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DEPARTMENT OF

OCEANOGRAPHY

Technical Report No. 187

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

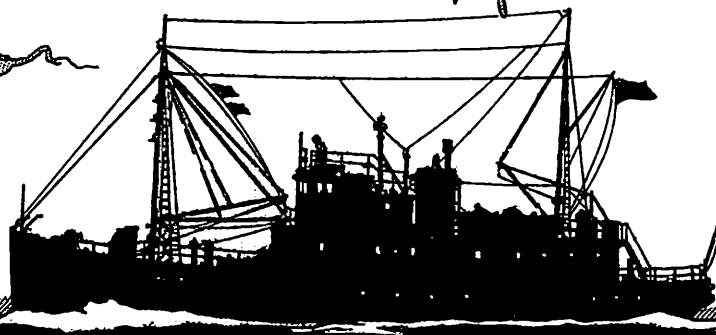
by

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 M67-31
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SEATTLE, WASHINGTON 98105

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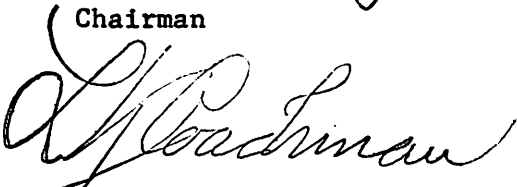
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ABSTRACT

This report contains tabulated physical and chemical data collected from 15 January to 26 May 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.

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INTRODUCTION

This report contains oceanographic data collected from Fletcher's Ice Island (T-3) during Cruise W03 which began on 20 January 1966 and ended on 22 May 1966.

The objectives of this year-round study are to provide data on certain problems of Arctic oceanography, in particular with respect to currents and secular change, and oceanography associated with the freezing process. Cruise W03 continued the work of Cruise W02 (Tripp, 1966) with special emphasis placed on the freezing process and the routine monitoring of the water column.

Operation and Types of Observations

Fletcher's Ice Island (T-3) is a large island of thick ice in the Arctic Ocean that has presumably formed from the 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 m thick. The oceanographic working area was located on the sea ice bordering the island (Fig. 1). This sea ice was approximately 3 m thick. Sampling was done through a 1.3-m² hole in the ice that was sheltered by an insulated plywood prefab hut of approximately 4.5 x 3 x 2.4 m. The hut housed the hydrographic winch, diesel space heater, and oceanographic sampling and measuring equipment. Electric heating cables, infrared heating lamps, and a small air compressor were used to keep the hydro hole free of ice. However, ice still formed constantly at the surface of the hydro hole where it was removed with an ice chisel and at the bottom where explosives were often necessary to remove it.

At present the island is located in the Beaufort Gyre of the Canadian Basin. Fig. 2 shows the island's movement during Cruise W03. Fig. 3 shows the location of oceanographic stations accomplished during the cruise. The island's latitude and longitude were obtained by celestial navigation. Fixes were obtained daily (Table 1), weather permitting.

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 hole (Fig. 1). No current measurements were taken during Cruise W03.

Collection of Data

Nansen bottles were used to obtain the water samples for salinity and dissolved oxygen analysis. For routine monitoring of the water column, samples were obtained at standard oceanographic depths (U.S. Navy Hydrographic Office, 1955a). For detailed study of the freezing processes, 5-m sampling intervals were used between 5 and 90 m. Because of the heating lamps and cables and the accumulation of freshwater in the hydro hole, surface readings would have been nonrepresentative; hence,

they were not made. For 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 m 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 salinity determinations were made on an inductive salinometer (Model RS-7A, Industrial Instruments Co., Cedar Grove, New Jersey). These values are considered to have an accuracy of $\pm 0.003\%$.

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

The following quantities were computed with the IBM 7094-7040 Direct Couple System at the Research Computer Laboratory of the University of Washington: σ_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; σ_t for interpolated values; specific volume anomaly ($\Sigma\Delta$), 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 σ_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 its 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 variance ratio that 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 Cruise W03 and were staff members in the Department of Oceanography, University of Washington.

Mimms, Jack B. (15 Jan-27 Mar 1966)

Davies, Warwick J. (25 Mar-26 May 1966)

Acknowledgments

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

EXPLANATION OF DATA TABLES

Abbreviations and Headings Used in Oceanographic Station Data Tables

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

DATE	Greenwich month/day/year
HR (Hour)	Greenwich mean time to the nearest hour and tenths of hour of the messenger drop on the first cast
LAT	Latitude in degrees, minutes, and on some stations, tenths of minutes
LONG	Longitude in degrees, minutes, and on some stations, tenths of minutes
SDG	Depth of water in meters as determined by a PDR (Precision Depth Recorder)
WEA	State of weather (<i>See</i> code, page 8.)
WVEL __DIR__	Wind velocity in knots and wind direction (<i>See</i> code, page 7.)
VIS	Range of visibility (<i>See</i> code, page 7.)
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 (<i>See</i> code, page 6.) Cloud cover in eighths (oktas) (<i>See</i> code, page 7.)
DRY	Air temperature, dry bulb, in degrees and tenths of a degree Celsius
WET	Air temperature, wet bulb, in degrees and tenths of a degree Celsius
RELHU	Relative humidity expressed in percent

WA	Wire angle in degrees (The first number is the wire angle for Cast 1; the second for Cast 2, etc. Dashes (--) indicate the wire angle was not recorded for that cast.)
CST	Cast number
DEPTH	Depth in meters from which sample was obtained
TEMP	Temperature in degrees Celsius to hundredths
SAL	Salinity in parts per thousand to thousandths
SIGMA-T (σ_t)	An expression for the density of seawater at atmospheric pressure, 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 oxygen utilization in milligram-atoms per liter to thousandths
SATN	Percent of oxygen saturation
SP VOL ANOMALY	The anomaly of specific volume ($10^5 \delta$) at the indicated temperature, salinity, and pressure compared to a standard water of 0°C 35‰ salinity at the same pressure (Tabular values multiplied by 10^{-5} will give the anomaly in units of cubic centimeters per gram.)
GEO POT ANOMALY	Geopotential anomaly ($\Sigma \Delta D$) in dynamic meters of the layer of water between the surface and the indicated depth
POT ENERGY	Potential energy anomaly in units of 10^8 ergs/cm ² of the layer of water between the surface and the indicated depth
OXY (Oxygen)	Interpolated values at standard depths in milliliters per liter to hundredths
VAR RATIO	Ratio of the variance of the interpolation polynomial to the variance of the measurement (The value of the variance ratio is an indication of the vertical spacing of the observed values)

upon which the interpolation is based. Values close to 1 indicate optimum spacing. Values greater than 3 indicate that the vertical spacing is inadequate to represent faithfully the distribution of properties in this region of the curve. In the case of missing values, where different combinations of observed values may be used to interpolate at the same depth, the variance ratio that indicates the worst spacing has been printed. Values greater than 100 have been printed as 99.99. If the observed depth corresponds to a desired standard depth, no interpolation is made and the variance ratio is not computed.)

- E(T) Interpolation error, in degrees Celsius, of the temperature value at this depth (If the observed depth corresponds to a desired standard depth, the interpolation error will be zero.)
- E(S) Interpolation error, in parts per thousand, of the salinity value at this depth (*See* comments under E(T) above.)
- E(O) Interpolation error, in milliliters per liter, of the oxygen value at this depth (*See* comments under E(T) above.)

Codes Used for Reporting Observations

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

Cloud Type. WMO Code 0500

Code

0	Cirrus
1	Cirrocumulus
2	Cirrostratus
3	Alto cumulus
4	Altostratus
5	Nimbostratus
6	Stratocumulus
7	Stratus
8	Cumulus
9	Cumulonimbus
X	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena

Amount of Cloud Cover. WMO Code 2700

Code

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

Visibility. WMO Code 4300

Code

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

Direction. Compass direction from which wind is coming

Code

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

NUMERICAL WEATHER CODES—PRESENT WEATHER

00 Cloud development NOT observed or NOT observed 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 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 observation.	21 Rain (NOT freezing and NOT falling as showers) during past hour, but NOT at time of observation.	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 has increased 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 time, sky discernible.	49 Fog, depositing time, 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 observation.	53 Continuous drizzle (NOT freezing), moderate at time of observation.	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 observation.	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 snow mixed.	88 Moderate or heavy shower(s) of soft or small hail with or without rain or snow mixed.	89 Slight shower(s) of hail, with or without rain or snow mixed, not associated with thunder.
90 Moderate or heavy shower(s) of hail, with or without rain or snow mixed, not associated with thunder.	91 Slight rain at time of observation, but NOT at time of observation.	92 Moderate or heavy rain at time of observation, but NOT at time of observation.	93 Slight snow or rain and snow mixed or hail at time of observation, but NOT at time of observation.	94 Mod. or heavy snow, or rain and snow mixed or hail at time of observation, 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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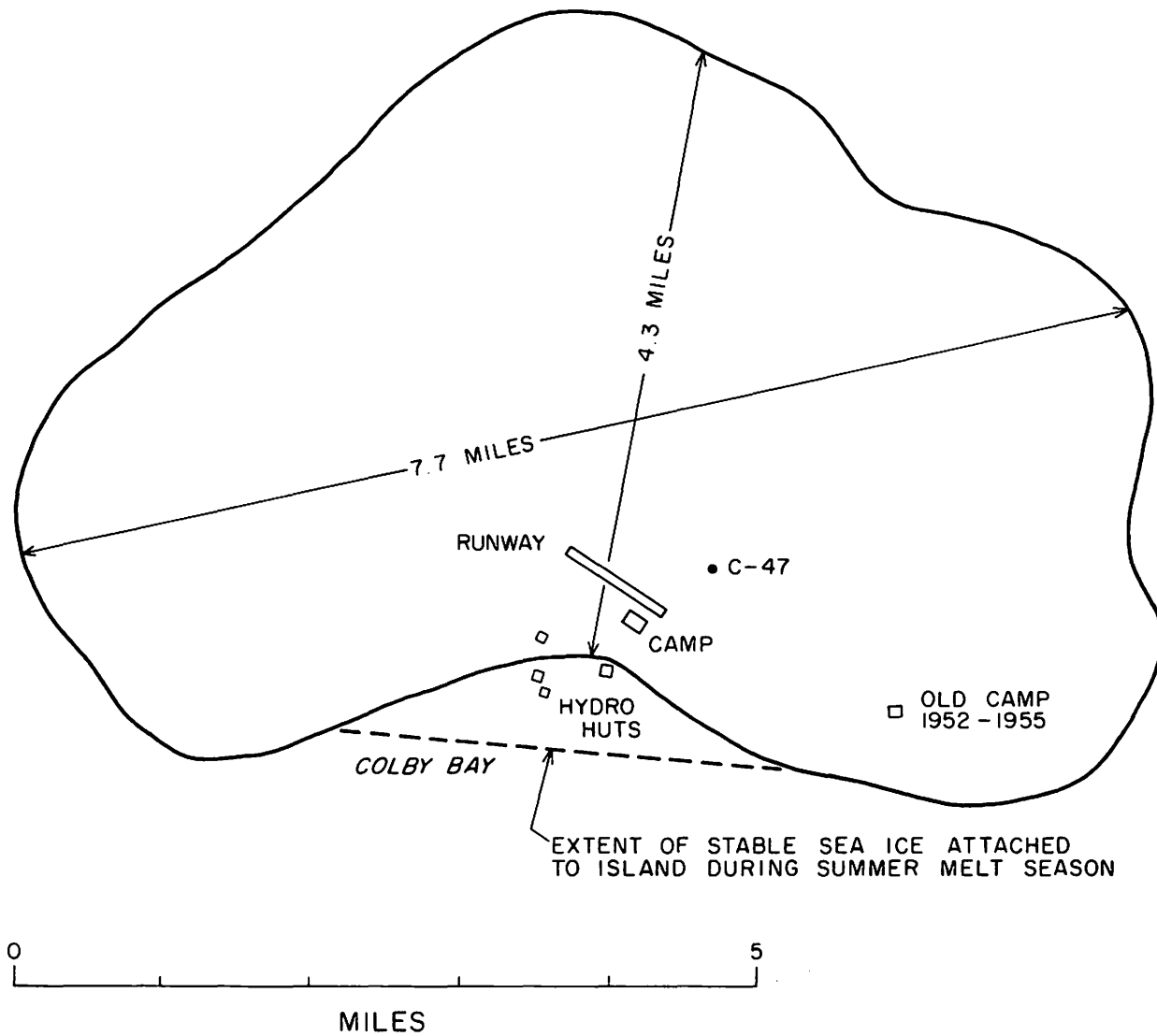


