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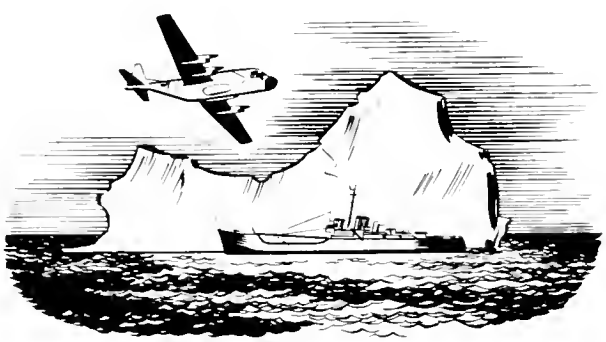

UNITED STATES COAST GUARD OCEANOGRAPHIC UNIT

REPORT No. 13 CG 373-13

OCEANOGRAPHY OF THE GRAND BANKS REGION AND THE LABRADOR SEA IN 1966

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ABSTRACT

Because of the anomalously short 1966 ice season only one cruise was conducted to directly support Commander, International Ice Patrol. After the International Ice Patrol, a second oceanographic cruise was conducted to document the anomalous conditions. This cruise collected data from south of the Gulf Stream at the "Tail-of-the-Banks" to the Labrador Sea.

Three serial occupations of Standard Section 3 were conducted using a moored buoy as a reference position to further delineate the short term volume and salt transport fluctuations originally observed in 1965. Parachute drogue current measurements were also taken to determine if the velocities calculated from concurrent density measurements were a true indication of the velocity field.

Two additional occupations of Standard Section 3 and one occupation of Standard Section 2 conducted prior to the 1966 ice season are also discussed. In addition to the oceanographic work an operational test of a temperature/salinity/depth indicating instrument was conducted.

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Oceanography of the Grand Banks Region and the Labrador Sea in 1966

by

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INTRODUCTION

The 1966 International Ice Patrol oceanographic program differed from those of the preceding seasons in several respects. The number of sections occupied was reduced to three to speed up coverage and to increase the synoptic value of the data. Time series observations were also made along one section to study fluctuations in the Labrador Current. Operational tests were conducted on the Bissett-Berman 9006–N Salinity/Temperature/Depth Measuring System (STD) and on a very low frequency radio navigation system. Processed oceanographic data was transmitted routinely to the National Oceanographic Data Center, Commander International Ice Patrol, Navy Fleet Numerical Weather Facility, and the Naval Oceanographic Office.

The three survey sections, Sections 2, 3, and 4 shown in Figure 1, were chosen to delineate important features of the juncture of the Labrador-North Atlantic Current systems and to permit comparison of the data with historical Ice Patrol data. They were used to provide calibration factors to the mean dynamic topography charts prepared by Soule (1964). They were used to locate the axis of the Labrador Current, the position of the trough between the Labrador and North Atlantic Currents, and to determine the amount, if any, of eastward branching of the Labrador Current north of Flemish Cap.

Hydrographic data obtained during mid-February and during March by Ocean Station Vessels were also processed. This data, the earliest ever collected, indicated the late-winter characteristics of the Labrador Current.

NARRATIVE

General

Two distinct oceanographic cruises were conducted during the spring of 1966. The first cruise provided operational support for Commander, International Ice Patrol and the second cruise collected data to document the anomalous conditions encountered during the first cruise. Both oceanographic cruises were conducted by the CGC EVERGREEN, a 180-foot tender class oceanographic vessel.

The first cruise began on 2 April 1966 with the occupation of EVERGREEN station 9509 on the north-south Standard Section 4 at the "Tail-of-the-Banks" and proceeded northward with serial stations terminating at station 9534 on the Grand Banks west of Flemish Cap on 8 April 1966. See Figure 1 for the dynamic topography of the sea surface and the station locations for this survey. The synopticity of this survey was reduced because of the severe weather encountered during the cruise. The vertical temperature distribution and the dynamic height at each station were provided to Commander, International Ice Patrol within twelve hours of observation. The survey was terminated on 11 April 1966 when repeated attempts to accurately determine the ship's position failed prior to a planned reoccupation of Standard Section 3.

During the second part of the first cruise, which lasted from 15 to 25 April 1966, CGC EVERGREEN occupied serial stations 9535 to 9551. See Figures 2A, 2B, and 2C for the dynamic topography of the sea surface and the station locations for these occupations. These stations were part of a time series study to determine the volume transport variations of the Labrador Current along a 25 mile length of the western part of Standard Section 3. This section was occupied three times during a five day period. A moored toroidal buoy was used as a reference to insure that each station of the three successive occupations was at the same location. After the first occupation of the section, parachute drogues were used to verify

the computed currents obtained from the density distribution. Seven drogues were set and tracked during an eighteen hour interval.

The second cruise of the CGC EVERGREEN was designed to more clearly delineate the extent of the atypical oceanographic conditions that were observed on the Grand Banks during the first cruise. It began on 22 May 1966 with the occupation of station 9552 located south of the Gulf Stream directly south of the "Tail-of-the-Banks." Again, the cruise proceeded northward and was terminated on 7 June 1966 with the occupation of station 9654 near South Wolf Island, Labrador. In all, seven sections consisting of 103 stations were occupied to delineate oceanographic conditions between the "Tail-of-the-Banks" and Cape Farwell, Greenland. Station and section locations are shown in Figure 3. Several of these sections correspond to all or part of the Standard Sections established by the Coast Guard Oceanographic Unit to monitor time variations in the area. On Standard Section 1, open and scattered winter ice was encountered near South Wolf Island, Labrador. At the other end of the section, near Cape Farwell, storis was encountered in concentration from five-tenths to ten-tenths, which prevented the occupation of the easternmost of the planned stations and the last station occupied was actually taken in the ice.

Additional Projects

A Very Low Frequency navigation system was constructed using three ECCO Model 880–A VLF receivers, a CTC Electronics, Inc. rubidium frequency standard, and a power supply for the frequency standard. During the first cruise it was planned to compare both the VLF navigation system and the Loran-C system using a fixed reference point at sea. Unfortunately neither the Loran-C nor the VLF navigation system functioned properly.

A very short project to determine messenger travel time was conducted. This was done using a Model 250 Pinger manufactured by Ocean Research Equipment, Inc. that was tripped by a messenger dropped by the bottom bottle of the cast. When tripped, the pinger reversed and ceased to operate. Only two tests were conducted because of the heavy weather. These tests showed messenger speeds of 184 and 191 meters/minute for a 1200 meter, 13 bottle cast, with wire angles less than 25°.

The United States Coast Guard cooperated with the National Oceanographic Data Center in Project HOTLINE. The National Oceanographic Data Center was conducting a year's systems evaluation (Project HOTLINE) to determine if real-time data processing is feasible. The International Ice Patrol sent processed data from 103 stations to the National Oceanographic Data Center via the Coast Guard Oceanographic Unit. This data consisted of a corrected temperature, corrected salinity, a sigma-t value for each depth, and a dynamic height value (based on 1000 decibar reference level) for each station. These data were collected using STD or Nansen casts and were processed by computer within 24 hours after they were collected.

The CGC EVERGREEN also provided corrected temperature and depth information to the Fleet Numerical Weather Facility, Monterey, California from each station. This information was transmitted from the ship for relay to the Fleet Numerical Weather Facility. The Fleet Numerical Weather Facility used a special computer program to prepare a sea surface temperature chart for International Ice Patrol. This chart was developed for a 63 x 63 grid with two different scales. The area covered was the Grand Banks and contiguous regions. The Fleet Numerical Weather Facility transmitted this chart to the Fleet Weather Facility in Suitland, Maryland who in turn hand-carried it to the Coast Guard Oceanographic Unit. This project will be continued during the 1967 International Ice Patrol.

Instrumentation

Teflon-lined Nansen bottles, manufactured by the Ballauf Mfg. Co. or the United Machine Co., were used during each cruise. Temperatures were measured with protected deep sea reversing thermometers manufactured by Richter & Wiese, G. M. Mfg. Co., Kahl Scientific Instrument Corp., and Walter H. Kessler Co. Inc. Thermometer performance was continually monitored by pairing and intercomparison.

Depths of observations were based on wire angle geometry and thermometric computa-

tions from paired protected and unprotected deep-sea reversing thermometers. The salinity of each seawater sample collected was measured with an RS–7A inductive salinometer manufactured by Industrial Instruments Corp.

All data were processed by a PDP–5 digital computer manufactured by the Digital Equipment Corp. The computer was programmed for the correction of reversing thermometers and the determination of thermometric depth, the computation of sigma-t, specific volume anomaly and dynamic height integration, and the computation of net and solenoidal volume transport.

The PDP–5 computer operated for a total of 167 hours during both cruises with no major troubles. At each station where only a Nansen cast was taken, a Hytech Corp. electronic bathythermograph (ELEBT) Model 480 Mod. 1 was first used to determine the vertical temperature structure to 400 meters. This information was then used to determine the sampling depths.

A Geodyne Corp. toroidal fiberglass buoy, equipped with a tripod mast, a Motorola Co. X-Band radar transponder, Model SST–119X, and an Edgerton, Germeshausen, & Grier, Inc., Model 219-A interrupted quick flashing Xenon light was used as a fixed reference for the time series study of the volume transport of the Labrador Current and the drogue current study. The buoy was moored with a fixed bridle, swivel, ballast ball, 96 fathoms of 1-inch braided nylon line, 15 fathoms of ½-inch anchor chain, and a 75 pound Danforth anchor in 34 fathoms of water at 44°37′N and 49°12.5′W.

The radar transponder operated for 118 hours with no apparent degradation. The buoy was acquired by the ship's AN/SPS–23 X-Band radar at ranges up to 16,150 yards. The transponder was mounted approximately 5 feet above the sea surface. It is of interest to note that the setting and retrieval of the buoy was accomplished without mishap under adverse weather and sea conditions. The buoy operated in 55 to 60 knots wind for at least 24 hours. The Xenon light could be reliably sighted at ranges under two nautical miles.

The type drogue used is illustrated in Figure 4. These drogues were of a relatively unsophisticated but effective design. They were constructed using a bamboo pole for a mast and two truck inner tubes for the flotation unit. A standard surplus 24-foot aviator parachute weighted with several links of anchor chain (approximately 30-50 pounds) was suspended using a ¼-inch black polypropylene line. The inner tubes were lashed in place several feet from the bottom of the pole. Daytime identification was provided by orange fluorescent vinyl-coated nylon flags. These flags were purchased with wood stiffners that aided daytime identification. Nighttime acquisition in the visible spectrum was provided by a 6-volt DC-filament flasher bulb. A standard lifeboat corner radar reflector was used for nighttime acquisition under adverse weather conditions.

Prior to the 1967 Ice Patrol Season a Bissett-Berman Model 9006–N Salinity/Temperature/Depth Measuring System (STD) provided by the Navy Oceanographic Office was installed aboard the CGC EVERGREEN by the Coast Guard Oceanographic Unit to gain operational experience with the instrument. This instrument was designed for operation to 1500 meters. The STD was inoperative during the entire first cruise. After returning to Boston, the STD was checked and found to have a defective mixer and salinometer. Both were replaced and the STD was given a one-day test at sea to make certain it was operational.

The starboard oceanographic platform was modified by CGC EVERGREEN to increase its height to facilitate handling the STD underwater equipment rack and associated sensors during launching and retreiving. The modified "A" frame was given a 1020 pound static dead weight test. After passing the static test, a test lowering was conducted using a 410 pound ballast ball.

For comparison purposes duplicate Nansen and STD casts were planned for the upper 1500 meters at each station in Standard Section 4. At station 9552 the STD failed to operate when placed in the water. For the remainder of the second cruise the STD operation was intermittent. Operation could generally be restored by reterminating the sea cable and/or regreasing the Marsh-Marine connector that coupled the multi-stranded conductor of the sea cable to the mixer unit on the underwater equipment rack. During the 1966

postseason cruise it was established by a NAVOCEANO engineer that all of the preceding troubles were caused either by the Marsh-Marine connector leaking at the boot end of the female connector or the conductor breaking in the sea cable at the first point above the underwater equipment rack where flexing could occur. This point is illustrated in Figure 5A. The leaking connector was repaired by securely taping the upper part of the connector with a good grade of self-vulcanizing rubber tape and then covering this with black plastic tape.

Both surface and sub-surface salinity samples and temperature measurements were taken to insure that the STD was indicating the correct temperature and salinity. Both Nansen and STD casts were made at stations along Section 2 and dynamic heights were calculated using both sets of data. The duplicate casts along Standard Section 2 plus comparison from two additional stations are presented in Table I.

Table I. Comparison of Dynamic Heights computed using data from duplicate STD and Nansen casts

Station number	Type of sampling device	Time of observation (GMT)	Dynamic height anomaly	absolute difference (dynamic meters)
9583	STD	0325z	.489	
	NANSEN CAST	0413z	.498	.009
9584	STD	0610z	.468	
	NANSEN CAST	0628z	.469	.001
9585	STD	0820z	.300	
	NANSEN CAST	0843z	.309	.009
9586	STD	1050z	.174	
	NANSEN CAST	1106z	.176	.002
9587	STD	1310z	.196	
	NANSEN CAST	1341z	.201	.005
9588	STD	1618z	.460	
	NANSEN CAST	1659z	.467	.007
9589	STD	1845z	.482	
	NANSEN CAST	2002z	.473	.009
9592	STD	1615z	.222	
	NANSEN CAST	1705z	.231	.009
9552	STD	0515z	1.492	
	NANSEN CAST	0615z	1.470	.022

Figure 5B shows the STD trace obtained for Station 9592 plus the temperature and salinities obtained from a Nansen cast taken 50 minutes later. It shows considerable variation between the two sets of data, but the dynamic heights calculated from each differ by only 0.009 dynamic meters. Such good agreement, even with such large salinity changes, indicates that dynamic heights computed from STD data are compatable with the dynamic heights computed using Nansen cast data, particularly when the rate of change of salinity is small.

Personnel

The oceanographic work of the first cruise was under the direction of LCDR Ronald C. Kollmeyer, USCG who was assisted by LCDR Kennard M. Palfrey, Jr., USCG and LTJG Melvin S. Swanson, USCGR. Mr. Thomas Wolford, Oceanographer, directed the second cruise assisted by LCDR Kennard M. Palfrey, Jr. Because of special instruction and experience with the STD, James D. Brower, Aerographers Mate Second Class assisted during both cruises. Other oceanographic technicians for the first cruise were David D. Lockhart, Aerographers Mate First Class; John T. Nichol, Sonarman Second Class; David J. Wood, Sonarman Second Class; and Edward S. Olszewski, Sonarman First Class. Technical Assistants for the second cruise were Dennis L. Noble, Chief Aerographers Mate; William L. Harrel, Sonarman First Class; and Peter R. San Jule, Aerographers Mate Second Class.

Discussion of Vertical Property Distribution and Dynamic Heights

INTRODUCTION

There has been an increasing awareness of the inadequacy of the assumption of steady state conditions in describing the features of the ocean as the volume of data has increased. The development of valid dynamic models required that the temporal and spatial changes in the feature or area being investigated be taken into account. Once a significant time rate of change of oceanic parameters is determined, the variations must be examined and some account of them taken in the sampling program. To do this, monitoring sections were established to determine the annual variations in the Labrador Current. These sections were also chosen to provide Commander, International Ice Patrol with real-time information about the oceanographic conditions on the Grand Banks.

Data obtained from a complete occupation of the three Standard Sections were used to determine the difference between the observed dynamic topography and the monthly mean dynamic topography. The calibrated monthly mean charts were then used to predict future iceberg positions. Monthly occupation of these sections will permit a complete description of the annual oceanographic conditions of the Grand Banks region. A complete oceanographic description should provide the following information about the pertinent parameters:

1. Their arithmetic means
2. Their seasonal and annual variations
3. Their extremes
4. The rate and frequency with which the variations occur.

Smith (1937) was the first to recognize the importance of short term variability in the Labrador Current when he stated, "The Labrador Current is also marked by frequent irregular pulsations occurring within the interval of a few weeks or of a month or two. . . that an iceberg observed drifting southward at a moderate rate may suddenly accelerate to double or sometimes triple its former rate." He further indicated that this acceleration was due to a local contraction in the width of the current and not an acceleration along the entire length of the current. Soule and Graves (1938) indicated that the volume transport of the Labrador Current varied significantly over a three month interval. Montgomery (1938) and Iselin (1940) showed that there were variations in the net volume transport of the Gulf Stream. Fuglister (1951) indicated that the volume transport of the Gulf Stream varied monthly. Sverdrup, Johnson, and Fleming (1942) discussed the simultaneity of oceanographic observations and the steadiness of the flow. They stated that in the interval of time between surveys the details of the relative topography may have changed greatly, but the main features have changed more slowly. Fuglister and Worthington (1951) implied that synopticity was an important enough consideration to require multiple ship surveys. Worthington (1954) showed that a significant change in the direction of the Gulf Stream occurred within four days. Dinsmore, Morse, and Soule (1960) found that the dynamic topography had changed within the approximately three-day interval between the occupation of two sections of an interrupted survey. Bullard et al. (1961) indicated that the volume transport through sections U, W, and T changed significantly with time.

Kollmeyer et al. (1965) revised the tracklines used by the International Ice Patrol in the southern part of the Grand Banks. These changes permitted the surveys to be completed

in 7 instead of 14 days, assuming no delay due to the weather. This was a compromise between adequate sampling of the area and keeping the survey as synoptic as possible. He further stated that the temperature and salinity changes did not occur gradually but rather abruptly and that the time rate of change was on the order of one to two weeks and perhaps even less.

Although the Standard Section program was initiated on 14 February 1966 by the CGC DUANE occupation of Standard Section 3 and the CGC HUMBOLDT occupation of both Standard Section 2 and Standard Section 3 from 9 to 12 March 1966, Commander, International Ice Patrol did not start using oceanographic information until the first occupations of Standard Sections 4, 3 and 2 by the CGC EVERGREEN in early April, 1966. Because the CGC DUANE and CGC HUMBOLDT occupations provided the only oceanographic data about the Labrador Current ever collected in February and early March, and since the Labrador Current in 1966 was anomalously warm, these two occupations will be discussed here. Vertical sections of temperature and salinity are presented for all 1966 occupations of the Standard Sections. In addition, vertical sections of temperature and salinity are presented for 1954 and 1964, two years that were selected as being representative of normal years. It is hoped that comparison with these vertical sections from "normal" years will emphasize the unusual character of this year.

Surface dynamic heights along many sections are also presented to underscore the anomalous conditions that were evident this year. This was done to fully utilize the climatological mean dynamic height information available in Soule (1964). The dynamic height is the most suitable parameter available to indicate net result of the complex temperature and salinity variations that have occurred in a water column.

CGC DUANE 14–15 FEBRUARY OCCUPATION OF STANDARD SECTION 3

The discussion of the data collected in 1966 begins with the CGC DUANE 14–15 February occupation of Standard Section 3. The surface dynamic height along the section is presented in Figure 6. The vertical distribution of temperature and salinity is presented in Figures 7 and 8 respectively. A chart of the dynamic topography for this occupation is shown in Figure 9.

Figure 6 indicates that there was a relatively strong southerly flow between stations 27 and 28 with a relatively flat topography in the east. The Labrador Current is quite apparent as the sharp slope with an average southerly surface velocity of 62 cm/sec. The highest surface velocity in the remaining part of the section is approximately 12 cm/sec between stations 34 and 35. This relatively flat topography to the east was surprising because this section was planned to intersect the North Atlantic Current. Therefore, a strong northly flow was expected on the eastern portion. The North Atlantic Current was not observed, but a mixture of Labrador Current and North Atlantic Current water was found at the easternmost stations.

The maximum dynamic height value was observed at station 27 and the minimum value occurred at station 30. These maximum and minimum values are the maximum dynamic height of a station to the left of the Labrador Current when looking upstream and the minimum value is the dynamic height of a station to the right of the Labrador Current looking upstream. This maximum value may not be the largest dynamic height observed on the section because of the high stands of water found in the North Atlantic Current. The minimum value is generally but not always the lowest dynamic height observed on the section. The maximum and minimum values that will be discussed are associated with the southward flowing Labrador Current. Hence, the minimum or trough value may vary in location and magnitude. These values were 971.100 and 970.890 dynamic meters respectively. The trough value was 37 nautical miles to the southeast of the maximum value. These maximum and minimum values tended to delineate the region where there was southward flow with Labrador Current water characteristics: temperature of less than 4.0° C and salinity less than 34.9‰.

The vertical temperature and salinity sections show both the 4.0° C isotherm and the 34.0‰ isohaline intruding well to the west.

The 4.0° C isotherm was relatively complicated and some subjective contouring was required because of the location of station 28 and because temperature was not an anothermic function of depth. The 4.0° C isotherm may have intersected the continental slope as did the 34.0‰ isohaline. The position of the 4.0° C isotherm and the 34.0‰ isohaline this far west was not anomalous. Kollmeyer et al. (1965) presented temperature and salinity vertical sections for Standard Section 3 (Section U) for the three surveys conducted during the 1965 Ice Patrol Season. The results of the first survey from 30 March to 7 April 1965 showed a similar distribution of these two isopleths.

The nature of the Labrador Current in the winter is not known because of the paucity of data. Smith (1937) using iceberg drift data questioned whether or not the Labrador Current existed during the winter. Presently there is no winter oceanographic data available, but the lack of southward flowing cold, relatively fresh, water is considered anomalous. The minimum temperature and salinity found along this section were at the surface of station 27. These values are 1.16° C and 34.49‰. A cold core (i.e., temperature less than 0.0° C) was expected, but it was not observed. The southward flowing water between stations 27 and 30 was not excessively warm when compared to 0.0° C.

Between stations 28 and 30, a warm (5.0° C) saline (maximum salinity 34.92‰) core of water was moving slowly southward. A temperature-salinity diagram (Figure 25) characterizes this as Mixed Water.

At the eastern end of the section there was an indication of a cool, saline North Atlantic Current, but the mean temperature-salinity relationships for the Grand Banks region did not support this. They indicated that the surface 200 meters at station 36 consisted of atypical mixed water. This indicated that the mixing zone extended from station 29 eastward past station 36. Water at intermediate depths at these stations has North Atlantic Current characteristics, but the deepest observed data at station 36 have mixed water characteristics.

In summary, the factors considered anomalous are:

1. The lack of sub-zero water in the core of the Labrador Current. This may be a normal condition; however, USS MUSKEGONON bathythermograph data from 8–9 February 1946 at 46°10′N across the Labrador Current showed a large amount of water with temperatures less than 0.0° C.[1]

2. The failure of Standard Section 3 to indicate the North Atlantic Current. All previous data indicated that this section should have completely crossed the Mixed Water and extended into the North Atlantic Current.

CGC HUMBOLDT 9–11 MARCH 1966 OCCUPATION OF STANDARD SECTION 3

The CGC HUMBOLDT occupied Standard Sections 2 and 3 during 9–12 March 1966. These occupations preceded the scheduled occupation by the International Ice Patrol by 3 weeks and was earlier in the year than any previous International Ice Patrol occupation. The vertical distribution of temperature and salinity is presented in Figures 10 through 13. The dynamic height topography along each section is shown in Figures 14 and 15. A chart of the dynamic topography is shown in Figure 16. Standard Section 2 occupations will be considered after the Standard Section 3 discussions are completed.

Several interesting features can be noted in Figure 14. There was a relatively swift (33 cm/sec) current flowing southward between stations 28 and 29. However, the maximum velocity observed was slightly less than half of that observed during the 14–15 February occupation. Both the maximum (970.012 dynamic meters) and the minimum (970.868 dynamic meters) values of dynamic height have decreased from those observed previously. The dynamic height on the shelf became smaller and the trough deepened and moved toward the east. The distance between comparable shelf and trough stations was 44 nautical miles, i.e., the distance between the maximum and minimum dynamic height values was 44 nautical miles.

In addition to the trough deepening, a 34.5 cm/sec northward flowing current was observed between stations 31 and 32. Again the

[1] Unpublished bathythermograph data available at the Coast Guard Oceanographic Unit.

topography to the east was relatively flat and increasing slowly. The rate of increase was large enough however to produce a dynamic height of 971.028 dynamic meters at station 36. This was the largest value observed on the section and was also an increase over that observed during the 14–15 February occupation.

The vertical temperature and salinity sections show the 4.0° C isotherm and the 34.0‰ isohaline well to the west. Again, the expected cold core was not observed. This occupation occurred close enough to the regular International Ice Patrol occupations to consider the lack of negative temperature as an anomalous situation. Again a great deal of subjective contouring was used to determine the positions of the isotherms and isohalines just to the east of the continental slope. The southward moving water had become slightly colder and more saline. The minimum temperature and salinity occurred at the bottom and the top of station 26, respectively they were 1.00° C and 33.56‰. Station 26 was essentially isohaline and the minimum salinity was no doubt due to some surface effect. Again a small 5.0° C core was observed, but this time it was in the northward flow. The temperature to the east had increased to 9.0° C and salinities to 34.90‰, indicating that this was North Atlantic Current water. However, station 36 had Mixed Water characteristics indicating that only a filament of the North Atlantic Current had been crossed.

In summary, items that should be noted about this occupation of Standard Section 3 are:

1. The lack of water with a temperature less than 0.0° C in the core of the Labrador Current. This can be considered to be a definite anomaly because this occupation occurred less than two weeks prior to many occupations of this section in earlier years when temperatures less than −1.0° C were observed. As will be shown later, no 0.0° C water was observed during the occupation of Standard Section 2, implying but not proving that temperatures observed on Standard Section 3 were anomalously warm.

2. The failure of this section to indicate the North Atlantic Current. Apparently this section crossed a small, cool, filament of the North Atlantic Current but did not intersect the main portion of the current on the surface. This was indicated by the temperature-salinity characteristics observed at station 36.

CGC EVERGREEN 4–5 APRIL 1966 OCCUPATION OF STANDARD SECTION 3

The CGC EVERGREEN, as a part of the International Ice Patrol, conducted a calibration survey on the Grand Banks commencing on 2 April 1966. This included the northern part of Standard Section 4, Standard Section 3, and the east-west portion of Section 2.

A chart of the dynamic topography for these three sections is shown in Figure 1. Figures 17 through 22 are the vertical temperature and salinity distributions along these sections.

A comparison of the bottom profiles obtained by the CGC EVERGREEN and CGC HUMBOLDT and the CGC DUANE indicates that both CGC DUANE and CGC EVERGREEN probably were at the same location when they commenced the occupation of Standard Section 3. Figure 23 shows the surface dynamic heights values obtained along Standard Section 3 by the CGC EVERGREEN.

Possibly the most dramatic change observed was the diminishing of dynamic height values of the Banks stations and filling of the trough, causing a virtual elimination of any surface manifestation of the Labrador Current. To the east the slope of the dynamic topography increased radically between station 9523 and 9525 indicating an extremely large flow to the north. Compared with the surface dynamic topography obtained from the normal charts for April (Figure 24), the anomalous conditions were very evident.

The maximum dynamic height value of 971.02 dynamic meters occurred at station 9517 and the minimum dynamic height value of 970.948 occurred at station 9523. There was a secondary minimum of 970.971 dynamic meters at station 9518 indicating that the relatively narrow trough separating the Labrador Current and the North Atlantic Current had broadened to become the most dominant feature of the profile.

A comparison of Figures 23 and 24 showed that the dynamic height values on the western

end of the section were lower than normal. It was interesting to try to determine what caused the anomalously low dynamic height values. They could be caused by two factors:

1. The temperature-salinity characteristics of the water located on the Grand Banks.

2. The distribution of temperature-salinity characteristics of the water just to the east of the continental slope.

It was doubtful that the temperature-salinity characteristics of the water overlaying the Grand Banks caused these abnormally low values. This water contributed only to the surface 50 to 100 meters of the dynamic height for each station. This was an extremely small depth to cause such abnormally low values.

Consider the values given below for stations located in approximately the same location:

YEAR	1966		1964		1954	
STATION NUMBER	9516	9517	8836	8837	5321	5322
ANOMALY OF DYNAMIC HEIGHT 0-50 METERS	0.061	0.048	0.065	0.066	0.081	0.080

In each instance in a "normal" year, i.e., 1954 and 1964, both on the Banks and coming off the Banks the surface layer had the same density for equal intervals. In the abnormal year, i.e., this year, an increase in density was observed in the surface layer for an eastward displacement. Although this water was denser than normal, it was only 0.02 dynamic meters less than the maximum dynamic height value observed in the normal year of 1954. This analysis showed that even though the surface 50 meters was more dense this year than in a normal year this increase in density was not enough to cause the anomalously low dynamic height values.

The distribution of temperature-salinity characteristics just east of the continental slopes must have caused the low dynamic height values. This temperature-salinity distribution influenced the dynamic height values when integration was done up the Banks. Since low dynamic height values were observed on the continental shelf, the water just east of the continental slope must have been denser than normal. It must be emphasized that this low shelf dynamic height value was associated with one of the highest trough dynamic height values ever observed. Therefore, these low shelf values were a direct result of the temperature-salinity distribution immediately adjacent to the continental shelf and in this case did not indicate what the trough dynamic height value should be.

The vertical temperature and salinity structures observed along Standard Section 3 on 4–5 April 1966 were interesting. The most noticeable change from the earlier occupations was the intrusion of 7.0° C water at the 50–150 meter level at station 9519. Water with this temperature-salinity characteristic has been classified as atypical. "Atypical" in this case meaning it does not fit along one of the predefined curves for Labrador Current, Mixed, or Atlantic Current water shown in Figure 25. This atypical characteristic occurred at stations 9518 to 9522. It was overlaying water with temperature-salinity relationships which were common to the deep water of all three water masses shown in Figure 25.

Looking at Figures 19 and 20, consider a temperature-salinity curve using data obtained by moving along the surface from a point midway between stations 9518 and 9519 to a point midway between 9519 and 9520 and a temperature-salinity curve obtained using data from the surface 200 meters of station 9518. It is obvious that these two temperature-salinity curves will be similar since the same isohalines and isotherms pass through each location. Hence this was probably a region of convergence where sinking had occurred.

"NORMAL" TEMPERATURE, SALINITY, AND DYNAMIC HEIGHT

The extremely anomalous conditions observed along Standard Section 3 were more evident when compared to historical salinity and thermal vertical structures during "normal" years. "Normal" years were selected using:

1. Duration and distribution of sea ice on the Grand Banks

2. The number of icebergs that drift south of 48° North latitude

3. The number of icebergs that drift south of 43° North latitude and become an active threat to transatlantic shipping.

Lenczyk (1965) stated that the average number of icebergs that have drifted south of latitude 48° North latitude each year since 1900 was 377. In 1964, an estimated 369 icebergs drifted south of 48° North latitude, so it was chosen as a normal year using criterion 2. Using criterion 3, 1954 was adjudged to be a "normal" year. Data taken during April of these years at stations corresponding to the present stations of Standard Section 3 were used to construct the vertical temperature and salinity sections shown in Figures 26 through 29. The surface dynamic topography along these sections is shown in Figures 30 and 31. Because of the variation in the bottom topography, it is believed that the 1954 section was occupied slightly to the south of the 1964 section. Considering the vertical sections of surface dynamic topography first, the most apparent feature is the sharp slope indicating the southward flowing Labrador Current. There is also a varying in strength compensatory northward flow on both sections.

In 1954 and 1964, there was a second southwest flow in the eastern portion of the section. This contrasted with the gentle northward flow indicated to the east by the surface dynamic topography of the April normal chart. However, the eastern part of Standard Section 3 extended into a region of high standard deviations of surface dynamic height which might account for the differences.

Figures 26 and 27 show the 1954 vertical temperature and salinity distribution. They show southward flowing cold (−1.0° C), relatively fresh (33.0‰) water. Approximately centered around station 5326 there was a northward flow of this same cold relatively fresh water. This cold water to the west was obviously the Labrador Current. Note particularly from Figure 28 that this cold fresh water was directly under the portion of the surface dynamic heights indicating the swiftest surface current. The cold fresh water sampled at station 5326 indicated either a local eddy or that a portion of Labrador Current water was moving along the eastward side of the trough region and had not mixed sufficiently to lose its identity.

The 1.0° C isotherm indicates that the Labrador Current can be considered as a thin ribbon of rapidly moving water acting as a boundary that prevents the cold, fresh water overlaying the continental shelf from overflowing the warmer, more dense water of the Labrador Sea and trough region.

Figures 28 and 29 show the 1964 vertical temperature and salinity structure. They show a large amount of cold relatively fresh water moving southward. This time there is not the compensatory northward flow of similar cold, fresh water to the east. Figure 31 shows the highest surface velocity between stations 8837 and 8838. Notice that this high velocity flow was located east of the majority of the cold water.

The volume of southerly flowing water of less than 4.0° C had in both cases displaced the 4.0° C isotherm to the east. Several closed cores, as indicated by isotherms and isohalines, were observed to the east. If the copious amount of southerly flowing cold, low saline water shown in these cross sections was indicative of the normal condition of the Labrador Current in early April, then comparison with the property cross sections observed this year illustrate the extremely anomalous conditions. It will be shown in the discussion of volume transports that the anomalous condition was not a small transport value for the Labrador Current but rather a normal volume transport with temperature salinity characteristics differing significantly from the normal. This water was more dense level for level in the top 200 meters and warmer level for level at all depths.

THREE SERIAL CGC EVERGREEN OCCUPATIONS OF STANDARD SECTION 3, 16–21 April 1966

Three partial occupations of Section 3 were conducted in April 1966. A reference buoy like that described in the instrument section was moored at 44°37′N and 49°12.5′W to provide a fixed starting point.

Occupations were conducted from west to east as rapidly as weather conditions permitted. Two occupations consisting of 6 stations were made on 16–17 April and 18–19 April, and one of 5 stations on 21 April 1966.

The station spacing was controlled by radar ranges and bearings taken periodically on the reference buoy. Because only one reference buoy was used, the orientation of the sections could not be exactly reproduced, and from the bottom topography it is believed that the first section was to the north of the last two. The vertical temperature and salinity structure for these three partial occupations are shown in Figures 33 through 38. A plot of the surface dynamic heights observed during each occupation is shown in Figure 32. Charts of the dynamic topography observed during these occupations are shown in Figures 2A, 2B, and 2C.

During these three occupations the shelf dynamic height value increased continuously while the trough value decreased. At first it was thought this might have been normal spring infusion of colder, fresher water. Figures 33 through 38 show a freshening occurred, but both the mean temperature and the mean salinity remained higher than normal. During 16–17 April the minimum temperature observed was 1.48° C at the bottom of station 9535 and the minimum salinity was 33.54‰ at the surface of station 9536.

The 18–19 April partial occupation showed a continuing cooling and freshening. The minimum temperature 1.19° C and the minimum salinity 33.50‰ both occurred at station 9543. They were just east of the continental shelf edge and they were in the southerly current. During the 21 April 1966 partial occupation of Standard Section 3 the water was more saline than during either of the previous occupations. The minimum temperature was 1.37° C and the minimum salinity was 33.56‰. Both of these values were observed at a station on the Grand Banks. All three occupations showed anomalously high values of temperature and salinity when compared with the typical vertical cross sections of 1964 and 1954.

Figure 32 shows that the dynamic topography changes significantly with time. It is realized that these variations are a combination of the local time rate of change plus changes due to slight horizontal displacement of the station positions. Comparison of the surface dynamic heights observed from these three occupations with those of the 4–5 April 1966 occupation showed that the dynamic heights of the stations located on the continental shelf had increased by three dynamic centimeters in 12 days. The trough had deepened from 970.97 to 970.90 dynamic meters, a change of 7 dynamic centimeters. This value was closer to the average trough value of 970.924 dynamic meters calculated by Kollmeyer et al, 1965. This return to a near normal trough value coincided with the disappearance of the intrusion of 7° C water of atypical character observed previously.

These three serial occupations showed that significant property changes can occur over a relatively short time interval. They also showed that a return to a normal dynamic height topography did not require the cold temperature usually found in the core of the Labrador Current.

CGC EVERGREEN 25–26 MAY 1966 OCCUPATION OF STANDARD SECTION 3

The next occupation of Standard Section 3 occurred on 25–26 May 1966. The surface dynamic heights along the section are shown in Figure 39. The vertical temperature and salinity structures are shown in Figures 40 and 41.

A comparison of Figures 32 and 39 shows that the trough values have remained relatively unchanged, but the western station value has decreased from 971.106 to 971.012 dynamic meters, a significant decrease of approximately 9 dynamic centimeters. From the trough the dynamic topography slopes gently upward to the east to a maximum value of 971.131. Again the 7.0° C isotherm intruded westward to station 9572. The warm water mass found in the surface layer at station 9573 had atypical temperature-salinity characteristics. The minimum temperature of 0.92° C and the minimum salinity of 33.10‰ both occurred at station 9570. Since the mean temperature of the inshore station had increased, the factor that contributed to the lower than normal value for dynamic heights must be the persistently high salinity values on the continental shelf.

As during the previous occupations the temperatures in the core of the Labrador Current were anomalously warm and the southward flow of cold water was smaller than expected.

The structure of the isotherms from stations 9568 to 9571 again suggested that the Labrador Current is an edge phenomenon.

Figures 40 and 41 studied together tend to suggest that the North Atlantic Current may be intrusively moving westward. As noted previously atypical water was found at station 9573 and the 7.0° C isotherm was intruding westward of its usual position. The isotherms and isohalines from stations 9576 to 9578 suggested a displacement to the west.

STANDARD SECTION 2

The occupations of Standard Section 2 will now be considered. Standard Section 2 was occupied prior to, during, and after the 1966 International Ice Patrol Season. The first occupation was by the CGC HUMBOLDT on 11–12 March 1966. The next two occupations were made by CGC EVERGREEN on 7–8 April and 26–27 May 1966. The surface dynamic heights along Standard Section 2 are presented in Figure 15 and Figures 42 and 43. Surface dynamic heights along the 47° parallel of north latitude obtained from the April and May normal charts prepared by Soule (1964) are shown in Figures 44 and 45. The latter very clearly delineate the average spring conditions. The average maximum value for April is 971.024 dynamic meters with a corresponding minimum value of 970.869 dynamic meters. In May 1966 the maximum dynamic height value had increased to 971.027 dynamic meters and the minimum value had increased to 970.882 dynamic meters.

Figure 15 shows relatively steep gradients with a net southerly transport and a slight northerly flow between the inshore stations. The 7–8 April 1966 occupation found an increased northerly transport between the four easternmost stations and a reduced southerly flow. The 26–27 May 1966 occupation showed an increase in maximum dynamic height values for the continental shelf stations from 970.99 to 971.05 dynamic meters. The trough values have remained relatively constant during all three surveys. The actual values were 970.85, 970.87, and 970.87 dynamic meters, indicating an increase in velocity of the Labrador Current.

The vertical temperature and salinity structures observed in 1966 along Standard Section 2 are presented in Figures 12, 13, 21, 22, 46 and 47. These figures indicate that the successive occupations were characterized by a decrease in temperature and salinity in the most rapidly flowing portion of the southerly flow. There was a persistent presence of a steep 4.0° C isotherm on each occupation. It was most apparent on the 26–27 May 1966 occupation.

No water with a temperature less than 0.0° C was observed during any 1966 occupation of Standard Section 2, an extremely anomalous condition for a section located so far to the north. These three occupations did not indicate any eastward branching of the Labrador Current, although the northern leg of Standard Section 2 was designed to indicate any such branching.

STANDARD SECTION 4

The northern part of Standard Section 4 corresponds to the historic Ice Patrol Section W. This portion was occupied by the CGC EVERGREEN on 2–3 April 1966 and the entire section was occupied on 22–24 May 1966. The 2–3 April 1966 occupation extended across the Labrador Current. The 22–24 May 1966 occupation extended from 37°21′N to 43°09′N along 50° W and crossed the Labrador Current and extended well into the North Atlantic Current. The surface dynamic heights along the northern end of Standard Section 4 are presented as Figures 48 and 49. The normal monthly mean dynamic heights along the northern end of Standard Section 4 obtained from Soule (1964) are presented in Figures 50 and 51. The April normal dynamic topography showed a strong, well defined Labrador Current with a relatively wide trough between it and the vigorous North Atlantic Current. The observed dynamic topography was extremely flat with the swiftest current occurring between stations 9511 and 9512, approximately 20 miles south of its usual position.

The 22–24 May 1966 occupation showed some filling of the trough and an increase of approximately 9 dynamic centimeters in the dynamic height of the northernmost station. The ribbon of rapid surface current remained displaced to the south.

Standard Section 4 has been occupied 4 times previously by the International Ice

Patrol. Soule and Graves (1938) aboard CGC GENERAL GREENE surveyed this section from 39°04′N to the "Tail-of-the-Banks." Volume transport calculations in their report were based on a 2000 decibar reference level. The subsequent occupations of this section were by CGC EVERGREEN in 1950, 1958, and 1960. The 1950 cruise extended from 38° north latitude to the "Tail-of-the-Banks." This occupation did not extend across the North Atlantic Current (Soule and Barnes, 1950), although it was in conjunction with Operation Cabot, a five ship survey of the Gulf Stream, (Fuglister and Worthington 1951). In 1958, it was occupied as a part of the activity of the International Geophysical Year. Sampling commenced at 38°30′ north latitude and extended to the "Tail-of-the-Banks." In this instance one section was at 48°30′ west longitude and the other at 50°15′ West longitude. These occupations occurred significantly earlier in the spring than the other occupations.

In 1966, a single occupation of Standard Section 4 was conducted from 23 to 25 May 1966. The vertical temperature and salinity structure observed are shown in Figures 52 and 53. A chart of the dynamic topography for this cruise relative to the 1000 decibar reference surface is shown in Figure 3. This reference surface is too shallow to adequately represent the velocity of the Gulf Stream, but it is useful in showing the current pattern with respect to the other sections occupied during the cruise.

Between stations 9562 and 9563 some subjectivity was involved in contouring the isotherms. The decision that had to be made was whether there was an isolated core or whether there was a tongue that connected to water of the same temperature at greater depths.

A strong horizontal temperature gradient occurred between stations 9561 and 9560, but no surface temperatures were available; hence, the surface intersections of these isotherms were then drawn without any near surface temperature information. The cross stream thermocline slope that delineated the North Atlantic Current was also apparent, e.g., the 10° C isotherm sloped downward from the surface to 928 meters at station 9552.

The vertical temperature and salinity structure observed during the 22–24 May 1966 occupation showed more cold water than the 2–3 April 1966 observations. The minimum temperature of 2.00° C observed on the 2–3 April 1966 occupation was at the bottom of station 9515, and the minimum salinity of 33.68‰ was at the surface. An interesting secondary temperature minimum of 2.89° C occurred at 95 meters on station 9511. The maximum surface velocity observed in April was between stations 9512 and 9511. The 22–24 May occupation showed some character with the 2.0° C isotherm delineating the structure of a cold core. The minimum temperatures observed in the Labrador Current were warmer than normal. This was also observed in the Standard Section 2 occupations.

LABRADOR SEA SECTION

The International Ice Patrol has occupied the Labrador Sea Section 28 times since 1928. In addition, two other occupations were made by the GODHAAB and the METEOR in 1928 and 1935 respectively. Dinsmore, Morse, and Soule (1960) summarized the volume transports of the Labrador Current across Standard Section 1 for this period. Bush, Murray, and Soule (1957) summarized the volume transports of the Labrador Current across Standard Section 1 and the West Greenland Current off Cape Farewell, Greenland. Cheney and Soule (1951) presented the mean values of the Irminger and East Greenland Current components of the West Greenland Current. Bullard, et al. (1963) presented the mean Irminger and East Greenland components of the West Greenland Current.

The dynamic topography of the surface observed along this section in 1966 is shown in Figure 54. As is the case with an isolated section, this indicates the component of the total current normal to the section and provides no information about the true direction of the current. This figure is useful in delineating the location and extent of the steeper gradients.

The vertical distribution of temperature and salinity are shown in Figures 55 and 56. The presence of storis immediately west of Cape Farewell, Greenland prevented the occupation of the planned eastern stations and this occupation of the Labrador Sea Section did not extend across the entire breadth of the West Greenland Current.

The vertical temperature structure over the Labrador continental shelf in 1966 differed significantly from any observed previously. The cold core, normally delineated by the −1.0° C isotherm, had degenerated into 3 cores. The 2.0° C isotherm intruded discontinuously over the continental shelf. This 2.0° C water was also characterized by the 34.0‰ isohaline. The intrusion of this comparatively warm saline water was very unusual and the high velocity core, just east of the continental slope and delineated by the 4.0° C isotherm, was also anomalous. The salinity structure over the Labrador continental shelf was anomalous, indicated by the relatively fresh water of less than 32.0‰ being displaced by warmer, more saline water. The temperature and salinity structure observed in the Labrador Sea had also changed. Two 3.5° C cores were observed below 1200 meters and the 34.90‰ isohaline indicated that the salinity of the deep water of the Labrador Sea was greater than 34.9‰. Instead of the coreless structure normally observed, the warm part of the West Greenland Current was characterized by a small core of water having temperatures greater than 5.0° C and salinities greater than 35‰.

This occupation of Standard Section 1 indicated that the south-flowing water was warmer and saltier than normal and led immediately to the speculation that one reason for the anomalously warm temperatures observed in the Labrador Current was the lack of cold water being transported south. Although this section was occupied in early June and the anomalously warm conditions to the south were observed earlier, one must still wonder if the remnants of earlier conditions were still not manifest along the section.

SECTIONS A, B, and C

Section C, Section B, and Section A were designed to show the parameter distribution in the water east of Newfoundland. Excluding the Labrador Sea Section, these were the only sections where water less than 0.0° C was found. The vertical thermal and salinity structure are shown in Figure 57 through 62. Section C and Section B both showed similar characteristic intrusions of large amounts of comparatively warm water (3.5° C to 4.0° C) well up onto the continental shelf. Again one was forced to speculate if the remnants of what had occurred were still not persisting upstream of the Grand Banks.

WATER MASS ANALYSIS

The water mass analysis, Figure 25, presents temperature-salinity information based on a 19-year running average and data collected by the 1966 International Ice Patrol. Station data from stations 9509 to 9551 were used to carry the averages forward. Because a careful search of previous bulletins failed to reveal the procedure used to determine what constitutes Mixed Water, Atlantic Current Water, and Labrador Current Water, these temperature-salinity curves will be discussed in a separate section at the end of this report. Historical International Ice Patrol usage had named the northeastward extension of the Gulf Stream past the "Tail-of-the-Banks" the Atlantic Current. This usage is maintained in describing the water mass analysis, but the more accepted term, North Atlantic Current, is used in the remainder of this report.

This year there was not a sharp delineation between Labrador Current Water and Mixed Water on Standard Section 3 and 4. There was even a more hazy line between Mixed Water and Atlantic Current Water. This resulted in a considerable number of stations having water characterized as atypical in the upper 300 meters. In the classification scheme used these atypical points were not presented. Figure 25 shows that the water characterized this year as Labrador Current Water was more dense from 50 to 300 meters than the 19-year average Labrador Current Water. It was significantly warmer level for level to 1000 meters and more saline than the 19-year average values in the top 400 meters. The Mixed Water observed this year was more dense and more saline than the 19-year averages in the top 300 meters. It was also warmer in the 50 to 150 meter interval. The Atlantic Current Water observed by the International Ice Patrol was significantly fresher and cooler, level for level, than the North Atlantic Current Water characterized by the 19-year average. Similarly the density of this water was greater level for level than the 19-year average values. No attempt will be made to explain why

such a warm, saline Labrador Current was present. It is believed that the water characterized this year as Atlantic Current Water was Mixed Water whose proportion of Labrador Current Water was small and whose proportion of Atlantic Current Water was higher than normal. This would result in water characterized as atypical, but if the salinity was high enough it would be classified as Atlantic Current Water. The temperature-salinity curves at stations where, for example, the top 300 meters were atypical generally graded into Atlantic Current Water as the depth increased in 1966.

Transport Calculations

INTRODUCTION

Volume transports have been calculated for all Standard Sections occupied during the winter and spring of 1966. They will be discussed in chronological order—section by section.

STANDARD SECTION 3

It was with a great deal of interest that data from Standard Section 3 were analyzed because of the relatively large volume transport changes observed by Kollmeyer, et al. (1965). There were four complete occupations and three partial occupations of this section during 1966. This provided the most extensive observations obtained at this location since the inception of the International Ice Patrol. Volume transport values calculated for this report followed the procedure described by Kollmeyer, et al. (1967). Property transports of heat and salt were also computed as described by Kollmeyer. Notice that the heat transports were the product of the average temperature within a solenoid and the volume transport through the solenoid. This was not a true heat transport calculation, but it was representative of the heat transport for positive temperature values. When negative temperatures were observed, the average temperature within the solenoid was negative. When this value was used to compute a heat transport value for a solenoid, the results were negative quantity. If this was summed with positive heat transport values, the results were straight algebraic addition. This caused some heat transport values to have small negative values.

This year volume transport values were available for Standard Section 3 from 14 February to 25 May 1966. These volume transports were the total volume of southward flowing water with Labrador Current characteristics. These values were obtained by summing all southerly solenoidal transport values with Labrador Current characteristics. These solenoids were generally between the trough station and the station on the banks with the highest dynamic height value. The volume transports for 16–17 April 1966, 18–19 April 1966, and 21 April 1966 did not represent the true values of total volume transports because these three occupations did not extend far enough eastward to delineate northward flowing water. These values then were somewhat less than the actual volume transport values. For statistical purposes, it was assumed that each of these three partial occupations represented the same fraction of total volume transport.

The numerical values for the volume transports are given in Table II. This information is also presented as a function of time in Figure 64. This figure indicates that at least two maximums occurred in the volume transport of the Labrador Current. There was a volume transport of $5.87 \times 10^6 m^3$/sec on 14–15 February 1966 and a volume transport of $5.25 \times 10^6 m^3$/sec on 18–19 April 1966. This latter value did not represent the total southerly volume transport of the Labrador Current, but just the volume transport through that portion of Standard Section 3 that was occupied. Although some subjectivity was used to determine the isopleth distribution of both the CGC DUANE and CGC HUMBOLDT data, these data definitely indicated that the Labrador Current was well defined during the late winter and early spring of 1966. It may be assumed then that the Labrador Current is a current that exists on a year round basis.

Bullard, et al. (1961) derived tentative normal seasonal changes in volume transport values that indicated the volume transport through this section decreased from mid-March through mid-June. The curves were extended using the average mean monthly rates of change. Although the tendencies agreed

Table II. Summary of volume, heat, and salt transports obtained from occupations of Standard Section 3

Date of Occupation	Ship	Total Southward Volume Transport ($\times 10^6 m^3/sec$)	Salt Transport ($\times 10^6 kg/sec$)	Heat Transport ($\times 10^{6\circ} Cm^3/sec$)
14–15 Feb 1966	CGC DUANE	5.87	204.2	19.0
9–10 Mar 1966	CGC HUMBOLDT	4.95	176.4	18.4
4–5 Apr 1966	CGC EVERGREEN	2.70	96.3	11.8
16–17 Apr 1966	"	3.97*	141.9	12.8
18–19 Apr 1966	"	5.25*	188.3	15.0
21 Apr 1966	"	1.80*	63.6	5.7
25–26 May 1966	"	2.96	101.2	99.1

* These values do not represent the total volume transport, see text for explanation.

from mid-March to mid April, the pronounced increase in volume flow observed in late April 1965 and 1966 was not indicated. These volume transports were the most complex ever observed by the International Ice Patrol. Another remarkable feature of the volume transports observed by CGC EVERGREEN from 16–21 April was the large time rate of change of volume transport. For these three occupations, station locations were determined by radar ranges and bearings on a moored buoy. The changes observed in the volume transports vary from $+.64 \times 10^6 m^3/sec/day$ to $-1.38 \times 10^6 m^3/sec/day$. At this point remember that the 16–17 April, 18–19 April, and 21 April occupations represent values that are less than the actual total volume transport. Figure 64 indicates that the volume transport of the Labrador Current decreased in the late winter and early spring and increased appreciably over a short interval in mid-April.

Figure 65 shows the salt transports and the product of mean solenoidal temperature and solenoidal volume transport, as a function of time. Salt transport, heat transport, and volume transport for salinities and temperatures less than 34.3‰ and 2.0° C are shown in Figure 66. Kollmeyer, et al. (1967) used this criterion to delineate the surface 200 meters of the Labrador Current water. This criterion was particularly useful when considering southward moving water overlying the continental shelf from Cape Chidley, Labrador to the 47° parallel of North Latitude. This water represented the surface 200 meters of the Labrador Current as indicated by the 19-year mean temperature-salinity curve developed by the International Ice Patrol. This figure shows a pronounced increase in the "Arctic" component of the Labrador Current in late April. This component did not show the pronounced decrease in transport values from 14–15 February to 4–5 April. There was, however, a very slight decrease of $.06 \times 10^6 m^3/sec$ in the Arctic component during this interval. The product of mean solenoidal temperature and solenoidal volume transport and the salt transport both showed this slight decrease from 14 February to 4 April 1966. This increase and decrease observed with this component of the Labrador Current indicated that the short increase in total volume transport observed over the same interval may be real.

Figure 67 shows the volume transports for each occupation of Standard Section 3 conducted from 1950 to 1966. With one exception, 1966, these occupations occurred between early April and early June. Two things should be noted about this figure. The first is the variability of the volume transports. For example, the 1965 volume transport showed a sharp increase and a slight decrease with increasing time. In 1954 there was a moderate decrease and a slight increase with increasing time. In 1961 the volume transport started with a low initial value that increased to a moderate value. However in 1962, one year later, the volume transport started with a high initial value that decreased as the ice season progressed. The second point is that the 1966 volume transport was the most complex ever observed. The most notable feature of the volume transport this year was the short time intervals between volume transport determinations. In other words, when the International Ice Patrol conducted extensive surveys, six weeks could elapse between occupations of a particular section. This year reoccupations occurred within 36 hours of each other. Consequently, although other investigators have reported volume transport variations, it was assumed that the volume transport variations between occupations were smooth. This year

on the other hand, the volume transport variations were shown to be very irregular. The expression from which these volume transports were computed was derived by assuming that the accelerations were small with respect to the magnitude of the forces acting. Hence an expression for volume transport should be developed based upon the initial assumption that the accelerations are not small with respect to the acting forces.

Figure 68 shows the relationship between the dynamic height values of a Bank station (top line) and a trough station (bottom line) along Standard Section 3. It should be noted that the geographical coordinates of both the Bank station and the trough station vary with time. The Bank station selected had the maximum dynamic height observed and the trough station had the minimum value observed. This maximum value was not the maximum value of dynamic height observed along the section, but the maximum value observed in the western portion. These maximum and minimum values alone were not significant. The distance between the stations must also be known to determine the volume transport changes, i.e., the volume transport values are directly proportional to the difference in dynamic heights and inversely proportional to the distance between stations. Recalling the volume transports from Figure 64 or Table II, the largest transport value calculated did coincide with the largest difference in dynamic heights; but the next largest difference coincided with the lowest transport value observed. The maximum distance between trough and Bank station corresponded to a moderate transport value while the minimum distance corresponded to a small transport value. This figure indicates that there is very poor agreement between the difference of maximum and minimum dynamic height values and volume transports. This figure also can be used to determine if the trough gradually filled as summer approached. Assuming that colder, less saline water was transported south by the Labrador Current as spring commenced, this water would transit the trough region and manifest itself in the mixed water of the trough. Assuming further that the system is salinity controlled, the dynamic height of the trough stations should gradually increase as summer approaches. This is not shown in the figure. The trough dynamic height values gradually decreased, increased, and then gradually decreased with time.

The uncertainty in station location can contribute significant errors to the total volume transport calculations. Bowditch (1962) discussed the factors that contributed to errors in Loran A positions. Stommel (1960) stated that Loran A accuracy under the best circumstances was $\pm 1/4$ nautical miles. Adams (1942) stated that a careful observation on one star under the best conditions can give a line of positions correct within $\pm 1/2$ nautical miles. He further stated that the accuracy of an individual sun sight under a similar condition was better. Each ship that occupied Standard Section 3 operated under identical navigational instructions. A fix was taken upon arrival and departure from station. The official station position was the arithmetic mean of the two positions.

Horizontal position determination for the three serial occupations conducted 16–17 and 21 April were radar ranges and bearings on a moored buoy. These three occupations were conducted in fog and drizzle with winds up to gale force. The last occupation of Standard Section 3 was conducted at night in fog and light winds and sea state 1. Most position determinations during this occupation were by dead reckoning adjusted for drift. The volume transport values presented here are believed accurate to within $\pm 10\%$. It is emphasized that this figure represents the maximum limits within which the volume transport values can vary. These tolerances still indicate that large, short-term volume transport variations occurred during the winter and spring of 1966.

STANDARD SECTION 2

As stated previously, there were three occupations of Standard Section 2. The volume transport information for two of these occupations is presented in Figure 69. This information is also presented in Table III. There was no indication of the dramatic volume transport changes observed in Standard Section 3. An examination of the dynamic topography along Standard Section 2, Figure 15 and Figures 42 and 43, indicated that there were significant changes between the HUMBOLDT occupation and the last EVER-

Table III. Summary of volume, heat, and salt transports obtained from occupations of Standard Section 2

Date of Occupation	Ship	Total Southward Volume Transport ($\times 10^6 m^3$/sec)	Salt Transport ($\times 10^6$kg/sec)	Heat Transport ($10^6 m^3$°C/sec)
11 Mar	CGC			
1966	HUMBOLDT	2.76	98.31	8.17
26–27 Mar	CGC			
1966	EVERGREEN	3.30	117.56	11.08

GREEN occupation. There was a gradual increase in the dynamic height of the shelf and a very slight filling of the trough stations.

STANDARD SECTION 4 AND REMAINING SECTIONS

The volume transports for the two occupations of Standard Section 4 are also presented in Figure 69. These values represented the westerly flow with Labrador Current characteristics as defined by the 19-year average temperature-salinity characteristic. This information is also presented in Table IV. The

Table IV. Summary of volume, heat, and salt transports obtained from occupations of northern end of Standard Section 4

Date of Occupation	Ship	Total Southward Volume Transport ($\times 10^6 m^3$/sec)	Salt Transport ($\times 10^6$kg/sec)	Heat Transport ($10^6 m^3$°C/sec)
2–3 Apr	CGC			
1966	EVERGREEN	3.75	133.52	14.22
24 May	CGC			
1966	EVERGREEN	6.27	222.10	21.31

volume transport increased from 3.75 to 6.27 $\times$ $10^6 m^3$/sec between occupations. This was a case where the normal topography for both April and May showed a vigorous Labrador Current. The 2–3 April 1966 occupation had a relatively flat topography with lower than normal values of dynamic heights observed at the northernmost stations. The vigorous circulation observed during 26–27 May 1966 coincided with a relatively high stand of water on the Banks. This relatively high stand of water implied the presence of less dense water adjacent to the continental slope. The net volume transport eastward through the entire Standard Section 4 was 59.88 $\times$ $10^6 m^3$/sec. This net volume was computed using a 2000 decibar reference surface.

The net volume flow through the Labrador Sea Section was .63 $\times$ $10^6 m^3$/sec to the northwest, and the total heat and salt transports northward were 29.86 $\times$ $10^6 m^3$°C/sec and 123.30 $\times$ 10^6kg/sec respectively. This was calculated using a 1500 decibar reference level. The total northerly transport of that portion of the West Greenland Current occupied was 6.26 $\times$ $10^6 m^3$/sec. The total southerly transport of the Labrador Current near South Wolf Island, Labrador was 6.55 $\times$ $10^6 m^3$/sec. The total heat and salt transport southward for the Labrador Current were 13.76 $\times$ $10^6 m^3$°C/sec and 299.67 $\times$ 10^6kg/sec respectively. The total southerly volume transport computed for Section B occupied on 29–30 May 1966 was 2.60 $\times$ $10^6 m^3$/sec. The total heat and salt transports were 4.46 $\times$ $10^6 m^3$°C/sec and 89.97 $\times$ 10^6kg/sec respectively.

Parachute Drogue Current Project

INTRODUCTION

A project was planned to determine if velocity fluctuations of the Labrador Current associated with the volume transport calculations could be directly observed. In addition to the serial occupations of the western portion of Standard Section 3, parachute drogue measurements were conducted. These drogue measurements were to determine if velocity variations indicated by the geostrophic equation could be verified.

MEASUREMENTS

The drogue studies were made with the time-series study at Standard Section 3. This repeated occupation of the western part of Standard Section 3 was to determine if any short-term variation occurred in the volume transport of the Labrador Current. The weather encountered during this drogue experiment was extremely rough. The average wind force for the cruise was force 6 with the associated high sea states. Figure 70 is a progressive wind vector diagram for the time interval of the drogue study. The visibility was poor in fog and drizzle.

The experiment was conducted in this manner: Seven drogues were set from 1342Z, 17 April 1966 to 1256Z, 18 April 1966. Excepting drogue 5, these drogues were set in pairs with a surface drogue and a deep drogue. The pairing of drogues is shown in Table V. As each drogue was set, a radar range and bearing was taken as close together as possible on the drogue and on the reference buoy. Using this information it is possible to obtain the components of the position vector extending from the reference buoy to the drogue. Two position vectors may be used to obtain the displacement vector whose magnitude when divided by the time interval produces the magnitude of the velocity vector. The components of the displacement vector may also be used to determine the bearing of the velocity vector from north.

Table V. Number, date, time, and depth of each drogue set

Drogue No.	Date/Time (GMT)	Depth (meters)
1	17/1342 – 17/2208	15
2	17/1357 – 17/2150	40
3	17/1442 – 17/1948	50
4	17/1500 – 17/2118	15
5	18/0010 – 18/0417	100
6	18/1256 – 18/2130	100
7	18/1256 – 18/2153	15

A program was prepared in FORTRAN for the IBM 1130 computer that would compute the drogue velocity in centimeter/sec and the bearing of the velocity vector from true north. The inputs required for this program were:

1. Radar range to and true bearing of the reference buoy from the ship.
2. Radar range to and true bearing of the drogue from the ship.
3. Time each set of observations was taken.

The outputs of this program were:

1. Magnitude of the velocity vector (speed) for the given interval.
2. The true bearing of the velocity vector from north.

The computer program is shown in Figure 71. A flow diagram for this program is presented in Figure 72.

RESULTS

The drogue trajectories are shown in Figures 73 through 76. They have been grouped using the time set, the depth at which set and the location where set. It is apparent from these criteria that drogues 1 and 2, 3 and 4, and 6 and 7 should be grouped together. Drogue 5 should be studied separately. The drogue speed and bearing information is given in Tables VI through X.

The actual depths of the parachutes are unknown, but Gerard (1965) presented measure-

Table VI. Drogue speed and true bearing data for drogue #1 (15 meters) and drogue #2 (40 meters)

DROGUE #1 (15 Meters)

DATE/TIME* (GMT)	SPEED (cm/sec)	TRUE BEARING
17/1432		
17/1558	50	171
17/1558		
17/1701	55	179
17/1701		
17/1806	48	193
17/1806		
17/1913	48	205
17/1913		
17/2047	43	225
17/2047		
17/2208	21	25
DROGUE #2 (40 Meters)		
17/1357		
17/1606	52	181
17/1606		
17/1709	38	188
17/1709		
17/1812	41	194
17/2055		
17/2150	14	228

* Time interval used for speed and true bearing calculation.

Table VII. Drogue speed and true bearing data for drogue #4 (15 meters) and drogue #3 (50 meters)

DROGUE #4 (15 Meters)

DATE/TIME* (GMT)	SPEED (cm/sec)	TRUE BEARING
17/1500		
17/1625	67	185
17/1625		
17/1726	54	179
17/1726		
17/1831	64	188
17/1831		
17/1940	75	193
17/1940		
17/2017	31	155
17/2017		
17/2118	67	206
DROGUE #3 (50 Meters)		
17/1442		
17/1631	116	170
17/1631		
17/1732	54	179
17/1732		
17/1839	70	185
17/1839		
17/1948	58	188

* Time interval used for speed and true bearing calculation.

Table VIII. Drogue speed and true bearing data for drogue #5 (100 meters)

DATE/TIME* (GMT)	SPEED (cm/sec)	TRUE BEARING
18/0010		
18/0030	73	169
18/0030		
18/0100	82	171
18/0100		
18/0130	77	179
18/0130		
18/0200	87	183
18/0200		
18/0230	76	166
18/0230		
18/0300	120	189
18/0300		
18/0330	65	138
18/0330		
18/0400	113	168
18/0400		
18/0417	35	285

* Time interval used for speed and true bearing calculation.

ments which indicated that a parachute runs near the depth at which it is set. Volkmann, Knauss, and Vine (1956) indicated that "A current which flows at 50 cm/sec to a depth of 100 meters will drag a parachute at 200 meters through the water at approximately 4.5 cm/sec, assuming no current exists at 200 meters." The difference between the average speeds of the three pairs of drogues set are given in Table XI. Although the average data show relatively small differences, the "instantaneous" values of velocities may differ by more than 40 cm/sec. Because of the small average differences in velocity, no correction has been made to the deep drogue velocities. Table XII presents the mean velocities computed using the dynamic heights at different depths. These velocities can be compared with the average drogue speeds. The average speed of each pair of drogues has been plotted as an appropriate slope on a vertical section of dynamic height anomaly. This is shown in Figures 77 and 78. The position of the drogue determined the stations between which the velocity should be calculated for comparison purposes.

Drogues 1 and 2 were located between stations 9536 and 9537 or 9542 and 9543. Drogues 3 and 4 were located between stations 9537

Table IX. Drogue speed and true bearing data for drogue #6 (100 meters)

DATE/TIME* (GMT)	SPEED (cm/sec)	TRUE BEARING
18/1256		
18/1300	96	165
18/1300		
18/1330	70	194
18/1330		
18/1400	44	193
18/1400		
18/1430	59	186
18/1430		
18/1528	60	189
18/1528		
18/1536	57	190
18/1536		
18/1546	56	204
18/1546		
18/1600	59	197
18/1600		
18/1630	41	204
18/1630		
18/1700	68	195
18/1700		
18/1731	35	193
18/1731		
18/1800	80	213
18/1800		
18/1830	73	176
18/1830		
18/1900	32	224
18/1900		
18/1930	49	224
18/1930		
18/2000	50	216
18/2000		
18/2030	49	203
18/2030		
18/2100	36	218
18/2100		
18/2130	53	221

* Time interval used for speed and true bearing calculation.

Table X. Drogue speed and true bearing data for drogue #7 (15 meters)

DATE/TIME* (GMT)	SPEED (cm/sec)	TRUE BEARING
18/1256		
18/1300	82	215
18/1300		
18/1330	74	212
18/1330		
18/1400	58	212
18/1400		
18/1430	53	192
18/1430		
18/1532	50	169
18/1532		
18/1545	69	189
18/1545		
18/1630	90	253
18/1630		
18/1700	62	200
18/1700		
18/1731	38	191
18/1731		
18/1800	82	197
18/1800		
18/1830	65	188
18/1830		
18/1900	55	195
18/1900		
18/1930	55	215
18/1930		
18/2000	69	201
18/2000		
18/2030	72	195
18/2030		
18/2100	61	198
18/2100		
18/2130	74	204
18/2130		
18/2153	63	212

* Time interval used for speed and true bearing calculation.

Table XI. Speed differences (cm/sec) of shallow drogue minus deep drogue

Drogue Number	Depth (meters)	Average Speed (cm/sec)	Difference (cm/sec) Shallow drogue-Deep Drogue
1	15	44	
			+8
2	49	36	
3	50	74	
			−14
4	15	60	
5	100	81	
6	100	56	
			+9
7	15	65	

Table XII. Mean velocities (cm/sec) for various depths computed using Helland-Hansen's technique

Station Number	Depth (meters)	Mean Velocity (cm/sec)
9536-9537	0	*5
	25	*6
	50	*4
9537-9538	0	86
	25	83
	50	75
	75	66
	100	59
9542-9543	0	9
	25	12
	50	12
9544-9545	0	56
	25	50
	50	49
	75	48
	100	47

* These velocities were northward.

and 9538 or 9543 and 9544. Drogue number 6 passed between stations 9537 and 9538 or 9543 and 9544. Drogue 7 was set to the west of drogue number 6 and it drifted between stations 9536 and 9537 or 9542 and 9543. Because the density distribution changed in the time interval between the occupation of stations 9535 and 9540 and stations 9541 and 9546, the average drogue velocities were compared with the dynamic height anomalies and the corresponding velocities from both occupations.

Reid (1963) stated that drogues should be tracked for more than 48 hours before the velocities are compared with the geostrophic flow because of the short period fluctuations in flow and positioning errors. Although the maximum time interval that a drogue was tracked was 9 hours, it is felt that a meaningful comparision can be made since the horizontal position errors were small.

DISCUSSION

As indicated in Figure 32, the dynamic topography changed significantly from 16 to 18 April 1966. This caused the variations observed in the volume transports. The radar ranges and bearings taken on the drogues and the reference buoy insured that the position errors and hence uncertainty in calculating both the drogue and geostrophic velocities were minimized. Because of this, the average drogue speeds and the calculated geostrophic velocities have been directly compared. The average drogue speed was calculated by averaging the drogue speed without considering the direction. It was recognized that velocity is a vector quantity and should be averaged in component form and the averaged components then used to form the average velocity vector. It was felt that the added accuracy was not commensurate with the added complexity involved. The speeds have been arthmetically averaged and no weighting has been done to compensate for different observational time intervals.

