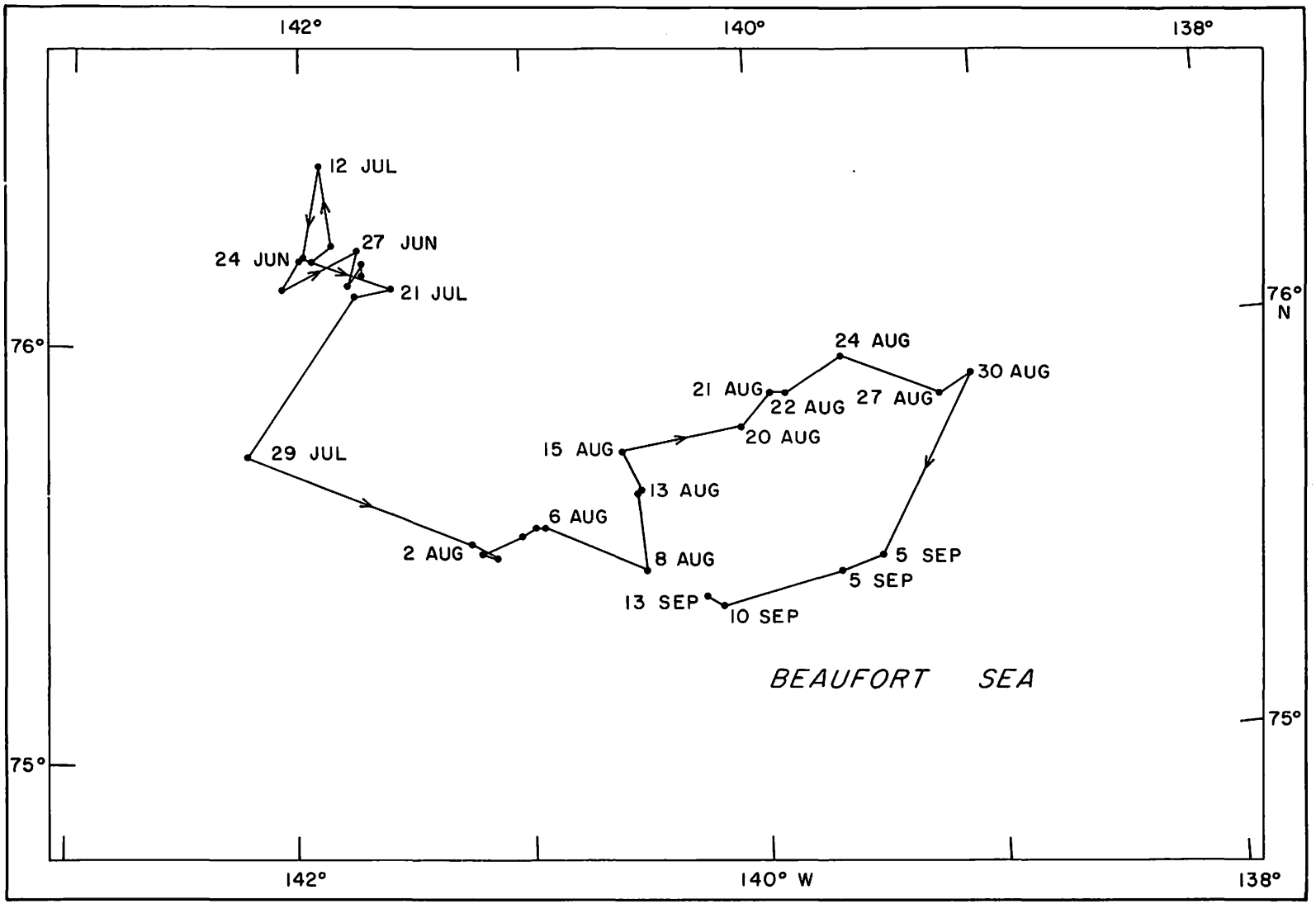

Fig. 2. Chart of a portion of the Beaufort Sea showing the track of Fletcher's Ice Island (T-3) during Cruise W01, 6 June - 22 September 1965.

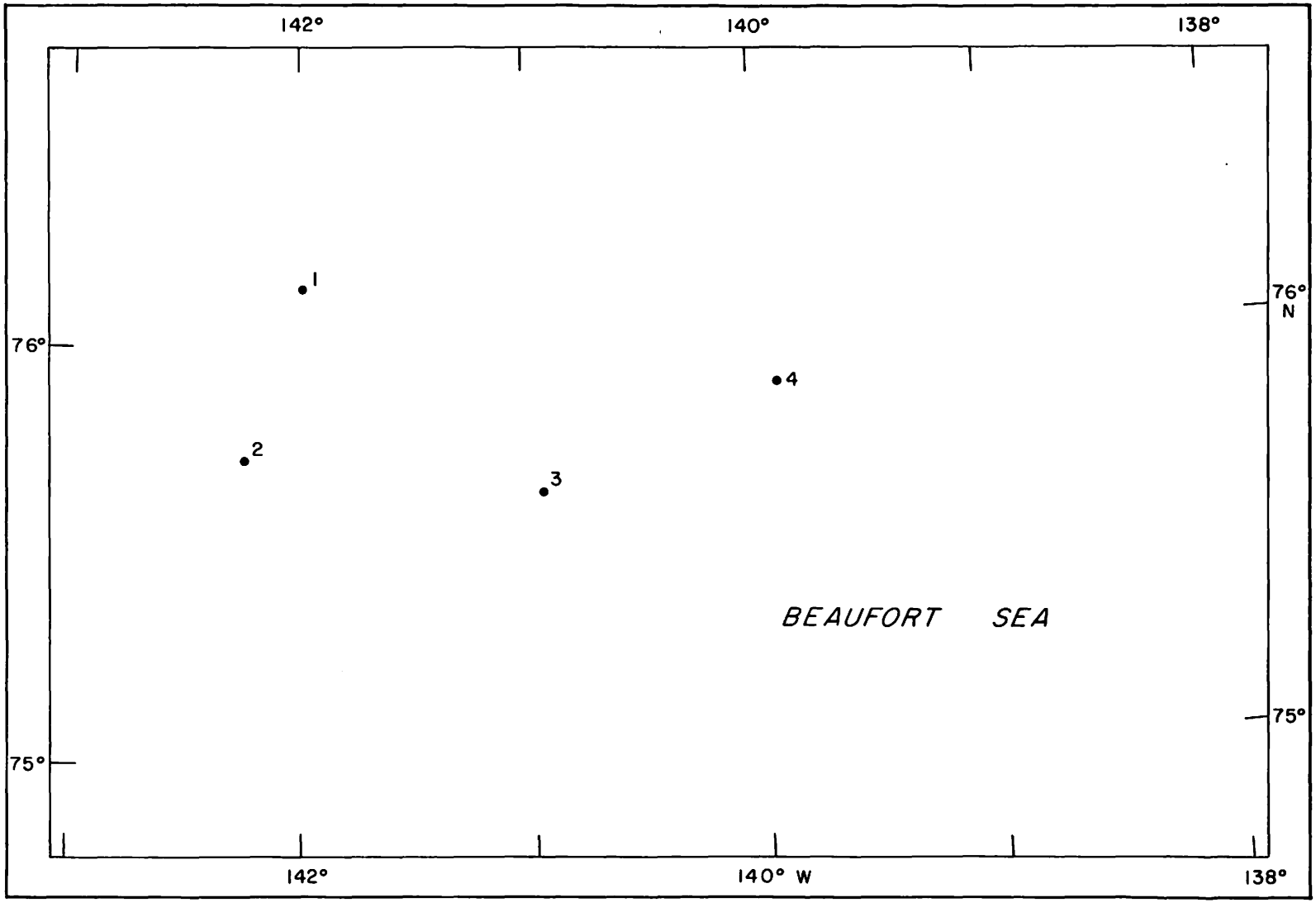

Fig. 3. Location of oceanographic stations accomplished during Cruise W01.

TABLE 1

NAVIGATIONAL POSITIONS, FLETCHER'S ICE ISLAND (T-3), CRUISE W01,
6 JUNE - 22 SEPTEMBER 1965

Date	Time (GMT)	Latitude (N)	Longitude (W)
June			
24	2315	76°11.2'	142°00'
26	0845	76°07.5'	142°03'
27	0500	76°12.4'	141°45'
28	0745	76°07.8'	141°48'
28	2200	76°10.8'	141°44'
30	0021	76°09.4'	141°44'
July			
6	2044	76°11'	141°56'
10	2000	76°13.2'	141°51'
12	2115	76°24.3'	141°55'
14	0839	76°11.4'	141°59'
21	0545	76°07'	141°38'
23	2000	76°06'	141°46'
29	2030	75°43.9'	142°14'
August			
2	2100	75°31'	141°15'
4	0018	75°28.8'	141°09'
4	2145	75°29.4'	141°12'
5	2045	75°32.5'	141°03'
6	2200	75°33.8'	140°58'
6	2236	75°33.8'	140°54'
8	2135	75°27.8'	140°30'
9	1900	75°27.8'	140°30'
13	2056	75°38'	140°33'
15	0130	75°38.2'	140°32'
17	0300	75°44.8'	140°38'
20	0038	75°48.1'	140°05'
21	2007	75°53.1'	139°57'
22	2058	75°53'	139°52'
24	2051	75°57'	139°38'
27	1950	75°50.4'	139°13'
30	2007	75°53.5'	139°04'
September			
5	0100	75°27.8'	139°31'
5	2100	75°25.4'	139°40'
10	0715	75°21.5'	140°12'
13	0500	75°22.2'	140°15'

TABLE 2

CURRENT MEASUREMENTS TAKEN 1 AUGUST - 5 SEPTEMBER 1965 DURING CRUISE WO1

Date	Time	Uncorrected depth	Wire angle	SPD	DIR	MT
1-viii-65	1752	50	1	13	344	TSK
	1740	75	1	25	325	TSK
	1700	100	5	37	326	TSK
	1633	150	12	58	346	TSK
	0854	200	14	34	360	TSK
	1129	200	9	28	355	TSK
	1335	200	13	34	344	TSK
	1606	200	15	48	352	TSK
	1816	200	0	51	345	TSK
	2134	200	10	41	333	TSK
	1531	300	15	12	320	TSK
	1204	500	9	3	354	TSK
	1254	700	7	8	343	TSK
	1435	1000	8	7	330	TSK
	1920	1500	15	10	343	TSK
	1016	2000	4	0	-	TSK
2-viii-65	1432	10	0	0	-	K-H
	1714	10	0	0	-	K-H
	1433	20	0	0	-	K-H
	1710	20	0	10		K-H
	1725	20	0	13	083	TSK
	1712	25	0	8		K-H
	1713	30	0	0	-	K-H
	1435	50	0	0	-	K-H
	1708	50	1	0	-	K-H
	1437	70	0	12	014 x	K-H
	1704	70	2	19		K-H
	1440	90	4	31	014 x	K-H
	1700	90	10	34	354 x	K-H
	1827	100	2	30	272	TSK
	1442	110	6	30	007 x	K-H
	1656	110	10	38	352 x	K-H
	1443	130	10	34	358 x	K-H
	1653	130	10	42	339 x	K-H
	1052	150	5	34	262	TSK
	1445	150	10	35	335 x	K-H
	1648	150	10	38	333 x	K-H
	1950	150	6	34	256	TSK
	1400	200	10	37	252	TSK
	1802	200	9	35	246	TSK
	1742	300	11	0	-	TSK
	1329	500	11	4	268	TSK
	1857	500	8	0	-	TSK
	1213	2000	4	5	279	TSK

TABLE 2 (Continued)

Date	Time	Uncorrected depth	Wire angle	SPD	DIR	MT
3-viii-65	0824	50	0	0	-	TSK
	0843	75	3	10	224	TSK
	0901	100	4	20	236	TSK
	1639	100	2	28	224	TSK
	0931	150	4	30		TSK
	1314	150	4	32		TSK
	1531	150	5	35	242	TSK
	1701	150	7	37	244	TSK
	1914	150	6	42	234	TSK
	1936	150	7	42	236	TSK
	1551	200	7	33	254	TSK
	1503	225	7	13	265	TSK
	1615	225	8	13	263	TSK
	1403	250	7	0	-	TSK
4-viii-65	1156	75		12	237	TSK
	1051	100	1	24	242	TSK
	0142	150	10	50	354 x	TSK
	0342	150	10	49		TSK
	0537	150	6	48		TSK
	1029	150	7	45	244	TSK
	1220	150		44	236	TSK
	1453	150		46	234	TSK
	1713	150		45	235	TSK
	1908	150		42	236	TSK
	2205	150		38		TSK
	1113	200		34	244	TSK
	1138	225		15	254	TSK
	1624	500		0	-	TSK
	1339	1500		4	234	TSK
5-viii-65	0949	75	1	22	197	TSK
	1010	100	2	38	194	TSK
	0600	150		51	196	TSK
	0925	150	10	54	186	TSK
	1151	150	9	53	184	TSK
	1420	150	8	52	188	TSK
	1659	150	9	52	184	TSK
	1943	150	9	50	182	TSK
	2252	150	8	49	180	TSK
	0144	200		33	204	TSK
	1100	200	12	46	184	TSK
	1127	250	12	13	195	TSK
	1312	2000	5	6	210	TSK

TABLE 2 (Continued)

Date	Time	Uncorrected depth	Wire angle	SPD	DIR	MT
6-viii-65	1322	100	1	20	144	TSK
	0218	150	10	46	167	TSK
	0534	150	8	46	164	TSK
	1020	150	6	34	164	TSK
	1205	150	5	31	154	TSK
	1259	150	4	30	152	TSK
	1407	150	3	26	153	TSK
	1634	150	3	24	163	TSK
	1904	150	2	22	164	TSK
	2151	150	2	16	161	TSK
	1342	200	4	18	162	TSK
7-viii-65	1442	100	1	13	224	TSK
	0215	150	2	18	162	TSK
	0438	150	2	18	163	TSK
	0933	150	1	16	142	TSK
	1130	150	1	19	176	TSK
	1424	150	2	24	207	TSK
	1525	150	2	26	220	TSK
	1727	150	3	17	244	TSK
	1750	150	2	15	252	TSK
	1501	200	3	16	236	TSK
8-viii-65	2141	150	1	7	274	TSK
	2241	500	2	2	297	TSK
	1147	2000	4	10	292	TSK
	2325	2000	2	6	305	TSK
	1748	3200	3	9	294	TSK
9-viii-65	1800	500	1	4	274	TSK
	0057	1001	3	5	286	TSK
	0434	1500	1	4	287	TSK
	0623	2000	2	4	294	TSK
	1032	2000	2	3	034	TSK
	2016	2000	1	0	-	TSK
	0817	2500	2	4	311	TSK
	2241	3000	1	1		TSK

TABLE 2 (Continued)