Fig. 1. Map of Fletcher's Ice Island (T-3).

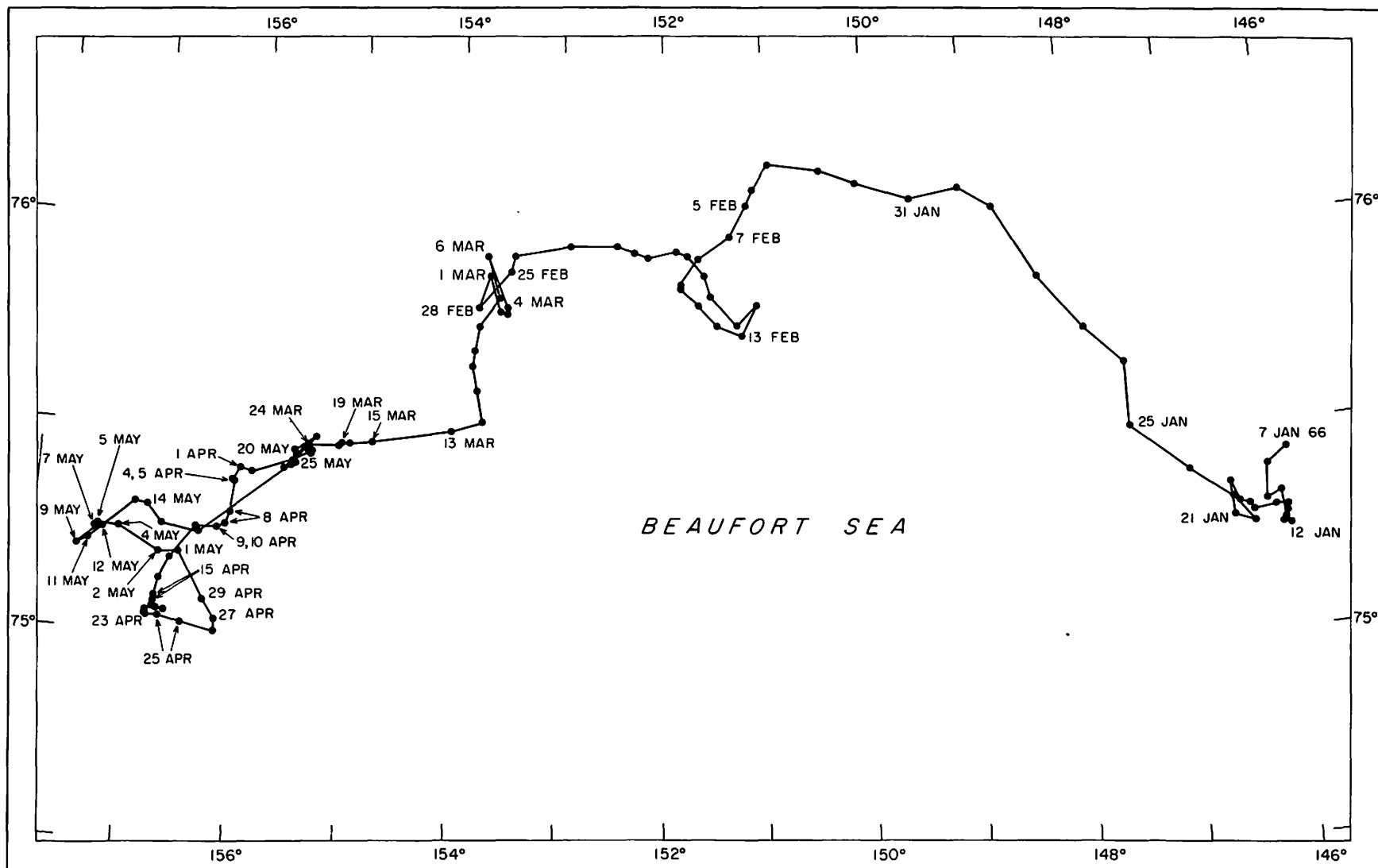


Fig. 2. Chart of a portion of the Beaufort Sea showing the track of Fletcher's Ice Island (T-3) during Cruise W03, 15 January - 26 May 1966.

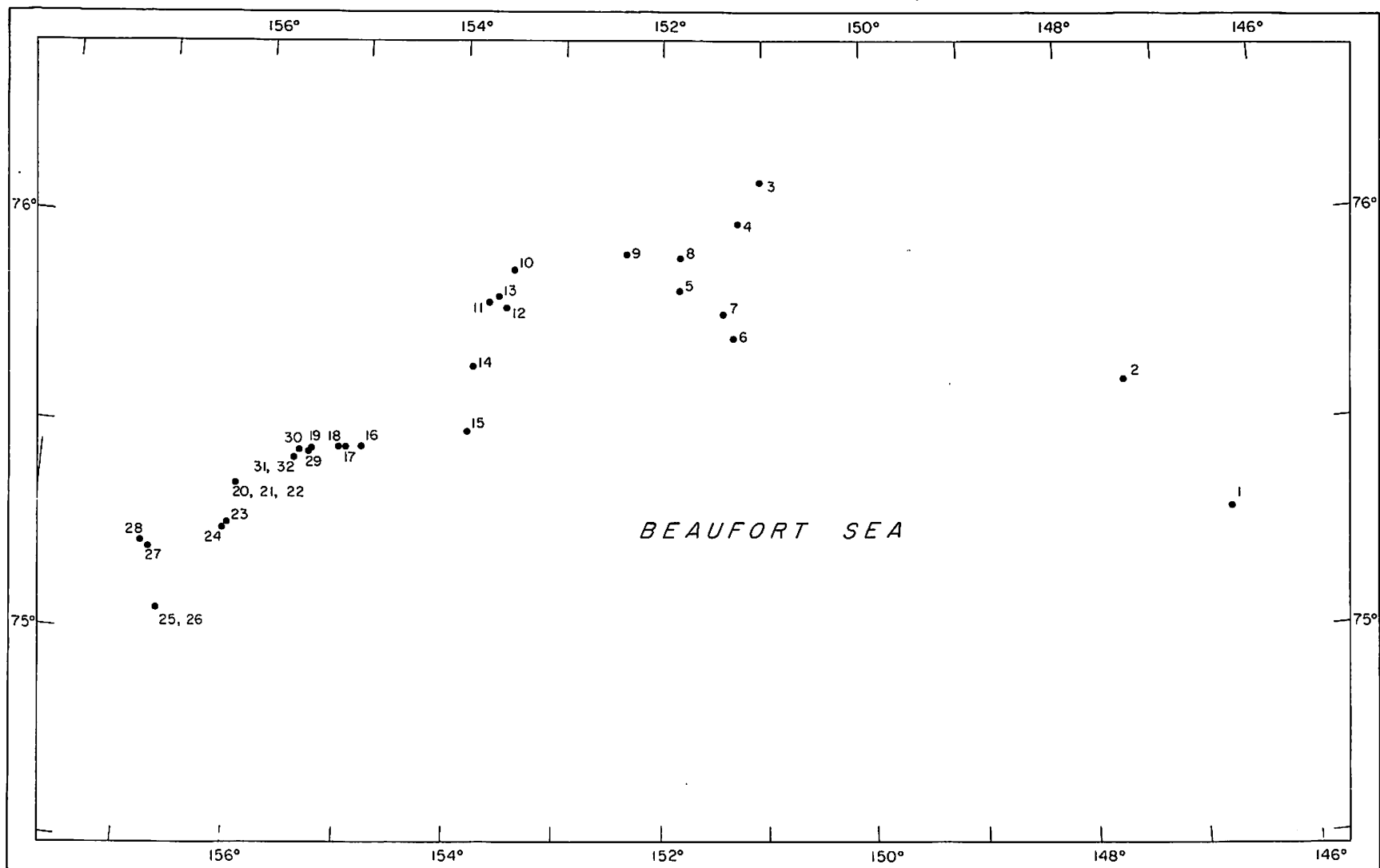


Fig. 3. Location of oceanographic stations accomplished during Cruise W03, 15 January - 26 May 1966.