Drogues 1 and 2 were set approximately 12 hours after stations 9536 and 9537 were occupied and approximately 36 hours before stations 9542 and 9543 were occupied. The trajectories of drogues 1 and 2 and the velocity information in Table 6 indicate a rather strong (40cm/sec) southerly flow. This is not as indicated by the dynamic heights calculated for stations 9536 and 9537. The occupations of this section 36 hours later showed a weak (11cm/sec) velocity southward. The last drogue velocities measured indicated a velocity of 21cm/sec and 14cm/sec respectively for the 15 meter and 40 meter drogues. Initially the geostrophic velocity did not correspond to the measured velocity in this case, but at the end there was an indication that dynamics were adjusting to indicate a velocity similar to that measured.

Drogue 5 was anomalous because it indicated the highest velocity (120cm/sec) and had the highest average velocity (81cm/sec). The other 100 meter drogue had an average speed of 56cm/sec compared with a calculated geostrophic current of 47cm/sec.

Hence the agreement between drogue 6 and the geostrophic current was considered satisfactory, and the agreement between drogue 5 and the calculated currents was considered to be poor. Drogue 5 was observed for only 4 hours, and it was set approximately 23 hours before the oceanographic observations were taken from which the velocity calculations were done. The agreement between the average velocity of drogue 5 and the 100 meter geostrophic velocity calculated between stations 9537 and 9538 was also poor. Drogue 5 apparently measured some irregular motion. The average speed of drogue 7 agreed satisfactorily with geostrophic velocities computed

using data from stations 9537—9538 and stations 9544—9545. The average speeds of drogues 3 and 4 also agreed satisfactorily with the computed geostrophic currents.

Figure 70 is a progressive wind vector diagram based upon observations taken during the drogue study. The wind maintained a relatively steady direction with a varying speed. After 24 hours the net transport caused by the wind stress should have manifested itself through the shallow mixed layer. This transport should have been in the northeast direction or acting in the direction opposite to the velocity indicated by each drogue. No effect such as this was observed in the drogue data. Excepting drogues 3 and 4, each drogue velocity was greater than the corresponding calculated velocity.

Perhaps the most interesting result obtained from the three serial occupations of the Standard Section 3 is an estimate for the accelerations occurring to the water. Using the computed geostrophic velocities from Table 12 and the times of occupation from the station listing at the end of this report, numerical values for the accelerations may be determined. These accelerations in some instances may have a magnitude equal to the Coriolis force. This contradicts one of the basic assumptions in the method used to compute velocities from density information. This indicates, if these values for accelerations were routinely observed, a different numerical procedure must be used to compute velocities. It is easy to use the drogue speed data to compute accelerations. They also show values that are larger than the Coriolis force, leading to the same conclusion reached above.

MEAN TEMPERATURE-SALINITY CURVES

Hawley and Soule (1940) stated that the temperature-salinity curves for the stations occupied in the Grand Banks region fell into three distinct groups. The warm water group had the characteristics of the North Atlantic Current Water and the colder water stations fell into two correlation groups instead of being scattered. They further stated that the width of the area composed of Mixed Water between Labrador Current Water and North Atlantic Current Water was small at the "Tail-of-the-Banks," and east of the Grand Banks it widened to approximately 80 nautical miles.

Hawley, Smith, Barnes, and Soule (1941), using all oceanographic data obtained from 1934 to 1940, computed 7-year average temperature-salinity curves. They also stated that the temperature-salinity curves for all stations fell into one of the three classifications. Occasionally the values for the upper levels would fall into an adjacent group if the station happened to be taken near the boundary of two water types. Soule and Barnes (1950) presented an average temperature-salinity curve based upon data from 1934–1941.

Carter, Challender, Cheney, and Soule (1950) did not present a mean temperature-salinity curve based on 1948 oceanographic observations. They stated that "the transition from Labrador Current Water to the typical Mixed Water was normally abrupt in 1948 and unusually gradual from the typical Mixed Water to North Atlantic Current Water." This caused many stations to be located in the mixing zone causing station temperature-salinity information to scatter from the Mixed Water temperature-salinity curve to the temperature-salinity of the North Atlantic Current. Cheney and Soule (1951) presented the temperature-salinity relationship using the 1949 data and the average values calculated for 1934–1941. This same procedure was followed until Bush, Murray, and Soule (1957) presented the mean temperature-salinity relationship based upon the oceanographic data collected from 1948 to 1956. They also compared the nine year 1948–1956 mean and the eight year 1934–1941 mean. Since 1956 a new average value has been calculated each year and the yearly observation compared to it. There have been three assumptions:

1. Labrador Current Water and North Atlantic Current Water are distinct water masses.

2. These two water masses mix in sufficiently constant proportions so that the Mixed Water can be regarded as a virtual water mass.

3. The mixing zones are narrow and well delineated.

There has also been an implied assumption that the hydrographic stations whose temperature-salinity relationship is Mixed Water in nature should have their geographical positions located between the Labrador Current and the North Atlantic Current.

The criteria used to determine the water mass observed at each depth equal to or greater than 50 meters are shown in Figure 63. The observed values are then entered, at each depth level, under the correct water mass. All values for the standard depths under each water mass are then averaged and the yearly average values are then plotted on a temperature-salinity diagram with the long term average values. The observed values that are atypical in nature are not entered on this mean temperature-salinity chart. This subjective data processing procedure causes the three water masses to appear to have sharp geographical boundaries when in fact this may not be true. Therefore, the information presented in Figure 25 should be interpreted accordingly.

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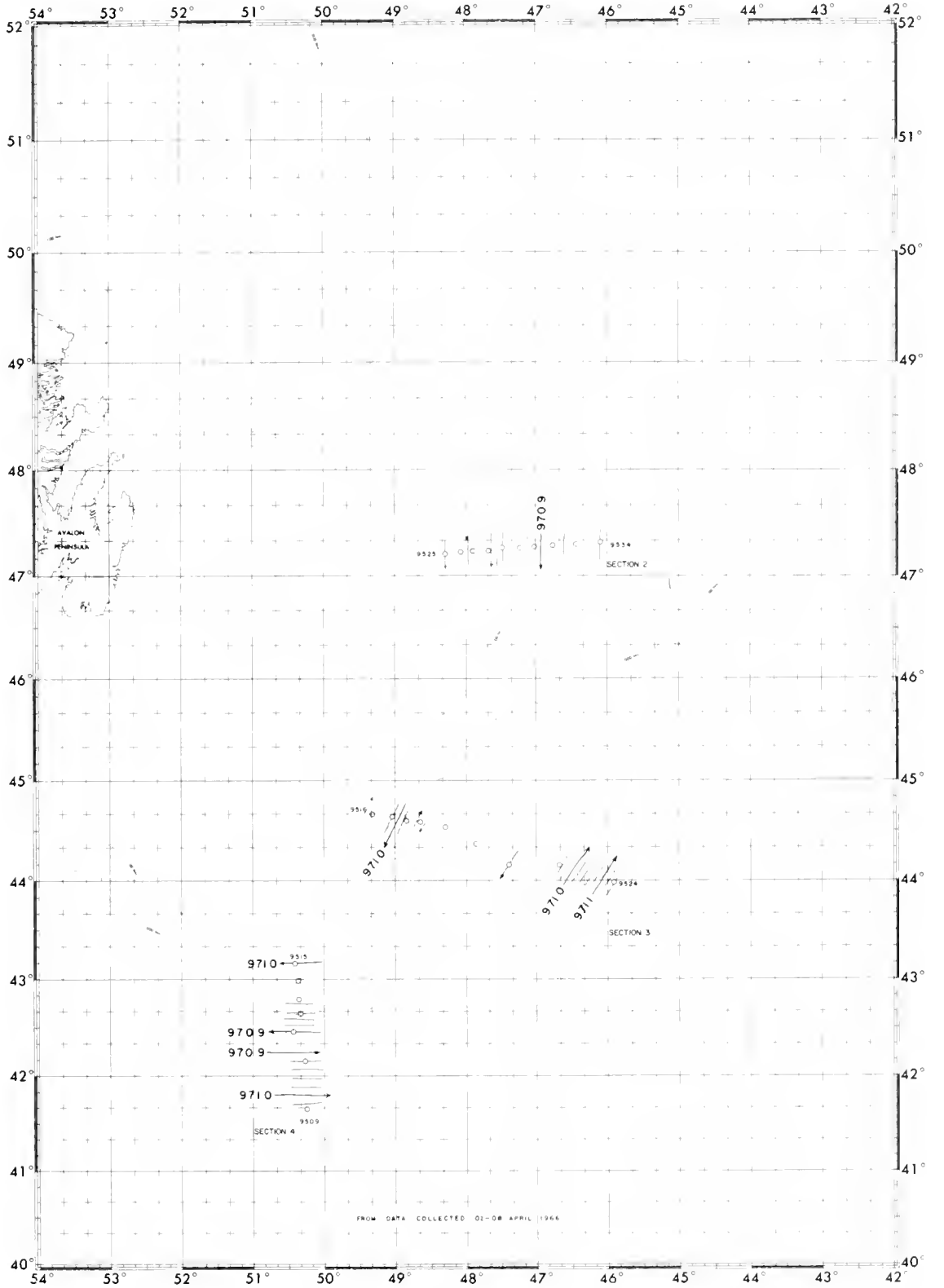

Figure 1. Dynamic topography of sea surface relative to the 1000 decibar surface from data collected by CGC EVERGREEN 2-8 APRIL 1966. Oceanographic station positions are indicated and station numbers are given at turning points.

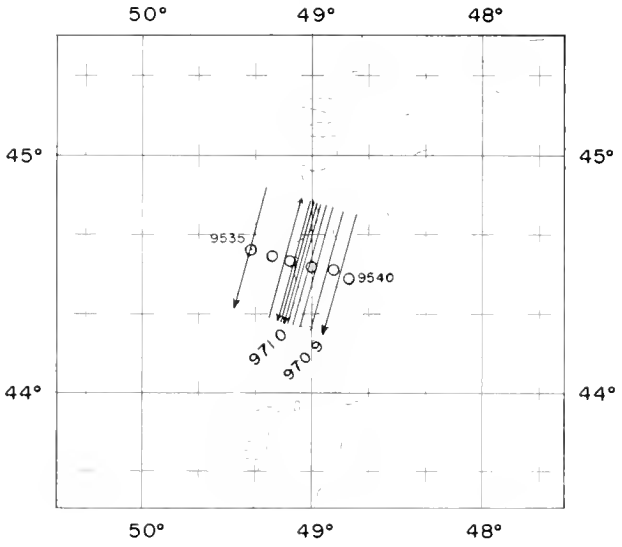

Figure 2A. Dynamic topography of the sea surface relative to the 1000 decibar surface from data collected 16-17 April 1966. Oceanographic station positions are indicated and station numbers are given.

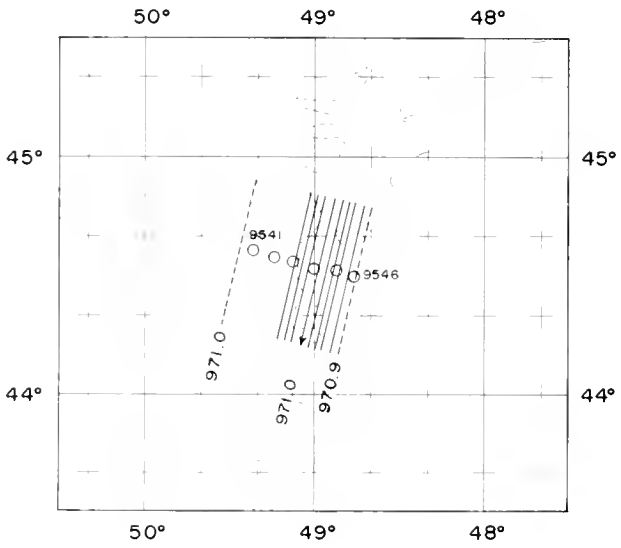

Figure 2B. Dynamic topography of the sea surface relative to the 1000 decibar surface from data collected 18-19 April 1966. Oceanographic station positions are indicated and station numbers are given.

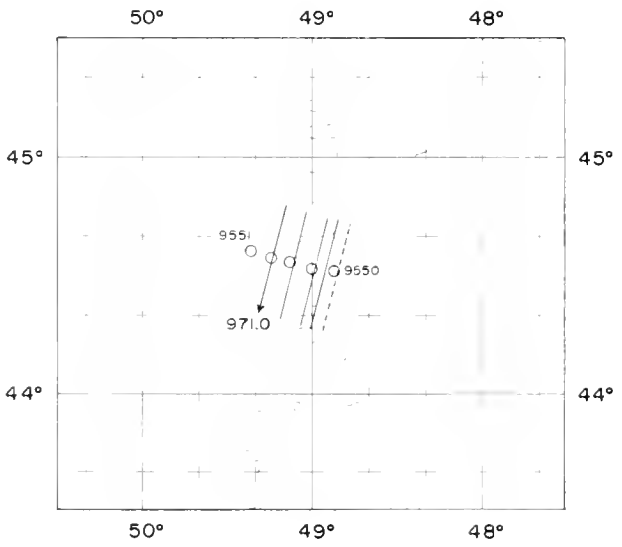

Figure 2C. Dynamic topography of the sea surface relative to the 1000 decibar surface from data collected 21 April 1966. Oceanographic station positions are indicated and station numbers are given.

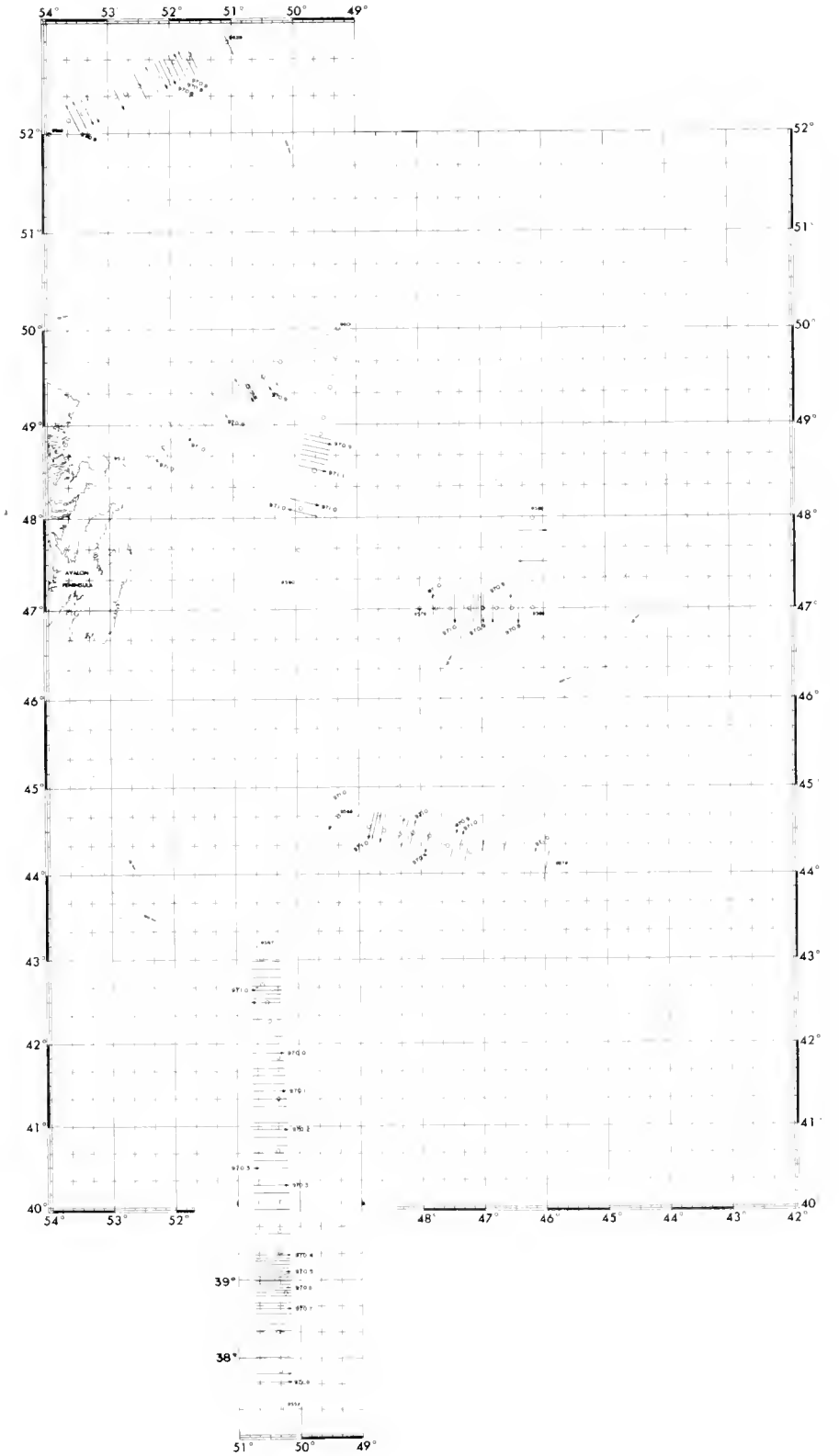

Figure 3. Dynamic topography of the sea surface relative to the 1000 decibar surface from data collected during the survey 22 May-7 June 1966. Oceanographic station positions are indicated and the station numbers are given at turning points.

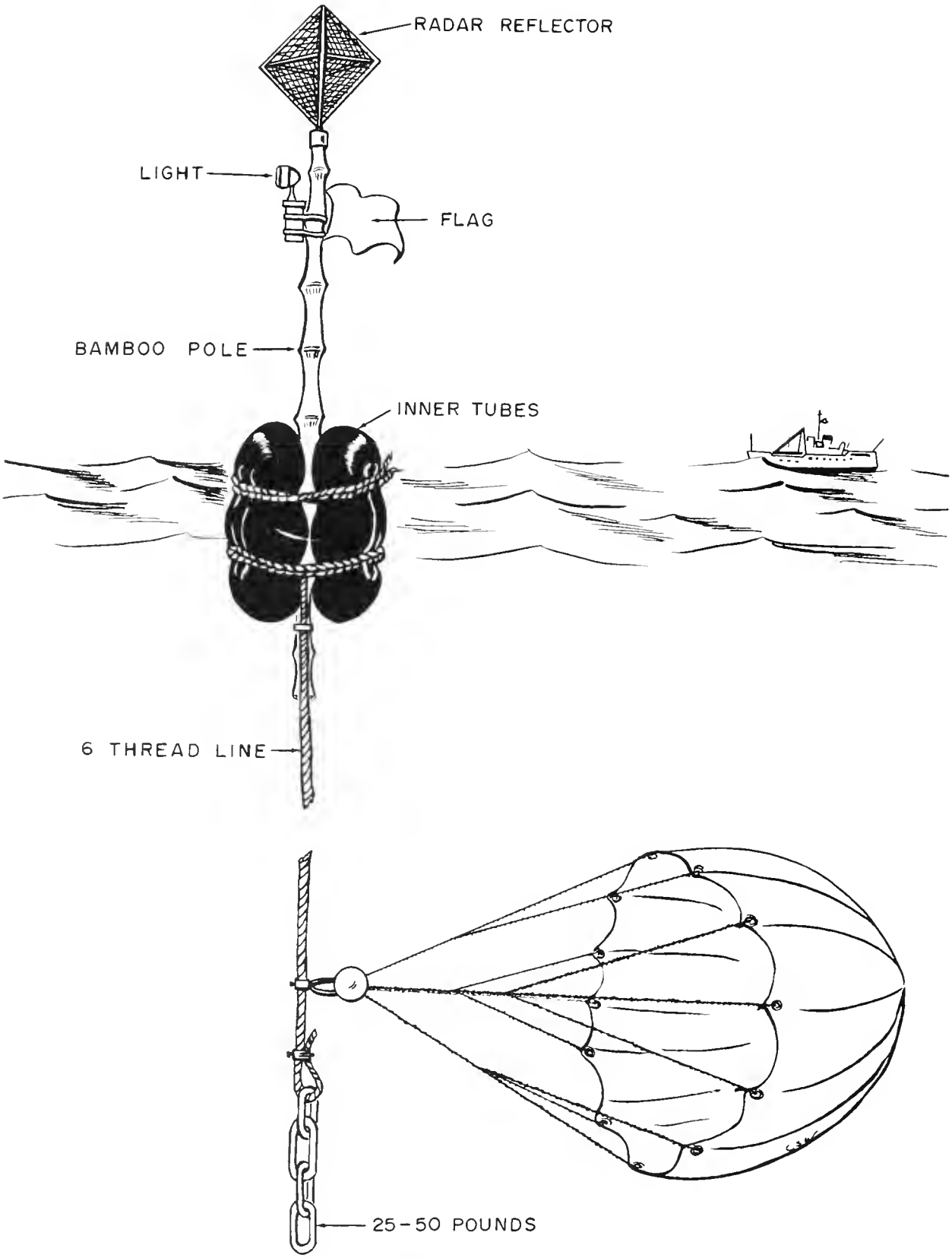

Figure 4. Schematic diagram of a parachute drogue.

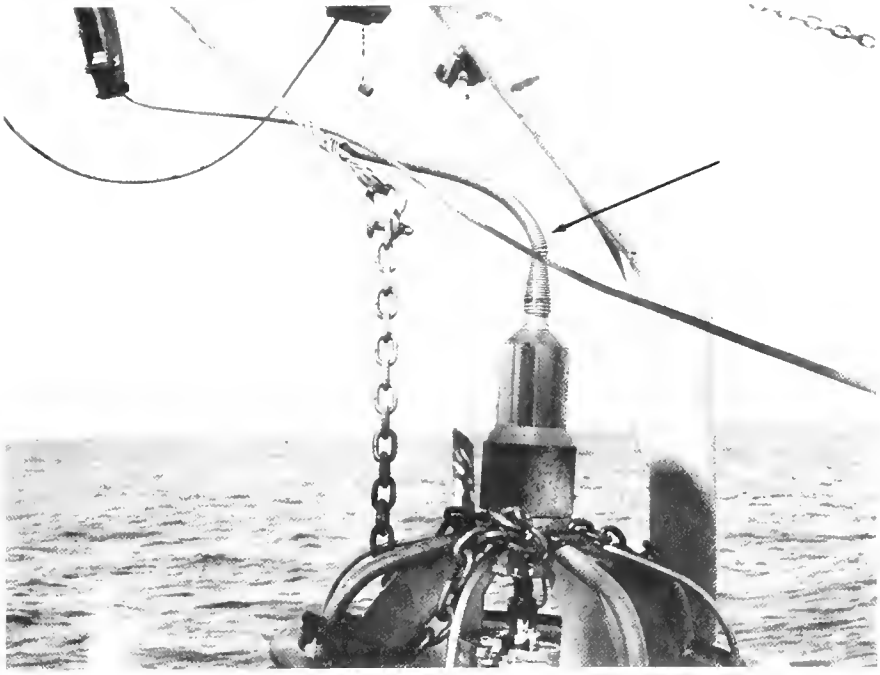

Figure 5A. First flexure point of STD cable above the underwater equipment rack.

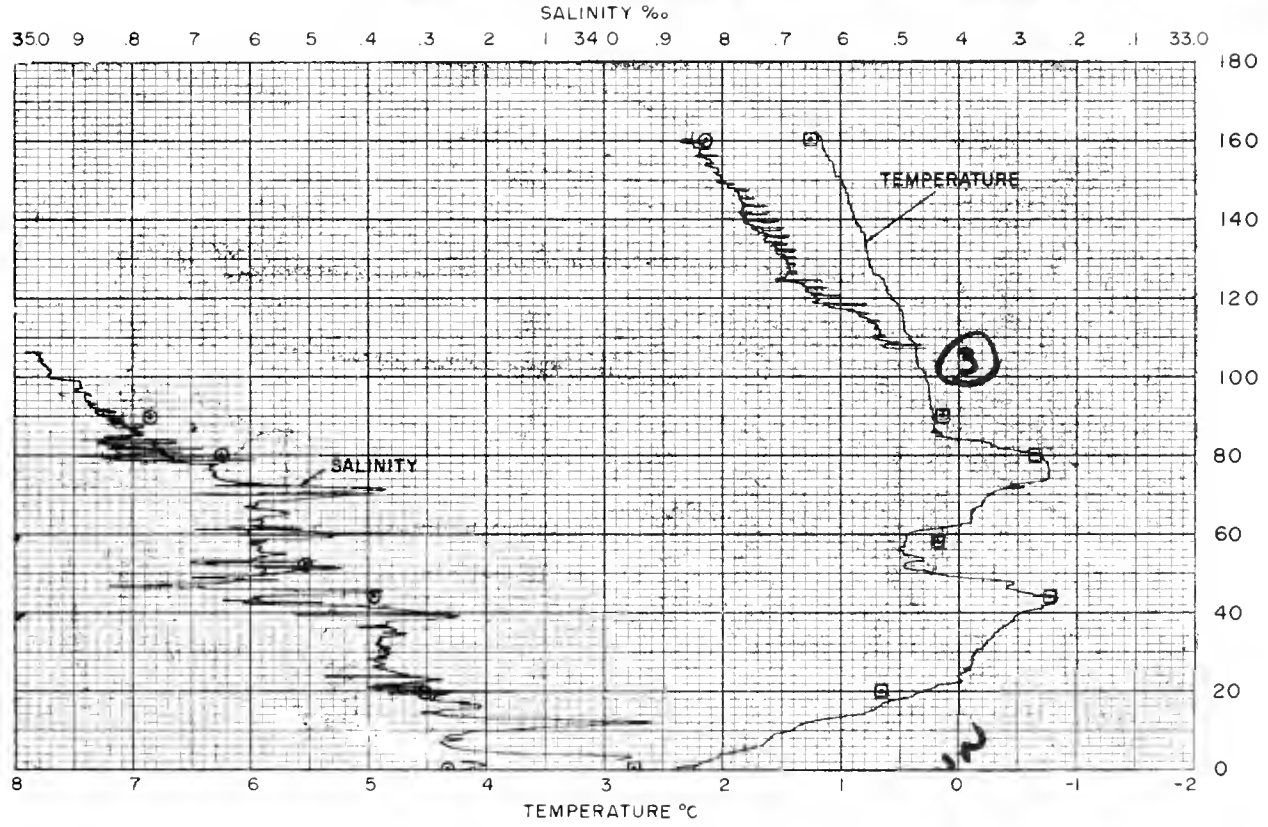

Figure 5B. Comparison of near simultaneous STD cast and Nansen cast. The ordinate is depth and the abscissa is temperature and salinity. The left hand curve is salinity and the right hand curve is temperature. The temperature scale is along the lower abscissa and the salinity scale is along the upper abscissa. The ordinate is depth in meters. The salinity and temperature values obtained from the comparative Nansen cast are plotted at proper depths as circles and squares respectively. The salinity scale was changed at 107 meters.

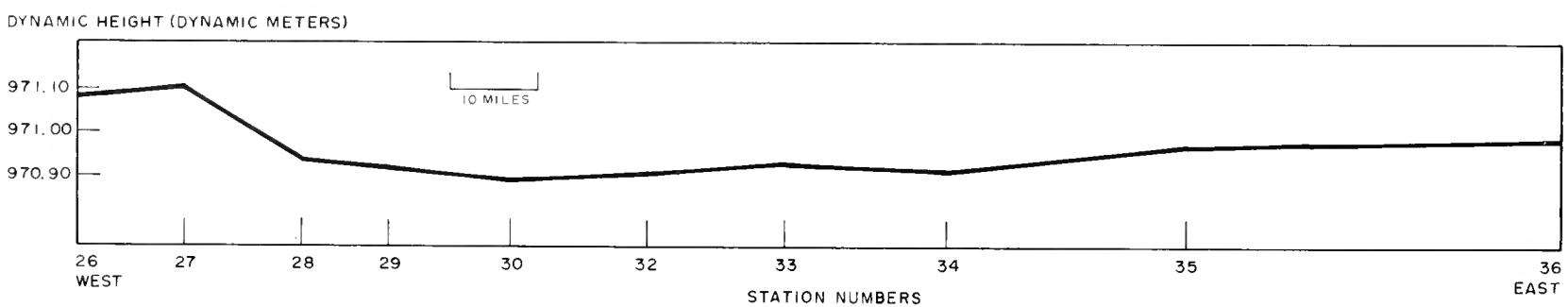

Figure 6. Surface dynamic heights in dynamic meters along Standard Section 3. CGC DUANE stations (26-36) 14-15 February 1966. This topography is viewed looking north. The small inset with 10 miles beneath it indicates the scale along the abscissa in nautical miles. The two digit figures beneath the abscissa are station numbers.

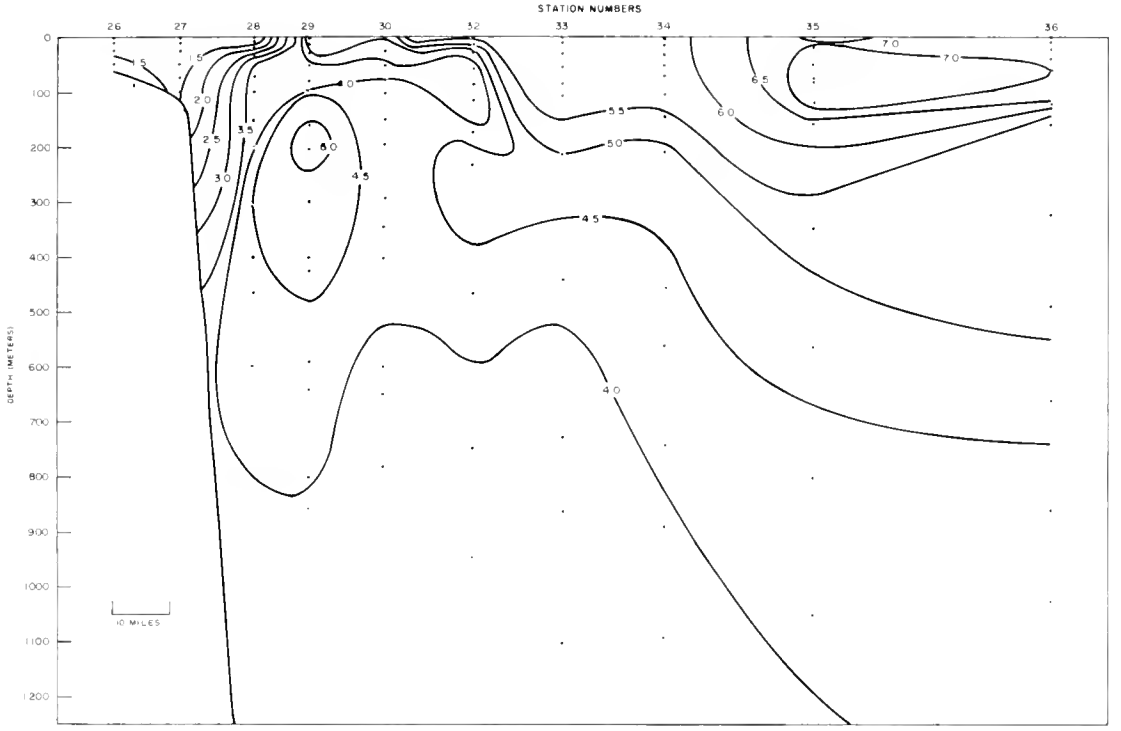

Figure 7. CGC DUANE stations (26-36) 14-15 February 1966. Vertical temperature (°C) structure along Standard Section 3. The depths are in meters and the station numbers are given along the top of the profile. The small inset with 10 miles beneath it indicates the scale along the abscissa in nautical miles. Station 31 has been omitted. The bottom topography is obtained from uncorrected sounding depths based on a speed of sound in sea water of 4800 ft/sec.

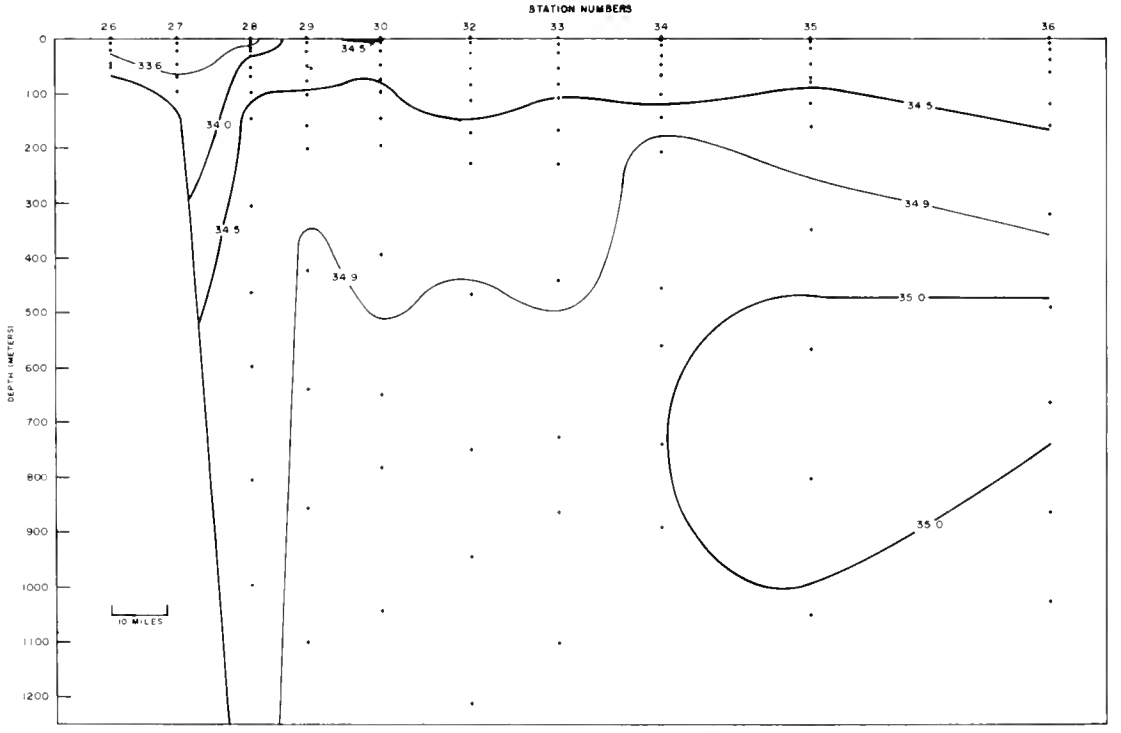

Figure 8. CGC DUANE stations (26-36) 14-15 February 1966. Vertical salinity (0/00) structure along Standard Section 3. Comments of Figure 7 are also applicable here.

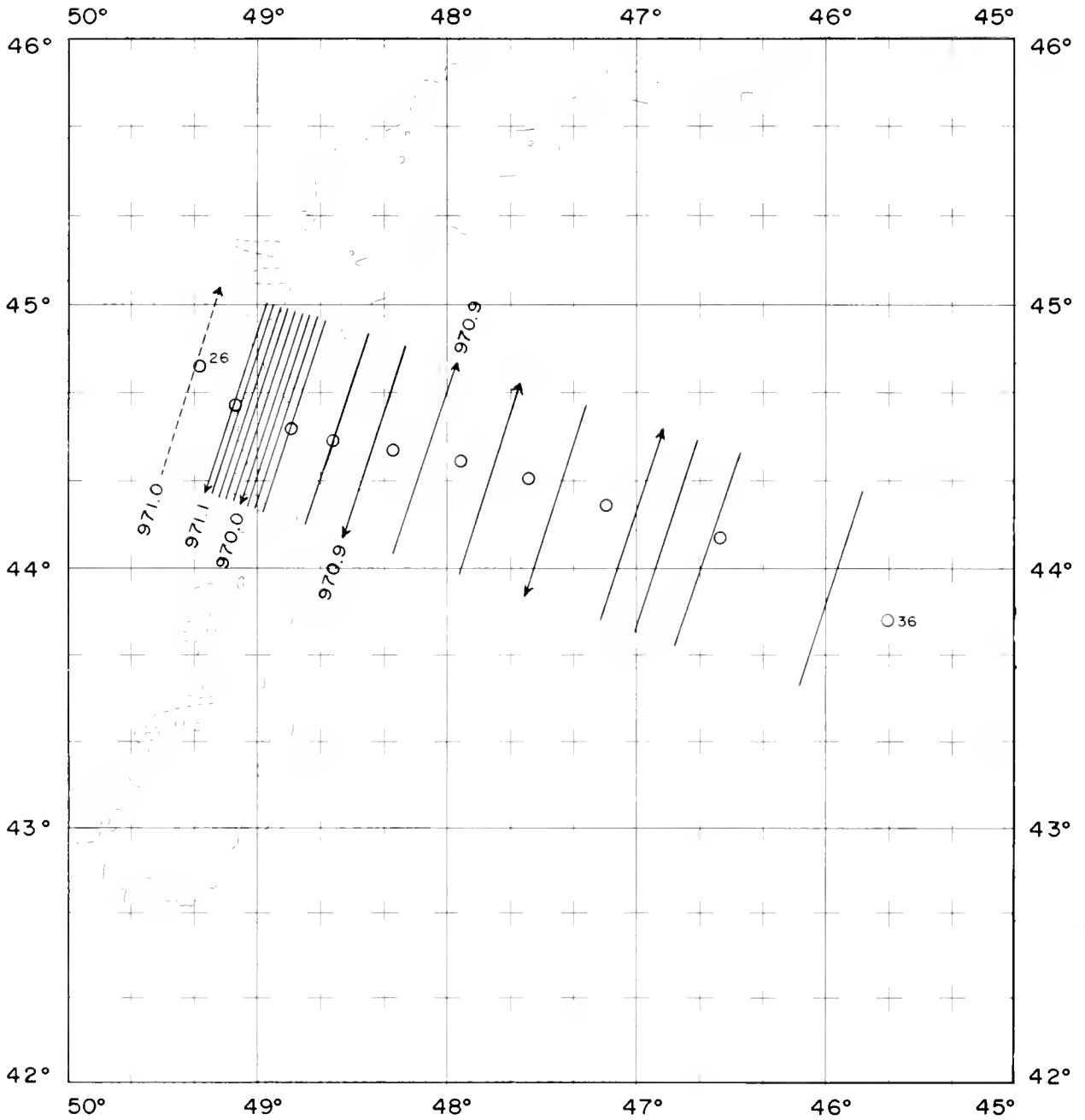

Figure 9. Dynamic topography of sea surface relative to the 1000 decibar surface from data collected by CGC DUANE 14-15 February 1966. Oceanographic station positions are indicated. Station numbers are given at beginning and end of the section.

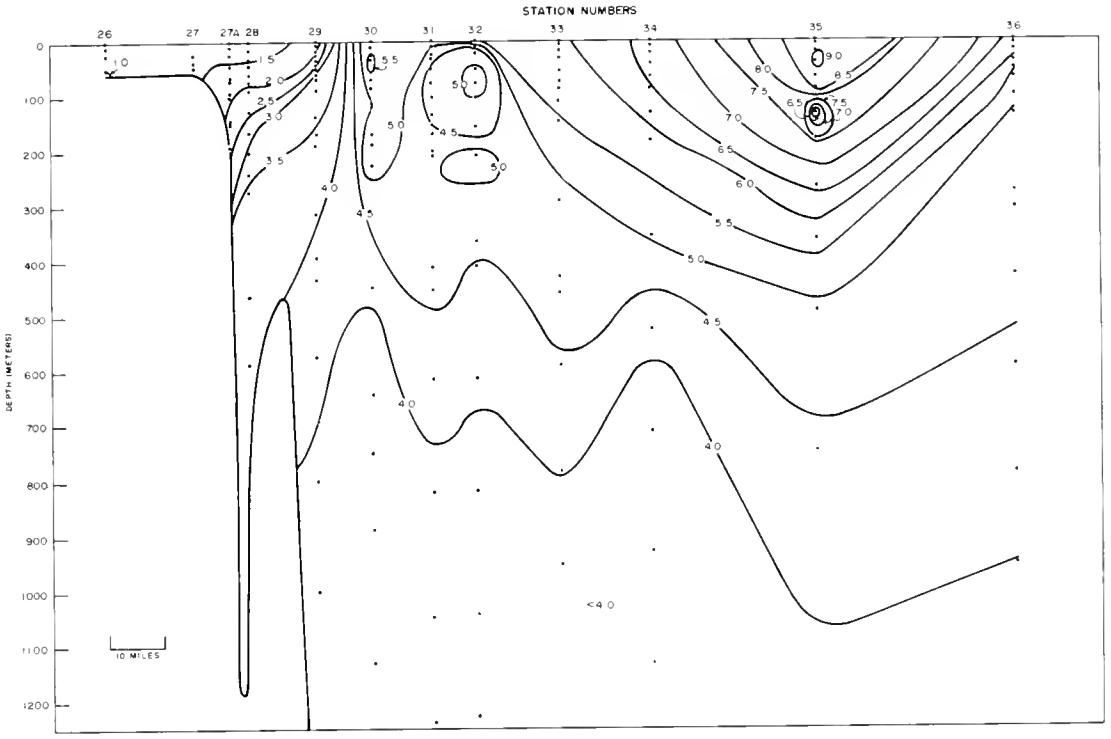

Figure 10. CGC HUMBOLDT stations (26-36) 9-11 March 1966. Vertical temperature structure (°C) along Standard Section 3.

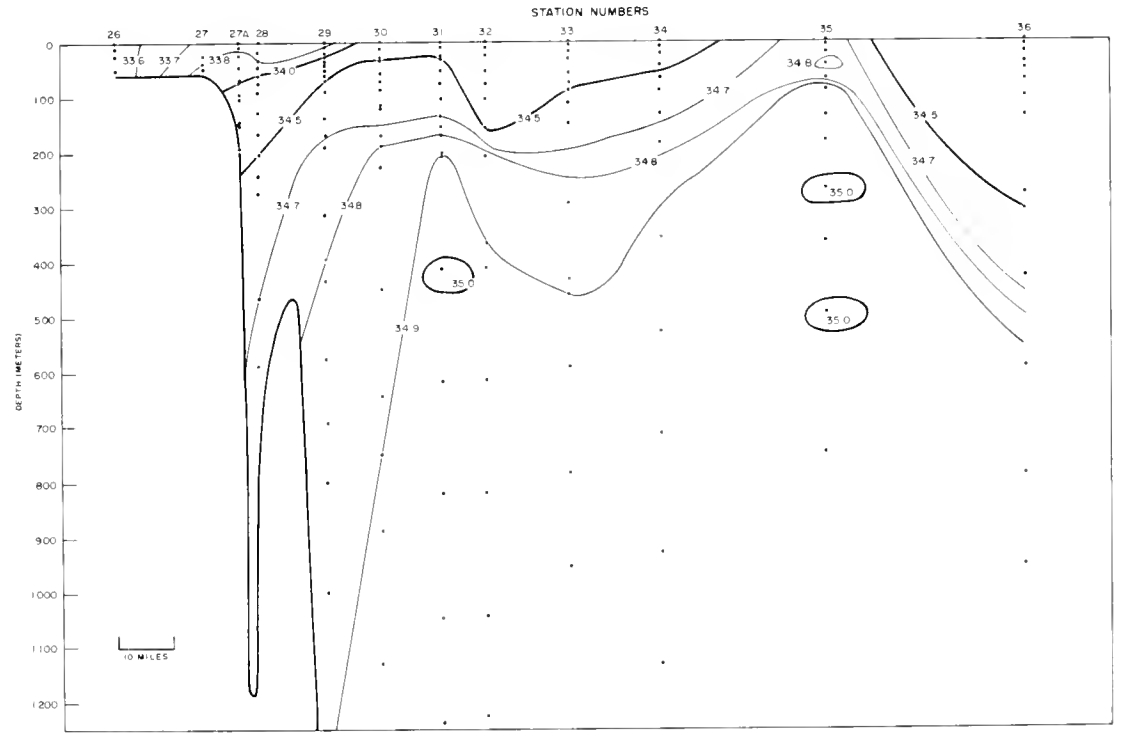

Figure 11. CGC HUMBOLDT station (26-36) 9-11 March 1966. Vertical salinity structure (0/00) along Standard Section 3.

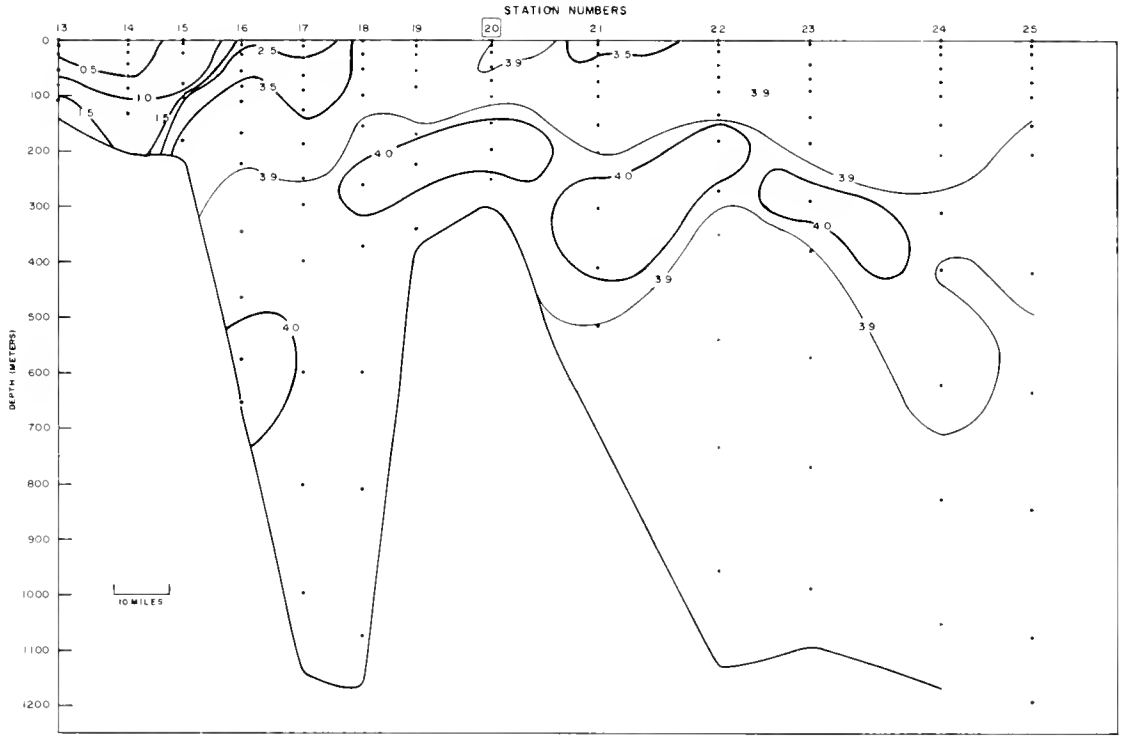

Figure 12. CGC HUMBOLDT stations (13-25) 11-12 March 1966. Vertical Temperature structure (°C) along Standard Section 2.

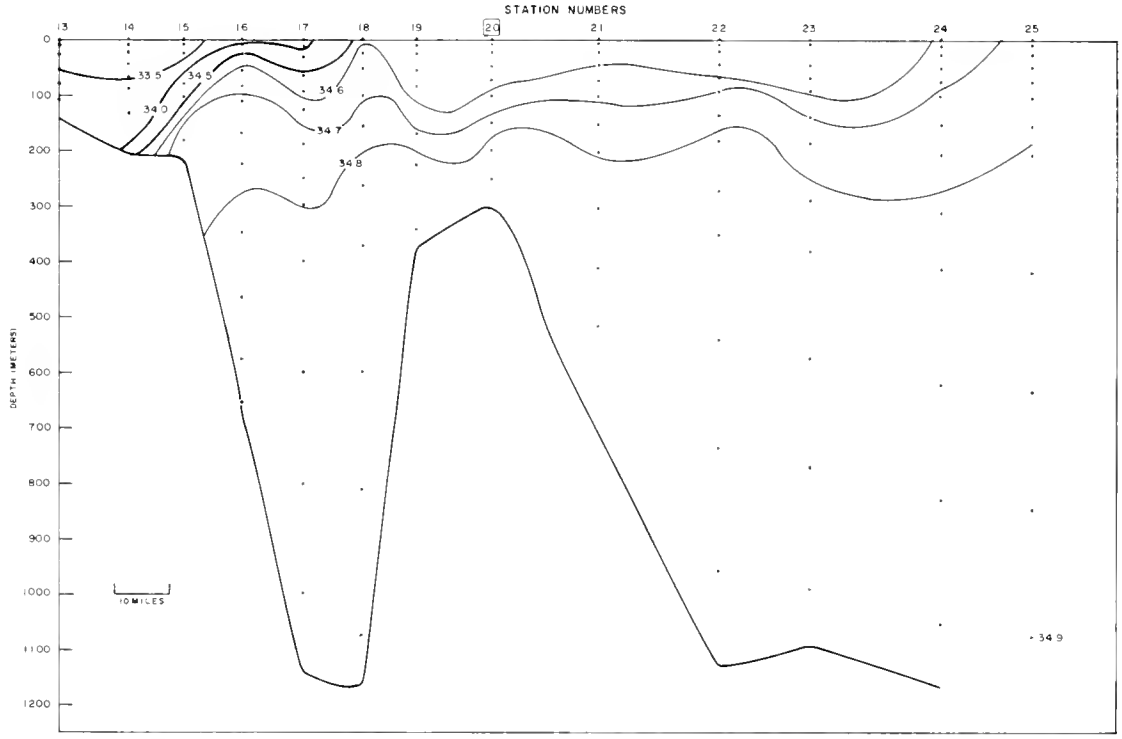

Figure 13. CGC HUMBOLDT stations (13-25) 11-12 March 1966. Vertical salinity structure (0/00) along Standard Section 2.

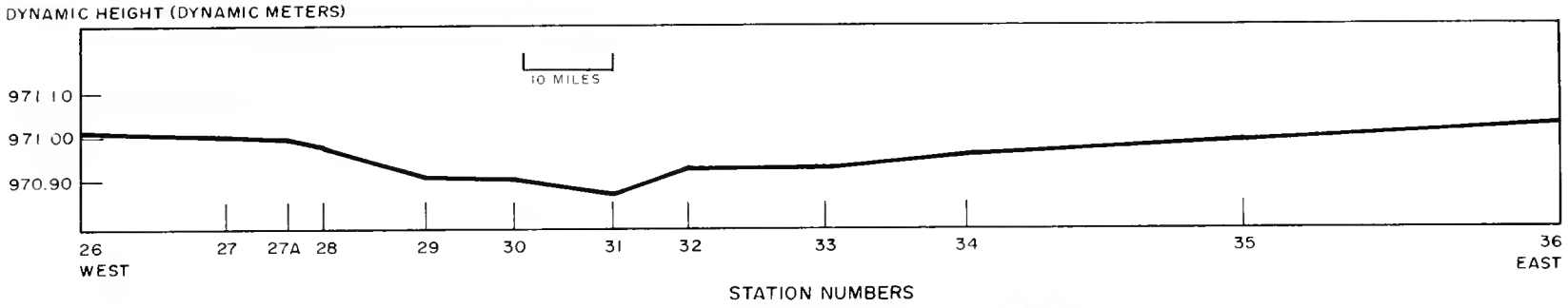

Figure 14. Surface dynamic height in dynamic meters along Standard Section 3. CGC HUMBOLDT station (26-36) 9-11 March 1966.

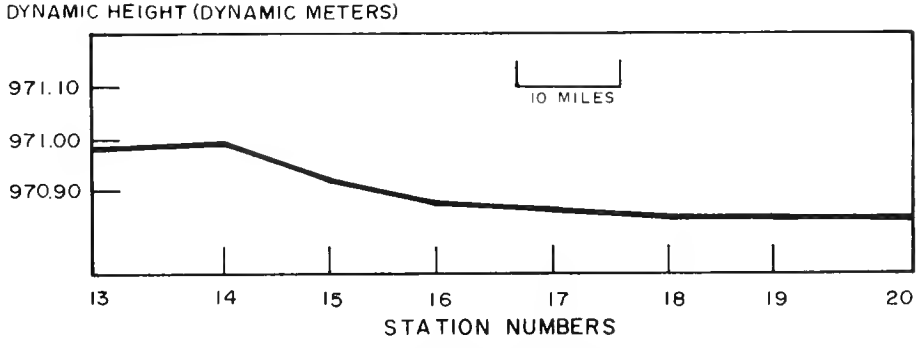

Figure 15. Surface dynamic height in dynamic meters along Standard Section 2. CGC HUMBOLDT station (13-20) 11-12 March 1966.

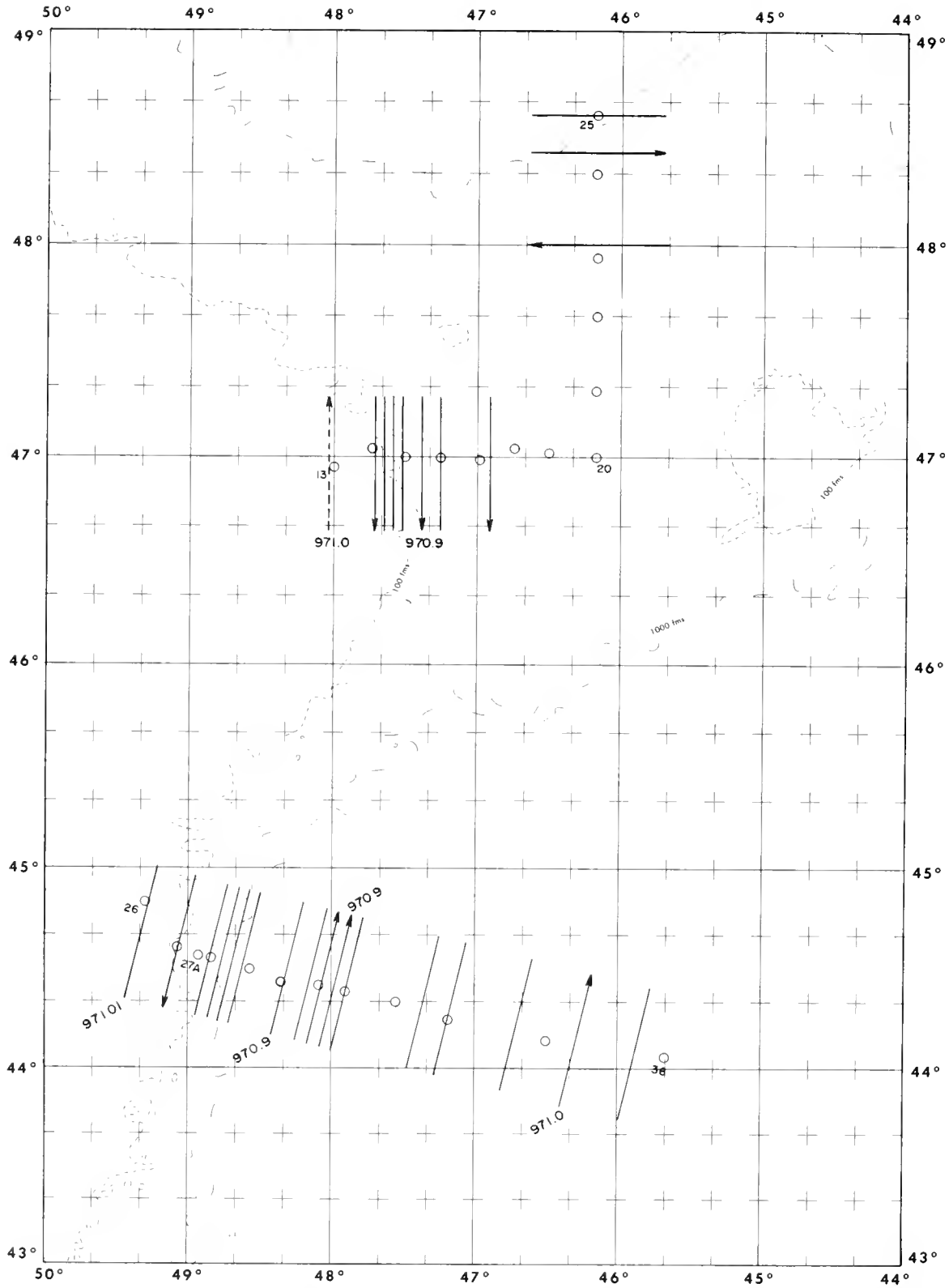

Figure 16. Dynamic topography of sea surface relative to the 1000 decibar surface from data collected by CGC HUMBOLDT 9-12 March 1966. Oceanographic stations positions are indicated. Station numbers are given at the beginning and end of each section.

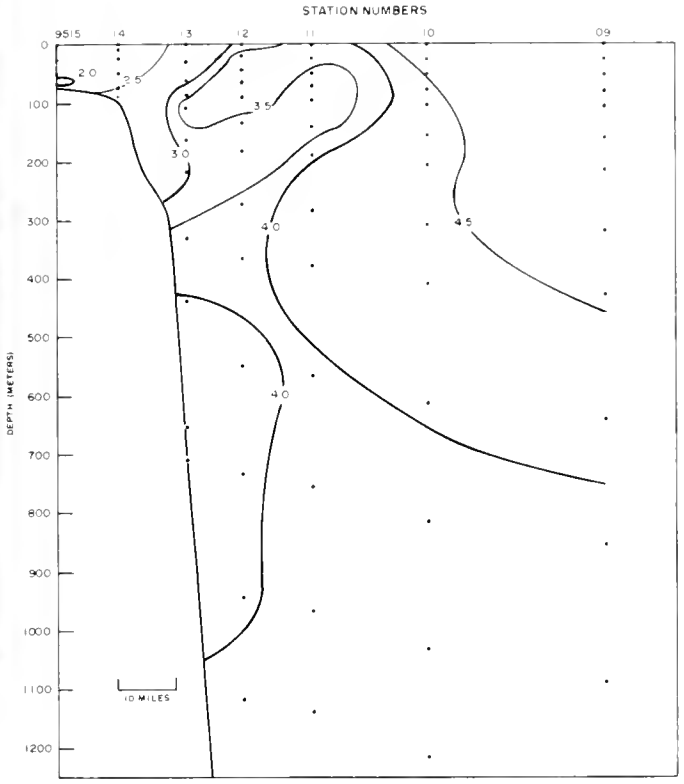

Figure 17. CGC EVERGREEN stations (9509-9515) 2-3 April 1966. Vertical temperature structure along northern part of Standard Section 4. This section is viewed looking East. The small inset with 10 miles beneath it indicates the scale in nautical miles along the abscissa.

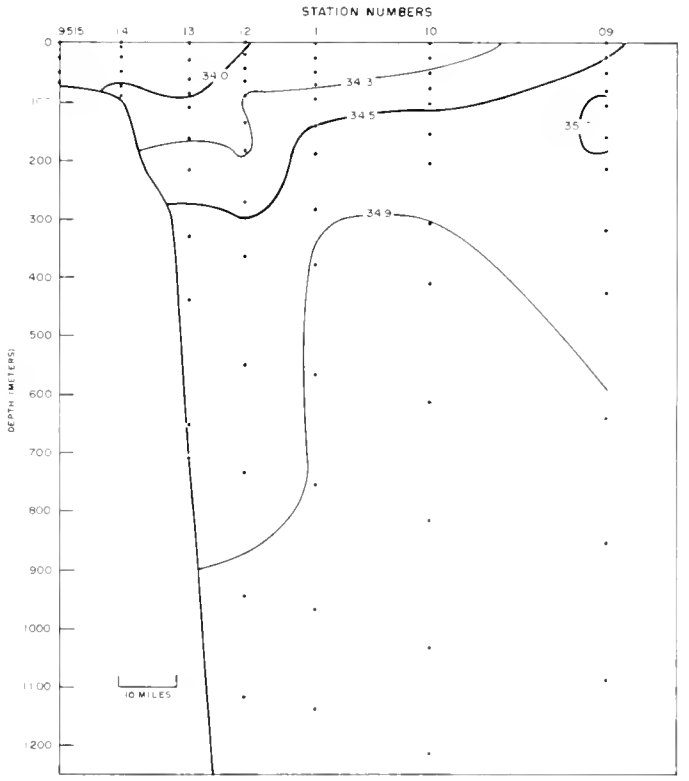

Figure 18. CGC EVERGREEN stations (9509-9515) 2-3 April 1966. Vertical salinity structure along northern part of Standard Section 4.

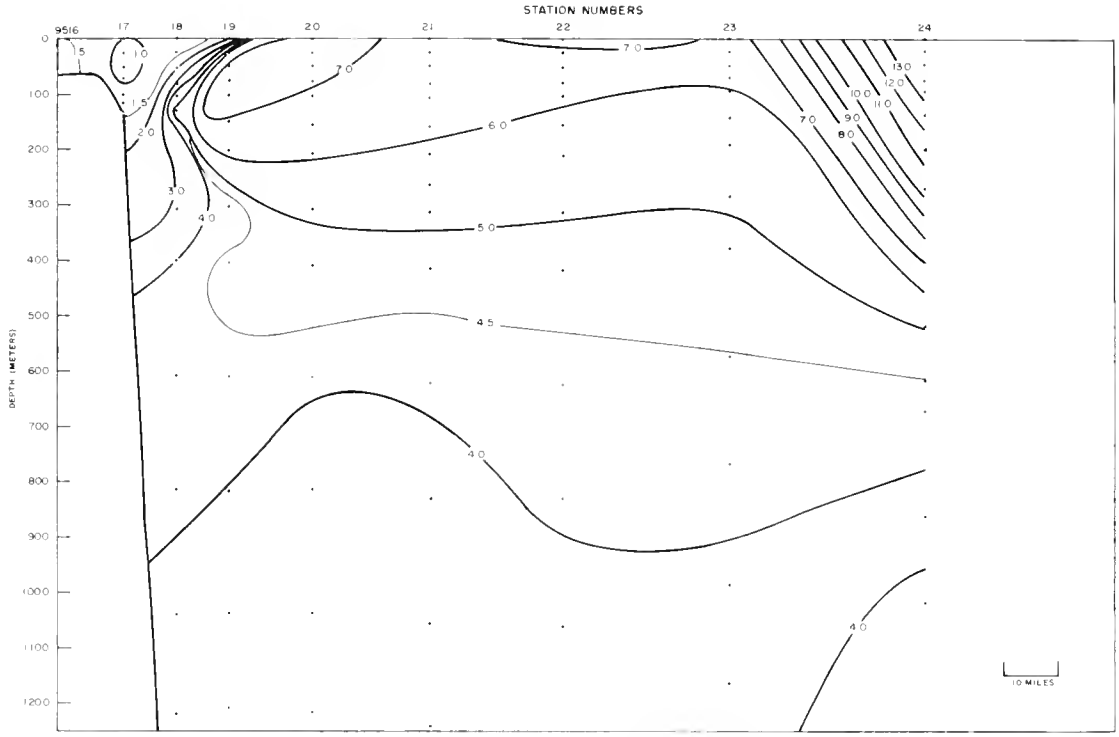

Figure 19. CGC EVERGREEN stations (9516-9524) 4-5 April 1966. Vertical temperature structure along Standard Section 3.

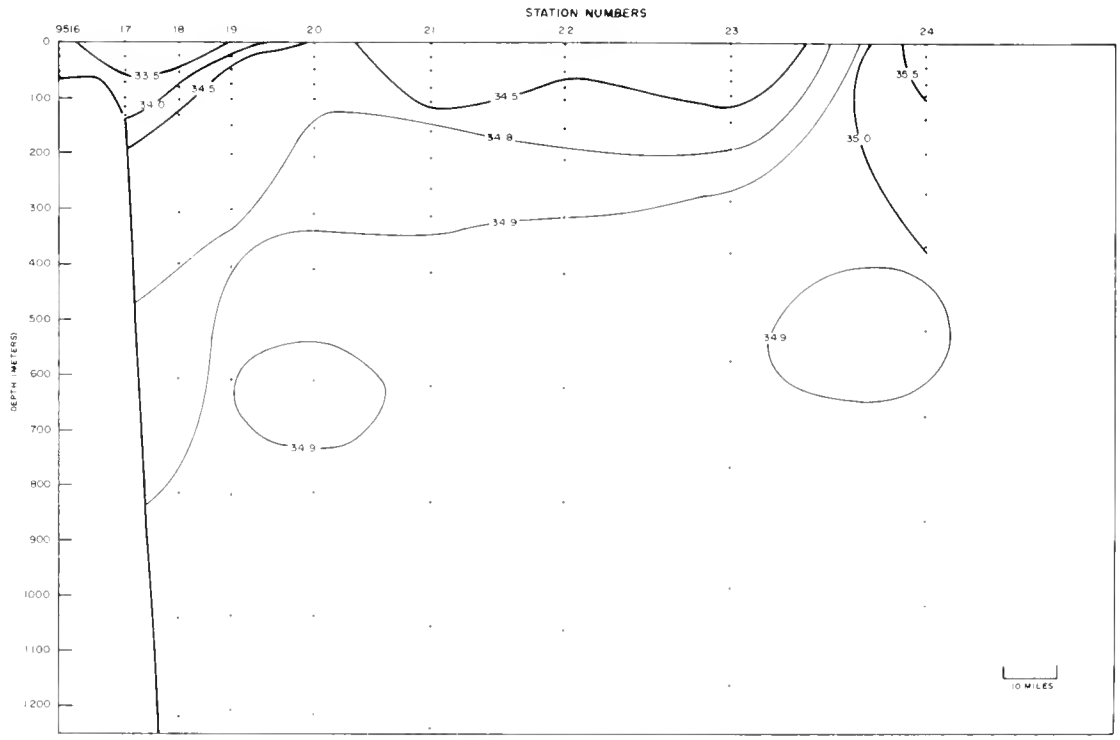

Figure 20. CGC EVERGREEN stations (9516-9524) 4-5 April 1966. Salinity section across the Labrador Current along Standard Section 3.

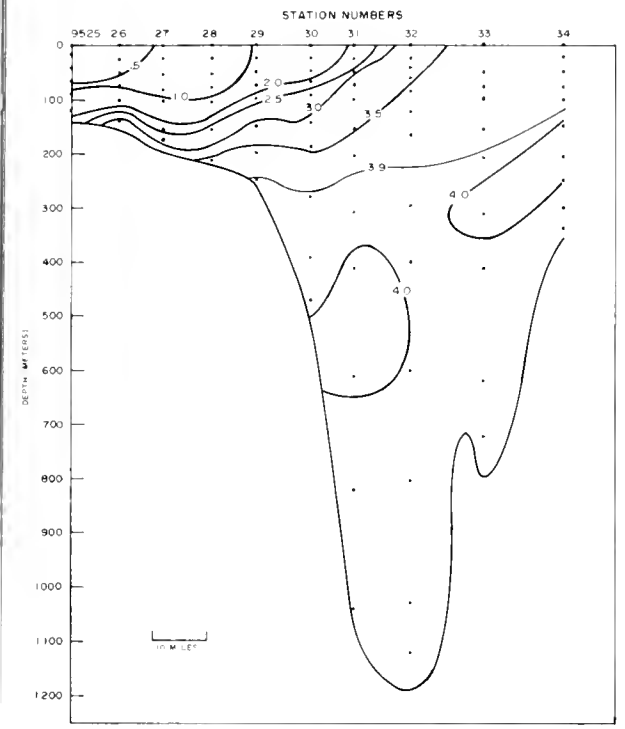

Figure 21. CGC Evergreen Stations (9525-9534). Temperature section across the Labrador Current along standard section 2, 7-8 April 1966.

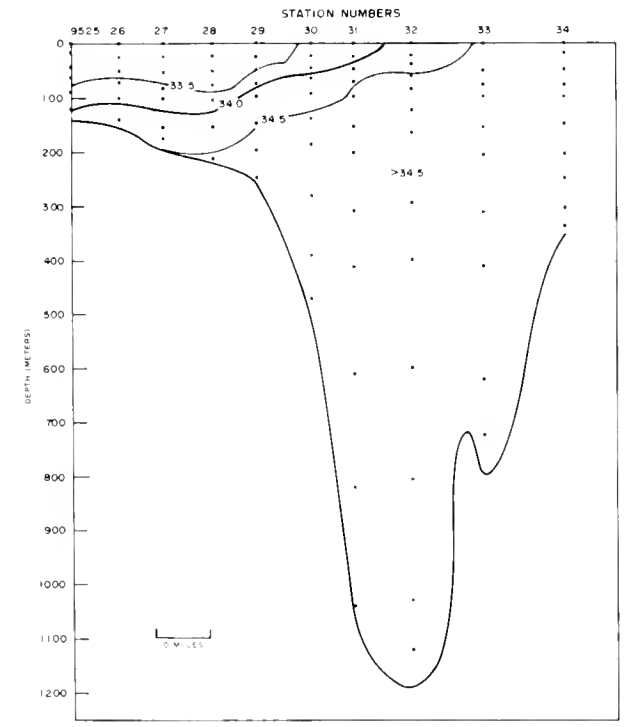

Figure 22. CGC Evergreen stations (9525-9534). Salinity section across the Labrador Current along standard section 2, 7-8 April 1966.

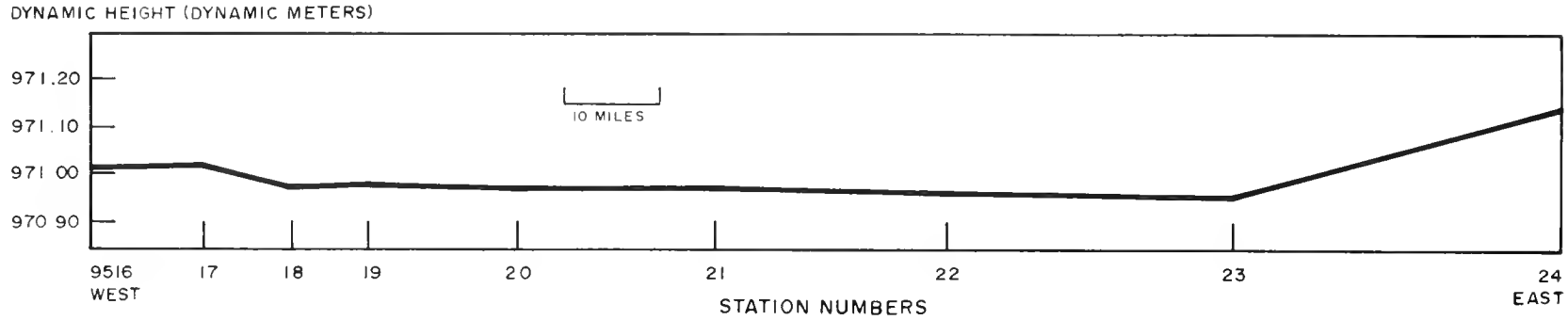

Figure 23. Surface dynamic height in dynamic meters along Standard Section 3. These values are for stations (9516-9524) 4-5 April 1966. This topography is viewed looking north. The small inset with 10 miles beneath it indicates the scale in nautical miles along the abscissa.