Date	Time	Uncorrected depth	Wire angle	SPD	DIR	MT
13-vii-65	0000	3650		3	235	CUR
	2300	3700		5	205	CUR
16-viii-65	0705	3795		3	239	CUR
25-viii-65	1252	500	1	7	316	TSK
	1540	500	3	12	283	TSK
	1806	500	2	11	295	TSK
	1649	2000	5	10	291	TSK
28-viii-65	1714	500	2	9	244	TSK
	1956	500	1	5	226	TSK
	2226	500	3	12	164	TSK
	1832	2000	2	6	252	TSK
	2104	2000	3	7	204	TSK
5-ix-65	0241	500	2	10	073	TSK
	0551	500	x			
	0910	500	0	5	004	TSK
	1305	500	2	9	054	TSK
	1635	500	4	6	077	TSK
	0330	1000	2	6	094	TSK
	0645	1000	1	2	054	TSK
	1010	1000	1	6	014	TSK
	1410	1000	3	9	066	TSK
	1728	1000	2	4	112	TSK
	0758	1500	1	4	004	TSK
	1146	1500	2	8	044	TSK
	1525	1500	3	8	075	TSK
	1845	1500	2	2	014	TSK

T3 CRUISE W01 STATION 001 OBSERVED VALUES

DATE 21/07/65 BAROMETER 10.0 WEATHER WIND VELOC 10 WAVE PERIOD
HOUR 05.8 TEMP DRY 01.1 VISIBILITY 4 WIND DIREC 19 SECCHI
LAT 76-07.6N TEMP WET 01.0 CLOUD TYPE WAVE DIREC WATER COLOR
LONG 141-59.0W REL HUMID 98 CLOUD AMT WAVE HEIGHT SOUNDING 3690
MESSENGER TIMES: 05.8, 21.6
WIRE ANGLES:

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	4	-1.42	23.310	18.73	8.98	0.802	-0.009	101
1	10	-1.55	30.170	24.28	9.05	0.808	-0.050	107
1	20	-1.57	30.170	24.28	8.98	0.802	-0.043	106
1	30	-1.58	30.230	24.33	8.99	0.803	-0.044	106
1	49	-1.59	30.300	24.39	9.06	0.809	-0.051	107
1	74	-1.09	31.420	25.28	8.47	0.756	-0.015	102
1	98	-1.22	32.050	25.79	7.29	0.651	0.090	88
1	147	-1.43	32.720	26.34	6.42	0.573	0.168	77
1	196	-1.47	33.300	26.81	6.26	0.559	0.180	76
2	294	-0.24	34.520	27.75	6.20	0.554	0.154	78
2	392	0.38	34.780	27.93	6.30	0.563	0.132	81
2	588	0.47	34.830	27.96	6.68	0.597	0.097	86
2	784	0.18	34.830	27.98	6.79	0.606	0.092	87
2	980	-0.01	34.870	28.02	6.68	0.597	0.105	85
2	1180	-0.17	34.900	28.05	6.76	0.604	0.101	86
2	1480	-0.28	34.920	28.08	6.67	0.596	0.111	84
2	1780	-0.36	34.900	28.06	6.60	0.589	0.119	83
2	2480	-0.41	34.970	28.12	6.47	0.578	0.131	81

T3 CRUISE W01 STATION 001 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	F(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.42	0.00	23.310	0.000	18.73	896.9	0.000	0.00	8.98	0.00	
10	-1.55	0.00	30.170	0.000	24.28	365.2	0.064	0.02	9.05	0.00	
20	-1.57	0.00	30.170	0.000	24.28	365.0	0.101	0.08	8.98	0.00	
30	-1.58	0.00	30.230	0.000	24.33	360.3	0.137	0.17	8.99	0.00	
50	-1.57	0.01	30.338	0.011	24.42	351.7	0.209	0.46	9.05	0.00	0.95
75	-1.09	0.00	31.453	0.002	25.31	266.8	0.287	0.95	8.42	0.01	0.94
100	-1.23	0.00	32.086	0.005	25.82	217.6	0.348	1.49	7.23	0.01	0.98
150	-1.44	0.00	32.757	0.001	26.37	165.3	0.444	2.69	6.40	0.01	0.92
200	-1.43	0.02	33.358	0.007	26.86	118.9	0.516	3.95	6.25	0.00	0.98
250	-0.86	0.10	34.027	0.043	27.38	69.7	0.564	5.02	6.20	0.01	0.78
300	-0.19	0.00	34.553	0.007	27.78	32.8	0.589	5.73	6.20	0.00	0.92
400	0.40	0.01	34.786	0.003	27.93	18.7	0.615	6.62	6.32	0.00	0.98
500	0.55	0.05	34.805#		27.94	18.4	0.634	7.49	6.51	0.02	0.78
600	0.46	0.00	34.831	0.001	27.96	15.9	0.651	8.46	6.69	0.00	0.98
700	0.32	0.02	34.832	0.005	27.97	14.9	0.667	9.50	6.77	0.00	0.82
800	0.16	0.00	34.833	0.001	27.98	13.7	0.682	10.61	6.78	0.01	0.89
1000	-0.03	0.00	34.874	0.000	28.03	9.2	0.705	12.72	6.69	0.00	0.87
1200	-0.18	0.00	34.902	0.000	28.06	5.8	0.720	14.41	6.76	0.00	0.94
1500	-0.29	0.00	34.919	0.001	28.08	3.5	0.734	16.32	6.66	0.00	0.92
2000	-0.40	0.00	34.888	0.005	28.06	4.3	0.754	19.93	6.56	0.00	15.38

T3 CRUISE W01 STATION 002 OBSERVED VALUES

DATE 30/07/65 BAROMETER 10.0 WEATHER WIND VELOC 10 WAVE PERIOD
HOUR 20.7 TEMP DRY 00.2 VISIBILITY WIND DIREC 30 SECCHI
LAT 75-43.9N TEMP WET 00.1 CLOUD TYPE WAVE DIREC WATER COLOR
LONG 142-14.0W REL HUMID 98 CLOUD AMT WAVE HEIGHT SOUNDING 3690
MESSENGER TIMES: 20.7
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	250	-1.04	33.950	27.32	6.13	0.547	0.180	75
1	350	0.10	34.670	27.86	6.28	0.561	0.140	80
1	450	0.44	34.830	27.96	6.64	0.593	0.101	85
1	500	0.53	34.850	27.98	6.64	0.593	0.099	86
1	550	0.51	34.870	27.99	6.68	0.597	0.096	86
1	650	0.39	34.900	28.02	6.81	0.608	0.086	88
1	700	0.31	34.920	28.04	6.86	0.613	0.083	88
1	750	0.28	34.920	28.05	6.88	0.614	0.082	88
1	900	0.09	34.920	28.06	6.93	0.619	0.081	88

T3 CRUISE W01 STATION 003 OBSERVED VALUES

DATE 06/08/65 BAROMETER 10.0 WEATHER WIND VELOC WAVE PERIOD
HOUR 21.6 TEMP DRY VISIBILITY WIND DIREC SECCHI
LAT 75-38.8N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 140-57.0W REL HUMID CLOUD AMT WAVE HEIGHT SOUNDING 3670
MESSENGER TIMES: 21.6
WIRE ANGLES: 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	75	-1.12	31.690	25.50	8.06	0.720	0.021	97
1	100	-1.23	32.230	25.94	7.12	0.636	0.104	86
1	125	-1.34	32.430	26.10	7.09	0.633	0.108	85
1	150	-1.37	32.660	26.29	6.67	0.596	0.145	80
1	175	-1.42	32.860	26.45	6.51	0.581	0.159	78
1	200	-1.44	33.120	26.66	6.39	0.571	0.169	77
1	225	-1.38	33.440	26.92	6.30	0.563	0.174	76
1	250	-1.07	33.950	27.33	6.09	0.544	0.184	75
1	300	-0.25	34.520	27.75	6.19	0.553	0.156	78

T3 CRUISE W01 STATION 004 OBSERVED VALUES

DATE 22/08/65 BAROMETER 10.0 WEATHER WIND VELOC WAVE PERIOD
HOUR 23.0 TEMP DRY VISIBILITY WIND DIREC SECCHI
LAT 76-06.0N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 141-46.0W REL HUMID 98 CLOUD AMT WAVE HEIGHT SOUNDING 3680
MESSENGER TIMES: 23.0, 01.0, 02.7
WIRE ANGLES: 05, 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
3	3	-1.30			9.58	0.856		
3	10	-1.35	29.670	23.87	9.06	0.809	-0.052	107
3	20	-1.42	29.870	24.03	9.10	0.813	-0.056	107
3	30	-1.46	30.030	24.16	9.07	0.810	-0.053	107
3	50	-1.54	30.390	24.46	9.15	0.817	-0.060	108
3	75	-1.11	31.350	25.22	8.36	0.747	-0.004	101
3	100	-1.24	32.090	25.83	7.10	0.634	0.107	86
3	150	-1.40	32.740	26.36	6.52	0.582	0.159	79
2	198	-1.48	33.240	26.76	6.35	0.567	0.173	77
2	248	-0.91	34.110	27.45	5.97	0.533	0.190	74
2	297	-0.22	34.560	27.78	6.12	0.547	0.161	77
2	396	0.36	34.790	27.94	6.40	0.572	0.124	82
2	495	0.51	34.870	27.99	6.63	0.592	0.100	86
2	594	0.45	34.880	28.00	6.72	0.600	0.093	87
2	693	0.29	34.870	28.01	6.65	0.594	0.102	85
2	792	0.18	34.880	28.02	6.74	0.602	0.096	86
2	891	0.08	34.880	28.03	6.75	0.603	0.097	86
1	990	-0.08	34.880	28.03	6.87	0.614	0.090	87
1	1090	-0.08	34.900	28.05	6.80	0.607	0.096	86
1	1288	-0.22	34.880	28.04	6.83	0.610	0.096	86
1	1486	-0.27	34.940	28.09	6.80	0.607	0.099	86
1	1682	-0.33	34.960	28.11	6.66	0.595	0.113	84
1	1980	-0.39	34.960	28.11	6.65	0.594	0.115	84
1	2475	-0.40	34.960	28.11	6.53	0.583	0.126	82
1	2970	-0.34	34.960	28.11	6.51	0.581	0.126	82
1	3450	-0.23	34.970	28.11	6.46	0.577	0.129	82

T3 CRUISE W01 STATION 004 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	-1.30	0.00	29.670#		23.87	404.2	0.000	0.00	9.58	0.00	
10	-1.35	0.00	29.670	0.000	23.87	404.0	0.041	0.02	9.06	0.00	
20	-1.42	0.00	29.870	0.000	24.03	388.4	0.081	0.08	9.10	0.00	
30	-1.46	0.00	30.030	0.000	24.16	375.9	0.120	0.18	9.07	0.00	
50	-1.54	0.00	30.390	0.000	24.46	347.8	0.193	0.48	9.15	0.00	
75	-1.11	0.00	31.350	0.000	25.22	274.6	0.271	0.97	8.36	0.00	
100	-1.24	0.00	32.090	0.000	25.83	217.3	0.333	1.52	7.10	0.00	
150	-1.40	0.00	32.740	0.000	26.36	166.6	0.430	2.73	6.52	0.00	
200	-1.46	0.00	33.275	0.005	26.79	125.1	0.503	4.02	6.33	0.00	0.94
250	-0.88	0.00	34.134	0.001	27.47	61.4	0.550	5.07	5.97	0.00	0.95
300	-0.19	0.00	34.575	0.004	27.79	31.2	0.573	5.71	6.13	0.00	0.99
400	0.37	0.00	34.795	0.001	27.94	17.8	0.598	6.56	6.41	0.00	0.94
500	0.51	0.00	34.872	0.000	27.99	13.1	0.614	7.27	6.64	0.00	0.93
600	0.44	0.00	34.879	0.000	28.00	12.1	0.627	7.99	6.72	0.00	0.92
700	0.28	0.00	34.871	0.000	28.01	11.7	0.639	8.79	6.66	0.00	0.90
800	0.17	0.00	34.880	0.000	28.02	10.2	0.650	9.64	6.74	0.00	0.89
1000	-0.08	0.00	34.882	0.001	28.04	8.2	0.668	11.35	6.87	0.00	0.88
1200	-0.15	0.01	34.889	0.007	28.04	7.1	0.684	13.09	6.81	0.01	0.78
1500	-0.27	0.00	34.942	0.000	28.09	1.9	0.697	14.85	6.79	0.00	0.91
2000	-0.39	0.00	34.960	0.000	28.11	-1.0	0.700	15.07	6.65	0.00	0.97
2500	-0.40	0.00	34.960	0.000	28.11	-1.5	0.693	13.56	6.53	0.00	0.93
3000	-0.33	0.00	34.960	0.000	28.11	-1.3	0.686	11.54	6.51	0.00	5.19

SALINITY AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

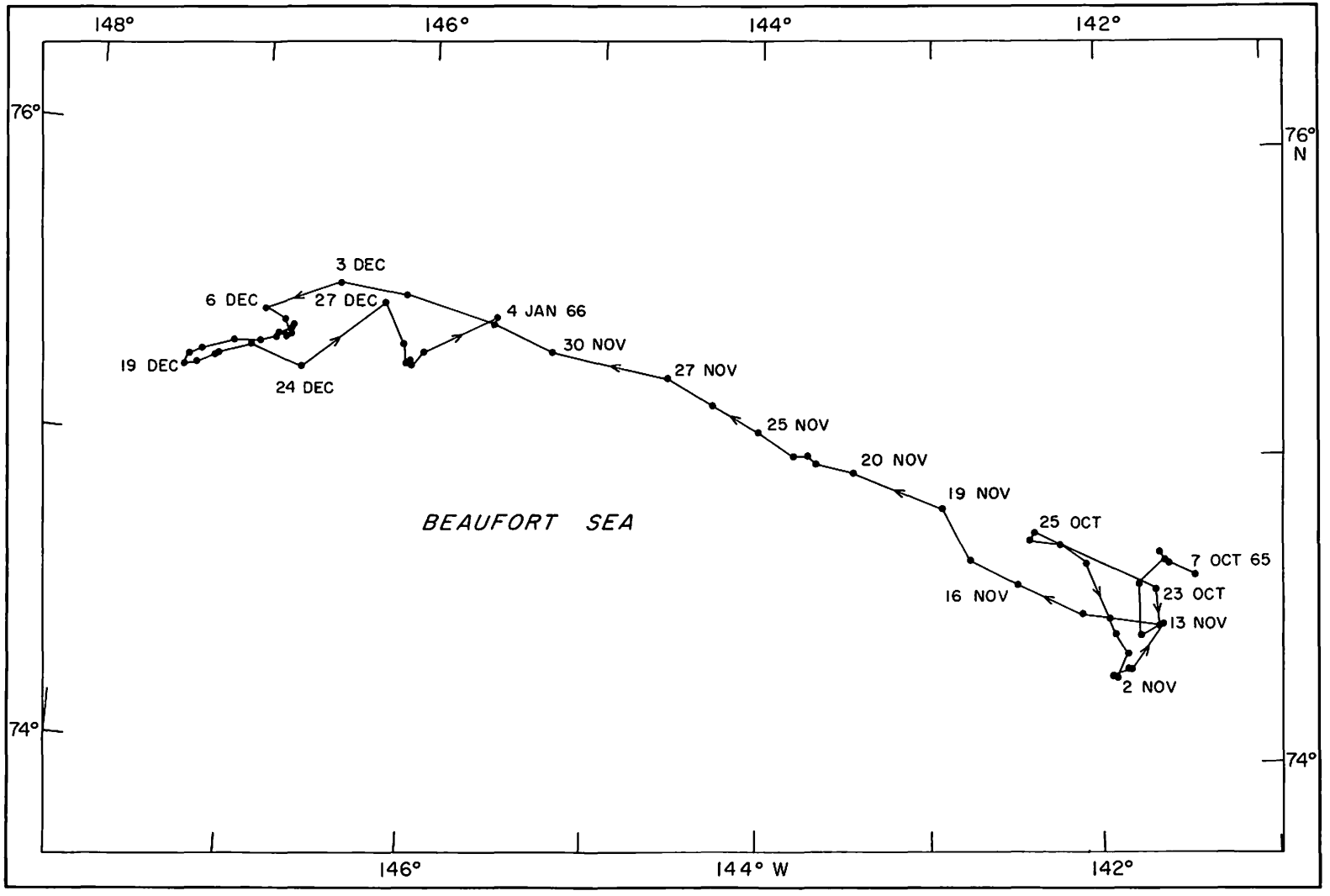

Fig. 4. Chart of a portion of the Beaufort Sea showing the track of Fletcher's Ice Island (T-3) during Cruise W02, 30 September 1965 - 12 January 1966.