TABLE 1

*Navigational positions, Fletcher's Ice Island (T-3), Cruise W03,
15 January - 26 May 1966*

Date	Time (GMT)	Latitude (N)	Longitude (W)	Azimuth (°T)
January				
15	0739	75°17.5'	146°02'	316.6
16	0628	75°17.5'	146°08'	317.6
17	0830	75°17.2'	146°21'	320.3
18	0904	75°18.2'	146°24'	319.7
19	0714	75°18.4'	146°29'	320.4
20	0054	75°21.3'	146°33'	320.8
21	1002	75°16.7'	146°32'	325.1
22	0657	75°15.3'	146°21'	325.1
23	1042	75°19.2'	146°33'	327.1
24	0306	75°23.9'	146°57'	325.9
25	0410	75°35.5'	147°29'	328.1
26	0356	75°40.2'	147°30'	330.2
27	0348	75°45.0'	147°52'	330.3
28	0315	75°52.3'	148°17'	330.3
29	1001	76°03.5'	148°43'	331.8
30	0535	76°05.7'	149°03'	328.6
31	0915	76°04.6'	149°33'	330.0
February				
1	1136	76°07.3'	150°06'	331.9
2	0829	76°09.3'	150°26'	331.9
3	0826	76°10.2'	150°57'	332.5
4	1052	76°06.3'	151°06'	332.4
5	0703	76°03.8'	151°10'	331.6
7	1107	75°59.9'	151°20'	330.0
8	0536	75°57.0'	151°38'	330.5
9	1049	75°53.0'	151°49'	330.2
10	0833	75°52.3'	151°49'	330.3
11	0712	75°49.4'	151°38'	331.0
12	1217	75°46.6'	151°28'	332.9
13	0714	75°45.3'	151°14'	332.7
14	0758	75°49.6'	151°04'	332.8
15	0629	75°46.7'	151°16'	334.9
16	1523	75°51.4'	151°32'	336.2
17	1044	75°54.0'	151°36'	336.5
18	1647	75°57.1'	151°45'	336.5
19	1019	75°57.3'	151°52'	336.1
20	0928	75°56.6'	152°09'	337.7
21	0504	75°57.2'	152°17'	338.6
22	1252	75°58.7'	152°27'	338.5
23	0609	75°58.7'	152°55'	338.1

TABLE 1 (continued)

Date	Time (GMT)	Latitude (N)	Longitude (W)	Azimuth (°T)
February				
24	0757	75°57.0'	153°28'	337.9
25	0920	75°54.8'	153°30'	337.2
28	0818	75°49.6'	153°49'	337.5
March				
1	0640	75°54.0'	153°42'	337.3
2	0703	75°48.6'	153°36'	338.7
3	0616	75°48.2'	153°32'	338.0
4	0604	75°49.7'	153°32'	340.0
6	0805	75°57.0'	153°44'	339.2
7	1048	75°50.7'	153°37'	340.2
8	0700	75°46.3'	153°48'	339.5
9	0659	75°43.1'	153°51'	340.8
10	0755	75°40.8'	153°52'	341.0
11	0606	75°37.3'	153°49'	342.9
12	0759	75°32.5'	153°44'	342.8
13	0724	75°31.5'	154°03'	342.0
15	0712	75°29.8'	154°48'	342.0
16	1310	75°29.3'	155°02'	341.1
19	1225	75°29.1'	155°05'	339.3
22	0955	75°28.9'	155°07'	339.9
24	0847	75°28.9'	155°24'	339.8
25	0708	75°28.7'	155°24'	340.1
26	0825	75°28.4'	155°26'	340.0
27	0724	75°27.8'	155°25'	337.1
28	1148	75°27.2'	155°23'	339.7
29	0744	75°27.4'	155°23'	339.6
30	1111	75°26.1'	155°36'	340.9
31	0743	75°24.5'	155°57.5'	340.0
April				
1	1009	75°24.8'	156°04'	341.3
2	2343	75°23.0'	156°08'	341.1
4	2348	75°23.0'	156°07'	341.4
5	2353	75°23.0'	156°07'	341.4
8	0115	75°18.3'	156°08'	341.5
8	2332	75°16.5'	156°11'	342.0
9	2313	75°16.0'	156°17'	343.0
10	2313	75°16.0'	156°17'	343.4
11	0028	75°16.0'	156°26'	343.4
12	2328	75°11.4'	156°40'	343.7
13	2314	75°07.3'	156°46'	343.2
15	0022	75°05.8'	156°47.5'	342.9
15	2145	75°04.6'	156°48'	344.0
16	2238	75°03.7'	156°48'	345.1

TABLE 1 (continued)

Date	Time (GMT)	Latitude (N)	Longitude (W)	Azimuth (°T)
April				
17	2133	75°03.7'	156°47'	343.3
18	2210	75°03.3'	156°42'	344.8
19	2333	75°03.2'	156°46'	344.4
20	2047	75°03.7'	156°51'	344.9
21	2153	75°02.8'	156°52'	344.8
22	2158	75°02.5'	156°52'	345.3
23	2153	75°02.7'	156°51'	345.1
25	0058	75°02.7'	156°43'	344.8
25	2158	75°01.7'	156°32'	345.0
26	2310	75°01.0'	156°13'	345.8
27	2324	75°02.8'	156°13'	345.8
29	0332	75°05.2'	156°22'	
May				
1	2254	75°12.0'	156°35'	
2	2150	75°11.8'	156°48'	349.5
4	0218	75°15.0'	157°12'	349.0
5	0254	75°15.0'	157°24'	348.0
6	0129	75°14.4'	157°26'	346.4
7	0246	75°14.0'	157°25'	345.9
9	2400	75°11.4'	157°35'	346.1
11	0115	75°11.7'	157°28'	347.2
12	0035	75°14.2'	157°22'	347.5
12	2207	75°18.4'	157°03'	347.5
14	0350	75°18.0'	156°55'	347.2
15	0212	75°15.6'	156°45'	348.2
16	0100	75°15.0'	156°26'	349.3
17	2350	75°25.5'	155°35'	351.5
19	0200	75°30.0'	155°21'	354.6
20	2022	75°27.2'	155°35'	355.1
25-26	2300-0243	75°26.0'	155°33'	357.0

T3 CRUISE W03

STATION 001

OBSERVED VALUES

DATE	21/01/66	BAROMETER	28.6	WEATHER	02	WIND VELOC	08	WAVE PERIOD
HOUR	01.1	TEMP DRY	-39.2	VISIBILITY	7	WIND DIREC	26	SECCHI
LAT	75-18.5N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR
LONG	146-33.0W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING
MESSENGER	TIMES: 01.1, 02.6							
WIRE	ANGLES: --, --							

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	30.241	24.34				
1	10	-1.65	30.275	24.37				
1	15	-1.64	30.251	24.35				
1	20	-1.62	30.253	24.35				
1	25		30.245					
1	30	-1.62	30.282	24.37				
1	35	-1.64	30.253	24.35				
1	40	-1.62	30.262	24.35				
2	45	-1.64	30.234	24.33				
2	50	-1.64	30.253	24.35				
2	55	-1.29	30.719	24.72				
2	60	-1.15	31.195	25.10				
2	65	-1.08	31.538	25.38				
2	70	-1.02	31.778	25.57				
2	75	-1.04	31.933	25.69				
2	80	-1.04	31.976	25.73				

		T3 CRUISE W03		STATION 001		INTERPOLATED AND COMPUTED VALUES					
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	30.241	0.000	24.34	359.7	0.000	0.00			
10	-1.65	0.00	30.275	0.000	24.37	356.9	0.037	0.02			
20	-1.62	0.00	30.253	0.000	24.35	358.6	0.073	0.07			
30	-1.62	0.00	30.282	0.000	24.37	356.2	0.109	0.17			
50	-1.64	0.00	30.253	0.000	24.35	358.2	0.181	0.46			
75	-1.04	0.00	31.933	0.000	25.69	230.1	0.255	0.92			

T3 CRUISE W03

STATION 002

OBSERVED VALUES

DATE 25/01/66	BAROMETER 19.3	WEATHER 03	WIND VELOC 03	WAVE PERIOD
HOUR 23.9	TEMP DRY -27.2	VISIBILITY 7	WIND DIREC 11	SECCHI
LAT 75-37.9N	TEMP WET	CLOUD TYPE 4	WAVE DIREC	WATER COLOR
LONG 147-30.0W	REL HUMID	CLOUD AMT 2	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 23.9, 25.0	--, --			
WTRE ANGLES:				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****
					ML/L MGA/L AOU SATN
1	5	-1.67	29.931	24.09	
1	10	-1.63	29.934	24.09	
1	15	-1.62	29.931	24.09	
1	20	-1.62	29.922	24.08	
1	25	-1.62	29.925	24.08	
1	30	-1.62	29.920	24.08	
1	35	-1.63	29.926	24.08	
1	40	-1.62	29.940	24.09	
2	45	-1.65	29.926	24.08	
2	50	-1.58	30.109	24.23	
2	55	-1.27	30.458	24.51	
2	60	-1.16	30.777	24.76	
2	65	-1.06	31.155	25.07	
2	70	-1.07	31.354	25.23	
2	75	-1.08	31.547	25.38	
2	80	-1.10	31.665	25.48	

DEPTH	T3 CRUISE W03			STATION 002		INTERPOLATED AND COMPUTED VALUES					
	TEMP	F(T)	SAL	F(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.67	0.00	29.931	0.000	24.09	383.6	0.000	0.00			
10	-1.63	0.00	29.934	0.000	24.09	383.3	0.039	0.02			
20	-1.62	0.00	29.922	0.000	24.08	384.1	0.078	0.08			
30	-1.62	0.00	29.920	0.000	24.08	384.1	0.116	0.18			
50	-1.58	0.00	30.109	0.000	24.23	369.4	0.192	0.49			
75	-1.08	0.00	31.547	0.000	25.38	259.6	0.272	0.98			

T3 CRUISE W03

STATION 003

OBSERVED VALUES

DATE	03/02/66	BAROMETER	28.1	WEATHER	03	WIND VELOC	07	WAVE PERIOD
HOUR	20.6	TEMP DRY	-35.3	VISIBILITY	7	WIND DIREC	30	SECCHI
LAT	76-08.2N	TEMP WET		CLOUD TYPE	2	WAVE DIREC		WATER COLOR
LONG	151-01.5W	REL HUMID		CLOUD AMT	2	WAVE HEIGHT		SOUNDING
MESSENGER TIMES:	20.6, 23.6							
WIRE ANGLES:	00, 00							