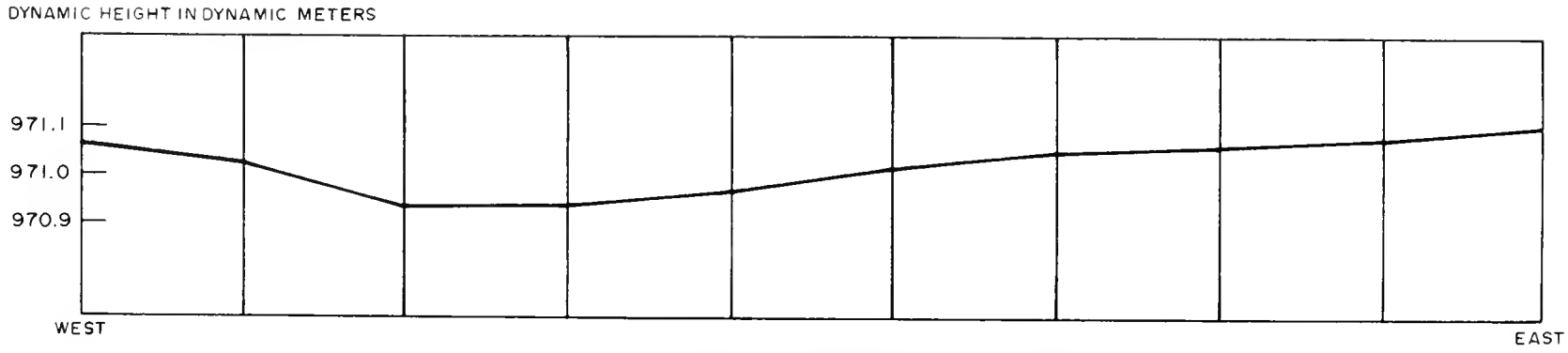

Figure 24. Normal dynamic topography for April along Standard Section 3. Values in dynamic meters, after Soule (1964). This figure is drawn to the same scale as Figure 23.

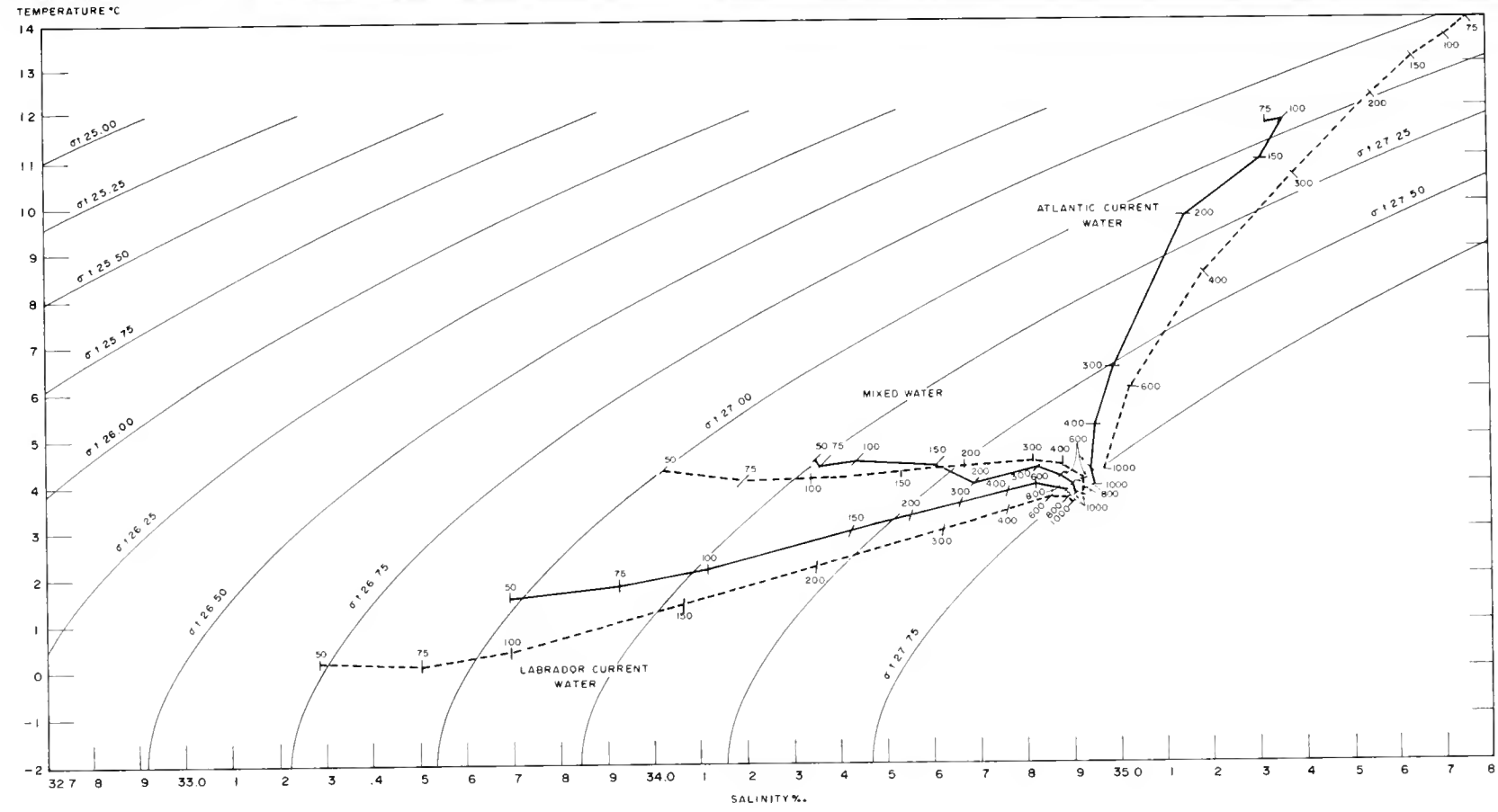

Figure 25. Average temperature-salinity relationship for Labrador Current Water, Atlantic Current Water, and Mixed Water found in the Grand Banks region. Solid lines show conditions found during 1966 and the broken lines represent the 19 year averages.

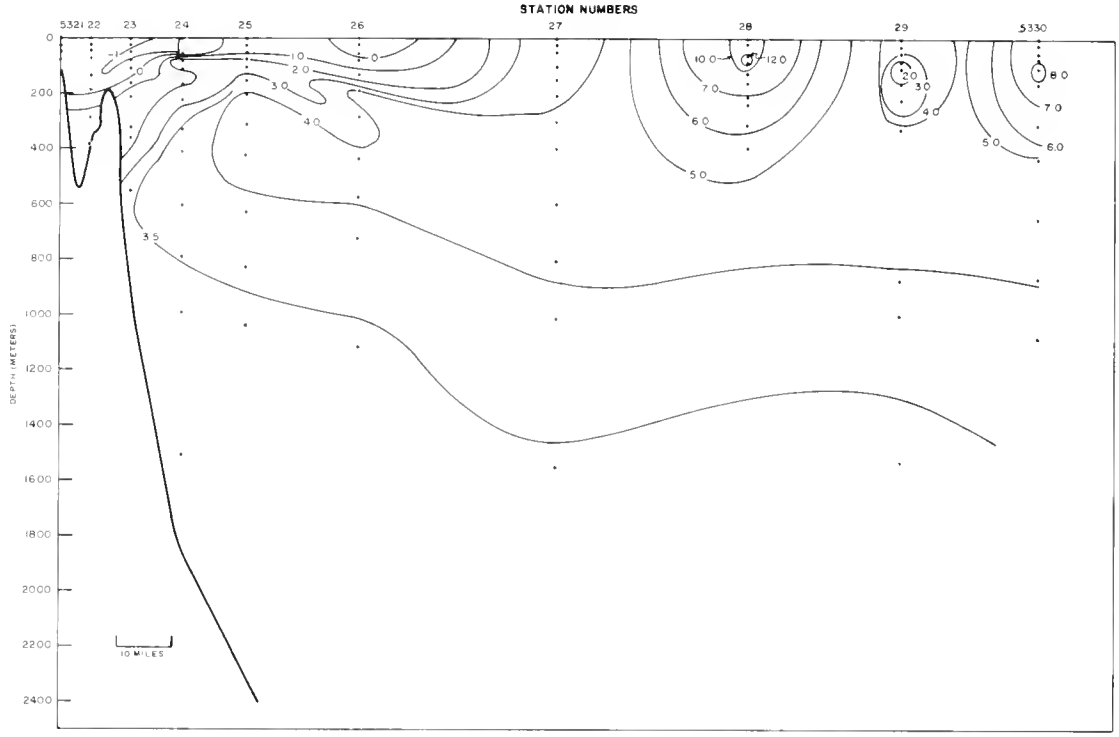

Figure 26. CGC EVERGREEN stations (5321-5330) 6-8 April 1954. Historical temperature section across the Labrador Current along Standard Section 3.

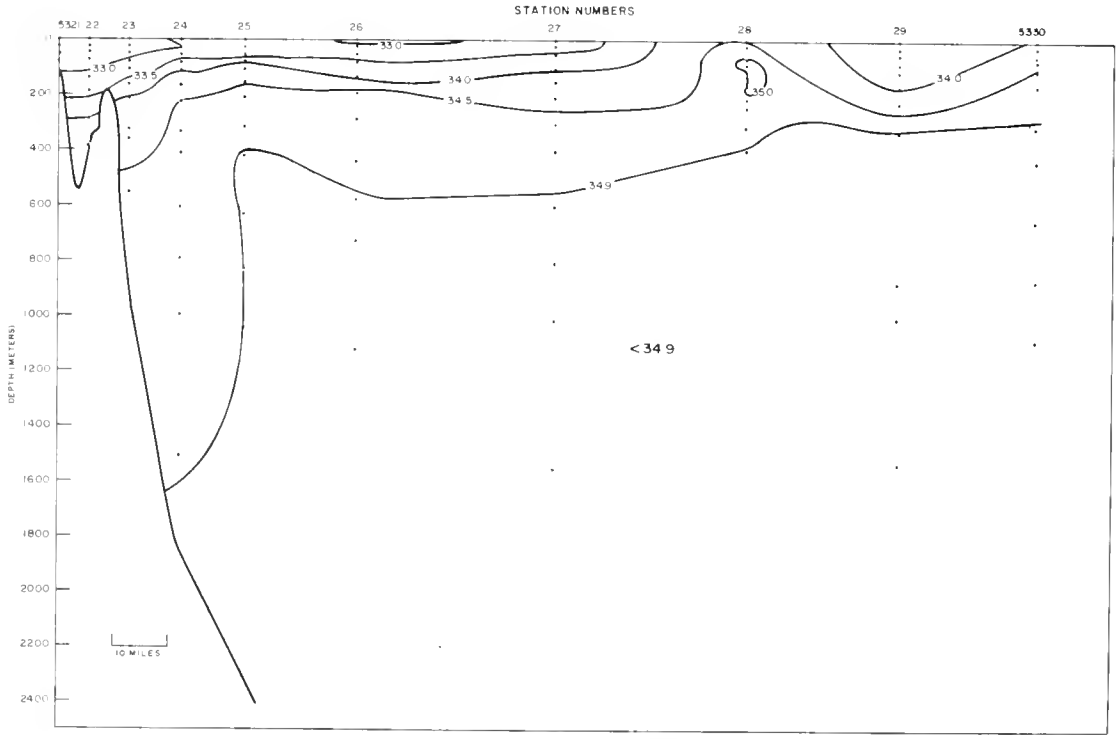

Figure 27. CGC EVERGREEN stations (5321-5330) 6-8 April 1954. Historical salinity section across the Labrador Current along Standard Section 3.

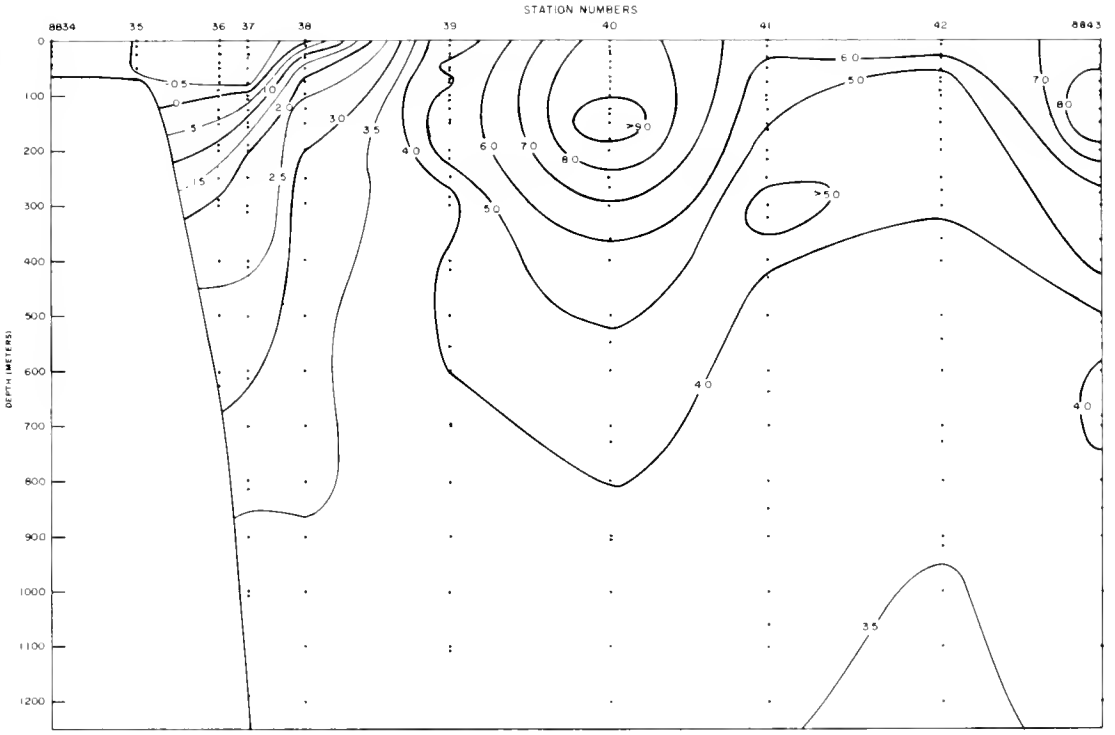

Figure 28. CGC EVERGREEN stations (8834-8843) 5-6 April 1964. Historical temperature section across the Labrador Current along Standard Section 3.

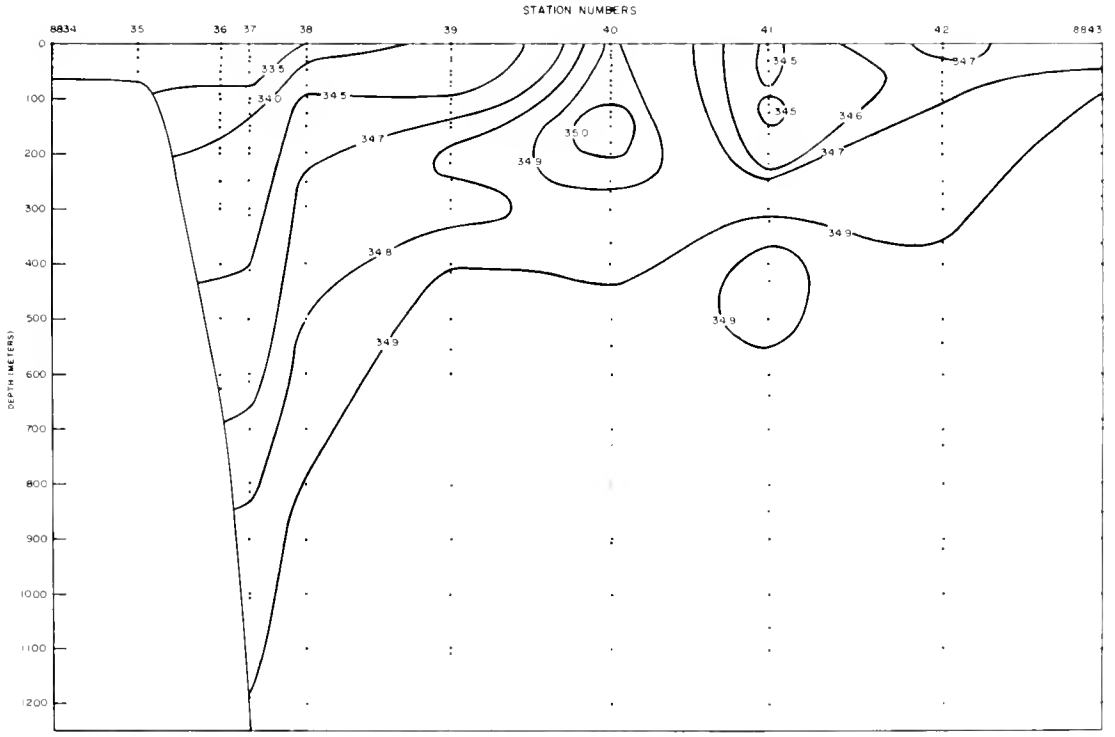

Figure 29. CGC EVERGREEN stations (8834-8843) 5-6 April 1964. Historical salinity section across the Labrador Current along Standard Section 3.

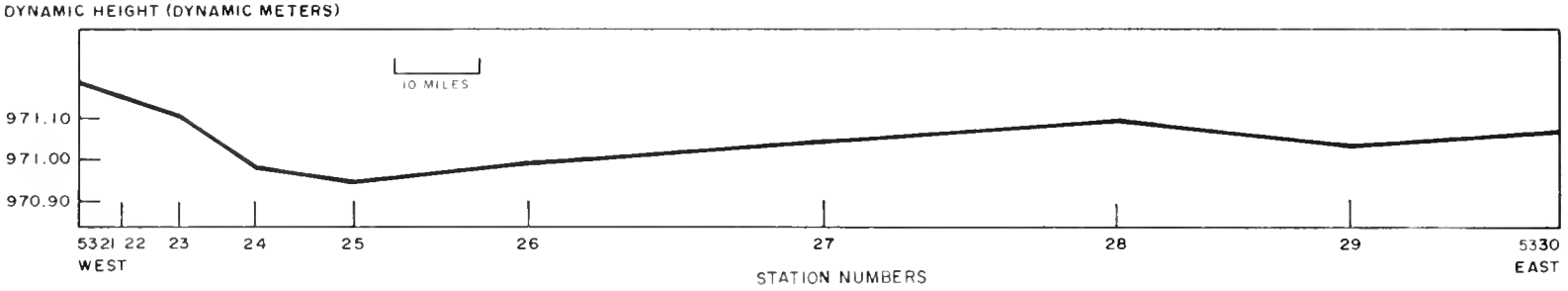

Figure 30. Surface dynamic heights in dynamic meters along Standard Section 3. These values are the dynamic height values for Stations (5321-5330) 6-8 April 1954.

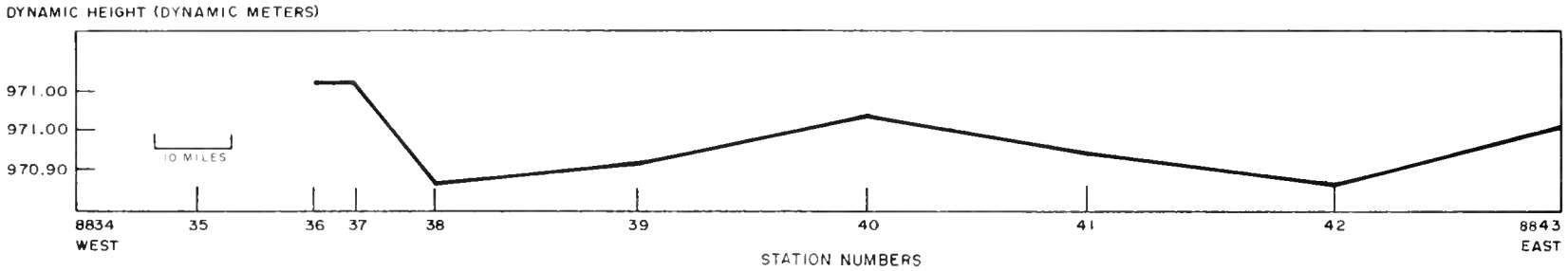

Figure 31. Surface dynamic heights in dynamic meters along Standard Section 3. These values are for stations (8834-8843) 5-6 April 1964.

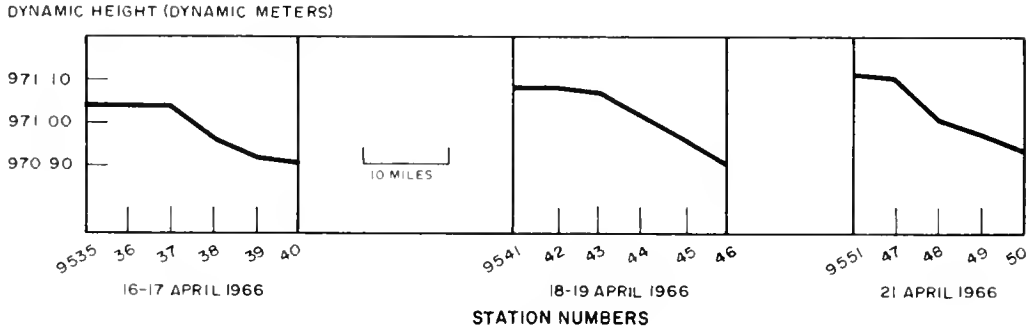

Figure 32. Surface dynamic heights along the western end of the Standard Section 3. These values were obtained from the 3 serial occupations conducted from 16-21 April 1966. The small inset with 10 miles beneath it indicates the scale in nautical miles along the abscissa.

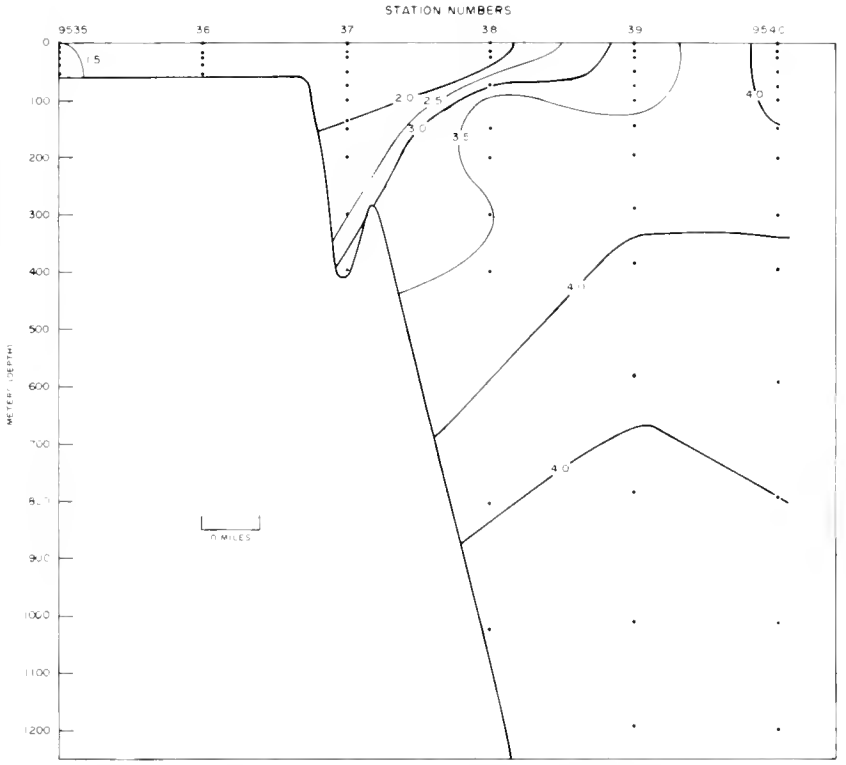

Figure 33. CGC EVERGREEN stations (9535-9540) 16-17 April 1966. Temperature section across the Labrador Current along standard section 3.

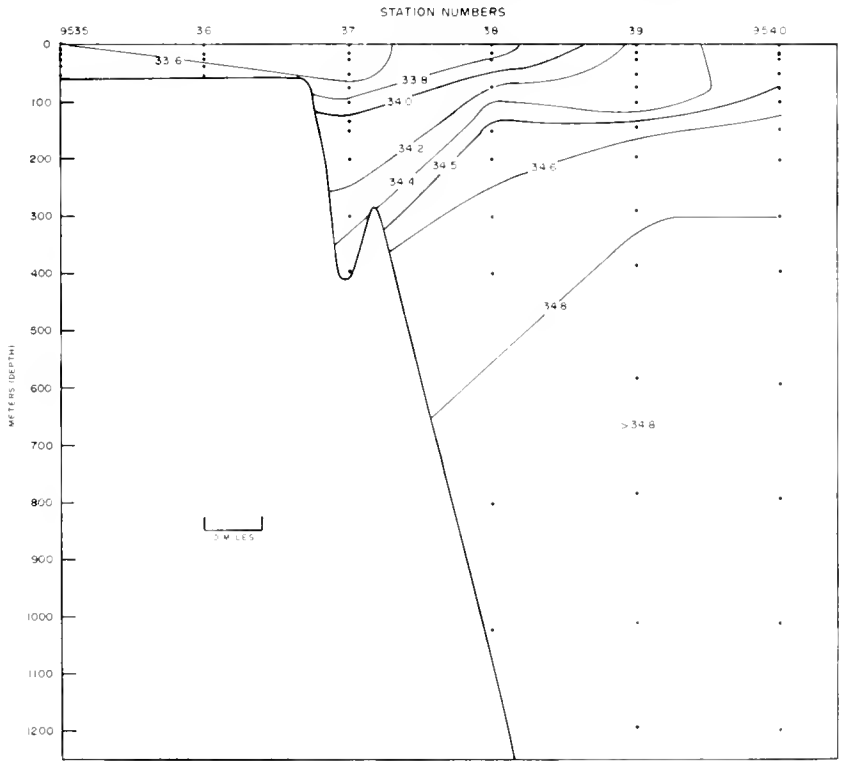

Figure 34. CGC EVERGREEN stations (9535-9540) 16-17 April 1966. Salinity section across the Labrador Current along standard section 3.

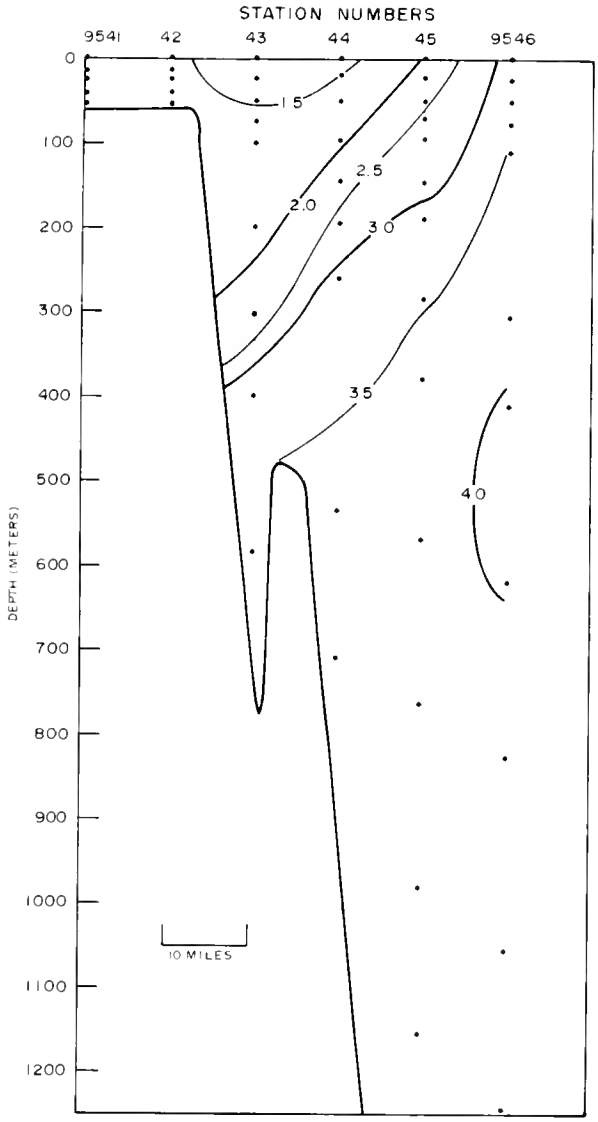

Figure 35. CGC EVERGREEN stations (9541-9546) 18-19 April 1966. Temperature section across the Labrador Current along standard section 3.

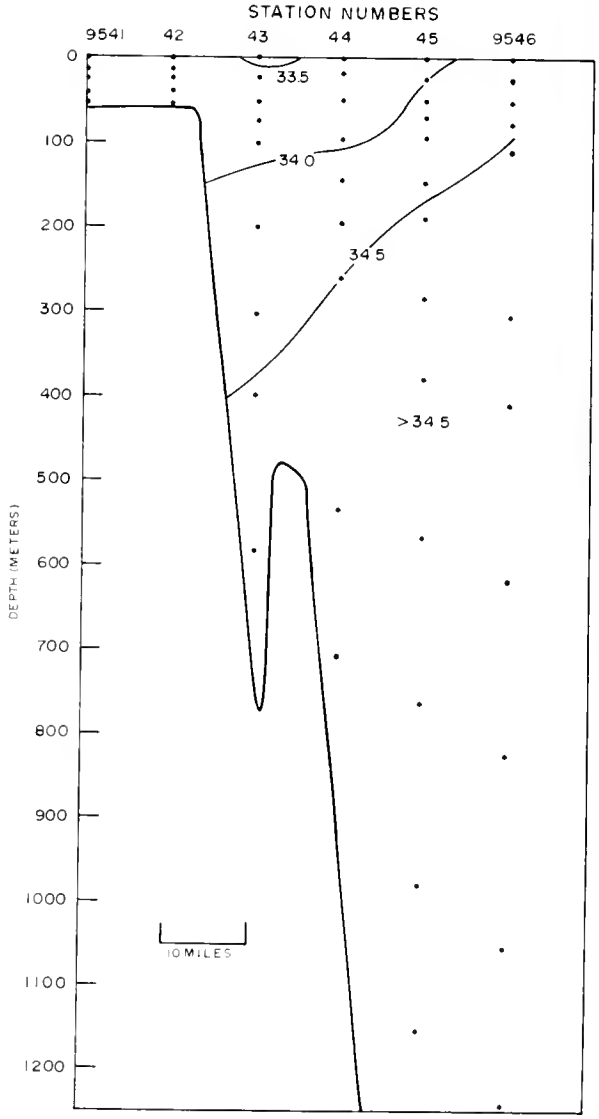

Figure 36. CGC EVERGREEN stations (9541-9546) 18-19 April 1966. Salinity section across the Labrador Current along standard section 3.

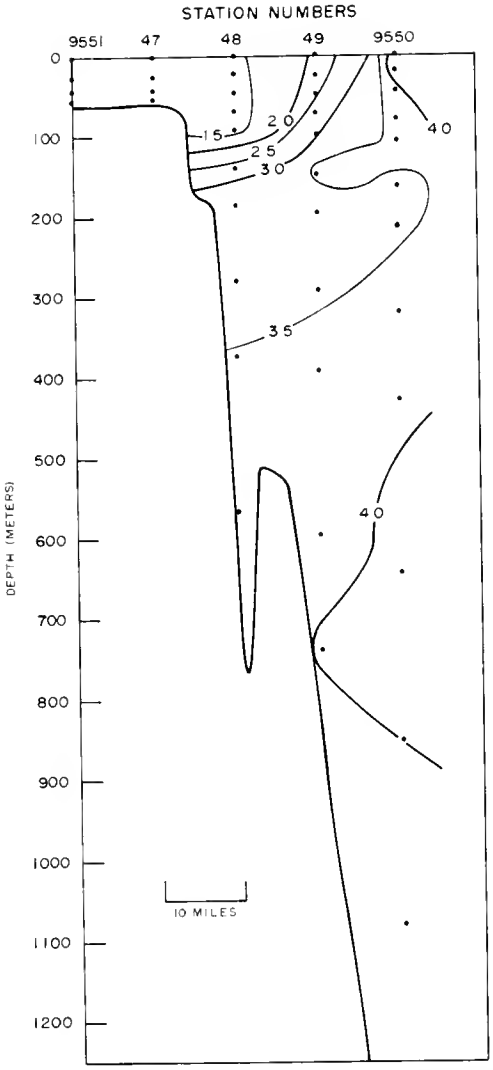

Figure 37. CGC EVERGREEN stations (9547-9551) 21 April 1966. Temperature section across the Labrador Current along standard section 3.

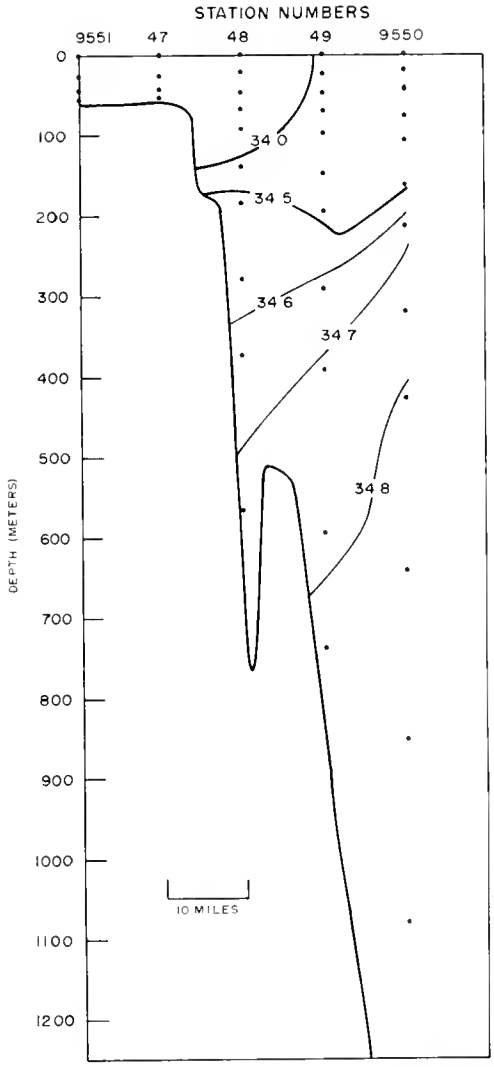

Figure 38. CGC EVERGREEN stations (9547-9551) 21 April 1966. Salinity section across the Labrador Current along standard section 3.

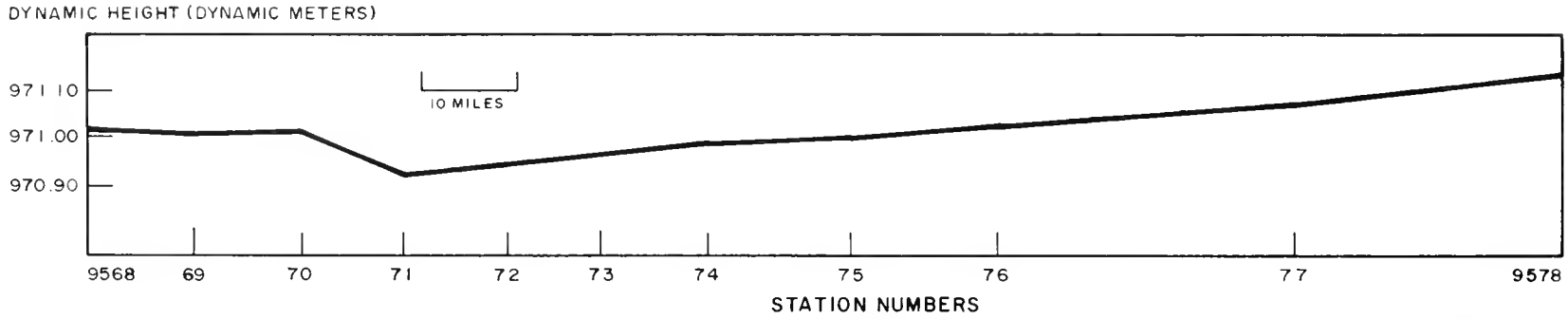

Figure 39. Surface dynamic heights in dynamic meters along Standard Section 3. These values are for stations (9568-9578) 25-26 May 1966.

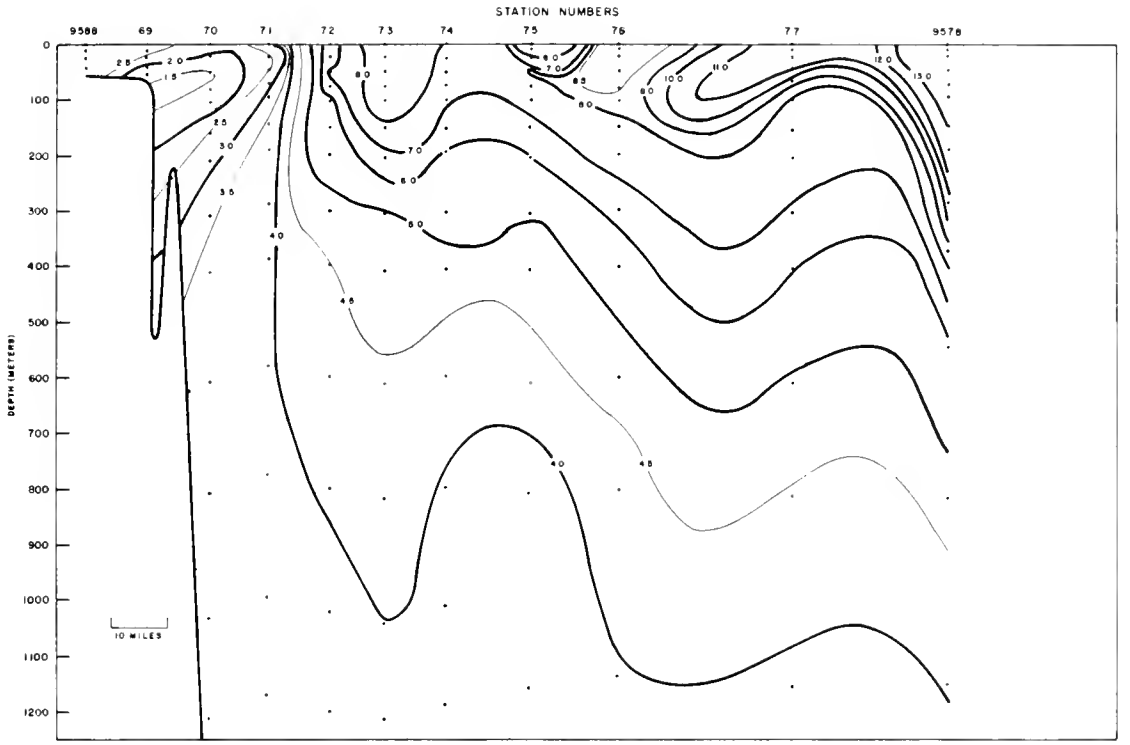

Figure 40. CGC EVERGREEN stations (9568-9578) 25-26 May 1966. Temperature section across Labrador Current along Standard Section 3.

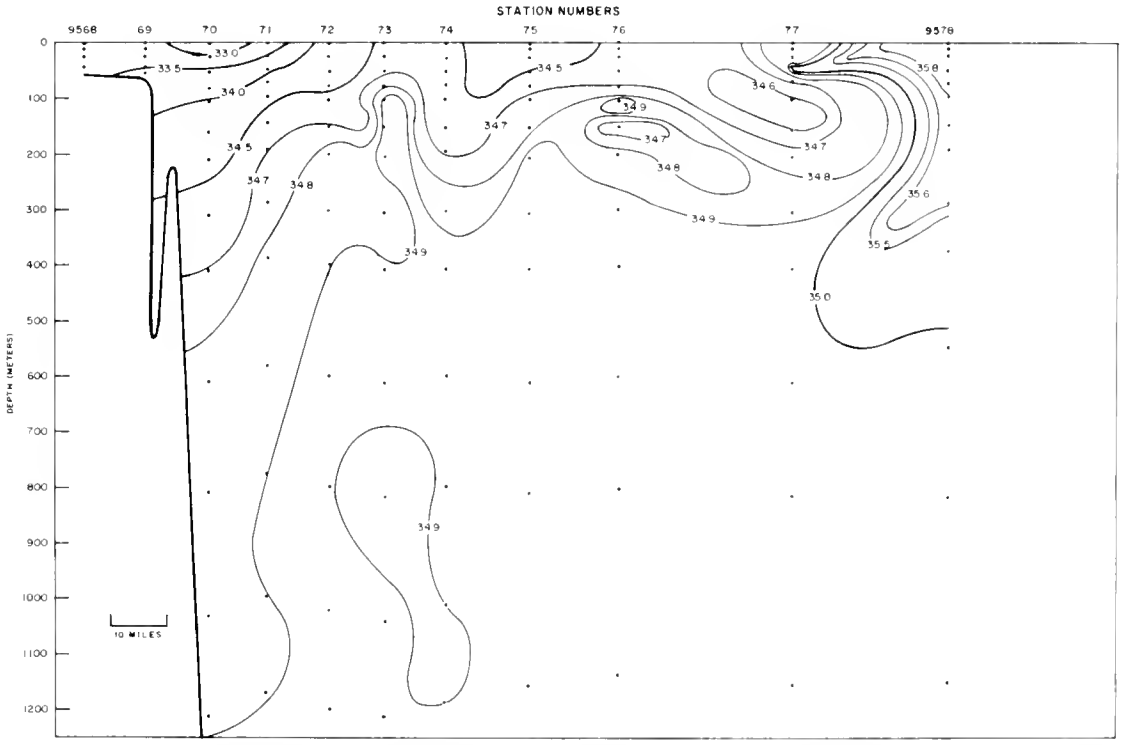

Figure 41. CGC EVERGREEN stations (9568-9578) 25-26 May 1966. Salinity section across the Labrador Current along Standard Section 3.

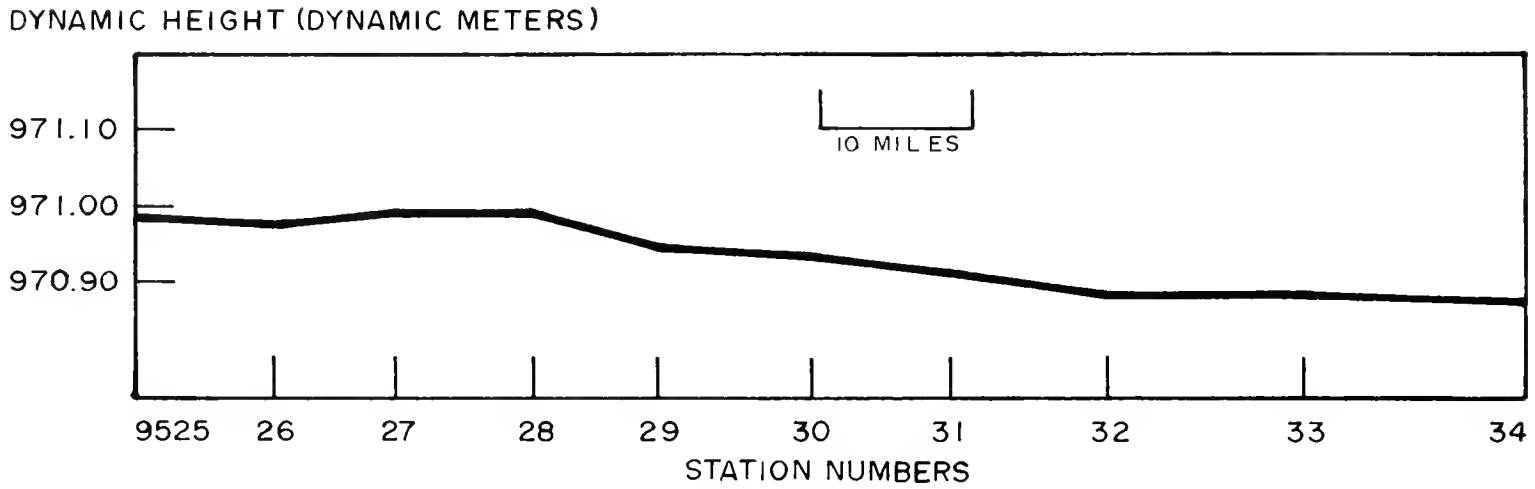

Figure 42. Surface dynamic heights in dynamic meters along Standard Section 2. CGC EVERGREEN stations (9525-9534) 7-8 April 1966.

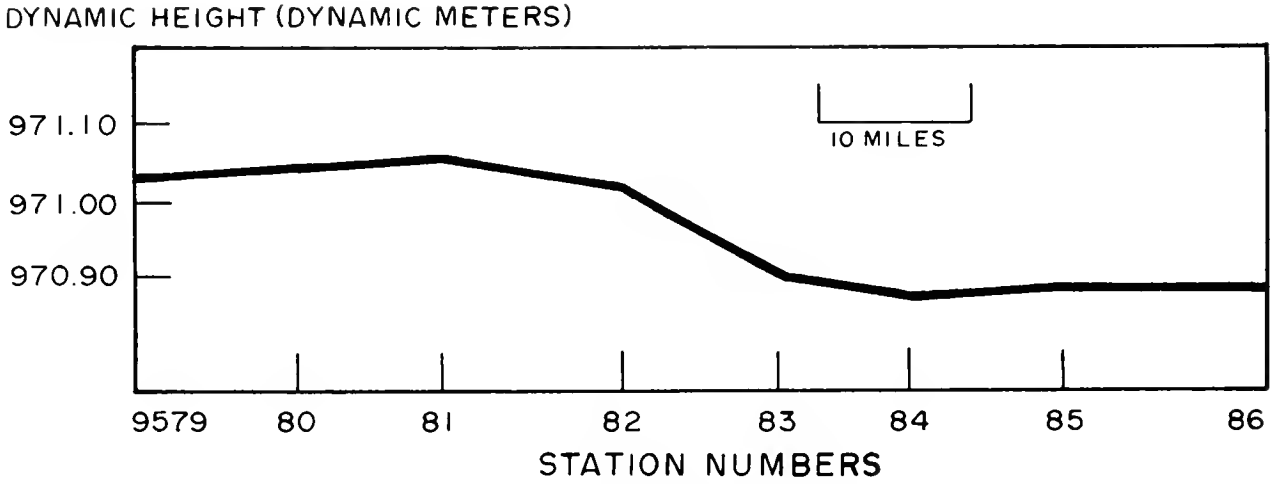

Figure 43. Surface dynamic heights in dynamic meters along Standard Section 2. CGC EVERGREEN stations (9579-9586) 26-27 May 1966.

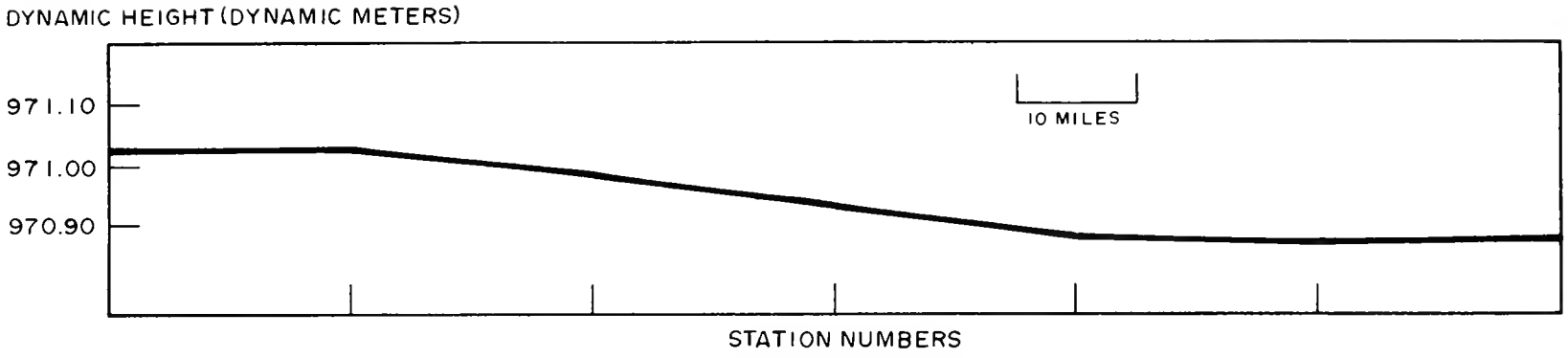

Figure 44. Normal dynamic topography for April along Standard Section 2. Values in dynamic meters, after Soule (1964).

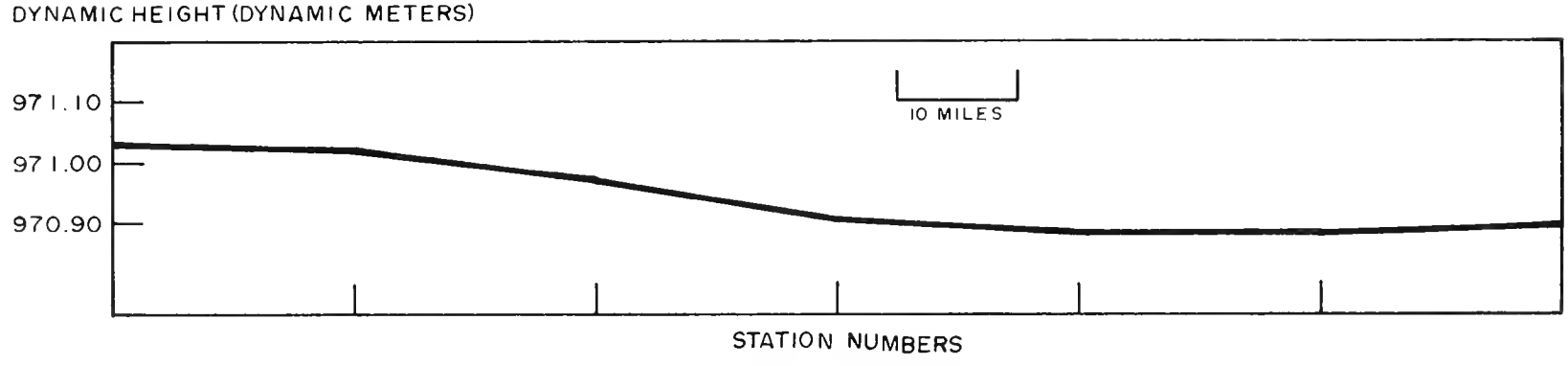

Figure 45. Normal dynamic topography for May along Standard Section 2. Values in dynamic meters, after Soule (1964).

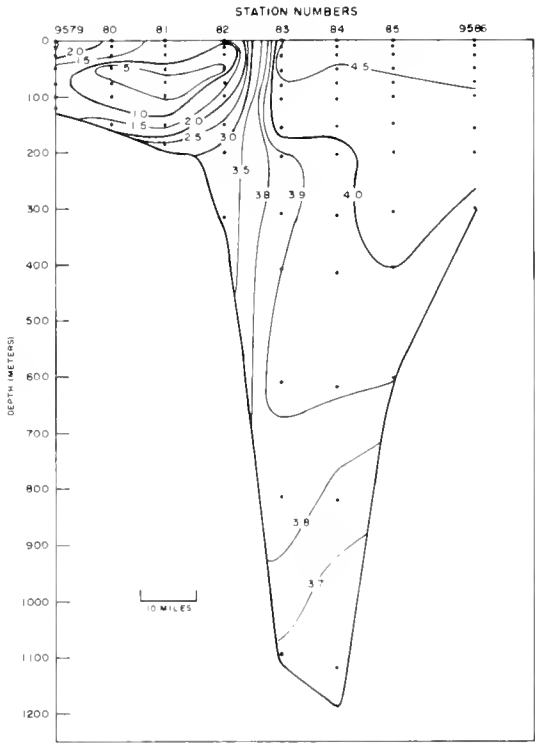

Figure 46. CGC EVERGREEN stations (9579-9586) 26-27 May 1966. Temperature section across the Labrador Current along Standard Section 2.

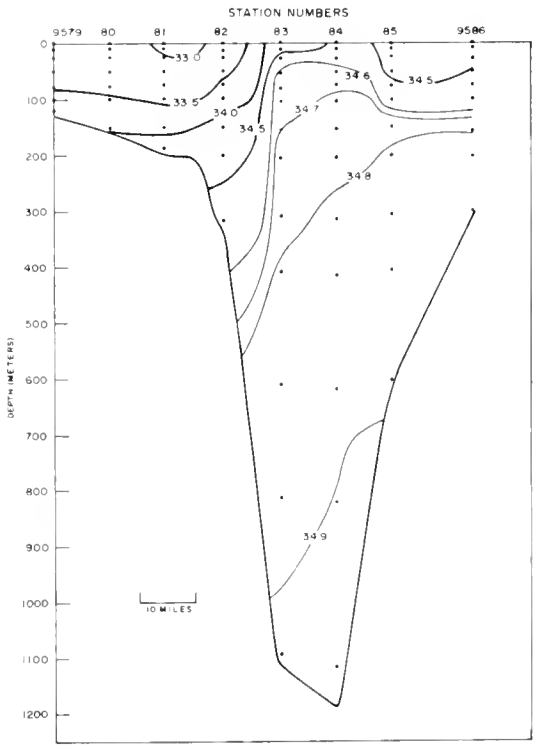

Figure 47. CGC EVERGREEN stations (9579-9586) 26-27 May 1966. Salinity section across Labrador Current along Standard Section 2.

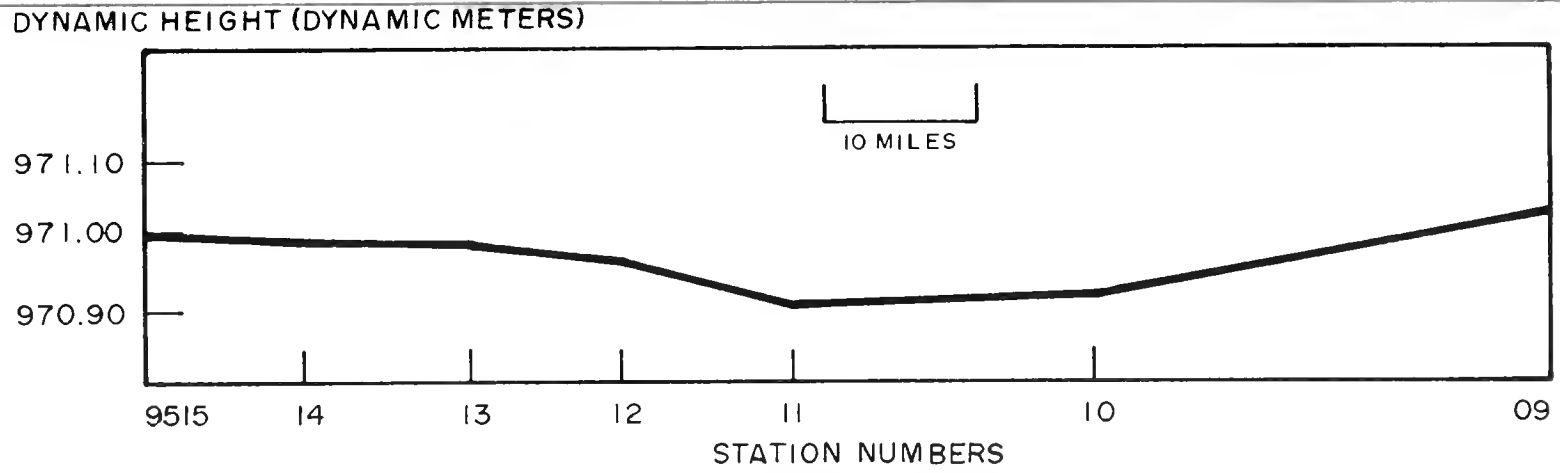

Figure 48. Surface dynamic heights in dynamic meters along northern end of Standard Section 4. CGC EVERGREEN stations (9509-9515) 2-3 April 1966.

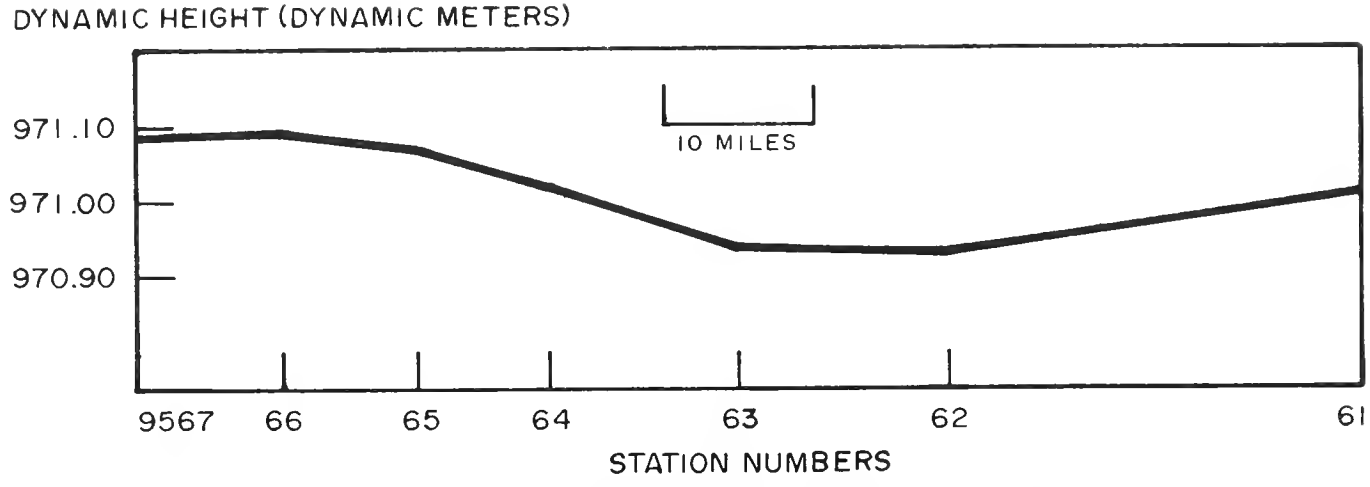

Figure 49. Surface dynamic heights in dynamic meters along northern end of Standard Section 4. CGC EVERGREEN stations (9561-9567) 24 May 1966.

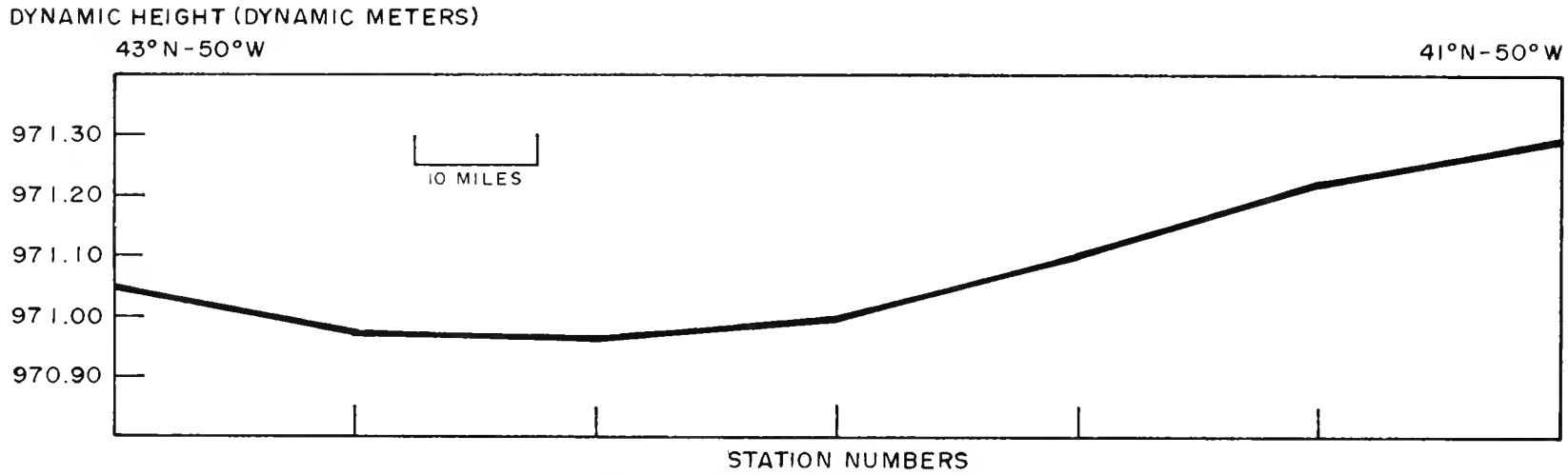

Figure 50. Normal dynamic topography for April along northern end of Standard Section 4. All values are in dynamic meters and they were obtained from Soule (1964).

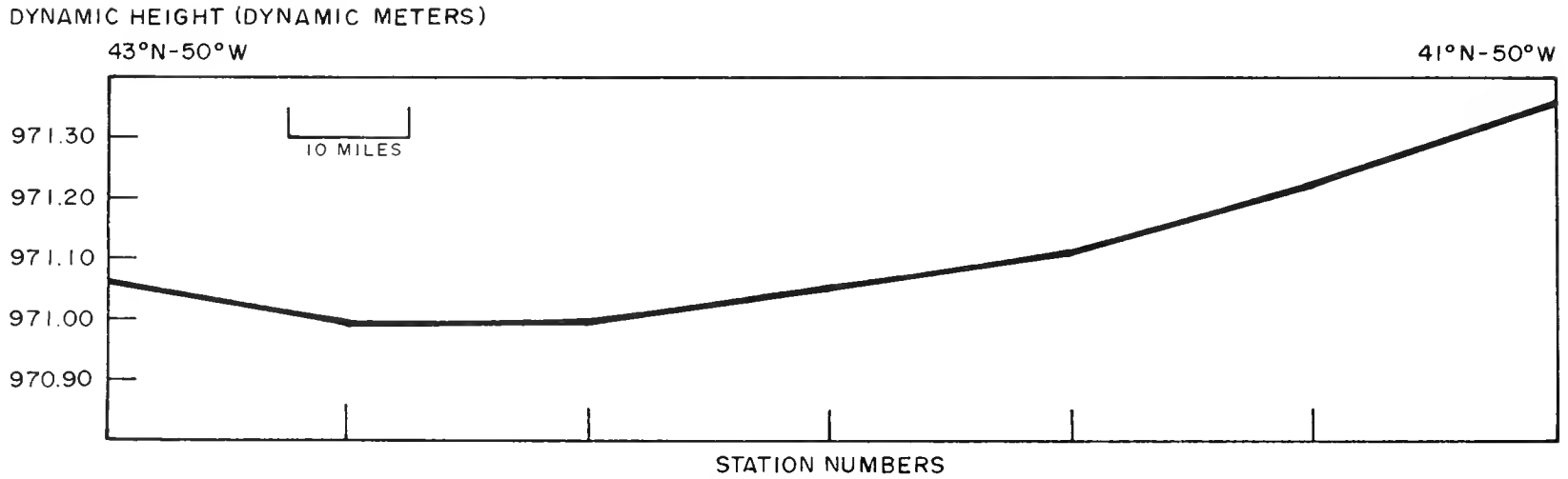

Figure 51. Normal dynamic topography for May along northern end of Standard Section 4. Values in dynamic meters, after Soule (1964).

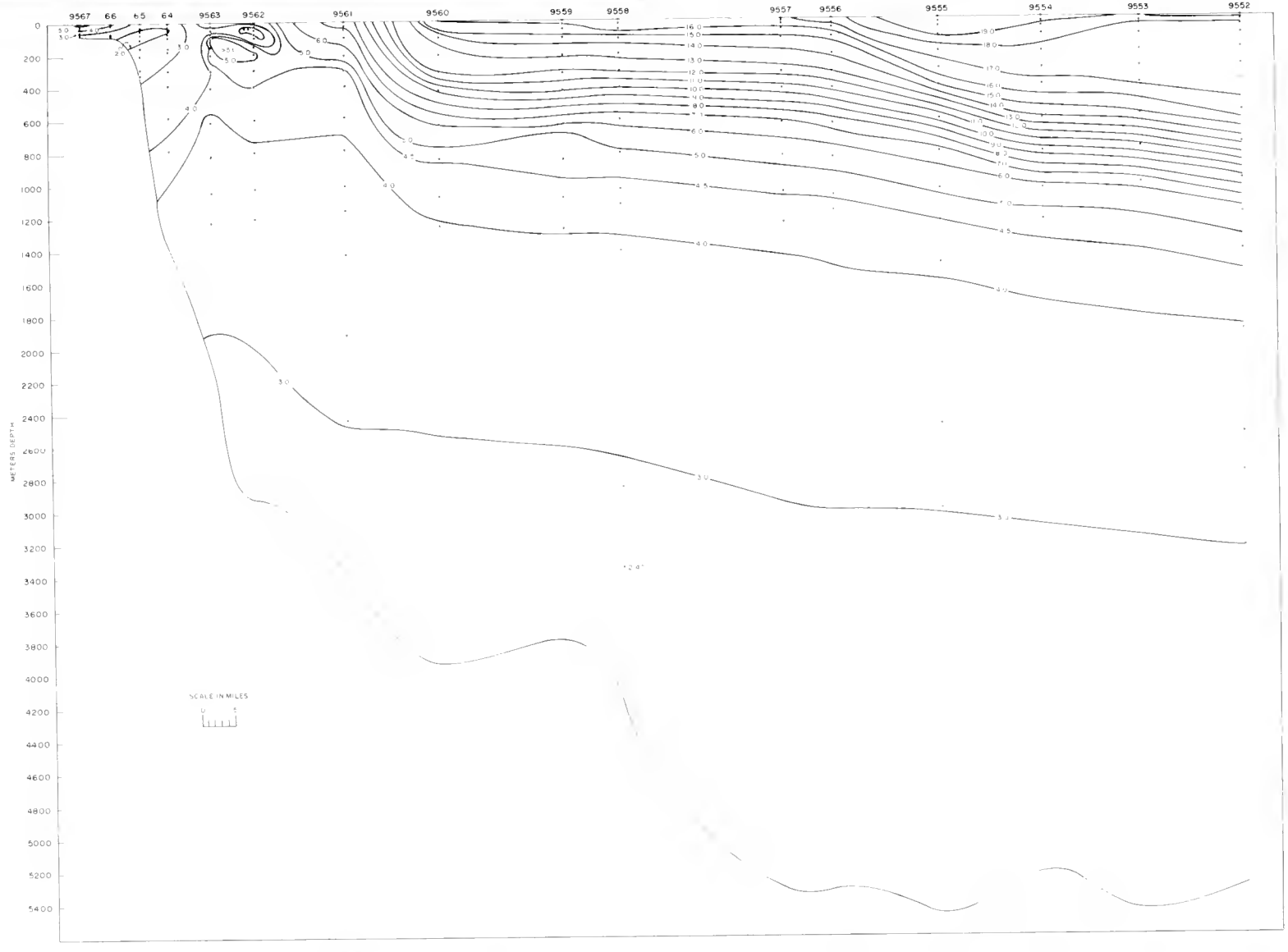

Figure 52. CGC EVERGREEN stations (9552-9567) 22-24 May 1966. Temperature section across the North Atlantic Current and the Labrador Current along standard section 4.

Figure 53. CGC EVERGREEN stations (9522-9567) 22-24 May 1966. Salinity section across the North Atlantic Current and the Labrador Current along standard section 4.