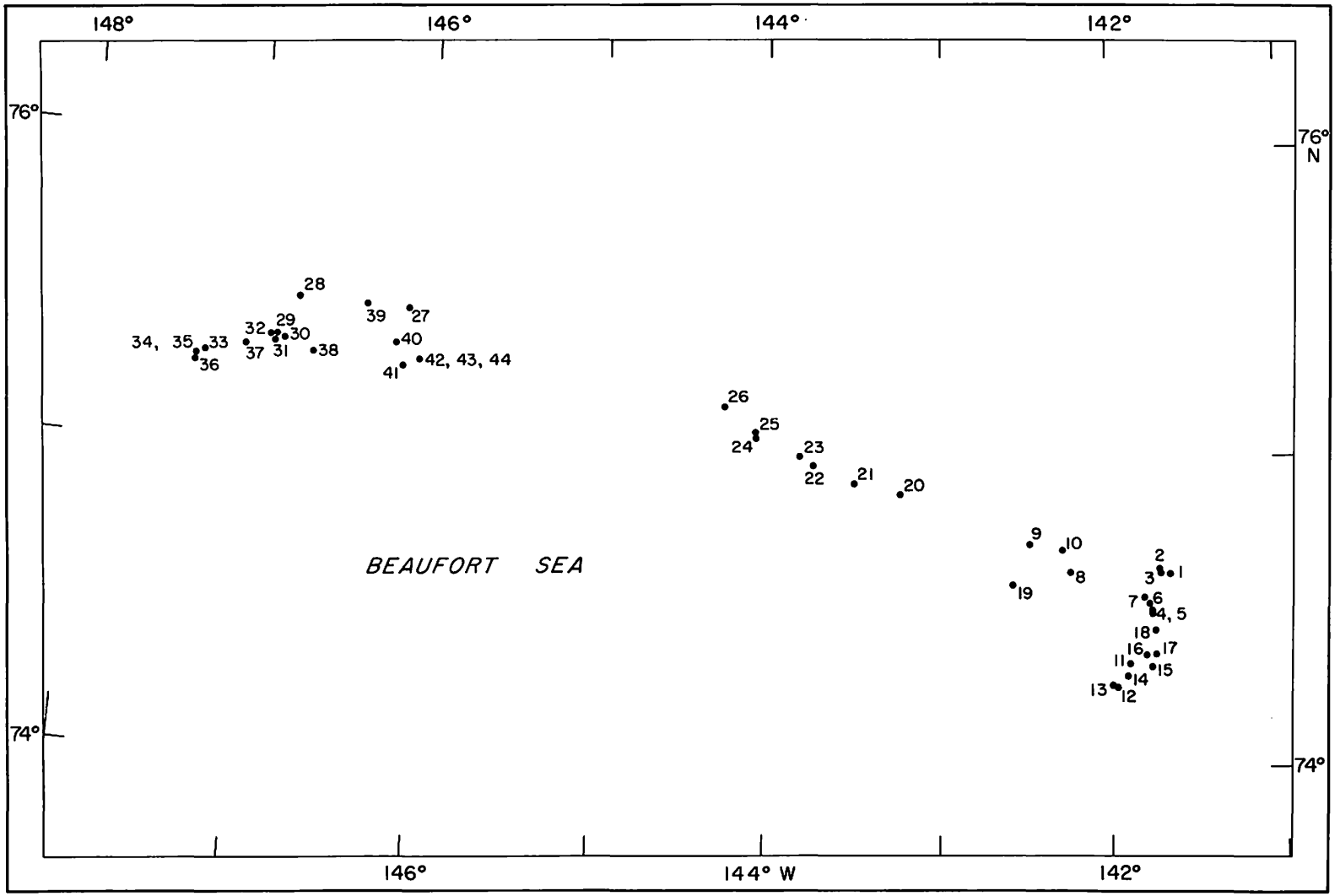

Fig. 5. Location of oceanographic stations accomplished during Cruise W02.

TABLE 4

NAVIGATIONAL POSITIONS, FLETCHER'S ICE ISLAND (T-3), CRUISE WO2,
30 SEPTEMBER 1965 - 12 JANUARY 1966

Date	Time (GMT)	Latitude (N)	Longitude (W)	Azimuth (°)
October				
7	0603	74°37'	141°27'	249.7
9	0929	74°39'	141°37'	250.4
13	1017	74°41.7'	141°41'	254.8
15	0729	74°39.2'	141°38'	256.5
16	0628	74°35.1'	141°49'	257.6
18	0515	74°25.1'	141°49'	261.2
19	0810	74°26.3'	141°42'	261.4
23	0547	74°34.3'	141°43'	263.6
25	0503	74°45.2'	142°25'	264.5
26	0604	74°43.9'	142°27'	264.7
27	0639	74°42.7'	142°16'	265.3
28	0308	74°39'	142°07'	266.7
31	0610	74°24.2'	141°54'	272.0
November				
1	0242	74°21.3'	141°52'	273.0
2	0939	74°17.1'	141°55'	266.6
3	1208	74°17.7'	141°56'	273.9
4	0529	74°19'	141°52'	275.2
5	0231	74°19'	141°51.5'	275.7
13	0841	74°27.7'	141°42'	273.4
14	0518	74°28.3'	141°58'	275.6
15	0230	74°29.6'	142°09'	276.3
16	0319	74°34.9'	142°32'	279.5
17	0618	74°40.1'	142°47'	283.0
19	0150	74°50.2'	142°57'	284.6
20	0927	74°56.9'	143°27'	287.3
22	0255	74°58.9'	143°42'	284.0
23	0259	75°01.8'	143°47'	285.0
24	0507	75°01.8'	143°50'	286.8
25	0203	75°04.4'	144°01'	288.9
26	0434	75°09.9'	144°18'	289.6
27	0145	75°12.1'	144°38'	289.0
30	0143	75°19.5'	145°18'	288.3

TABLE 4 (Continued)

Date	Time (GMT)	Latitude (N)	Longitude (W)	Azimuth (°)
December				
1	0037	75°24.1'	145°43'	289.3
2	0207	75°28.2'	146°10'	289.5
3	0730	75°30.5'	146°30'	289.2
6	0131	75°24.5'	146°55'	292.8
7	0147	75°22.5'	146°51'	293.2
8	0552	75°20'	146°47'	293.8
9	0208	75°21'	146°48'	294.2
10	0259	75°20'	146°53'	294.5
11	0022	75°19.8'	146°50'	294.0
13	0209	75°21.7'	146°48'	294.6
14	0532	75°19.2'	146°53'	295.6
15	0347	75°18.4'	146°57'	297.6
16	0342	75°18'	147°11'	300.1
17	0658	75°15.8'	147°18'	301.5
18	0340	75°13.7'	147°22'	302.0
19	0704	75°12.7'	147°23'	302.5
20	0432	75°13.1'	147°18'	303.8
21	0344	75°14.8'	147°13'	305.2
22	0212	75°15.8'	147°12'	305.5
23	0229	75°17.1'	147°00'	305.7
24	0611	75°13.5'	146°45'	305.7
27	0245	75°27.3'	146.16'	306.2
29	0235	75°19'	146°08'	306.2
30	0825	75°15.4'	146°07'	306.5
31	0251	75°15.8'	146°06'	307.3
January				
1	0341	75°15.6'	146°04'	307.7
2	0858	75°17.9'	146°00'	308.6
4	0256	75°25.9'	145°37'	307.4

T3 CRUISE W02 STATION 001 OBSERVED VALUES

DATE 09/10/65	BAROMETER 05.2	WEATHER 44	WIND VELOC 07	WAVE PERIOD	
HOUR 00.1	TEMP DRY -13.1	VISIBILITY 7	WIND DIREC 26	SECCHI	
LAT 74-32.0N	TEMP WET -13.1	CLOUD TYPE 3	WAVE DIREC	WATER COLOR	
LONG 141-37.0W	REL HUMID 99	CLOUD AMT 2	WAVE HEIGHT	SOUNDING 3300	

MESSENGER TIMES: 00.1, 01.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.50	29.790	23.97	9.67	0.864	-0.104	114
1	10	-1.58	29.970	24.12	9.68	0.865	-0.105	114
1	15	-1.62	29.810	23.99	9.52	0.850	-0.089	112
1	20	-1.62	29.780	23.96	9.54	0.852	-0.090	112
1	25	-1.58	29.720	23.92	9.54	0.852	-0.091	112
1	30	-1.57	29.670	23.88	9.56	0.854	-0.092	112
1	35	-1.54	29.700	23.90	9.58	0.856	-0.095	112
1	40	-1.62	29.780	23.96	9.59	0.857	-0.095	112
1	45	-1.50	30.280	24.37	9.67	0.864	-0.107	114
2	45	-1.50	30.300	24.38	9.41	0.840	-0.084	111
2	50	-1.48	30.340	24.42	9.66	0.863	-0.107	114
2	60	-1.38	30.500	24.54	9.63	0.860	-0.107	114
2	65	-1.20	30.930	24.89	9.50	0.848	-0.102	114
2	70	-1.15	31.090	25.02	3.18	0.284	0.461	38
2	75	-1.02	31.490	25.34	8.79	0.785	-0.045	106
2	80	-1.12	31.620	25.44	8.69	0.776	-0.035	105

T3 CRUISE W02 STATION 001 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	-1.50	0.00	29.790	0.000	23.97	394.7	0.000	0.00	9.67	0.00	
10	-1.58	0.00	29.970	0.000	24.12	380.6	0.040	0.02	9.68	0.00	
20	-1.62	0.00	29.780	0.000	23.96	395.1	0.079	0.08	9.54	0.00	
30	-1.57	0.00	29.670	0.000	23.88	403.5	0.119	0.18	9.56	0.00	
50	-1.48	0.00	30.340	0.000	24.42	351.7	0.195	0.49	9.66	0.00	
75	-1.02	0.00	31.490	0.000	25.34	264.1	0.272	0.98	8.79	0.00	

T3 CRUISE W02 STATION 002 OBSERVED VALUES

DATE 11/10/65 BAROMETER 06.1 WEATHER 38 WIND VELOC 11 WAVE PERIOD
HOUR 03.9 TEMP DRY -05.7 VISIBILITY 7 WIND DIREC 09 SECCHI
LAT 74-40.0N TEMP WET -05.6 CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-39.0W REL HUMID 97 CLOUD AMT 8 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 03.9, 05.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.63	29.610	23.83	9.69	0.865	-0.102	113
1	10	-1.64	29.610	23.83	9.60	0.857	-0.094	112
1	15	-1.64	29.650	23.86	9.65	0.862	-0.099	113
1	20	-1.60	29.560	23.79	9.74	0.870	-0.107	114
1	25	-1.58	29.700	23.90	9.49	0.848	-0.086	111
1	30	-1.60	29.650	23.86	9.30	0.831	-0.068	109
1	35	-1.53	28.820	23.19	9.47	0.846	-0.081	111
1	40	-1.66	29.850	24.02	9.73	0.869	-0.107	114
1	45	-1.62	29.630	23.84	9.62	0.859	-0.097	113
2	45	-1.60	29.740	23.93	9.65	0.862	-0.100	113
2	50	-1.46	30.250	24.34	9.60	0.857	-0.102	113
2	55	-1.49	30.260	24.35	9.84	0.879	-0.122	116
2	60	-1.35	30.520	24.56	9.80	0.875	-0.123	116
2	65	-1.10	30.930	24.89	9.50	0.848	-0.104	114
2	70	-1.07	31.380	25.25	9.09	0.812	-0.070	109
2	75	-0.98	31.470	25.32	8.84	0.790	-0.050	107
2	80	-1.13	31.670	25.48	8.37	0.748	-0.006	101
2	85	-1.14	31.780	25.57	8.33	0.744	-0.003	100

T3 CRUISE W02 STATION 002 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	-1.63	0.00	29.610	0.000	23.83	408.4	0.000	0.00	9.69	0.00	
10	-1.64	0.00	29.610	0.000	23.83	408.3	0.042	0.02	9.60	0.00	
20	-1.60	0.00	29.560	0.000	23.79	412.1	0.083	0.09	9.74	0.00	
30	-1.60	0.00	29.650	0.000	23.86	405.0	0.124	0.19	9.30	0.00	
50	-1.46	0.00	30.250	0.000	24.34	358.7	0.201	0.50	9.60	0.00	
75	-0.98	0.00	31.470	0.000	25.32	265.8	0.280	0.99	8.84	0.00	