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	30.076	24.20				
1	10	-1.64	30.052	24.19				
1	15	-1.62	30.077	24.21				
1	20	-1.62	30.060	24.19				
1	25	-1.62	30.070	24.20				
1	30	-1.61	30.079	24.21				
1	35	-1.63	30.077	24.21				
1	40	-1.61	30.070	24.20				
2	45	-1.64	30.091	24.22				
2	50	-1.38	30.499	24.54				
2	55	-1.22	30.677	24.68				
2	60	-1.13	31.093	25.02				
2	65	-1.06	31.258	25.15				
2	70	-1.06	31.492	25.34				
2	75	-1.10	31.650	25.47				
2	80	-1.10	31.820	25.60				

T3 CRUISE W03 STATION 003 INTERPOLATED AND COMPUTED VALUES											
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPIIT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	30.076	0.000	24.20	372.4	0.000	0.00			
10	-1.64	0.00	30.052	0.000	24.19	374.2	0.038	0.02			
20	-1.62	0.00	30.060	0.000	24.19	373.5	0.076	0.08			
30	-1.61	0.00	30.079	0.000	24.21	371.9	0.113	0.17			
50	-1.38	0.00	30.499	0.000	24.54	339.7	0.185	0.47			
75	-1.10	0.00	31.650	0.000	25.47	251.6	0.259	0.93			

T3 CRUISE W03

STATION 004

OBSERVED VALUES

DATE	06/02/66	BAROMETER	99.5	WEATHER	71	WIND VELOC	04	WAVE PERIOD
HOUR	21.8	TEMP DRY	-26.2	VISIBILITY	5	WIND DIREC	30	SECCHI
LAT	76-02.4N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR
LONG	151-15.5W	REL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING
MESSENGER TIMES:	21.8, 23.5							
WIRE ANGLES:	--, --							

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	29.968	24.12				
1	10	-1.66	29.963	24.11				
1	15	-1.63	29.953	24.10				
1	20	-1.64	29.965	24.11				
1	25	-1.60	29.975	24.12				
1	30	-1.62	29.964	24.11				
1	35	-1.62	29.974	24.12				
1	40	-1.61	29.982	24.13				
2	45	-1.65	29.985	24.13				
2	50	-1.39	30.375	24.44				
2	55	-1.24	30.376	24.44				
2	60	-1.12	30.904	24.86				
2	65	-1.06	31.253	25.15				
2	70	-1.08	31.422	25.28				
2	75	-1.08	31.569	25.40				
2	80	-1.10	31.706	25.51				

DEPTH	TEMP	E(T)	T3 CRUISE W03		STATION 004		INTERPOLATED AND COMPUTED VALUES				
			SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPUT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	29.968	0.000	24.12	380.7	0.000	0.00			
10	-1.66	0.00	29.963	0.000	24.11	381.0	0.039	0.02			
20	-1.64	0.00	29.965	0.000	24.11	380.8	0.077	0.08			
30	-1.62	0.00	29.964	0.000	24.11	380.7	0.116	0.18			
50	-1.39	0.00	30.375	0.000	24.44	349.2	0.189	0.48			
75	-1.08	0.00	31.569	0.000	25.40	257.9	0.266	0.95			

T3 CRUISE W03

STATION 005

OBSERVED VALUES

DATE 09/02/66	BAROMETER 06.6	WEATHER 02	WIND VELOC 10	WAVE PERIOD
HOUR 20.6	TEMP DRY -39.0	VISIBILITY 6	WIND DIREC 30	SECCHI
LAT 75-52.9N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 151-50.0W	RFL HUMID	CLOUD AMT 2	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 20.6, 21.7				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	ADU	SATN
1	5	-1.66	29.990	24.14				
1	10	-1.64	29.990	24.13				
1	15	-1.62	29.975	24.12				
1	20	-1.64	29.955	24.11				
1	25	-1.61	29.977	24.12				
1	30	-1.61	29.987	24.13				
1	35	-1.62	29.976	24.12				
1	40	-1.62	29.979	24.13				
2	45	-1.64	29.986	24.13				
2	50	-1.42	30.318	24.40				
2	55	-1.24						
2	60	-1.10	31.208	25.11				
2	65	-1.08	31.501	25.35				
2	70	-1.10	31.608	25.43				
2	75	-1.14	31.779	25.57				
2	80	-1.20	32.024	25.77				

T3 CRUISE W03			STATION 005		INTERPOLATED AND COMPUTED VALUES						
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	29.990	0.000	24.14	379.0	0.000	0.00			
10	-1.64	0.00	29.990	0.000	24.13	379.0	0.039	0.02			
20	-1.64	0.00	29.955	0.000	24.11	381.5	0.077	0.08			
30	-1.61	0.00	29.987	0.000	24.13	379.0	0.115	0.18			
50	-1.42	0.00	30.318	0.000	24.40	353.5	0.189	0.48			
75	-1.14	0.00	31.779	0.000	25.57	241.6	0.264	0.94			

T3 CRUISE W03

STATION 006

OBSERVED VALUES

DATE 13/02/66	BAROMETER 18.1	WEATHER 02	WIND VELOC 10	WAVE PERIOD
HOUR 01.3	TEMP DRY -38.8	VISIBILITY 5	WIND DIREC 27	SECCHI
LAT 75-46.0N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 151-19.0W	REL HUMID	CLOUD AMT 2	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 01.3, 02.3				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	29.962	24.11				
1	10	-1.66	29.950	24.10				
1	15	-1.60	29.958	24.11				
1	20	-1.64	29.952	24.10				
1	25	-1.60	29.950	24.10				
1	30	-1.61	29.955	24.11				
1	35	-1.64	29.955	24.11				
1	40	-1.62	29.955	24.11				
2	45	-1.66	29.958	24.11				
2	50	-1.64	29.965	24.11				
2	55	-1.35	30.409	24.47				
2	60	-1.25	30.681	24.69				
2	65	-1.14	30.982	24.93				
2	70	-1.17	31.231	25.13				
2	75	-1.16	31.414	25.28				
2	80	-1.13	31.606	25.43				

		T3 CRUISE W03			STATION 006		INTERPOLATED AND COMPUTED VALUES				
DFPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	29.962	0.000	24.11	381.2	0.000	0.00			
10	-1.66	0.00	29.950	0.000	24.10	382.0	0.039	0.02			
20	-1.64	0.00	29.952	0.000	24.10	381.8	0.077	0.08			
30	-1.61	0.00	29.955	0.000	24.11	381.4	0.116	0.18			
50	-1.64	0.00	29.965	0.000	24.11	380.4	0.193	0.49			
75	-1.16	0.00	31.414	0.000	25.28	269.6	0.274	1.00			

T3 CRUISE W03 STATION 007 OBSERVED VALUES

DATE 16/02/66	BAROMETER 33.0	WEATHER 02	WIND VELOC 10	WAVE PERIOD
HOUR 01.1	TEMP DRY -30.1	VISIBILITY 5	WIND DIREC 10	SECCHI
LAT 75-49.8N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 151-24.0W	REL HUMID	CLOUD AMT 7	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 01.1, 01.6	--, --			
WIRE ANGLES:				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****	
					ML/L	MGA/L
1	5	-1.67	30.056	24.19		
1	10	-1.66	30.045	24.18		
1	15	-1.64	30.052	24.19		
1	20	-1.64	30.069	24.20		
1	25	-1.62	30.055	24.19		
1	30	-1.60	30.058	24.19		
1	35	-1.64	30.068	24.20		
1	40	-1.64	30.060	24.19		
2	45	-1.65	30.054	24.19		
2	50	-1.64	30.072	24.20		
2	55	-1.36	30.462	24.51		
2	60	-1.22	30.854	24.83		
2	65	-1.14	31.180	25.09		
2	70	-1.11	31.398	25.26		
2	75	-1.16	31.510	25.36		
2	80	-1.13	31.728	25.53		

T3 CRUISE W03 STATION 007 INTERPOLATED AND COMPUTED VALUES											
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.67	0.00	30.056	0.000	24.19	373.9	0.000	0.00			
10	-1.66	0.00	30.045	0.000	24.18	374.7	0.038	0.02			
20	-1.64	0.00	30.069	0.000	24.20	372.7	0.076	0.08			
30	-1.60	0.00	30.058	0.000	24.19	373.5	0.113	0.17			
50	-1.64	0.00	30.072	0.000	24.20	372.1	0.189	0.48			
75	-1.16	0.00	31.510	0.000	25.36	262.2	0.268	0.98			

T3 CRUISE W03

STATION 008

OBSERVED VALUES

DATE 19/02/66	BAROMETER 49.2	WEATHER 02	WIND VELOC 06	WAVE PERIOD
HOUR 06.9	TEMP DRY -38.6	VISIBILITY 6	WIND DIREC 01	SECCHI
LAT 75-57.7N	TEMP WET	CLOUD TYPE	WAVE DIREC	WATER COLOR
LONG 151-50.0W	REL HUMID	CLOUD AMT 0	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 06.9, 08.3	--, --			
WIRE ANGLES:				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	30.044	24.18				
1	10	-1.67	30.043	24.18				
1	15	-1.64	30.040	24.18				
1	20	-1.62	30.043	24.18				
1	25	-1.61	30.046	24.18				
1	30	-1.60	30.043	24.18				
1	35	-1.64	30.044	24.18				
1	40	-1.58	30.043	24.18				
2	45	-1.65	30.047	24.18				
2	50	-1.64	30.045	24.18				
2	55	-1.61	30.045	24.18				
2	60	-1.45	30.338	24.41				
2	65	-1.30	30.564	24.59				
2	70	-1.22	30.824	24.80				
2	75	-1.16						
2	80	-1.10	31.352	25.23				

		T3 CRUISE W03			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	-1.66	0.00	30.044	0.000	24.18	374.9	0.000	0.00			
10	-1.67	0.00	30.043	0.000	24.18	374.8	0.038	0.02			
20	-1.62	0.00	30.043	0.000	24.18	374.8	0.076	0.08			
30	-1.60	0.00	30.043	0.000	24.18	374.7	0.114	0.17			
50	-1.64	0.00	30.045	0.000	24.18	374.2	0.189	0.48			
75	-1.16	0.00	31.095	0.003	25.02	294.1	0.273	1.01			12.37