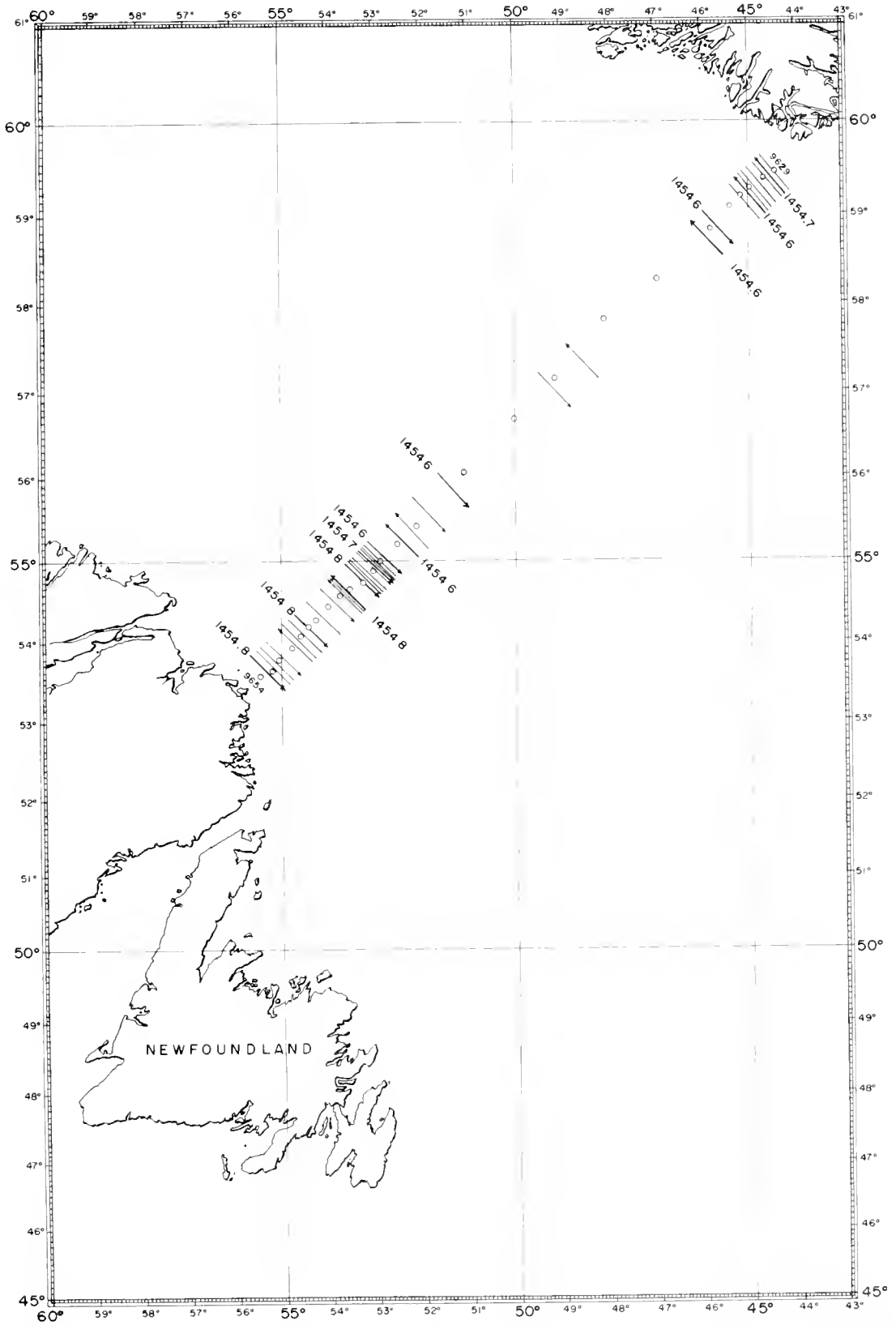

Figure 54. Dynamic topography of the sea surface relative to the 1500 decibar surface from data collected 3-7 June 1966. Oceanographic station positions are indicated.

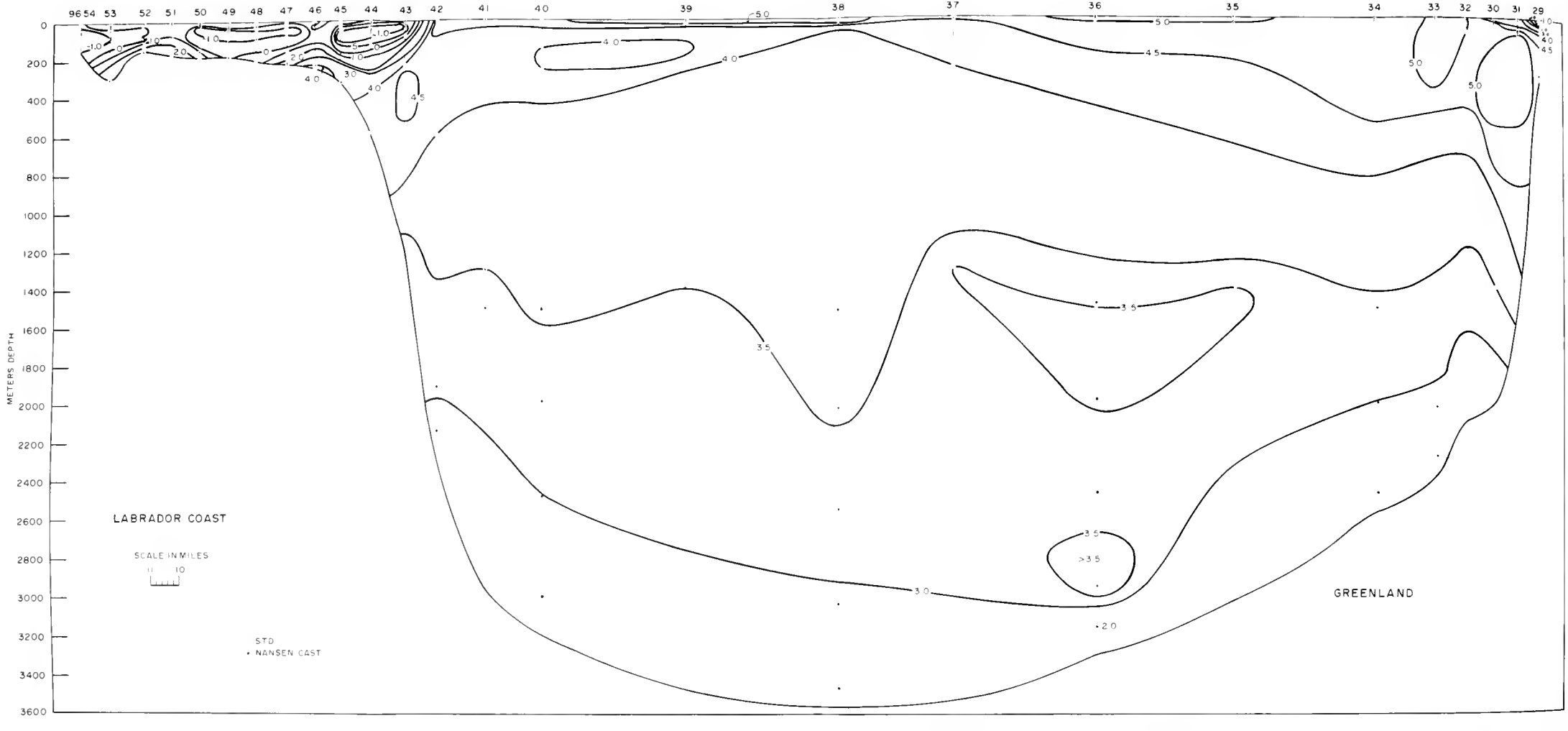

Figure 55. CGC EVERGREEN stations (9629-9654) 4-7 June 1966. Temperature section across the Labrador Sea.

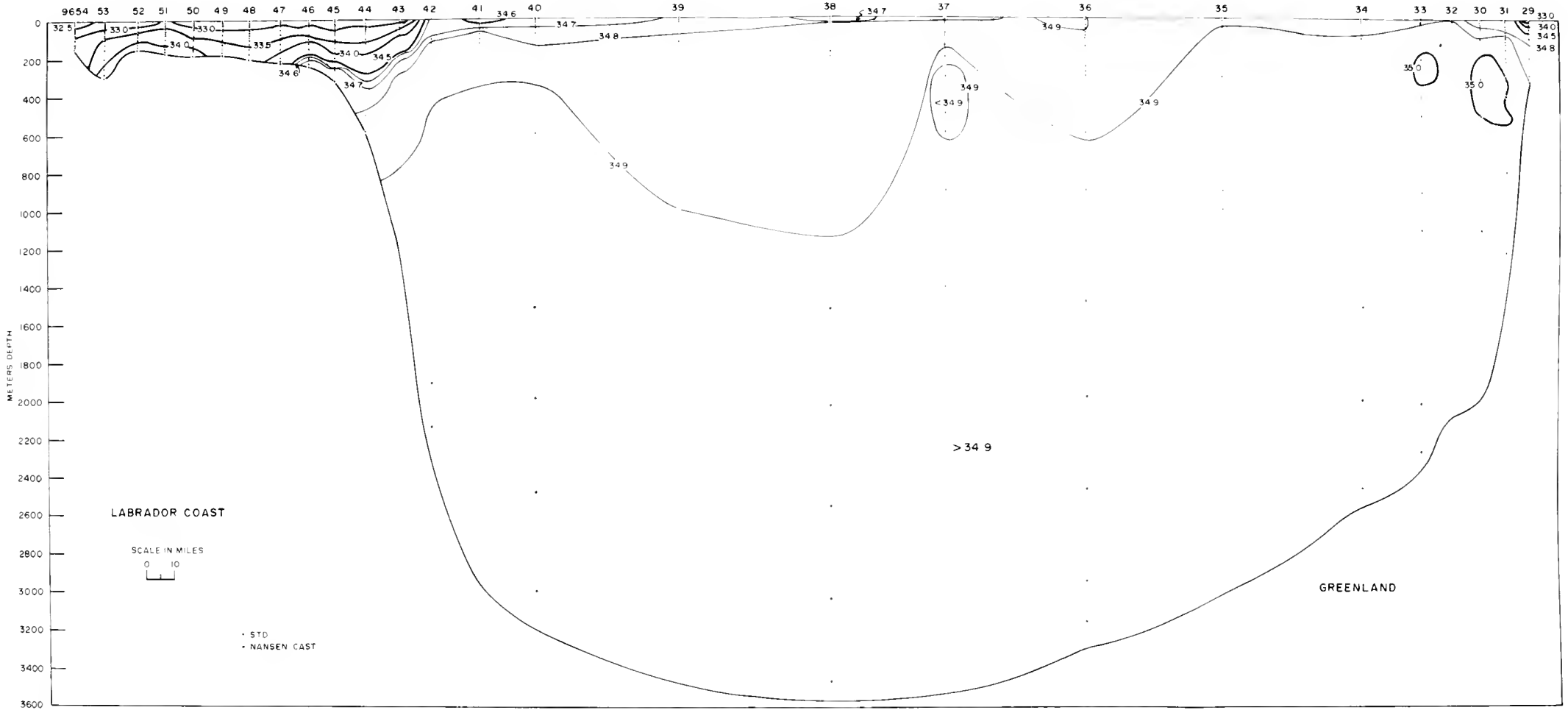

Figure 56. CGC EVERGREEN stations (9629-9654) 4-7 June 1966. Salinity section across the Labrador Sea.

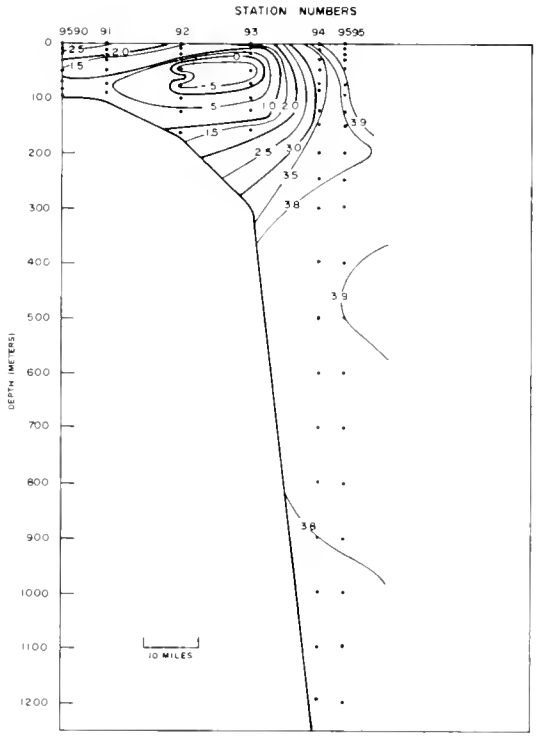

Figure 57. CGC EVERGREEN stations (9590-9595) 28 May 1966. Temperature section across the Labrador Current along Section A.

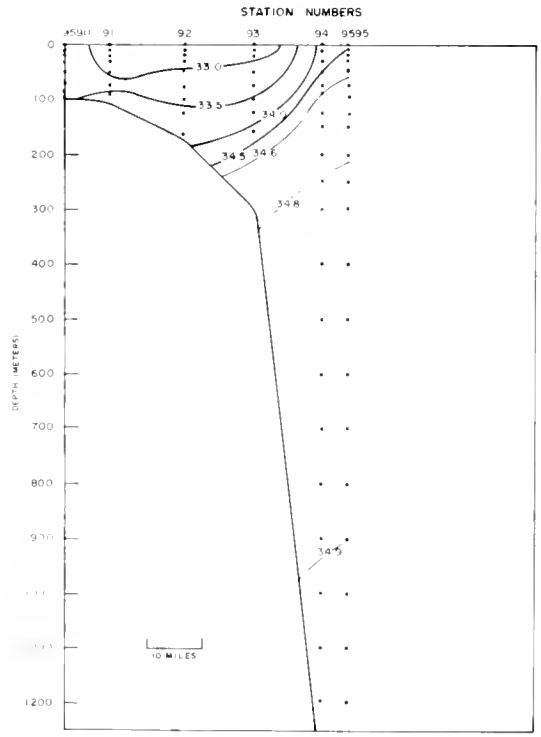

Figure 58. CGC EVERGREEN stations (9590-9595) 28 May 1966. Salinity section across the Labrador Current along Section A.

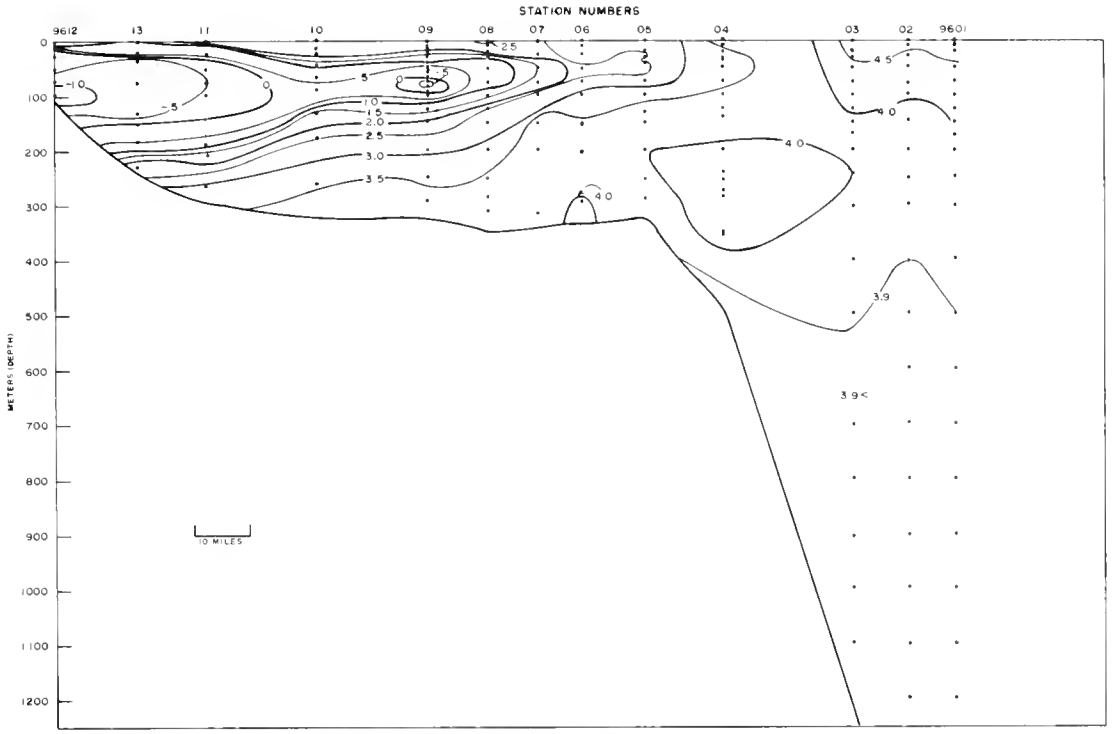

Figure 59. CGC EVERGREEN stations (9601-9613) 29-30 May 1966. Temperature section across the Labrador Current along Section B.

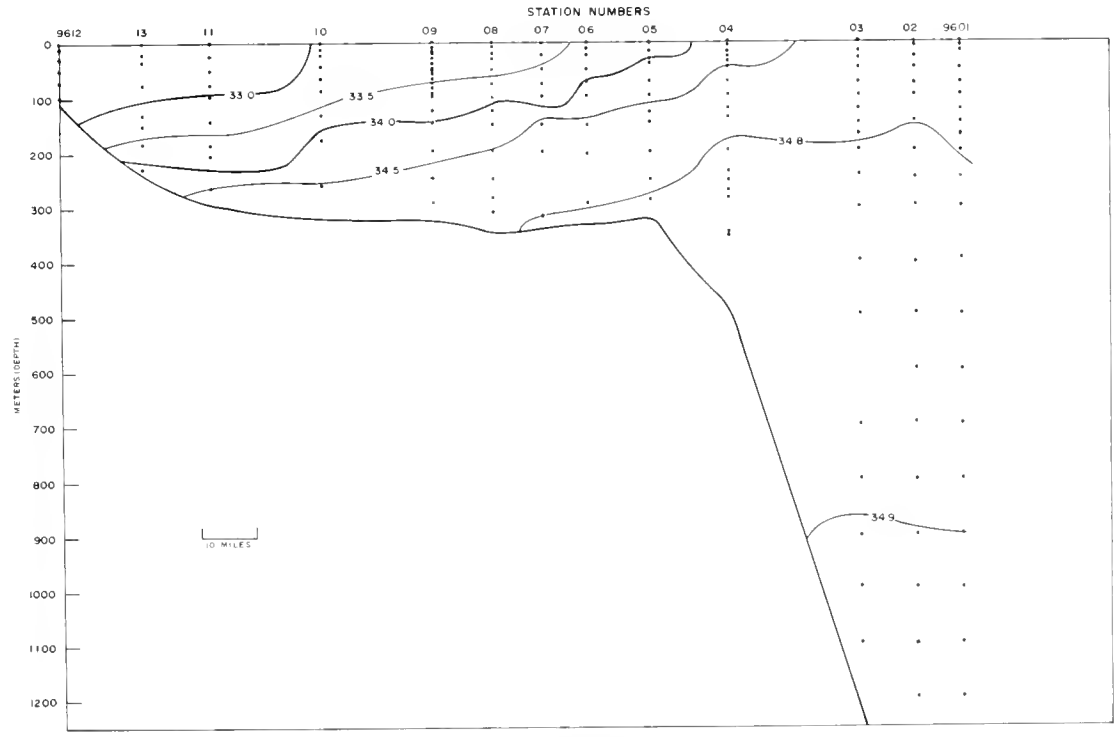

Figure 60. CGC EVERGREEN stations (9601-9613) 29-30 May 1966. Salinity section across the Labrador Current along Section B.

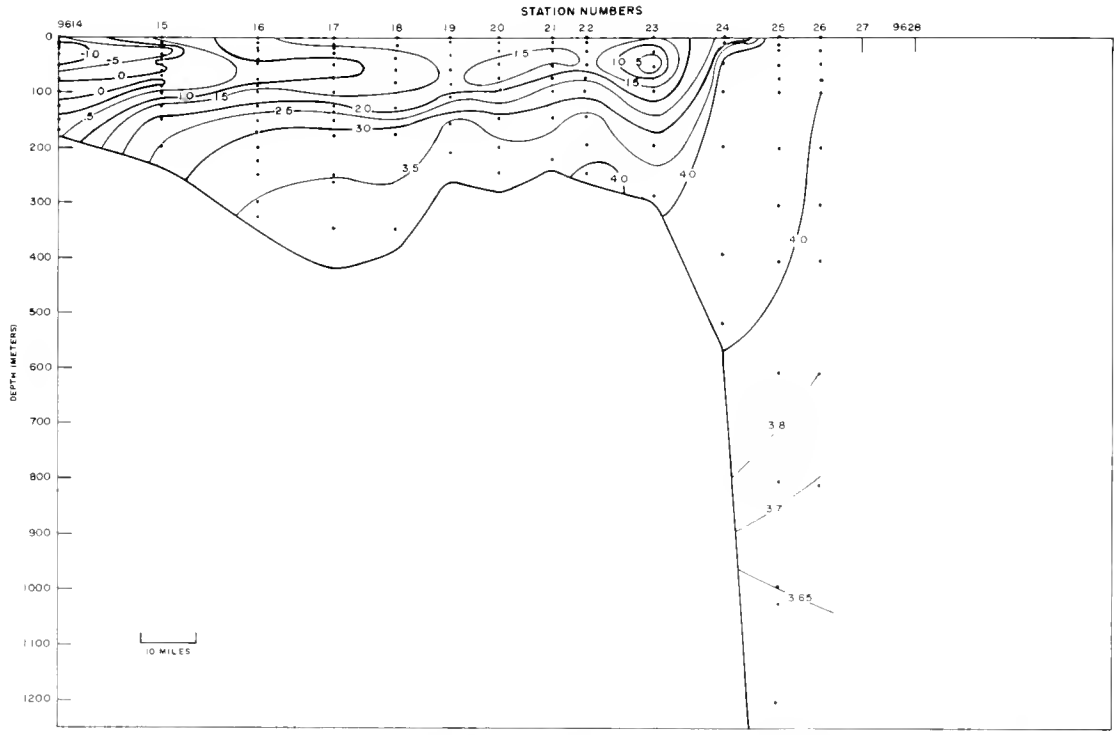

Figure 61. CGC EVERGREEN stations (9614-9628) 31 May-1 June 1966. Temperature section across the Labrador Current along Section C.

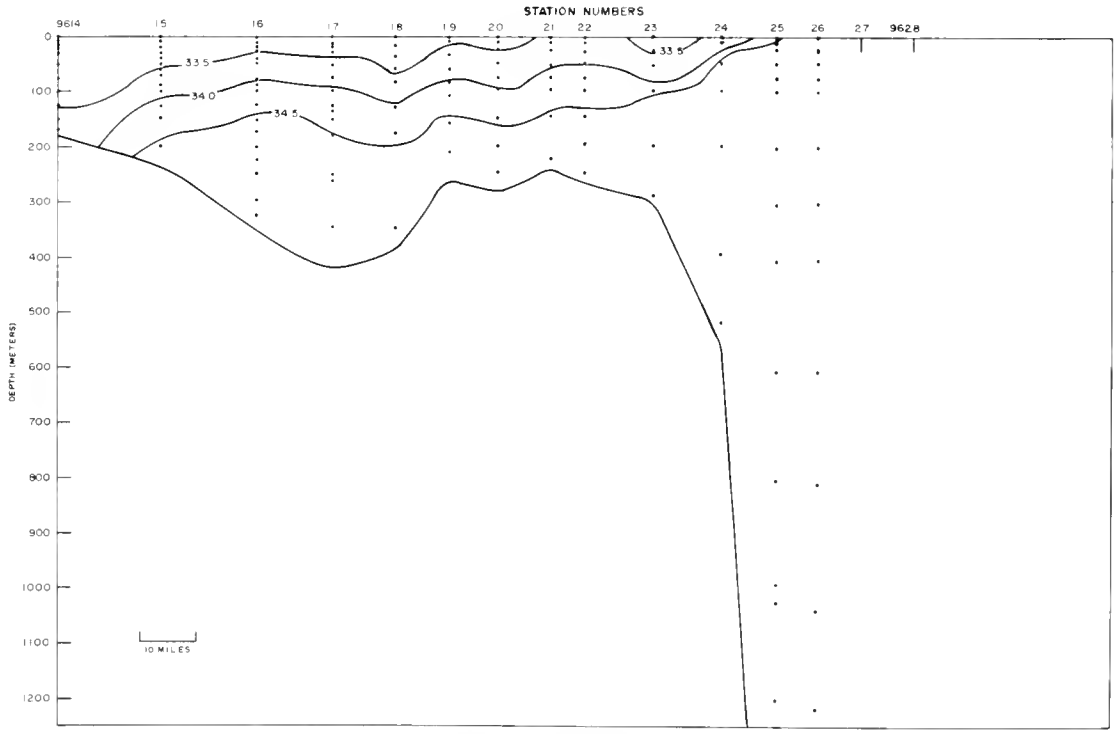

Figure 62. CGC EVERGREEN stations (9614-9628) 31 May-1 June 1966. Salinity section across the Labrador Current along Section C.

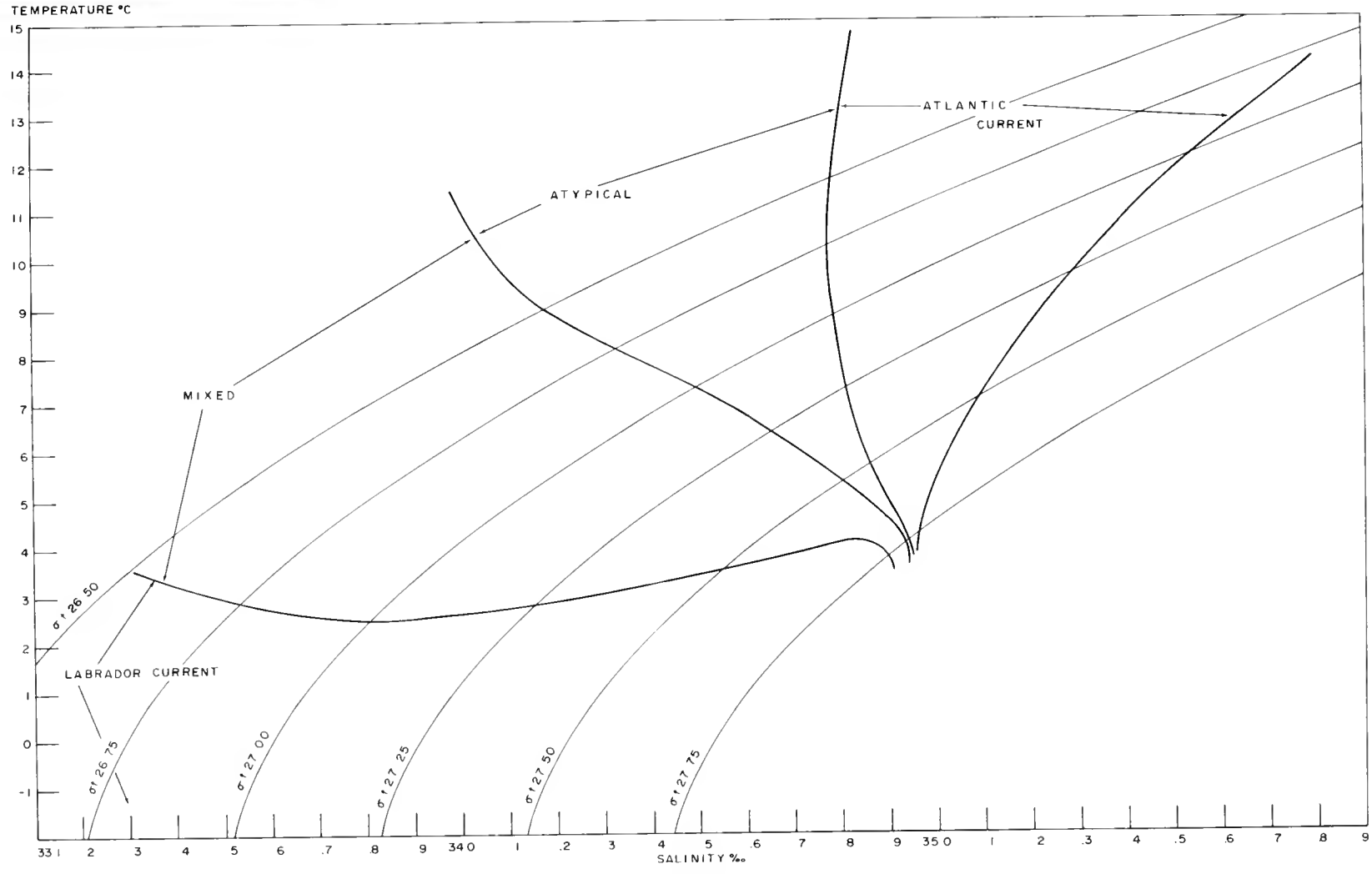

Figure 63. Criteria to determine the water types found in the Grand Banks region.

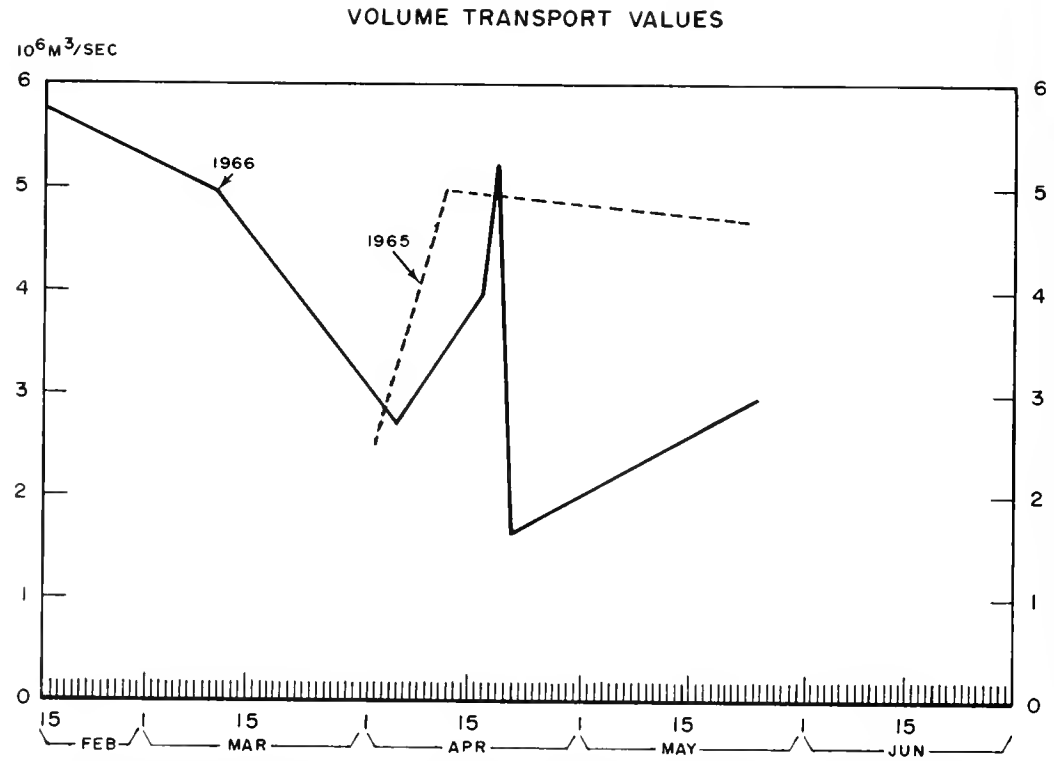

Figure 64. Total volume transports of the Labrador Current. All volume transports are $\times 10^6 m^3/sec$. The three serial occupation values are not total volume transports.

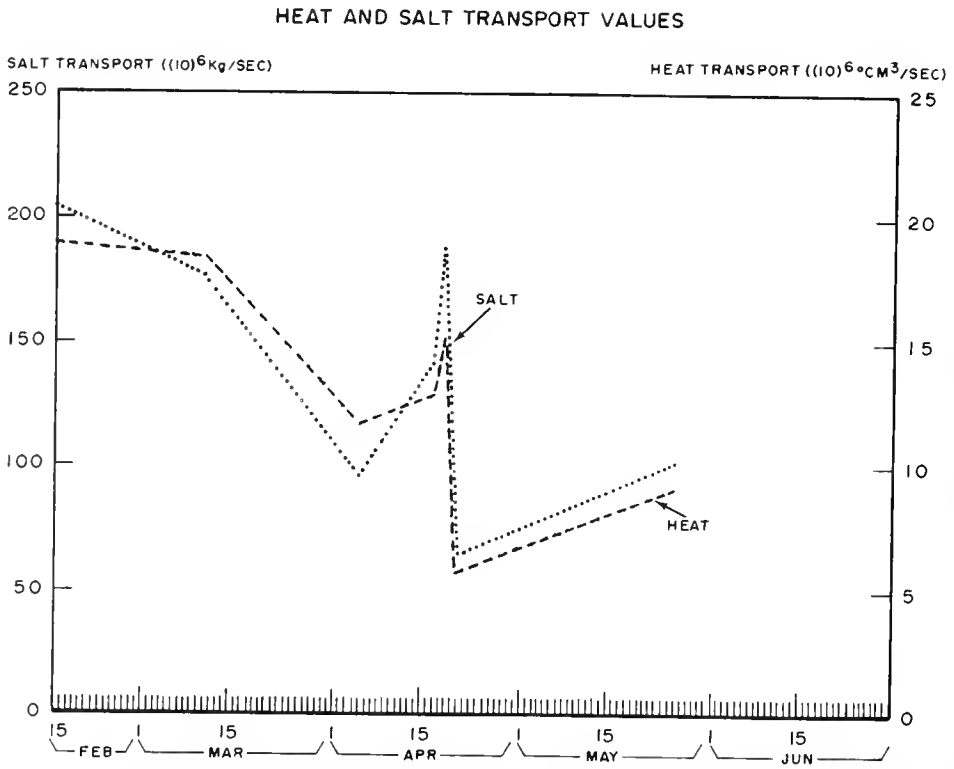

Figure 65. Total salt and heat transport of the Labrador Current at Standard Section 3 for the interval from 14 February to 25 May 1966.

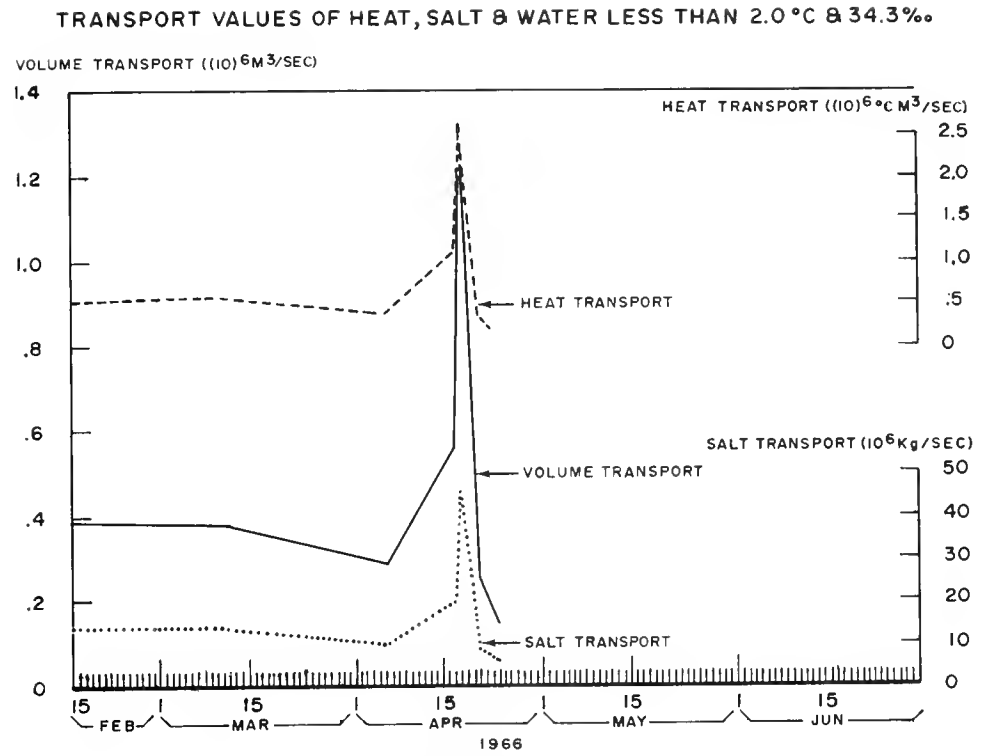

Figure 66. Volume, heat, and salt transport of the "Arctic" component of the Labrador Current at Standard Section 3. The "Arctic" component is defined to be less than 2.0°C and 34.3°/∞.

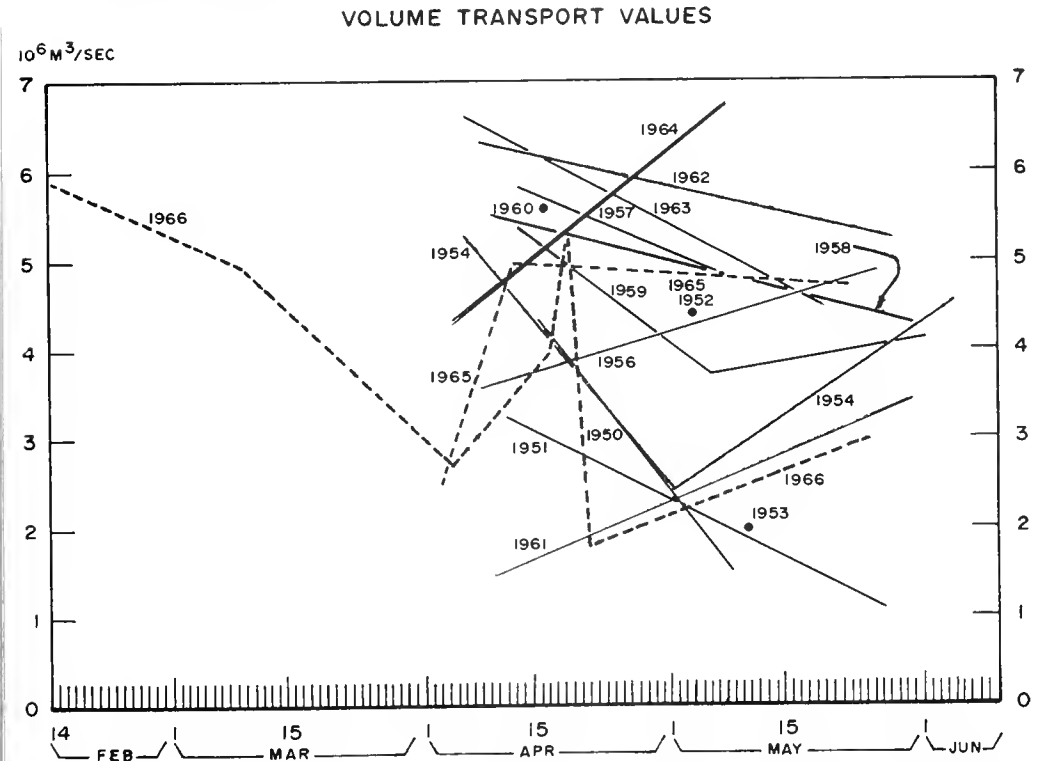

Figure 67. Volume transport values for each occupation of Standard Section 3 conducted from early April to late May for 1950-1966.

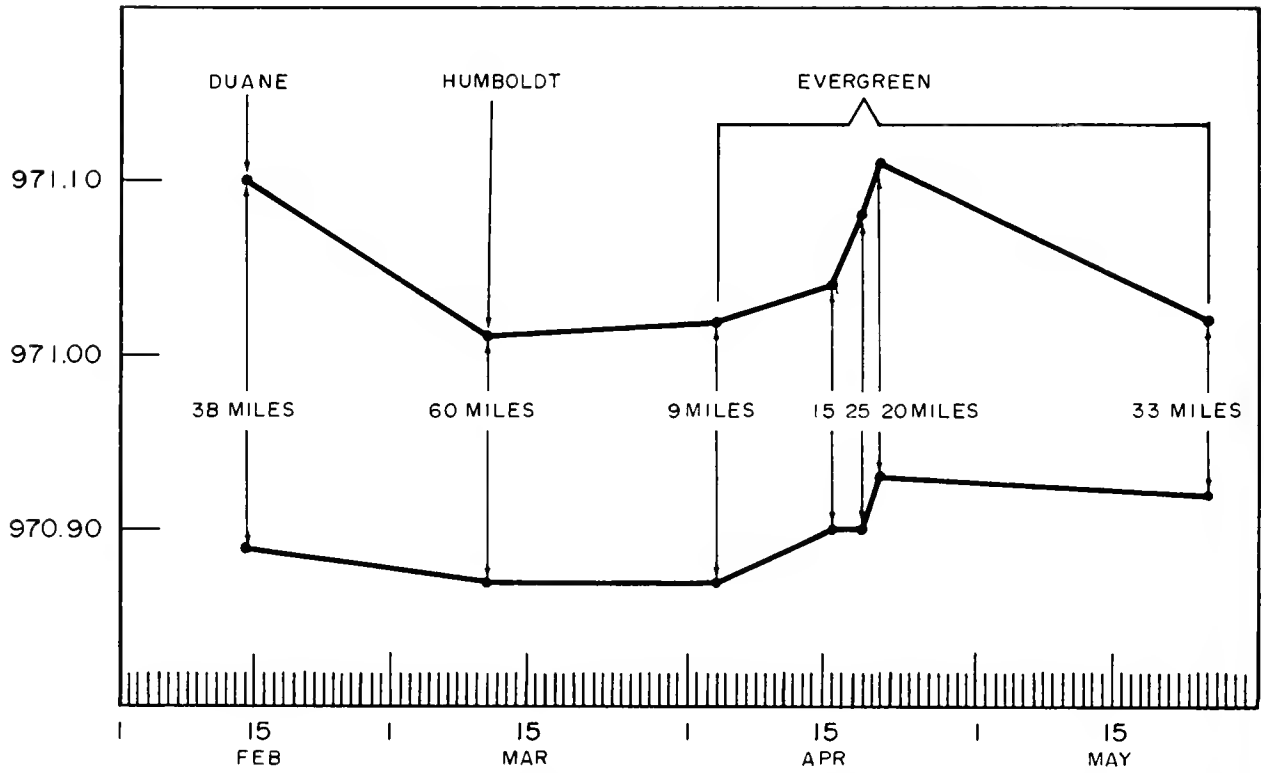

Figure 68. Maximum and minimum dynamic height values for stations located in the trough and on the Banks plus the distance between these maximums and minimums.

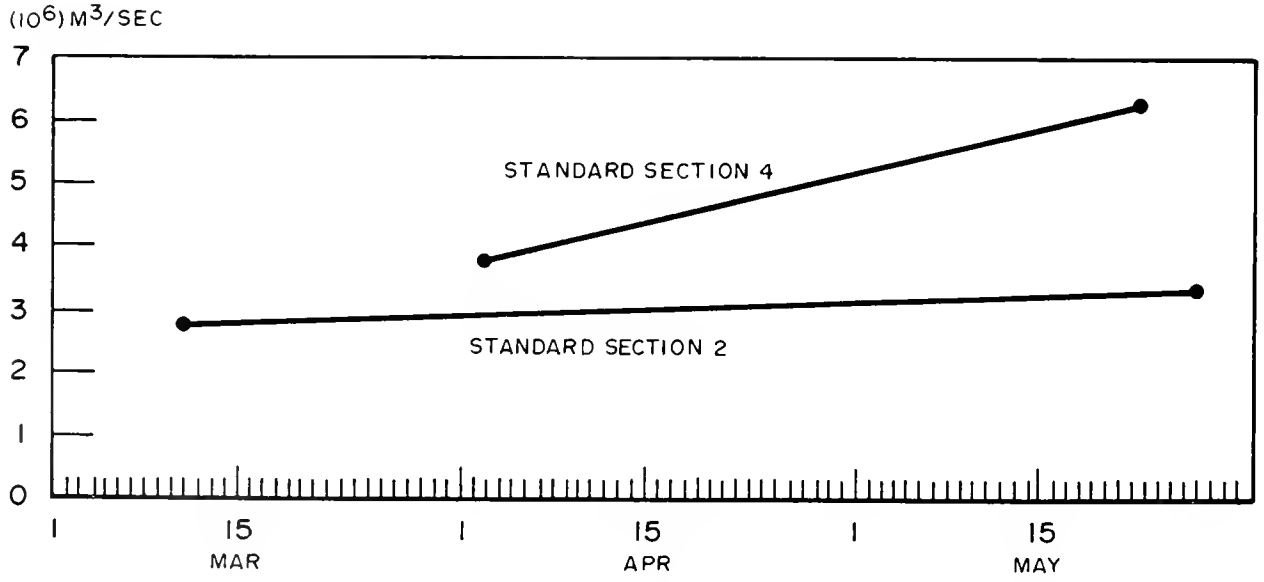

Figure 69. Total volume transports of the Labrador Current through Standard Section 2 and Standard Section 4.

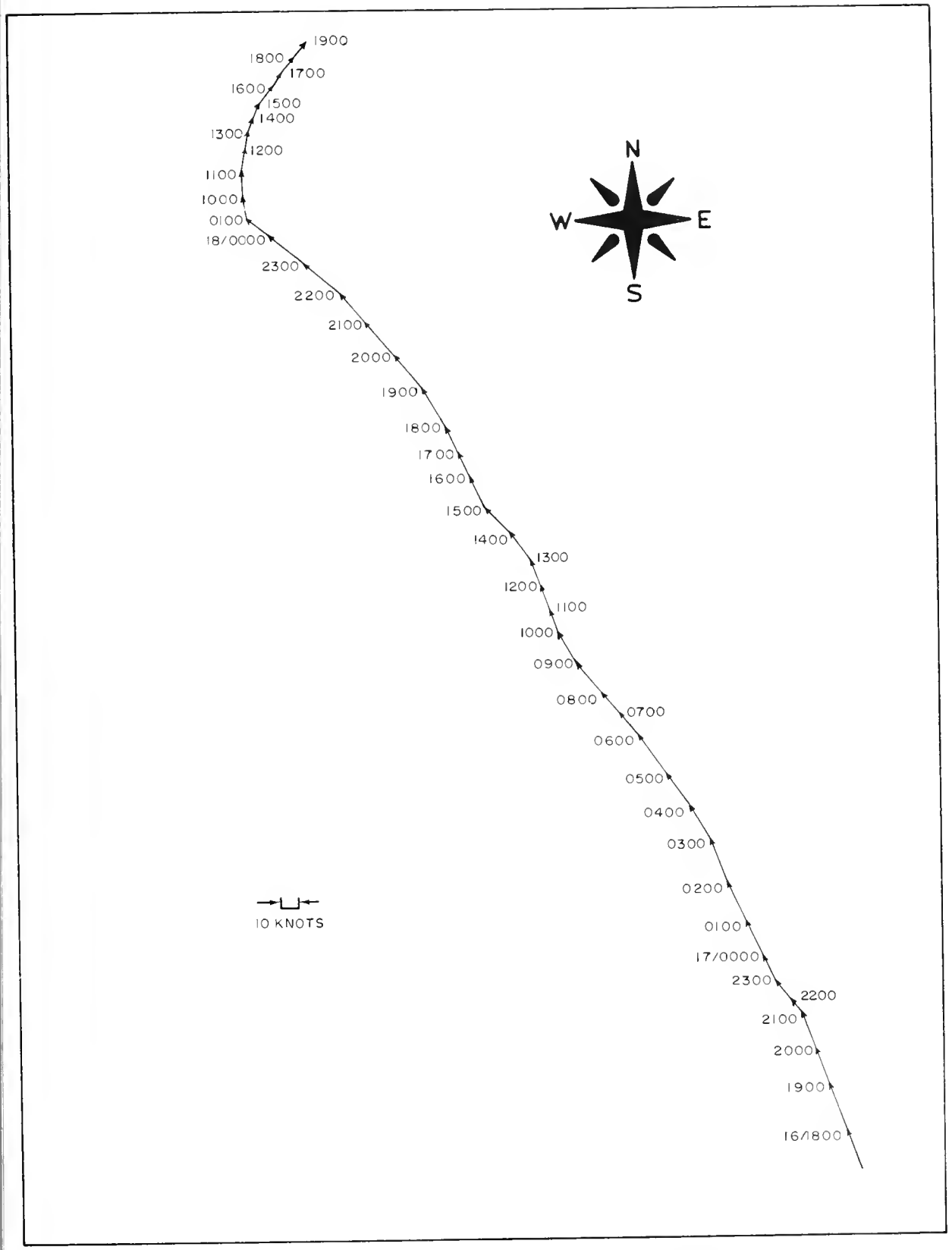

Figure 70. Progressive wind vector diagram from 17 April 1966 to 18 April 1966.

```
      DIMENSION ITME(25),IBOYR(25),IBOYA(25),IDRGR(25),IDRGA(25)
      DIMENSION XRB(25),YRB(25),XRD(25),YRD(25),BUOYA(25),DROGA(25)
      DIMENSION XR(25),YR(25)     ,TIME(3)    ,IXHR(3),IMIN(3)
CNUMBER OF READINGS
      READ(2,1)N,INDAY
    1 FORMAT(I2,I2)
C READ INPUT DATA
      DO 10 I=1,N
   10 READ(2,2)ITME(I),IBOYR(I),IBOYA(I),IDRGR(I),IDRGA(I)
    2 FORMAT(I4,1X,2(I5,I3,1X))
C OUTPUT INPUT DATA
      INTHR=ITME(I)
      IHR=INTHR
      WRITE(3,3)
    3 FORMAT(48X,4HBUOY,3X,4HBUOY,5X,4HDROG,3X,4HDROG,/,35X,7HTIME(Z),5X
     1,5HRANGE,2X,5HANGLE,4X,5HRANGE,2X,5HANGLE,/)
      DO 14 I=1,N
      IF(ITME(I)-IHR)11,12,12
   11 IHR=ITME(I)
      DTME=ITME(I)+(INDAY+1)*1.E04
      GO TO 13
   12 DTME=ITME(I)+INDAY*1.E04
   13 WRITE(3,4)DTME,IBOYR(I),IBOYA(I),    IDRGR(I),IDRGA(I)
    4 FORMAT(35X,F8.0,4X,I5,3X,I3,5X,I5,3X,I3,/)
   14  CONTINUE
C CONVERT INPUT ANGLES TO RADIANS
      DEGRD=57.29578
      DO 20 I=1,N
      BUOYA(I)=IBOYA(I)/DEGRD
   20 DROGA(I)=IDRGA(I)/DEGRD
C CONVERT INPUT VECTORS TO COMPONENT FORM
      DO 30 I=1,N
      XRB(I)=IBOYR(I)*SIN(BUOYA(I))
      YRB(I)=IBOYR(I)*COS(BUOYA(I))
      XRD(I)=IDRGR(I)*SIN(DROGA(I))
      YRD(I)=IDRGR(I)*COS(DROGA(I))
      XR(I)=XRD(I)-XRB(I)
   30 YR(I)=YRD(I)-YRB(I)
      WRITE (3,7)
    7 FORMAT (14X,1HX,6X,1HY,21X,1HX,6X,1HY)
      WRITE (3,8) (ITME(I),XRB(I),YRB(I),XRD(I),YRD(I),I=1,N)
    8 FORMAT (I6,5X,F9.2,2X,F9.2,19X,F9.2,2X,F9.2,/)
C WRITE OUTPUT HEADINGS
      WRITE(3,5)
    5 FORMAT(1X,1H1,15X,7HTIME(I),/,15X,7HTIME(2),5X,5HVELOC,5X,5HANGLE,
     1/)
C COMPUTATION OF VELOCITY
      NN=N-1
      DO 126 K=1,NN
      XDELT=XR(K+1)-XR(K)
      YDELT=YR(K+1)-YR(K)
      XMAGT=SQRT((XDELT**2)+(YDELT**2))
C COMPUTE ANGLE INFORMATION
```



```
      IF(YDELT)119,115,119
  115 IF(XDELT)117,116,118
  116 ANGLE = 0.
      GO TO 123
  117 ANGLE = 270.
      GO TO 123
  118 ANGLE = 90.
      GO TO 123
  119 ANGLE = ATAN(XDELT/YDELT)*DEGRD+.5
      IF (YDELT) 120,999,121
  120 ANGLE = ANGLE + 180.
      GO TO 123
  121 IF(XDELT) 122,999,123
  122 ANGLE = ANGLE + 360.
  123 CONV=91.440183/60.
      IXHR(1)=ITME(K)/100.
      IXHR(2)=ITME(K+1)/100.
      IMIN(1)=ITME(K)-(IXHR(1)*1.E02        )
      IMIN(2)=ITME(K+1)-(IXHR(2)*1.E02)
  199  IDEL=IXHR(2)-IXHR(1)
      IF(IDEL)202,201,200
  200  DELT=((IMIN(2)+601-IMIN(1))+(60*(IDEL-1)))
       GO TO 203
  201 DELT=IMIN(2)-IMIN(1)
       GO TO 203
  202 IXHR(2)=IXHR(2)+24
      GO TO 199
  203  VELOC=(XMAGT/DELT)*CONV
C COMPUTE DATE-TIME GROUP
      TIME(1) = ITME(K) + INDAY*1.E04
      TIME(2) = ITME(K+1) + INDAY*1.E04
      WRITE (3,6) TIME(1),TIME(2),VELOC,ANGLE
    6 FORMAT (15X,F8.0,/,15X,F8.0,5X,F8.2,5X,F5.0)
  126 CONTINUE
  999 STOP
      END
```

Figure 71. IBM 1130 FORTRAN program used for drogue velocity and true bearing calculation.

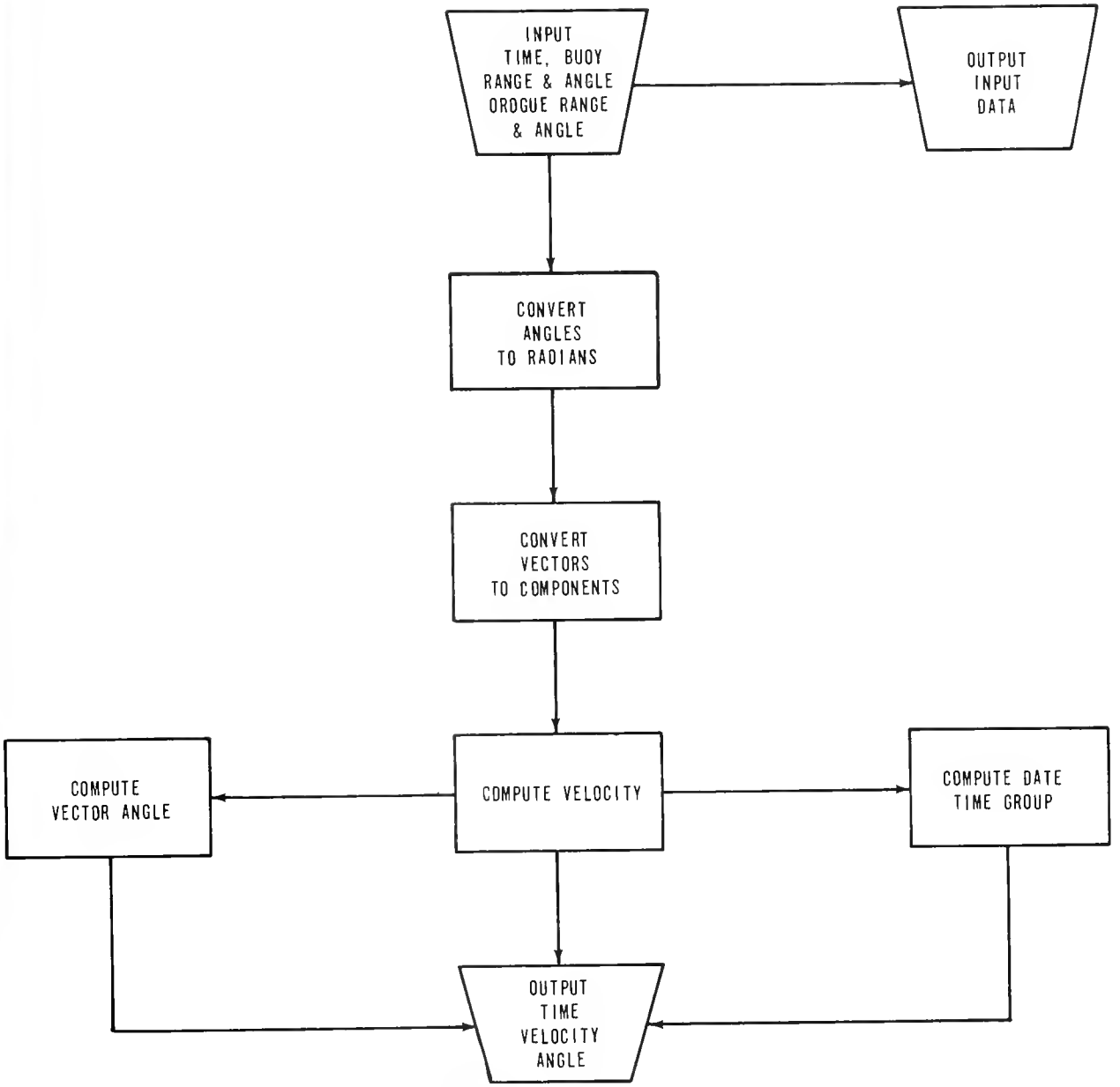

Figure 72. Flow diagram for IBM 1130 drogue velocity and true bearing program.

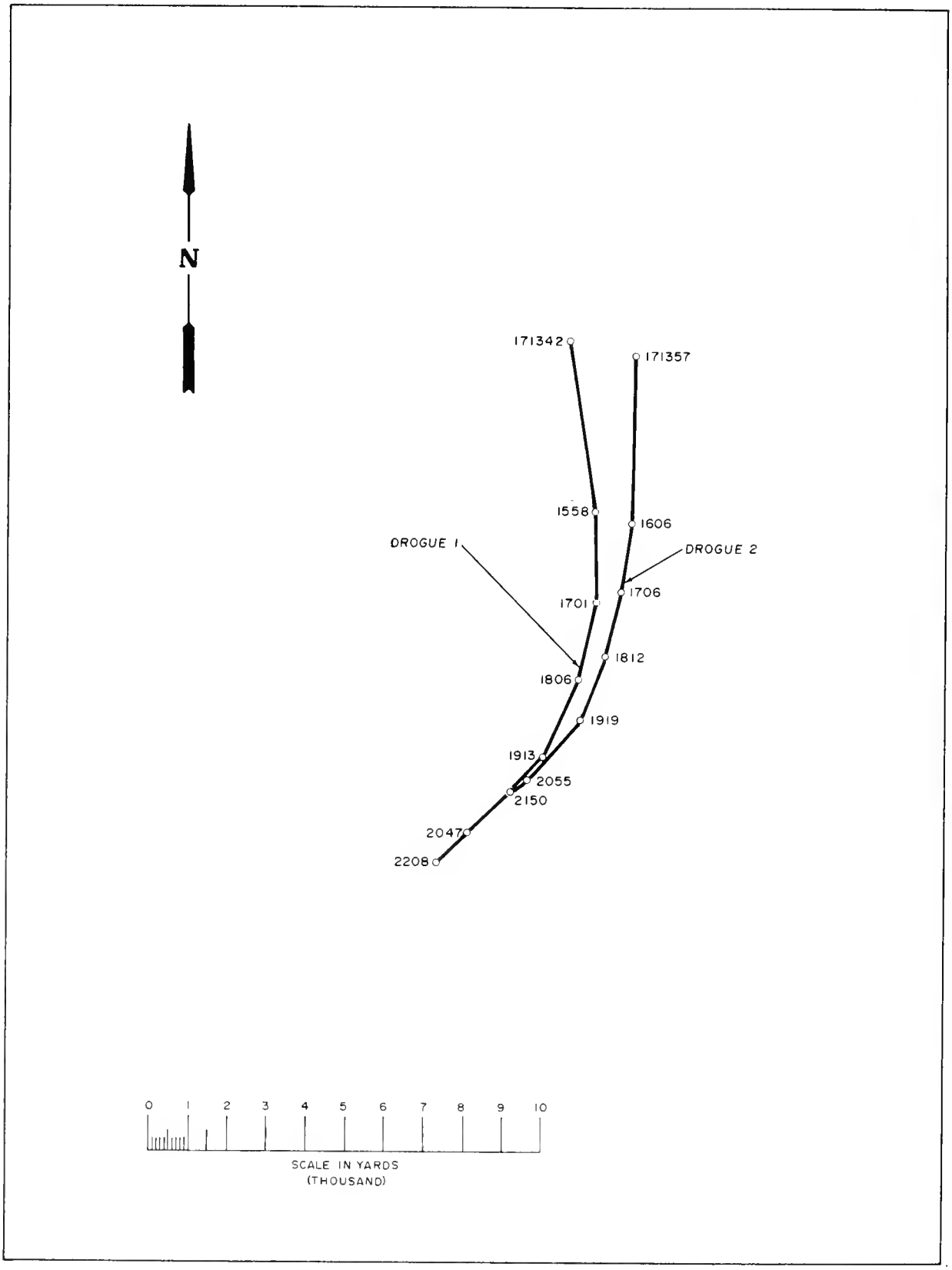

Figure 73. Trajectories of drogues 1 and 2.

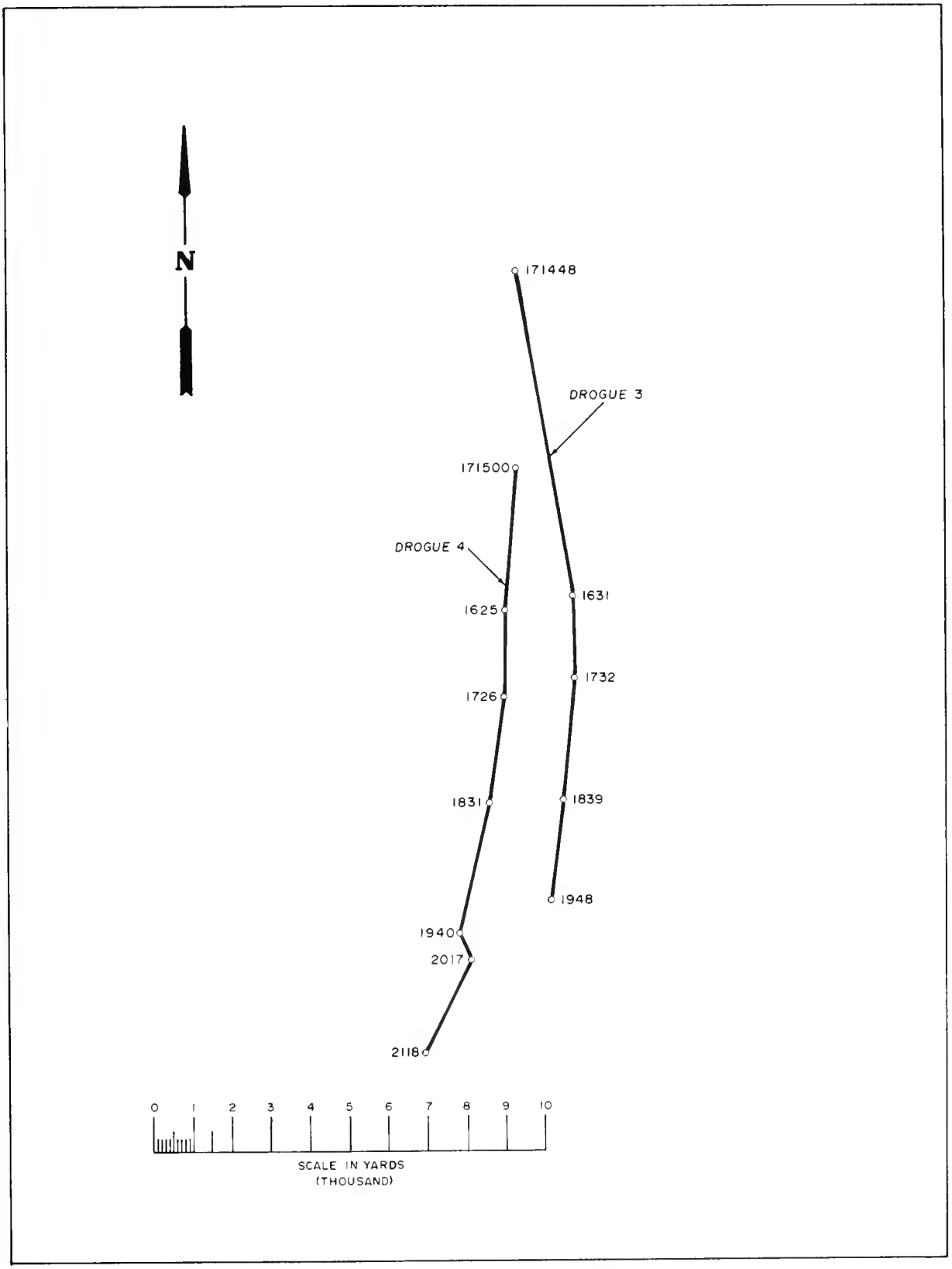

Figure 74. Trajectories of drogues 3 and 4.

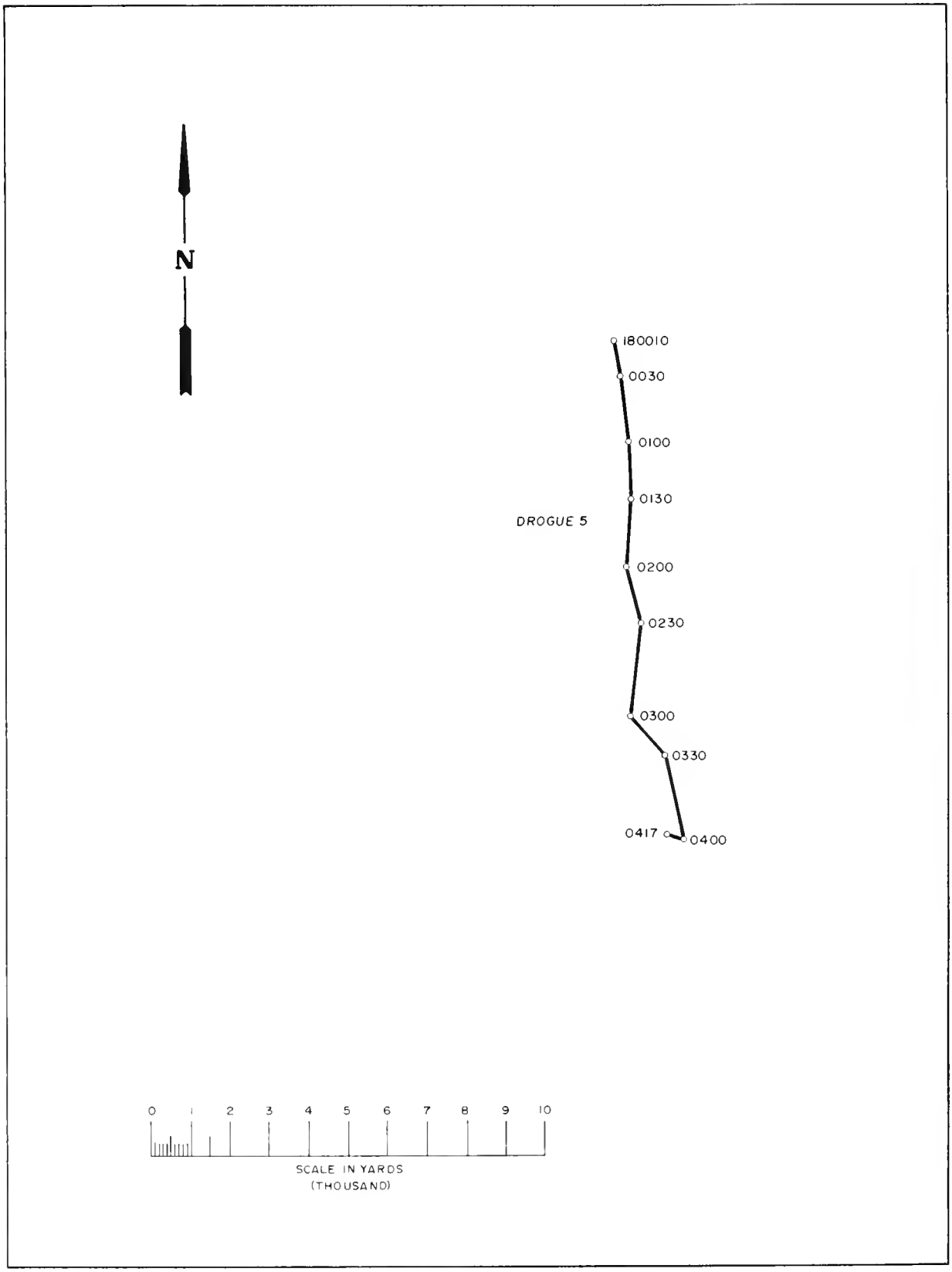

Figure 75. Trejectory of drogue 5

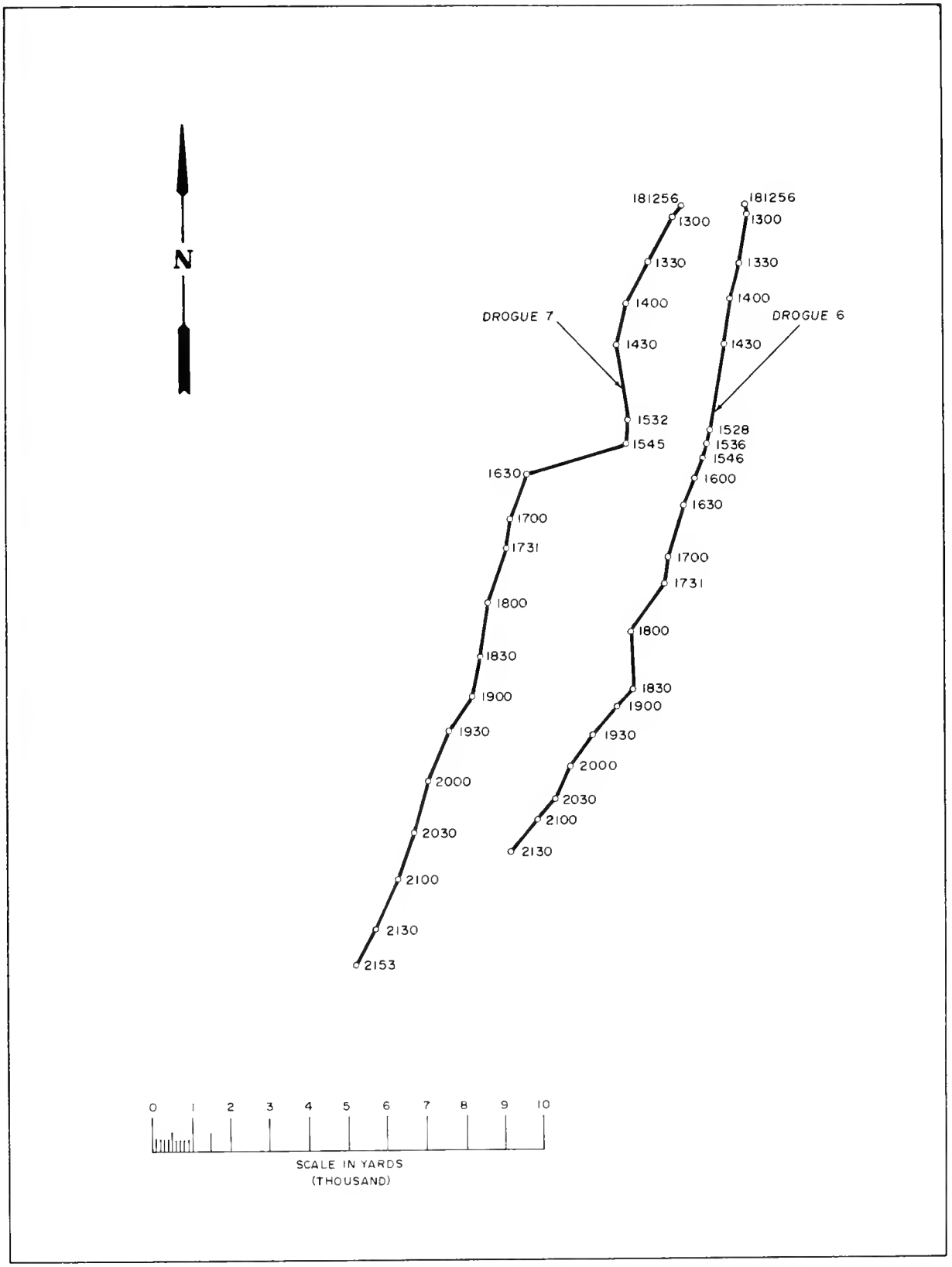

Figure 76. Trajectory of drogue numbers 6 and 7. The displacement of drogue 7 from 1545 GMT to 1630 GMT may have been caused by an error.