T3 CRUISE W02 STATION 003 OBSERVED VALUES

DATE 14/10/65 BAROMETER 96.4 WEATHER 71 WIND VELOC 04 WAVE PERIOD
HOUR 05.5 TEMP DRY -15.7 VISIBILITY 7 WIND DIREC 11 SECCHI
LAT 74-39.5N TEMP WET -15.7 CLOUD TYPE 4 WAVE DIREC WATER COLOR
LONG 141-39.0W REL HUMID 99 CLOUD AMT 5 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 05.5, 07.0
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.52	29.690	23.89	9.30	0.831	-0.070	109
1	10	-1.62	29.650	23.86	9.46	0.845	-0.082	111
1	15	-1.64	29.560	23.79	9.39	0.839	-0.075	110
1	20	-1.60	29.610	23.83	9.59	0.857	-0.094	112
1	25	-1.57	29.600	23.82	9.35	0.835	-0.073	110
1	30	-1.61	29.610	23.83	9.41	0.840	-0.078	110
1	35	-1.54	29.540	23.77	9.67	0.864	-0.102	113
1	40	-1.60	29.880	24.05	9.49	0.848	-0.087	111
1	45	-1.48	30.210	24.31	9.66	0.863	-0.106	114
2	45	-1.44	30.230	24.33	9.55	0.853	-0.097	113
2	50	-1.48	30.410	24.47	9.59	0.857	-0.101	113
2	55	-1.36	30.440	24.49	9.58	0.856	-0.103	114
2	60	-1.28	30.590	24.61	9.46	0.845	-0.095	113
2	65	-1.15	30.880	24.85	9.36	0.836	-0.090	112
2	70	-1.12	31.110	25.03	9.14	0.816	-0.072	110
2	75	-0.98	31.380	25.25	8.62	0.770	-0.030	104
2	80	-1.12	31.530	25.37	8.54	0.763	-0.021	103
2	85	-1.08	31.650	25.47	8.37	0.748	-0.007	101

T3 CRUISE W02 STATION 003 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	-1.52	0.00	29.690	0.000	23.89	402.4	0.000	0.00	9.30	0.00	
10	-1.62	0.00	29.650	0.000	23.86	405.2	0.041	0.02	9.46	0.00	
20	-1.60	0.00	29.610	0.000	23.83	408.2	0.082	0.08	9.59	0.00	
30	-1.61	0.00	29.610	0.000	23.83	408.1	0.123	0.19	9.41	0.00	
50	-1.48	0.00	30.410	0.000	24.47	346.3	0.199	0.50	9.59	0.00	
75	-0.98	0.00	31.380	0.000	25.25	272.7	0.277	0.98	8.62	0.00	

T3 CRUISE W02 STATION 004 OBSERVED VALUES

DATE 21/10/65 BAROMETER 04.1 WEATHER 38 WIND VELOC 12 WAVE PERIOD
HOUR 01.9 TEMP DRY -16.7 VISIBILITY 6 WIND DIREC 13 SECCHI
LAT 74-30.0N TEMP WET -16.7 CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-42.0W REL HUMID 99 CLOUD AMT 1 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 01.9, 03.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.64	30.070	24.20	9.65	0.862	-0.101	113
1	10	-1.59	29.700	23.90	9.40	0.840	-0.078	110
1	15	-1.63	30.030	24.17	9.22	0.823	-0.063	108
1	20	-1.62	29.740	23.93	9.39	0.839	-0.077	110
1	25	-1.57	29.340	23.61	9.37	0.837	-0.074	110
1	30	-1.65	29.960	24.11	9.44	0.843	-0.082	111
1	35	-1.58	29.960	24.11	9.33	0.833	-0.073	110
1	40	-1.69	29.880	24.05	9.31	0.832	-0.069	109
1	44	-1.47	29.940	24.09	9.56	0.854	-0.096	113
2	45	-1.62	30.100	24.22	9.70	0.866	-0.106	114
2	50	-1.48	30.610	24.63				
2	55	-1.48	30.720	24.72	9.66	0.863	-0.109	114
2	60	-1.34	30.910	24.87				
2	65	-1.24	30.910	24.87	9.65	0.862	-0.114	115
2	70	-1.14	31.170	25.08	8.86	0.791	-0.047	106
2	75	-1.14	31.440	25.30	8.78	0.784	-0.041	106
2	80	-1.21	31.650	25.47	8.75	0.781	-0.038	105
2	85	-1.13	31.740	25.54	8.26	0.738	0.003	100

T3 CRUISE W02 STATION 004 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	-1.64	0.00	30.070	0.000	24.20	372.9	0.000	0.00	9.65	0.00	
10	-1.59	0.00	29.700	0.000	23.90	401.4	0.039	0.02	9.40	0.00	
20	-1.62	0.00	29.740	0.000	23.93	398.1	0.080	0.08	9.39	0.00	
30	-1.65	0.00	29.960	0.000	24.11	381.0	0.119	0.18	9.44	0.00	
50	-1.48	0.00	30.610	0.000	24.63	330.9	0.191	0.47	9.70	0.02	0.95
75	-1.14	0.00	31.440	0.000	25.30	267.6	0.266	0.95	8.78	0.00	

T3 CRUISE W02 STATION 005 OBSERVED VALUES

DATE 21/10/65 BAROMETER 05.6 WEATHER 02 WIND VELOC 05 WAVE PERIOD
HOUR 23.0 TEMP DRY -12.9 VISIBILITY 7 WIND DIREC 18 SECCHI
LAT 74-30.0N TEMP WET -12.9 CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-42.0W REL HUMID 99 CLOUD AMT 8 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 23.0, 00.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
2	10	-1.57	29.700	23.90	9.39	0.839	-0.077	110
2	20	-1.60	29.900	24.06	9.41	0.840	-0.080	110
2	30	-1.65	30.010	24.15	9.45	0.844	-0.083	111
1	50	-1.50	30.590	24.62	9.46	0.845	-0.090	112
1	75	-1.08	31.440	25.30	8.75	0.781	-0.040	105
1	100	-1.20	31.870	25.65	7.52	0.672	0.070	91
1	125	-1.36	32.500	26.16	7.12	0.636	0.106	86
1	150	-1.38	32.700	26.32	7.02	0.627	0.114	85
1	175	-1.48	32.880	26.47	6.55	0.585	0.157	79
1	200	-1.42	33.010	26.58	6.41	0.573	0.167	77
1	250	-0.96	33.530	26.98	6.27	0.560	0.168	77
1	300	-0.23	34.420	27.67	6.24	0.557	0.151	79

T3 CRUISE W02 STATION 005 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	-1.57	0.00	29.700	0.000	23.90	401.5	0.000	0.00	9.39	0.00	
10	-1.57	0.00	29.700	0.000	23.90	401.4	0.041	0.02	9.39	0.00	
20	-1.60	0.00	29.900	0.000	24.06	385.8	0.081	0.08	9.41	0.00	
30	-1.65	0.00	30.010	0.000	24.15	377.1	0.119	0.18	9.45	0.00	
50	-1.50	0.00	30.590	0.000	24.62	332.4	0.191	0.47	9.46	0.00	
75	-1.08	0.00	31.440	0.000	25.30	267.8	0.266	0.94	8.75	0.00	
100	-1.20	0.00	31.870	0.000	25.65	234.3	0.329	1.51	7.52	0.00	
150	-1.38	0.00	32.700	0.000	26.32	169.8	0.431	2.77	7.02	0.00	
200	-1.42	0.00	33.010	0.000	26.58	145.5	0.511	4.19	6.41	0.00	
250	-0.96	0.00	33.530	0.000	26.98	107.2	0.574	5.63	6.27	0.00	
300	-0.23	0.00	34.420	0.000	27.67	42.7	0.612	6.66	6.24	0.00	

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

T3 CRUISE W02 STATION 006 OBSERVED VALUES

DATE	22/10/65	BAROMETER	10.2	WEATHER	39	WIND VELOC	27	WAVE PERIOD
HOUR	23.7	TEMP DRY	-17.2	VISIBILITY	5	WIND DIREC	09	SECCHI
LAT	74-32.0N	TEMP WET	-17.3	CLOUD TYPE	7	WAVE DIREC		WATER COLOR
LONG	141-43.0W	REL HUMID	93	CLOUD AMT	8	WAVE HEIGHT		SOUNDING 3700

MESSENGER TIMES: 23.7
WIRE ANGLES: 05

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	297	-0.18	34.420	27.67	6.23	0.556	0.151	79

T3 CRUISE W02 STATION 007 OBSERVED VALUES

DATE	23/10/65	BAROMETER	10.2	WEATHER	39	WIND VELOC	21	WAVE PERIOD	
HOUR	03.8	TEMP DRY	-17.2	VISIBILITY	5	WIND DIREC	09	SECCHI	
LAT	74-34.3N	TEMP WET	-17.3	CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	141-43.0W	REL HUMID	93	CLOUD AMT	8	WAVE HEIGHT		SOUNDING	3700

MESSENGER TIMES: 03.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	STGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	3	-0.17						
1	200	-1.46	33.170	26.71	6.63	0.592	0.148	80
1	300	-0.25	34.580	27.80	6.24	0.557	0.151	79

T3 CRUISE W02 STATION 008 OBSERVED VALUES

DATE	24/10/65	BAROMETER	00.3	WEATHER	71	WIND VELOC	23	WAVE PERIOD	
HOUR	03.1	TEMP DRY	-12.6	VISIBILITY	6	WIND DIREC	09	SECCHI	
LAT	74-39.0N	TEMP WET	-12.7	CLOUD TYPE	7	WAVE DIREC		WATER COLOR	
LONG	142-13.0W	REL HUMID	95	CLOUD AMT	8	WAVE HEIGHT		SOUNDING	3700

MESSENGER TIMES: 03.1, 05.1
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.65	29.610	23.83	9.50	0.848	-0.085	111
1	10	-1.59	29.700	23.90				
1	15	-1.59	29.670	23.88				
1	20	-1.59	29.670	23.88	9.48	0.847	-0.085	111
1	25	-1.60	29.600	23.82				
1	30	-1.54	29.700	23.90				
1	35	-1.62	29.740	23.93	9.70	0.866	-0.104	114
1	40	-1.58	29.790	23.97				
2	40	-1.62	29.790	23.97				
2	45	-1.58	29.790	23.97	9.67	0.864	-0.103	114
2	50	-1.46	30.160	24.27				
2	55	-1.48	30.190	24.29				
2	60	-1.46	30.340	24.42	9.75	0.871	-0.115	115
2	65	-1.15	30.770	24.76				
2	70	-1.09	31.350	25.22				
2	75	-1.08	31.550	25.39	9.45	0.844	-0.103	114

T3 CRUISE W02 STATION 008 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	-1.65	0.00	29.610	0.000	23.83	408.4	0.000	0.00	9.50	0.00	
10	-1.59	0.00	29.700	0.000	23.90	401.4	0.041	0.02	9.50#		
20	-1.59	0.00	29.670	0.000	23.88	403.6	0.082	0.08	9.48	0.00	
30	-1.54	0.00	29.700	0.000	23.90	401.2	0.122	0.19	9.63	0.02	0.75
50	-1.46	0.00	30.160	0.000	24.27	365.6	0.200	0.50	9.71	0.02	0.76
75	-1.08	0.00	31.550	0.000	25.39	259.4	0.278	0.99	9.45	0.00	

T3 CRUISE W02 STATION 009 OBSERVED VALUES

DATE 26/10/65	BAROMETER 03.0	WEATHER 36	WIND VELOC 12	WAVE PERIOD	
HOUR 20.6	TEMP DRY -09.0	VISIBILITY 7	WIND DIREC 27	SECCHI	
LAT 74-43.9N	TEMP WET -09.0	CLOUD TYPE 3	WAVE DIREC	WATER COLOR	
LONG 142-27.0W	REL HUMID 99	CLOUD AMT 6	WAVE HEIGHT	SOUNDING 3700	

MESSENGER TIMES: 20.6, 21.5
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.63	29.880	24.05	9.39	0.839	-0.077	110
1	10	-1.62	29.580	23.80	9.32	0.832	-0.069	109
1	15	-1.60	29.790	23.97	9.46	0.845	-0.084	111
1	20	-1.62	29.670	23.88	9.61	0.858	-0.096	113
1	25	-1.64	29.670	23.88	9.38	0.838	-0.075	110
1	30	-1.58	29.430	23.68	9.28	0.829	-0.066	109
1	35	-1.68	29.540	23.77	9.39	0.839	-0.074	110
1	40	-1.62	29.940	24.09	9.55	0.853	-0.092	112
2	40	-1.64	29.920	24.08	9.31	0.832	-0.070	109
2	45	-1.62	30.160	24.27	9.30	0.831	-0.071	109
2	50	-1.55	30.210	24.31	9.46	0.845	-0.087	111
2	55	-1.46	30.480	24.53	9.44	0.843	-0.089	112
2	60	-1.46	30.570	24.60	9.43	0.842	-0.088	112
2	65	-1.21	30.880	24.85	9.51	0.849	-0.102	114
2	70	-1.18	30.970	24.92	9.21	0.823	-0.076	110
2	75	-1.08	31.530	25.37	8.62	0.770	-0.029	104

T3 CRUISE W02 STATION 009 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	-1.63	0.00	29.880	0.000	24.05	387.6	0.000	0.00	9.39	0.00	
10	-1.62	0.00	29.580	0.000	23.80	410.6	0.041	0.02	9.32	0.00	
20	-1.62	0.00	29.670	0.000	23.88	403.5	0.082	0.08	9.61	0.00	
30	-1.58	0.00	29.430	0.000	23.68	422.0	0.123	0.19	9.28	0.00	
50	-1.55	0.00	30.210	0.000	24.31	361.6	0.202	0.51	9.46	0.00	
75	-1.08	0.00	31.530	0.000	25.37	260.9	0.281	1.00	8.62	0.00	

T3 CRUISE W02 STATION 010 OBSERVED VALUES

DATE 27/10/65 BAROMETER 16.5 WEATHER 44 WIND VELOC 09 WAVE PERIOD
HOUR 21.4 TEMP DRY -28.6 VISIBILITY 7 WIND DIREC 27 SECCHI
LAT 74-42.7N TEMP WET -28.6 CLOUD TYPE WAVE DIREC WATER COLOR
LONG 142-16.0W REL HUMID 99 CLOUD AMT 0 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 21.4
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	297	-0.16	34.540	27.76	6.36	0.568	0.139	80
1	394	0.33	34.850	27.99	6.65	0.594	0.102	85
1	492	0.48	34.880	28.00	6.70	0.598	0.094	86
1	590	0.46	34.940	28.05	7.00	0.625	0.068	90
1	659	0.31	34.870	28.00	6.90	0.616	0.080	89
1	787	0.20	34.880	28.02	7.05	0.630	0.068	90