T3 CRUISE W03

STATION 009

OBSERVED VALUES

DATE	21/02/66	BAROMETER	29.1	WEATHER	01	WIND VELOC	13	WAVE PERIOD
HOUR	20.1	TEMP DRY	-30.4	VISIBILITY	7	WIND DIREC	08	SECCHI
LAT	75-58.1N	TEMP WET		CLOUD TYPE		WAVE DIREC		WATER COLOR
LONG	152-21.0W	REL HUMID		CLOUD AMT	0	WAVE HEIGHT		SOUNDING
MESSENGER	TIMES: 20.1, 21.5							
WIRE	ANGLES: --, --							

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	29.940	24.09				
1	10	-1.66	29.938	24.09				
1	15	-1.62	29.938	24.09				
1	20	-1.64	29.938	24.09				
1	25	-1.61	29.938	24.09				
1	30	-1.60	29.965	24.11				
1	35	-1.62	29.937	24.09				
1	40	-1.62	29.943	24.10				
2	45	-1.66	29.962	24.11				
2	50	-1.54	30.253	24.35				
2	55	-1.35	30.452	24.50				
2	60	-1.30	30.695	24.70				
2	65	-1.19	31.006	24.95				
2	70	-1.14	31.295	25.18				
2	75	-1.11	31.497	25.34				
2	80	-1.10	31.694	25.50				

		T3 CRUISE W03			STATION 009		INTERPOLATED AND COMPUTED VALUES				
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	29.940	0.000	24.09	382.9	0.000	0.00			
10	-1.66	0.00	29.938	0.000	24.09	382.9	0.039	0.02			
20	-1.64	0.00	29.938	0.000	24.09	382.8	0.078	0.08			
30	-1.60	0.00	29.965	0.000	24.11	380.7	0.116	0.18			
50	-1.54	0.00	30.253	0.000	24.35	358.3	0.191	0.48			
75	-1.11	0.00	31.497	0.000	25.34	263.4	0.269	0.97			

T3 CRUISE W03 STATION 010 OBSERVED VALUES

DATE 25/02/66	BAROMETER 00.7	WEATHER 02	WIND VELOC 04	WAVE PERIOD
HOUR 02.6	TEMP DRY -37.2	VISIBILITY 7	WIND DIREC 34	SECCHI
LAT 75-55.6N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 153-29.0W	REL HUMID	CLOUD AMT 1	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 02.6, 06.2				
WIRE ANGLES:	--, --			

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	29.963	24.11				
1	10	-1.65	29.961	24.11				
1	15	-1.63	29.966	24.12				
1	20	-1.62	29.960	24.11				
1	25	-1.61	29.961	24.11				
1	30	-1.60	29.956	24.11				
1	35	-1.63	29.961	24.11				
1	40	-1.64	29.960	24.11				
2	45	-1.65	29.966	24.12				
2	50	-1.65	29.961	24.11				
2	55	-1.34	30.438	24.49				
2	60	-1.22	30.794	24.78				
2	65	-1.14	31.094	25.02				
2	70	-1.12	31.351	25.23				
2	75	-1.11	31.534	25.37				
2	80	-1.12	31.721	25.52				

DEPTH	T3 CRUISE W03			STATION 010		INTERPOLATED AND COMPUTED VALUES					
	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	29.963	0.000	24.11	381.1	0.000	0.00			
10	-1.65	0.00	29.961	0.000	24.11	381.2	0.039	0.02			
20	-1.62	0.00	29.960	0.000	24.11	381.2	0.077	0.08			
30	-1.60	0.00	29.956	0.000	24.11	381.4	0.116	0.18			
50	-1.65	0.00	29.961	0.000	24.11	380.7	0.192	0.49			
75	-1.11	0.00	31.534	0.000	25.37	260.5	0.273	0.99			

T3 CRUISE W03 STATION 011 OBSERVED VALUES

DATE 27/02/66	BAROMETER 11.9	WEATHER 02	WIND VELOC 05	WAVE PERIOD
HOUR 21.2	TEMP DRY -22.9	VISIBILITY 6	WIND DIREC 26	SECCHI
LAT 75-51.0N	TEMP WET	CLOUD TYPE 4	WAVE DIREC	WATER COLOR
LONG 153-41.0W	RFL HUMID	CLOUD AMT 8	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 21.2, 24.6				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	29.980	24.13				
1	10	-1.66	29.989	24.13				
1	15	-1.65	29.974	24.12				
1	20	-1.64	29.977	24.12				
1	25	-1.62	29.982	24.13				
1	30	-1.62	29.984	24.13				
1	35	-1.64	29.987	24.13				
1	40	-1.64	29.988	24.13				
2	45	-1.64	29.991	24.14				
2	50	-1.62	29.991	24.14				
2	55	-1.54	29.988	24.13				
2	60	-1.31	30.646	24.66				
2	65		30.978					
2	70		31.184					
2	75		31.376					
2	80		31.565					
2	85		31.773					

			T3 CRUISE W03		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	-1.66	0.00	29.980	0.000	24.13	379.8	0.000	0.00			
10	-1.66	0.00	29.989	0.000	24.13	379.0	0.039	0.02			
20	-1.64	0.00	29.977	0.000	24.12	379.8	0.077	0.08			
30	-1.62	0.00	29.984	0.000	24.13	379.2	0.115	0.18			
50	-1.62	0.00	29.991	0.000	24.14	378.4	0.191	0.49			
75			31.376	0.000				0.99			

T3 CRUISE W03

STATION 012

OBSERVED VALUFS

DATE 04/03/66	BAROMETER 33.0	WEATHER 02	WIND VELOC 02	WAVE PERIOD
HOUR 08.2	TEMP DRY -37.9	VISIBILITY 6	WIND DIREC 08	SECCHI
LAT 75-50.2N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 153-33.0W	REL HUMID	CLOUD AMT 1	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 08.2, 09.0				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****	
					ML/L	MGA/L
1	5	-1.66	29.980	24.13		
1	10	-1.64	29.971	24.12		
1	15	-1.63	29.967	24.12		
1	20	-1.61	29.972	24.12		
1	25	-1.64	29.975	24.12		
1	30	-1.62	29.968	24.12		
1	35	-1.62	29.976	24.12		
1	40	-1.64	29.968	24.12		
1	45	-1.58	30.049	24.18		
2	50	-1.44	30.426	24.48		
2	55	-1.30	30.695	24.70		
2	60	-1.21	31.031	24.97		
2	65	-1.15	31.278	25.17		
2	70	-1.13	31.390	25.26		
2	75	-1.07	31.574	25.40		
2	80	-1.12	31.742	25.54		
2	85	-1.14	31.879	25.65		
2	90	-1.16	31.990	25.74		

T3 CRUISE W03 STATION 012 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	29.980	0.000	24.13	379.8	0.000	0.00			
10	-1.64	0.00	29.971	0.000	24.12	380.4	0.039	0.02			
20	-1.61	0.00	29.972	0.000	24.12	380.3	0.077	0.08			
30	-1.62	0.00	29.968	0.000	24.12	380.4	0.115	0.18			
50	-1.44	0.00	30.426	0.000	24.48	345.2	0.189	0.47			
75	-1.07	0.00	31.574	0.000	25.40	257.6	0.264	0.95			

T3 CRUISE W03 STATION 013 OBSERVED VALUES											
DATE	07/03/66	BAROMETER	31.8	WEATHER	38	WIND VELOC	15	WAVE PERIOD			
HOUR	06.8	TEMP DRY	-29.6	VISIBILITY	4	WIND DIREC	31	SECCHI			
LAT	75-51.9N	TEMP WET		CLOUD TYPE	4	WAVE DIREC		WATER COLOR			
LONG	153-37.0W	RFL HUMID		CLOUD AMT	8	WAVE HEIGHT		SOUNDING			
MESSENGER TIMES:	06.8										
WTRE ANGLES:	--										

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	ADU	SATN
1	5	-1.64	29.994	24.14				
1	10	-1.62	29.986	24.13				
1	15	-1.62	29.993	24.14				
1	20	-1.63						
1	25	-1.63						
1	30	-1.60						
1	35	-1.54						
1	45	-1.65						

T3 CRUISE W03

STATION 014

OBSERVED VALUES

DATE 10/03/66
 HOUR 05.9
 LAT 75-41.6N
 LONG 153-52.2W
 MESSENGER TIMES: 05.9, 07.7
 WIRE ANGLES: --, --

BAROMETER 30.3
 TEMP DRY -38.9
 TEMP WET
 REL HUMID

WEATHER 03
 VISIBILITY 6
 CLOUD TYPE 2
 CLOUD AMT 2

WIND VELOC 05
 WIND DIREC 28
 WAVE DIREC
 WAVE HEIGHT

WAVE PERIOD
 SECCHI
 WATER COLOR
 SOUNDING

CST	DEPTH	TEMP	SAL	SIGMA-T
1	5	-1.65	30.030	24.17
1	10	-1.62	30.002	24.14
1	15	-1.63	30.025	24.16
1	20	-1.64	30.036	24.17
1	25	-1.63	30.030	24.17
1	30	-1.60	30.030	24.17
1	35	-1.62	30.037	24.17
1	40	-1.56	30.155	24.27
1	45	-1.25	30.798	24.78
2	50	-1.15	31.200	25.10
2	55	-1.08	31.502	25.35
2	60	-1.12	31.655	25.47
2	65	-1.12	31.779	25.57
2	70	-1.16	31.942	25.70
2	75	-1.17	32.085	25.82
2	80	-1.21	32.192	25.91
2	85	-1.22	32.241	25.95
2	90	-1.24	32.294	25.99

***** OXYGEN *****
 ML/L MGA/L ADU SATN

		T3 CRUISE W03			STATION 014		INTERPOLATED AND COMPUTED VALUES				
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.65	0.00	30.030	0.000	24.17	376.0	0.000	0.00			
10	-1.62	0.00	30.002	0.000	24.14	378.0	0.038	0.02			
20	-1.64	0.00	30.036	0.000	24.17	375.3	0.076	0.08			
30	-1.60	0.00	30.030	0.000	24.17	375.7	0.114	0.18			
50	-1.15	0.00	31.200	0.000	25.10	286.3	0.181	0.44			
75	-1.17	0.00	32.085	0.000	25.82	218.1	0.244	0.84			