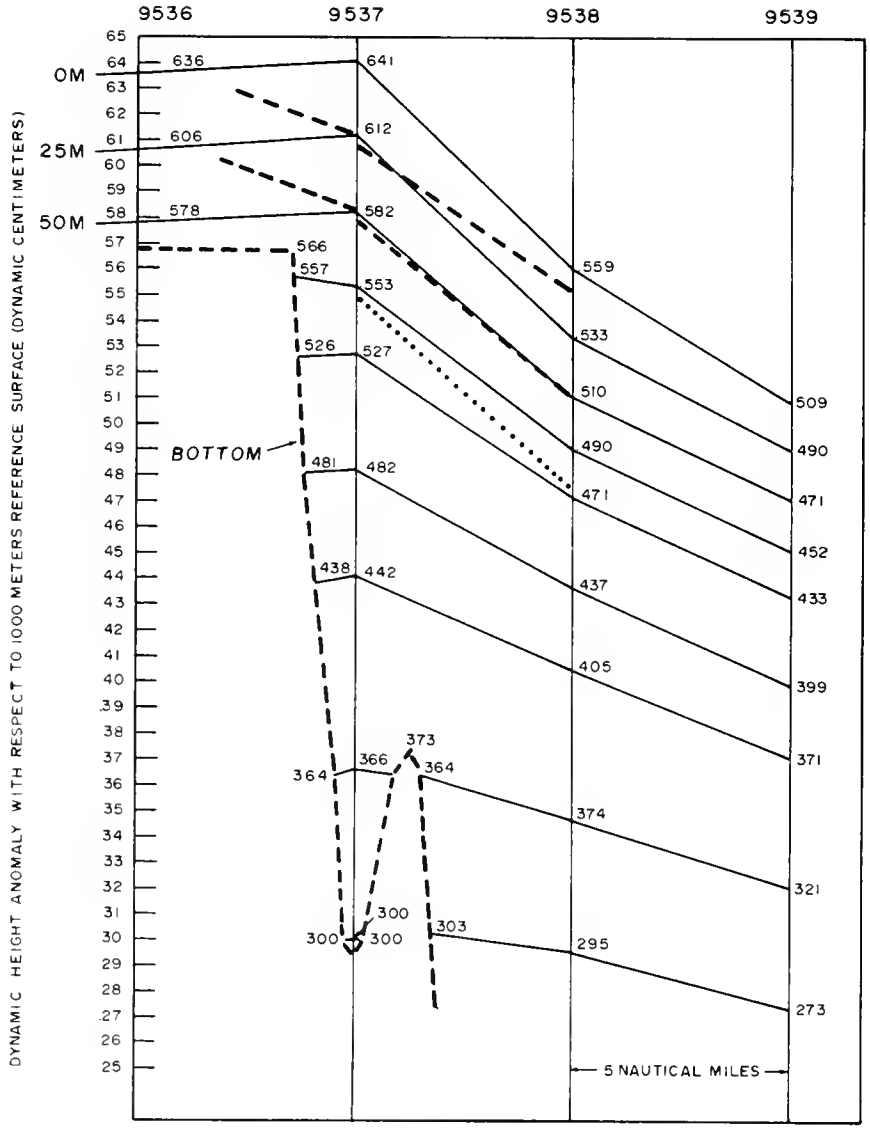

Figure 77. Average drogue speeds plotted as slopes on vertical section of dynamic height anomalies. These dynamic height anomalies are with respect to the 1000 decibar surface. These dynamic height anomalies are for stations 9536-9539.

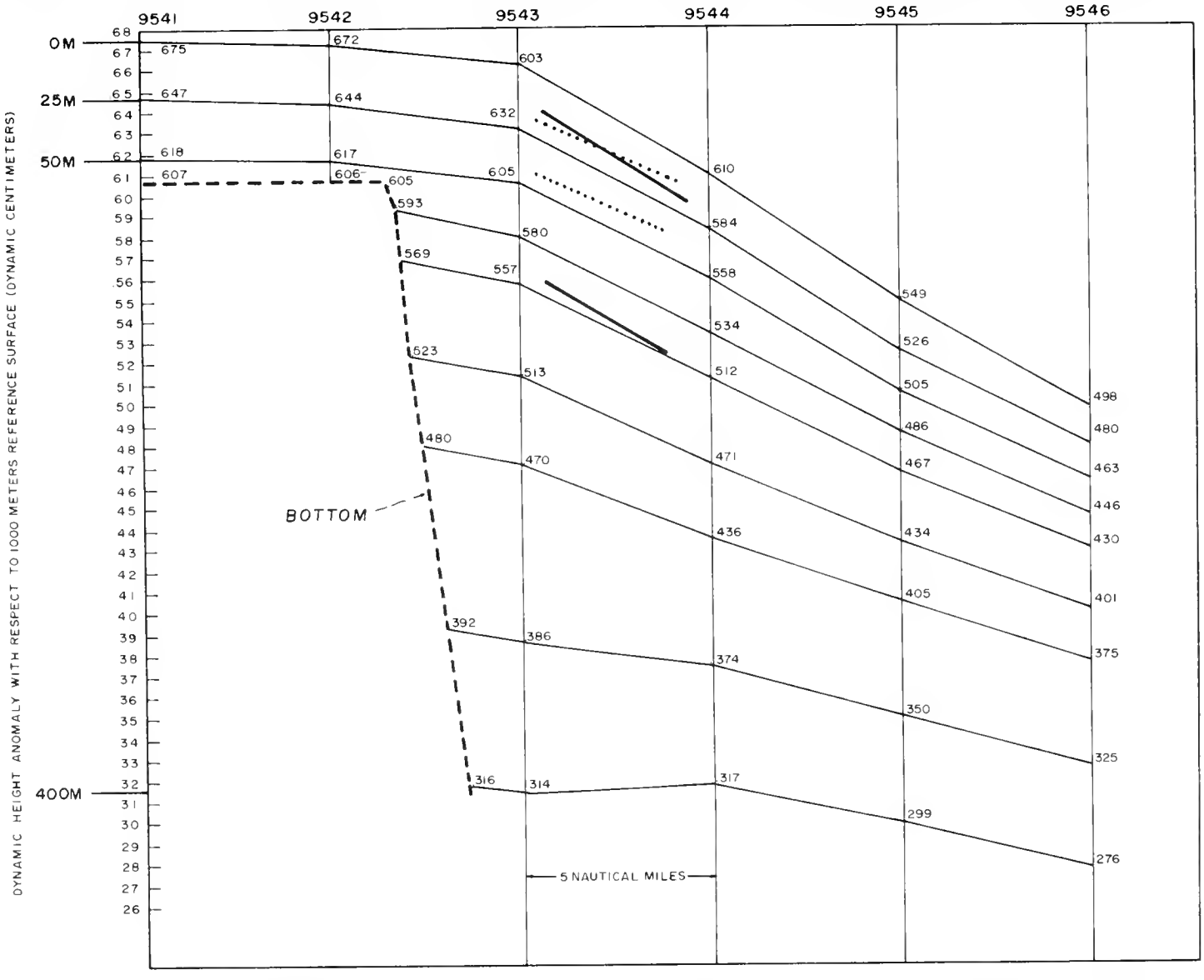

Figure 78. Average drogue speeds plotted as slopes on vertical section of dynamic height anomalies. These dynamic height anomalies are with respect to the 1000 decibar surface. These dynamic height anomalies are for station 9541-9546.

TABLE OF OCEANOGRAPHIC DATA

The following are the observed and interpolated data for the Coast Guard Oceanographic Unit oceanographic stations taken during the 1966 International Ice Patrol near the Grand Banks of Newfoundland. The data were obtained by the CGC EVERGREEN 2 April 1966 to 7 June 1966. Presentation is from National Oceanographic Data Center Cruise Listing No. 31-8001.

The CGC HUMBOLDT and CGC DUANE data are from National Oceanographic Data Center Cruise Listing Numbers 31-702 and 31-792 respectively. These will be published in a future U.S. Coast Guard Oceanographic Report.

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT IND.	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8001	Ev	4139 N	05014 W		150	10	04	02	233	1966		9509	3931	13	26	4	3		X1	4	7		0001

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		22	S14	078	117	111	4	13	

MESSENGR TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0842	3446	2681	0012501	0000	14838								
229		OBS	0000	0842	34460	2681			14838								
		STD	0010	0838	3448	2683	0012329	0012	14838								
		STD	0020	0833	3449	2685	0012155	0025	14839								
229		OBS	0027	0830	34506	2686			14839								
		STD	0030	0835	3452	2686	0012009	0037	14841								
		STD	0050	0883	3465	2689	0011796	0061	14864								
229		OBS	0053	0892	34676	2690			14869								
		STD	0075	0978	3492	2695	0011339	0089	14907								
229		OBS	0080	0992	34961	2695			14914								
		STD	0100	1029	3509	2699	0010979	0117	14932								
229		OBS	0106	1034	35125	2701			14935								
		STD	0125	1022	3515	2705	0010490	0144	14934								
		STD	0150	0984	3518	2714	0009687	0169	14925								
229		OBS	T0161	0958	35193	2719			14917								
		STD	0200	0806	3498	2727	0008485	0215	14864								
229		OBS	0214	0762	34927	2729			14849								
		STD	0250	0704	3494	2739	0007414	0255	14832								
		STD	0300	0635	3494	2748	0006562	0290	14813								
229		OBS	0319	0612	34946	2752			14807								
		STD	0400	0539	3495	2761	0005437	0350	14791								
229		OBS	0426	0519	34944	2763			14787								
		STD	0500	0471	3491	2766	0004994	0402	14779								
		STD	0600	0423	3489	2770	0004687	0450	14776								
229		OBS	T0642	0409	34884	2771			14777								
		STD	0700	0404	3489	2772	0004566	0496	14784								
		STD	0800	0395	3491	2774	0004407	0541	14797								
233		OBS	0854	0391	34912	2775			14805								
		STD	0900	0387	3491	2775	0004382	0585	14811								
		STD	1000	0381	3492	2776	0004378	0629	14825								
233		OBS	T1088	0377	34919	2777			14838								
		STD	1100	0377	3492	2777	0004388	0673	14840								
		STD	1200	0374	3493	2778	0004365	0717	14856								
233		OBS	T1297	0374	34932	2778			14872								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4209 N	05016 W		150	20	04	03	041	1966		9510	3200	12	18	6	3		X4	X	9		0002

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		18	S14	071	106	100	7	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY $\times 10^3$	$\sum \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0549	3426	2705	0010152	0000	14720								
041		OBS	0000	0549	34262	2705			14720								
		STD	0010	0542	3428	2708	0009949	0010	14719								
		STD	0020	0535	3429	2709	0009807	0020	14718								
041		OBS	0026	0530	34296	2710			14717								
		STD	0030	0527	3430	2711	0009668	0030	14717								
		STD	0050	0511	3431	2713	0009460	0049	14714								
041		OBS	0052	0509	34306	2714			14713								
		STD	0075	0492	3435	2719	0008940	0072	14711								
041		OBS	0078	0489	34364	2721			14710								
		STD	0100	0460	3447	2732	0007720	0093	14703								
041		OBS	0104	0457	34483	2734			14703								
		STD	0125	0469	3458	2740	0007020	0111	14712								
		STD	0150	0477	3467	2746	0006462	0128	14721								
041		OBS	T0155	0478	34687	2747			14722								
		STD	0200	0475	3479	2756	0005593	0158	14730								
041		OBS	0207	0474	34806	2757			14731								
		STD	0250	0472	3486	2762	0005097	0185	14738								
		STD	0300	0470	3490	2765	0004827	0210	14746								
041		OBS	0309	0469	34908	2766			14747								
		STD	0400	0441	3492	2770	0004486	0256	14751								
041		OBS	0410	0438	34918	2770			14751								
		STD	0500	0424	3492	2772	0004353	0300	14760								
		STD	0600	0409	3493	2774	0004237	0343	14770								
041		OBS	T0612	0407	34930	2774			14772								
		STD	0700	0394	3492	2775	0004228	0386	14781								
		STD	0800	0381	3492	2776	0004170	0428	14792								
041		OBS	0813	0380	34916	2776			14793								
		STD	0900	0374	3492	2777	0004178	0469	14805								
		STD	1000	0368	3492	2778	0004194	0511	14820								
041		OBS	T1034	0366	34922	2778			14824								
		STD	1100	0362	3492	2778	0004208	0553	14834								
		STD	1200	0358	3492	2779	0004242	0595	14849								
041		OBS	T1216	0357	34916	2778			14851								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4227 N	05026 W		150	20	04	03	070	1966		9511	2514	11	18	6	2		X4	X	9		0003

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		18	S15	037	100	089	4	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0377	3410	2711	0009583	0000	14647								
070		OBS	0000	0377	34098	2711			14647								
		STD	0010	0377	3410	2711	0009610	0010	14649								
		STD	0020	0378	3410	2711	0009629	0019	14650								
070		OBS	0024	0378	34094	2711			14651								
		STD	0030	0365	3409	2712	0009576	0029	14646								
070		OBS	0048	0338	34064	2713			14638								
		STD	0050	0338	3408	2714	0009394	0048	14638								
070		OBS	0071	0329	34259	2729			14640								
		STD	0075	0319	3428	2732	0007733	0069	14637								
070		OBS	0095	0289	34377	2742			14629								
		STD	0100	0294	3439	2743	0006699	0087	14632								
		STD	0125	0318	3445	2745	0006480	0104	14647								
070		OBS	T0142	0337	34507	2748			14659								
		STD	0150	0349	3454	2749	0006113	0119	14665								
070		OBS	0189	0397	34686	2756			14694								
		STD	0200	0406	3471	2757	0005452	0148	14700								
		STD	0250	0437	3482	2763	0005009	0175	14723								
070		OBS	0284	0450	34873	2765			14735								
		STD	0300	0452	3489	2766	0004704	0199	14738								
070		OBS	0378	0454	34937	2770			14753								
		STD	0400	0444	3493	2770	0004423	0244	14752								
		STD	0500	0407	3491	2773	0004259	0288	14753								
070		OBS	0566	0390	34907	2774			14756								
		STD	0600	0386	3491	2775	0004134	0330	14760								
		STD	0700	0376	3491	2776	0004106	0371	14773								
070		OBS	0756	0372	34910	2777			14780								
		STD	0800	0370	3491	2777	0004119	0412	14787								
		STD	0900	0366	3491	2777	0004159	0454	14802								
070		OBS	0968	0364	34910	2777			14812								
		STD	1000	0363	3491	2777	0004209	0495	14817								
		STD	1100	0361	3491	2778	0004262	0538	14833								
070		OBS	T1141	0360	34911	2778			14840								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT. PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4238 N	05020 W		15	0	20	04	03	092	1966		9512		1829	11	19	9	3	X4	7	8		0004

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		18	S18	030	089	083	4	15	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0319	3397	2707	0010042	0000	14620								
092		OBS	0000	0319	33967	2707			14620								
		STD	0010	0347	3401	2707	0009975	0010	14634								
		STD	0020	0374	3406	2709	0009857	0020	14648								
092		OBS	0021	0376	34064	2709			14649								
		STD	0030	0400	3411	2710	0009739	0030	14662								
092		OBS	0044	0427	34162	2711			14676								
		STD	0050	0430	3417	2712	0009607	0049	14678								
092		OBS	0066	0445	34208	2713			14688								
		STD	0075	0472	3425	2713	0009472	0073	14701								
092		OBS	0090	0488	34309	2716			14711								
		STD	0100	0434	3431	2722	0008668	0096	14690								
		STD	0125	0336	3430	2732	0007767	0116	14653								
092		OBS	0135	0311	34298	2734			14643								
		STD	0150	0310	3435	2738	0007174	0135	14646								
092		OBS	0181	0307	34448	2746			14651								
		STD	0200	0320	3449	2748	0006252	0168	14661								
		STD	0250	0349	3459	2753	0005818	0199	14683								
092		OBS	0273	0360	34634	2756			14692								
		STD	0300	0370	3468	2758	0005397	0227	14701								
092		OBS	0364	0390	34768	2763			14721								
		STD	0400	0396	3479	2765	0004938	0278	14730								
		STD	0500	0407	3484	2767	0004780	0327	14752								
092		OBS	T0548	0410	34861	2769			14761								
		STD	0600	0410	3486	2769	0004728	0374	14770								
		STD	0700	0409	3487	2769	0004782	0422	14786								
092		OBS	0735	0409	34871	2770			14792								
		STD	0800	0408	3489	2771	0004709	0469	14803								
		STD	0900	0407	3491	2773	0004639	0516	14819								
092		OBS	0945	0406	34922	2774			14826								
		STD	1000	0399	3493	2775	0004492	0562	14833								
		STD	1100	0380	3494	2778	0004277	0606	14842								
092		OBS	T1119	0376	34943	2779			14843								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT. PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4247 N	050215W		15	0	20	04	03	112	1966		9513		0704	07	20	7	2	X4	7	8		0005

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OF FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		18	S16	017	078	078	3	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0272	3389	2705	0010234	0000	14599								
112		OBS	0000	0272	33889	2705			14599								
		STD	0010	0273	3390	2705	0010162	0010	14601								
		STD	0020	0273	3392	2707	0010022	0020	14603								
112		OBS	0028	0274	33924	2707			14605								
		STD	0030	0275	3393	2707	0010003	0030	14606								
		STD	0050	0285	3393	2707	0010057	0050	14613								
112		OBS	0061	0290	33933	2707			14617								
		STD	0075	0302	3396	2708	0009994	0075	14625								
112		OBS	0083	0316	33992	2709			14633								
		STD	0100	0376	3415	2716	0009264	0099	14663								
112		OBS	T0110	0397	34223	2719			14675								
		STD	0125	0374	3424	2723	0008588	0122	14668								
		STD	0150	0342	3428	2729	0008000	0143	14659								
112		OBS	0166	0326	34302	2733			14655								
		STD	0200	0301	3434	2738	0007204	0181	14650								
112		OBS	0221	0295	34378	2742			14652								
		STD	0250	0321	3447	2746	0006448	0215	14669								
		STD	0300	0357	3461	2754	0005789	0245	14695								
112		OBS	T0331	0374	34674	2758			14708								
		STD	0400	0393	3476	2762	0005129	0300	14728								
112		OBS	0437	0401	34792	2764			14738								
		STD	0500	0402	3481	2765	0004950	0350	14749								
		STD	0600	0404	3483	2767	0004917	0400	14767								
112		OBS	T0654	0405	34847	2768			14777								
		STD	0700	0404	3486	2769	0004788	0448	14784								
112		OBS	T0704	0404	34862	2769			14785								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4259 N	05022 W		150	20	04	03	128	1966		9514	0099	01	18	8	3		X4	2	8		0006

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		18	S14	003	072	061	1	06	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCOD
		STD	0000	0216	3379	2701	0010584	0000	14573								
128		OBS	0000	0216	33785	2701			14573								
		STD	0010	0216	3379	2701	0010587	0011	14575								
128		OBS	0010	0216	33785	2701			14575								
		STD	0020	0215	3379	2701	0010563	0021	14576								
128		OBS	0025	0215	33790	2701			14577								
		STD	0030	0215	3379	2702	0010530	0032	14578								
		STD	0050	0217	3381	2702	0010459	0053	14582								
128		OBS	0050	0217	33805	2702			14582								
		STD	0075	0259	3402	2716	0009162	0077	14607								
128		OBS	0075	0259	34022	2716			14607								
128		OBS	0090	0258	34030	2717			14610								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4310 N	05024 W		150	30	04	03	146	1966		9515	0073	01	17	6	3		X4	2	8		0007

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		18	S16	986	072	067	2	04	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCOD
		STD	0000	0235	3368	2691	0011545	0000	14580								
146		OBS	0000	0235	33677	2691			14580								
		STD	0010	0234	3368	2691	0011519	0012	14581								
		STD	0020	0231	3368	2691	0011500	0023	14581								
146		OBS	0025	0229	33685	2692			14581								
		STD	0030	0226	3369	2692	0011428	0035	14581								
		STD	0050	0215	3369	2693	0011352	0057	14579								
146		OBS	0050	0215	33685	2693			14579								
146		OBS	0065	0209	33693	2694			14579								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4440 N	04919 W		149	49	04	04	009	1966		9516	0064	01	18	5	3		X1	7	7		0008

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		22	S20	929	072	072	7	05	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCOD
		STD	0000	0156	3353	2685	0012095	0000	14543								
009		OBS	0000	0156	33530	2685			14543								
		STD	0010	0154	3353	2685	0012106	0012	14544								
009		OBS	0010	0154	33527	2685			14544								
		STD	0020	0154	3353	2685	0012086	0024	14545								
009		OBS	0025	0154	33534	2685			14546								
		STD	0030	0154	3353	2685	0012057	0036	14547								
		STD	0050	0154	3354	2686	0012046	0060	14550								
009		OBS	0051	0154	33536	2686			14551								
009		OBS	0064	0154	33533	2685			14553								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	44375N	04903 W		149	49	04	04	027	1966		9517	0137	01	18	5	3		x1	7	7		0009

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		22	S18	956	072	072	7	06	

MESSENGR TIME OR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCC
		STD	0000	0100	3328	2668	0013684	0000	14514								
025		OBS	0000	0100	33275	2668			14514								
		STD	0010	0100	3328	2668	0013684	0014	14516								
		STD	0020	0099	3328	2668	0013678	0027	14517								
025		OBS	0025	0098	33275	2668			14518								
		STD	0030	0097	3328	2669	0013628	0041	14518								
		STD	0050	0092	3330	2671	0013456	0068	14520								
025		OBS	0051	0092	33300	2671			14520								
		STD	0075	0094	3363	2697	0010951	0099	14529								
025		OBS	0076	0095	33642	2698			14530								
		STD	0100	0119	3380	2709	0009820	0125	14547								
025		OBS	0102	0121	33815	2710			14548								
025		OBS	0115	0130	33880	2715			14555								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4436 N	04851 W		149	48	04	04	046	1966		9518	1829	12	19	5	2		x1	0	2		0010

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		22	S16	976	100	094	7	13	

MESSENGR TIME OR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCC
		STD	0000	0126	3342	2678	0012723	0000	14528								
046		OBS	0000	0126	33422	2678			14528								
		STD	0010	0129	3344	2680	0012593	0013	14532								
		STD	0020	0133	3346	2681	0012456	0025	14535								
046		OBS	0027	0135	33477	2682			14537								
		STD	0030	0140	3350	2684	0012223	0038	14540								
		STD	0050	0195	3370	2696	0011090	0061	14571								
046		OBS	0053	0207	33739	2698			14577								
		STD	0075	0326	3415	2721	0008776	0086	14638								
046		OBS	0079	0344	34202	2723			14647								
		STD	0100	0421	3434	2726	0008286	0107	14685								
046		OBS	0106	0442	34394	2728			14695								
		STD	0125	0515	3459	2735	0007459	0127	14731								
046		OBS	0131	0529	34638	2738			14739								
		STD	0150	0458	3461	2744	0006688	0144	14712								
		STD	0200	0334	3455	2751	0005971	0176	14667								
046		OBS	T0208	0323	34534	2751			14664								
		STD	0250	0348	3463	2757	0005509	0205	14683								
		STD	0300	0373	3472	2761	0005128	0231	14703								
046		OBS	0308	0376	34729	2762			14706								
		STD	0400	0402	3480	2765	0004928	0282	14733								
046		OBS	T0407	0403	34804	2765			14734								
		STD	0500	0403	3481	2765	0004959	0331	14750								
		STD	0600	0403	3483	2767	0004905	0380	14767								
046		OBS	0610	0403	34837	2768			14768								
		STD	0700	0407	3488	2771	0004673	0428	14785								
		STD	0800	0411	3491	2772	0004598	0475	14804								
046		OBS	T0816	0412	34913	2773			14807								
		STD	0900	0401	3491	2774	0004548	0520	14817								
		STD	1000	0390	3491	2775	0004508	0566	14829								
046		OBS	T1040	0386	34913	2775			14834								
		STD	1100	0381	3491	2776	0004489	0611	14842								
		STD	1200	0375	3491	2777	0004495	0656	14856								
046		OBS	T1222	0374	34914	2777			14859								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	B001	EV	4432 N	04840 W		149	48	04	04	068	1966		9519	2103	12	20	5	2		X0		0		0011

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		21	S18	990	039	033	7	13	

MESSENGR TIME HR 1, 10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	S C
		STD	0000	0196	3357	2685	0012067	0000	14561								
068		OBS	0000	0196	33570	2685			14561								
		STD	0010	0409	3402	2702	0010487	0011	14661								
		STD	0020	0574	3435	2709	0009809	0021	14735								
068		OBS	0025	0638	34479	2711			14763								
		STD	0030	0676	3453	2710	0009742	0031	14780								
		STD	0050	0776	3469	2709	0009936	0051	14824								
068		OBS	0051	0779	34695	2709			14826								
		STD	0075	0787	3474	2711	0009775	0076	14833								
068		OBS	0076	0787	34740	2711			14833								
		STD	0100	0784	3479	2715	0009394	0099	14837								
068		OBS	0102	0783	34792	2716			14837								
		STD	0125	0738	3478	2721	0008865	0122	14823								
		STD	0150	0696	3477	2726	0008407	0144	14811								
068		OBS	0152	0693	34767	2727			14810								
		STD	0200	0634	3478	2735	0007606	0184	14794								
068		OBS	T0203	0630	34779	2736			14793								
		STD	0250	0503	3477	2751	0006132	0218	14749								
		STD	0300	0427	3476	2759	0005407	0247	14726								
068		OBS	0304	0423	34758	2759			14725								
		STD	0400	0460	3490	2766	0004829	0298	14758								
068		OBS	T0405	0461	34908	2767			14760								
		STD	0500	0436	3491	2769	0004623	0346	14765								
		STD	0600	0416	3490	2771	0004518	0391	14773								
068		OBS	0611	0414	34902	2772			14774								
		STD	0700	0402	3489	2772	0004513	0436	14784								
		STD	0800	0392	3489	2772	0004557	0482	14796								
068		OBS	T0818	0390	34883	2773			14798								
		STD	0900	0385	3488	2773	0004603	0528	14810								
		STD	1000	0378	3488	2774	0004608	0574	14823								
068		OBS	T1040	0375	34878	2774			14829								
		STD	1100	0370	3488	2774	0004591	0620	14837								
		STD	1200	0362	3489	2776	0004542	0665	14850								
068		OBS	T1210	0361	34887	2776			14851								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT. PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	44325N	048185W		149	48	04	04	096	1966		9520	3164	12	22	5	2	X1	2	1		0012

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		26	S18	020	050	039	8	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0752	3455	2701	0010558	0000	14805								
096		OBS	0000	0752	34550	2701			14805								
		STD	0010	0750	3454	2701	0010627	0011	14806								
		STD	0020	0749	3454	2701	0010622	0021	14807								
096		OBS	0025	0748	34533	2700			14807								
		STD	0030	0743	3453	2701	0010634	0032	14806								
		STD	0050	0726	3453	2703	0010436	0053	14803								
096		OBS	0051	0725	34527	2703			14802								
		STD	0075	0714	3456	2707	0010106	0079	14803								
096		OBS	0076	0712	34559	2708			14802								
		STD	0100	0644	3456	2717	0009212	0103	14779								
096		OBS	0102	0641	34566	2718			14778								
		STD	0125	0659	3471	2727	0008328	0125	14791								
		STD	0150	0679	3481	2732	0007884	0145	14804								
096		OBS	T0156	0684	34831	2733			14808								
		STD	0200	0617	3483	2742	0006971	0182	14788								
096		OBS	0207	0608	34834	2743			14786								
		STD	0250	0560	3486	2751	0006134	0215	14774								
		STD	0300	0518	3488	2758	0005541	0244	14765								
096		OBS	T0310	0512	34885	2759			14765								
		STD	0400	0487	3492	2765	0004995	0297	14770								
096		OBS	0410	0484	34927	2766			14770								
		STD	0500	0440	3491	2769	0004617	0345	14767								
		STD	0600	0406	3490	2772	0004448	0390	14769								
096		OBS	0613	0403	34894	2772			14770								
		STD	0700	0395	3490	2773	0004388	0434	14781								
		STD	0800	0386	3491	2775	0004302	0478	14794								
096		OBS	0815	0385	34912	2775			14796								
		STD	0900	0379	3491	2776	0004281	0521	14807								
		STD	1000	0372	3492	2777	0004271	0563	14821								
096		OBS	T1038	0370	34917	2777			14827								
		STD	1100	0367	3491	2777	0004312	0606	14836								
		STD	1200	0362	3491	2777	0004372	0650	14850								
096		OBS	T1218	0361	34908	2777			14853								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	SHIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4422 N	04753 W		149	47	04	04	122	1966		9521	3383	12	24	8	7		X0		0		0013

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		24	S10	044	049	046	9	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	t °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN M x 10³	SOUND VELOCITY	O₂ ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	QUAL
		STD	0000	0698	3443	2699	0010735	0000	14782								
122		OBS	0000	0698	34429	2699			14782								
		STD	0010	0695	3443	2700	0010712	0011	14783								
		STD	0020	0692	3443	2700	0010688	0021	14783								
		STD	0030	0689	3443	2701	0010664	0032	14784								
		STD	0050	0682	3443	2701	0010611	0053	14784								
122		OBS	0052	0681	34428	2702			14784								
		STD	0075	0671	3443	2703	0010521	0080	14784								
122		OBS	0079	0669	34426	2703			14784								
		STD	0100	0651	3446	2708	0010046	0105	14780								
122		OBS	0106	0649	34480	2710			14781								
		STD	0125	0659	3464	2721	0008844	0129	14790								
		STD	0150	0672	3478	2731	0008010	0150	14801								
122		OBS	T0160	0677	34821	2733			14805								
		STD	0200	0599	3482	2743	0006877	0187	14781								
122		OBS	0211	0584	34814	2745			14777								
		STD	0250	0561	3486	2751	0006146	0220	14774								
122		OBS	0264	0551	34869	2753			14773								
		STD	0300	0519	3487	2757	0005628	0249	14766								
122		OBS	0315	0508	34875	2759			14764								
		STD	0400	0474	3493	2767	0004768	0301	14764								
122		OBS	0418	0468	34936	2768			14765								
		STD	0500	0441	3493	2771	0004465	0348	14767								
		STD	0600	0416	3493	2774	0004295	0391	14773								
122		OBS	T0624	0411	34931	2774			14775								
		STD	0700	0403	3493	2775	0004250	0434	14785								
		STD	0800	0395	3493	2776	0004244	0477	14798								
122		OBS	0830	0393	34932	2776			14802								
		STD	0900	0392	3493	2776	0004286	0519	14813								
		STD	1000	0389	3494	2777	0004319	0562	14829								
122		OBS	T1057	0386	34939	2777			14837								
		STD	1100	0384	3494	2778	0004333	0605	14843								
		STD	1200	0377	3494	2778	0004343	0649	14857								
122		OBS	T1242	0374	34937	2778			14863								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME IGMT MO	STATION TIME IGMT DAY	STATION TIME IGMT HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4409 N	04723 W		149	47	04	04	167	1966		9522	4017	11	24	5	2		X0		0		0014

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		24	S12	051	078	061	7	12	

MESSENGR TIME OF CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0777	3443	2688	0011811	0000	14813								
167		OBS	0000	0777	34428	2688			14813								
		STD	0010	0721	3446	2699	0010825	0011	14793								
		STD	0020	0683	3448	2705	0010190	0022	14780								
167		OBS	0026	0668	34489	2708			14775								
		STD	0030	0670	3449	2708	0009970	0032	14777								
		STD	0050	0676	3449	2707	0010078	0052	14783								
167		OBS	0052	0677	34489	2707			14783								
		STD	0075	0682	3452	2708	0010005	0077	14789								
167		OBS	0078	0683	34518	2708			14790								
		STD	0100	0629	3452	2716	0009319	0101	14773								
167		OBS	0105	0619	34521	2717			14769								
		STD	0125	0602	3462	2727	0008271	0123	14767								
		STD	0150	0584	3472	2737	0007338	0143	14765								
167		OBS	T0157	0579	34744	2740			14765								
		STD	0200	0556	3481	2748	0006392	0177	14763								
167		OBS	T0212	0550	34826	2750			14763								
		STD	0250	0527	3486	2755	0005736	0207	14760								
		STD	0300	0506	3489	2760	0005324	0235	14761								
167		OBS	0316	0501	34904	2762			14761								
		STD	0400	0495	3496	2767	0004792	0286	14773								
167		OBS	0419	0492	34971	2768			14775								
		STD	0500	0460	3495	2770	0004567	0332	14775								
		STD	0600	0433	3494	2772	0004432	0377	14781								
167		OBS	0626	0428	34938	2773			14783								
		STD	0700	0427	3496	2775	0004310	0421	14795								
		STD	0800	0425	3497	2776	0004313	0464	14811								
167		OBS	0833	0424	34976	2776			14816								
		STD	0900	0418	3497	2776	0004339	0507	14825								
		STD	1000	0404	3496	2777	0004346	0551	14835								
167		OBS	T1062	0393	34951	2778			14841								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDCTR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	4409 N	04641 W		149	46	04	04	205	1966		9523	4023	12	22	3	2		X2	2	8		0015

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		28	S14	064	100	067	9	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁵	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	T.O.C.
		STD	0000	0692	3431	2691	0011514	0000	14778								
	205	OBS	0000	0692	34314	2691			14778								
		STD	0010	0681	3433	2694	0011268	0011	14776								
		STD	0020	0672	3433	2695	0011167	0023	14774								
	205	OBS	0024	0669	34337	2696			14774								
		STD	0030	0666	3434	2696	0011052	0034	14773								
	205	OBS	0048	0658	34335	2697			14773								
		STD	0050	0658	3434	2697	0010981	0056	14773								
	205	OBS	0072	0652	34342	2699			14775								
		STD	0075	0634	3435	2702	0010615	0083	14768								
	205	OBS	0095	0542	34434	2720			14735								
		STD	0100	0542	3446	2722	0008716	0107	14737								
		STD	0125	0544	3458	2731	0007869	0128	14743								
	205	OBS	0143	0545	34651	2737			14747								
		STD	0150	0545	3468	2739	0007167	0146	14749								
	205	OBS	T0192	0545	34805	2749			14758								
		STD	0200	0542	3482	2750	0006150	0180	14758								
		STD	0250	0526	3489	2758	0005500	0209	14760								
	205	OBS	0286	0515	34924	2762			14762								
		STD	0300	0510	3493	2763	0005074	0235	14763								
	205	OBS	T0381	0485	34950	2767			14766								
		STD	0400	0481	3495	2768	0004679	0284	14768								
		STD	0500	0462	3497	2771	0004464	0330	14776								
	205	OBS	0574	0449	34977	2774			14783								
		STD	0600	0446	3498	2774	0004309	0374	14786								
		STD	0700	0432	3498	2775	0004255	0416	14797								
	205	OBS	0770	0423	34975	2776			14805								
		STD	0800	0418	3497	2776	0004234	0459	14808								
		STD	0900	0404	3496	2777	0004237	0501	14819								
	205	OBS	0987	0394	34951	2778			14829								
		STD	1000	0393	3495	2778	0004271	0544	14831								
		STD	1100	0384	3495	2778	0004289	0587	14843								
	205	OBS	T1165	0379	34942	2778			14852								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4359 N	04556 W		149	35	04	05	009	1966		9524	4043	10	27	4	3		X1	0	2		0016

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		28	S17	085	078	061	8	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	1340	3567	2684	0012149	0000	15030								
009		OBS	0000	1340	35665	2684			15030								
		STD	0010	1338	3566	2685	0012140	0012	15031								
		STD	0020	1336	3566	2685	0012132	0024	15032								
009		OBS	0022	1335	35663	2685			15032								
		STD	0030	1336	3567	2686	0012126	0036	15034								
009		OBS	0047	1343	35683	2685			15039								
		STD	0050	1348	3570	2685	0012191	0061	15042								
009		OBS	0069	1362	35740	2686			15050								
		STD	0075	1357	3573	2686	0012221	0091	15049								
009		OBS	0093	1333	35673	2686			15043								
		STD	0100	1311	3563	2688	0012119	0122	15037								
		STD	0125	1242	3550	2691	0011818	0152	15016								
009		OBS	T0138	1212	35444	2693			15007								
		STD	0150	1194	3540	2693	0011722	0181	15002								
		STD	0200	1120	3529	2698	0011313	0239	14983								
009		OBS	0202	1117	35286	2699			14983								
		STD	0250	1059	3528	2709	0010433	0293	14970								
009		OBS	0273	1020	35277	2715			14959								
		STD	0300	0950	3521	2722	0009223	0342	14937								
009		OBS	0359	0808	35077	2734			14892								
		STD	0400	0706	3499	2742	0007314	0425	14858								
		STD	0500	0525	3486	2756	0006020	0491	14801								
009		OBS	T0521	0500	34851	2758			14794								
		STD	0600	0470	3491	2766	0005093	0547	14796								
009		OBS	T0676	0445	34947	2772			14798								
		STD	0700	0435	3494	2772	0004558	0595	14798								
		STD	0800	0405	3491	2773	0004524	0641	14802								
009		OBS	0863	0397	34908	2774			14809								
		STD	0900	0400	3491	2774	0004562	0686	14816								
		STD	1000	0409	3496	2777	0004395	0731	14837								
009		OBS	T1020	0411	34970	2777			14842								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	47125N	04818 W		149	78	04	07	032	1966		9525	0141	01	33	7	2		X2	7	8		0017

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		35	S22	814	028	022	6	06	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0042	3309	2657	0014786	0000	14486								
032		OBS	0000	0042	33089	2657			14486								
		STD	0010	0041	3309	2657	0014773	0015	14487								
032		OBS	0015	0041	33090	2657			14488								
		STD	0020	0041	3309	2657	0014762	0030	14488								
		STD	0030	0041	3309	2657	0014745	0044	14490								
032		OBS	0041	0041	33095	2657			14492								
		STD	0050	0039	3323	2668	0013688	0073	14495								
032		OBS	0066	0036	33455	2686			14499								
		STD	0075	0068	3358	2695	0011178	0104	14517								
032		OBS	0091	0118	33786	2708			14545								
		STD	0100	0142	3389	2715	0009290	0129	14558								
032		OBS	0121	0184	34114	2730			14583								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4713 N	048055W		149	78	04	07	048	1966		9526	0155	01	36	7	2		X2	7	8		0018

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		36	S22	841	028	022	6	06	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D. DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SUS
		STD	0000	0045	3306	2654	0015030	0000	14487								
048		OBS	0000	0045	33059	2654			14487								
		STD	0010	0045	3306	2654	0014998	0015	14488								
		STD	0020	0045	3307	2655	0014973	0030	14490								
048		OBS	0025	0045	33068	2655			14491								
		STD	0030	0045	3315	2661	0014331	0045	14493								
		STD	0050	0045	3342	2683	0012241	0071	14500								
048		OBS	0050	0045	33424	2683			14500								
		STD	0075	0095	3367	2700	0010646	0100	14530								
048		OBS	0075	0095	33671	2700			14530								
		STD	0100	0140	3390	2716	0009216	0125	14557								
048		OBS	0100	0140	33898	2716			14557								
		STD	0125	0232	3424	2736	0007321	0145	14607								
048		OBS	0140	0309	34492	2749			14646								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	47135N	04752 W		149	77	04	07	061	1966		9527	0201	02	35	7	2		X2	7	8		0019

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		35	S24	821	028	022	6	07	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D. DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SUS
		STD	0000	0066	3310	2656	0014842	0000	14497								
061		OBS	0000	0066	33098	2656			14497								
		STD	0010	0071	3311	2657	0014784	0015	14501								
		STD	0020	0074	3312	2657	0014716	0030	14504								
061		OBS	0027	0075	33128	2658			14506								
		STD	0030	0074	3315	2660	0014488	0044	14506								
		STD	0050	0070	3329	2671	0013396	0072	14509								
061		OBS	0054	0069	33317	2673			14510								
		STD	0075	0072	3348	2686	0011961	0104	14517								
061		OBS	0080	0076	33524	2690			14520								
		STD	0100	0109	3375	2706	0010135	0131	14542								
061		OBS	0104	0116	33791	2709			14546								
		STD	0125	0155	3393	2717	0009083	0155	14569								
		STD	0150	0214	3414	2729	0007944	0177	14602								
061		OBS	T0159	0239	34227	2734			14615								
061		OBS	0175	0287	34394	2744			14641								

REFERENCE CTRY CODE	REFERENCE NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4714 N	047395W		149	77	04	07	077	1966		9528	0221	02	35	4	3		x2	4	8		0020

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		35	S18	821	028	022	6	07	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0027	3306	2655	0014948	0000	14478								
077		OBS	0000	0027	33058	2655			14478								
		STD	0010	0028	3306	2655	0014972	0015	14480								
		STD	0020	0028	3305	2654	0014995	0030	14482								
077		OBS	0021	0028	33052	2654			14482								
		STD	0030	0028	3306	2655	0014933	0045	14484								
		STD	0050	0029	3315	2662	0014245	0074	14489								
077		OBS	0054	0029	33176	2664			14490								
		STD	0075	0037	3342	2683	0012225	0107	14500								
077		OBS	0080	0047	33482	2688			14507								
		STD	0100	0127	3373	2703	0010403	0135	14549								
077		OBS	0106	0147	33802	2707			14560								
		STD	0125	0188	3401	2721	0008717	0159	14584								
		STD	0150	0241	3424	2735	0007407	0180	14615								
077		OBS	T0159	0259	34312	2739			14625								
		STD	0200	0339	3456	2752	0005906	0213	14670								
077		OBS	0213	0363	34612	2754			14683								

REFERENCE CTRY CODE	REFERENCE NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4716 N	04728 W		149	77	04	07	138	1966		9529	0256	03	32	8	3		x1	7	3		0021

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	S18	949	033	028	7	08	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0102	3340	2678	0012737	0000	14517								
138		OBS	0000	0102	33401	2678			14517								
		STD	0010	0101	3340	2678	0012710	0013	14518								
		STD	0020	0100	3341	2679	0012683	0025	14520								
138		OBS	0025	0100	33408	2679			14520								
		STD	0030	0106	3345	2682	0012390	0038	14525								
		STD	0050	0130	3367	2698	0010863	0061	14542								
138		OBS	0050	0130	33671	2698			14542								
		STD	0075	0157	3401	2723	0008486	0085	14562								
138		OBS	0075	0157	34009	2723			14562								
		STD	0100	0247	3432	2741	0006812	0105	14610								
138		OBS	0100	0247	34322	2741			14610								
		STD	0125	0280	3444	2748	0006216	0121	14630								
		STD	0150	0311	3454	2753	0005756	0136	14649								
138		OBS	T0152	0313	34543	2753			14650								
138		OBS	T0199	0361	34688	2760			14681								
		STD	0200	0362	3469	2760	0005155	0163	14681								
		STD	0250	0395	3480	2765	0004711	0188	14705								
138		OBS	T0253	0396	34805	2766			14706								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MAPSDEN SQUARE 10°	MAPSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	4716 N	04714 W		149	77	04	07	155	1966		9530	0512	05	31	6	2		X1	7	7		0022

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		32	S20	956	028	022	7	10	

MESSENGR TIME of HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	ADD
		STD	0000	0154	3364	2694	0011254	0000	14544								
155		OBS	0000	0154	33639	2694			14544								
		STD	0010	0154	3365	2695	0011165	0011	14545								
		STD	0020	0154	3366	2696	0011076	0022	14547								
155		OBS	0022	0154	33665	2696			14548								
		STD	0030	0157	3377	2704	0010287	0033	14552								
155		OBS	0047	0174	33958	2718			14565								
		STD	0050	0180	3398	2719	0008861	0052	14568								
155		OBS	0072	0223	34169	2731			14593								
		STD	0075	0230	3421	2734	0007508	0073	14597								
155		OBS	0095	0267	34413	2747			14620								
		STD	0100	0272	3443	2748	0006206	0090	14623								
		STD	0125	0295	3449	2750	0005971	0105	14638								
155		OBS	0143	0311	34539	2753			14648								
		STD	0150	0317	3456	2754	0005661	0120	14652								
155		OBS	T0190	0348	34650	2758			14673								
		STD	0200	0354	3466	2758	0005301	0147	14677								
		STD	0250	0379	3473	2761	0005070	0173	14697								
155		OBS	T0284	0391	34760	2763			14708								
		STD	0300	0392	3477	2763	0004951	0198	14712								
155		OBS	0394	0397	34805	2766			14730								
		STD	0400	0397	3481	2766	0004801	0247	14731								
155		OBS	T0473	0399	34833	2768			14744								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MAPSDEN SQUARE 10°	MAPSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	4716 N	04701 W		149	77	04	07	175	1966		9531	1088	10	35	6	2		X1	7	3		0023

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	S20	953	027	022	7	12	

MESSENGR TIME of HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	ADD
		STD	0000	0213	3382	2704	0010334	0000	14572								
175		OBS	0000	0213	33815	2704			14572								
		STD	0010	0213	3382	2704	0010289	0010	14574								
		STD	0020	0212	3383	2705	0010245	0021	14575								
175		OBS	0026	0212	33830	2705			14576								
		STD	0030	0229	3394	2712	0009521	0030	14586								
		STD	0050	0293	3434	2739	0007034	0047	14622								
175		OBS	0052	0298	34365	2740			14625								
		STD	0075	0325	3453	2751	0005904	0063	14643								
175		OBS	0078	0327	34538	2751			14644								
		STD	0100	0327	3456	2753	0005716	0078	14648								
175		OBS	0104	0327	34567	2754			14649								
		STD	0125	0332	3461	2757	0005405	0092	14655								
		STD	0150	0343	3465	2759	0005228	0105	14664								
175		OBS	T0155	0346	34662	2759			14667								
		STD	0200	0383	3475	2763	0004915	0130	14691								
175		OBS	0206	0387	34761	2763			14694								
		STD	0250	0390	3477	2764	0004883	0155	14702								
		STD	0300	0394	3478	2764	0004897	0179	14713								
175		OBS	T0310	0395	34784	2764			14715								
		STD	0400	0405	3481	2765	0004886	0228	14734								
175		OBS	0411	0406	34814	2765			14736								
		STD	0500	0406	3483	2767	0004848	0277	14751								
		STD	0600	0407	3485	2768	0004801	0325	14768								
175		OBS	T0615	0407	34854	2768			14771								
		STD	0700	0399	3486	2770	0004701	0373	14782								
		STD	0800	0389	3488	2772	0004589	0419	14795								
175		OBS	0822	0387	34879	2773			14797								
		STD	0900	0379	3488	2774	0004510	0464	14807								
		STD	1000	0367	3489	2775	0004426	0509	14819								
175		OBS	T1042	0362	34889	2776			14824								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4717 N	04646 W		149	76	04	07	194	1966		9532	1189	11	32	8	3		X1	8	2		0024

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	S22	970	039	033	6	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA–T	SPECIFIC VOLUME ANOMALY–E10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄–P µg-at/l	TOTAL–P µg-at/l	NO₂–N µg-at/l	NO₃–N µg-at/l	SiO₄–Si µg-at/l	pH	SCC
		STD	0000	0326	3434	2735	0007312	0000	14628								
	194	OBS	0000	0326	34337	2735			14628								
		STD	0010	0326	3434	2736	0007282	0007	14630								
		STD	0020	0326	3435	2736	0007251	0015	14632								
	194	OBS	0021	0326	34347	2736			14632								
		STD	0030	0326	3435	2736	0007240	0022	14633								
	194	OBS	0042	0325	34351	2737			14635								
		STD	0050	0331	3443	2742	0006693	0036	14640								
	194	OBS	0063	0345	34542	2750			14650								
		STD	0075	0366	3464	2756	0005461	0051	14662								
	194	OBS	0084	0377	34692	2759			14669								
		STD	0100	0382	3471	2760	0005114	0064	14674								
	194	OBS	T0124	0385	34736	2761			14679								
		STD	0125	0385	3474	2762	0004942	0077	14679								
		STD	0150	0381	3474	2762	0004924	0089	14682								
	194	OBS	0166	0380	34744	2762			14684								
		STD	0200	0385	3477	2764	0004781	0113	14692								
		STD	0250	0391	3480	2766	0004671	0137	14703								
		STD	0300	0398	3481	2766	0004714	0160	14715								
	194	OBS	T0301	0398	34815	2766			14715								
		STD	0400	0379	3482	2768	0004572	0207	14723								
	194	OBS	0401	0379	34815	2768			14723								
		STD	0500	0389	3484	2769	0004581	0253	14744								
		STD	0600	0399	3486	2770	0004635	0299	14765								
	194	OBS	T0602	0399	34862	2770			14766								
		STD	0700	0395	3487	2771	0004606	0345	14780								
		STD	0800	0390	3488	2772	0004572	0391	14795								
	194	OBS	0803	0390	34884	2773			14796								
		STD	0900	0382	3489	2774	0004494	0436	14808								
		STD	1000	0373	3489	2775	0004475	0481	14821								
	194	OBS	T1030	0370	34892	2775			14825								
		STD	1100	0363	3489	2776	0004433	0525	14834								
	194	OBS	1123	0361	34891	2776			14837								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4718 N	04626 W		149	76	04	07	231	1966		9533	0805	07	28	9	3		X2	4	8		0025

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		23	S30	963	039	033	5	10	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA–T	SPECIFIC VOLUME ANOMALY–E10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄–P µg-at/l	TOTAL–P µg-at/l	NO₂–N µg-at/l	NO₃–N µg-at/l	SiO₄–Si µg-at/l	pH	SCC
		STD	0000	0393	3453	2744	0006461	0000	14659								
	231	OBS	0000	0393	34533	2744			14659								
		STD	0010	0393	3453	2744	0006463	0006	14661								
		STD	0020	0393	3454	2745	0006465	0013	14663								
		STD	0030	0393	3454	2745	0006466	0019	14664								
		STD	0050	0393	3454	2745	0006462	0032	14668								
	231	OBS	0053	0393	34539	2745			14668								
		STD	0075	0385	3458	2749	0006098	0048	14669								
	231	OBS	0079	0384	34581	2749			14669								
		STD	0100	0376	3459	2750	0005987	0063	14669								
	231	OBS	0106	0374	34588	2751			14670								
		STD	0125	0374	3462	2753	0005730	0078	14673								
		STD	0150	0373	3466	2757	0005447	0092	14677								
	231	OBS	T0158	0373	34669	2757			14679								
		STD	0200	0390	3473	2760	0005137	0118	14694								
	231	OBS	0210	0393	34740	2761			14697								
		STD	0250	0399	3478	2763	0004900	0143	14706								
		STD	0300	0406	3482	2766	0004725	0167	14718								
	231	OBS	0314	0408	34827	2766			14721								
		STD	0400	0399	3485	2769	0004522	0214	14732								
	231	OBS	0417	0397	34852	2769			14734								
		STD	0500	0383	3486	2772	0004345	0258	14742								
		STD	0600	0373	3488	2774	0004229	0301	14755								
	231	OBS	T0624	0372	34879	2774			14758								
		STD	0700	0371	3488	2774	0004265	0343	14770								
	231	OBS	T0724	0371	34886	2775			14774								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4719 N	04605 W		149	76	04	08	018	1966		9534	0357	03	32	9	2		X0		0		0026

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	530	959	044	033	8	09	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QCC
		STD	0000	0412	3453	2742	0006686	0000	14667								
	013	OBS	0000	0412	34528	2742			14667								
		STD	0010	0412	3453	2742	0006707	0007	14669								
		STD	0020	0413	3453	2742	0006721	0013	14671								
	013	OBS	0026	0413	34526	2742			14672								
		STD	0030	0413	3453	2742	0006748	0020	14673								
		STD	0050	0413	3452	2741	0006797	0034	14676								
	013	OBS	0052	0413	34521	2741			14676								
		STD	0075	0397	3454	2745	0006517	0050	14673								
	013	OBS	0078	0395	34543	2745			14673								
		STD	0100	0383	3459	2750	0006025	0066	14672								
	013	OBS	0105	0382	34607	2751			14673								
		STD	0125	0393	3468	2756	0005472	0080	14682								
		STD	0150	0403	3475	2761	0005072	0094	14691								
	013	OBS	T0156	0405	34760	2761			14693								
		STD	0200	0407	3484	2767	0004492	0117	14702								
	013	OBS	T0211	0408	34848	2768			14705								
		STD	0250	0400	3486	2770	0004314	0139	14708								
		STD	0300	0390	3486	2771	0004252	0161	14712								
	013	OBS	T0303	0389	34863	2771			14712								
	013	OBS	0340	0388	34867	2771			14718								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	44368N	049216W		149	49	04	16	221	1966		9535	0060	01	03	4	3		X4	3	2		0027

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		34	525	061	039	033	6	05	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QCC
		STD	0000	0151	3361	2691	0011477	0000	14542								
	221	OBS	0000	0151	33607	2691			14542								
		STD	0010	0149	3360	2691	0011489	0011	14543								
	221	OBS	0015	0148	33602	2691			14543								
		STD	0020	0149	3360	2691	0011495	0023	14544								
	221	OBS	0025	0149	33603	2691			14545								
		STD	0030	0149	3360	2691	0011500	0034	14546								
	221	OBS	0040	0148	33603	2691			14547								
		STD	0050	0148	3361	2692	0011467	0057	14549								
	221	OBS	0055	0148	33609	2692			14550								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4435 N	049145W		149	49	04	17	000	1966		9536	0060	01	03	6	2		X4	3	2		0028

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		34	524	078	025	025	6	05	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QCC
		STD	0000	0162	3354	2685	0012082	0000	14546								
	000	OBS	0000	0162	33537	2685			14546								
		STD	0010	0161	3354	2685	0012057	0012	14547								
	000	OBS	0015	0161	33544	2686			14548								
		STD	0020	0162	3355	2686	0011984	0024	14549								
	000	OBS	0025	0162	33566	2687			14550								
		STD	0030	0164	3361	2691	0011548	0036	14553								
	000	OBS	0040	0166	33677	2696			14556								
		STD	0050	0167	3370	2698	0010906	0058	14558								
	000	OBS	0055	0167	33709	2699			14559								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4434 N	04907 W		149	49	04	17	012	1966		9537	0411	04	03	6	2		X4	3	2		0029

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		32	S12	078	039	039	6	10	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA–T	SPECIFIC VOLUME ANOMALY–X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄–P µg-at/l	TOTAL–P µg-at/l	NO₂–N µg-at/l	NO₃–N µg-at/l	SiO₄–Si µg-at/l	pH	SCC
		STD	0000	0159	3358	2689	0011758	0000	14545								
012		OBS	0000	0159	33577	2689			14545								
		STD	0010	0158	3358	2689	0011756	0012	14546								
012		OBS	0015	0158	33577	2689			14547								
		STD	0020	0159	3357	2688	0011816	0024	14548								
012		OBS	0025	0160	33567	2688			14549								
		STD	0030	0159	3357	2688	0011840	0035	14550								
		STD	0050	0156	3357	2688	0011824	0059	14552								
012		OBS	0050	0156	33567	2688			14552								
012		OBS	0074	0157	33642	2694			14557								
		STD	0075	0158	3365	2694	0011210	0088	14558								
012		OBS	T0099	0169	33820	2707			14569								
		STD	0100	0170	3383	2708	0009940	0114	14570								
		STD	0125	0192	3400	2720	0008823	0138	14586								
012		OBS	0149	0210	34112	2728			14599								
		STD	0150	0210	3411	2728	0008118	0159	14600								
012		OBS	0198	0220Q	34166	2731Q											
		STD	0200	0220	3417	2731	0007799	0199	14613								
		STD	0250	0229	3421	2733	0007613	0237	14626								
012		OBS	T0298	0238	34243	2736			14638								
		STD	0300	0239	3425	2736	0007391	0275	14639								
012		OBS	0398	0334	34600	2756			14701								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	44326N	04900 W		149	49	04	17	031	1966		9538	1097	10	03	6	2		X4	3	2		0030

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		32	S14	085	028	028	5	13	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA–T	SPECIFIC VOLUME ANOMALY–X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄–P µg-at/l	TOTAL–P µg-at/l	NO₂–N µg-at/l	NO₃–N µg-at/l	SiO₄–Si µg-at/l	pH	SCC
		STD	0000	0178	3368	2695	0011129	0000	14555								
031		OBS	0000	0178	33677	2695			14555								
		STD	0010	0175	3372	2699	0010784	0011	14556								
031		OBS	0015	0174	33756	2702			14557								
		STD	0020	0175	3379	2704	0010253	0021	14558								
031		OBS	0025	0175	33833	2708			14560								
		STD	0030	0186	3389	2712	0009579	0031	14566								
		STD	0050	0236	3409	2723	0008488	0049	14594								
031		OBS	0050	0236	34085	2723			14594								
		STD	0075	0309	3427	2732	0007704	0070	14632								
031		OBS	0075	0309	34272	2732			14632								
		STD	0100	0363	3443	2739	0007033	0088	14662								
031		OBS	0101	0365	34434	2739			14663								
		STD	0125	0379	3449	2742	0006763	0105	14674								
		STD	0150	0394	3453	2744	0006635	0122	14685								
031		OBS	T0151	0395	34532	2744			14685								
		STD	0200	0369	3457	2750	0006110	0154	14683								
031		OBS	0200	0369	34572	2750			14683								
		STD	0250	0352	3461	2755	0005698	0183	14684								
031		OBS	T0298	0348	34646	2758			14691								
		STD	0300	0349	3465	2758	0005409	0211	14692								
		STD	0400	0378	3474	2762	0005142	0264	14722								
031		OBS	0400	0378	34737	2762			14722								
		STD	0500	0389	3479	2765	0004958	0315	14744								
		STD	0600	0401	3482	2766	0004954	0364	14765								
031		OBS	T0603	0401	34823	2767			14766								
		STD	0700	0401	3484	2768	0004902	0413	14782								
		STD	0800	0401	3486	2770	0004848	0462	14799								
031		OBS	T0805	0401	34863	2770			14800								
		STD	0900	0398	3487	2771	0004831	0510	14815								
		STD	1000	0394	3488	2772	0004800	0559	14830								
031		OBS	1027	0392	34883	2772			14834								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	44314N	04853 W		149	48	04	17	044	1966		9539	2012	12	33	4	2		X4	X	6		0031

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		34	S22	098	033	033	4	14	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCC
		STD	0000	0324	3428	2731	0007702	0000	14627								
044		OBS	0000	0324	34283	2731			14627								
		STD	0010	0325	3429	2731	0007692	0008	14629								
044		OBS	0014	0325	34287	2732			14629								
		STD	0020	0327	3430	2732	0007615	0015	14631								
044		OBS	0023	0328	34305	2733			14632								
		STD	0030	0328	3430	2732	0007631	0023	14634								
044		OBS	0048	0328	34295	2732			14636								
		STD	0050	0328	3430	2732	0007684	0038	14637								
044		OBS	0073	0329	34298	2732			14641								
		STD	0075	0330	3430	2732	0007678	0057	14642								
044		OBS	0098	0335	34314	2733			14648								
		STD	0100	0337	3433	2734	0007539	0077	14649								
		STD	0125	0353	3448	2744	0006582	0094	14662								
044		OBS	T0145	0362	34573	2751			14671								
		STD	0150	0363	3459	2752	0005868	0110	14672								
044		OBS	0194	0367	34680	2759			14682								
		STD	0200	0369	3469	2759	0005224	0137	14684								
		STD	0250	0385	3475	2762	0004982	0163	14700								
044		OBS	0291	0394	34785	2764			14711								
		STD	0300	0395	3479	2765	0004833	0188	14713								
044		OBS	0386	0405	34826	2766			14732								
		STD	0400	0405	3483	2767	0004741	0235	14734								
		STD	0500	0408	3486	2769	0004641	0282	14752								
044		OBS	T0582	0410	34876	2770			14767								
		STD	0600	0407	3488	2770	0004579	0328	14769								
		STD	0700	0395	3488	2772	0004536	0374	14780								
044		OBS	T0785	0386	34889	2773			14791								
		STD	0800	0385	3489	2773	0004447	0419	14793								
		STD	0900	0379	3489	2774	0004441	0463	14807								
		STD	1000	0374	3490	2775	0004438	0508	14822								
044		OBS	1010	0373	34896	2775			14823								
		STD	1100	0319	3490	2781	0003880	0549	14815								
044		OBS	1194	0234	34896	2788			14794								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDIC'R	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001		EV	4429 N	04847 W		149	48	04	17	057	1966		9540	2468	12	34	5	3		X4	X	9		0032

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		34	S28	105	028	028	3	14	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SOQ
		STD	0000	0420	3444	2734	0007451	0000	14669								
057		OBS	0000	0420	34437	2734			14669								
		STD	0010	0419	3444	2734	0007425	0007	14671								
057		OBS	0015	0418	34445	2735			14671								
		STD	0020	0419	3445	2735	0007387	0015	14672								
057		OBS	0025	0419	34447	2735			14673								
		STD	0030	0419	3445	2735	0007372	0022	14674								
		STD	0050	0417	3446	2736	0007266	0037	14677								
057		OBS	0050	0417	34464	2736			14677								
		STD	0075	0414	3451	2740	0006936	0055	14680								
057		OBS	0075	0414	34507	2740			14680								
		STD	0100	0422	3451	2740	0007013	0072	14688								
057		OBS	0100	0422	34511	2740			14688								
		STD	0125	0407	3466	2753	0005765	0088	14688								
		STD	0150	0396	3475	2761	0005038	0102	14688								
057		OBS	T0150	0396	34745	2761			14688								
057		OBS	0198	0388	34743	2762			14693								
		STD	0200	0388	3474	2762	0005013	0127	14693								
		STD	0250	0393	3476	2763	0004975	0152	14704								
057		OBS	0299	0398	34779	2763			14714								
		STD	0300	0398	3478	2763	0004940	0176	14714								
057		OBS	0395	0404	34833	2767			14733								
		STD	0400	0404	3483	2767	0004696	0225	14734								
		STD	0500	0401	3486	2769	0004602	0271	14750								
057		OBS	T0592	0399	34874	2771			14764								
		STD	0600	0399	3488	2771	0004488	0317	14766								
		STD	0700	0400	3490	2773	0004440	0361	14783								
057		OBS	T0793	0400	34913	2774			14798								
		STD	0800	0399	3491	2774	0004453	0406	14799								
		STD	0900	0385	3491	2775	0004381	0450	14810								
		STD	1000	0375	3491	2776	0004351	0493	14822								
057		OBS	1016	0374	34906	2776			14825								
		STD	1100	0368	3490	2776	0004398	0537	14836								
057		OBS	T1198	0365	34901	2776			14851								

REFERENCE CTRY CODE	REFERENCE ID NO	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1. 10	DRIFT INDIC'R	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001		EV	44368N	049211W		149	49	04	18	238	1966		9541	0060	01	04	2	2		X6	5	8		0033

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		04	S24	075	044	044	6	05	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–x10⁷	Σ Δ D DYN M x 10³	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SOQ
		STD	0000	0166	3363	2692	0011380	0000	14549								
238		OBS	0000	0166	33633	2692			14549								
		STD	0010	0165	3363	2692	0011385	0011	14550								
238		OBS	0015	0165	33631	2692			14551								
		STD	0020	0166	3363	2692	0011397	0023	14552								
238		OBS	0025	0166	33630	2692			14553								
		STD	0030	0165	3363	2692	0011396	0034	14553								
238		OBS	0040	0164	33633	2693			14555								
		STD	0050	0165	3363	2693	0011383	0057	14557								
238		OBS	0055	0165	33633	2693			14557								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4435 N	049145W		149	49	04	19	006	1966		9542	0060	01	04	3	3		X5	5	8		0034

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		04	S22	064	044	044	5	05	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–X10⁷	Σ Δ D DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄–P µg-at/l	TOTAL–P µg-at/l	NO₂–N µg-at/l	NO₃–N µg-at/l	SiO₄–Si µg-at/l	pH	SSDC
		STD	0000	0164	3365	2694	0011253	0000	14548								
006		OBS	0000	0164	33648	2694			14548								
		STD	0010	0164	3365	2694	0011270	0011	14550								
006		OBS	0015	0163	33645	2694			14550								
		STD	0020	0161	3366	2695	0011146	0022	14550								
006		OBS	0025	0160	33678	2697			14551								
		STD	0030	0160	3368	2697	0010990	0034	14552								
006		OBS	0040	0160	33709	2699			14554								
		STD	0050	0165	3378	2704	0010271	0055	14559								
006		OBS	0055	0169	33827	2708			14562								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4434 N	04907 W		149	49	04	19	016	1966		9543	0658	06	05	2	3		X6	5	8		0035

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		05	S21	058	050	050	6	10	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–X10⁷	Σ Δ D DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄–P µg-at/l	TOTAL–P µg-at/l	NO₂–N µg-at/l	NO₃–N µg-at/l	SiO₄–Si µg-at/l	pH	SSDC
		STD	0000	0131	3350	2684	0012192	0000	14531								
016		OBS	0000	0131	33496	2684			14531								
		STD	0010	0126	3350	2685	0012132	0012	14531								
		STD	0020	0121	3351	2685	0012065	0024	14531								
016		OBS	0025	0119	33507	2686			14530								
		STD	0030	0125	3358	2691	0011519	0036	14535								
		STD	0050	0146	3380	2707	0010027	0058	14550								
016		OBS	0050	0146	33795	2707			14550								
		STD	0075	0161	3388	2712	0009514	0082	14562								
016		OBS	0075	0161	33877	2712			14562								
		STD	0100	0172	3395	2718	0009031	0105	14572								
016		OBS	0100	0172	33952	2718			14572								
		STD	0125	0182	3400	2721	0008747	0127	14581								
		STD	0150	0192	3403	2722	0008602	0149	14590								
016		OBS	T0151	0192	34035	2723			14591								
		STD	0200	0195	3404	2723	0008570	0192	14600								
016		OBS	0202	0195	34040	2723			14601								
		STD	0250	0202	3407	2725	0008423	0235	14612								
		STD	0300	0209	3410	2726	0008280	0276	14624								
016		OBS	T0303	0209	34100	2727			14624								
		STD	0400	0326	3454	2752	0006083	0348	14697								
016		OBS	T0401	0327	34547	2752			14698								
		STD	0500	0352	3464	2757	0005653	0407	14726								
016		OBS	T0585	0373	34726	2762			14750								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT IND'R	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001		Ev	44328N	04900 W		149	49	04	19	031	1966		9544	0878	07	05	3	3		X5	5	8		0036

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		04	S21	051	050	044	5	11	

MESSENGR TIME of HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁸	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0143	3360	2692	0011463	0000	14538								
027		OBS	0000	0143	33602	2692			14538								
		STD	0010	0147	3370	2699	0010747	0011	14543								
		STD	0020	0151	3376	2704	0010320	0022	14547								
027		OBS	0024	0152	33785	2706			14549								
		STD	0030	0154	3379	2706	0010115	0032	14551								
027		OBS	0048	0159	33824	2708			14556								
		STD	0050	0159	3383	2709	0009867	0052	14557								
027		OBS	0072	0162	33869	2712			14562								
		STD	0075	0166	3388	2712	0009526	0076	14565								
027		OBS	0096	0190	33994	2720			14580								
		STD	0100	0195	3402	2721	0008685	0099	14583								
		STD	0125	0220	3415	2730	0007905	0120	14600								
027		OBS	T0145	0236	34229	2735			14612								
		STD	0150	0238	3424	2735	0007383	0139	14614								
027		OBS	0194	0259	34326	2741			14631								
		STD	0200	0266	3435	2742	0006817	0174	14635								
		STD	0250	0309	3451	2751	0006035	0206	14664								
027		OBS	T0262	0316	34534	2752			14670								
		STD	0300	0324	3456	2753	0005839	0236	14680								
027		OBS	0351	0335	34595	2755			14693								
		STD	0400	0353	3464	2757	0005607	0293	14710								
		STD	0500	0379	3471	2760	0005442	0348	14738								
027		OBS	T0536	0386	34732	2761			14747								
		STD	0600	0394	3476	2762	0005325	0402	14762								
		STD	0700	0396	3478	2764	0005290	0455	14780								
027		OBS	T0708	0396	34780	2764			14781								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT IND'R	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001		Ev	4431 N	04853 W		149	48	04	19	043	1966		9545	1847	12	05	4	2		X5	5	8		0037