T3 CRUISE W02 STATION 011 OBSERVED VALUES

DATE 30/10/65 BAROMETER 15.0 WEATHER 02 WIND VELOC 08 WAVE PERIOD
HOUR 00.3 TEMP DRY -23.4 VISIBILITY 7 WIND DIREC 32 SECCHI
LAT 74-21.3N TEMP WET -23.4 CLOUD TYPE 6 WAVE DIREC WATER COLOR
LONG 141-52.0W REL HUMID 99 CLOUD AMT 8 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 00.3, 01.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.65	29.900	24.06	9.12	0.815	-0.053	107
1	10	-1.63	29.740	23.93	9.36	0.836	-0.074	110
1	15	-1.62	29.720	23.92	9.37	0.837	-0.075	110
1	20	-1.64	29.830	24.01	9.04	0.807	-0.045	106
1	25	-1.65	29.880	24.05	8.85	0.790	-0.029	104
1	30	-1.60	29.800	23.98				
1	35	-1.68	29.790	23.97	9.45	0.844	-0.081	111
1	40	-1.58	29.920	24.08	9.46	0.845	-0.085	111
2	40	-1.58	29.920	24.08	9.44	0.843	-0.083	111
2	45	-1.47	30.140	24.25	9.20	0.822	-0.065	109
2	50	-1.40	30.340	24.41	9.51	0.849	-0.095	113
2	55	-1.41	30.480	24.53	9.36	0.836	-0.082	111
2	60	-1.30	30.750	24.74	9.43	0.842	-0.092	112
2	65	-1.16	30.790	24.77	9.10	0.813	-0.066	109
2	70	-1.12	31.220	25.12	8.90	0.795	-0.051	107
2	75	-1.10	31.440	25.30	8.68	0.775	-0.033	104

T3 CRUISE W02 STATION 011 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	-1.65	0.00	29.900	0.000	24.06	386.0	0.000	0.00	9.12	0.00	
10	-1.63	0.00	29.740	0.000	23.93	398.3	0.040	0.02	9.36	0.00	
20	-1.64	0.00	29.830	0.000	24.01	391.2	0.080	0.08	9.04	0.00	
30	-1.60	0.00	29.800	0.000	23.98	393.4	0.119	0.18	9.12	0.09	0.94
50	-1.40	0.00	30.340	0.000	24.41	351.9	0.194	0.49	9.51	0.00	
75	-1.10	0.00	31.440	0.000	25.30	267.8	0.272	0.98	8.68	0.00	

T3 CRUISE W02 STATION 012 OBSERVED VALUES

DATE 02/11/65 BAROMETER 28.5 WEATHER 02 WIND VELOC 05 WAVE PERIOD
HOUR 00.5 TEMP DRY -29.2 VISIBILITY 7 WIND DIREC 32 SECCHI
LAT 74-17.1N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 141-55.0W REL HUMID CLOUD AMT 5 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 00.5, 01.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.55	29.650	23.86	9.23	0.824	-0.063	108
1	10	-1.60	29.720	23.92				
1	15	-1.59	29.810	23.99				
1	20	-1.62	29.690	23.89				
1	25	-1.65	29.670	23.88				
1	30	-1.60	29.690	23.89				
1	35	-1.69	29.700	23.90	9.86	0.881	-0.117	115
1	40	-1.66	29.810	23.99				
2	40	-1.61	29.810	23.99	9.81	0.876	-0.115	115
2	45	-1.46	30.300	24.38				
2	50	-1.46	30.360	24.43				
2	55	-1.50	30.370	24.44				
2	60	-1.42	30.540	24.58				
2	65	-1.29	30.700	24.70				
2	70	-1.26	30.990	24.94				
2	75	-1.12	31.330	25.21	9.06	0.809	-0.066	109

T3 CRUISE W02 STATION 012 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	F(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.55	0.00	29.650	0.000	23.86	405.4	0.000	0.00			
10	-1.60	0.00	29.720	0.000	23.92	399.8	0.041	0.02			
20	-1.62	0.00	29.690	0.000	23.89	402.0	0.081	0.08			
30	-1.60	0.00	29.690	0.000	23.89	401.9	0.122	0.19			
50	-1.46	0.00	30.360	0.000	24.43	350.2	0.198	0.49	9.65	0.01	13.60
75	-1.12	0.00	31.330	0.000	25.21	276.1	0.277	0.99	9.06	0.00	

T3 CRUISE W02 STATION 013 OBSERVED VALUES

DATE 03/11/65 BAROMETER 29.7 WEATHER 02 WIND VELOC 03 WAVE PERIOD
HOUR 00.6 TEMP DRY -29.1 VISIBILITY 7 WIND DIREC 26 SECCHI
LAT 74-17.7N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-56.0W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 3670
MESSENGER TIMES: 00.6, 01.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
2	10	-1.60	29.810	23.99	9.25	0.826	-0.065	109
2	20	-1.62	29.720	23.92	9.26	0.827	-0.065	109
2	30	-1.59	29.700	23.90	9.34	0.834	-0.073	110
2	50	-1.44	30.370	24.44	9.12	0.815	-0.060	108
1	75	-1.07	31.420	25.28	8.71	0.778	-0.037	105
1	100	-1.21	31.910	25.68	7.54	0.673	0.068	91
1	125	-1.36	32.480	26.14	7.05	0.630	0.112	85
1	150	-1.43	32.660	26.29	7.14	0.638	0.104	86
1	175	-1.48	33.030	26.59	6.57	0.587	0.154	79
1	200	-1.41	33.150	26.69	6.44	0.575	0.164	78
1	232	-0.95	33.400	26.88	6.30	0.563	0.166	77
1	263	-0.16	34.430	27.68	6.27	0.560	0.147	79

T3 CRUISE W02 STATION 013 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	-1.60	0.00	29.810	0.000	23.99	393.0	0.000	0.00	9.25	0.00	
10	-1.60	0.00	29.810	0.000	23.99	392.9	0.040	0.02	9.25	0.00	
20	-1.62	0.00	29.720	0.000	23.92	399.7	0.080	0.08	9.26	0.00	
30	-1.59	0.00	29.700	0.000	23.90	401.1	0.120	0.19	9.34	0.00	
50	-1.44	0.00	30.370	0.000	24.44	349.5	0.196	0.49	9.12	0.00	
75	-1.07	0.00	31.420	0.000	25.28	269.4	0.274	0.98	8.71	0.00	
100	-1.21	0.00	31.910	0.000	25.68	231.2	0.337	1.54	7.54	0.00	
150	-1.43	0.00	32.660	0.000	26.29	172.7	0.439	2.81	7.14	0.00	
200	-1.41	0.00	33.150	0.000	26.69	134.9	0.516	4.18	6.44	0.00	
250	-0.53	0.00	33.857	0.016	27.23	84.1	0.571	5.42	6.26	0.00	4.98

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

T3 CRUISE W02 STATION 014 OBSERVED VALUES

DATE	05/11/65	BAROMETER	11.9	WEATHER	02	WIND VELOC	03	WAVE PERIOD	
HOUR	01.7	TEMP DRY	-30.3	VISIBILITY	7	WIND DIREC	20	SECCHI	
LAT	74-19.0N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	141-51.5W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING	3700

MESSENGER TIMES: 01.7, 02.4
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.00	29.600	23.81				
1	10	-1.58	29.650	23.86				
1	15	-1.58	29.760	23.95				
1	20	-1.64	29.760	23.95				
1	25	-1.65	29.670	23.88				
1	30	-1.60	29.760	23.95				
1	35	-1.67	29.790	23.97				
1	40	-1.64	29.870	24.04				
2	40	-1.64	29.850	24.02				
2	45	-1.54	30.070	24.20				
2	50	-1.46	30.260	24.35				
2	55	-1.49	30.420	24.48				
2	60	-1.42	30.630	24.65				
2	65	-1.23	30.890	24.86				
2	70	-1.15	31.270	25.16				
2	75	-1.09	31.490	25.34				

T3 CRUISE W02 STATION 014 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	-1.00	0.00	29.600	0.000	23.81	410.2	0.000	0.00			
10	-1.58	0.00	29.650	0.000	23.86	405.3	0.042	0.02			
20	-1.64	0.00	29.760	0.000	23.95	396.6	0.082	0.08			
30	-1.60	0.00	29.760	0.000	23.95	396.5	0.122	0.19			
50	-1.46	0.00	30.260	0.000	24.35	357.9	0.198	0.49			
75	-1.09	0.00	31.490	0.000	25.34	263.9	0.276	0.98			

T3 CRUISE W02 STATION 015 OBSERVED VALUES

DATE 08/11/65 BAROMETER 12.7 WEATHER 37 WIND VELOC 11 WAVE PERIOD
HOUR 00.3 TEMP DRY -09.6 VISIBILITY 7 WIND DIREC 28 SECCHI
LAT 74-21.0N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-43.0W REL HUMID CLOUD AMT 7 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 00.3, 01.2
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.62	29.780	23.96				
1	10	-1.65	29.830	24.01				
1	15	-1.63	29.790	23.97				
1	20	-1.62	29.780	23.96				
1	25	-1.63	29.740	23.93				
1	30	-1.63	29.780	23.96				
1	35	-1.59	29.790	23.97				
1	40	-1.58	29.870	24.04				
1	45	-1.62	29.870	24.04				
2	43	-1.62	30.060	24.19				
2	48	-1.47	30.250	24.34				
2	53	-1.48	30.430	24.49				
2	58	-1.34	30.650	24.66				
2	63	-1.19	30.860	24.83				
2	68	-1.02	31.260	25.15				
2	73	-1.03	31.460	25.31				
2	78	-1.13						

T3 CRUISE W02 STATION 015 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	-1.62	0.00	29.780	0.000	23.96	395.3	0.000	0.00			
10	-1.65	0.00	29.830	0.000	24.01	391.3	0.040	0.02			
20	-1.62	0.00	29.780	0.000	23.96	395.1	0.080	0.08			
30	-1.63	0.00	29.780	0.000	23.96	394.9	0.120	0.18			
50	-1.47	0.01	30.320	0.002	24.40	353.3	0.195	0.49			0.65
75	-1.06	0.00									4.59

T3 CRUISE W02 STATION 016 OBSERVED VALUES

DATE 08/11/65 BAROMETER 20.1 WEATHER 73 WIND VELOC 03 WAVE PERIOD
HOUR 22.8 TEMP DRY -13.1 VISIBILITY 6 WIND DIREC 32 SECCHI
LAT 74-23.0N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-47.0W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 3670
MESSENGER TIMES: 22.8
WIRE ANGLES: 05

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ANU	SATN
1	788	0.23	34.750	27.91	6.83	0.610	0.088	87
1	891	0.08	34.930	28.07	6.89	0.615	0.085	88
1	997	-0.01	34.860	28.01	6.75	0.603	0.099	86
1	1095	-0.07	34.960	28.10	6.86	0.613	0.090	87
1	1193	-0.14	35.060	28.18	6.94	0.620	0.084	88
1	1389	-0.30	34.960	28.11	6.93	0.619	0.088	88
1	1585	-0.30	34.950	28.10	6.83	0.610	0.097	86
1	1781	-0.34	34.910	28.07	6.81	0.608	0.100	86
1	1977	-0.37	34.890	28.06	6.73	0.601	0.108	85

T3 CRUISE W02 STATION 017 OBSERVED VALUES

DATE 10/11/65 BAROMETER 20.1 WEATHER 02 WIND VELOC 06 WAVE PERIOD
HOUR 23.2 TEMP DRY -09.8 VISIBILITY 7 WIND DIREC 09 SECCHI
LAT 74-23.0N TEMP WET CLOUD TYPE 7 WAVE DIREC WATER COLOR
LONG 141-42.0W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 23.2, 00.0
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.66	29.560	23.79				
1	10	-1.64	29.590	23.81				
1	15	-1.63	29.740	23.93				
1	20	-1.59	29.740	23.93				
1	25	-1.60	29.770	23.96				
1	30	-1.62	29.870	24.04				
1	35	-1.58	29.760	23.95				
1	40	-1.53	29.830	24.00				
1	45	-1.46	30.220	24.32				
2	45	-1.44	30.210	24.31				
2	50	-1.46	30.260	24.35				
2	55	-1.38	30.470	24.52				
2	60	-1.24	30.790	24.78				
2	65	-1.16	30.900	24.86				
2	70	-1.06	30.920	24.88				
2	75	-1.08	31.290	25.18				
2	80	-1.10	31.540	25.38				

T3 CRUISE W02 STATION 017 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	-1.66	0.00	29.560	0.000	23.79	412.2	0.000	0.00			
10	-1.64	0.00	29.590	0.000	23.81	409.8	0.042	0.02			
20	-1.59	0.00	29.740	0.000	23.93	398.2	0.083	0.08			
30	-1.62	0.00	29.870	0.000	24.04	388.0	0.122	0.19			
50	-1.46	0.00	30.260	0.000	24.35	357.9	0.197	0.49			
75	-1.08	0.00	31.290	0.000	25.18	279.3	0.278	0.99			

T3 CRUISE W02 STATION 018 OBSERVED VALUES

DATE 14/11/65 BAROMETER 08.5 WEATHER 01 WIND VELOC 10 WAVE PERIOD
HOUR 00.9 TEMP DRY -28.9 VISIBILITY 8 WIND DIREC 06 SECCHI
LAT 74-27.7N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 141-42.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 00.9, 01.5
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.41	29.720	23.91				
1	10	-1.56	29.690	23.89				
1	15	-1.60	29.680	23.88				
1	20	-1.63	29.880	24.05				
1	25	-1.62	29.790	23.97				
1	30	-1.60	29.590	23.81				
1	35	-1.62	29.880	24.05				
1	40	-1.56	29.980	24.13				
2	45	-1.42	30.180	24.29				
2	50	-1.46	30.360	24.43				
2	55	-1.48	30.360	24.43				
2	60	-1.24	30.680	24.69				
2	65	-1.11	30.990	24.93				
2	70	-1.08	31.320	25.20				
2	75	-1.07	31.640	25.46				
2	80	-1.09	31.650	25.47				

T3 CRUISE W02 STATION 018 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	-1.41	0.00	29.720	0.000	23.91	400.2	0.000	0.00			
10	-1.56	0.00	29.690	0.000	23.89	402.2	0.041	0.02			
20	-1.63	0.00	29.880	0.000	24.05	387.3	0.081	0.08			
30	-1.60	0.00	29.590	0.000	23.81	409.6	0.121	0.19			
50	-1.46	0.00	30.360	0.000	24.43	350.2	0.197	0.49			
75	-1.07	0.00	31.640	0.000	25.46	252.5	0.273	0.97			

T3 CRUISE W02 STATION 019 OBSERVED VALUES

DATE 16/11/65 BAROMETER 26.0 WEATHER 02 WIND VELOC 11 WAVE PERIOD
HOUR 23.3 TEMP DRY -25.6 VISIBILITY 7 WIND DIREC 09 SECCHI
LAT 74-34.9N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 142-32.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 23.3, 01.0
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	STGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.60	29.760	23.95				
1	10	-1.60	29.870	24.04				
1	15	-1.60	29.780	23.96				
1	20	-1.63	29.790	23.97				
1	25	-1.61						
1	30	-1.60						
1	35	-1.62						
1	40	-1.58						
1	45	-1.51						
2	45	-1.42	29.830	24.00				
2	50	-1.44	30.370	24.44				
2	55	-1.52	30.460	24.51				
2	60	-1.38	30.470	24.52				
2	65	-1.20	30.610	24.63				
2	70	-1.08	31.220	25.12				
2	75	-1.06	31.340	25.22				
2	80	-1.08	31.670	25.48				