T3 CRUISE W03 STATION 015 OBSERVED VALUES

DATE 12/03/66	BAROMETER 12.5	WEATHER 44	WIND VELOC 08	WAVE PERIOD
HOOR 19.4	TEMP DRY -40.0	VISIBILITY 6	WIND DIREC 36	SECCHI
LAT 75-32.1N	TEMP WET	CLOUD TYPE 3	WAVE DIREC	WATER COLOR
LONG 153-53.0W	REL HUMID	CLOUD AMT 1	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 19.4, 23.2				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	30.040	24.18				
1	10	-1.62	30.045	24.18				
1	15	-1.65	30.048	24.18				
1	20	-1.63	30.060	24.19				
1	25	-1.62	30.070	24.20				
1	30	-1.51	30.189	24.29				
1	35	-1.32	30.584	24.61				
1	40	-1.25	30.779	24.77				
1	45	-1.12	31.174	25.08				
2	50	-1.15	31.331	25.21				
2	55	-1.10	31.577	25.41				
2	60	-1.14	31.762	25.56				
2	65	-1.12	31.829	25.61				
2	70	-1.11	31.875	25.65				
2	75	-1.12	31.962	25.72				
2	80	-1.14	32.013	25.76				
2	85	-1.16	32.068	25.81				
2	90	-1.17	32.259	25.96				

			T3 CRUISE W03	STATION 015		INTERPOLATED AND COMPUTED VALUES					
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	30.040	0.000	24.18	375.2	0.000	0.00			
10	-1.62	0.00	30.045	0.000	24.18	374.7	0.038	0.02			
20	-1.63	0.00	30.060	0.000	24.19	373.4	0.076	0.08			
30	-1.51	0.00	30.189	0.000	24.29	363.5	0.113	0.17			
50	-1.15	0.00	31.331	0.000	25.21	276.2	0.178	0.43			
75	-1.12	0.00	31.962	0.000	25.72	227.6	0.241	0.83			

T3 CRUISE W03 STATION 016 OBSERVED VALUES

DATE 15/03/66	BAROMETER 24.3	WEATHER 36	WIND VELOC 10	WAVE PERIOD
HOUR 23.6	TEMP DRY -26.8	VISIBILITY 6	WIND DIREC 08	SECCHI
LAT 75-29.6N	TEMP WET	CLOUD TYPE 3	WAVE DIREC	WATER COLOR
LONG 154-53.0W	REL HUMID	CLOUD AMT 2	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 23.6, 24.8	--, --			
WIRE ANGLES:				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****
					ML/L MGA/L AOU SATN
1	5		30.070		
1	10		30.078		
1	15		30.084		
1	20		30.082		
1	25		30.086		
1	30		30.121		
1	35		30.158		
1	40	-1.34	30.592	24.62	
1	45	-1.10	31.274	25.16	
2	50	-1.12	31.432	25.29	
2	55	-1.12	31.706	25.51	
2	60	-1.16	31.894	25.67	
2	65	-1.14	31.975	25.73	
2	70	-1.14	32.014	25.76	
2	75	-1.12	32.090	25.82	
2	80	-1.16	32.152	25.87	
2	85	-1.21	32.225	25.93	
2	90	-1.23	32.263	25.97	

T3 CRUISE W03

STATION 017

OBSERVED VALUES

DATE 18/03/66	BAROMETER 22.5	WEATHER 73	WIND VELOC 06	WAVE PERIOD
HOUR 19.0	TEMP DRY -23.6	VISIBILITY 5	WIND DIREC 22	SECCHI
LAT 75-29.4N	TEMP WET	CLOUD TYPE 7	WAVE DIREC	WATER COLOR
LONG 155-03.5W	RFL HUMID	CLOUD AMT 8	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 19.0, 20.3				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.13	30.063	24.19				
1	10	-1.12	30.051	24.18				
1	15	-1.60	30.074	24.20				
1	20	-1.62	30.089	24.21				
1	25	-1.62	30.108	24.23				
1	30	-1.57	30.177	24.29				
1	35	-1.41	30.530	24.57				
1	40	-1.17	30.996	24.94				
1	45	-1.10	31.382	25.25				
2	50	-1.14	31.605	25.43				
2	55	-1.14	31.849	25.63				
2	60	-1.15	31.940	25.70				
2	65	-1.16	32.006	25.76				
2	70	-1.14	32.081	25.82				
2	75	-1.14	32.118	25.85				
2	80	-1.18	32.194	25.91				
2	85	-1.22	32.242	25.95				
2	90	-1.26	32.306	26.00				

		T3 CRUISE W03			STATION 017		INTERPOLATED AND COMPUTED VALUES				
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEO POT ANOMALY	POT ENERGY	OXY ML/L	E(D)	VAR RATIO
0	-1.13	0.00	30.063	0.000	24.19	374.3	0.000	0.00			
10	-1.12	0.00	30.051	0.000	24.18	375.1	0.038	0.02			
20	-1.62	0.00	30.089	0.000	24.21	371.2	0.076	0.08			
30	-1.57	0.00	30.177	0.000	24.29	364.4	0.113	0.17			
50	-1.14	0.00	31.605	0.000	25.43	255.2	0.175	0.42			
75	-1.14	0.00	32.118	0.000	25.85	215.6	0.235	0.79			

T3 CRUISE W03 STATION 018 OBSERVED VALUES

DATE 22/03/66	BAROMETER 32.6	WEATHER 03	WIND VELOC 06	WAVE PERIOD
HOUR 08.0	TEMP DRY -27.8	VISIBILITY 7	WIND DIREC 02	SECCHI
LAT 75-29.3N	TEMP WET	CLOUD TYPE 4	WAVE DIREC	WATER COLOR
LONG 155-06.5W	REL HUMID	CLOUD AMT 8	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 08.0, 09.8	--,			
WIRE ANGLES:	--,			

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.66	30.037	24.17				
1	10	-1.62	30.039	24.17				
1	15	-1.63	30.059	24.19				
1	20	-1.64	30.084	24.21				
1	25	-1.64	30.096	24.22				
1	30	-1.60	30.119	24.24				
1	35	-1.41	30.464	24.51				
1	40	-1.17	30.977	24.92				
1	45	-1.09	31.332	25.21				
2	50	-1.14	31.546	25.38				
2	55	-1.13	31.809	25.60				
2	60	-1.15	31.933	25.70				
2	65	-1.14	31.984	25.74				
2	70	-1.14	32.057	25.80				
2	75	-1.14	32.119	25.85				
2	80	-1.18	32.181	25.90				
2	85	-1.21	32.216	25.93				
2	90	-1.24	32.269	25.97				

			T3 CRUISE W03		STATION 018		INTERPOLATED AND COMPUTED VALUES				
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEO POT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	30.037	0.000	24.17	375.4	0.000	0.00			
10	-1.62	0.00	30.039	0.000	24.17	375.2	0.038	0.02			
20	-1.64	0.00	30.084	0.000	24.21	371.6	0.076	0.08			
30	-1.60	0.00	30.119	0.000	24.24	368.8	0.113	0.17			
50	-1.14	0.00	31.546	0.000	25.38	259.7	0.177	0.42			
75	-1.14	0.00	32.119	0.000	25.85	215.5	0.236	0.80			

T3 CRUISE W03 STATION 019 OBSERVED VALUES

DATE 24/03/66	BAROMETER 23.5	WEATHER 03	WIND VELOC 03	WAVE PERIOD
HOUR 18.9	TEMP DRY -31.7	VISIBILITY 7	WIND DIREC 22	SECCHI
LAT 75-28.8N	TEMP WFT	CLOUD TYPE 1	WAVE DIREC	WATER COLOR
LONG 155-24.0W	REL HUMID	CLOUD AMT 2	WAVE HEIGHT	SOUNDING
MESSENGER TIMES: 18.9, 22.8				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.65	30.056	24.19				
1	10	-1.63	30.057	24.19				
1	15	-1.64	30.063	24.19				
1	20	-1.62	30.070	24.20				
1	25	-1.62	30.072	24.20				
1	30	-1.61	30.073	24.20				
1	35	-1.61	30.072	24.20				
1	40	-1.53	30.252	24.35				
1	45	-1.30	30.611	24.63				
2	50	-1.18	31.011	24.95				
2	55	-1.07	31.348	25.22				
2	60	-1.10	31.517	25.36				
2	65	-1.12	31.669	25.48				
2	70	-1.16	31.903	25.67				
2	75	-1.14	32.029	25.77				
2	80	-1.17	32.120	25.85				
2	85	-1.19						
2	90	-1.24	32.195	25.91				

T3 CRUISE W03					STATION 019 INTERPOLATED AND COMPUTED VALUES						
DEPTH	TEMP	E (CT)	SAL	E (S)	SIGMA-T	SP VOL ANOMALY	GEOPOT ANOMALY	POT ENERGY	OXY ML/L	E (O)	VAR RATIO
0	-1.65	0.00	30.056	0.000	24.19	374.0	0.000	0.00			
10	-1.63	0.00	30.057	0.000	24.19	373.8	0.038	0.02			
20	-1.62	0.00	30.070	0.000	24.20	372.7	0.076	0.08			
30	-1.61	0.00	30.073	0.000	24.20	372.3	0.113	0.17			
50	-1.18	0.00	31.011	0.000	24.95	300.7	0.181	0.45			
75	-1.14	0.00	32.029	0.000	25.77	222.4	0.247	0.86			

T3 CRUISE W03				STATION 020 OBSERVED VALUES			
DATE 03/04/66	BAROMETER 22.4	WEATHER 42	WIND VELOC 12	WAVE PERIOD			
HR 00.9	TEMP DRY -22.4	VISIBILITY 5	WIND DIREC 05	SECCHI			
LAT 75-23.1N	TEMP WET	CLOUD TYPE 0	WAVE DIREC	WATER COLOR			
LONG 156-07.5W	REL HUMID	CLOUD AMT 2	WAVE HEIGHT	SOUNDING 2193			
MESSENGER TIMES: 00.9							
WIRE ANGLES:	00						

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	2080	-0.41	34.963	28.12	6.56	0.586	0.123	83
1	2135	-0.40	34.964	28.12	6.56	0.586	0.123	83
1	2145	-0.40	34.965	28.12	6.52	0.582	0.127	82
1	2155	-0.43	34.969	28.12	6.49	0.580	0.130	82
1	2160	-0.42	34.962	28.12	6.61	0.590	0.119	83
1	2165	-0.39	34.963	28.12	6.37	0.569	0.140	80
1	2170	-0.41	34.964	28.12	6.63	0.592	0.117	83
1	2175	-0.38	34.964	28.12	6.60	0.589	0.119	83
1	2180	-0.41	34.957	28.11	6.13	0.547	0.162	77