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OF FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		05	S20	000	050	050	6	13	

MESSENGR TIME of HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁸	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0202	3387	2709	0009821	0000	14568								
043		OBS	0000	0202	33872	2709			14568								
		STD	0010	0203	3393	2713	0009393	0010	14571								
		STD	0020	0204	3399	2718	0008949	0019	14574								
043		OBS	0023	0205	34004	2719			14575								
		STD	0030	0208	3404	2722	0008601	0028	14578								
043		OBS	0048	0214	34126	2728			14585								
		STD	0050	0221	3414	2729	0007955	0044	14588								
043		OBS	0072	0266	34236	2733			14613								
		STD	0075	0264	3424	2733	0007558	0063	14613								
043		OBS	0096	0259	34277	2737			14614								
		STD	0100	0262	3430	2738	0007102	0082	14617								
		STD	0125	0278	3440	2745	0006500	0099	14629								
043		OBS	T0143	0288	34458	2749			14637								
		STD	0150	0292	3447	2749	0006112	0115	14640								
043		OBS	0191	0311	34544	2753			14656								
		STD	0200	0315	3456	2754	0005679	0144	14659								
		STD	0250	0336	3463	2758	0005391	0172	14678								
043		OBS	T0286	0349	34666	2759			14690								
		STD	0300	0353	3468	2760	0005225	0198	14694								
043		OBS	0381	03740	34737	27630											
		STD	0400	0375	3475	2763	0005013	0249	14721								
		STD	0500	0391	3478	2764	0005051	0300	14744								
043		OBS	0571	0399	34806	2765			14760								
		STD	0600	0401	3481	2766	0005031	0350	14765								
		STD	0700	0404	3484	2768	0004937	0400	14784								
043		OBS	T0763	0405	34847	2768			14795								
		STD	0800	0405	3485	2768	0004969	0450	14801								
		STD	0900	0403	3486	2769	0004964	0499	14817								
043		OBS	0979	0399	34870	2771			14828								
		STD	1000	0398	3487	2771	0004908	0549	14832								
		STD	1100	0388	3488	2773	0004795	0597	14844								
043		OBS	T1155	0382	34889	2774			14851								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4430 N	04846 W		149	48	04	19	056	1966		9546	2286	12									0038

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
								13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0312	3432	2736	0007286	0000	14622								
056		OBS	0000	0312	34324	2736			14622								
		STD	0010	0318	3436	2738	0007075	0007	14627								
		STD	0020	0325	3439	2740	0006918	0014	14632								
056		OBS	0026	0330	34404	2740			14635								
		STD	0030	0335	3441	2740	0006865	0021	14638								
		STD	0050	0353	3444	2741	0006829	0035	14649								
056		OBS	0051	0354	34440	2741			14650								
		STD	0075	0354	3446	2742	0006716	0052	14654								
056		OBS	0077	0354	34460	2743			14655								
		STD	0100	0341	3451	2748	0006223	0068	14654								
056		OBS	0102	0340	34517	2748			14653								
		STD	0125	0357	3460	2753	0005718	0083	14666								
		STD	0150	0369	3466	2757	0005406	0097	14676								
056		OBS	0155	0371	34672	2758			14677								
		STD	0200	0373	3472	2761	0005037	0123	14686								
056		OBS	0206	0373	34727	2762			14687								
		STD	0250	0382	3475	2762	0004988	0148	14699								
		STD	0300	0390	3477	2763	0004960	0173	14711								
056		OBS	T0309	0391	34770	2763			14713								
		STD	0400	0399	3482	2767	0004746	0221	14732								
056		OBS	0413	0400	34822	2767			14734								
		STD	0500	0400	3484	2768	0004702	0269	14749								
		STD	0600	0400	3486	2770	0004648	0315	14766								
056		OBS	0620	0400	34865	2770			14769								
		STD	0700	0394	3487	2771	0004592	0361	14780								
		STD	0800	0388	3488	2772	0004563	0407	14794								
056		OBS	T0828	0386	34880	2773			14798								
		STD	0900	0382	3489	2774	0004494	0453	14808								
		STD	1000	0378	3490	2775	0004461	0497	14824								
056		OBS	1058	0376	34905	2776			14832								
		STD	1100	0375	3491	2776	0004475	0542	14839								
		STD	1200	0372	3490	2776	0004531	0587	14855								
056		OBS	T1247	0371	34903	2776			14862								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4435 N	04914 W		149	49	04	21	122	1966		9547	0060	01	51	2	3		X1	7	7		0039

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		01	528	163	044	039	8	04	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0140	3372	2702	0010517	0000	14539								
122		OBS	0000	0140	33724	2702			14539								
		STD	0010	0140	3373	2702	0010470	0010	14540								
		STD	0020	0139	3373	2702	0010470	0021	14542								
122		OBS	0025	0139	33732	2702			14542								
		STD	0030	0139	3373	2702	0010457	0031	14543								
122		OBS	0041	0140	33733	2702			14545								
		STD	0050	0140	3374	2703	0010404	0052	14547								
122		OBS	0054	0140	33744	2703			14548								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4434 N	04907 W		149	49	04	21	132	1966		9548	0650	06	51	2	3		X1	7	7		0040

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		01	S35	169	044	039	8	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. X 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCOD
		STD	0000	0148	3372	2700	0010630	0000	14542								
132		OBS	0000	0148	33716	2700			14542								
		STD	0010	0148	3372	2700	0010629	0011	14543								
		STD	0020	0147	3372	2700	0010628	0021	14545								
132		OBS	0023	0147	33716	2700			14545								
		STD	0030	0147	3372	2701	0010622	0032	14547								
132		OBS	0045	0147	33718	2701			14549								
		STD	0050	0146	3372	2701	0010596	0053	14549								
132		OBS	0068	0145	33729	2702			14552								
		STD	0075	0145	3373	2702	0010518	0079	14553								
132		OBS	0091	0145	33796	2707			14557								
		STD	0100	0176	3393	2716	0009226	0104	14574								
		STD	0125	0246	3423	2734	0007511	0125	14613								
132		OBS	T0137	0271	34339	2741			14627								
		STD	0150	0286	3441	2745	0006510	0143	14637								
132		OBS	T0184	0317	34543	2753			14657								
		STD	0200	0318	3455	2753	0005782	0173	14661								
		STD	0250	0324	3457	2754	0005726	0202	14672								
132		OBS	0278	0329	34587	2755			14679								
		STD	0300	0335	3460	2755	0005646	0231	14685								
132		OBS	0373	0352	34653	2758			14705								
		STD	0400	0356	3467	2759	0005413	0286	14711								
		STD	0500	0369	3471	2761	0005335	0340	14734								
132		OBS	T0566	0377	34737	2762			14749								
		STD	0600	0381	3475	2763	0005255	0393	14756								
132		OBS	0631	0384	34762	2764			14763								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	44328N	04900 W		149	49	04	21	144	1966		9549	0860	07	01	9	3		X1	7	3		0041

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		01	S36	179	044	039	8	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. X 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCOD
		STD	0000	0212	3403	2721	0008705	0000	14575								
144		OBS	0000	0212	34029	2721			14575								
		STD	0010	0212	3403	2721	0008702	0009	14576								
		STD	0020	0212	3405	2722	0008555	0017	14578								
144		OBS	0025	0212	34065	2724			14579								
		STD	0030	0214	3410	2726	0008195	0026	14581								
144		OBS	0049	0236	34198	2732			14596								
		STD	0050	0239	3420	2732	0007643	0042	14597								
144		OBS	0073	0293	34297	2735			14626								
		STD	0075	0294	3430	2735	0007356	0060	14626								
144		OBS	0098	0299	34307	2736			14632								
		STD	0100	0303	3431	2735	0007381	0079	14634								
		STD	0125	0347	3438	2737	0007276	0097	14656								
144		OBS	T0148	0365	34423	2738			14670								
		STD	0150	0363	3442	2739	0007120	0115	14670								
144		OBS	0196	0338	34452	2743			14667								
		STD	0200	0338	3446	2744	0006651	0149	14668								
		STD	0250	0343	3457	2752	0005905	0181	14680								
144		OBS	T0291	0346	34631	2757			14689								
		STD	0300	0349	3464	2757	0005484	0209	14692								
144		OBS	T0390	0374	34717	2761			14718								
		STD	0400	0375	3472	2761	0005237	0263	14720								
		STD	0500	0386	3476	2763	0005145	0315	14742								
144		OBS	0594	0394	34784	2764			14761								
		STD	0600	0394	3479	2765	0005105	0366	14762								
		STD	0700	0399	3481	2766	0005104	0417	14781								
144		OBS	T0738	0401	34820	2766			14788								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.		NODC STATION NUMBER
318	001	EV	4431 N	04853 W		149	48	04	21	159	1966		9550	1500	13	01	5	3		X1	7	3		0042

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS
		01	S30	186	056	050	7	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Sigma\Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	$Si(OH)_4$-Si µg-at/l	pH	NODC
		STD	0000	0416	3448	2737	0007125	0000	14668								
159		OBS	0000	0416	34475	2737			14668								
		STD	0010	0417	3448	2737	0007140	0007	14670								
		STD	0020	0417	3448	2737	0007147	0014	14672								
159		OBS	0021	0417	34476	2737			14672								
		STD	0030	0411	3447	2738	0007126	0021	14671								
		STD	0050	0400	3446	2738	0007110	0036	14670								
159		OBS	0053	0398	34460	2738			14669								
		STD	0075	0386	3446	2739	0007010	0053	14668								
159		OBS	0079	0384	34460	2740			14668								
		STD	0100	0371	3447	2742	0006810	0071	14666								
159		OBS	0105	0368	34472	2742			14665								
		STD	0125	0344	3448	2745	0006511	0087	14658								
		STD	0150	0327	3449	2747	0006318	0103	14655								
159		OBS	T0162	0324	34488	2748			14656								
		STD	0200	0341	3461	2756	0005550	0133	14671								
159		OBS	0213	0346	34648	2758			14676								
		STD	0250	0362	3470	2761	0005123	0160	14690								
		STD	0300	0379	3475	2763	0004965	0185	14706								
159		OBS	T0318	0384	34761	2763			14711								
		STD	0400	0396	3480	2765	0004863	0234	14730								
159		OBS	0426	0399	34809	2766			14736								
		STD	0500	0401	3482	2766	0004859	0283	14749								
		STD	0600	0403	3484	2768	0004831	0331	14767								
159		OBS	T0643	0404	34842	2768			14774								
		STD	0700	0404	3485	2768	0004863	0379	14784								
		STD	0800	0402	3487	2770	0004785	0428	14800								
159		OBS	0851	0400	34878	2771			14808								
		STD	0900	0396	3488	2772	0004733	0475	14814								
		STD	1000	0389	3489	2773	0004703	0523	14828								
159		OBS	T1082	0384	34889	2774			14840								
		STD	1100	0383	3489	2774	0004682	0569	14842								
		STD	1200	0379	3489	2774	0004721	0616	14857								
159		OBS	T1275	0377	34890	2774			14869								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.		NODC STATION NUMBER
318	001	EV	44368N	049216W		149	49	04	21	216	1966		9551	0060	01	34	8	2		X1	4	1		0043

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		36	S18	247	033	033	6	04	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Sigma\Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at	$Si(OH)_4$-Si µg-at/l	pH	NODC
		STD	0000	0140	3360	2691	0011482	0000	14537								
216		OBS	0000	0140	33597	2691			14537								
		STD	0010	0139	3358	2690	0011605	0012	14538								
		STD	0020	0138	3357	2689	0011674	0023	14539								
216		OBS	0025	0137	33565	2689			14539								
		STD	0030	0138	3357	2689	0011709	0035	14540								
216		OBS	0040	0139	33568	2689			14543								
		STD	0050	0139	3356	2689	0011764	0058	14544								
216		OBS	0055	0139	33557	2688			14545								

REFERENCE Ctry CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	B001	EV	3720 N	05015 W		114	70	05	22	061	1966		9552	5303	32	18	1	3		X1	8	6		0044

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		19	S12	291	183	133	7	16	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	1907	3652	2618	0018424	0000	15214								
061		OBS	0000	1907	36521	2618			15214								
		STD	0010	1900	3652	2620	0018323	0018	15213								
		STD	0020	1893	3651	2621	0018222	0037	15213								
061		OBS	0025	1890	36511	2622			15213								
		STD	0030	1862	3651	2629	0017518	0055	15206								
		STD	0050	1775	3650	2650	0015589	0088	15184								
061		OBS	0051	1772	36499	2651			15183								
		STD	0075	1764	3649	2652	0015486	0126	15185								
		STD	0100	1755	3649	2654	0015373	0165	15186								
061		OBS	T0101	1755	36486	2654			15186								
		STD	0125	1746	3648	2656	0015314	0203	15187								
		STD	0150	1738	3647	2657	0015286	0242	15189								
061		OBS	T0196	1728	36464	2659			15194								
		STD	0200	1728	3646	2659	0015266	0318	15194								
		STD	0250	1725	3646	2659	0015365	0395	15202								
061		OBS	T0291	1724	36464	2660			15208								
		STD	0300	1724	3646	2660	0015510	0472	15209								
061		OBS	0385	1723	36466	2660			15223								
		STD	0400	1720	3646	2660	0015798	0628	15225								
		STD	0500	1699	3640	2661	0016068	0788	15234								
061		OBS	T0577	1683	36352	2661			15241								
		STD	0600	1644	3627	2664	0016037	0948	15233								
		STD	0700	1465	3592	2678	0014873	1103	15189								
061		OBS	T0770	1332	35710	2690			15155								
		STD	0800	1261	3562	2697	0013069	1242	15135								
		STD	0900	1043	3536	2718	0011024	1363	15072								
061		OBS	0993	0864	35175	2733			15019								
		STD	1000	0850	3517	2735	0009243	1464	15015								
		STD	1100	0673	3506	2752	0007401	1547	14962								
076		OBS	T1196	0554	34996	2763			14930								
		STD	1200	0552	3500	2763	0006206	1615	14930								
		STD	1300	0510	3500	2768	0005736	1675	14929								
		STD	1400	0475	3500	2773	0005361	1731	14932								
076		OBS	T1423	0468	35002	2773			14933								
		STD	1500	0454	3500	2775	0005162	1783	14940								
		STD	1750	0414	3500	2780	0004843	1908	14966								
076		OBS	1911	0395	35004	2782			14985								
		STD	2000	0394	3500	2781	0004807	2029	15000								
		STD	2500	0369	3497	2782	0005070	2276	15074								
076		OBS	T2540	0365	34965	2782			15079								
087		OBS	T2782	0339	34964	2784			15110								
		STD	3000	0319	3496	2786	0004741	2521	15139								
087		OBS	3246	0300	34937	2786			15173								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICA	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	3750 N	05020 W		114	70	05	22	136	1966		9553	5449	10	25	1	2		x1	3	5	0045

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S11	274	211	161	6	10	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml l	PO_4-P µg-at l	TOTAL-P µg-at l	NO_2-N µg-at l	NO_3-N µg-at l	SiO_4-Si µg-at l	pH	SCC
		STD	0000	1898	3654	2622	0018088	0000	15211								
136		OBS	0000	1898	36537	2622			15211								
		STD	0010	1896	3654	2623	0018051	0018	15212								
		STD	0020	1893	3654	2623	0018021	0036	15213								
136		OBS	0025	1892	36541	2624			15214								
		STD	0030	1861	3653	2631	0017348	0054	15206								
		STD	0050	1766	3648	2650	0015560	0087	15181								
136		OBS	0050	1766	36475	2650			15181								
		STD	0075	1750	3645	2653	0015428	0125	15180								
		STD	0100	1734	3643	2655	0015299	0164	15179								
136		OBS	T0101	1733	36430	2655			15179								
		STD	0125	1730	3644	2656	0015242	0202	15182								
		STD	0150	1728	3644	2657	0015264	0240	15186								
		STD	0200	1722	3645	2659	0015235	0316	15192								
136		OBS	0203	1722	36454	2659			15193								
		STD	0250	1721	3646	2660	0015303	0393	15200								
		STD	0300	1720	3646	2660	0015448	0470	15208								
136		OBS	0303	1720	36462	2660			15209								
		STD	0400	1717	3643	2659	0015904	0626	15223								
136		OBS	0402	1716	36432	2659			15223								
		STD	0500	1627	3624	2666	0015548	0784	15211								
136		OBS	0596	1493	36006	2678			15182								
		STD	0600	1484	3599	2679	0014487	0934	15179								
		STD	0700	1268	3562	2696	0012951	1071	15121								
136		OBS	0794	1073	35356	2712			15065								
		STD	0800	1061	3534	2713	0011276	1192	15062								
		STD	0900	0863	3516	2732	0009347	1295	15003								
		STD	1000	0675	3508	2754	0007135	1378	14947								
136		OBS	1011	0655	35078	2756			14941								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICA	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	3820 N	05022 W		114	80	05	22	163	1966		9554	5212	12	23	3	2		x1	8	5	0046

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		23	S10	261	200	161	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O_2 ml l	PO_4-P µg-at l	TOTAL-P µg-at l	NO_2-N µg-at l	NO_3-N µg-at l	SiO_4-Si µg-at l	pH	SCC
		STD	0000	1953	3655	2608	0019385	0000	15227								
163		OBS	0000	1953	36545	2608			15227								
		STD	0010	1948	3654	2609	0019305	0019	15227								
		STD	0020	1938	3654	2612	0019101	0039	15226								
163		OBS	0026	1928	36542	2614			15224								
		STD	0030	1915	3654	2618	0018577	0057	15221								
		STD	0050	1864	3655	2631	0017383	0093	15210								
163		OBS	0052	1860	36545	2632			15209								
		STD	0075	1858	3655	2633	0017318	0137	15214								
		STD	0100	1856	3655	2633	0017339	0180	15216								
163		OBS	0104	1856	36550	2634			15217								
		STD	0125	1833	3654	2639	0016938	0223	15213								
		STD	0150	1808	3653	2644	0016500	0265	15210								
		STD	0200	1767	3650	2652	0015918	0346	15206								
163		OBS	T0210	1760	36497	2653			15206								
		STD	0250	1740	3646	2655	0015744	0425	15206								
		STD	0300	1720	3642	2657	0015735	0504	15208								
163		OBS	T0313	1715	36416	2658			15208								
		STD	0400	1699	3640	2661	0015723	0661	15218								
163		OBS	0414	1691	36381	2661			15217								
		STD	0500	1583	3613	2667	0015351	0816	15196								
		STD	0600	1425	3584	2680	0014309	0965	15159								
163		OBS	T0620	1389	35786	2684			15150								
		STD	0700	1202	3551	2700	0012454	1098	15097								
		STD	0800	0989	3525	2719	0010643	1214	15035								
163		OBS	T0823	0943	35207	2723			15021								
		STD	0900	0777	3511	2741	0008322	1309	14970								
		STD	1000	0615	3502	2757	0006695	1384	14922								
163		OBS	T1046	0561	34997	2762			14908								
		STD	1100	0513	3500	2768	0005561	1445	14897								
		STD	1200	0471	3500	2773	0005094	1498	14897								
163		OBS	T1231	0470	35001	2773			14902								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	3850 N	05014 W		114	80	05	22	203	1966		9555	5467	34	21	3	2		X1	8	4		0047

WATER		WIND		BAROMETER (mbs)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		22	S10	254	200	194	7	17	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^5	$\Sigma\Delta D$ DYN M x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	1953	3642	2598	0020313	0000	15225								
203		OBS	0000	1953	36417	2598			15225								
		STD	0010	1952	3642	2599	0020329	0020	15226								
		STD	0020	1952	3642	2599	0020341	0041	15228								
203		OBS	0026	1951	36418	2599			15229								
		STD	0030	1939	3641	2601	0020140	0061	15226								
		STD	0050	1895	3636	2609	0019507	0101	15216								
203		OBS	0052	1892	36351	2609			15216								
		STD	0075	1902	3636	2607	0019731	0150	15222								
		STD	0100	1912	3637	2605	0020009	0199	15230								
203		OBS	0104	1914	36375	2605			15231								
		STD	0125	1858	3638	2620	0018736	0248	15218								
		STD	0150	1801	3637	2634	0017464	0293	15206								
		STD	0200	1718	3637	2654	0015694	0376	15190								
203		OBS	T0207	1710	36373	2656			15189								
		STD	0250	1700	3638	2659	0015409	0454	15193								
		STD	0300	1688	3638	2662	0015262	0530	15198								
203		OBS	T0310	1686	36385	2663			15199								
		STD	0400	1526	3604	2673	0014437	0679	15160								
203		OBS	0412	1503	35996	2675			15155								
		STD	0500	1285	3562	2692	0012765	0815	15093								
		STD	0600	1061	3531	2711	0011047	0934	15028								
203		OBS	T0615	1029	35270	2713			15019								
		STD	0700	0844	3513	2733	0008885	1033	14963								
		STD	0800	0679	3502	2748	0007332	1115	14914								
203		OBS	T0816	0658	35004	2750			14908								
		STD	0900	0595	3500	2758	0006400	1183	14897								
		STD	1000	0535	3500	2766	0005710	1244	14890								
203		OBS	T1042	0514	35002	2768			14888								
		STD	1100	0499	3500	2770	0005328	1299	14892								
		STD	1200	0465	3501	2774	0004955	1350	14894								
203		OBS	T1223	0456	35009	2775			14895								
212		OBS	T1240	0449	35009	2776			14895								
		STD	1300	0438	3500	2777	0004759	1399	14900								
		STD	1400	0421	3499	2778	0004706	1446	14910								
212		OBS	T1491	0408	34977	2778			14919								
		STD	1500	0407	3498	2778	0004709	1493	14920								
		STD	1750	0388	3498	2780	0004675	1611	14955								
212		OBS	1980	0371	34977	2782			14986								
		STD	2000	0370	3498	2782	0004636	1727	14989								
212		OBS	T2476	0340	34971	2785			15058								
		STD	2500	0338	3497	2785	0004612	1958	15061								
212		OBS	T2997	0302	34950	2786			15131								
		STD	3000	0302	3495	2786	0004551	2187	15132								
212		OBS	3364	0275	34940	2788			15184								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDICTR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	3920 N	05020 W		114	90	05	23	011	1966		9556	5312	13	20	2	2		X2	8	7		0048

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		24	512	247	167	156	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at l	pH	NOTES
		STD	0000	1730	3622	2639	0016429	0000	15159								
011		OBS	0000	1730	36217	2639			15159								
		STD	0010	1722	3620	2640	0016402	0016	15158								
		STD	0020	1713	3619	2641	0016303	0033	15157								
011		OBS	0027	1706	36186	2643			15156								
		STD	0030	1704	3618	2643	0016174	0049	15156								
		STD	0050	1681	3617	2648	0015791	0081	15152								
011		OBS	0053	1676	36172	2649			15151								
		STD	0075	1608	3610	2659	0014780	0119	15133								
		STD	0100	1543	3603	2669	0013952	0155	15116								
011		OBS	0106	1529	36012	2670			15113								
		STD	0125	1511	3601	2674	0013491	0189	15110								
		STD	0150	1488	3599	2678	0013225	0223	15107								
		STD	0200	1438	3593	2684	0012766	0288	15098								
011		OBS	T0217	1420	35908	2686			15095								
		STD	0250	1389	3583	2687	0012634	0351	15089								
		STD	0300	1332	3572	2690	0012428	0414	15078								
011		OBS	T0321	1304	35666	2692			15071								
		STD	0400	1178	3546	2701	0011616	0534	15038								
011		OBS	0426	1135	35404	2704			15027								
		STD	0500	0982	3524	2719	0009960	0642	14982								
		STD	0600	0807	3509	2735	0008413	0734	14932								
011		OBS	T0641	0746	35045	2741			14914								
		STD	0700	0670	3503	2750	0006976	0811	14894								
		STD	0800	0567	3501	2762	0005832	0875	14870								
011		OBS	T0850	0528	35005	2767			14862								
		STD	0900	0508	3501	2769	0005201	0930	14862								
		STD	1000	0474	3501	2773	0004858	0980	14865								
011		OBS	T1084	0453	35009	2776			14870								
		STD	1100	0450	3501	2776	0004639	1028	14872								
		STD	1200	0434	3502	2779	0004461	1073	14882								
011		OBS	T1278	0427	35027	2780			14892								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° 1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	3936 N	05020 W		114	90	05	23	055	1966		9557	5321	12	20	3	3		X2	3	8		0049

WATER		WIND		BAROMETER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		21	S14	237	183	167	7	11	

MESSENGER TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SOO
		STD	0000	1653	3610	2649	0015542	0000	15135								
055		OBS	0000	1653	36099	2649			15135								
		STD	0010	1653	3607	2646	0015822	0016	15136								
055		OBS	0010	1653	36065	2646			15136								
		STD	0020	1640	3605	2648	0015674	0031	15133								
		STD	0030	1626	3603	2650	0015542	0047	15131								
055		OBS	0036	1618	36019	2651			15129								
		STD	0050	1601	3600	2653	0015273	0078	15126								
055		OBS	0062	1583	35981	2656			15122								
		STD	0075	1555	3596	2661	0014643	0115	15115								
		STD	0100	1505	3592	2669	0013943	0151	15103								
055		OBS	T0112	1483	35897	2672			15098								
		STD	0125	1476	3588	2672	0013699	0186	15098								
		STD	0150	1460	3585	2673	0013659	0220	15096								
		STD	0200	1417	3578	2677	0013427	0287	15090								
		STD	0250	1360	3570	2683	0012995	0353	15078								
		STD	0300	1289	3560	2690	0012455	0417	15062								
055		OBS	T0322	1254	35555	2693			15053								
		STD	0400	1101	3536	2707	0010937	0534	15010								
055		OBS	0421	1061	35314	2711			14999								
		STD	0500	0893	3516	2727	0009071	0634	14949								
		STD	0600	0723	3503	2743	0007587	0717	14899								
055		OBS	T0631	0681	34999	2746			14887								
		STD	0700	0615	3500	2755	0006440	0788	14872								
		STD	0800	0540	3500	2765	0005568	0848	14858								
055		OBS	T0833	0520	34996	2767			14856								
		STD	0900	0498	3500	2770	0005145	0901	14858								
		STD	1000	0469	3500	2773	0004889	0951	14863								
055		OBS	T1058	0455	34995	2774			14867								
		STD	1100	0446	3499	2775	0004735	0999	14870								
		STD	1200	0427	3497	2776	0004738	1047	14878								
055		OBS	1243	0420	34964	2776			14882								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	QUAD	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	4025 N	05023 W		150	00	5	23	108	1966		9558	4206	34	20	3	2		x1	8	4	0050

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S14	213	178	167	7	16	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M x 10^3	SOUND VELOCITY	O_2 ml l	PO_4-P µg-at l	TOTAL-P µg-at l	NO_3-N µg-at l	NO_2-N µg-at l	SiO_4-Si µg-at l	pH	QUAL
		STD	0000	1643	3605	2647	0015668	0000	15131								
108		OBS	0000	1643	36051	2647			15131								
		STD	0010	1643	3606	2648	0015663	0016	15133								
		STD	0020	1642	3606	2648	0015657	0031	15134								
108		OBS	0026	1642	36062	2648			15135								
		STD	0030	1646	3609	2650	0015547	0047	15137								
		STD	0050	1665	3618	2652	0015388	0078	15147								
108		OBS	T0053	1668	36189	2652			15149								
		STD	0075	1561	3604	2665	0014190	0115	15118								
		STD	0100	1463	3591	2677	0013133	0149	15090								
108		OBS	T0106	1443	35879	2679			15084								
		STD	0125	1423	3585	2681	0012819	0181	15080								
		STD	0150	1396	3580	2683	0012707	0213	15075								
		STD	0200	1340	3571	2688	0012382	0276	15064								
108		OBS	T0210	1329	35686	2688			15061								
		STD	0250	1295	3560	2689	0012437	0338	15055								
		STD	0300	1231	3549	2693	0012141	0400	15041								
108		OBS	T0313	1210	35460	2695			15035								
		STD	0400	1026	3528	2714	0010203	0511	14982								
108		OBS	T0412	1001	35253	2717			14975								
		STD	0500	0806	3510	2736	0008144	0603	14915								
		STD	0600	0641	3500	2752	0006640	0677	14866								
108		OBS	T0610	0628	34989	2753			14862								
		STD	0700	0557	3499	2762	0005747	0739	14849								
		STD	0800	0496	3498	2769	0005107	0793	14840								
108		OBS	T0811	0491	34982	2769			14840								
		STD	0900	0464	3498	2772	0004828	0843	14844								
		STD	1000	0440	3498	2775	0004630	0890	14850								
108		OBS	T1032	0434	34975	2775			14853								
		STD	1100	0426	3496	2775	0004701	0937	14861								
119		OBS	T1179	0417	34946	2775			14870								
		STD	1200	0414	3495	2775	0004718	0984	14873								
		STD	1300	0401	3495	2777	0004645	1031	14884								
		STD	1400	0389	3495	2778	0004581	1077	14896								
119		OBS	1410	0388	34954	2778			14897								
		STD	1500	0383	3495	2779	0004561	1122	14910								
		STD	1750	0368	3495	2780	0004573	1237	14946								
119		OBS	1868	0360	34954	2781			14963								
		STD	2000	0351	3496	2783	0004496	1350	14981								
119		OBS	T2345	0327	34966	2785			15030								
		STD	2500	0314	3496	2786	0004335	1571	15051								
119		OBS	T2860	0285	34935	2787			15100								
		STD	3000	0274	3493	2787	0004269	1786	15120								
119		OBS	T3357	0247	34920	2789			15170								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDICTR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	4042 N	05021 W		150	00	05	23	157	1966		9559	3795	13	22	4	3		X1	3	5		0051

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		22	518	186	167	156	7	11	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SUS
		STD	0000	1613	3598	2649	0015537	0000	15121								
157		OBS	0000	1613	35978	2649			15121								
		STD	0010	1609	3597	2649	0015532	0016	15121								
		STD	0020	1602	3596	2650	0015469	0031	15121								
157		OBS	0027	1596	35958	2651			15120								
		STD	0030	1592	3597	2653	0015231	0046	15119								
		STD	0050	1565	3603	2664	0014270	0076	15115								
157		OBS	0053	1560	36032	2665			15114								
		STD	0075	1510	3599	2673	0013461	0111	15102								
		STD	0100	1460	3593	2679	0012925	0144	15089								
157		OBS	T0108	1445	35914	2681			15085								
		STD	0125	1422	3587	2683	0012653	0176	15080								
		STD	0150	1389	3580	2685	0012565	0207	15073								
		STD	0200	1325	3568	2689	0012304	0269	15058								
157		OBS	T0218	1303	35642	2690			15053								
		STD	0250	1269	3558	2692	0012079	0330	15046								
		STD	0300	1208	3548	2696	0011780	0390	15033								
157		OBS	T0321	1180	35436	2698			15026								
		STD	0400	1057	3530	2711	0010595	0502	14994								
157		OBS	0426	1013	35254	2715			14982								
		STD	0500	0831	3512	2734	0008382	0597	14925								
		STD	0600	0644	3499	2751	0006755	0672	14867								
157		OBS	T0637	0591	34957	2755			14852								
		STD	0700	0544	3495	2760	0005842	0735	14843								
		STD	0800	0486	3494	2767	0005291	0791	14836								
157		OBS	T0850	0465	34936	2769			14835								
		STD	0900	0459	3494	2770	0005038	0843	14841								
		STD	1000	0447	3496	2772	0004888	0892	14853								
157		OBS	1082	0435	34969	2775			14862								
		STD	1100	0432	3497	2775	0004725	0940	14864								
		STD	1200	0416	3495	2775	0004714	0987	14874								
157		OBS	T1272	0403	34944	2776			14880								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPLICATE	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4120 N	05020 W		150	10	05	23	211	1966		9560	3930	13	23	6	4		X4	7	8		0052

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S25	139	178	167	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	1601	3600	2653	0015142	0000	15118								
	211	OBS	0000	1601	35996	2653			15118								
		STD	0010	1596	3601	2655	0014956	0015	15118								
		STD	0020	1590	3603	2658	0014763	0030	15118								
		STD	0030	1585	3604	2660	0014577	0045	15118								
		STD	0050	1575	3607	2664	0014199	0073	15119								
	211	OBS	0051	1574	36069	2665			15119								
		STD	0075	1338	3562	2681	0012651	0107	15041								
	211	OBS	0078	1322	35592	2682			15036								
		STD	0100	1314	3568	2691	0011812	0137	15038								
	211	OBS	T0106	1312	35699	2693			15039								
		STD	0125	1311	3569	2692	0011749	0167	15041								
		STD	0150	1307	3568	2692	0011813	0196	15044								
		STD	0200	1289	3564	2693	0011893	0256	15046								
	211	OBS	0211	1283	35628	2693			15045								
		STD	0250	1273	3559	2692	0012083	0316	15048								
		STD	0300	1221	3551	2696	0011806	0375	15037								
	211	OBS	T0318	1192	35475	2699			15030								
		STD	0400	0964	3520	2719	0009738	0483	14959								
	211	OBS	0423	0909	35142	2723			14942								
		STD	0500	0780	3504	2736	0008191	0573	14904								
		STD	0600	0643	3495	2748	0007037	0649	14866								
	211	OBS	0633	0605	34934	2752			14856								
		STD	0700	0544	3495	2760	0005842	0713	14843								
		STD	0800	0475	3496	2769	0005005	0767	14831								
	211	OBS	T0842	0454	34967	2772			14830								
		STD	0900	0444	3496	2773	0004725	0816	14835								
		STD	1000	0428	3496	2775	0004627	0863	14845								
	211	OBS	T1072	0418	34954	2775			14853								
		STD	1100	0414	3496	2776	0004586	0909	14856								
		STD	1200	0402	3496	2777	0004507	0954	14868								
	211	OBS	T1258	0396	34960	2778			14875								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DIFF LONG	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4150 N	05020 W		150	10	05	24	009	1966		9561	3393	24	01	4	2		X4	X	9		0053

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		01	S08	146	100	078	6	14	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΔD DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0713	3371	2641	0016279	0000	14779								
009		OBS	0000	0713	33712	2641			14779								
		STD	0010	0717	3381	2648	0015609	0016	14783								
		STD	0020	0720	3389	2654	0015074	0031	14787								
009		OBS	0023	0721	33910	2655			14788								
		STD	0030	0701	3392	2659	0014616	0046	14782								
009		OBS	0048	0664	33979	2669			14771								
		STD	0050	0664	3400	2670	0013567	0074	14771								
		STD	0075	0661	3426	2691	0011626	0106	14778								
009		OBS	T0098	0658	34454	2707			14783								
		STD	0100	0655	3446	2708	0010105	0133	14782								
		STD	0125	0623	3452	2716	0009309	0157	14774								
		STD	0150	0592	3457	2725	0008533	0180	14767								
		STD	0200	0535	3469	2741	0007051	0219	14753								
009		OBS	T0201	0534	34690	2741			14753								
		STD	0250	0480	3475	2752	0006010	0251	14740								
009		OBS	T0292	0445	34779	2758			14732								
		STD	0300	0441	3478	2759	0005404	0280	14732								
009		OBS	0390	0407	34792	2764			14733								
		STD	0400	0407	3480	2764	0004986	0332	14735								
		STD	0500	0411	3485	2768	0004755	0380	14754								
009		OBS	T0588	0415	34885	2770			14770								
		STD	0600	0413	3489	2770	0004610	0427	14771								
		STD	0700	0396	3489	2772	0004489	0473	14781								
009		OBS	0783	0387	34891	2773			14791								
		STD	0800	0387	3489	2774	0004435	0517	14794								
		STD	0900	0384	3491	2775	0004402	0561	14810								
		STD	1000	0382	3492	2776	0004368	0605	14825								
009		OBS	1001	0382	34919	2776			14826								
		STD	1100	0372	3492	2777	0004328	0649	14838								
017		OBS	T1152	0369	34920	2778			14845								
		STD	1200	0369	3492	2778	0004362	0692	14853								
		STD	1300	0369	3493	2778	0004402	0736	14870								
		STD	1400	0369	3493	2779	0004450	0780	14887								
017		OBS	T1421	0369	34934	2779			14891								
		STD	1500	0366	3494	2779	0004480	0825	14903								
		STD	1750	0355	3494	2780	0004523	0938	14940								
017		OBS	T1916	0346	34938	2781			14965								
		STD	2000	0341	3494	2782	0004519	1051	14977								
017		OBS	T2438	0309	34937	2785			15038								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.		NODC STATION NUMBER
31	8001	EV	4216 N	05029 W		150	20	05	24	059	1966		9562	2926	12	01	4	2		X6	X	8		0054

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		35	S10	152	056	056	6	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D. DYN. M. x 10⁷	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0422	3338	2650	0015445	0000	14656								
059		OBS	0000	0422	33377	2650			14656								
		STD	0010	0367	3344	2660	0014455	0015	14635								
		STD	0020	0323	3353	2671	0013388	0029	14619								
059		OBS	0024	0309	33571	2676			14615								
		STD	0030	0287	3364	2683	0012256	0042	14607								
059		OBS	0049	0258	33888	2706			14601								
		STD	0050	0261	3391	2707	0010012	0064	14603								
059		OBS	0074	0316	34272	2731			14635								
		STD	0075	0316	3428	2731	0007740	0086	14636								
059		OBS	0099	0325	34361	2737			14644								
		STD	0100	0330	3437	2738	0007174	0105	14647								
		STD	0125	0431	3463	2748	0006238	0122	14697								
		STD	0150	0494	3481	2755	0005642	0136	14730								
059		OBS	T0150	0494	34805	2755			14730								
059		OBS	0198	0505	34876	2759			14743								
		STD	0200	0505	3488	2760	0005267	0164	14744								
		STD	0250	0498	3492	2764	0004947	0189	14749								
059		OBS	T0299	0486	34937	2766			14753								
		STD	0300	0486	3494	2766	0004741	0213	14753								
059		OBS	0397	0448	34916	2769			14753								
		STD	0400	0448	3492	2769	0004573	0260	14753								
		STD	0500	0433	3491	2770	0004530	0306	14764								
059		OBS	T0595	0419	34910	2772			14773								
		STD	0600	0418	3491	2772	0004481	0351	14774								
		STD	0700	0402	3491	2773	0004394	0395	14784								
059		OBS	T0799	0390	34909	2775			14795								
		STD	0800	0390	3491	2775	0004349	0439	14795								
		STD	0900	0384	3491	2775	0004369	0482	14809								
		STD	1000	0377	3491	2776	0004375	0526	14823								
059		OBS	1018	0376	34913	2776			14826								
		STD	1100	0370	3491	2777	0004348	0570	14837								
		STD	1200	0361	3492	2778	0004308	0613	14850								
059		OBS	T1200	0361	34916	2778			14850								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT IND CTP	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° ' 1/10	° ' 1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	42295N	05030 W		150	20	05	24	084	1966		9563	2103	12	21	3	5		x2	7	8		0055

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		32	S11	173	061	056	7	13	

MESSENGR TIME OF HR 1.10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-$x10^5$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0431	3344	2654	0015067	0000	14661								
084		OBS	0000	0431	33439	2654			14661								
		STD	0010	0421	3360	2667	0013765	0014	14660								
		STD	0020	0411	3377	2682	0012396	0027	14660								
084		OBS	0024	0406	33838	2688			14659								
		STD	0030	0391	3395	2698	0010855	0039	14656								
		STD	0050	0371	3427	2726	0008242	0058	14655								
084		OBS	0050	0371	34274	2726			14655								
		STD	0075	0413	3458	2746	0006378	0076	14681								
084		OBS	0075	0413	3379P	2683P											
		STD	0100	0518	3475	2748	0006267	0092	14731								
084		OBS	0101	0520	34756	2748			14732								
		STD	0125	0464	3471	2751	0005992	0108	14712								
		STD	0150	0436	3471	2754	0005717	0122	14704								
084		OBS	T0153	0435	34709	2754			14705								
		STD	0200	0474	3484	2760	0005213	0150	14730								
084		OBS	0202	0475	34844	2760			14731								
		STD	0250	0426	3482	2763	0004927	0175	14718								
		STD	0300	0397	3479	2764	0004891	0199	14714								
084		OBS	T0307	0395	34781	2764			14714								
		STD	0400	0412	3485	2768	0004663	0247	14738								
084		OBS	0408	0413	34854	2768			14739								
		STD	0500	0404	3486	2769	0004598	0294	14751								
		STD	0600	0396	3486	2770	0004603	0340	14764								
084		OBS	T0614	0395	34865	2771			14766								
		STD	0700	0390	3487	2771	0004554	0385	14778								
		STD	0800	0385	3488	2773	0004513	0431	14793								
084		OBS	T0824	0384	34884	2773			14796								
		STD	0900	0380	3489	2774	0004507	0476	14807								
		STD	1000	0376	3489	2774	0004533	0521	14823								
084		OBS	T1045	0374	34888	2775			14829								
		STD	1100	0372	3489	2775	0004549	0566	14838								
		STD	1200	0370	3489	2775	0004610	0612	14853								
084		OBS	T1229	0369	34890	2775			14858								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4242 N	05035 W		150	20	05	24	106	1966		9564	1372	12	26	3	4		X2	7	8		0056

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		28	S06	173	044	039	7	12	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0268	3313	2644	0015950	0000	14587								
106		OBS	0000	0268	33129	2644			14587								
		STD	0010	0253	3315	2647	0015677	0016	14582								
		STD	0020	0230	3317	2651	0015354	0031	14574								
106		OBS	0020	0230	33170	2651			14574								
		STD	0030	0176	3333	2668	0013755	0046	14554								
106		OBS	0042	0150	33565	2688			14548								
		STD	0050	0177	3382	2707	0010052	0070	14565								
106		OBS	0065	0220	34131	2728			14590								
		STD	0075	0222	3417	2731	0007747	0092	14593								
106		OBS	0087		34216												
		STD	0100	0230	3425	2737	0007218	0111	14602								
		STD	0125	0243	3430	2740	0006958	0128	14612								
		STD	0150	0260	3434	2742	0006812	0146	14625								
106		OBS	T0155	0264													
106		OBS	0175	0282	34379	2743			14639								
		STD	0200	0289	3439	2743	0006720	0179	14646								
		STD	0250	0304	3443	2745	0006589	0213	14661								
117		OBS	T0291	0315	34463	2746			14673								
		STD	0300	0318	3448	2748	0006381	0245	14676								
117		OBS	0387	0340	34585	2754			14701								
		STD	0400	0343	3459	2754	0005879	0306	14705								
		STD	0500	0362	3466	2758	0005634	0364	14730								
117		OBS	T0583	0379	34717	2760			14752								
		STD	0600	0384	3473	2761	0005437	0419	14757								
		STD	0700	0408	3481	2765	0005206	0473	14785								
117		OBS	T0787	0421	34867	2768			14806								
		STD	0800	0420	3487	2768	0005008	0524	14807								
		STD	0900	0409	3487	2770	0004933	0573	14819								
		STD	1000	0398	3488	2771	0004860	0622	14832								
		STD	1100	0388	3489	2773	0004775	0670	14844								
117		OBS	T1181	0379	34890	2774			14854								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	42505N	05036 W		150	20	05	24	135	1966		9565	0324	03	27	4	2		X1	4	6		0057

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		28	S10	179	067	050	7	08	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0284	3337	2662	0014286	0000	14597								
135		OBS	0000	0284	33366	2662			14597								
		STD	0010	0260	3337	2664	0014067	0014	14588								
		STD	0020	0236	3339	2668	0013733	0028	14580								
135		OBS	0025	0223	33410	2670			14575								
		STD	0030	0202	3344	2674	0013105	0041	14567								
		STD	0050	0156	3357	2688	0011824	0066	14552								
135		OBS	0050	0156	33567	2688			14552								
		STD	0075	0180	3370	2697	0010982	0095	14568								
135		OBS	0075	0180	33701	2697			14568								
		STD	0100	0190	3386	2709	0009855	0121	14579								
135		OBS	0101	0190	33861	2709			14579								
		STD	0125	0198	3395	2715	0009246	0145	14588								
		STD	0150	0213	3405	2722	0008616	0167	14600								
135		OBS	T0153	0215	34065	2723			14602								
		STD	0200	0262	3428	2737	0007310	0207	14633								
135		OBS	T0203	0264	34290	2737			14634								
		STD	0250	0287	3439	2743	0006734	0242	14653								
135		OBS	T0287	0290	34402	2744			14661								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.	NODC STATION NUMBER
318	001	EV	4300 N	05036 W		150	30	05	24	149	1966		9566	0082	01	26	7	2		X1	1	2	0058

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		27	S08	173	089	072	7	05	

MESSENGR TIME of CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at l	pH	QCC
		STD	0000	0411	3346	2657	0014713	0000	14653								
149		OBS	0000	0411	33460	2657			14653								
		STD	0010	0390	3347	2660	0014482	0015	14645								
149		OBS	0015	0378	33468	2661			14641								
		STD	0020	0360	3350	2666	0013945	0029	14635								
		STD	0030	0328	3356	2673	0013212	0042	14624								
149		OBS	0040	0299	33634	2682			14614								
		STD	0050	0265	3373	2693	0011404	0067	14602								
149		OBS	0065	0242	33830	2702			14596								
		STD	0075	0245	3387	2705	0010197	0094	14599								
149		OBS	0075	0245	33870	2705			14599								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.	NODC STATION NUMBER
318	001	EV	4309 N	05039 W		150	30	05	24	160	1966		9567	0079	01	27	5	2		X1	0	2	0059

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		27	S08	173	089	072	7	05	

MESSENGR TIME of CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at l	pH	QCC
		STD	0000	0513	3364	2660	0014435	0000	14697								
160		OBS	0000	0513	33637	2660			14697								
		STD	0010	0489	3364	2663	0014148	0014	14689								
160		OBS	0010	0489	33642	2663			14689								
		STD	0020	0484	3365	2664	0014060	0028	14689								
160		OBS	0025	0472	33651	2666			14685								
		STD	0030	0438	3367	2671	0013449	0042	14672								
		STD	0050	0316	3373	2688	0011821	0067	14624								
160		OBS	0050	0316	33732	2688			14624								
160		OBS	0060	0263	33850	2702			14604								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.	NODC STATION NUMBER
318	001	EV	4440 N	04920 W		149	49	05	25	025	1966		9568	0057	00	32	0	4		X4	X	9	0060

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		30	S06	193	028	022	0	04	

MESSENGR TIME of CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at l	pH	QCC
		STD	0000	0326	3339	2660	0014444	0000	14615								
025		OBS	0000	0326	33392	2660			14615								
		STD	0010	0317	3336	2658	0014651	0015	14613								
025		OBS	0010	0317	33355	2658			14613								
		STD	0020	0295	3336	2660	0014463	0029	14605								
025		OBS	0025	0288	33357	2661			14603								
		STD	0030	0288	3336	2661	0014378	0044	14603								
025		OBS	0045	0287	33373	2662			14606								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRFT IND CTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001		EV	4436 N	04906 W		149	49	05	25	039	1966		9569	0064	01	31	2	2		X4	X	9	0061

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	S04	183	028	022	5	04	

MESSENGR TIME OF CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0276	3321	2650	0015424	0000	14591								
039		OBS	0000	0276	33207	2650			14591								
		STD	0010	0262	3323	2653	0015150	0015	14587								
039		OBS	0010	0262	33229	2653			14587								
		STD	0020	0225	3325	2657	0014710	0030	14573								
039		OBS	0025	0209	33282	2661			14567								
		STD	0030	0195	3332	2665	0013964	0045	14562								
		STD	0050	0153	3356	2688	0011857	0070	14550								
039		OBS	0055	0147	33642	2695			14550								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRFT IND CTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001		EV	4433 N	04850 W		149	48	05	25	057	1966		9570	1317	12	31	3	2		X4	X	9	0062

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		29	S04	179	028	025	4	13	

MESSENGR TIME OF CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0218	3231	2583	0021795	0000	14554								
057		OBS	0000	0218	32308	2583			14554								
		STD	0010	0214	3264	2610	0019250	0021	14558								
		STD	0020	0200	3294	2635	0016878	0039	14558								
057		OBS	0026	0188	33105	2649			14556								
		STD	0030	0163	3321	2659	0014576	0054	14547								
		STD	0050	0094	3364	2698	0010874	0080	14525								
057		OBS	0053	0092	33684	2702			14525								
		STD	0075	0156	3391	2715	0009229	0105	14561								
057		OBS	0080	0164	33947	2718			14565								
		STD	0100	0168	3399	2721	0008714	0127	14571								
057		OBS	0106	0172	34014	2723			14574								
		STD	0125	0214	3417	2732	0007707	0148	14598								
		STD	0150	0255	3431	2740	0006996	0166	14622								
057		OBS	T0158	0265	34348	2742			14628								
		STD	0200	0283	3440	2744	0006591	0200	14644								
057		OBS	0209	0287	34415	2745			14647								
		STD	0250	0316	3452	2751	0006026	0232	14668								
		STD	0300	0342	3462	2756	0005565	0261	14688								
057		OBS	0310	0346	34632	2757			14692								
		STD	0400	0360	3470	2761	0005230	0315	14714								
057		OBS	T0409	0362	34706	2761			14716								
		STD	0500	0386	3479	2766	0004922	0365	14742								
		STD	0600	0401	3485	2769	0004734	0414	14766								
057		OBS	T0609	0402	34858	2769			14768								
		STD	0700	0401	3486	2769	0004765	0461	14783								
		STD	0800	0399	3486	2770	0004834	0509	14799								
057		OBS	0810	0399	34859	2770			14800								
		STD	0900	0399	3487	2771	0004843	0558	14815								
		STD	1000	0395	3488	2772	0004812	0606	14830								
057		OBS	T1032	0393	34883	2772			14835								
		STD	1100	0388	3489	2773	0004780	0654	14844								
		STD	1200	0377	3489	2774	0004703	0701	14856								
057		OBS	T1213	0375	34889	2775			14858								

REFERENCE CTRY. CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPE INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT.		NODC STATION NUMBER
31	8001	EV	4430 N	04836 W		149	48	05	25	083	1966		9571	2486	12	31	2	3		X4	7	8		0063

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		29	S04	179	028	022	0	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0300	3344	2666	0013852	0000	14605								
083		OBS	0000	0300	33441	2666			14605								
		STD	0010	0267	3346	2671	0013435	0014	14593								
		STD	0020	0250	3348	2674	0013146	0027	14587								
083		OBS	0022	0249	33486	2674			14587								
		STD	0030	0263	3367	2688	0011832	0039	14597								
083		OBS	0047	0284	33977	2711			14613								
		STD	0050	0285	3401	2713	0009456	0061	14614								
083		OBS	0070	0293	34225	2730			14624								
		STD	0075	0296	3427	2733	0007604	0082	14627								
083		OBS	0095	0310	34433	2745			14638								
		STD	0100	0318	3446	2746	0006386	0100	14643								
		STD	0125	0350	3457	2752	0005876	0115	14662								
083		OBS	0142	0364	34631	2755			14672								
		STD	0150	0366	3464	2756	0005526	0129	14674								
083		OBS	0191	0373	34697	2759			14685								
		STD	0200	0374	3471	2760	0005124	0156	14687								
		STD	0250	0380	3476	2764	0004855	0181	14698								
083		OBS	0288	0385	34783	2765			14707								
		STD	0300	0387	3479	2765	0004749	0205	14710								
083		OBS	T0386	0397	34812	2766			14728								
		STD	0400	0397	3482	2767	0004725	0252	14731								
		STD	0500	0398	3485	2769	0004608	0299	14748								
083		OBS	0580	0399	34865	2770			14762								
		STD	0600	0398	3487	2771	0004551	0345	14765								
		STD	0700	0393	3489	2773	0004439	0389	14780								
083		OBS	T0776	0388	34902	2774			14790								
		STD	0800	0386	3490	2774	0004362	0433	14794								
		STD	0900	0378	3490	2775	0004350	0477	14807								
083		OBS	0994	0372	34903	2776			14820								
		STD	1000	0372	3490	2776	0004367	0521	14821								
		STD	1100	0367	3490	2776	0004393	0564	14836								
083		OBS	T1171	0364	34903	2777			14846								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
318001	EV	4427 N	04821 W			149	48	05	25	104	1966		9572	3274	12	25	1	2		X4	7	8		0064

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. mt	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		26	S05	186	017	017	0	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–10^7	$\Sigma\Delta D$ DYN. M x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SCC
		STD	0000	0683	3422	2685	0012106	0000	14774								
104		OBS	0000	0683	34219	2685			14774								
		STD	0010	0684	3423	2686	0012057	0012	14776								
		STD	0020	0685	3424	2686	0012008	0024	14778								
104		OBS	0025	0685	34244	2687			14779								
		STD	0030	0689	3428	2689	0011777	0036	14782								
		STD	0050	0706	3440	2696	0011138	0059	14793								
104		OBS	0051	0707	34404	2696			14794								
		STD	0075	0633	3448	2712	0009632	0085	14769								
104		OBS	0076	0631	34486	2713			14769								
		STD	0100	0589	3460	2727	0008227	0107	14758								
104		OBS	0101	0587	34607	2728			14757								
		STD	0125	0540	3463	2736	0007450	0127	14742								
		STD	0150	0517	3469	2743	0006765	0145	14738								
104		OBS	T0152	0516	34697	2744			14738								
		STD	0200	0552	3490	2755	0005710	0176	14763								
104		OBS	0200	0552	34895	2755			14763								
		STD	0250	0497	3487	2760	0005309	0203	14748								
		STD	0300	0461	3487	2763	0004992	0229	14742								
104		OBS	0300	0461	34865	2763			14742								
104		OBS	T0398	0448	34892	2767			14753								
		STD	0400	0448	3489	2767	0004745	0278	14753								
		STD	0500	0446	3494	2771	0004495	0324	14769								
104		OBS	0598	0443	34981	2775			14785								
		STD	0600	0443	3498	2775	0004252	0368	14785								
		STD	0700	0422	3496	2775	0004256	0410	14793								
104		OBS	T0798	0406	34946	2776			14802								
		STD	0800	0406	3495	2776	0004269	0453	14803								
		STD	0900	0395	3494	2776	0004285	0496	14815								
		STD	1000	0385	3493	2777	0004308	0539	14827								
104		OBS	1020	0383	34931	2777			14829								
		STD	1100	0375	3493	2778	0004290	0582	14839								
104		OBS	T1198	0365	34926	2778			14852								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT IND. TR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4428 N	04808 W		14	9	48	05	25	123	1966		9573		3365	12	27	2	2		X4	X	8		0065

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		27	S05	186	033	028	6	13	

MESSENGR TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ O DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0841	3463	2694	0011202	0000	14840								
123		OBS	0000	0841	34633	2694			14840								
		STD	0010	0841	3464	2695	0011168	0011	14842								
		STD	0020	0841	3464	2695	0011187	0022	14843								
123		OBS	0025	0841	34647	2695			14844								
		STD	0030	0841	3465	2696	0011118	0034	14845								
		STD	0050	0839	3467	2697	0011007	0056	14848								
123		OBS	0051	0839	34669	2698			14848								
		STD	0075	0831	3478	2707	0010109	0082	14851								
123		OBS	0076	0831	34782	2708			14851								
		STD	0100	0876	3496	2714	0009492	0107	14874								
123		OBS	0102	0877	34967	2715			14875								
		STD	0125	0828	3494	2720	0008967	0130	14860								
		STD	0150	0774	3493	2728	0008301	0151	14843								
123		OBS	0152	0770	34928	2728			14842								
		STD	0200	0666	3493	2743	0006895	0189	14809								
123		OBS	0203	0660	34931	2744			14807								
		STD	0250	0562	3489	2754	0005927	0221	14775								
		STD	0300	0493	3485	2758	0005486	0250	14755								
123		OBS	0306	0487	34843	2759			14753								
		STD	0400	0471	3491	2766	0004882	0302	14763								
123		OBS	T0408	0470	34911	2766			14764								
		STD	0500	0456	3493	2769	0004646	0349	14773								
		STD	0600	0443	3496	2773	0004430	0395	14785								
123		OBS	0612	0442	34959	2773			14787								
		STD	0700	0436	3496	2774	0004429	0439	14799								
		STD	0800	0428	3496	2775	0004435	0483	14812								
123		OBS	T0816	0426	3480P	2762P											
		STD	0900	0416	3496	2776	0004396	0527	14824								
		STD	1000	0404	3496	2777	0004346	0571	14835								
123		OBS	T1040	0399	34958	2778			14840								
		STD	1100	0391	3495	2778	0004338	0615	14846								
		STD	1200	0378	3494	2778	0004340	0658	14858								
123		OBS	T1212	0376	34940	2778			14859								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDIC'R	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
318	001	EV	4426 N	04752 W		149	47	05	25	143	1966		9574	3512	12	27	2	2		x2	7	8		0066

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		27	S05	186	033	028	7	13	

MESSENGR TIME HR 1/10	CAST OR T NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SCC
		STD	0000	0788	3458	2698	0010835	0000	14819								
143		OBS	0000	0788	34580	2698			14819								
		STD	0010	0783	3458	2699	0010774	0011	14819								
		STD	0020	0779	3458	2700	0010728	0022	14819								
143		OBS	0025	0777	34583	2700			14819								
		STD	0030	0776	3458	2700	0010689	0032	14820								
		STD	0050	0772	3459	2701	0010626	0054	14821								
143		OBS	0051	0772	34590	2701			14822								
		STD	0075	0748	3457	2704	0010458	0080	14816								
143		OBS	0076	0747	34572	2704			14816								
		STD	0100	0709	3459	2710	0009855	0105	14805								
143		OBS	0102	0706	34589	2711			14804								
		STD	0125	0674	3460	2716	0009355	0129	14796								
		STD	0150	0641	3461	2721	0008881	0152	14787								
143		OBS	0151	0640	34609	2721			14786								
		STD	0200	0586	3470	2736	0007565	0193	14774								
143		OBS	0201	0585													
		STD	0250	0556	3480	2747	0006554	0229	14771								
		STD	0300	0528	3489	2758	0005571	0259	14770								
143		OBS	0303	0526	34898	2759			14769								
		STD	0400	0475	3490	2765	0005003	0312	14764								
143		OBS	T0403	0474	34904	2765			14765								
		STD	0500	0443	3492	2770	0004592	0360	14768								
143		OBS	T0598	0420	34934	2773			14775								
		STD	0600	0420	3493	2773	0004356	0404	14775								
		STD	0700	0407	3493	2774	0004303	0448	14786								
143		OBS	T0797	0395	34926	2775			14797								
		STD	0800	0394	3493	2776	0004277	0491	14797								
		STD	0900	0379	3491	2776	0004288	0533	14807								
		STD	1000	0368	3490	2776	0004342	0577	14819								
143		OBS	T1011	0367	34898	2776			14821								
		STD	1100	0361	3490	2777	0004343	0620	14833								
143		OBS	T1186	0359	34902	2777			14847								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME IGMT MO	STATION TIME IGMT DAY	STATION TIME IGMT HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4419 N	04734 W		149	47	05	25	171	1966		9575	3876	12	26	2	2		X2	7	8		0067

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	S09	196	061	050	7	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	t °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY=x10⁷	Σ Δ D DYN M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0641	3420	2689	0011753	0000	14757								
171		OBS	0000	0641	34195	2689			14757								
		STD	0010	0609	3415	2689	0011703	0012	14745								
171		OBS	0010	0609	34151	2689			14745								
		STD	0020	0599	3416	2691	0011521	0023	14743								
171		OBS	0025	0594	34166	2692			14741								
		STD	0030	0654	3430	2695	0011176	0035	14768								
		STD	0050	0799	3465	2702	0010559	0056	14833								
171		OBS	0051	0802	34655	2702			14834								
		STD	0075	0764	3465	2707	0010108	0082	14823								
171		OBS	0076	0763	34647	2707			14823								
		STD	0100	0774	3474	2713	0009625	0107	14832								
171		OBS	0102	0775	34743	2713			14833								
		STD	0125	0710	3476	2723	0008652	0130	14812								
		STD	0150	0657	3477	2732	0007867	0150	14795								
171		OBS	0152	0653	34774	2733			14794								
		STD	0200	0605	3498	2755	0005732	0184	14785								
171		OBS	0203	0602	34983	2756			14785								
		STD	0250	0545	3490	2756	0005668	0213	14768								
		STD	0300	0504	3481	2754	0005912	0242	14759								
171		OBS	T0304	0502	34801	2754			14758								
		STD	0400	0486	3494	2767	0004834	0296	14769								
171		OBS	0406	0485	34942	2767			14770								
		STD	0500	0446	3494	2771	0004500	0342	14769								
		STD	0600	0415	3493	2774	0004283	0386	14773								
171		OBS	0609	0413	34931	2774			14774								
		STD	0700	0398	3492	2775	0004274	0429	14782								
		STD	0800	0385	3491	2775	0004291	0472	14793								
171		OBS	T0811	0384	34908	2775			14795								
		STD	0900	0381	3491	2776	0004322	0515	14808								
		STD	1000	0377	3492	2776	0004335	0558	14823								
		STD	1100	0373	3492	2777	0004355	0602	14838								
171		OBS	T1153	0371	34920	2777			14846								

REFERENCE CTRY. CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE °1/10	DUPLICATE	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.I. 10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	4415 N	04712 W		149	47	05	25	195	1966		9576	3877	11	32	3	2		X2	7	8		0068

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		33	S10	196	056	050	7	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	OXY
		STD	0000	0848	3456	2688	0011846	0000	14842								
195		OBS	0000	0848	34560	2688			14842								
		STD	0010	0832	3453	2687	0011876	0012	14837								
195		OBS	0010	0832	34527	2687			14837								
		STD	0020	0826	3453	2689	0011785	0024	14836								
195		OBS	0025	0823	34533	2689			14836								
		STD	0030	0820	3454	2690	0011670	0035	14836								
		STD	0050	0808	3455	2693	0011433	0059	14835								
195		OBS	0051	0807	34550	2693			14834								
		STD	0075	0835	3471	2701	0010682	0086	14851								
195		OBS	0076	0837	34713	2701			14852								
		STD	0100	0895	3491	2708	0010153	0112	14880								
195		OBS	0102	0896	34922	2708			14881								
		STD	0125	0786	3474	2711	0009838	0137	14841								
		STD	0150	0720	3466	2714	0009550	0161	14818								
195		OBS	T0152	0717	34657	2715			14818								
		STD	0200	0753	3488	2727	0008482	0207	14842								
195		OBS	0200	0753	34877	2727			14842								
		STD	0250	0683	3490	2738	0007424	0246	14824								
195		OBS	T0299	0625	34916	2747			14809								
		STD	0300	0624	3492	2748	0006566	0281	14809								
195		OBS	0399	0543	34947	2760			14793								
		STD	0400	0542	3495	2760	0005459	0341	14792								
		STD	0500	0493	3495	2766	0004982	0394	14789								
195		OBS	0598	0459	34947	2770			14791								
		STD	0600	0459	3495	2770	0004664	0442	14792								
		STD	0700	0447	3496	2773	0004553	0488	14803								
195		OBS	T0799	0436	34964	2774			14815								
		STD	0800	0436	3496	2774	0004524	0533	14815								
		STD	0900	0424	3496	2775	0004479	0578	14827								
		STD	1000	0412	3496	2776	0004429	0623	14839								
		STD	1100	0400	3494	2776	0004523	0668	14850								
195		OBS	T1136	0396	34935	2776			14854								

REFERENCE CTRY CODE	REFERENCE IO. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4407 N	04631 W		14	9	46	05	25	230	1966		9577	3931	12	31	2	2		X1	8	3	0069

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		33	S08	193	072	056	7	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SCC
		STD	0000	1083	3479	2666	0013890	0000	14931								
230		OBS	0000	1083	34788	2666			14931								
		STD	0010	1074	3479	2668	0013723	0014	14930								
230		OBS	0010	1074	34793	2668			14930								
		STD	0020	1075	3493	2679	0012753	0027	14933								
230		OBS	0025	1077	34977	2682			14935								
		STD	0030	1082	3500	2682	0012413	0040	14938								
		STD	0050	1101	3507	2685	0012246	0064	14949								
230		OBS	0051	1102	35073	2685			14950								
		STD	0075	0841	3465	2696	0011216	0094	14853								
230		OBS	0076	0834	34641	2696			14850								
		STD	0100	0773	3460	2702	0010619	0121	14830								
230		OBS	0102	0769	34601	2703			14829								
		STD	0125	0746	3460	2706	0010350	0147	14824								
		STD	0150	0731	3459	2707	0010236	0173	14822								
230		OBS	T0155	0729	34587	2707			14822								
		STD	0200	0733	3475	2720	0009139	0221	14833								
230		OBS	0203	0733	34761	2720			14834								
		STD	0250	0719	3483	2728	0008437	0265	14837								
		STD	0300	0693	3488	2735	0007787	0306	14835								
230		OBS	T0307	0688	34890	2737			14835								
		STD	0400	0605	3494	2752	0006313	0376	14818								
230		OBS	0406	0600	34943	2753			14817								
		STD	0500	0538	3495	2761	0005484	0435	14807								
		STD	0600	0490	3497	2768	0004920	0487	14805								
230		OBS	T0609	0486	34967	2769			14804								
		STD	0700	0467	3498	2772	0004647	0535	14812								
		STD	0800	0448	3498	2774	0004522	0581	14821								
230		OBS	T0815	0445	34984	2775			14822								
		STD	0900	0429	3498	2776	0004392	0626	14829								
		STD	1000	0412	3497	2777	0004355	0669	14839								
		STD	1100	0396	3496	2778	0004326	0713	14849								
230		OBS	T1152	0388	34948	2778			14854								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4404 N	04552 W		149	45	05	26	024	1966		9578	3968	12	31	2	2		X1	8	6		0070

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		35	510	207	067	056	8	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	1350	3588	2699	0010740	0000	15036								
024		OBS	0000	1350	35884	2699			15036								
024		OBS	0008	1352	35885	2699			15038								
		STD	0010	1352	3589	2699	0010801	0011	15039								
		STD	0020	1352	3589	2699	0010822	0022	15040								
024		OBS	0023	1352	35886	2699			15041								
		STD	0030	1351	3588	2699	0010857	0032	15042								
024		OBS	0048	1349	35876	2699			15044								
		STD	0050	1348	3587	2699	0010946	0054	15044								
024		OBS	0071	1332	35838	2699			15041								
		STD	0075	1327	3583	2700	0010897	0082	15040								
024		OBS	0096	1306	35794	2701			15036								
		STD	0100	1306	3579	2701	0010851	0109	15037								
		STD	0125	1305	3579	2701	0010900	0136	15041								
024		OBS	T0146	1300	35781	2702			15042								
		STD	0150	1299	3578	2702	0010926	0163	15043								
024		OBS	0191	1275	35733	2703			15041								
		STD	0200	1262	3572	2705	0010765	0217	15038								
		STD	0250	1177	3567	2717	0009713	0269	15016								
024		OBS	T0284	1105	35627	2727			14996								
		STD	0300	1056	3552	2728	0008734	0315	14980								
024		OBS	0374	0859	35135	2731			14915								
		STD	0400	0806	3510	2736	0007963	0398	14899								
		STD	0500	0636	3500	2753	0006425	0470	14847								
024		OBS	T0545	0578	34967	2758			14831								
		STD	0600	0551	3497	2761	0005658	0531	14829								
		STD	0700	0509	3498	2767	0005170	0585	14829								
		STD	0800	0473	3498	2771	0004832	0635	14831								
030		OBS	T0817	0468	34984	2772			14832								
		STD	0900	0445	3498	2774	0004590	0682	14836								
		STD	1000	0424	3498	2777	0004430	0727	14844								
		STD	1100	0411	3497	2777	0004438	0771	14855								
030		OBS	T1151	0407	34963	2777			14862								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4700 N	04800 W		149	78	05	26	190	1966		9579	0130	01	17	3	4		X2	6	8		0071

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	514	152	056	033	6	07	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0254	3314	2646	0015765	0000	14581								
190		OBS	0000	0254	33139	2646			14581								
		STD	0010	0253	3312	2644	0015942	0016	14582								
190		OBS	0010	0253	33115	2644			14582								
		STD	0020	0230	3312	2646	0015763	0032	14573								
190		OBS	0025	0217	33117	2647			14568								
		STD	0030	0199	3314	2651	0015357	0047	14562								
		STD	0050	0142	3326	2664	0014061	0077	14541								
190		OBS	0050	0142	33260	2664			14541								
		STD	0075	0106	3345	2682	0012377	0110	14532								
190		OBS	0075	0106	33452	2682			14532								
		STD	0100	0131	3383	2711	0009648	0137	14553								
190		OBS	0100	0131	33833	2711			14553								
190		OBS	0120	0139	33893	2715			14560								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
	318001	EV	4700 N	04744 W		149	77	05	26	232	1966		9580	0161	01	16	3	2		x2	3	8		0072

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S12	152	050	039	8	07	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STO	0000	0187	3297	2638	0016548	0000	14549								
232		OBS	0000	0187	32971	2638			14549								
		STD	0010	0185	3297	2638	0016582	0017	14550								
232		OBS	0010	0185	32965	2638			14550								
		STD	0020	0170	3297	2639	0016474	0033	14545								
232		OBS	0025	0157	32967	2640			14540								
		STD	0030	0124	3303	2647	0015692	0049	14527								
		STD	0050	0042	3323	2668	0013741	0079	14496								
232		OBS	0050	0042	33225	2668			14496								
		STD	0075	0055	3340	2680	0012513	0111	14508								
232		OBS	0075	0055	33395	2680			14508								
		STD	0100	0052	3351	2689	0011657	0142	14512								
232		OBS	0100	0052	33505	2689			14512								
		STO	0125	0089	3370	2703	0010391	0169	14536								
		STD	0150	0167	3399	2721	0008752	0193	14579								
232		OBS	0150	0167	33986	2721			14579								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
	318001	EV	4700 N	04730 W		149	77	05	27	005	1966		9581	0198	02	17	2	2		x2	3	8		0073