T3 CRUISE W02 STATION 019 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	-1.60	0.00	29.760	0.000	23.95	396.9	0.000	0.00			
10	-1.60	0.00	29.870	0.000	24.04	388.3	0.040	0.02			
20	-1.63	0.00	29.790	0.000	23.97	394.3	0.079	0.08			
30	-1.60	0.00	29.805#		23.98	393.0	0.119	0.18			
50	-1.44	0.00	30.370	0.000	24.44	349.5	0.194	0.49			
75	-1.06	0.00	31.340	0.000	25.22	275.5	0.273	0.98			

T3 CRUISE W02 STATION 020 OBSERVED VALUES

DATE 20/11/65 BAROMETER 11.9 WEATHER 02 WIND VELOC 16 WAVE PERIOD
HOUR 01.6 TEMP DRY -18.6 VISIBILITY 6 WIND DIREC 09 SECCHI
LAT 74-53.0N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 143-12.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 01.6, 03.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.60						
1	10	-1.58	29.920	24.08				
1	15	-1.56	29.940	24.09				
1	20	-1.62	29.960	24.11				
1	25	-1.59	29.930	24.09				
1	30	-1.59	29.980	24.13				
1	35	-1.60	29.990	24.13				
1	40	-1.56	29.880	24.04				
1	45	-1.60	29.970	24.12				
2	45	-1.45	30.530	24.57				
2	50	-1.42	30.620	24.64				
2	55	-1.48	30.520	24.56				
2	60	-1.44	30.440	24.50				
2	65	-1.36	30.680	24.69				
2	70	-1.14	31.330	25.21				
2	75	-1.04	31.530	25.37				
2	80	-1.06	31.700	25.51				

T3 CRUISE W02 STATION 020 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	-1.60	0.00	29.920#		24.08	384.5	0.000	0.00			
10	-1.58	0.00	29.920	0.000	24.08	384.4	0.039	0.02			
20	-1.62	0.00	29.960	0.000	24.11	381.2	0.078	0.08			
30	-1.59	0.00	29.980	0.000	24.13	379.5	0.116	0.18			
50	-1.42	0.00	30.620	0.000	24.64	330.3	0.188	0.47			
75	-1.04	0.00	31.530	0.000	25.37	261.0	0.262	0.93			

SALINITY AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

T3 CRUISE W02 STATION 021 OBSERVED VALUES

DATE 21/11/65 BAROMETER 16.9 WEATHER 02 WIND VELOC 09 WAVE PERIOD
HOUR 23.1 TEMP DRY -25.1 VISIBILITY 7 WIND DIREC 06 SECCHI
LAT 74-56.9N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 143-27.0W REL HUMID CLOUD AMT 2 WAVE HEIGHT SOUNDING 3700
MESSENGER TIMES: 23.1, 01.0
WIRE ANGLES: 02, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
2	10	-1.60			9.30	0.831		
2	20	-1.61			9.31	0.832		
2	30	-1.64			9.36	0.836		
1	50	-1.40	30.530	24.57	9.45	0.844	-0.091	112
1	75	-1.00	31.440	25.29	8.54	0.763	-0.023	103
1	100	-1.20	32.100	25.83	7.40	0.661	0.079	89
1	124	-1.39	32.380	26.06	7.14	0.638	0.105	86
1	149	-1.44	32.680	26.31	6.60	0.589	0.153	79
1	174	-1.43	32.770	26.38	6.53	0.583	0.158	79
1	199	-1.40	32.940	26.52	6.50	0.581	0.159	78
1	249	-1.15	33.440	26.92	6.32	0.564	0.168	77
1	300	-0.39	34.130	27.44	6.36	0.568	0.145	80

T3 CRUISE W02 STATION 022 OBSERVED VALUES

DATE 23/11/65	BAROMETER 26.0	WEATHER 45	WIND VELOC 03	WAVE PERIOD	
HOUR 00.9	TEMP DRY -21.0	VISIBILITY 4	WIND DIREC 15	SECCHI	
LAT 74-58.9N	TEMP WET	CLOUD TYPE 7	WAVE DIREC	WATER COLOR	
LONG 143-42.0W	REL HUMID	CLOUD AMT 8	WAVE HEIGHT	SOUNDING 3730	

MESSENGER TIMES: 00.9, 01.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.62						
1	10	-1.58						
1	15	-1.59						
1	20	-1.60						
1	25	-1.62						
1	30	-1.60						
1	35	-1.61						
1	40	-1.64						
1	45	-1.61						
2	45	-1.58						
2	50	-1.44						
2	55	-1.34						
2	60	-1.20						
2	65	-1.08						
2	70	-1.02						
2	75	-1.07						
2	80	-1.06						

T3 CRUISE W02 STATION 023 OBSERVED VALUES

DATE 23/11/65 BAROMETER 25.8 WEATHER 44 WIND VELOC 02 WAVE PERIOD
HOUR 22.6 TEMP DRY -28.1 VISIBILITY 5 WIND DIREC 01 SECCHI
LAT 75-01.8N TEMP WET CLOUD TYPE 6 WAVE DIREC WATER COLOR
LONG 143-47.0W REL HUMID CLOUD AMT 3 WAVE HEIGHT SOUNDING 3770
MESSENGER TIMES: 22.6
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	295	-0.36	33.980	27.32	6.18	0.552	0.161	77
1	394	0.34	34.160	27.43	6.35	0.567	0.132	81
1	492	0.49	34.300	27.54	6.64	0.593	0.102	85
1	591	0.52	34.130	27.40	6.60	0.589	0.106	85
1	689	0.38	34.270	27.52	6.83	0.610	0.088	87
1	787	0.24	34.690	27.86	6.90	0.616	0.082	88
1	886	0.11	34.570	27.77	6.90	0.616	0.085	88
1	983	-0.02	34.610	27.81	6.86	0.613	0.091	87
1	1081	-0.08	34.620	27.82	6.85	0.612	0.093	87

T3 CRUISE W02 STATION 024 OBSERVED VALUES

DATE 25/11/65 BAROMETER 12.8 WEATHER 36 WIND VELOC 10 WAVE PERIOD
HOUR 23.5 TEMP DRY -24.4 VISIBILITY 7 WIND DIREC 10 SECCHI
LAT 75-04.4N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 144-01.0W REL HUMID CLOUD AMT 0 WAVE HEIGHT SOUNDING 3750
MESSENGER TIMES: 23.5, 00.3
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.59	29.940	24.09				
1	10	-1.60	29.920	24.08				
1	15	-1.62	29.930	24.09				
1	20	-1.57	29.920	24.08				
1	25	-1.62	29.880	24.05				
1	30	-1.64	29.900	24.06				
1	35	-1.60	29.890	24.05				
1	40	-1.60	30.010	24.15				
1	45	-1.60	29.960	24.11				
2	45	-1.60	30.010	24.15				
2	50	-1.42	30.340	24.41				
2	55	-1.40	30.370	24.44				
2	60	-1.39	30.610	24.63				
2	65	-1.22	30.800	24.78				
2	70	-1.09	31.090	25.01				
2	75	-1.04	31.420	25.28				
2	80	-1.10	31.590	25.42				

T3 CRUISE W02 STATION 024 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	-1.59	0.00	29.940	0.000	24.09	383.0	0.000	0.00			
10	-1.60	0.00	29.920	0.000	24.08	384.4	0.039	0.02			
20	-1.57	0.00	29.920	0.000	24.08	384.3	0.078	0.08			
30	-1.64	0.00	29.900	0.000	24.06	385.6	0.117	0.18			
50	-1.42	0.00	30.340	0.000	24.41	351.8	0.191	0.48			
75	-1.04	0.00	31.420	0.000	25.28	269.4	0.269	0.97			

T3 CRUISE W02 STATION 025 OBSERVED VALUES

DATE 26/11/65 BAROMETER 12.2 WEATHER 00 WIND VELOC 10 WAVE PERIOD
HOUR 06.8 TEMP DRY -23.6 VISIBILITY 7 WIND DIREC 06 SECCHI
LAT 75-05.5N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 144-01.0W REL HUMID CLOUD AMT 0 WAVE HEIGHT SOUNDING 3750
MESSENGER TIMES: 06.8
WIRE ANGLES: 04

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	1100	-0.06	34.960	28.10	6.94	0.620	0.083	88
1	1200	-0.14	34.950	28.09	7.07	0.631	0.073	90
1	1393	-0.22	34.830	28.00	7.00	0.625	0.081	89
1	1585	-0.33	34.970	28.12	6.84	0.611	0.097	86
1	1778	-0.37	34.870	28.04	6.68	0.597	0.112	84
1	1970	-0.36	34.960	28.11	6.67	0.596	0.112	84
1	2449	-0.36	34.790	27.98	6.68	0.597	0.113	84
1	2926	-0.32	34.940	28.09	6.43	0.574	0.133	81

T3 CRUISE W02 STATION 026 OBSERVED VALUES

DATE 28/11/65 BAROMETER 13.9 WEATHER 44 WIND VELOC 03 WAVE PERIOD
HOUR 23.1 TEMP DRY -21.6 VISIBILITY 4 WIND DIREC 04 SECCHI
LAT 75-09.9N TEMP WET CLOUD TYPE 6 WAVE DIREC WATER COLOR
LONG 144-13.0W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 3770
MESSENGER TIMES: 23.1, 23.8
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.60	29.220	23.51				
1	10	-1.60	29.510	23.75				
1	15	-1.62	29.920	24.08				
1	20	-1.57	30.030	24.17				
1	25	-1.60	29.920	24.08				
1	30	-1.63	29.990	24.13				
1	35	-1.59	29.610	23.83				
1	40	-1.58	29.880	24.05				
1	45	-1.52	29.990	24.13				
2	45	-1.52	29.990	24.13				
2	50	-1.39	30.350	24.42				
2	55	-1.35	30.570	24.60				
2	60	-1.22	30.660	24.67				
2	65	-1.12	31.040	24.97				
2	70	-1.06	31.170	25.08				
2	75	-1.04	31.420	25.28				
2	80	-1.10	31.400	25.26				

T3 CRUISE W02 STATION 026 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	F(T)	SAL	F(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.60	0.00	29.220	0.000	23.51	438.6	0.000	0.00			
10	-1.60	0.00	29.510	0.000	23.75	416.0	0.044	0.02			
20	-1.57	0.00	30.030	0.000	24.17	375.8	0.083	0.08			
30	-1.63	0.00	29.990	0.000	24.13	378.7	0.121	0.18			
50	-1.39	0.00	30.350	0.000	24.42	351.1	0.195	0.48			
75	-1.04	0.00	31.420	0.000	25.28	269.4	0.273	0.97			

T3 CRUISE W02 STATION 027 OBSERVED VALUES

DATE 01/12/65 BAROMETER 10.9 WEATHER 00 WIND VELOC 13 WAVE PERIOD
HOUR 21.1 TEMP DRY -26.5 VISIBILITY 8 WIND DIREC 08 SECCHI
LAT 75-27.0N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 146-05.0W REL HUMID CLOUD AMT 0 WAVE HEIGHT SOUNDING 3750
MESSENGER TIMES: 21.1, 23.0
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.61	29.900	24.06				
1	10	-1.58	30.080	24.21				
1	15	-1.62	29.820	24.00				
1	20	-1.62	29.610	23.83				
1	25	-1.58	29.570	23.79				
1	30	-1.60						
1	35	-1.64	29.890	24.05				
1	40	-1.62						
1	45	-1.61	30.010	24.15				
2	45	-1.54	30.110	24.23				
2	50	-1.56	29.730	23.92				
2	55	-1.49	30.070	24.20				
2	60	-1.23	30.340	24.41				
2	65	-1.11	30.900	24.86				
2	70	-1.08	31.140	25.05				
2	75	-1.08	31.170	25.08				
2	80	-1.04	31.320	25.20				

T3 CRUISE W02 STATION 027 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	-1.61	0.00	29.900	0.000	24.06	386.1	0.000	0.00			
10	-1.58	0.00	30.080	0.000	24.21	372.1	0.039	0.02			
20	-1.62	0.00	29.610	0.000	23.83	408.2	0.078	0.08			
30	-1.60	0.00	29.709	0.031	23.91	400.4	0.119	0.19			0.80
50	-1.56	0.00	29.730	0.000	23.92	398.6	0.199	0.52			
75	-1.08	0.00	31.170	0.000	25.08	288.5	0.286	1.05			

T3 CRUISE W02 STATION 028 OBSERVED VALUES

DATE	05/12/65	BAROMETER	13.2	WEATHER	03	WIND VELOC	08	WAVE PERIOD	
HOUR	00.1	TEMP DRY	-20.1	VISIBILITY	7	WIND DIREC	02	SECCHI	
LAT	75-27.5N	TEMP WET		CLOUD TYPE	X	WAVE DIREC		WATER COLOR	
LONG	146-47.0W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING	3750

MESSENGER TIMES: 00.1, 00.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.60	29.650	23.86				
1	10	-1.60	29.570	23.79				
1	15	-1.62	29.590	23.81				
1	20	-1.61	29.600	23.82				
1	25	-1.58	29.670	23.88				
1	30	-1.61	29.650	23.86				
1	35	-1.64	29.520	23.75				
1	40	-1.63	29.610	23.83				
1	45	-1.52	29.770	23.96				
2	45	-1.52	29.790	23.97				
2	50	-1.43	29.880	24.04				
2	55	-1.32	30.210	24.31				
2	60	-1.22	30.360	24.43				
2	65	-1.14	30.650	24.66				
2	70	-1.09	30.970	24.92				
2	75	-1.06	31.210	25.11				
2	80	-1.04	31.350	25.22				

T3 CRUISE W02 STATION 028 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	-1.60	0.00	29.650	0.000	23.86	405.4	0.000	0.00			
10	-1.60	0.00	29.570	0.000	23.79	411.4	0.042	0.02			
20	-1.61	0.00	29.600	0.000	23.82	409.0	0.083	0.09			
30	-1.61	0.00	29.650	0.000	23.86	405.0	0.124	0.19			
50	-1.43	0.00	29.880	0.000	24.04	387.3	0.204	0.52			
75	-1.06	0.00	31.210	0.000	25.11	285.5	0.288	1.04			