T3 CRUISE W03 STATION 021 OBSERVED VALUES

DATE 04/04/66	BAROMETER 25.9	WEATHER 02	WIND VELOC 10	WAVE PERIOD
HOUR 01.4	TEMP DRY -21.1	VISIBILITY 6	WIND DIREC 03	SECCHI
LAT 75-23.1N	TEMP WET	CLOUD TYPE 3	WAVE DIREC	WATER COLOR
LONG 156-07.5W	REL HUMID	CLOUD AMT 5	WAVE HEIGHT	SOUNDING 2193
MESSENGER TIMES: 01.4				
WIRE ANGLES: 03				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	599	0.49	34.882	28.00	6.74	0.602	0.091	87
1	699	0.32	34.903	28.03	6.79	0.606	0.089	87
1	799	0.15	34.890	28.03	6.81	0.608	0.091	87
1	899	0.02	34.890	28.04	6.76	0.604	0.098	86
1	1098	-0.14	34.893	28.05	6.76	0.604	0.101	86
1	1298	-0.23	34.920	28.07	6.75	0.603	0.103	85
1	1498	-0.36	34.930	28.09	6.66	0.595	0.114	84
1	1698	-0.38	34.934	28.09	6.61	0.590	0.118	83
1	1897	-0.41	34.934	28.09	6.55	0.585	0.124	82

T3 CRUISE W03 STATION 022 OBSERVED VALUES

DATE 04/04/66	BAROMETER 26.1	WEATHER 02	WIND VELOC 12	WAVE PERIOD
HOUR 04.9	TEMP DRY -20.3	VISIBILITY 6	WIND DIREC 04	SECCHI
LAT 75-23.1N	TEMP WET	CLOUD TYPE 3	WAVE DIREC	WATER COLOR
LONG 156-07.5W	REL HUMID	CLOUD AMT 7	WAVE HEIGHT	SOUNDING 2193
MESSENGER TIMES: 04.9				
WIRE ANGLES: 03				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	25	-1.64	30.109	24.23	9.19	0.821	-0.060	108
1	50	-1.34	30.726	24.73	9.08	0.811	-0.060	108
1	75	-1.12	31.647	25.46	7.95	0.710	0.031	96
1	100	-1.22	32.129	25.86				
1	150	-1.40	32.739	26.36	6.48	0.579	0.162	78
1	200	-1.44	33.221	26.75	6.30	0.563	0.176	76
1	250	-0.92	34.085	27.43	5.92	0.529	0.195	73
1	299	-0.31	34.545	27.78	6.02	0.538	0.172	76
1	349	0.20	34.731	27.90	6.28	0.561	0.138	80
1	399	0.44	34.830	27.96	6.47	0.578	0.116	83
1	449	0.58	34.849	27.97	6.58	0.588	0.103	85
1	499	0.54	34.856	27.98	6.51	0.581	0.110	84

DEPTH	T3 CRUISE W03				STATION 022 INTERPOLATED AND COMPUTED VALUES						
	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(D)	VAR RATIO
0	-1.64	0.00	30.109	0.000	24.23	369.9	0.000	0.00	9.19	0.00	
10	-1.68		30.035		24.17	375.4	0.038	0.02	9.20		
20	-1.66		30.060		24.19	373.4	0.076	0.08	9.20		
30	-1.59	0.01	30.196	0.008	24.30	362.9	0.113	0.17	9.21	0.02	0.77
50	-1.34	0.00	30.726	0.000	24.73	322.3	0.182	0.45	9.08	0.00	
75	-1.12	0.00	31.647	0.000	25.46	251.8	0.254	0.90	7.95	0.00	
100	-1.22	0.00	32.129	0.000	25.86	214.4	0.313	1.43	7.22	0.05	1.12
150	-1.40	0.00	32.739	0.000	26.36	166.7	0.409	2.63	6.48	0.00	
200	-1.44	0.00	33.221	0.000	26.75	129.3	0.484	3.95	6.30	0.00	
250	-0.92	0.00	34.085	0.000	27.43	65.0	0.533	5.04	5.92	0.00	
300	-0.30	0.00	34.551	0.001	27.78	32.4	0.557	5.71	6.02	0.00	0.97
400	0.44	0.00	34.831	0.000	27.97	15.6	0.581	6.54	6.47	0.00	0.97

T3 CRUISE W03 STATION 023 OBSERVED VALUES

DATE 08/04/66	BAROMETER 49.1	WEATHER 02	WIND VELOC 05	WAVE PERIOD
HOUR 18.6	TEMP DRY -32.1	VISIBILITY 7	WIND DIREC 31	SECCHI
LAT 75-17.2N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 156-10.0W	REL HUMID	CLOUD AMT 1	WAVE HEIGHT	SOUNDING 2200
MESSENGER TIMES: 18.6, 20.8				
WIRE ANGLES: --, --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.62	30.115	24.24	9.25	0.826	-0.066	109
1	10	-1.65	30.186	24.29	9.13	0.815	-0.055	107
1	15	-1.64	30.091	24.22	9.09	0.812	-0.051	107
1	20	-1.64	30.095	24.22	9.08	0.811	-0.050	107
1	25	-1.64	30.095	24.22	9.08	0.811	-0.050	107
1	30	-1.64	30.126	24.25	9.13	0.815	-0.055	107
2	35	-1.60	30.107	24.23	9.13	0.815	-0.056	107
2	40	-1.22	30.850	24.82	9.08	0.811	-0.063	108
2	45	-1.12	31.196	25.10	8.82	0.788	-0.044	106
2	50	-1.12	31.554	25.39	8.19	0.731	0.010	99
2	55	-1.11	31.757	25.55	7.74	0.691	0.049	93
2	60	-1.14	31.841	25.62	7.73	0.690	0.050	93

T3 CRUISE W03					STATION 023 INTERPOLATED AND COMPUTED VALUES						
DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEO POT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.62	0.00	30.115	0.000	24.24	369.5	0.000	0.00	9.25	0.00	
10	-1.65	0.00	30.186	0.000	24.29	363.8	0.037	0.02	9.13	0.00	
20	-1.64	0.00	30.095	0.000	24.22	370.7	0.074	0.08	9.08	0.00	
30	-1.64	0.00	30.126	0.000	24.25	368.2	0.112	0.17	9.13	0.00	
50	-1.12	0.00	31.554	0.000	25.39	259.2	0.175	0.42	8.19	0.00	

T3 CRUISE W03 STATION 024 OBSERVED VALUES

DATE 09/04/66	BAROMETER 51.5	WEATHER 02	WIND VELOC 03	WAVE PERIOD
HOUR 01.2	TEMP DRY -30.3	VISIBILITY 7	WIND DIREC 32	SECCHI
LAT 75-16.5N	TEMP WET	CLOUD TYPE	WAVE DIREC	WATER COLOR
LONG 156-12.5W	REL HUMID	CLOUD AMT 0	WAVE HEIGHT	SOUNDING 2200
MESSENGER TIMES: 01.2				
WIRE ANGLES: --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	65	-1.12	31.924	25.69	7.31	0.653	0.087	88
1	70	-1.14	31.946	25.71	7.24	0.647	0.093	87
1	75		32.009		7.11	0.635		
1	80	-1.18	32.061	25.80	6.97	0.623	0.118	84
1	85	-1.20	32.109	25.84	6.89	0.615	0.125	83
1	90	-1.22	32.156	25.88	6.81	0.608	0.132	82

T3 CRUISE W03 STATION 025 OBSERVED VALUES

DATE 17/04/66	BAROMETER 36.2	WEATHER 01	WIND VELOC 03	WAVE PERIOD
HOUR 02.9	TEMP DRY -19.7	VISIBILITY 8	WIND DIREC 27	SECCHI
LAT 75-04.0N	TEMP WET	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 156-46.0W	REL HUMID	CLOUD AMT 3	WAVE HEIGHT	SOUNDING 2500
MESSENGER TIMES: 02.9				
WIRE ANGLES: 04				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	1596	-0.40	34.933	28.09				
1	1696	-0.40	34.929	28.09				
1	1795	-0.42	34.933	28.09				
1	1895	-0.42	34.948	28.11				
1	1995	-0.40	34.949	28.11				
1	2095	-0.41	34.948	28.10				
1	2194	-0.42	34.958	28.11				
1	2294	-0.36	34.961	28.11				
1	2444	-0.37	34.964	28.12				

T3 CRUISE W03

STATION 026

OBSERVED VALUES

DATE 17/04/66
 HOUR 07.1
 LAT 75-04.0N
 LONG 156-46.0W
 MESSENGER TIMES: 07.1
 WIRE ANGLES:

BAROMETER 32.8
 TEMP DRY -19.7
 TEMP WET
 REL HUMID
 04

WEATHER 02
 VISIBILITY 8
 CLOUD TYPE
 CLOUD AMT 0
 WIND VELOC 05
 WIND DIREC 20
 WAVE DIREC
 WAVE HEIGHT

WAVE PERIOD
 SECCHI
 WATER COLOR
 SOUNDING 2500

CST	DEPTH	TEMP	SAL	SIGMA-T
1	698	0.26	34.882	28.02
1	798	0.18	34.885	28.02
1	898	0.06	34.889	28.03
1	997	-0.06	34.899	28.05
1	1097	-0.12	34.906	28.06
1	1197	-0.14	34.913	28.06
1	1297	-0.26	34.923	28.08
1	1396	-0.24	34.931	28.08
1	1496	-0.32	34.929	28.09

***** OXYGEN *****
 ML/L MGA/L AOU SATN

T3 CRUISE W03 STATION 027 OBSERVED VALUES

DATE 03/05/66 BAROMETER 15.0 WEATHER 36 WIND VELOC 12 WAVE PERIOD
 HOUR 00.4 TEMP DRY -11.8 VISIBILITY 8 WIND DIREC 08 SECCHI
 LAT 75-12.9N TEMP WET -11.9 CLOUD TYPE WAVE DIREC WATER COLOR
 LONG 156-53.0W REL HUMID 9 CLOUD AMT 0 WAVE HEIGHT SOUNDING 1070
 MESSENGER TIMES: 24.4, 01.7, 26.5
 WIRE ANGLES: 08, 08, 08