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S10	159	050	039	7	08	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0130	3300	2644	0015949	0000	14524								
005		OBS	0000	0130	33001	2644			14524								
		STO	0010	0127	3299	2644	0016014	0016	14524								
005		OBS	0010	0127	32990	2644			14524								
		STD	0020	0123	3300	2644	0015937	0032	14524								
005		OBS	0025	0119	33000	2645			14523								
		STD	0030	0116	3303	2648	0015644	0048	14523								
		STO	0050	0089	3309	2654	0015065	0078	14515								
005		OBS	0050	0089	33085	2654			14515								
		STD	0075	0024	3304	2653	0015085	0116	14489								
005		OBS	0075	0024	33036	2653			14489								
		STO	0100	0029	3348	2689	0011738	0150	14502								
005		OBS	0100	0029	33478	2689			14502								
		STO	0125	0069	3363	2699	0010802	0178	14526								
		STO	0150	0134	3386	2713	0009473	0203	14562								
005		OBS	T0150	0134	33860	2713			14562								
005		OBS	0183	0258	34280	2737			14628								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	4700 N	04712 W		149	77	05	27	019	1966		9582		0351	03	17	2	2	X2	3	8		0074

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S10	152	050	036	6	09	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0152	3306	2648	0015639	0000	14535								
019		OBS	0000	0152	33060	2648			14535								
		STD	0010	0088	3302	2649	0015526	0016	14507								
019		OBS	0010	0088	33024	2649			14507								
		STD	0020	0072	3312	2657	0014705	0031	14503								
019		OBS	0025	0066	33176	2662			14502								
		STD	0030	0055	3323	2667	0013774	0045	14498								
		STD	0050	0051	3345	2685	0012105	0071	14503								
019		OBS	0050	0051	33446	2685			14503								
		STD	0075	0138	3369	2699	0010798	0099	14550								
019		OBS	0075	0138	33687	2699			14550								
		STD	0100	0167	3385	2709	0009805	0125	14569								
019		OBS	0100	0167	33845	2709			14569								
		STD	0125	0217	3403	2720	0008788	0148	14597								
		STD	0150	0259	3419	2730	0007935	0169	14622								
019		OBS	T0152	0262	34204	2731			14624								
		STD	0200	0317	3442	2743	0006773	0206	14658								
019		OBS	0200	0317	34417	2743			14658								
		STD	0250	0324	3448	2747	0006387	0239	14671								
		STD	0300	0331	3455	2752	0005996	0270	14683								
019		OBS	T0314	0333	34566	2753			14686								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	4700 N	04658 W		149	76	05	27	042	1966		9583		1116	11	17	2	2	X2	3	8		0075

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S10	152	050	036	4	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0409	3404	2703	0010343	0000	14659								
042		OBS	0000	0409	34038	2703			14659								
		STD	0010	0464	3442	2728	0008027	0009	14689								
042		OBS	0010	0464	34422	2728			14689								
		STD	0020	0477	3452	2734	0007441	0017	14698								
042		OBS	0026	0481	34557	2737			14701								
		STD	0030	0479	3457	2738	0007099	0024	14701								
		STD	0050	0469	3461	2742	0006713	0038	14700								
042		OBS	0053	0467	34615	2743			14700								
		STD	0075	0449	3463	2746	0006377	0054	14696								
042		OBS	0079	0446	34636	2747			14696								
		STD	0100	0437	3466	2750	0006051	0070	14696								
042		OBS	0106	0436	34670	2751			14697								
		STD	0125	0438	3468	2751	0005940	0085	14701								
		STD	0150	0441	3470	2753	0005848	0100	14707								
042		OBS	T0157	0442	34701	2753			14708								
		STD	0200	0389	3474	2761	0005051	0127	14693								
042		OBS	0209	0381	34743	2762			14692								
		STD	0250	0382	3476	2764	0004876	0152	14699								
		STD	0300	0384	3479	2766	0004718	0176	14708								
042		OBS	T0312	0385	34792	2766			14711								
		STD	0400	0390	3482	2768	0004644	0222	14728								
042		OBS	0410	0390	34823	2768			14730								
		STD	0500	0392	3483	2768	0004657	0269	14745								
		STD	0600	0394	3485	2769	0004675	0316	14763								
042		OBS	T0609	0394	34848	2769			14765								
		STD	0700	0392	3486	2770	0004651	0362	14779								
		STD	0800	0389	3488	2772	0004559	0408	14795								
042		OBS	T0817	0388	34881	2773			14797								
		STD	0900	0383	3489	2774	0004505	0454	14809								
		STD	1000	0376	3490	2775	0004437	0498	14823								
042		OBS	T1095	0368	34903	2776			14835								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
	318001	EV	4700 N	04645 W		149	76	05	27	064	1966		9584	1189	11	17	2	2		X6	X	8		0076

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S10	139	072	067	3	13	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0483	3454	2735	0007371	0000	14697								
064		OBS	0000	0483	34535	2735			14697								
		STD	0010	0477	3454	2736	0007295	0007	14696								
064		OBS	0010	0477	34538	2736			14696								
		STD	0020	0464	3455	2738	0007077	0015	14693								
064		OBS	0025	0459	34561	2740			14692								
		STD	0030	0456	3457	2741	0006853	0021	14691								
		STD	0050	0449	3460	2744	0006575	0035	14692								
064		OBS	0052	0448	34609	2745			14692								
		STD	0075	0445	3469	2751	0005884	0050	14696								
064		OBS	0077	0444	34698	2752			14696								
		STD	0100	0433	3470	2753	0005709	0065	14695								
064		OBS	0103	0432	34705	2754			14695								
		STD	0125	0429	3471	2755	0005618	0079	14697								
		STD	0150	0421	3472	2756	0005484	0093	14698								
064		OBS	T0154	0420	34725	2757			14699								
		STD	0200	0395	3477	2763	0004888	0119	14696								
064		OBS	0207	0392	34776	2764			14696								
		STD	0250	0392	3481	2767	0004605	0143	14704								
		STD	0300	0392	3484	2769	0004427	0165	14712								
064		OBS	T0313	0392	34843	2769			14715								
		STD	0400	0396	3485	2769	0004493	0210	14731								
064		OBS	0415	0397	34855	2770			14734								
		STD	0500	0396	3487	2771	0004435	0254	14748								
		STD	0600	0392	3489	2773	0004358	0298	14763								
064		OBS	0619	0391	34890	2773			14766								
		STD	0700	0385	3490	2774	0004274	0342	14777								
		STD	0800	0377	3490	2775	0004273	0384	14790								
064		OBS	T0821	0376	34901	2775			14793								
		STD	0900	0371	3490	2776	0004276	0427	14804								
		STD	1000	0366	3490	2777	0004296	0470	14819								
		STD	1100	0361	3490	2777	0004314	0513	14833								
064		OBS	T1122	0360	34904	2777			14836								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
	318001	EV	4700 N	04630 W		149	76	05	27	087	1966		9585	0606	06	17	2	3		X4	7	8		0077

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S05	146	094	078	0	11	

MESSENGR TIME OF HR 1/10	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0482	3441	2725	0008291	0000	14695								
087		OBS	0000	0482	34411	2725			14695								
087		OBS	0009	0480	34414	2726			14696								
		STD	0010	0481	3442	2726	0008256	0008	14696								
		STD	0020	0485	3442	2726	0008249	0017	14700								
087		OBS	0024	0487	34428	2726			14701								
		STD	0030	0480	3444	2728	0008085	0025	14699								
		STD	0050	0461	3447	2732	0007700	0040	14695								
087		OBS	0050	0461	34467	2732			14695								
087		OBS	0074	0442	34503	2737			14692								
		STD	0075	0443	3451	2737	0007251	0059	14692								
		STD	0100	0447	3455	2740	0006967	0077	14699								
087		OBS	0100	0447	34552	2740			14699								
		STD	0125	0419	3470	2755	0005588	0093	14693								
		STD	0150	0403	3479	2764	0004765	0106	14692								
087		OBS	T0150	0403	34791	2764			14692								
		STD	0200	0409	3482	2765	0004689	0129	14703								
087		OBS	0200	0409	34816	2765			14703								
		STD	0250	0408	3485	2768	0004473	0152	14711								
		STD	0300	0407	3487	2770	0004363	0174	14719								
087		OBS	T0304	0407	34873	2770			14720								
		STD	0400	0400	3488	2771	0004341	0218	14733								
087		OBS	0403	0400	34876	2771			14733								
		STD	0500	0395	3488	2772	0004372	0261	14747								
		STD	0600	0391	3488	2772	0004413	0305	14762								
087		OBS	0606	0391	34878	2772			14763								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	4700 N	04610 W		149	76	05	27	111	1966		9586	0304	03	17	3	3		X4	7	8		0078

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		17	S06	139	100	089	0	09	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0516	3444	2724	0008430	0000	14709								
111		OBS	0000	0516	34442	2724			14709								
		STD	0010	0495	3445	2727	0008150	0008	14702								
111		OBS	0010	0495	34450	2727			14702								
		STD	0020	0495	3446	2727	0008109	0016	14704								
111		OBS	0025	0495	34460	2727			14705								
		STD	0030	0492	3447	2729	0007990	0024	14705								
		STD	0050	0480	3451	2733	0007582	0040	14704								
111		OBS	0051	0479	34514	2734			14703								
		STD	0075	0466	3452	2735	0007390	0059	14702								
111		OBS	0077	0465	34519	2736			14702								
		STD	0100	0446	3454	2739	0007046	0077	14698								
111		OBS	0102	0445	34541	2740			14698								
		STD	0125	0429	3466	2751	0005993	0093	14697								
		STD	0150	0416	3475	2759	0005207	0107	14697								
111		OBS	T0153	0415	34763	2760			14697								
		STD	0200	0408	3485	2768	0004426	0131	14703								
111		OBS	T0201	0408	34855	2768			14703								
		STD	0250	0400	3487	2770	0004254	0153	14708								
		STD	0300	0392	3488	2772	0004120	0174	14713								
111		OBS	T0304	0391	34882	2772			14713								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4719 N	04610 W		149	76	05	27	136	1966		9587	0358	03	17	2	4		X4	X	9		0079

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S08	135	100	089	3	10	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0490	3446	2728	0007994	0000	14699								
136		OBS	0000	0490	34462	2728			14699								
		STD	0010	0489	3445	2728	0008062	0008	14700								
136		OBS	0010	0489	34453	2728			14700								
		STD	0020	0488	3448	2730	0007860	0016	14702								
136		OBS	0026	0486	34485	2730			14702								
		STD	0030	0480	3448	2731	0007785	0024	14700								
		STD	0050	0459	3447	2732	0007656	0039	14694								
136		OBS	0052	0458	34469	2732			14694								
		STD	0075	0450	3449	2735	0007437	0058	14695								
136		OBS	0077	0449	34493	2735			14695								
		STD	0100	0437	3453	2740	0007026	0076	14694								
136		OBS	0103	0435	34541	2741			14694								
		STD	0125	0414	3461	2748	0006212	0093	14690								
		STD	0150	0400	3469	2756	0005492	0107	14689								
136		OBS	T0154	0399	34698	2757			14689								
		STD	0200	0408	3483	2766	0004575	0133	14703								
136		OBS	0204	0409	34843	2767			14704								
		STD	0250	0407	3486	2769	0004362	0155	14711								
		STD	0300	0404	3488	2771	0004227	0176	14718								
136		OBS	0304	0404	34886	2771			14719								
136		OBS	T0344	0392	34888	2773			14720								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4742 N	04610 W		149	76	05	27	169	1966		9588	1042	10	17	2	2		X4	X	9		0080

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		21	S06	112	067	061	2	13	

MESSENGR TIME OR T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	S C C
		STD	0000	0495	3446	2727	0008094	0000	14701								
169		OBS	0000	0495	34456	2727			14701								
		STD	0010	0507	3453	2732	0007667	0008	14708								
169		OBS	0010	0507	34532	2732			14708								
		STD	0020	0505	3454	2733	0007597	0016	14709								
169		OBS	0025	0501	34545	2734			14709								
		STD	0030	0491	3456	2736	0007304	0023	14706								
		STD	0050	0458	3462	2744	0006543	0037	14696								
169		OBS	0050	0458	34617	2744			14696								
169		OBS	0074	0434	34641	2749			14690								
		STD	0075	0434	3464	2749	0006129	0053	14690								
169		OBS	0099	0424	34663	2751			14690								
		STD	0100	0423	3466	2752	0005875	0068	14690								
		STD	0125	0410	3469	2755	0005585	0082	14689								
169		OBS	T0148	0403	34710	2757			14690								
		STD	0150	0403	3471	2758	0005346	0096	14691								
		STD	0200	0410	3481	2765	0004737	0121	14703								
169		OBS	0200	0410	34811	2765			14703								
		STD	0250	0411	3484	2767	0004574	0144	14712								
		STD	0300	0411	3486	2768	0004487	0167	14721								
169		OBS	0300	0411	34859	2768			14721								
		STD	0400	0401	3487	2770	0004417	0211	14733								
169		OBS	0400	0401	34867	2770			14733								
		STD	0500	0392	3488	2772	0004316	0255	14746								
169		OBS	T0597	0383	34887	2774			14758								
		STD	0600	0383	3489	2774	0004255	0298	14759								
		STD	0700	0375	3489	2775	0004221	0340	14772								
		STD	0800	0367	3490	2776	0004184	0382	14786								
169		OBS	T0804	0367	34897	2776			14786								
		STD	0900	0362	3490	2777	0004187	0424	14800								
		STD	1000	0360	3490	2777	0004248	0466	14816								
169		OBS	T1039	0359	34903	2777			14822								

REFERENCE CTRY CODE	REFERENCE NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001		EV	4759 N	04610 W		149	76	05	27	200	1966		9589	1170	11	20	3	3		X4	X	9		0081

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		17	S05	112	067	056	0	14	

MESSENGR TIME OR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₃-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0514	3454	2732	0007651	0000	14710								
200		OBS	0000	0514	34543	2732			14710								
		STD	0010	0511	3454	2732	0007622	0008	14710								
200		OBS	0010	0511	34544	2732			14710								
		STD	0020	0495	3455	2734	0007449	0015	14705								
200		OBS	0025	0489	34545	2735			14704								
		STD	0030	0488	3455	2735	0007347	0023	14704								
200		OBS	0048	0475	34574	2739			14702								
		STD	0050	0470	3458	2740	0006949	0037	14700								
200		OBS	0072	0434	34632	2748			14690								
		STD	0075	0436	3464	2748	0006165	0053	14691								
200		OBS	0097	0443	34692	2752			14698								
		STD	0100	0443	3469	2752	0005867	0068	14699								
		STD	0125	0441	3470	2753	0005797	0083	14702								
200		OBS	T0146	0435	34712	2754			14703								
		STD	0150	0431	3472	2755	0005589	0097	14703								
200		OBS	0195	0402	34786	2764			14699								
		STD	0200	0402	3479	2764	0004814	0123	14700								
		STD	0250	0405	3483	2767	0004595	0147	14710								
200		OBS	T0293	0408	34859	2769			14718								
		STD	0300	0408	3486	2769	0004446	0169	14719								
		STD	0400	0406	3486	2769	0004528	0214	14735								
200		OBS	0492	0405	34869	2770			14750								
		STD	0500	0403	3487	2770	0004512	0259	14751								
200		OBS	0589	0389	34892	2773			14760								
		STD	0600	0388	3489	2773	0004276	0303	14761								
		STD	0700	0378	3490	2775	0004232	0346	14774								
200		OBS	T0788	0372	34897	2775			14786								
		STD	0800	0372	3490	2776	0004210	0388	14788								
		STD	0900	0367	3490	2776	0004248	0430	14802								
		STD	1000	0363	3490	2777	0004285	0473	14817								
200		OBS	T1004	0363	34901	2777			14818								
		STD	1100	0358	3490	2777	0004278	0516	14832								
200		OBS	1114	0357	34904	2778			14834								

REFERENCE CTRY CODE	REFERENCE NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001		EV	47220N	050050W		150	70	05	28	119	1966		9590	0095	01	22	0	2		X2	0	4		0082

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
0T	S0	22	S02	169	067	050	7	10	

MESSENGR TIME OR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₃-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0275	3300	2633	0016982	0000	14588								
119		OBS	0000	0275	33000	2633			14588								
		STD	0010	0265	3301	2635	0016869	0017	14585								
		OBS	0010	0265	33005	2635			14585								
		OBS	0015	0265	32975	2632			14586								
		STD	0020	0202	3301	2640	0016361	0034	14560								
		OBS	0020	0202	33010	2640			14560								
		STD	0030	0174	3303	2644	0016017	0050	14549								
		OBS	0030	0174	33030	2644			14549								
		OBS	0045	0166	33020	2643			14548								
		STD	0050	0125	3308	2651	0015320	0081	14531								
		OBS	0050	0125	33080	2651			14531								
		OBS	0060	0083	33200	2663			14516								
		OBS	0070	0062	33405	2681			14511								
		STD	0075	0062	3341	2681	0012437	0116	14512								
		OBS	0084	0062	33420	2682			14513								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001	EV	47390N	049580W			149	79	05	28	138	1966		9591	0104	01	22	0	2		X5	0	4		0083

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	S0	22	S02	186	050	039	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0275	3295	2629	0017360	0000	14587								
138		OBS	0000	0275	32950	2629			14587								
		OBS	0004	0249	32970	2633			14577								
		STD	0010	0242	3298	2634	0016918	0017	14575								
		OBS	0010	0242	32975	2634			14575								
		OBS	0015	0230	32940	2632			14570								
		STD	0020	0153	3300	2642	0016141	0034	14538								
		OBS	0020	0153	32995	2642			14538								
		STD	0030	0134	3302	2646	0015831	0050	14531								
		OBS	0030	0134	33020	2646			14531								
		OBS	0043	0130	33010	2645			14531								
		STD	0050	0111	3302	2647	0015690	0081	14524								
		OBS	0050	0111	33020	2647			14524								
		OBS	0060	0071	33170	2661			14510								
		STD	0075	0051	3346	2686	0011996	0116	14507								
		OBS	0075	0051	33460	2686			14507								
		OBS	0090	0063	33590	2696			14517								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318001	EV	48060N	049550W			149	89	05	28	162	1966		9592	0170	02	31	2	2		X4	0	4		0084

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	35	S06	176	033	028	3	14	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0238	3277	2618	0018438	0000	14569								
162		OBS	0000	0238	32770	2618			14569								
		STD	0010	0144	3279	2627	0017641	0018	14529								
		OBS	0010	0144	32790	2627			14529								
		STD	0020	0030	3287	2640	0016393	0035	14480								
003		OBS	0020	0030	32870	2640			14480								
		STD	0030	-0015	3288	2643	0016108	0051	14462								
		OBS	0030	-0015	32880	2643			14462								
		OBS	0042	-0083	32940	2650			14433								
		STD	0050	0020	3307	2656	0014811	0082	14484								
		OBS	0050	0020	33070	2656			14484								
		OBS	0060	0043	33100	2657			14496								
		STD	0075	-0076	3316	2668	0013704	0118	14445								
		OBS	0075	-0076	33160	2668			14445								
		OBS	0080	-0020	33240	2672			14472								
		OBS	0090	0023	33330	2677			14495								
		STD	0100	0028	3344	2686	0012022	0150	14501								
		OBS	0100	0028	33440	2686			14501								
		STD	0125	0065	3368	2703	0010399	0178	14525								
		OBS	0125	0065	33680	2703			14525								
		STD	0150	0100	3380	2710	0009703	0203	14546								
		OBS	0150	0100	33800	2710			14546								
		OBS	0160	0117	33850	2713			14556								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
	318001	EV	48300N	049410W		149	89	05	28	198	1966		9593	0296	02	22	2	2		X4	0	4		0085

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S03	186	117	083	3	10	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-$X10^7$	$\Sigma\Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0168	3277	2623	0017946	0000	14538								
198		OBS	0000	0168	32770	2623			14538								
		STD	0010	0080	3288	2638	0016578	0017	14502								
		OBS	0010	0080	32880	2638			14502								
		STD	0020	0060	3297	2646	0015821	0033	14495								
001		OBS	0020	0060	32965	2646			14495								
		STD	0030	0005	3303	2654	0015051	0049	14473								
		OBS	0030	0005	33030	2654			14473								
		STD	0050	-0090	3312	2665	0013989	0078	14433								
		OBS	0050	-0090	33118	2665			14433								
		STD	0075	-0008	3333	2678	0012689	0111	14478								
		OBS	0075	-0008	33330	2678			14478								
		STD	0100	0041	3352	2691	0011482	0141	14508								
		OBS	0100	0041	33520	2691			14508								
		STD	0125	0087	3376	2708	0009938	0168	14536								
		OBS	0125	0087	33758	2708			14536								
		STD	0150	0175	3405	2725	0008326	0191	14583								
		OBS	0150	0175	34050	2725			14583								
		OBS	0156	0189	34090	2727			14591								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
	318001	EV	4854 N	04935 W		149	89	05	28	225	1966		9594	1317	12	21	3	3		X4	0	4		0086

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	16	S10	186	061	050	0	22	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-$X10^7$	$\Sigma\Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0439	3405	2701	0010553	0000	14672								
225		OBS	0000	0439	34050	2701			14672								
		STD	0010	0390	3419	2717	0009022	0010	14655								
		OBS	0010	0390	34190	2717			14655								
		STD	0020	0375	3436	2732	0007607	0018	14653								
002		OBS	0020	0375	34360	2732			14653								
		STD	0030	0345	3440	2739	0007032	0025	14642								
		OBS	0030	0345	34400	2739			14642								
		STD	0050	0338	3455	2751	0005854	0038	14645								
		OBS	0050	0338	34550	2751			14645								
		STD	0075	0334	3455	2752	0005836	0053	14647								
		OBS	0075	0334	34550	2752			14647								
		STD	0100	0323	3464	2760	0005077	0067	14648								
		OBS	0100	0323	34640	2760			14648								
		STD	0125	0357	3471	2762	0004891	0079	14667								
		OBS	0125	0357	34710	2762			14667								
		STD	0150	0366	3474	2764	0004776	0091	14675								
		OBS	0150	0366	34740	2764			14675								
		STD	0200	0376	3479	2767	0004537	0114	14689								
		OBS	0200	0376	34791	2767			14689								
		STD	0250	0380	3480	2767	0004533	0137	14699								
		OBS	0250	0380	34803	2767			14699								
		STD	0300	0384	3483	2769	0004456	0160	14709								
		OBS	0300	0384	34825	2769			14709								
		STD	0400	0386	3484	2770	0004457	0204	14726								
		OBS	0400	0386	34840	2770			14726								
		STD	0500	0389	3486	2771	0004455	0249	14745								
		OBS	0500	0389	34857	2771			14745								
		STD	0600	0389	3487	2772	0004450	0293	14761								
		OBS	0600	0389	34870	2772			14761								
		STD	0700	0389	3488	2772	0004483	0338	14778								
		OBS	0700	0389	34878	2772			14778								
		STD	0800	0388	3489	2773	0004459	0383	14794								
		OBS	0800	0388	34892	2773			14794								
		STD	0900	0380	3490	2775	0004381	0427	14808								
		OBS	0900	0380	34902	2775			14808								
		STD	1000	0375	3491	2776	0004373	0471	14822								
		OBS	1000	0375	34907	2776			14822								
		STD	1100	0367	3491	2777	0004341	0514	14836								
		OBS	1100	0367	34910	2777			14836								
		STD	1200	0357	3492	2779	0004223	0557	14849								
		OBS	1200	0357	34921	2779			14849								
		OBS	1250	0351	34925	2780			14854								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4904 N	04932 W		149	99	05	28	236	1966		9595	1335	13	17	0	2		X1	0	4		0087

WATER COLDR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	17	S10	166	050	039	7	23	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0470	3441	2726	0008170	0000	14690								
236		OBS	0000	0470	34410	2726			14690								
		STD	0010	0445	3446	2733	0007543	0008	14682								
		OBS	0010	0445	34460	2733			14682								
		STD	0020	0444	3456	2741	0006792	0015	14684								
005		OBS	0020	0444	34560	2741			14684								
		STD	0030	0438	3457	2743	0006665	0022	14684								
		OBS	0030	0438	34570	2743			14684								
		STD	0050	0429	3457	2744	0006592	0035	14683								
		OBS	0050	0429	34570	2744			14683								
		STD	0075	0405	3465	2752	0005771	0050	14678								
		OBS	0075	0405	34650	2752			14678								
		STD	0100	0412	3468	2754	0005641	0065	14686								
		OBS	0100	0412	34680	2754			14686								
		STD	0125	0410	3471	2757	0005420	0079	14689								
		OBS	0125	0410	34710	2757			14689								
		STD	0150	0392	3474	2761	0005035	0092	14686								
		OBS	0150	0392	34740	2761			14686								
		STD	0200	0377	3478	2766	0004630	0116	14689								
		OBS	0200	0377	34780	2766			14689								
		STD	0250	0385	3481	2767	0004532	0139	14701								
		OBS	0250	0385	34810	2767			14701								
		STD	0300	0396	3484	2768	0004469	0161	14714								
		OBS	0300	0396	34840	2768			14714								
		STD	0400	0390	3484	2769	0004477	0206	14728								
		OBS	0400	0390	34843	2769			14728								
		STD	0500	0390	3486	2770	0004481	0251	14745								
		OBS	0500	0390	34855	2770			14745								
		STD	0600	0385	3486	2771	0004480	0296	14759								
		OBS	0600	0385	34860	2771			14759								
		STD	0700	0381	3487	2772	0004452	0340	14775								
		OBS	0700	0381	34870	2772			14775								
		STD	0800	0385	3489	2774	0004439	0385	14793								
		OBS	0800	0385	34890	2774			14793								
		STD	0900	0383	3490	2775	0004431	0429	14809								
		OBS	0900	0383	34900	2775			14809								
		STD	1000	0376	3490	2776	0004407	0473	14823								
		OBS	1000	0376	34904	2776			14823								
		STD	1100	0368	3491	2777	0004353	0517	14836								
		OBS	1100	0368	34910	2777			14836								
		STD	1200	0362	3492	2778	0004328	0560	14851								
		OBS	1200	0362	34915	2778			14851								
		STD	1300	0357	3492	2779	0004312	0604	14865								
		OBS	1300	0357	34920	2779			14865								
		OBS	1320	0357	34920	2779			14869								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT.	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4915 N	04933 W		14	99	05	29	010	1966		9596	1317	13	17	1	2		X1	0	4		0088

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	17	S10	173	061	050	7	23	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Sigma \triangle D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	S C C
		STD	0000	0478	3449	2732	0007655	0000	14694								
010		OBS	0000	0478	34490	2732			14694								
		STD	0010	0478	3449	2732	0007666	0008	14696								
		OBS	0010	0478	34490	2732			14696								
		STD	0020	0450	3450	2736	0007305	0015	14686								
006		OBS	0020	0450	34500	2736			14686								
		STD	0030	0437	3456	2742	0006730	0022	14683								
		OBS	0030	0437	34560	2742			14683								
		STD	0050	0416	3460	2747	0006234	0035	14678								
		OBS	0050	0416	34600	2747			14678								
		STD	0075	0410	3467	2754	0005672	0050	14681								
		OBS	0075	0410	34670	2754			14681								
		STD	0100	0410	3470	2756	0005471	0064	14685								
		OBS	0100	0410	34700	2756			14685								
		STD	0125	0390	3478	2764	0004729	0077	14682								
		OBS	0125	0390	34775	2764			14682								
		STD	0150	0398	3477	2763	0004871	0089	14689								
		OBS	0150	0398	34770	2763			14689								
		STD	0200	0385	3480	2766	0004561	0112	14693								
		OBS	0200	0385	34800	2766			14693								
		STD	0250	0385	3482	2768	0004495	0135	14701								
		OBS	0250	0385	34815	2768			14701								
		STD	0300	0385	3483	2769	0004429	0157	14709								
		OBS	0300	0385	34830	2769			14709								
		STD	0400	0391	3485	2770	0004436	0202	14729								
		OBS	0400	0391	34850	2770			14729								
		STD	0500	0390	3486	2771	0004444	0246	14745								
		OBS	0500	0390	34860	2771			14745								
		STD	0600	0389	3487	2771	0004488	0291	14761								
		OBS	0600	0389	34865	2771			14761								
		STD	0700	0383	3487	2772	0004474	0335	14775								
		OBS	0700	0383	34870	2772			14775								
		STD	0800	0381	3489	2774	0004430	0380	14791								
		OBS	0800	0381	34885	2774			14791								
		STD	0900	0380	3490	2775	0004396	0424	14808								
		OBS	0900	0380	34900	2775			14808								
		STD	1000	0374	3491	2776	0004376	0468	14822								
		OBS	1000	0374	34905	2776			14822								
		STD	1100	0366	3491	2777	0004366	0512	14835								
		OBS	1100	0366	34905	2777			14835								
		STD	1200	0360	3491	2778	0004340	0555	14850								
		OBS	1200	0360	34910	2778			14850								
		STD	1300	0355	3492	2779	0004324	0598	14864								
		OBS	1300	0355	34915	2779			14864								
		OBS	1310	0355	34915	2779			14866								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDCTR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° 1/10		10°	1°	MO	DAY	HR 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
318001	EV	4923	N 04926	W		149	99	05	29	028	1966		9597	1280	12	20	2	2		X0	0	4		0089

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	SD	18	S14	146	067	056	7	22	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCC
		STD	0000	0468	3455	2738	0007098	0000	14691								
028		OBS	0000	0468	34550	2738			14691								
		STD	0010	0468	3455	2738	0007109	0007	14693								
		OBS	0010	0468	34550	2738			14693								
		STD	0020	0468	3459	2741	0006819	0014	14695								
004		OBS	0020	0468	34590	2741			14695								
		STD	0030	0426	3461	2747	0006241	0021	14679								
		OBS	0030	0426	34610	2747			14679								
		STD	0050	0383	3465	2755	0005529	0032	14665								
		OBS	0050	0383	34650	2755			14665								
		STD	0075	0399	3472	2759	0005185	0046	14677								
		OBS	0075	0399	34720	2759			14677								
		STD	0100	0422	3477	2760	0005069	0059	14691								
		OBS	0100	0422	34770	2760			14691								
		STD	0125	0415	3477	2761	0005022	0071	14692								
		OBS	0125	0415	34770	2761			14692								
		STD	0150	0380	3477	2764	0004727	0083	14682								
		OBS	0150	0380	34765	2764			14682								
		STD	0200	0373	3479	2767	0004514	0106	14687								
		OBS	0200	0373	34790	2767			14687								
		STD	0250	0384	3483	2769	0004372	0129	14701								
		OBS	0250	0384	34830	2769			14701								
		STD	0300	0390	3483	2768	0004481	0151	14712								
		OBS	0300	0390	34830	2768			14712								
		STD	0400	0394	3485	2769	0004468	0196	14730								
		OBS	0400	0394	34850	2769			14730								
		STD	0500	0393	3487	2771	0004439	0240	14746								
		OBS	0500	0393	34865	2771			14746								
		STD	0600	0386	3487	2771	0004454	0285	14760								
		OBS	0600	0386	34865	2771			14760								
		STD	0700	0381	3488	2773	0004415	0329	14775								
		OBS	0700	0381	34875	2773			14775								
		STD	0800	0381	3489	2774	0004393	0373	14791								
		OBS	0800	0381	34890	2774			14791								
		STD	0900	0380	3491	2775	0004359	0417	14808								
		OBS	0900	0380	34905	2775			14808								
		STD	1000	0371	3491	2777	0004304	0460	14821								
		OBS	1000	0371	34910	2777			14821								
		STD	1100	0362	3491	2778	0004281	0503	14834								
		OBS	1100	0362	34910	2778			14834								
		STD	1200	0357	3492	2778	0004267	0546	14848								
		OBS	1200	0357	34915	2778			14848								
		OBS	1220	0357	34915	2778			14852								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10	INDCTR	10°	1°	MO	DAY	HR.1.10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
318	001	EV	4930 N	04923 W		149	99	05	29	043	1966		9598	1353	13	20	3	2		X0	0	4		0090

WATER		WIND		BARO-METER (mbs)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	50	17	S12	142	067	056	7	23	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0457	3454	2738	0007042	0000	14686								
043		OBS	0000	0457	34542	2738			14686								
		STD	0010	0456	3455	2739	0006952	0007	14688								
		OBS	0010	0456	34554	2739			14688								
		STD	0020	0444	3457	2742	0006739	0014	14685								
004		OBS	0020	0444	34567	2742			14685								
		STD	0030	0423	3459	2745	0006398	0020	14678								
		OBS	0030	0423	34585	2745			14678								
		OBS	0040	0396	34620	2751			14668								
		STD	0050	0402	3465	2753	0005717	0033	14673								
		STD	0075	0407	3471	2757	0005341	0046	14680								
		OBS	0075	0407	34710	2757			14680								
		STD	0100	0396	3474	2761	0005028	0059	14680								
		OBS	0100	0396	34740	2761			14680								
		STD	0125	0382	3477	2764	0004724	0072	14678								
		OBS	0125	0382	34765	2764			14678								
		OBS	0140	0367	34775	2766			14675								
		STD	0150	0376	3479	2767	0004499	0083	14680								
		OBS	0150	0376	34790	2767			14680								
		STD	0200	0375	3480	2767	0004467	0105	14688								
		OBS	0200	0375	34794	2767			14688								
		STD	0250	0382	3482	2768	0004426	0128	14700								
		OBS	0250	0382	34820	2768			14700								
		STD	0300	0386	3484	2769	0004402	0150	14710								
		OBS	0300	0386	34835	2769			14710								
		STD	0400	0389	3485	2770	0004437	0194	14728								
		OBS	0400	0389	34847	2770			14728								
		STD	0500	0389	3486	2771	0004418	0238	14745								
		OBS	0500	0389	34862	2771			14745								
		STD	0600	0389	3487	2772	0004450	0283	14761								
		OBS	0600	0389	34870	2772			14761								
		STD	0700	0383	3488	2773	0004415	0327	14775								
		OBS	0700	0383	34878	2773			14775								
		STD	0800	0380	3489	2774	0004381	0371	14791								
		OBS	0800	0380	34890	2774			14791								
		STD	0900	0378	3490	2775	0004358	0415	14807								
		OBS	0900	0378	34902	2775			14807								
		STD	1000	0371	3491	2777	0004304	0458	14821								
		OBS	1000	0371	34910	2777			14821								
		STD	1100	0366	3491	2777	0004329	0501	14835								
		OBS	1100	0366	34910	2777			14835								
		STD	1200	0355	3492	2779	0004221	0544	14848								
		OBS	1200	0355	34918	2779			14848								
		OBS	1260	0350	34923	2780			14856								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	4942 N	04920 W		149	99	05	29	051	1966		9599	1390	13	17	3	2		X2	0	4		0091

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	17	S12	132	067	056	7	23	

MESSENGR TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0447	3454	2739	0006937	0000	14682								
051		OBS	0000	0447	34542	2739			14682								
		STD	0010	0446	3454	2740	0006930	0007	14683								
		OBS	0010	0446	34543	2740			14683								
		STD	0020	0446	3455	2740	0006918	0014	14685								
014		OBS	0020	0446	34546	2740			14685								
		STD	0030	0444	3455	2740	0006862	0021	14686								
		OBS	0030	0444	34552	2740			14686								
		STD	0050	0408	3458	2746	0006341	0034	14674								
		OBS	0050	0408	34575	2746			14674								
		STD	0075	0397	3464	2752	0005781	0049	14675								
		OBS	0075	0397	34638	2752			14675								
		STD	0100	0406	3469	2755	0005520	0063	14683								
		OBS	0100	0406	34688	2755			14683								
		STD	0125	0408	3474	2759	0005190	0077	14689								
		OBS	0125	0408	34738	2759			14689								
		STD	0150	0411	3473	2758	0005343	0090	14694								
		OBS	0150	0411	34725	2758			14694								
		OBS	0165	0380	34800	2767			14685								
		STD	0200	0399	3483	2767	0004517	0114	14699								
		OBS	0200	0399	34825	2767			14699								
		STD	0250	0398	3484	2768	0004450	0137	14707								
		OBS	0250	0398	34839	2768			14707								
		STD	0300	0398	3485	2769	0004416	0159	14715								
		OBS	0300	0398	34850	2769			14715								
		STD	0400	0398	3486	2770	0004414	0203	14732								
		OBS	0400	0398	34863	2770			14732								
		STD	0500	0388	3486	2771	0004407	0247	14744								
		OBS	0500	0388	34862	2771			14744								
		STD	0600	0380	3486	2772	0004395	0291	14757								
		OBS	0600	0380	34864	2772			14757								
		STD	0700	0380	3488	2773	0004374	0335	14774								
		OBS	0700	0380	34879	2773			14774								
		STD	0800	0380	3490	2774	0004344	0379	14791								
		OBS	0800	0380	34895	2774			14791								
		STD	0900	0372	3490	2776	0004280	0422	14804								
		OBS	0900	0372	34903	2776			14804								
		STD	1000	0366	3491	2777	0004244	0464	14819								
		OBS	1000	0366	34910	2777			14819								
		STD	1100	0360	3492	2778	0004221	0507	14833								
		OBS	1100	0360	34915	2778			14833								
		STD	1200	0355	3492	2779	0004221	0549	14848								
		OBS	1200	0355	34918	2779			14848								
		STD	1300	0349	3492	2780	0004192	0591	14862								
		OBS	1300	0349	34923	2780			14862								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	4950 N	04919 W		149	99	05	29	078	1966		9600	1536	14	22	4	3		X2	0	4		0092

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	21	S24	125	061	056	7	23	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY=x10⁷	ΣΔD DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	OCC
		STD	0000	0439	3454	2740	0006907	0000	14679								
078		OBS	0000	0439	34535	2740			14679								
		STD	0010	0438	3453	2739	0006945	0007	14680								
		OBS	0010	0438	34530	2739			14680								
		STD	0020	0438	3453	2739	0006955	0014	14682								
004		OBS	0020	0438	34530	2739			14682								
		STD	0030	0433	3454	2740	0006876	0021	14681								
		OBS	0030	0433	34535	2740			14681								
		STD	0050	0400	3461	2750	0005998	0034	14672								
		OBS	0050	0400	34610	2750			14672								
		STD	0075	0411	3466	2752	0005794	0048	14681								
		OBS	0075	0411	34655	2752			14681								
		STD	0100	0411	3470	2755	0005519	0063	14686								
		OBS	0100	0411	34695	2755			14686								
		STD	0125	0387	3473	2760	0005074	0076	14680								
		OBS	0125	0387	34725	2760			14680								
		STD	0150	0375	3475	2763	0004827	0088	14679								
		OBS	0150	0375	34745	2763			14679								
		STD	0200	0371	3479	2767	0004532	0112	14686								
		OBS	0200	0371	34785	2767			14686								
		STD	0250	0379	3481	2768	0004471	0134	14698								
		OBS	0250	0379	34810	2768			14698								
		STD	0300	0385	3482	2768	0004504	0157	14709								
		OBS	0300	0385	34820	2768			14709								
		STD	0400	0390	3485	2769	0004462	0201	14728								
		OBS	0400	0390	34845	2769			14728								
		STD	0500	0390	3486	2770	0004466	0246	14745								
		OBS	0500	0390	34857	2770			14745								
		STD	0600	0385	3487	2772	0004443	0291	14760								
		OBS	0600	0385	34865	2772			14760								
		STD	0700	0384	3488	2772	0004448	0335	14776								
		OBS	0700	0384	34875	2772			14776								
		STD	0800	0383	3489	2774	0004416	0379	14792								
		OBS	0800	0383	34890	2774			14792								
		STD	0900	0382	3490	2775	0004390	0423	14809								
		OBS	0900	0382	34904	2775			14809								
		STD	1000	0375	3491	2776	0004366	0467	14822								
		OBS	1000	0375	34908	2776			14822								
		STD	1100	0365	3491	2777	0004317	0511	14835								
		OBS	1100	0365	34910	2777			14835								
		STD	1200	0358	3491	2778	0004294	0554	14849								
		OBS	1200	0358	34913	2778			14849								
		STD	1300	0353	3492	2779	0004278	0596	14864								
		OBS	1300	0353	34918	2779			14864								
		STD	1400	0349	3493	2780	0004235	0639	14879								
		OBS	1400	0349	34928	2780			14879								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEA-THER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	50000N	049180W		185	09	05	29	096	1966		9601	1573	14	23	4	3		X2	0	4		0093

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
0T	SD	22	S20	125	078	067	7	25	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/.	SIGMA-T	SPECIFIC VOLUME ANOMALY-$x10^7$	$\Sigma\Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0464	3459	2741	0006755	0000	14690								
096		OBS	0000	0464	34590	2741			14690								
		STD	0010	0462	3459	2742	0006745	0007	14691								
		OBS	0010	0462	34590	2742			14691								
		STD	0020	0462	3461	2743	0006643	0013	14693								
005		OBS	0020	0462	34605	2743			14693								
		STD	0030	0455	3466	2748	0006167	0020	14692								
		OBS	0030	0455	34660	2748			14692								
		STD	0050	0425	3468	2752	0005763	0032	14683								
		OBS	0050	0425	34675	2752			14683								
		STD	0075	0420	3470	2755	0005549	0046	14685								
		OBS	0075	0420	34700	2755			14685								
		STD	0100	0416	3472	2756	0005420	0060	14688								
		OBS	0100	0416	34715	2756			14688								
		STD	0125	0410	3475	2759	0005158	0073	14690								
		OBS	0125	0410	34745	2759			14690								
		STD	0150	0411	3477	2761	0005020	0086	14695								
		OBS	0150	0411	34768	2761			14695								
		OBS	0180	0400	34799	2765			14696								
		STD	0200	0389	3479	2765	0004677	0110	14694								
		OBS	0200	0389	34790	2765			14694								
		STD	0250	0393	3482	2767	0004540	0133	14704								
		OBS	0250	0393	34820	2767			14704								
		STD	0300	0392	3484	2769	0004405	0155	14713								
		OBS	0300	0392	34843	2769			14713								
		STD	0400	0400	3487	2770	0004421	0199	14733								
		OBS	0400	0400	34865	2770			14733								
		STD	0500	0391	3487	2771	0004417	0244	14745								
		OBS	0500	0391	34865	2771			14745								
		STD	0600	0385	3487	2772	0004406	0288	14760								
		OBS	0600	0385	34870	2772			14760								
		STD	0700	0383	3488	2773	0004437	0332	14775								
		OBS	0700	0383	34875	2773			14775								
		STD	0800	0383	3489	2774	0004416	0376	14792								
		OBS	0800	0383	34890	2774			14792								
		STD	0900	0383	3490	2775	0004431	0420	14809								
		OBS	0900	0383	34900	2775			14809								
		STD	1000	0379	3491	2775	0004436	0465	14824								
		OBS	1000	0379	34905	2775			14824								
		STD	1100	0368	3491	2777	0004353	0509	14836								
		OBS	1100	0368	34910	2777			14836								
		STD	1200	0357	3492	2779	0004230	0552	14849								
		OBS	1200	0357	34920	2779			14849								
		STD	1300	0346	3493	2780	0004140	0593	14861								
		OBS	1300	0346	34925	2780			14861								
		STD	1400	0338	3494	2782	0004010	0634	14874								
		OBS	1400	0338	34940	2782			14874								
		OBS	1420	0337	34943	2783			14877								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR,1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
318	001	EV	49550N	049280W		149	99	05	29	119	1966		9602	1372	12	23	3	2		X4	0	4		0094

WATER		WIND		BARO-METER (mbs)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
0T	50	23	510	132	078	072	6	22	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY=10⁷	M.A.D. DYN M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at l	NO₃-N µg-at l	SiO₄-Si µg-at l	pH	SOC
		STD	0000	0456	3456	2740	0006896	0000	14686								
119		OBS	0000	0456	34560	2740			14686								
		STD	0010	0455	3456	2740	0006896	0007	14687								
		OBS	0010	0455	34560	2740			14687								
		STD	0020	0449	3455	2740	0006919	0014	14686								
002		OBS	0020	0449	34550	2740			14686								
		STD	0030	0440	3454	2740	0006911	0021	14684								
		OBS	0030	0440	34540	2740			14684								
		STD	0050	0406	3463	2751	0005908	0034	14674								
		OBS	0050	0406	34630	2751			14674								
		STD	0075	0407	3469	2755	0005491	0048	14680								
		OBS	0075	0407	34690	2755			14680								
		STD	0100	0406	3470	2756	0005430	0061	14684								
		OBS	0100	0406	34700	2756			14684								
		STD	0125	0393	3476	2762	0004909	0074	14683								
		OBS	0125	0393	34755	2762			14683								
		STD	0150	0393	3480	2766	0004595	0086	14688								
		OBS	0150	0393	34800	2766			14688								
		STD	0200	0392	3482	2767	0004482	0109	14696								
		OBS	0200	0392	34820	2767			14696								
		STD	0250	0391	3483	2768	0004429	0131	14704								
		OBS	0250	0391	34832	2768			14704								
		STD	0300	0391	3484	2769	0004454	0153	14712								
		OBS	0300	0391	34835	2769			14712								
		STD	0400	0390	3485	2770	0004403	0198	14728								
		OBS	0400	0390	34853	2770			14728								
		STD	0500	0387	3486	2771	0004388	0242	14744								
		OBS	0500	0387	34863	2771			14744								
		STD	0600	0384	3487	2772	0004395	0286	14759								
		OBS	0600	0384	34870	2772			14759								
		STD	0700	0380	3488	2773	0004381	0329	14774								
		OBS	0700	0380	34878	2773			14774								
		STD	0800	0380	3490	2774	0004344	0373	14791								
		OBS	0800	0380	34895	2774			14791								
		STD	0900	0379	3490	2775	0004362	0417	14807								
		OBS	0900	0379	34903	2775			14807								
		STD	1000	0372	3491	2777	0004315	0460	14821								
		OBS	1000	0372	34910	2777			14821								
		STD	1100	0367	3491	2777	0004341	0503	14836								
		OBS	1100	0367	34910	2777			14836								
		STD	1200	0355	3492	2779	0004213	0546	14848								
		OBS	1200	0355	34919	2779			14848								
		OBS	1250	0352	34920	2779			14855								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	49490N	049400W		149	99	05	29	137	1966		9603	1225	11	23	3	2		X2	0	4		0095

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	23	S15	112	072	061	7	23	

MESSENGR TIME OF CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	CODE
		STD	0000	0461	3459	2742	0006723	0000	14689								
137		OBS	0000	0461	34590	2742			14689								
		STD	0010	0461	3459	2742	0006734	0007	14690								
		OBS	0010	0461	34590	2742			14690								
		STD	0020	0461	3459	2742	0006730	0013	14692								
001		OBS	0020	0461	34592	2742			14692								
		STD	0030	0461	3460	2742	0006696	0020	14694								
		OBS	0030	0461	34598	2742			14694								
		STD	0050	0415	3465	2751	0005848	0033	14678								
		OBS	0050	0415	34650	2751			14678								
		OBS	0060	0406	34659	2753			14676								
		STD	0075	0407	3469	2755	0005491	0047	14680								
		OBS	0075	0407	34690	2755			14680								
		STD	0100	0407	3471	2757	0005373	0060	14684								
		OBS	0100	0407	34709	2757			14684								
		STD	0125	0405	3474	2760	0005151	0074	14688								
		OBS	0125	0405	34739	2760			14688								
		STD	0150	0399	3479	2764	0004746	0086	14690								
		OBS	0150	0399	34788	2764			14690								
		OBS	0170	0383	34790	2766			14687								
		STD	0200	0390	3483	2768	0004402	0109	14695								
		OBS	0200	0390	34828	2768			14695								
		OBS	0220	0394	34839	2769			14700								
		STD	0250	0400	3484	2768	0004471	0131	14708								
		OBS	0250	0400	34839	2768			14708								
		STD	0300	0389	3484	2769	0004433	0153	14711								
		OBS	0300	0389	34835	2769			14711								
		STD	0400	0392	3485	2770	0004432	0198	14729								
		OBS	0400	0392	34852	2770			14729								
		STD	0500	0391	3486	2771	0004462	0242	14745								
		OBS	0500	0391	34859	2771			14745								
		STD	0600	0389	3487	2772	0004458	0287	14761								
		OBS	0600	0389	34869	2772			14761								
		STD	0700	0385	3488	2773	0004423	0331	14776								
		OBS	0700	0385	34880	2773			14776								
		STD	0800	0384	3489	2774	0004413	0375	14793								
		OBS	0800	0384	34892	2774			14793								
		STD	0900	0379	3491	2776	0004325	0419	14807								
		OBS	0900	0379	34908	2776			14807								
		STD	1000	0366	3491	2777	0004252	0462	14819								
		OBS	1000	0366	34909	2777			14819								
		STD	1100	0354	3492	2779	0004105	0504	14831								
		OBS	1100	0354	34921	2779			14831								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	49395N	050140W		150	90	05	29	165	1966		9604	0492	05	20	3	13		X4	0	4		0096

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	19	S22	081	056	056	5	17	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at.l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0380	3428	2726	0008248	0000	14650								
165		OBS	0000	0380	34279	2726			14650								
		STD	0010	0380	3428	2726	0008256	0008	14652								
		OBS	0010	0380	34279	2726			14652								
		STD	0020	0373	3436	2733	0007588	0016	14652								
001		OBS	0020	0373	34360	2733			14652								
		STD	0030	0335	3441	2740	0006858	0023	14638								
		OBS	0030	0335	34411	2740			14638								
		OBS	0037	0320	34480	2747			14634								
		STD	0050	0339	3455	2751	0005870	0036	14645								
		OBS	0050	0339	34549	2751			14645								
		STD	0075	0347	3462	2756	0005431	0050	14653								
		OBS	0075	0347	34620	2756			14653								
		STD	0100	0366	3466	2757	0005325	0064	14666								
		OBS	0100	0366	34661	2757			14666								
		STD	0125	0362	3469	2760	0005105	0077	14669								
		OBS	0125	0362	34688	2760			14669								
		STD	0150	0373	3472	2761	0004995	0089	14678								
		OBS	0150	0373	34720	2761			14678								
		STD	0200	0422	3483	2765	0004721	0114	14708								
		OBS	0200	0422	34830	2765			14708								
		OBS	0240	0427	34820	2764			14717								
		STD	0250	0412	3482	2765	0004740	0137	14712								
		OBS	0255	0407	34820	2766			14711								
		OBS	0275	0407	34860	2769			14715								
		OBS	0285	0420	34858	2767			14722								
		STD	0300	0420	3486	2767	0004599	0161	14724								
		OBS	0350	0417	34854	2767			14731								
		STD	0400	0411	3486	2768	0004600	0207	14737								
		OBS	0455	0401	34860	2770			14742								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER.	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	EV	49300N	050305W		150	90	05	29	185	1966		9605	0326	03	20	5	13		X6	0	4		0097

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	19	S22	051	056	056	5	15	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at.l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0290	3372	2689	0011697	0000	14604								
185		OBS	0000	0290	33715	2689			14604								
		STD	0010	0290	3372	2690	0011658	0012	14606								
		OBS	0010	0290	33721	2690			14606								
		STD	0020	0285	3379	2696	0011100	0023	14606								
001		OBS	0020	0285	33790	2696			14606								
		STD	0030	0225	3403	2720	0008809	0033	14585								
		OBS	0030	0225	34030	2720			14585								
		OBS	0034	0259	34060	2719			14601								
		OBS	0040	0260	34050	2718			14602								
		OBS	0043	0238	34080	2723			14594								
		STD	0050	0240	3412	2726	0008255	0050	14596								
		OBS	0050	0240	34120	2726			14596								
		STD	0075	0276	3425	2733	0007621	0070	14618								
		OBS	0075	0276	34245	2733			14618								
		STD	0100	0324	3448	2747	0006328	0087	14646								
		OBS	0100	0324	34475	2747			14646								
		STD	0125	0377	3465	2755	0005538	0102	14675								
		OBS	0130	0382	34670	2756			14678								
		STD	0150	0380	3471	2759	0005177	0116	14681								
		OBS	0150	0380	34705	2759			14681								
		STD	0200	0400	3477	2762	0004977	0141	14698								
		OBS	0200	0400	34765	2762			14698								
		STD	0250	0399	3478	2763	0004940	0166	14706								
		OBS	0250	0399	34775	2763			14706								
		OBS	0290	0392	34820	2767			14711								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	Ev	4924 N	05045 W		150	90	05	29	210	1966		9606	0335	03	21	4	4		X5	7	8		0098

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S20	041	061	061	1	09	

MESSENGR TIME OF CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0322	3372	2687	0011918	0000	14618								
210		OBS	0000	0322	33722	2687			14618								
		STD	0010	0323	3376	2690	0011623	0012	14621								
210		OBS	0010	0323	33763	2690			14621								
		STD	0020	0320	3375	2689	0011701	0023	14621								
210		OBS	0025	0315	33747	2689			14620								
		STD	0030	0294	3375	2692	0011484	0035	14611								
		STD	0050	0244	3384	2703	0010404	0057	14594								
210		OBS	0051	0243	33847	2704			14594								
		STD	0075	0257	3413	2725	0008330	0080	14608								
210		OBS	0076	0258	34137	2726			14609								
		STD	0100	0301	3438	2741	0006836	0099	14635								
210		OBS	0102	0304	34397	2742			14636								
		STD	0125	0339	3450	2747	0006298	0116	14657								
		STD	0150	0365	3459	2752	0005892	0131	14673								
210		OBS	0152	0367	34594	2752			14674								
		STD	0200	0382	3468	2757	0005430	0159	14690								
210		OBS	0203	0383	34689	2758			14691								
		STD	0250	0394	3475	2762	0005075	0186	14704								
210		OBS	0295	0402	34795	2764			14715								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
318	001	Ev	4919 N	05054 W		150	90	05	29	226	1966		9607	0342	03	20	6	3		X5	7	8		0099

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S18	034	056	056	1	08	

MESSENGR TIME OF CAST HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0232	3324	2656	0014802	0000	14573								
226		OBS	0000	0232	33244	2656			14573								
		STD	0010	0229	3325	2657	0014720	0015	14573								
		STD	0020	0226	3326	2658	0014639	0029	14573								
226		OBS	0025	0224	33264	2659			14574								
		STD	0030	0201	3337	2669	0013628	0044	14566								
		STD	0050	0150	3371	2699	0010737	0068	14551								
226		OBS	0050	0150	33705	2699			14551								
		STD	0075	0179	3395	2717	0009073	0093	14571								
226		OBS	0075	0179	33952	2717			14571								
		STD	0100	0276	3423	2731	0007749	0114	14622								
226		OBS	0100	0276	3329P	2656P											
		STD	0125	0333	3443	2742	0006769	0132	14653								
		STD	0150	0365	3457	2750	0006035	0148	14673								
226		OBS	0150	0365	34571	2750			14673								
		STD	0200	0353	3464	2757	0005419	0177	14677								
226		OBS	T0200	0353	34643	2757			14677								
		STD	0250	0357	3471	2762	0004998	0203	14688								
		STD	0300	0377	3478	2766	0004720	0227	14705								
226		OBS	T0314	0386	34800	2766			14712								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	49140N	051060W		150	91	05	29	237	1966		9608	0348	03	20	4	2		X4	0	4		0100

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	21	S10	041	056	050	5	12	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0250	3323	2654	0015045	0000	14580								
237		OBS	0000	0250	33230	2654			14580								
		STD	0010	0250	3323	2654	0015049	0015	14582								
		OBS	0010	0250	33230	2654			14582								
		STD	0020	0249	3325	2656	0014893	0030	14583								
004		OBS	0020	0249	33250	2656			14583								
		STD	0030	0138	3328	2666	0013896	0044	14536								
		OBS	0030	0138	33278	2666			14536								
		STD	0050	0062	3336	2677	0012820	0071	14507								
		OBS	0050	0062	33360	2677			14507								
		STD	0075	0095	3372	2704	0010273	0100	14531								
		OBS	0075	0095	33720	2704			14531								
		STD	0100	0145	3398	2721	0008666	0124	14561								
		OBS	0100	0145	33975	2721			14561								
		STD	0125	0240	3425	2736	0007311	0144	14610								
		OBS	0125	0240	34250	2736			14610								
		STD	0150	0276	3437	2743	0006716	0161	14632								
		OBS	0150	0276	34371	2743			14632								
		STD	0200	0324	3457	2754	0005688	0192	14663								
		OBS	0200	0324	34570	2754			14663								
		STD	0250	0351	3470	2762	0004983	0219	14685								
		OBS	0250	0351	34704	2762			14685								
		OBS	0283	0374	34785	2766			14701								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	49065N	051160W		150	91	05	30	015	1966		9609	0326	03	21	4	2		X4	0	4		0101

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	20	S10	037	056	050	6	21	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0249	3308	2642	0016150	0000	14578								
015		OBS	0000	0249	33083	2642			14578								
		STD	0010	0245	3309	2643	0016070	0016	14578								
		OBS	0010	0245	33090	2643			14578								
001		OBS	0015	0243	33079	2642			14578								
		STD	0020	0195	3313	2650	0015402	0032	14558								
		OBS	0020	0195	33130	2650			14558								
		STD	0030	0115	3326	2666	0013927	0047	14526								
		OBS	0030	0115	33255	2666			14526								
		OBS	0033	0128	33265	2666			14532								
		OBS	0040	0062	33267	2670			14504								
		STD	0050	0036	3332	2675	0013001	0073	14494								
		OBS	0050	0036	33318	2675			14494								
		OBS	0054	0008	33340	2679			14482								
		OBS	0057	0030	33360	2679			14493								
		OBS	0060	0000	33370	2681			14480								
		OBS	0064	-0071	33382	2685			14448								
		STD	0075	-0036	3355	2697	0010892	0103	14469								
		OBS	0075	-0036	33549	2697			14469								
		OBS	0082	0015	33526	2693			14493								
		OBS	0092	-0014	33560	2697			14482								
		STD	0100	0016	3365	2703	0010346	0130	14498								
		OBS	0100	0016	33652	2703			14498								
		STD	0125	0126	3396	2721	0008656	0154	14556								
		OBS	0125	0126	33960	2721			14556								
		STD	0150	0210	3419	2734	0007535	0174	14601								
		OBS	0150	0210	34190	2734			14601								
		STD	0200	0292	3447	2749	0006130	0208	14648								
		OBS	0200	0292	34472	2749			14648								
		STD	0250	0338	3466	2760	0005201	0236	14679								
		OBS	0250	0338	34658	2760			14679								
		OBS	0290	0378	34790	2766			14704								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	48560N	051420W		150	81	05	30	045	1966		9610	0326	03	31	3	2		X4	X	9		0102

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		30	S15	051	044	033	6	09	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SIO4-Si µg-at/l	pH	SCC
		STD	0000	0245	3309	2643	0016074	0000	14576								
045		OBS	0000	0245	33089	2643			14576								
045		OBS	0009	0246	33108	2644			14578								
		STD	0010	0246	3311	2645	0015925	0016	14579								
		STD	0020	0244	3314	2647	0015683	0032	14580								
045		OBS	0022	0243	33147	2648			14580								
		STD	0030	0180	3319	2656	0014844	0047	14554								
045		OBS	0044	0101	33261	2667			14522								
		STD	0050	0088	3328	2669	0013576	0075	14517								
045		OBS	0066	0061	33352	2677			14509								
		STD	0075	0045	3341	2682	0012344	0108	14504								
045		OBS	0088	0039	33509	2691			14505								
		STD	0100	0076	3362	2697	0010920	0137	14525								
		STD	0125	0144	3385	2711	0009612	0163	14563								
045		OBS	T0132	0161	33905	2715			14572								
		STD	0150	0195	3405	2724	0008477	0185	14592								
045		OBS	T0178	0243	34260	2737			14621								
		STD	0200	0277	3440	2745	0006537	0223	14641								
		STD	0250	0340	3464	2758	0005355	0253	14679								
045		OBS	T0259	0350	34669	2760			14686								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	48455N	052070W		150	82	05	30	073	1966		9611	0293	03	32	4	4		X4	7	8		0103

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		30	S20	091	039	033	5	09	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SIO4-Si µg-at/l	pH	SCC
		STD	0000	0251	3258	2602	0019990	0000	14572								
073		OBS	0000	0251	32578	2602			14572								
		STD	0010	0162	3266	2615	0018744	0019	14535								
		STD	0020	0093	3273	2625	0017792	0038	14507								
073		OBS	0025	0065	32763	2629			14496								
		STD	0030	0051	3279	2632	0017083	0055	14491								
		STD	0050	-0001	3291	2645	0015903	0088	14472								
073		OBS	0051	-0003	32920	2645			14471								
		STD	0075	-0055	3299	2653	0015084	0127	14452								
073		OBS	0076	-0056	32991	2653			14452								
		STD	0100	-0046	3310	2662	0014269	0163	14462								
073		OBS	0102	-0045	33113	2663			14463								
		STD	0125	-0025	3324	2672	0013282	0198	14478								
073		OBS	0142	0000	33353	2680			14493								
		STD	0150	0016	3341	2684	0012179	0230	14503								
073		OBS	0182	0091	33686	2702			14546								
		STD	0200	0145	3388	2714	0009408	0284	14576								
073		OBS	T0210	0174	33986	2720			14592								
		STD	0250	0279	3438	2743	0006737	0324	14650								
073		OBS	0269	0323	34552	2753			14674								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	48350N	052450W		150	82	05	30	103	1966		9612	0113	01	32	3	2		X2	7	8		0104

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		34	515	122	056	044	7	06	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0322	3201	2550	0024667	0000	14595								
103		OBS	0000	0322	32008	2550			14595								
		STD	0010	0017	3273	2629	0017426	0021	14471								
103		OBS	0010	0017	32727	2629			14471								
		STD	0020	-0022	3280	2636	0016693	0038	14456								
103		OBS	0025	-0035	32826	2639			14451								
		STD	0030	-0036	3285	2641	0016250	0055	14451								
103		OBS	0049	-0040	32896	2645			14453								
		STD	0050	-0043	3290	2645	0015831	0087	14452								
103		OBS	0072	-0099	32911	2648			14430								
		STD	0075	-0104	3291	2649	0015491	0126	14428								
103		OBS	0096	-0120	32936	2651			14424								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	48390N	052240W		150	82	05	30	124	1966		9613	0247	02	34	3	2		X2	3	8		0105

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		31	508	139	044	039	6	08	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0218	3259	2605	0019656	0000	14558								
124		OBS	0000	0218	32590	2605			14558								
		STD	0010	0148	3260	2611	0019110	0019	14528								
		STD	0020	0073	3264	2619	0018398	0038	14497								
124		OBS	0020	0073	32636	2619			14497								
		STD	0030	-0017	3270	2628	0017475	0056	14458								
124		OBS	0036	-0058	32739	2633			14441								
		STD	0050	-0065	3279	2637	0016588	0090	14440								
		STD	0075	-0078	3289	2646	0015765	0131	14440								
124		OBS	0076	-0078	32895	2646			14440								
		STD	0100	-0081	3295	2651	0015280	0169	14443								
		STD	0125	-0084	3309	2662	0014185	0206	14448								
124		OBS	0132	-0085	33149	2667			14450								
		STD	0150	0000	3332	2677	0012783	0240	14494								
124		OBS	T0152	0007	33340	2679			14498								
124		OBS	0183	0051	33570	2695			14527								
		STD	0200	0097	3375	2707	0010067	0297	14553								
124		OBS	T0228	0206	34125	2729			14611								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	51440N	054490W		186	14	05	31	086	1966		9614	0182	02	21	0	2		X1	0	4		0106

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	S0	20	S06	139	033	022	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCC
		STD	0000	-0053	3222	2591	0021032	0000	14430								
086		OBS	0000	-0053	32219	2591			14430								
		STD	0010	-0057	3223	2591	0020966	0021	14430								
		OBS	0010	-0057	32225	2591			14430								
001		OBS	0015	-0125	32560	2621			14403								
		STD	0020	-0101	3260	2623	0017981	0040	14416								
		OBS	0020	-0101	32595	2623			14416								
		STD	0030	-0137	3271	2633	0016991	0058	14402								
		OBS	0030	-0137	32710	2633			14402								
		STD	0050	-0102	3292	2649	0015467	0090	14425								
		OBS	0050	-0102	32920	2649			14425								
		STD	0075	-0005	3318	2666	0013847	0127	14478								
		OBS	0075	-0005	33180	2666			14478								
		STD	0100	0032	3328	2672	0013300	0161	14500								
		OBS	0100	0032	33275	2672			14500								
		STD	0125	-0014	3349	2692	0011427	0192	14486								
		OBS	0125	-0014	33490	2692			14486								
		STD	0150	0022	3372	2708	0009852	0218	14510								
		OBS	0150	0022	33720	2708			14510								
		OBS	0170	0038	33830	2716			14522								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	51530N	054210W		186	14	05	31	107	1966		9615	0238	02	21	0	2		X1	0	4		0107

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	20	S05	146	050	033	8	19	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg-at/l	TOTAL-P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	SCC
		STD	0000	0063	3283	2635	0016869	0000	14492								
107		OBS	0000	0063	32830	2635			14492								
		STD	0010	0052	3286	2637	0016620	0017	14489								
		OBS	0010	0052	32855	2637			14489								
		STD	0020	0025	3297	2647	0015644	0033	14479								
004		OBS	0020	0025	32965	2647			14479								
		STD	0030	-0060	3321	2671	0013402	0047	14445								
		OBS	0030	-0060	33210	2671			14445								
		OBS	0034	-0068	33310	2679			14444								
		OBS	0035	0005	33330	2678			14478								
		OBS	0042	-0012	33370	2682			14472								
		OBS	0043	0000	33370	2681			14477								
		STD	0050	0001	3340	2684	0012203	0073	14479								
		OBS	0050	0001	33400	2684			14479								
		OBS	0062	0015	33445	2687			14488								
		OBS	0067	-0024	33550	2697			14473								
		STD	0075	0019	3362	2701	0010609	0102	14495								
		OBS	0075	0019	33620	2701			14495								
		OBS	0082	0041	33620	2699			14506								
		OBS	0088	-0010	33735	2711			14485								
		OBS	0090	0030	33760	2711			14504								
		STD	0100	0062	3385	2716	0009128	0126	14522								
		OBS	0100	0062	33845	2716			14522								
		STD	0125	0165	3418	2736	0007300	0147	14576								
		OBS	0125	0165	34175	2736			14576								
		STD	0150	0211	3433	2745	0006486	0164	14603								
		OBS	0150	0211	34330	2745			14603								
		STD	0200	0285	3451	2753	0005781	0195	14646								
		OBS	0200	0285	34510	2753			14646								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10	INDICTR	10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	A MT		
31	8001	EV	52000N	053570W		186	23	05	31	130	1966		9616	0349	03	22	2	2		X0	0	4		0108

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	SD	19	S09	146	061	044	7	18	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Sigma \Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0140	3336	2672	0013320	0000	14533								
130		OBS	0000	0140	33355	2672			14533								
		STD	0010	0142	3340	2675	0013031	0013	14537								
		OBS	0010	0142	33395	2675			14537								
		STD	0020	0141	3343	2678	0012798	0026	14538								
001		OBS	0020	0141	33425	2678			14538								
		OBS	0025	0114	33495	2685			14528								
		STD	0030	0133	3351	2685	0012102	0039	14537								
		OBS	0030	0133	33510	2685			14537								
		OBS	0040	0115	33560	2690			14532								
		STD	0050	0095	3361	2695	0011146	0062	14525								
		OBS	0050	0095	33605	2695			14525								
		STD	0075	0070	3386	2717	0009053	0087	14521								
		OBS	0075	0070	33861	2717			14521								
		OBS	0088	0140	34112	2733			14558								
		STD	0100	0167	3416	2735	0007420	0108	14573								
		OBS	0100	0167	34160	2735			14573								
		STD	0125	0215	3434	2745	0006468	0125	14601								
		OBS	0125	0215	34335	2745			14601								
		STD	0150	0281	3454	2756	0005502	0140	14636								
		OBS	0150	0281	34538	2756			14636								
		OBS	0175	0300	34555	2755			14649								
		STD	0200	0320	3464	2760	0005162	0167	14663								
		OBS	0200	0320	34635	2760			14663								
		OBS	0225	0351	34685	2761			14681								
		STD	0250	0352	3469	2761	0005136	0192	14685								
		OBS	0250	0352	34685	2761			14685								
		STD	0300	0355	3470	2762	0005095	0218	14695								
		OBS	0300	0355	34700	2762			14695								
		OBS	0325	0356	34710	2762			14700								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10	INDICTR	10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	A MT		
31	8001	EV	52070N	053380W		186	23	05	31	141	1966		9617	0420	02	21	2	2		X1	0	4		0109