T3 CRUISE W02 STATION 029 OBSERVED VALUES

DATE 07/12/65 BAROMETER 09.2 WEATHER 02 WIND VELOC 04 WAVE PERIOD
HOUR 20.7 TEMP DRY -28.5 VISIBILITY 7 WIND DIREC 25 SECCHI
LAT 75-21.0N TEMP WET CLOUD TYPE 2 WAVE DIREC WATER COLOR
LONG 146-50.0W REL HUMID CLOUD AMT 3 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 20.7, 21.5
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.60	29.910	24.07				
1	10	-1.60	29.830	24.00				
1	15	-1.62	29.850	24.02				
1	20	-1.62	29.860	24.03				
1	25	-1.59	29.780	23.96				
1	30	-1.60	29.900	24.06				
1	35	-1.64	29.560	23.79				
1	40	-1.62	29.850	24.02				
1	45	-1.42	30.080	24.20				
2	45	-1.39	30.030	24.16				
2	50	-1.42	30.250	24.34				
2	55	-1.33	30.380	24.45				
2	60	-1.16	30.530	24.56				
2	65	-1.06	30.830	24.80				
2	70	-1.03	31.050	24.98				
2	75	-1.06	31.230	25.13				
2	80	-1.04	31.360	25.23				

T3 CRUISE W02 STATION 029 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	-1.60	0.00	29.910	0.000	24.07	385.3	0.000	0.00			
10	-1.60	0.00	29.830	0.000	24.00	391.3	0.040	0.02			
20	-1.62	0.00	29.860	0.000	24.03	388.9	0.079	0.08			
30	-1.60	0.00	29.900	0.000	24.06	385.7	0.118	0.18			
50	-1.42	0.00	30.250	0.000	24.34	358.8	0.193	0.49			
75	-1.06	0.00	31.230	0.000	25.13	284.0	0.274	0.99			

T3 CRUISE W02 STATION 030 OBSERVED VALUES

DATE 08/12/65 BAROMETER 06.8 WEATHER 02 WIND VELOC 02 WAVE PERIOD
HOUR 20.5 TEMP DRY -34.4 VISIBILITY 8 WIND DIREC 26 SECCHI
LAT 75-20.0N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 146-47.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 20.5, 11.3
WIRE ANGLES: 03, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
2	10	-1.60	29.720	23.92	9.61	0.858	-0.097	113
2	20	-1.60	29.580	23.80	9.52	0.850	-0.088	112
2	30	-1.62	29.690	23.89	9.80	0.875	-0.113	115
1	49	-1.41	29.950	24.10	9.74	0.870	-0.113	115
1	73	-1.02	31.360	25.23	9.05	0.808	-0.068	109
1	98	-1.18	31.830	25.61	7.95	0.710	0.031	96
1	122	-1.30	32.300	26.00	7.39	0.660	0.081	89
1	147	-1.25	32.460	26.13	6.89	0.615	0.124	83
1	171	-1.46	32.660	26.29	7.02	0.627	0.116	84
1	195	-1.42	32.950	26.53	6.77	0.605	0.136	82
1	245	-1.05	33.860	27.25	6.54	0.584	0.144	80
1	293	-0.24	34.590	27.81	6.52	0.582	0.126	82

T3 CRUISE W02 STATION 030 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	-1.60	0.00	29.720	0.000	23.92	400.0	0.000	0.00	9.61	0.00	
10	-1.60	0.00	29.720	0.000	23.92	399.8	0.041	0.02	9.61	0.00	
20	-1.60	0.00	29.580	0.000	23.80	410.5	0.082	0.08	9.52	0.00	
30	-1.62	0.00	29.690	0.000	23.89	401.9	0.123	0.19	9.80	0.00	
50	-1.39	0.00	30.006	0.014	24.14	377.6	0.201	0.51	9.72	0.00	0.95
75	-1.02	0.01	31.416	0.013	25.28	269.8	0.283	1.02	8.96	0.01	0.89
100	-1.19	0.00	31.875	0.004	25.65	233.9	0.346	1.58	7.89	0.01	0.88
150	-1.28	0.01	32.481	0.001	26.14	186.8	0.452	2.91	6.90	0.02	0.84
200	-1.40	0.00	33.035	0.008	26.60	143.7	0.535	4.38	6.73	0.00	0.96
250	-0.99	0.00	33.954	0.004	27.33	74.7	0.590	5.61	6.53	0.00	15.04

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

T3 CRUISE W02 STATION 031 OBSERVED VALUES

DATE	11/12/65	BAROMETER	06.1	WEATHER	00	WIND VELOC	05	WAVE PERIOD
HOUR	03.5	TEMP DRY	-39.2	VISIBILITY	8	WIND DIREC	29	SECCHI
LAT	75-19.8N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR
LONG	146-50.0W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING 3800

MESSENGER TIMES: 03.5
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.61	29.790	23.97				
1	10	-1.59	29.790	23.97				
1	15	-1.62	29.760	23.95				
1	20	-1.62	29.910	24.07				
1	25	-1.58	29.850	24.02				
1	30	-1.65	29.970	24.12				
1	35	-1.56	29.970	24.12				
1	40	-1.62	29.860	24.03				

T3 CRUISE W02 STATION 031 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	-1.61	0.00	29.790	0.000	23.97	394.5	0.000	0.00			
10	-1.59	0.00	29.790	0.000	23.97	394.4	0.040	0.02			
20	-1.62	0.00	29.910	0.000	24.07	385.0	0.079	0.08			
30	-1.65	0.00	29.970	0.000	24.12	380.2	0.118	0.18			

T3 CRUISE W02 STATION 032 OBSERVED VALUES

DATE 13/12/65 BAROMETER 19.7 WEATHER 00 WIND VELOC 03 WAVE PERIOD
HOUR 23.0 TEMP DRY -39.7 VISIBILITY 8 WIND DIREC 33 SECCHI
LAT 75-21.7N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 146-51.0W REL HUMID CLOUD AMT 0 WAVE HEIGHT SOUNDING 3780
MESSENGER TIMES: 23.0, 00.0
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.61	30.030	24.17				
1	10	-1.61	29.780	23.96				
1	15	-1.63	29.830	24.01				
1	20	-1.63	29.850	24.02				
1	25	-1.58	29.740	23.93				
1	30	-1.66	29.760	23.95				
1	35	-1.58	29.950	24.10				
1	40	-1.44	30.050	24.18				
1	45	-1.42	30.340	24.41				
2	45	-1.40	30.100	24.22				
2	50	-1.44	30.300	24.38				
2	55	-1.26	30.350	24.42				
2	60	-1.16	30.730	24.72				
2	65	-1.04	31.180	25.09				
2	70	-1.08	31.300	25.18				
2	75	-1.05	31.440	25.30				
2	80	-1.06	31.550	25.38				

T3 CRUISE W02 STATION 032 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	-1.61	0.00	30.030	0.000	24.17	376.0	0.000	0.00			
10	-1.61	0.00	29.780	0.000	23.96	395.2	0.039	0.02			
20	-1.63	0.00	29.850	0.000	24.02	389.6	0.079	0.08			
30	-1.66	0.00	29.760	0.000	23.95	396.4	0.118	0.18			
50	-1.44	0.00	30.300	0.000	24.38	354.9	0.194	0.49			
75	-1.05	0.00	31.440	0.000	25.30	267.9	0.273	0.98			

T3 CRUISE W02 STATION 033 OBSERVED VALUES

DATE 17/12/65 BAROMETER 18.7 WEATHER 02 WIND VELOC 03 WAVE PERIOD
HOUR 00.7 TEMP DRY -40.5 VISIBILITY 7 WIND DIREC 34 SECCHI
LAT 75-16.0N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 147-16.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 00.7, 01.5
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.59	29.850	24.02				
1	10	-1.57	30.190	24.30				
1	15	-1.54	30.160	24.27				
1	20	-1.60	30.210	24.31				
1	25	-1.57	30.100	24.22				
1	30	-1.64	29.960	24.11				
1	35	-1.58	30.010	24.15				
1	40	-1.60	30.260	24.35				
1	45	-1.45	30.340	24.42				
2	45	-1.41	30.390	24.46				
2	50	-1.38	30.500	24.54				
2	55	-1.26	30.610	24.63				
2	60	-1.18	30.720	24.72				
2	65	-1.02	30.970	24.92				
2	70	-1.02	31.220	25.12				
2	75	-1.04	31.530	25.37				
2	80	-1.05	31.650	25.47				

T3 CRUISE W02 STATION 033 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	F(O)	VAR RATIO
0	-1.59	0.00	29.850	0.000	24.02	389.9	0.000	0.00			
10	-1.57	0.00	30.190	0.000	24.30	363.6	0.038	0.02			
20	-1.60	0.00	30.210	0.000	24.31	361.9	0.075	0.08			
30	-1.64	0.00	29.960	0.000	24.11	381.0	0.112	0.17			
50	-1.38	0.00	30.500	0.000	24.54	339.6	0.185	0.47			
75	-1.04	0.00	31.530	0.000	25.37	261.0	0.261	0.94			

T3 CRUISE W02 STATION 034 OBSERVED VALUES

DATE 17/12/65 BAROMETER 19.1 WEATHER 02 WIND VELOC 04 WAVE PERIOD
HOUR 02.6 TEMP DRY -41.5 VISIBILITY 7 WIND DIREC 33 SECCHI
LAT 75-15.8N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 147-18.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3780
MESSENGER TIMES: 02.6
WIRE ANGLES: 03

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	299	-0.24	34.180	27.48	6.21	0.555	0.155	78
1	398	0.33	34.400	27.63	6.38	0.570	0.128	82
1	497	0.50	34.740	27.89	6.59	0.589	0.104	85
1	596	0.46	34.310	27.55	6.52	0.582	0.114	84
1	695	0.39	34.700	27.86	6.80	0.607	0.088	87
1	794	0.22	34.090	27.38	6.82	0.609	0.093	87
1	892	0.12	34.220	27.49	6.83	0.610	0.093	87
1	991	0.02	34.580	27.79	6.85	0.612	0.091	87
1	1089	-0.10	34.610	27.82	6.90	0.616	0.089	87

T3 CRUISE W02 STATION 035 OBSERVED VALUES

DATE	17/12/65	BAROMETER	19.8	WEATHER	01	WIND VELOC	04	WAVE PERIOD	
HOUR	04.8	TEMP DRY	-42.5	VISIBILITY	7	WIND DIREC	32	SECCHI	
LAT	75-15.8N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR	
LONG	147-18.0W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING	3800

MESSENGER TIMES: 04.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	20	-1.59	29.670	23.88	9.41	0.840	-0.079	110
1	30	-1.62	29.810	23.99	9.65	0.862	-0.100	113
1	50	-1.38	30.530	24.57	9.66	0.863	-0.110	115
1	75	-1.03	31.490	25.34	8.96	0.800	-0.060	108
1	100	-1.24	31.940	25.70	7.90	0.706	0.036	95
1	125	-1.34	32.320	26.01	7.19	0.642	0.100	87
1	150	-1.28	32.900	26.48	6.75	0.603	0.135	82
1	175	-1.47	33.220	26.75	6.80	0.607	0.132	82
1	200	-1.43	33.550	27.01	6.79	0.606	0.131	82
1	250	-1.06	33.820	27.22	6.79	0.606	0.122	83
1	300	-0.24	34.160	27.46	6.67	0.596	0.114	84

T3 CRUISE W02 STATION 035 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	F(O)	VAR RATIO
0	-1.58	0.00	29.610	0.000	23.83	408.5	0.000	0.00	9.59	0.00	
10	-1.58#		29.640#		23.85	406.0	0.042	0.02	9.50#		
20	-1.59	0.00	29.670	0.000	23.88	403.6	0.082	0.08	9.41	0.00	
30	-1.62	0.00	29.810	0.000	23.99	392.6	0.122	0.19	9.65	0.00	
50	-1.38	0.00	30.530	0.000	24.57	337.3	0.196	0.48	9.66	0.00	
75	-1.03	0.00	31.490	0.000	25.34	264.1	0.272	0.96	8.96	0.00	
100	-1.24	0.00	31.940	0.000	25.70	228.8	0.334	1.51	7.90	0.00	
150	-1.28	0.00	32.900	0.000	26.48	154.7	0.430	2.70	6.75	0.00	
200	-1.43	0.00	33.550	0.000	27.01	104.2	0.496	3.84	6.79	0.00	
250	-1.06	0.00	33.820	0.000	27.22	84.6	0.543	4.93	6.79	0.00	
300	-0.24	0.00	34.160	0.000	27.46	62.4	0.580	5.96	6.67	0.00	

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

T3 CRUISE W02 STATION 036 OBSERVED VALUES

DATE 20/12/65 BAROMETER 05.0 WEATHER 00 WIND VELOC 03 WAVE PERIOD
HOUR 04.7 TEMP DRY -40.5 VISIBILITY 7 WIND DIREC 18 SECCHI
LAT 75-13.1N TEMP WET CLOUD TYPE WAVE DIREC WATER COLOR
LONG 147-18.0W REL HUMID CLOUD AMT 0 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 04.7, 05.4
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.60	29.900	24.06				
1	10	-1.60	29.940	24.09				
1	15	-1.62	29.920	24.08				
1	20	-1.63	29.990	24.13				
1	25	-1.64	30.080	24.21				
1	30	-1.60	30.050	24.18				
1	35	-1.60	30.030	24.17				
1	40	-1.63	30.170	24.28				
1	45	-1.64	30.280	24.37				
2	45	-1.60	30.250	24.34				
2	50	-1.51	30.660	24.68				
2	55	-1.42	30.810	24.80				
2	60	-1.30	31.040	24.98				
2	65	-1.13	31.240	25.14				
2	70	-1.05	31.380	25.25				
2	75	-1.04	31.530	25.37				
2	80	-1.12	31.740	25.54				

T3 CRUISE W02 STATION 036 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	-1.60	0.00	29.900	0.000	24.06	386.1	0.000	0.00			
10	-1.60	0.00	29.940	0.000	24.09	382.9	0.039	0.02			
20	-1.63	0.00	29.990	0.000	24.13	378.8	0.078	0.08			
30	-1.60	0.00	30.050	0.000	24.18	374.1	0.116	0.18			
50	-1.51	0.00	30.660	0.000	24.68	327.0	0.186	0.46			
75	-1.04	0.00	31.530	0.000	25.37	261.0	0.260	0.93			

T3 CRUISE W02 STATION 037 OBSERVED VALUES

DATE 23/12/65 BAROMETER 07.1 WEATHER 01 WIND VELOC 03 WAVE PERIOD
HOUR 00.0 TEMP DRY -37.4 VISIBILITY 8 WIND DIREC 18 SECCHI
LAT 75-17.1N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 147-00.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 00.0, 00.8
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.60	29.740	23.93				
1	10	-1.60	29.780	23.96				
1	15	-1.62	29.810	23.99				
1	20	-1.62	29.920	24.08				
1	25	-1.64	30.030	24.17				
1	30	-1.62	29.970	24.12				
1	35	-1.61	30.010	24.15				
1	40	-1.60	30.080	24.21				
1	45	-1.62	30.250	24.35				
2	45	-1.61	30.280	24.37				
2	50	-1.41	30.370	24.44				
2	55	-1.43	30.500	24.54				
2	60	-1.42	30.640	24.66				
2	65	-1.24	30.820	24.80				
2	70	-1.12	31.110	25.03				
2	75	-1.23	31.200	25.11				
2	80	-1.23	31.560	25.40				