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	ANU	SATN
2	4	-1.66	30.164	24.28	8.39	0.749	0.011	99
2	10	-1.64	30.162	24.27	9.04	0.807	-0.047	106
2	20	-1.64	30.166	24.28	9.10	0.813	-0.053	107
2	30	-1.63	30.188	24.30	9.04	0.807	-0.048	106
1	40	-1.31	30.799	24.78	8.70	0.777	-0.027	104
1	50	-1.16	31.259	25.15	8.86	0.791	-0.047	106
1	59	-1.12	31.545	25.38				
1	99	-1.33	32.426	26.10	6.62	0.591	0.150	80
3	148		32.745		6.09	0.544		
3	198		33.097		6.08	0.543		
3	248		34.045		6.00	0.536		

T3 CRUISE W03 STATION 027 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.66	0.00	30.164	0.000	24.28	365.6	0.000	0.00	8.39	0.00	
10	-1.64	0.00	30.162	0.000	24.27	365.7	0.037	0.02	9.04	0.00	
20	-1.64	0.00	30.166	0.000	24.28	365.2	0.074	0.08	9.10	0.00	
30	-1.63	0.00	30.188	0.000	24.30	363.4	0.111	0.17	9.04	0.00	
50	-1.16	0.00	31.259	0.000	25.15	281.7	0.176	0.43	8.86	0.00	
75	-1.19	0.02	31.969	0.003	25.73	226.9	0.240	0.83	7.92	0.28	62.47
100			32.437	0.003				1.43	6.60	0.00	0.97
150			32.753	0.004				2.63	6.09	0.00	0.94
200			33.120	0.001				3.95	5.98	0.07	5.28

T3 CRUISE W03

STATION 028

OBSERVED VALUES

DATE 03/05/66	BAROMETER 07.5	WEATHER 36	WIND VELOC 10	WAVE PERIOD
HOUR 20.7	TEMP DRY -10.8	VISIBILITY 8	WIND DIREC 09	SECCHI
LAT 75-13.6N	TEMP WET -10.8	CLOUD TYPE 2	WAVE DIREC	WATER COLOR
LONG 156-58.0W	REL HUMID 9	CLOUD AMT 8	WAVE HEIGHT	SOUNDING 1164
MESSENGER TIMES: 20.7				
WIRE ANGLES: 05				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	ADU	SATN
1	124	-1.33	32.453	26.12	6.60	0.589	0.152	80
1	214	-1.35	33.042	26.60	6.04	0.539	0.199	73
1	304	-0.21	34.535	27.76	6.12	0.547	0.161	77
1	394	0.48	34.810	27.95	6.60	0.589	0.104	85
1	425	0.59	34.857	27.98	6.75	0.603	0.088	87
1	529	0.62	34.881	28.00	6.75	0.603	0.087	87
1	554	0.57	34.881	28.00	6.84	0.611	0.080	88

T3 CRUISE W03

STATION 029

OBSERVED VALUES

DATE 19/05/66	BAROMETER 03.9	WEATHER 47	WIND VELOC 07	WAVE PERIOD
HOUR 22.9	TEMP DRY -09.8	VISIBILITY 6	WIND DIREC 27	SECCHI
LAT 75-28.4N	TEMP WET -09.9	CLOUD TYPE X	WAVE DIREC	WATER COLOR
LONG 155-25.0W	REL HUMID 9	CLOUD AMT 9	WAVE HEIGHT	SOUNDING 3879
MESSENGER TIMES: 22.9				
WIRE ANGLES: --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	2650	-0.40	34.962	28.12	6.69	0.598	0.111	84
1	2750	-0.35	34.967	28.12	6.67	0.596	0.112	84
1	2850	-0.33	34.963	28.11	6.67	0.596	0.112	84
1	2950	-0.35	34.967	28.12	6.67	0.596	0.112	84
1	3050	-0.34	34.962	28.11	6.69	0.598	0.110	84
1	3250	-0.30	34.963	28.11	6.66	0.595	0.112	84
1	3450	-0.29	34.959	28.11	6.65	0.594	0.113	84
1	3650	-0.26	34.958	28.11	6.58	0.588	0.119	83
1	3850	-0.28	34.963	28.11	6.41	0.573	0.134	81

T3 CRUISE W03 STATION 030 OBSERVED VALUES

DATE 20/05/66	BAROMETER 03.4	WEATHER 76	WIND VELOC 06	WAVE PERIOD
HOUR 03.2	TEMP DRY -08.8	VISIBILITY 6	WIND DIREC 32	SECCHI
LAT 75-28.4N	TEMP WET -09.0	CLOUD TYPE 7	WAVE DIREC	WATER COLOR
LONG 155-31.0W	REL HUMID 9	CLOUD AMT 8	WAVE HEIGHT	SOUNDING 3879
MESSENGER TIMES: 03.2, 05.1	--			
WIRE ANGLES:				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
2	1350	-0.26	34.917	28.07	7.01	0.626	0.080	89
2	1450	-0.30	34.913	28.07	7.03	0.628	0.079	89
2	1550	-0.29	34.931	28.09	6.99	0.624	0.083	88
2	1650	0.01*	34.914	28.06	6.92	0.618	0.083	88
1	1750	-0.41	34.947	28.10	6.92	0.618	0.091	87
1	1850	-0.38	34.935	28.09	6.96	0.622	0.087	88
1	1950	-0.39	34.959	28.11	6.81	0.608	0.101	86
1	2050	-0.37	34.939	28.10	6.97	0.623	0.086	88
1	2150	-0.38	34.942	28.10	6.80	0.607	0.101	86
1	2250	-0.39	34.945	28.10	6.79	0.606	0.102	86
1	2350	-0.39	34.959	28.11	6.84	0.611	0.098	86
1	2450	-0.34	34.956	28.11	6.69	0.598	0.110	84
1	2550	-0.35	34.953	28.11	6.92	0.618	0.090	87

T3 CRUISE W03 STATION 031 OBSERVED VALUES

DATE 21/05/66	BAROMETER 06.2	WEATHER 02	WIND VELOC 06	WAVE PERIOD
HOUR 08.1	TEMP DRY -06.1	VISIBILITY 8	WIND DIREC 32	SECCHI
LAT 75-27.3N	TEMP WET -06.4	CLOUD TYPE 3	WAVE DIREC	WATER COLOR
LONG 155-33.0W	REL HUMID 9	CLOUD AMT 7	WAVE HEIGHT	SOUNDING 3879
MESSENGER TIMES: 08.1	--			
WIRE ANGLES:				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	250	-0.87	34.137	27.47	6.09	0.544	0.179	75
1	300	-0.98	34.565	27.82	6.13	0.547	0.175	76
1	350	0.16	34.725	27.90	6.32	0.564	0.135	81
1	400	0.34	34.782	27.93	6.46	0.577	0.119	83
1	450	0.39	34.820	27.96	6.64	0.593	0.102	85
1	550	0.51	34.857	27.98	6.82	0.609	0.083	88
1	650	0.40	34.865	28.00	6.94	0.620	0.074	89
1	750	0.26	34.878	28.01	7.00	0.625	0.072	90
1	850	0.14	34.890	28.03	7.00	0.625	0.074	89
1	950	0.02	34.886	28.03	7.16	0.639	0.062	91
1	1050	-0.01	34.891	28.04	7.00	0.625	0.077	89
1	1150	-0.10	34.899	28.05	7.00	0.625	0.078	89
1	1250	-0.18	34.924	28.07				

T3 CRUISE W03 STATION 032 OBSERVED VALUES

DATE 21/05/66	BAROMETER 07.9	WEATHER 73	WIND VELOC 06	WAVE PERIOD
HOUR 10.3	TEMP DRY -07.9	VISIBILITY 7	WIND DIREC 33	SECCHI
LAT 75-27.3N	TEMP WET -08.3	CLOUD TYPE 6	WAVE DIREC	WATER COLOR
LONG 155-33.0W	REL HUMID 8	CLOUD AMT 7	WAVE HEIGHT	SOUNDING 3879
MESSENGER TIMES: 10.3				
WIRE ANGLES: --				

CST	DEPTH	TEMP	SAL	SIGMA-T	***** OXYGEN *****			
					ML/L	MGA/L	AOU	SATN
1	5	-1.64	30.184	24.29	9.39	0.839	-0.079	110
1	15	-1.65	30.184	24.29	9.37	0.837	-0.077	110
1	30	-1.63	30.185	24.29	9.39	0.839	-0.079	110
1	45	-1.62	30.183	24.29	9.32	0.832	-0.073	110
1	60	-1.44	30.456	24.51	9.36	0.836	-0.082	111
1	75	-1.16	31.288	25.18	8.98	0.802	-0.058	108
1	100	-1.20	32.001	25.75	7.32	0.654	0.087	88
1	125	-1.32	32.464	26.13	6.87	0.614	0.127	83
1	150	-1.39	32.738	26.35	6.59	0.589	0.152	79
1	200	-1.42	33.297	26.81	6.34	0.566	0.172	77

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T3 CRUISE W03 STATION 032 INTERPOLATED AND COMPUTED VALUES

DEPTH	TEMP	E(T)	SAL	E(S)	SIGMA-T	SP VOL ANOMALY	GEOPT ANOMALY	POT ENERGY	OXY ML/L	E(O)	VAR RATIO
0	-1.64	0.00	30.184	0.000	24.29	364.1	0.000	0.00	9.39	0.00	
10	-1.65		30.184		24.29	364.0	0.037	0.02	9.37		
20	-1.64	0.00	30.184	0.000	24.29	363.8	0.074	0.08	9.38	0.00	0.68
30	-1.63	0.00	30.185	0.000	24.29	363.7	0.110	0.17	9.39	0.00	
50	-1.57	0.00	30.228	0.011	24.33	360.2	0.183	0.47	9.35	0.02	0.68
75	-1.16	0.00	31.288	0.000	25.18	279.3	0.264	0.97	8.98	0.00	
100	-1.20	0.00	32.001	0.000	25.75	274.2	0.327	1.53	7.32	0.00	
150	-1.39	0.00	32.738	0.000	26.35	166.8	0.426	2.76	6.59	0.00	
200	-1.42	0.00	33.297	0.000	26.81	123.6	0.499	4.05	6.34	0.00	

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