T3 CRUISE W02 STATION 037 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	-1.60	0.00	29.740	0.000	23.93	398.4	0.000	0.00			
10	-1.60	0.00	29.780	0.000	23.96	395.2	0.040	0.02			
20	-1.62	0.00	29.920	0.000	24.08	384.3	0.080	0.08			
30	-1.62	0.00	29.970	0.000	24.12	380.3	0.118	0.18			
50	-1.41	0.00	30.370	0.000	24.44	349.5	0.192	0.48			
75	-1.23	0.00	31.200	0.000	25.11	285.8	0.272	0.98			

T3 CRUISE W02 STATION 038 OBSERVED VALUES

DATE	25/12/65	BAROMETER	30.7	WEATHER	38	WIND VELOC	19	WAVE PERIOD	
HOUR	22.5	TEMP DRY	-23.1	VISIBILITY	7	WIND DIREC	14	SECCHI	
LAT	75-16.0N	TEMP WET		CLOUD TYPE	3	WAVE DIREC		WATER COLOR	
LONG	146-35.0W	REL HUMID		CLOUD AMT	1	WAVE HEIGHT		SOUNDING	3800

MESSENGER TIMES: 22.5, 23.6
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.60	29.700	23.90				
1	10	-1.60	29.670	23.88				
1	15	-1.62	29.720	23.92				
1	20	-1.61	29.760	23.95				
1	25	-1.63	29.790	23.97				
1	30	-1.60	29.740	23.93				
1	35	-1.59	29.850	24.02				
1	40	-1.60	29.940	24.09				
1	45	-1.62	30.050	24.18				
2	45	-1.62	30.030	24.17				
2	50	-1.57	30.430	24.49				
2	55	-1.50	30.530	24.57				
2	60	-1.37	30.730	24.73				
2	65	-1.18	30.810	24.79				
2	70	-1.10	31.110	25.03				
2	75	-1.09	31.530	25.37				
2	80	-1.14	31.670	25.48				

T3 CRUISE W02 STATION 038 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	F(O)	VAR RATIO
0	-1.60	0.00	29.700	0.000	23.90	401.5	0.000	0.00			
10	-1.60	0.00	29.670	0.000	23.88	403.7	0.041	0.02			
20	-1.61	0.00	29.760	0.000	23.95	396.6	0.081	0.08			
30	-1.60	0.00	29.740	0.000	23.93	398.0	0.121	0.19			
50	-1.57	0.00	30.430	0.000	24.49	344.6	0.196	0.49			
75	-1.09	0.00	31.530	0.000	25.37	260.9	0.272	0.96			

T3 CRUISE W02 STATION 039 OBSERVED VALUES

DATE 26/12/65 BAROMETER 97.3 WEATHER 71 WIND VELOC 11 WAVE PERIOD
HOUR 23.1 TEMP DRY -15.9 VISIBILITY 4 WIND DIREC 14 SECCHI
LAT 75-25.3N TEMP WET CLOUD TYPE 5 WAVE DIREC WATER COLOR
LONG 146-18.0W REL HUMID CLOUD AMT 8 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 23.1, 23.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.59	29.520	23.75				
1	10	-1.61	29.690	23.89				
1	15	-1.62	29.700	23.90				
1	20	-1.60	29.670	23.88				
1	25	-1.64	29.780	23.96				
1	30	-1.58	29.650	23.86				
1	35	-1.58	29.650	23.86				
1	40	-1.60	29.830	24.00				
1	45	-1.64	29.880	24.05				
2	45	-1.60	29.880	24.05				
2	50	-1.60	29.900	24.06				
2	55	-1.52	30.070	24.20				
2	60	-1.34	30.260	24.35				
2	65	-1.10	30.480	24.52				
2	70	-1.08	30.950	24.90				
2	75	-1.06	31.270	25.16				
2	80	-1.12	31.740	25.54				

T3 CRUISE W02 STATION 039 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	-1.59	0.00	29.520	0.000	23.75	415.4	0.000	0.00			
10	-1.61	0.00	29.690	0.000	23.89	402.1	0.042	0.02			
20	-1.60	0.00	29.670	0.000	23.88	403.6	0.082	0.08			
30	-1.58	0.00	29.650	0.000	23.86	405.0	0.123	0.19			
50	-1.60	0.00	29.900	0.000	24.06	385.4	0.203	0.51			
75	-1.06	0.00	31.270	0.000	25.16	280.9	0.287	1.04			

T3 CRUISE W02 STATION 040 OBSERVED VALUES

DATE 29/12/65 BAROMETER 13.9 WEATHER 02 WIND VELOC 11 WAVE PERIOD
HOUR 00.4 TEMP DRY -33.8 VISIBILITY 7 WIND DIREC 32 SECCHI
LAT 75-19.0N TEMP WET CLOUD TYPE 3 WAVE DIREC WATER COLOR
LONG 146-08.0W REL HUMID CLOUD AMT 1 WAVE HEIGHT SOUNDING 3800
MESSENGER TIMES: 00.4, 01.2
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.60	29.830	24.00				
1	10	-1.60	29.780	23.96				
1	15	-1.61	29.740	23.93				
1	20	-1.61	29.760	23.95				
1	25	-1.63	29.780	23.96				
1	30	-1.60	29.720	23.92				
1	35	-1.59	29.760	23.95				
1	40	-1.61	29.790	23.97				
1	45	-1.59	29.850	24.02				
2	45	-1.58	29.900	24.06				
2	50	-1.53	29.960	24.11				
2	55	-1.40	30.120	24.24				
2	60	-1.27	30.280	24.36				
2	65	-1.10	30.660	24.67				
2	70	-1.09	30.910	24.87				
2	75	-1.05	31.200	25.10				
2	80	-1.14	31.650	25.47				

T3 CRUISE W02 STATION 040 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	-1.60	0.00	29.830	0.000	24.00	391.5	0.000	0.00			
10	-1.60	0.00	29.780	0.000	23.96	395.2	0.040	0.02			
20	-1.61	0.00	29.760	0.000	23.95	396.6	0.080	0.08			
30	-1.60	0.00	29.720	0.000	23.92	399.6	0.120	0.19			
50	-1.53	0.00	29.960	0.000	24.11	380.9	0.199	0.51			
75	-1.05	0.00	31.200	0.000	25.10	286.3	0.283	1.03			

T3 CRUISE W02 STATION 041 OBSERVED VALUES

DATE	01/01/66	BAROMETER	24.5	WEATHER	03	WIND VELOC 03	WAVE PERIOD
HOUR	01.0	TEMP DRY	-36.7	VISIBILITY	7	WIND DIREC 21	SECCHI
LAT	75-15.8N	TEMP WET		CLOUD TYPE	3	WAVE DIREC	WATER COLOR
LONG	146-06.0W	REL HUMID		CLOUD AMT	3	WAVE HEIGHT	SOUNDING 3810

MESSENGER TIMES: 01.0, 01.7
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	5	-1.60	30.100	24.22				
1	10	-1.59	29.990	24.13				
1	15	-1.61	30.010	24.15				
1	20	-1.61	29.970	24.12				
1	25	-1.63	29.920	24.08				
1	30	-1.61	29.940	24.09				
1	35	-1.60	29.970	24.12				
1	40	-1.62	30.050	24.18				
1	45	-1.58	30.140	24.26				
2	45	-1.58	30.080	24.21				
2	50	-1.54	30.250	24.34				
2	55	-1.45	30.410	24.47				
2	60	-1.23	30.590	24.61				
2	65	-1.11	30.810	24.79				
2	70	-1.08	31.090	25.01				
2	75	-1.06	31.260	25.15				
2	80	-1.13	31.560	25.39				

T3 CRUISE W02 STATION 041 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	-1.60	0.00	30.100	0.000	24.22	370.6	0.000	0.00			
10	-1.59	0.00	29.990	0.000	24.13	379.0	0.038	0.02			
20	-1.61	0.00	29.970	0.000	24.12	380.4	0.077	0.08			
30	-1.61	0.00	29.940	0.000	24.09	382.6	0.115	0.18			
50	-1.54	0.00	30.250	0.000	24.34	358.6	0.190	0.48			
75	-1.06	0.00	31.260	0.000	25.15	281.7	0.270	0.99			

T3 CRUISE W02 STATION 042 OBSERVED VALUES

DATE 03/01/66 BAROMETER 12.5 WEATHER 71 WIND VELOC 10 WAVE PERIOD
HOUR 22.8 TEMP DRY -12.6 VISIBILITY 6 WIND DIREC 21 SECCHI
LAT 75-17.9N TEMP WET CLOUD TYPE 4 WAVE DIREC WATER COLOR
LONG 146-00.0W RFL HUMID CLOUD AMT 7 WAVE HEIGHT SOUNDING 3850
MESSENGER TIMES: 22.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	AOU	SATN
1	10	-1.60	29.610	23.83	9.60	0.857	-0.095	112
1	20	-1.60	29.610	23.83	9.40	0.840	-0.077	110
1	30	-1.62	29.630	23.84	9.54	0.852	-0.089	112
1	50	-1.62	30.660	24.68	9.55	0.853	-0.096	113
1	75	-1.12	31.940	25.70	8.91	0.796	-0.056	108
1	100	-1.11	32.070	25.81	7.85	0.701	0.038	95
1	125	-1.27	32.200	25.92	7.08	0.632	0.109	85
1	150	-1.42	32.430	26.11	6.83	0.610	0.133	82
1	175	-1.47	32.790	26.40	6.72	0.600	0.142	81

T3 CRUISE W02 STATION 042 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	-1.60	0.00	29.610	0.000	23.83	408.5	0.000	0.00	9.60	0.00	
10	-1.60	0.00	29.610	0.000	23.83	408.3	0.042	0.02	9.60	0.00	
20	-1.60	0.00	29.610	0.000	23.83	408.2	0.083	0.08	9.40	0.00	
30	-1.62	0.00	29.630	0.000	23.84	406.5	0.124	0.19	9.54	0.00	
50	-1.62	0.00	30.660	0.000	24.68	326.9	0.198	0.49	9.55	0.00	
75	-1.12	0.00	31.940	0.000	25.70	229.3	0.268	0.92	8.91	0.00	
100	-1.11	0.00	32.070	0.000	25.81	219.2	0.324	1.43	7.85	0.00	
150	-1.42	0.00	32.430	0.000	26.11	190.3	0.427	2.73	6.83	0.00	

DATA AT 0 METERS WAS ASSUMED FOR PURPOSES OF INTERPOLATION.

T3 CRUISE W02 STATION 043 OBSERVED VALUES

DATE 03/01/66 BAROMETER 12.5 WEATHER 71 WIND VELOC 11 WAVE PERIOD
HOUR 23.8 TEMP DRY -12.8 VISIBILITY 6 WIND DIREC 21 SECCHI
LAT 75-17.9N TEMP WET CLOUD TYPE 4 WAVE DIREC WATER COLOR
LONG 146-00.0W REL HUMID CLOUD AMT 7 WAVE HEIGHT SOUNDING 3850
MESSENGER TIMES: 23.8
WIRE ANGLES: 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	150	-1.40	32.430	26.11	6.77	0.605	0.138	81
1	200	-1.42	33.080	26.63	6.76	0.604	0.136	82
1	250	-0.93	33.730	27.14	6.75	0.603	0.123	83
1	300	-0.27	34.360	27.62	6.68	0.597	0.113	84

T3 CRUISE W02 STATION 044 OBSERVED VALUES

DATE	04/01/66	BAROMETER	12.5	WEATHER	71	WIND VELOC	10	WAVE PERIOD	
HOUR	00.9	TEMP DRY	-12.6	VISIBILITY	6	WIND DIREC	21	SECCHI	
LAT	75-17.9N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR	
LONG	146-00.0W	REL HUMID		CLOUD AMT	7	WAVE HEIGHT		SOUNDING	3850

MESSENGER TIMES: 00.9, 01.5
WIRE ANGLES: 00, 00

CST	DEPTH	TEMP	SAL	SIGMA-T	******** OXYGEN ******** ML/L	MGA/L	ADU	SATN
1	5	-1.60	29.690	23.89				
1	10	-1.60	29.610	23.83				
1	15	-1.61	29.630	23.84				
1	20	-1.60	29.630	23.84				
1	25	-1.62	29.650	23.86				
1	30	-1.62	29.630	23.84				
1	35	-1.62	29.690	23.89				
1	40	-1.62	29.700	23.90				
1	45	-1.63	29.870	24.04				
2	45	-1.62	29.900	24.06				
2	50	-1.62	30.620	24.64				
2	55	-1.51	30.810	24.80				
2	60	-1.37	31.040	24.98				
2	65	-1.20	31.310	25.19				
2	70	-1.14	31.510	25.35				
2	75	-1.12	31.940	25.70				
2	80	-1.12	31.960	25.72				

T3 CRUISE W02 STATION 044 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	-1.60	0.00	29.690	0.000	23.89	402.3	0.000	0.00			
10	-1.60	0.00	29.610	0.000	23.83	408.3	0.041	0.02			
20	-1.60	0.00	29.630	0.000	23.84	406.7	0.082	0.08			
30	-1.62	0.00	29.630	0.000	23.84	406.5	0.123	0.19			
50	-1.62	0.00	30.620	0.000	24.64	329.9	0.198	0.49			
75	-1.12	0.00	31.940	0.000	25.70	229.3	0.268	0.92			

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 FLETCHER'S ICE ISLAND (T-3): BEAUFORT SEA AREA, JUNE 1965 - JANUARY 1966.

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*
Interim Report June 1965 - January 1966

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

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
November 1966	96	17

8a. CONTRACT OR GRANT NO.
Nonr-477(37) ONR-368

b. PROJECT NO.
NR 083 012

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)
Technical Report No. 157

9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*
Reference M66-23

10. DISTRIBUTION STATEMENT
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11. SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY
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13. ABSTRACT

This report contains tabulated physical, chemical, and current data collected during 1965 and early 1966 from Fletcher's Ice Island (T-3), located in the Beaufort Gyre of the Arctic Ocean. These data were collected as part of a year-round study of the water characteristics of the Arctic Ocean, in particular, of currents and secular change.

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						
Fletcher's Ice Island (T-3)						
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of the Norwegian Defense Research
Establishment
Karljohansvern, Horten, Norway

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

1 Marine Science Center
Lehigh University
Bethlehem, Pennsylvania 18015

1 Lieutenant Nestor C. L. Granelli
Montevideo 459
Buenos Aires, Argentina

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