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	SD	23	S06	152	072	056	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Sigma \Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0180	3339	2672	0013320	0000	14552								
141		OBS	0000	0180	33390	2672			14552								
		STD	0010	0189	3342	2673	0013196	0013	14558								
		OBS	0010	0189	33415	2673			14558								
		STD	0020	0160	3341	2675	0013014	0026	14546								
		OBS	0020	0160	33413	2675			14546								
		STD	0030	0145	3344	2679	0012711	0039	14542								
		OBS	0030	0145	33440	2679			14542								
		STD	0050	0083	3361	2696	0011037	0063	14520								
		OBS	0050	0083	33610	2696			14520								
		STD	0075	0103	3374	2705	0010186	0090	14535								
		OBS	0075	0103	33738	2705			14535								
		STD	0100	0110	3401	2727	0008168	0112	14546								
		OBS	0100	0110	34010	2727			14546								
		STD	0125	0227	3433	2744	0006602	0131	14606								
		OBS	0125	0227	34330	2744			14606								
		STD	0150	0280	3444	2748	0006209	0147	14635								
		OBS	0150	0280	34443	2748			14635								
		STD	0200	0330	3460	2756	0005497	0176	14667								
		OBS	0200	0330	34603	2756			14667								
		STD	0250	0351	3467	2759	0005253	0203	14685								
		OBS	0250	0351	34668	2759			14685								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	52070N	053380W		186	23	05	31	158	1966		9617	0420	03	21	2	2		X1	4	1		0110

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		23	S06	152	072	056	7	04	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
158		OBS	T0135	0278	34376	2743			14630								
		STD	0150	0294	3445	2747	0006280		14641								
158		OBS	0178	0320	34556	2753			14658								
		STD	0200	0338	3461	2756	0005521		14670								
		STD	0250	0367	3470	2760	0005173		14692								
158		OBS	0264	0372	34714	2761			14696								
		STD	0300	0372	3472	2762	0005095		14702								
158		OBS	0348	0372	34735	2763			14710								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	5211 N	05325 W		186	23	05	31	170	1966		9618	0393	03	21	1	0		X0		0		0111

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S05	146	067	050	8	08	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0219	3323	2656	0014826	0000	14567								
170		OBS	0000	0219	33228	2656			14567								
		STD	0010	0196	3326	2660	0014421	0015	14559								
170		OBS	0015	0183	33266	2662			14554								
		STD	0020	0159	3327	2664	0014100	0029	14544								
		STD	0030	0125	3328	2667	0013837	0043	14531								
170		OBS	0037	0112	33279	2668			14526								
		STD	0050	0128	3341	2677	0012832	0070	14537								
170		OBS	0060	0131	33485	2683			14541								
		STD	0075	0112	3354	2689	0011746	0100	14536								
170		OBS	0083	0109	33591	2693			14537								
		STD	0100	0135	3383	2710	0009698	0127	14554								
		STD	0125	0184	3412	2730	0007855	0149	14584								
170		OBS	T0129	0193	34161	2733			14589								
		STD	0150	0256	3432	2740	0006929	0167	14623								
170		OBS	0176	0320	34485	2748			14657								
		STD	0200	0328	3452	2750	0006081	0200	14665								
		STD	0250	0345	3460	2755	0005684	0229	14681								
		STD	0300	0362	3468	2760	0005288	0257	14698								
170		OBS	0349	0379	34762	2764			14714								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	5215 N	05305 W		186	23	05	31	186	1966		9619	0262	02	21	2	2		X0		0		0112

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S05	146	067	050	8	08	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0248	3343	2670	0013492	0000	14582								
186		OBS	0000	0248	33433	2670			14582								
		STD	0010	0210	3348	2677	0012854	0013	14568								
186		OBS	0010	0210	33480	2677			14568								
		STD	0020	0215	3354	2681	0012441	0026	14573								
		STD	0030	0220	3359	2685	0012105	0038	14577								
186		OBS	0035	0223	33614	2687			14580								
		STD	0050	0194	3364	2691	0011537	0062	14570								
186		OBS	0060	0179	33704	2697			14565								
		STD	0075	0167	3389	2713	0009457	0088	14565								
186		OBS	0085	0159	34013	2723			14565								
		STD	0100	0193	3418	2734	0007460	0109	14585								
186		OBS	0110	0217	34279	2740			14598								
		STD	0125	0272	3440	2745	0006448	0127	14626								
		STD	0150	0338	3456	2752	0005857	0142	14661								
186		OBS	T0157	0351	34596	2754			14668								
		STD	0200	0362	3470	2761	0005075	0169	14681								
186		OBS	0210	0364	34702	2761			14684								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5220 N	05252 W		186	22	05	31	201	1966		9620	0284	02	21	2	2		X1	4	2	0113

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S09	159	067	050	6	09	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁻⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at l	SiO₄-Si µg-at l	pH	SCC
		STD	0000	0247	3341	2669	0013636	0000	14582								
201		OBS	0000	0247	33413	2669			14582								
		STD	0010	0202	3347	2677	0012894	0013	14564								
201		OBS	0010	0202	33467	2677			14564								
		STD	0020	0194	3348	2678	0012741	0026	14562								
201		OBS	0025	0187	33501	2680			14560								
		STD	0030	0166	3355	2686	0012017	0038	14553								
		STD	0050	0117	3373	2703	0010354	0061	14537								
201		OBS	0050	0117	33727	2703			14537								
201		OBS	0074	0133	33897	2716			14550								
		STD	0075	0136	3391	2717	0009093	0085	14552								
201		OBS	0098	0200	34186	2734			14588								
		STD	0100	0205	3420	2735	0007400	0106	14590								
		STD	0125	0264	3436	2743	0006681	0123	14622								
201		OBS	T0147	0305	34477	2749			14645								
		STD	0150	0309	3449	2749	0006114	0139	14648								
		STD	0200	0360	3466	2758	0005360	0168	14680								
201		OBS	0200	0360	34660	2758			14680								
201		OBS	T0246	0385	34758	2763			14700								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5222 N	05243 W		186	22	05	31	210	1966		9621	0241	02	21	2	2		X0		0	0114

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S05	166	100	072	8	08	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁻⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at l	SiO₄-Si µg-at l	pH	SCC
		STD	0000	0224	3362	2687	0011893	0000	14574								
210		OBS	0000	0224	33620	2687			14574								
		STD	0010	0184	3362	2690	0011591	0012	14558								
210		OBS	0010	0184	33622	2690			14558								
		STD	0020	0149	3375	2703	0010382	0023	14546								
210		OBS	0025	0139	33801	2708			14543								
		STD	0030	0142	3384	2711	0009657	0033	14546								
		STD	0050	0156	3400	2722	0008563	0051	14558								
210		OBS	0050	0156	33997	2722			14558								
		STD	0075	0222	3422	2735	0007347	0071	14594								
210		OBS	0075	0222	34223	2735			14594								
		STD	0100	0278	3441	2746	0006416	0088	14625								
210		OBS	0100	0278	34409	2746			14625								
		STD	0125	0308	3450	2750	0006012	0104	14643								
210		OBS	T0147	0330	34568	2753			14657								
		STD	0150	0333	3458	2754	0005660	0118	14659								
		STD	0200	0367	3468	2759	0005279	0146	14683								
210		OBS	T0221	0376	34698	2759			14691								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	52265N	05229 W		186	22	05	31	233	1966		9622	0269	02	20	2	2		X1	0	2		0115

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		21	505	179	067	050	8	09	

MESSENGR TIME OF HR 1.10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^3	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0274	3384	2700	0010636	0000	14599								
233		OBS	0000	0274	33838	2700			14599								
		STD	0010	0273	3383	2700	0010663	0011	14600								
233		OBS	0010	0273	33834	2700			14600								
		STD	0020	0280	3384	2700	0010678	0021	14605								
233		OBS	0025	0283	33859	2701			14607								
		STD	0030	0239	3388	2707	0010053	0032	14589								
		STD	0050	0153	3403	2725	0008330	0050	14557								
233		OBS	0050	0153	34025	2725			14557								
		STD	0075	0245	3431	2740	0006873	0069	14605								
233		OBS	0075	0245	34310	2740			14605								
		STD	0100	0268	3442	2747	0006263	0085	14621								
233		OBS	0100	0268	34418	2747			14621								
		STD	0125	0335	3455	2752	0005885	0101	14656								
233		OBS	T0149	0377	34639	2754			14679								
		STD	0150	0378	3464	2754	0005645	0115	14679								
233		OBS	0198	0396	34699	2757			14695								
		STD	0200	0396	3470	2757	0005425	0143	14696								
233		OBS	T0248	0402	34714	2758			14706								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5231 N	05211 W		186	22	06	01	009	1966		9623	0300	03	21	3	2		X1	0	3		0116

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	507	186	056	044	7	06	

MESSENGR TIME OF HR 1.10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^3	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0150	3327	2665	0014000	0000	14537								
009		OBS	0000	0150	33274	2665			14537								
		STD	0010	0107	3335	2674	0013155	0014	14520								
		STD	0020	0073	3342	2681	0012426	0026	14508								
009		OBS	0025	0059	33459	2685			14503								
		STD	0030	0053	3349	2688	0011781	0038	14501								
		STD	0050	0027	3363	2701	0010579	0061	14495								
009		OBS	0055	0021	33675	2705			14493								
		STD	0075	0089	3390	2719	0008869	0085	14531								
009		OBS	0099	0161	34126	2732			14570								
		STD	0100	0163	3413	2732	0007618	0106	14571								
		STD	0125	0219	3427	2739	0006991	0124	14602								
		STD	0150	0268	3439	2745	0006504	0141	14629								
009		OBS	0198	0339	34566	2752			14670								
		STD	0200	0341	3457	2753	0005850	0172	14671								
		STD	0250	0385	3468	2757	0005506	0200	14699								
009		OBS	T0287	0397	34720	2759			14711								

REFERENCE CTRY. CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR, 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5239 N	05154 W		186	21	06	01	027	1966		9624	0567	05	21	2	2		X1	7	7	0117

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S06	200	056	044	7	07	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁻⁵	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at l	TOTAL-P µg-at l	NO₂-N µg-at l	NO₃-N µg-at l	SiO₄-Si µg-at l	pH	DCSS
		STD	0000	0264	3390	2706	0010101	0000	14596								
028		OBS	0000	0264	33898	2706			14596								
		STD	0010	0363	3426	2726	0008239	0009	14645								
028		OBS	0015	0399	34406	2734			14663								
		STD	0020	0400	3445	2737	0007169	0017	14664								
		STD	0030	0401	3453	2743	0006587	0024	14668								
		STD	0050	0403	3465	2753	0005705	0036	14673								
028		OBS	0050	0403	34653	2753			14673								
		STD	0075	0409	3471	2757	0005361	0050	14681								
		STD	0100	0414	3476	2760	0005039	0063	14688								
028		OBS	0100	0414	34763	2760			14688								
		STD	0125	0416	3479	2762	0004882	0075	14693								
		STD	0150	0418	3482	2765	0004703	0087	14698								
		STD	0200	0421	3485	2767	0004531	0110	14708								
028		OBS	0200	0421	34854	2767			14708								
		STD	0250	0419	3486	2768	0004515	0133	14716								
		STD	0300	0418	3486	2768	0004555	0156	14724								
028		OBS	T0396	0414	34871	2769			14738								
		STD	0400	0414	3487	2769	0004529	0201	14739								
		STD	0500	0410	3487	2770	0004560	0246	14754								
028		OBS	0523	0409	34875	2770			14757								

REFERENCE CTRY. CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR, 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5243 N	05140 W		186	21	06	01	045	1966		9625	1682	12	21	2	X		X1	7	6	0118

WATER COLOR CODE	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	S10	200	056	044	7	12	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁻⁵	Σ△D DYN. M x 10³	SOUND VELOCITY	O₂ ml l	PO₄-P µg-at l	TOTAL-P µg-at l	NO₂-N µg-at l	NO₃-N µg-at l	SiO₄-Si µg-at l	pH	DCSS
		STD	0000	0448	3454	2739	0006955	0000	14683								
045		OBS	0000	0448	34541	2739			14683								
		STD	0010	0427	3455	2742	0006682	0007	14676								
		STD	0020	0411	3456	2745	0006455	0013	14671								
045		OBS	0025	0405	34568	2746			14669								
		STD	0030	0402	3458	2747	0006203	0020	14669								
		STD	0050	0391	3465	2754	0005641	0032	14668								
045		OBS	0051	0390	34648	2754			14668								
		STD	0075	0396	3469	2757	0005378	0045	14675								
045		OBS	0076	0396	34697	2757			14675								
		STD	0100	0412	3476	2760	0005041	0058	14687								
045		OBS	0102	0413	34767	2761			14688								
		STD	0125	0414	3479	2762	0004895	0071	14692								
		STD	0150	0416	3481	2764	0004786	0083	14697								
		STD	0200	0419	3485	2767	0004560	0106	14707								
045		OBS	T0203	0419	34849	2767			14708								
		STD	0250	0415	3486	2768	0004498	0129	14714								
		STD	0300	0411	3487	2769	0004446	0151	14721								
045		OBS	T0305	0411	34866	2769			14722								
		STD	0400	0404	3488	2771	0004379	0195	14735								
045		OBS	0406	0404	34878	2771			14736								
		STD	0500	0392	3488	2772	0004316	0239	14746								
		STD	0600	0384	3488	2773	0004320	0282	14759								
045		OBS	T0609	0383	34885	2773			14760								
		STD	0700	0380	3489	2774	0004287	0325	14774								
		STD	0800	0377	3490	2775	0004290	0368	14790								
045		OBS	0806	0377	34898	2775			14791								
		STD	0900	0368	3490	2776	0004256	0411	14803								
		STD	1000	0362	3490	2777	0004271	0453	14817								
045		OBS	T1027	0361	34902	2777			14821								
		STD	1100	0359	3491	2778	0004245	0496	14833								
		STD	1200	0359	3492	2779	0004255	0538	14849								
045		OBS	T1208	0359	34922	2779			14851								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT IND.	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5247 N	05129 W		186	21	06	01	061	1966		9626	2250	12	21	2	2		X1	4	7		0119

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		16	S10	200	072	061	7	12	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0481	3453	2734	0007417	0000	14696								
062		OBS	0000	0481	34526	2734			14696								
		STD	0010	0458	3457	2740	0006853	0007	14689								
		STD	0020	0440	3462	2746	0006300	0014	14684								
062		OBS	0025	0432	34633	2748			14681								
		STD	0030	0428	3465	2750	0005996	0020	14680								
		STD	0050	0411	3470	2755	0005469	0031	14677								
062		OBS	0051	0410	34697	2756			14677								
		STD	0075	0407	3470	2756	0005417	0045	14680								
062		OBS	0076	0407	34705	2757			14680								
		STD	0100	0404	3474	2760	0005111	0058	14683								
062		OBS	0102	0404	34742	2760			14684								
		STD	0125	0400	3477	2762	0004869	0071	14686								
		STD	0150	0396	3479	2765	0004700	0083	14689								
		STD	0200	0388	3483	2769	0004361	0105	14694								
062		OBS	T0203	0387	34831	2769			14694								
		STD	0250	0387	3484	2769	0004324	0127	14702								
		STD	0300	0386	3485	2770	0004291	0148	14710								
062		OBS	T0307	0386	34851	2770			14711								
		STD	0400	0392	3487	2771	0004292	0191	14729								
062		OBS	0408	0392	34876	2772			14731								
		STD	0500	0385	3488	2773	0004240	0234	14743								
		STD	0600	0380	3488	2773	0004276	0277	14758								
062		OBS	0611	0379	34883	2774			14759								
		STD	0700	0377	3489	2774	0004256	0319	14773								
		STD	0800	0374	3489	2775	0004317	0362	14789								
062		OBS	0814	0374	34891	2775			14791								
		STD	0900	0370	3490	2776	0004294	0405	14804								
		STD	1000	0366	3491	2777	0004281	0448	14819								
062		OBS	T1038	0365	34908	2777			14825								
		STD	1100	0364	3491	2777	0004298	0491	14835								
		STD	1200	0364	3492	2778	0004352	0534	14851								
062		OBS	T1221	0364	34916	2778			14855								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	5250 N	05118 W		186	21	06	01	079	1966		9627	2523	12	23	3	2		X2	7	8		0120

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		21	S08	217	067	056	8	12	

MESSENGR TIME of T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SAL
		STD	0000	0456	3446	2731	0007685	0000	14685								
079		OBS	0000	0456	34455	2731			14685								
		STD	0010	0425	3446	2735	0007338	0008	14674								
		STD	0020	0403	3449	2740	0006902	0015	14666								
079		OBS	0025	0395	34502	2742			14664								
		STD	0030	0394	3453	2744	0006521	0021	14665								
		STD	0050	0390	3464	2753	0005675	0034	14668								
079		OBS	0051	0390	34651	2754			14668								
		STD	0075	0405	3481	2765	0004540	0046	14681								
079		OBS	0075	0405	34814	2765			14681								
		STD	0100	0461	3483	2761	0005018	0058	14708								
079		OBS	0100	0461	34832	2761			14708								
		STD	0125	0456	3484	2762	0004931	0071	14710								
		STD	0150	0451	3484	2763	0004905	0083	14712								
		STD	0200	0440	3485	2765	0004742	0107	14716								
079		OBS	T0200	0440	34853	2765			14716								
		STD	0250	0426	3486	2767	0004583	0130	14719								
		STD	0300	0415	3487	2769	0004455	0153	14723								
079		OBS	T0304	0414	34870	2769			14723								
		STD	0400	0405	3488	2771	0004371	0197	14735								
079		OBS	0406	0404	34880	2771			14736								
		STD	0500	0385	3488	2773	0004240	0240	14743								
		STD	0600	0371	3488	2774	0004177	0282	14754								
079		OBS	0609	0370	34877	2774			14755								
		STD	0700	0367	3488	2775	0004224	0324	14769								
		STD	0800	0364	3489	2776	0004203	0366	14784								
079		OBS	0812	0364	34892	2776			14786								
		STD	0900	0360	3489	2776	0004209	0408	14799								
		STD	1000	0356	3490	2777	0004226	0451	14814								
079		OBS	T1036	0354	34897	2777			14820								
		STD	1100	0356	3490	2777	0004310	0493	14831								
		STD	1200	0359	3490	2777	0004433	0537	14849								
079		OBS	T1219	0359	34895	2777			14852								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5250 N	05104 W		186	21	06	01	096	1966		9628	2889	12	20	3	2		X5	7	8		0121

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		21	S08	227	067	056	8	12	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ△D DYN. M X 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QCC
		STD	0000	0460	3453	2737	0007133	0000	14687								
097		OBS	0000	0460	34534	2737			14687								
		STD	0010	0458	3454	2738	0007074	0007	14688								
		STD	0020	0455	3454	2738	0007059	0014	14689								
097		OBS	0025	0454	34549	2739			14689								
		STD	0030	0445	3455	2740	0006888	0021	14686								
		STD	0050	0416	3458	2746	0006377	0034	14678								
097		OBS	0050	0416	34581	2746			14678								
		STD	0075	0394	3466	2754	0005623	0049	14674								
097		OBS	0075	0394	34655	2754			14674								
		STD	0100	0404	3477	2762	0004880	0063	14683								
097		OBS	0101	0404	34775	2762			14684								
		STD	0125	0401	3480	2764	0004694	0075	14687								
		STD	0150	0399	3482	2766	0004541	0086	14690								
		STD	0200	0393	3486	2770	0004225	0108	14697								
097		OBS	T0202	0393	34858	2770			14697								
		STD	0250	0394	3486	2771	0004225	0129	14706								
		STD	0300	0396	3487	2771	0004251	0150	14715								
097		OBS	0305	0396	34870	2771			14715								
		STD	0400	0386	3486	2771	0004278	0193	14727								
097		OBS	0407	0385	34863	2771			14728								
		STD	0500	0383	3487	2772	0004302	0236	14742								
		STD	0600	0381	3488	2773	0004319	0279	14758								
097		OBS	T0610	0381	34877	2773			14760								
		STD	0700	0376	3488	2774	0004321	0322	14773								
		STD	0800	0370	3488	2774	0004341	0365	14787								
097		OBS	0809	0369	34885	2775			14788								
		STD	0900	0361	3488	2776	0004294	0409	14800								
		STD	1000	0356	3488	2776	0004334	0452	14814								
097		OBS	1021	0355	34882	2776			14817								
		STD	1100	0355	3489	2776	0004370	0495	14830								
		STD	1200	0354	3489	2777	0004409	0539	14847								
097		OBS	T1213	0354	34892	2777			14849								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5927 N	04427 W		185	94	06	03	062	1966		9629	0324	03	49	X	X		X4		9		0122

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		29	S05	037	028	011	6	07	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ△D DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QCC
		STD	0000	-0128	3281	2641	0016253	0000	14403								
063		OBS	0000	-0128	32812	2641			14403								
		STD	0010	-0119	3284	2643	0016055	0016	14409								
		STD	0020	-0078	3300	2655	0014950	0032	14432								
063		OBS	0024	-0053	33096	2662			14446								
		STD	0030	0021	3340	2683	0012304	0045	14485								
063		OBS	0048	0208	34141	2730			14582								
		STD	0050	0220	3417	2731	0007720	0065	14588								
		STD	0075	0354	3452	2747	0006249	0083	14655								
063		OBS	0097	0438	34729	2755			14697								
		STD	0100	0441	3474	2756	0005493	0097	14699								
		STD	0125	0466	3479	2757	0005415	0111	14714								
		STD	0150	0483	3483	2758	0005332	0125	14726								
063		OBS	T0171	0491	34846	2759			14733								
063		OBS	T0195	0494	34851	2759			14738								
		STD	0200	0494	3485	2759	0005350	0151	14739								
		STD	0250	0489	3486	2760	0005269	0178	14745								
063		OBS	T0294	0472	34872	2763			14745								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DIFF INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	B001	EV	59170N	044550W		185	94	06	04	133	1966		9630	1994	15	11	2	2		X6	0	4		0123

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	11	S09	027	044	039	7	27	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ△D DYN M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₃-N µg-at/l	NO₂-N µg-at/l	SiO₄-Si µg-at/l	pH	SOC
		STD	0000	0371	3450	2744	0006490	0000	14650								
133		OBS	0000	0371	34501	2744			14650								
		STD	0010	0378	3452	2745	0006415	0006	14655								
		OBS	0010	0378	34521	2745			14655								
		STD	0020	0480	3464	2743	0006611	0013	14700								
		OBS	0020	0480	34635	2743			14700								
		STD	0030	0440	3477	2758	0005221	0019	14687								
		OBS	0030	0440	34765	2758			14687								
		OBS	0035	0468	34801	2758			14700								
		STD	0050	0485	3477	2753	0005687	0030	14709								
		OBS	0050	0485	34770	2753			14709								
		OBS	0060	0445	34810	2761			14695								
		STD	0075	0465	3487	2763	0004748	0043	14706								
		OBS	0075	0465	34870	2763			14706								
		STD	0100	0485	3490	2764	0004764	0055	14719								
		OBS	0100	0485	34901	2764			14719								
		STD	0125	0500	3495	2766	0004596	0066	14730								
		OBS	0125	0500	34950	2766			14730								
		STD	0150	0519	3498	2766	0004621	0078	14742								
		OBS	0150	0519	34980	2766			14742								
		STD	0200	0532	3501	2767	0004620	0101	14756								
		OBS	0200	0532	35009	2767			14756								
		STD	0250	0539	3502	2767	0004694	0124	14768								
		OBS	0250	0539	35019	2767			14768								
		STD	0300	0540	3503	2767	0004726	0148	14776								
		OBS	0300	0540	35025	2767			14776								
		STD	0400	0529	3502	2768	0004756	0195	14788								
		OBS	0400	0529	35020	2768			14788								
		STD	0500	0507	3500	2769	0004758	0243	14796								
		OBS	0500	0507	35000	2769			14796								
		STD	0600	0494	3500	2770	0004754	0290	14807								
		OBS	0600	0494	34995	2770			14807								
		STD	0700	0476	3499	2772	0004691	0338	14816								
		OBS	0700	0476	34989	2772			14816								
		OBS	0750	0470	34970	2771			14821								
		STD	0800	0438	3497	2774	0004511	0384	14816								
		OBS	0800	0438	34965	2774			14816								
		STD	0900	0413	3496	2776	0004360	0428	14823								
		OBS	0900	0413	34958	2776			14823								
		STD	1000	0388	3494	2777	0004278	0471	14829								
		OBS	1000	0388	34941	2777			14829								
		STD	1100	0379	3495	2779	0004191	0514	14842								
		OBS	1100	0379	34950	2779			14842								
		STD	1200	0363	3496	2781	0004046	0555	14852								
		OBS	1200	0363	34955	2781			14852								
		STD	1300	0355	3496	2782	0004016	0595	14865								
		OBS	1300	0355	34957	2782			14865								
		STD	1400	0350	3496	2782	0004034	0635	14880								
		OBS	1400	0350	34957	2782			14880								
		STD	1500	0336	3496	2784	0003930	0675	14891								
		OBS	1500	0336	34958	2784			14891								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10	INDCTR	10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8001	EV	59235N	044410W		185	94	06	04	146	1966		9631	1408	12	12	2	2		X6	0	4		0124

WATER		WIND		BAROMETER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	SD	12	S09	014	050	044	7	26	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. X 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0379	3453	2746	0006341	0000	14653								
146		OBS	0000	0379	34531	2746			14653								
		STD	0010	0380	3455	2747	0006216	0006	14656								
		OBS	0010	0380	34550	2747			14656								
		STD	0020	0390	3459	2749	0006021	0012	14662								
003		OBS	0020	0390	34590	2749			14662								
		STD	0030	0397	3462	2751	0005889	0018	14667								
		OBS	0030	0397	34618	2751			14667								
		STD	0050	0425	3470	2754	0005612	0030	14683								
		OBS	0050	0425	34695	2754			14683								
		OBS	0070	0450	34850	2763			14699								
		STD	0075	0480	3488	2762	0004875	0043	14713								
		OBS	0075	0480	34875	2762			14713								
		OBS	0085	0531	34931	2761			14736								
		STD	0100	0532	3494	2761	0005007	0055	14739								
		OBS	0100	0532	34940	2761			14739								
		OBS	0114	0532	34968	2763			14742								
		STD	0125	0541	3497	2762	0004921	0068	14747								
		OBS	0125	0541	34970	2762			14747								
		STD	0150	0549	3502	2765	0004713	0080	14755								
		OBS	0150	0549	35015	2765			14755								
		STD	0200	0553	3502	2765	0004783	0104	14765								
		OBS	0200	0553	35021	2765			14765								
		OBS	0215	0553	35022	2765			14768								
		STD	0250	0545	3502	2766	0004751	0127	14770								
		OBS	0250	0545	35021	2766			14770								
		STD	0300	0529	3500	2766	0004779	0151	14771								
		OBS	0300	0529	35000	2766			14771								
		STD	0400	0516	3500	2768	0004746	0199	14783								
		OBS	0400	0516	35000	2768			14783								
		STD	0500	0515	3501	2769	0004768	0246	14799								
		OBS	0500	0515	35012	2769			14799								
		STD	0600	0495	3499	2770	0004781	0294	14807								
		OBS	0600	0495	34993	2770			14807								
		STD	0700	0472	3497	2771	0004768	0342	14814								
		OBS	0700	0472	34972	2771			14814								
		STD	0800	0463	3497	2772	0004781	0390	14827								
		OBS	0800	0463	34970	2772			14827								
		STD	0900	0449	3497	2773	0004750	0437	14838								
		OBS	0900	0449	34965	2773			14838								
		STD	1000	0439	3496	2773	0004765	0485	14850								
		OBS	1000	0439	34960	2773			14850								
		STD	1100	0419	3496	2775	0004627	0532	14858								
		OBS	1100	0419	34958	2775			14858								
		STD	1200	0411	3496	2776	0004621	0578	14872								
		OBS	1200	0411	34958	2776			14872								
		OBS	1215	0410	34958	2776			14874								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDIC.#	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	59120N	045085W		185	95	06	04	176	1966		9632	2085	15	16	2	2		X6	0	4	0125

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO. METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	50	15	507	997	050	044	7	23	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at l	SiO₄-Si µg-at/l	pH	QUALITY CODE
		STD	0000	0498	3489	2761	0004872	0000	14708								
172		OBS	0000	0498	34890	2761			14708								
		STD	0010	0501	3491	2762	0004805	0005	14711								
		OBS	0010	0501	34905	2762			14711								
		STD	0020	0502	3491	2763	0004768	0010	14713								
004		OBS	0020	0502	34913	2763			14713								
		STD	0030	0503	3492	2763	0004776	0014	14715								
		OBS	0030	0503	34915	2763			14715								
		STD	0050	0505	3493	2764	0004711	0024	14720								
		OBS	0050	0505	34930	2764			14720								
		STD	0075	0496	3493	2765	0004625	0036	14720								
		OBS	0075	0496	34932	2765			14720								
		STD	0100	0487	3495	2767	0004457	0047	14721								
		OBS	0100	0487	34945	2767			14721								
		STD	0125	0487	3495	2767	0004434	0058	14725								
		OBS	0125	0487	34952	2767			14725								
		STD	0150	0489	3497	2768	0004359	0069	14730								
		OBS	0150	0489	34969	2768			14730								
		STD	0200	0498	3498	2769	0004417	0091	14742								
		OBS	0200	0498	34983	2769			14742								
		STD	0250	0499	3499	2769	0004437	0113	14751								
		STD	0300	0500	3500	2769	0004471	0135	14760								
		OBS	0300	0500	34995	2769			14760								
		STD	0400	0470	3497	2770	0004461	0180	14763								
		OBS	0400	0470	34965	2770			14763								
		STD	0500	0444	3496	2773	0004299	0224	14769								
		OBS	0500	0444	34961	2773			14769								
		STD	0600	0429	3494	2773	0004355	0267	14779								
		OBS	0600	0429	34944	2773			14779								
		STD	0700	0402	3495	2777	0004090	0309	14785								
		OBS	0700	0402	34951	2777			14785								
		STD	0800	0389	3495	2778	0004078	0350	14796								
		OBS	0800	0389	34945	2778			14796								
		STD	0900	0373	3495	2779	0003981	0390	14806								
		OBS	0900	0373	34945	2779			14806								
		STD	1000	0361	3495	2780	0003927	0430	14817								
		OBS	1000	0361	34945	2780			14817								
		STD	1100	0356	3495	2782	0003885	0469	14832								
		OBS	1100	0356	34954	2782			14832								
		STD	1200	0349	3495	2782	0003913	0508	14846								
		OBS	1200	0349	34950	2782			14846								
		STD	1300	0340	3495	2783	0003868	0547	14859								
		OBS	1300	0340	34952	2783			14859								
		STD	1400	0332	3495	2784	0003848	0586	14872								
		OBS	1400	0332	34952	2784			14872								
		STD	1500	0318	3495	2785	0003771	0624	14883								
		OBS	1500	0318	34949	2785			14883								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	59030N	045230W		185	95	06	04	190	1966		9633	2377	15	17	3	3		X2	0	4		0126

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	11	S05	997	056	044	7	23	

MESSENGR TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0513	3487	2758	0005188	0000	14714								
190		OBS	0000	0513	34870	2758			14714								
		STD	0010	0512	3487	2758	0005182	0005	14715								
		OBS	0010	0512	34871	2758			14715								
		STD	0020	0513	3490	2760	0004988	0010	14718								
002		OBS	0020	0513	34900	2760			14718								
		STD	0030	0518	3492	2761	0004915	0015	14721								
		OBS	0030	0518	34919	2761			14721								
		OBS	0040	0516	34919	2761			14722								
		STD	0050	0516	3494	2763	0004764	0025	14724								
		STD	0075	0517	3498	2766	0004503	0036	14729								
		OBS	0075	0517	34980	2766			14729								
		STD	0100	0518	3498	2766	0004531	0048	14734								
		OBS	0100	0518	34982	2766			14734								
		STD	0125	0518	3499	2766	0004540	0059	14738								
		OBS	0125	0518	34985	2766			14738								
		STD	0150	0521	3500	2767	0004502	0070	14743								
		OBS	0150	0521	34999	2767			14743								
		STD	0200	0523	3501	2768	0004499	0093	14753								
		OBS	0200	0523	35011	2768			14753								
		STD	0250	0519	3501	2768	0004515	0115	14759								
		STD	0300	0513	3501	2769	0004513	0138	14765								
		OBS	0300	0513	35010	2769			14765								
		STD	0400	0495	3499	2769	0004569	0183	14774								
		OBS	0400	0495	34990	2769			14774								
		STD	0500	0448	3496	2772	0004360	0228	14771								
		OBS	0500	0448	34959	2772			14771								
		STD	0600	0421	3495	2774	0004256	0271	14776								
		OBS	0600	0421	34945	2774			14776								
		STD	0700	0401	3494	2776	0004138	0313	14784								
		OBS	0700	0401	34943	2776			14784								
		STD	0800	0383	3494	2778	0004023	0354	14793								
		OBS	0800	0383	34943	2778			14793								
		STD	0900	0373	3494	2779	0004011	0394	14806								
		OBS	0900	0373	34941	2779			14806								
		STD	1000	0362	3495	2780	0003939	0434	14818								
		OBS	1000	0362	34945	2780			14818								
		STD	1100	0356	3494	2781	0003974	0473	14832								
		OBS	1100	0356	34942	2781			14832								
		STD	1200	0352	3495	2782	0003949	0513	14847								
		OBS	1200	0352	34950	2782			14847								
		STD	1300	0351	3496	2782	0003981	0553	14863								
		OBS	1300	0351	34955	2782			14863								
		STD	1400	0345	3496	2783	0003987	0592	14878								
		OBS	1400	0345	34955	2783			14878								
		STD	1500	0335	3496	2784	0003939	0632	14890								
		OBS	1500	0335	34955	2784			14890								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	59030N	045230W		185	95	06	04	197	1966		9633	2377	23	17	3	3		X2	7	8		0127

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		11	S05	997	056	044	7	03	

MESSENGR TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	1500	0338	3494	2782	0004109		14888								
197		OBS	T1500	0338	34937	2782			14888								
		STD	1750	0321	3495	2784	0004012		14923								
		STD	2000	0291	3495	2788	0003732		14953								
197		OBS	T2015	0289	34955	2788			14955								
197		OBS	2267	0244	34924	2790			14978								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5849 N	04551 W		185	85	06	04	222	1966		9634	2560	15	26	6	3		X1	0	4	0128

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	26	S15	000	050	039	7	24	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-E10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SOQS
		STD	0000	0473	3470	2749	0006025	0000	14695								
	222	OBS	0000	0473	34700	2749			14695								
		STD	0010	0473	3470	2749	0006036	0006	14697								
		OBS	0010	0473	34700	2749			14697								
		STD	0020	0473	3471	2750	0005973	0012	14698								
	004	OBS	0020	0473	34710	2750			14698								
		STD	0030	0473	3479	2756	0005384	0018	14701								
		OBS	0030	0473	34790	2756			14701								
		STD	0050	0478	3483	2759	0005146	0028	14707								
		OBS	0050	0478	34832	2759			14707								
		STD	0075	0476	3489	2764	0004726	0041	14711								
		OBS	0075	0476	34889	2764			14711								
		STD	0100	0490	3492	2764	0004678	0052	14721								
		OBS	0100	0490	34920	2764			14721								
		STD	0125	0490	3494	2766	0004558	0064	14726								
		OBS	0125	0490	34940	2766			14726								
		STD	0150	0490	3496	2767	0004460	0075	14730								
		OBS	0150	0490	34957	2767			14730								
		STD	0200	0498	3497	2768	0004507	0098	14742								
		OBS	0200	0498	34971	2768			14742								
		STD	0250	0493	3498	2769	0004449	0120	14748								
		OBS	0250	0493	34979	2769			14748								
		STD	0300	0491	3499	2770	0004426	0142	14756								
		OBS	0300	0491	34987	2770			14756								
		STD	0400	0480	3496	2769	0004592	0187	14767								
		OBS	0400	0480	34963	2769			14767								
		STD	0500	0459	3494	2770	0004637	0233	14775								
		OBS	0500	0459	34939	2770			14775								
		STD	0600	0445	3496	2773	0004431	0279	14786								
		OBS	0600	0445	34959	2773			14786								
		STD	0700	0420	3495	2775	0004299	0322	14792								
		OBS	0700	0420	34951	2775			14792								
		STD	0800	0403	3495	2776	0004204	0365	14802								
		OBS	0800	0403	34950	2776			14802								
		STD	0900	0386	3495	2778	0004097	0406	14811								
		OBS	0900	0386	34950	2778			14811								
		STD	1000	0370	3494	2779	0004070	0447	14821								
		OBS	1000	0370	34940	2779			14821								
		STD	1100	0365	3494	2780	0004089	0488	14836								
		OBS	1100	0365	34941	2780			14836								
		STD	1200	0360	3494	2780	0004112	0529	14850								
		OBS	1200	0360	34941	2780			14850								
		STD	1300	0359	3496	2782	0004065	0570	14867								
		OBS	1300	0359	34957	2782			14867								
		STD	1400	0353	3496	2782	0004065	0611	14881								
		OBS	1400	0353	34958	2782			14881								
		STD	1500	0341	3496	2783	0003985	0651	14893								
		OBS	1500	0341	34959	2783			14893								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5849 N	04551 W		185	85	06	04	235	1966		9634	2560	25	26	6	3		X1	7	6	0129

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		26	S15	000	050	039	7	03	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-E10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SOQS
	235	OBS	T1510	0342	34940	2782			14892								
		STD	1750	0319	3494	2784	0004031		14922								
		STD	2000	0295	3494	2786	0003889		14955								
	235	OBS	T2002	0295	34937	2786			14955								
	235	OBS	T2462	0235	34925	2790			15008								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5815 N	04659 W		185	86	06	05	055	1966		9635	3017	15	29	4	3		X1	0	4		0130

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
0T	S0	27	S10	003	044	033	7	24	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY=x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	QUAL
		STD	0000	0503	3487	2759	0005077	0000	14710								
050		OBS	0000	0503	34870	2759			14710								
		STD	0010	0502	3487	2759	0005056	0005	14711								
		OBS	0010	0502	34873	2759			14711								
		STD	0020	0502	3488	2760	0005015	0010	14713								
005		OBS	0020	0502	34880	2760			14713								
		STD	0030	0501	3490	2761	0004881	0015	14714								
		OBS	0030	0501	34898	2761			14714								
		STD	0050	0485	3492	2765	0004578	0025	14711								
		OBS	0050	0485	34918	2765			14711								
		STD	0075	0483	3492	2765	0004578	0036	14714								
		OBS	0075	0483	34919	2765			14714								
		STD	0100	0472	3493	2767	0004441	0047	14714								
		OBS	0100	0472	34925	2767			14714								
		STD	0125	0460	3494	2769	0004263	0058	14713								
		OBS	0125	0460	34935	2769			14713								
		STD	0150	0464	3495	2770	0004238	0069	14719								
		OBS	0150	0464	34948	2770			14719								
		STD	0200	0453	3494	2770	0004218	0090	14723								
		OBS	0200	0453	34942	2770			14723								
		STD	0250	0447	3494	2771	0004229	0111	14729								
		OBS	0250	0447	34939	2771			14729								
		STD	0300	0444	3494	2771	0004257	0132	14736								
		OBS	0300	0444	34938	2771			14736								
		STD	0400	0430	3494	2772	0004221	0175	14746								
		OBS	0400	0430	34936	2772			14746								
		STD	0500	0421	3494	2774	0004207	0217	14759								
		OBS	0500	0421	34938	2774			14759								
		STD	0600	0420	3496	2775	0004133	0258	14776								
		OBS	0600	0420	34960	2775			14776								
		STD	0700	0397	3495	2777	0004040	0299	14782								
		OBS	0700	0397	34950	2777			14782								
		STD	0800	0368	3492	2778	0003999	0339	14786								
		OBS	0800	0368	34923	2778			14786								
		STD	0900	0361	3492	2779	0004005	0380	14800								
		OBS	0900	0361	34923	2779			14800								
		STD	1000	0356	3492	2779	0004053	0420	14815								
		OBS	1000	0356	34920	2779			14815								
		STD	1100	0354	3493	2780	0004075	0460	14831								
		OBS	1100	0354	34925	2780			14831								
		STD	1200	0350	3493	2780	0004109	0501	14846								
		OBS	1200	0350	34925	2780			14846								
		STD	1300	0350	3493	2780	0004160	0543	14863								
		OBS	1300	0350	34929	2780			14863								
		STD	1400	0350	3494	2781	0004174	0584	14880								
		OBS	1400	0350	34938	2781			14880								
		STD	1500	0351	3495	2781	0004215	0626	14897								
		OBS	1500	0351	34945	2781			14897								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
318001	EV	57430N	048070W			185	78	06	05	105	1966		9636	3294	15	28	4	3		X1	0	4		0131

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	SD	27	S14	030	078	050	7	27	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	OCC
		STD	0000	0503	3490	2761	0004852	0000	14710								
105		OBS	0000	0503	34900	2761			14710								
		STD	0010	0502	3490	2762	0004838	0005	14711								
		OBS	0010	0502	34902	2762			14711								
		STD	0020	0501	3490	2762	0004839	0010	14713								
003		OBS	0020	0501	34902	2762			14713								
		STD	0030	0501	3490	2762	0004844	0015	14714								
		OBS	0030	0501	34903	2762			14714								
		STD	0050	0494	3489	2761	0004925	0024	14714								
		OBS	0050	0494	34885	2761			14714								
		STD	0075	0476	3491	2765	0004568	0036	14711								
		OBS	0075	0476	34910	2765			14711								
		OBS	0085	0449	34930	2770			14702								
		OBS	0090	0462	34930	2768			14708								
		STD	0100	0458	3494	2770	0004176	0047	14709								
		OBS	0100	0458	34940	2770			14709								
		STD	0125	0458	3496	2771	0004054	0057	14713								
		OBS	0125	0458	34960	2771			14713								
		STD	0150	0458	3495	2770	0004180	0068	14717								
		OBS	0150	0458	34947	2770			14717								
		STD	0200	0447	3494	2771	0004152	0088	14720								
		OBS	0200	0447	34942	2771			14720								
		STD	0250	0410	3490	2772	0004097	0109	14713								
		OBS	0250	0410	34903	2772			14713								
		OBS	0275	0396	34900	2773			14711								
		STD	0300	0412	3491	2772	0004154	0130	14722								
		OBS	0300	0412	34905	2772			14722								
		STD	0400	0416	3493	2773	0004148	0171	14740								
		OBS	0400	0416	34925	2773			14740								
		STD	0500	0395	3493	2775	0004014	0212	14748								
		OBS	0500	0395	34925	2775			14748								
		STD	0600	0380	3490	2775	0004127	0253	14758								
		OBS	0600	0380	34900	2775			14758								
		STD	0700	0373	3490	2776	0004139	0294	14772								
		OBS	0700	0373	34900	2776			14772								
		STD	0800	0369	3491	2776	0004144	0336	14787								
		OBS	0800	0369	34905	2776			14787								
		STD	0900	0360	3491	2778	0004105	0377	14800								
		OBS	0900	0360	34908	2778			14800								
		STD	1000	0352	3491	2778	0004103	0418	14813								
		OBS	1000	0352	34907	2778			14813								
		STD	1100	0352	3491	2778	0004184	0459	14830								
		OBS	1100	0352	34907	2778			14830								
		STD	1200	0350	3491	2779	0004234	0501	14846								
		OBS	1200	0350	34908	2779			14846								
		STD	1300	0350	3491	2779	0004307	0544	14862								
		OBS	1300	0350	34909	2779			14862								
		STD	1400	0351	3492	2780	0004296	0587	14880								
		OBS	1400	0351	34923	2780			14880								
		STD	1500	0350	3492	2780	0004363	0630	14896								
		OBS	1500	0350	34923	2780			14896								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CTRY CODE	ID. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
318001	EV	57430N	048070W			185	78	06	05	116	1966		9636	3294	32	28	4	3		X1	8	4		0132

WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		27	S14	030	078	050	7		

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	OCC
116		OBS	T1483	0357	34928	2779			14893								
		STD	1500	0357	3493	2780	0004400		14896								
		STD	1750	0355	3493	2780	0004580		14938								
116		OBS	T1979	0354	34938	2781			14976								
		STD	2000	0353	3494	2781	0004684		14979								
116		OBS	2462	0318	34938	2784			15043								
		STD	2500	0314	3494	2784	0004500		15048								
116		OBS	2948	0392P	34924	2776P											
		STD	3000	0233	3492	2790	0003732		15100								
116		OBS	3151	0200	34910	2792			15112								

REFEPENCE CTRY. CODE	REFEPENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5707 N	04911 W		185	79	06	05	168	1966		9637	3530	15	29	3	3		X2	0	4		0133

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S12	037	078	050	7	29	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁻⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	OBS. CODE
		STD	0000	0494	3478	2753	0005645	0000	14705								
168		OBS	0000	0494	34781	2753			14705								
		STD	0010	0483	3480	2755	0005432	0006	14702								
		OBS	0010	0483	34795	2755			14702								
		STD	0020	0425	3480	2762	0004778	0011	14680								
007		OBS	0020	0425	34802	2762			14680								
		STD	0030	0387	3482	2768	0004279	0015	14666								
		OBS	0030	0387	34819	2768			14666								
		STD	0050	0382	3483	2769	0004166	0024	14667								
		OBS	0050	0382	34830	2769			14667								
		STD	0075	0384	3488	2773	0003833	0034	14673								
		OBS	0075	0384	34880	2773			14673								
		OBS	0085	0413	34870	2769			14686								
		OBS	0092	0397	34900	2773			14681								
		STD	0100	0422	3491	2771	0004034	0043	14693								
		OBS	0100	0422	34908	2771			14693								
		STD	0125	0407	3489	2771	0004039	0054	14691								
		OBS	0125	0407	34890	2771			14691								
		OBS	0140	0385	34890	2774			14684								
		STD	0150	0398	3491	2774	0003821	0063	14691								
		OBS	0150	0398	34910	2774			14691								
		OBS	0160	0415	34900	2771			14700								
		OBS	0180	0398	34890	2772			14696								
		STD	0200	0413	3491	2772	0004034	0083	14706								
		OBS	0200	0413	34909	2772			14706								
		STD	0250	0403	3490	2773	0004046	0103	14710								
		OBS	0250	0403	34900	2773			14710								
		STD	0300	0395	3490	2773	0004047	0123	14715								
		OBS	0300	0395	34895	2773			14715								
		STD	0400	0385	3490	2774	0004006	0164	14727								
		OBS	0400	0385	34899	2774			14727								
		STD	0500	0377	3488	2773	0004190	0205	14740								
		OBS	0500	0377	34875	2773			14740								
		STD	0600	0368	3490	2776	0004010	0246	14753								
		OBS	0600	0368	34898	2776			14753								
		STD	0700	0365	3490	2777	0004035	0286	14768								
		OBS	0700	0365	34902	2777			14768								
		STD	0800	0358	3490	2777	0004049	0326	14782								
		OBS	0800	0358	34901	2777			14782								
		STD	0900	0352	3490	2778	0004065	0367	14796								
		OBS	0900	0352	34901	2778			14796								
		STD	1000	0351	3491	2778	0004106	0408	14812								
		OBS	1000	0351	34905	2778			14812								
		STD	1100	0350	3491	2779	0004146	0449	14829								
		OBS	1100	0350	34909	2779			14829								
		STD	1200	0349	3491	2779	0004215	0491	14845								
		OBS	1200	0349	34909	2779			14845								
		STD	1300	0350	3491	2779	0004300	0533	14862								
		OBS	1300	0350	34910	2779			14862								
		STD	1400	0349	3491	2779	0004359	0577	14879								
		OBS	1400	0349	34911	2779			14879								
		STD	1500	0348	3492	2779	0004396	0620	14895								
		OBS	1500	0348	34915	2779			14895								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318	001	EV	56390N	050020W		186	60	06	05	223	1966		9638	3566	15	26	4	2		x2	0	4	0134

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
0T	50	28	S08	017	061	056	7	24	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0525	3470	2743	0006635	0000	14716								
223		OBS	0000	0525	34695	2743			14716								
		STD	0010	0525	3470	2743	0006632	0007	14718								
		OBS	0010	0525	34697	2743			14718								
		STD	0020	0505	3476	2750	0005948	0013	14712								
004		OBS	0020	0505	34760	2750			14712								
		STD	0030	0487	3485	2759	0005086	0018	14708								
		OBS	0030	0487	34850	2759			14708								
		STD	0050	0413	3486	2768	0004258	0028	14680								
		OBS	0050	0413	34859	2768			14680								
		STD	0075	0399	3486	2770	0004133	0038	14679								
		OBS	0075	0399	34860	2770			14679								
		STD	0100	0393	3487	2771	0004060	0049	14680								
		OBS	0100	0393	34865	2771			14680								
		STD	0125	0393	3488	2772	0003986	0059	14685								
		OBS	0125	0393	34878	2772			14685								
		STD	0150	0392	3488	2772	0003970	0069	14688								
		OBS	0150	0392	34882	2772			14688								
		STD	0200	0393	3489	2773	0003968	0088	14697								
		OBS	0200	0393	34890	2773			14697								
		STD	0250	0393	3490	2773	0003979	0108	14705								
		OBS	0250	0393	34895	2773			14705								
		STD	0300	0393	3490	2773	0004026	0128	14714								
		OBS	0300	0393	34895	2773			14714								
		STD	0400	0394	3490	2773	0004132	0169	14731								
		OBS	0400	0394	34895	2773			14731								
		STD	0500	0385	3489	2774	0004158	0210	14743								
		OBS	0500	0385	34891	2774			14743								
		STD	0600	0375	3488	2774	0004191	0252	14756								
		OBS	0600	0375	34884	2774			14756								
		STD	0700	0367	3488	2775	0004206	0294	14769								
		OBS	0700	0367	34882	2775			14769								
		STD	0800	0357	3488	2775	0004209	0336	14781								
		OBS	0800	0357	34878	2775			14781								
		STD	0900	0353	3488	2776	0004247	0379	14796								
		OBS	0900	0353	34878	2776			14796								
		STD	1000	0362	3489	2776	0004330	0421	14817								
		OBS	1000	0362	34892	2776			14817								
		STD	1100	0361	3490	2777	0004358	0465	14833								
		OBS	1100	0361	34898	2777			14833								
		STD	1200	0352	3491	2778	0004251	0508	14846								
		OBS	1200	0352	34909	2778			14846								
		STD	1300	0355	3491	2778	0004361	0551	14864								
		OBS	1300	0355	34910	2778			14864								
		STD	1400	0352	3491	2779	0004404	0595	14880								
		OBS	1400	0352	34910	2779			14880								
		STD	1500	0351	3491	2779	0004471	0639	14896								
		OBS	1500	0351	34910	2779			14896								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO.	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318	001	EV	56390N	050020W		186	60	06	05	234	1966		9638	3566	35	26	4	2		x1	8	6	0135

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		28	S08	017	061	056	7	05	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
234		OBS	T1517	0357	34899	2777			14899								
		STD	1750	0356	3492	2779	0004654		14938								
		STD	2000	0355	3495	2781	0004662		14980								
234		OBS	2024	0355	34947	2781			14984								
		STD	2500	0331	3494	2783	0004711		15055								
234		OBS	T2548	0328	34941	2783			15062								
		STD	3000	0293	3494	2787	0004456		15146								
234		OBS	T3037	0288	34944	2787			15130								
234		OBS	T3461	0204	34913	2792			15168								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	5602 N	05106 W		186	61	06	06	021	1966		9639	3475	15	29	3	2		X1	0	4		0136

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S10	014	050	044	7	24	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-$\times 10^7$	$\Phi \triangle D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0520	3478	2750	0005942	0000	14716								
021		OBS	0000	0520	34780	2750			14716								
		STD	0010	0519	3478	2750	0005950	0006	14717								
		OBS	0010	0519	34779	2750			14717								
		STD	0020	0519	3478	2750	0005963	0012	14718								
004		OBS	0020	0519	34779	2750			14718								
		STD	0030	0494	3476	2751	0005853	0018	14709								
		OBS	0030	0494	34758	2751			14709								
		STD	0050	0400	3479	2764	0004660	0028	14674								
		OBS	0050	0400	34788	2764			14674								
		STD	0075	0419	3489	2770	0004127	0039	14687								
		OBS	0075	0419	34888	2770			14687								
		STD	0100	0426	3488	2768	0004301	0050	14694								
		OBS	0100	0426	34878	2768			14694								
		STD	0125	0386	3486	2771	0004073	0060	14681								
		OBS	0125	0386	34857	2771			14681								
		STD	0150	0387	3486	2771	0004054	0070	14686								
		OBS	0150	0387	34864	2771			14686								
		STD	0200	0406	3490	2772	0004043	0091	14703								
		OBS	0200	0406	34898	2772			14703								
		STD	0250	0408	3489	2771	0004159	0111	14712								
		OBS	0250	0408	34892	2771			14712								
		STD	0300	0393	3490	2773	0004026	0132	14714								
		OBS	0300	0393	34895	2773			14714								
		STD	0400	0381	3489	2774	0004038	0172	14725								
		OBS	0400	0381	34889	2774			14725								
		STD	0500	0368	3488	2774	0004071	0213	14736								
		OBS	0500	0368	34878	2774			14736								
		STD	0600	0361	3488	2775	0004083	0253	14750								
		OBS	0600	0361	34878	2775			14750								
		STD	0700	0351	3487	2775	0004125	0294	14762								
		OBS	0700	0351	34869	2775			14762								
		STD	0800	0360	3489	2776	0004139	0336	14783								
		OBS	0800	0360	34892	2776			14783								
		STD	0900	0363	3490	2777	0004198	0377	14801								
		OBS	0900	0363	34900	2777			14801								
		STD	1000	0355	3490	2777	0004189	0419	14814								
		OBS	1000	0355	34900	2777			14814								
		STD	1100	0353	3490	2778	0004226	0461	14830								
		OBS	1100	0353	34903	2778			14830								
		STD	1200	0351	3490	2778	0004283	0504	14846								
		OBS	1200	0351	34903	2778			14846								
		STD	1300	0350	3490	2778	0004344	0547	14862								
		OBS	1300	0350	34904	2778			14862								
		STD	1400	0350	3491	2779	0004379	0591	14879								
		OBS	1400	0350	34910	2779			14879								
		STD	1500	0350	3492	2779	0004392	0635	14896								
		OBS	1500	0350	34919	2779			14896								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPLICATE INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001	EV	5524 0N	052 07 0W		186	52	06	06	097	1966		9640		3191	15	32	5	3		x1	0	4	0137

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	35	S10	034	061	056	7	24	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M x 10^3	SOUND VELOCITY	O_2 ml l	PO_4-P µg-at l	TOTAL-P µg-at	NO_2-N µg-at l	NO_3-N µg-at l	SiO_4-Si µg-at l	pH	SCC
		STD	0000	0489	3466	2744	0006498	0000	14701								
097		OBS	0000	0489	34660	2744			14701								
		STD	0010	0489	3466	2744	0006510	0007	14703								
		OBS	0010	0489	34660	2744			14703								
		STD	0020	0489	3467	2745	0006446	0013	14705								
003		OBS	0020	0489	34670	2745			14705								
		STD	0030	0488	3467	2745	0006432	0019	14706								
		OBS	0030	0488	34672	2745			14706								
		STD	0050	0445	3472	2754	0005633	0031	14692								
		OBS	0050	0445	34720	2754			14692								
		STD	0075	0417	3474	2758	0005233	0045	14685								
		OBS	0075	0417	34738	2758			14685								
		STD	0100	0406	3478	2763	0004830	0058	14685								
		OBS	0100	0406	34780	2763			14685								
		STD	0125	0402	3482	2766	0004528	0069	14688								
		OBS	0125	0402	34818	2766			14688								
		STD	0150	0400	3483	2768	0004419	0081	14691								
		OBS	0150	0400	34833	2768			14691								
		STD	0200	0400	3485	2769	0004318	0102	14700								
		OBS	0200	0400	34853	2769			14700								
		STD	0250	0400	3487	2771	0004216	0124	14708								
		OBS	0250	0400	34873	2771			14708								
		STD	0300	0402	3489	2772	0004181	0145	14717								
		OBS	0300	0402	34887	2772			14717								
		STD	0400	0402	3490	2773	0004159	0186	14734								
		OBS	0400	0402	34903	2773			14734								
		STD	0500	0397	3491	2774	0004148	0228	14749								
		OBS	0500	0397	34910	2774			14749								
		STD	0600	0391	3491	2775	0004175	0270	14763								
		OBS	0600	0391	34910	2775			14763								
		STD	0700	0386	3492	2776	0004137	0311	14777								
		OBS	0700	0386	34920	2776			14777								
		STD	0800	0383	3492	2776	0004179	0353	14793								
		OBS	0800	0383	34922	2776			14793								
		STD	0900	0377	3492	2777	0004191	0395	14807								
		OBS	0900	0377	34923	2777			14807								
		STD	1000	0371	3493	2778	0004193	0436	14821								
		OBS	1000	0371	34925	2778			14821								
		STD	1100	0366	3493	2779	0004182	0478	14836								
		OBS	1100	0366	34930	2779			14836								
		STD	1200	0360	3493	2779	0004193	0520	14850								
		OBS	1200	0360	34930	2779			14850								
		STD	1300	0359	3494	2780	0004227	0562	14866								
		OBS	1300	0359	34935	2780			14866								
		STD	1400	0354	3494	2781	0004209	0604	14881								
		OBS	1400	0354	34940	2781			14881								
		STD	1500	0353	3494	2781	0004277	0647	14895								
		OBS	1500	0353	34940	2781			14898								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPLICATE INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001	EV	5524 N	05207 W		186	52	06	06	108	1966		9640		3191	30	32	5	3		x1	7	6	0138

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		35	S10	034	061	056	7	04	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at l	NO_3-N µg-at/l	SiO_4-Si µg-at l	pH	SCC
108		OBS	T1504	0354	34920	27790											
		STD	1750	0345													
108		OBS	T1984	0332	34937	2783			14966								
		STD	2000	0331	3494	2783	0004390		14969								
108		OBS	T2475	0290	34936	2786			15032								
		STD	2500	0287	3494	2787	0004129		15035								
108		OBS	T2995	0217	34920	2792			15091								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE °/10	LONGITUDE °/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	5512 N	05236 W		186	52	06	06	133	1966		9641	2963	15	29	6	3		X1	0	4	0139

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	36	S18	064	078	056	7	24	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QUAL CODE
		STD	0000	0474	3453	2736	0007297	0000	14693								
133		OBS	0000	0474	34532	2736			14693								
		STD	0010	0472	3453	2736	0007286	0007	14694								
		OBS	0010	0472	34532	2736			14694								
		STD	0020	0472	3457	2739	0006990	0014	14696								
004		OBS	0020	0472	34573	2739			14696								
		STD	0030	0452	3469	2750	0005948	0021	14691								
		OBS	0030	0452	34685	2750			14691								
		STD	0050	0414	3476	2760	0004997	0032	14680								
		OBS	0050	0414	34762	2760			14680								
		STD	0075	0421	3482	2764	0004658	0044	14687								
		OBS	0075	0421	34820	2764			14687								
		STD	0100	0419	3486	2767	0004400	0055	14691								
		OBS	0100	0419	34855	2767			14691								
		STD	0125	0420	3486	2768	0004384	0066	14696								
		OBS	0125	0420	34862	2768			14696								
		STD	0150	0411	3486	2769	0004315	0077	14696								
		OBS	0150	0411	34862	2769			14696								
		STD	0200	0407	3488	2770	0004203	0098	14703								
		OBS	0200	0407	34878	2770			14703								
		STD	0250	0408	3488	2771	0004226	0119	14712								
		OBS	0250	0408	34883	2771			14712								
		STD	0300	0406	3490	2772	0004134	0140	14719								
		OBS	0300	0406	34899	2772			14719								
		STD	0400	0403	3491	2773	0004125	0182	14735								
		OBS	0400	0403	34909	2773			14735								
		STD	0500	0394	3491	2774	0004100	0223	14747								
		OBS	0500	0394	34912	2774			14747								
		STD	0600	0375	3490	2776	0004057	0264	14756								
		OBS	0600	0375	34902	2776			14756								
		STD	0700	0372	3491	2777	0004053	0304	14771								
		OBS	0700	0372	34910	2777			14771								
		STD	0800	0371	3491	2776	0004167	0345	14787								
		OBS	0800	0371	34905	2776			14787								
		STD	0900	0354	3491	2778	0004028	0386	14797								
		OBS	0900	0354	34909	2778			14797								
		STD	1000	0352	3491	2779	0004066	0427	14813								
		OBS	1000	0352	34912	2779			14813								
		STD	1100	0351	3491	2779	0004136	0468	14829								
		OBS	1100	0351	34912	2779			14829								
		STD	1200	0354	3493	2780	0004157	0509	14847								
		OBS	1200	0354	34925	2780			14847								
		STD	1300	0350	3493	2780	0004189	0551	14863								
		OBS	1300	0350	34925	2780			14863								
		STD	1400	0352	3493	2780	0004243	0593	14880								
		OBS	1400	0352	34932	2780			14880								
		STD	1500	0352	3494	2781	0004279	0636	14897								
		OBS	1500	0352	34938	2781			14897								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001	EV	55000N	052560W		186	52	06	06	155	1966		9642	2286	15	29	3	2		X6	0	4	0140

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	34	S12	058	056	033	7	23	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
		STD	0000	0481	3465	2744	0006494	0000	14698								
155		OBS	0000	0481	34649	2744			14698								
		STD	0010	0481	3465	2744	0006505	0006	14699								
		OBS	0010	0481	34649	2744			14699								
		STD	0020	0479	3465	2744	0006495	0013	14700								
004		OBS	0020	0479	34649	2744			14700								
		STD	0030	0476	3465	2745	0006474	0019	14701								
		OBS	0030	0476	34649	2745			14701								
		STD	0050	0471	3465	2745	0006435	0032	14702								
		OBS	0050	0471	34650	2745			14702								
		STD	0075	0470	3469	2749	0006537	0048	14706								
		OBS	0075	0470	34692	2749			14706								
		STD	0100	0432	3479	2760	0005061	0062	14696								
		OBS	0100	0432	34785	2760			14696								
		STD	0125	0427	3485	2766	0004584	0074	14698								
		OBS	0125	0427	34845	2766			14698								
		STD	0150	0428	3486	2767	0004508	0086	14703								
		OBS	0150	0428	34860	2767			14703								
		STD	0200	0426	3488	2768	0004427	0108	14711								
		OBS	0200	0426	34875	2768			14711								
		STD	0250	0419	3488	2769	0004388	0130	14716								
		STD	0300	0414	3488	2770	0004370	0152	14722								
		OBS	0300	0414	34879	2770			14722								
		STD	0400	0413	3490	2771	0004339	0195	14739								
		OBS	0400	0413	34895	2771			14739								
		STD	0500	0409	3491	2773	0004288	0238	14754								
		OBS	0500	0409	34909	2773			14754								
		STD	0600	0400	3491	2774	0004276	0281	14766								
		OBS	0600	0400	34910	2774			14766								
		STD	0700	0390	3491	2775	0004242	0324	14779								
		OBS	0700	0390	34912	2775			14779								
		STD	0800	0382	3492	2776	0004219	0366	14792								
		OBS	0800	0382	34915	2776			14792								
		STD	0900	0378	3492	2777	0004210	0408	14807								
		OBS	0900	0378	34922	2777			14807								
		STD	1000	0367	3493	2779	0004109	0450	14819								
		OBS	1000	0367	34930	2779			14819								
		STD	1100	0359	3493	2779	0004098	0491	14833								
		OBS	1100	0359	34930	2779			14833								
		STD	1200	0357	3493	2780	0004142	0532	14849								
		OBS	1200	0357	34932	2780			14849								
		STD	1300	0351	3493	2780	0004150	0574	14863								
		OBS	1300	0351	34932	2780			14863								
		STD	1400	0349	3494	2781	0004139	0615	14879								
		OBS	1400	0349	34941	2781			14879								
		STD	1500	0347	3495	2782	0004113	0656	14895								
		OBS	1500	0347	34952	2782			14895								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001	EV	55000N	052560W		186	52	06	06	166	1966		9642	2286	21	29	3	2		X6	8	5	0141

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		34	S12	058	056	033	7	02	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	TOTAL-P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCC
166		OBS	T1910	0307	34936	2785			14943								
		STD	2000	0298	3494	2786	0003958		14955								
166		OBS	T2140	0283	34934	2787			14972								

REFERENCE CRAFT CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	54510N	053060W		186	43	06	06	185	1966		9643	1189	12	29	3	2		X4	0	4		0142

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	33	S13	098	044	039	2	22	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ Δ D DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0022	3282	2638	0016556	0000	14453								
185		OBS	0000	-0022	32819	2638			14453								
		STD	0010	-0022	3292	2646	0015780	0016	14456								
		OBS	0010	-0022	32920	2646			14456								
		STD	0020	-0107	3317	2669	0013553	0031	14421								
007		OBS	0020	-0107	33170	2669			14421								
		STD	0030	-0102	3326	2677	0012873	0044	14426								
		OBS	0030	-0102	33260	2677			14426								
		OBS	0042	-0062	33422	2688			14449								
		STD	0050	-0092	3353	2698	0010828	0068	14438								
		OBS	0050	-0092	33530	2698			14438								
		STD	0075	-0020	3375	2713	0009429	0093	14479								
		OBS	0075	-0020	33750	2713			14479								
		STD	0100	0072	3405	2732	0007629	0114	14529								
		OBS	0100	0072	34050	2732			14529								
		STD	0125	0178	3427	2743	0006676	0132	14584								
		STD	0150	0264	3444	2749	0006093	0148	14626								
		OBS	0150	0264	34440	2749			14628								
		STD	0200	0374	3466	2756	0005499	0177	14686								
		OBS	0200	0374	34660	2756			14686								
		OBS	0235	0426	34752	2758			14715								
		STD	0250	0415	3473	2758	0005445	0205	14712								
		OBS	0250	0415	34730	2758			14712								
		STD	0300	0459	3483	2761	0005231	0231	14740								
		OBS	0300	0459	34830	2761			14740								
		STD	0400	0473	3488	2763	0005129	0283	14763								
		OBS	0400	0473	34880	2763			14763								
		STD	0500	0451	3488	2766	0004982	0334	14771								
		OBS	0500	0451	34880	2766			14771								
		STD	0600	0428	3488	2768	0004842	0383	14778								
		OBS	0600	0428	34877	2768			14778								
		STD	0700	0416	3489	2770	0004742	0431	14789								
		OBS	0700	0416	34885	2770			14789								
		STD	0800	0409	3490	2772	0004638	0478	14803								
		OBS	0800	0409	34901	2772			14803								
		STD	0900	0387	3491	2775	0004419	0523	14811								
		OBS	0900	0387	34908	2775			14811								
		STD	1000	0372	3491	2777	0004301	0566	14821								
		OBS	1000	0372	34912	2777			14821								
		STD	1100	0356	3492	2779	0004143	0609	14831								
		OBS	1100	0356	34919	2779			14831								
		OBS	1160	0348	34921	2780			14838								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	54430N	053190W		186	43	06	06	204	1966		9644	0585	05	29	6	4		X6	0	4	0143

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S18	108	028	022	6	18	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SUSP
		STD	0000	-0027	3285	2641	0016306	0000	14451								
204		OBS	0000	-0027	32849	2641			14451								
		STD	0010	-0027	3285	2641	0016302	0016	14452								
		OBS	0010	-0027	32849	2641			14452								
		STD	0020	-0037	3285	2641	0016242	0033	14449								
008		OBS	0020	-0037	32851	2641			14449								
		STD	0030	-0095	3293	2650	0015424	0048	14425								
		OBS	0030	-0095	32930	2650			14425								
		OBS	0045	-0129	33041	2660			14413								
		STD	0050	-0118	3310	2664	0014038	0078	14420								
		OBS	0050	-0118	33100	2664			14420								
		OBS	0057	-0102	33210	2673			14430								
		OBS	0065	-0119	33260	2677			14424								
		STD	0075	-0113	3332	2682	0012345	0111	14430								
		OBS	0075	-0113	33321	2682			14430								
		STD	0100	-0087	3345	2691	0011434	0141	14448								
		OBS	0100	-0087	33450	2691			14448								
		STD	0125	-0050	3358	2700	0010578	0168	14471								
		OBS	0125	-0050	33580	2700			14471								
		STD	0150	-0050	3374	2713	0009356	0193	14477								
		OBS	0150	-0050	33739	2713			14477								
		STD	0200	0120	3405	2729	0007947	0236	14567								
		OBS	0200	0120	34050	2729			14567								
		STD	0250	0171	3426	2742	0006757	0273	14601								
		OBS	0250	0171	34258	2742			14601								
		STD	0300	0339	3453	2750	0006195	0305	14686								
		OBS	0300	0339	34532	2750			14686								
		STD	0400	0418	3473	2757	0005617	0364	14738								
		OBS	0400	0418	34731	2757			14738								
		STD	0500	0431	3486	2766	0004938	0417	14762								
		OBS	0500	0431	34855	2766			14762								
		OBS	0540	0428	34864	2767			14768								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	54370N	053370W		186	43	06	06	215	1966		9645	0320	03	32	5	4		X1	0	4	0144

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	29		129	028	022	7	16	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SUSP
		STD	0000	0037	3264	2621	0018172	0000	14477								
215		OBS	0000	0037	32642	2621			14477								
		STD	0010	0037	3264	2621	0018170	0018	14479								
		OBS	0010	0037	32642	2621			14479								
		STD	0020	0035	3263	2620	0018249	0036	14479								
003		OBS	0020	0035	32630	2620			14479								
		STD	0030	-0050	3264	2625	0017802	0054	14442								
		OBS	0030	-0050	32640	2625			14442								
		OBS	0040	-0114	32935	2651			14418								
		STD	0050	-0110	3298	2654	0015020	0087	14422								
		OBS	0050	-0110	32975	2654			14422								
		OBS	0060	-0118	33028	2658			14421								
		OBS	0070	-0101	33120	2665			14432								
		STD	0075	-0110	3316	2669	0013580	0123	14429								
		OBS	0075	-0110	33161	2669			14429								
		STD	0100	-0111	3334	2683	0012199	0155	14435								
		OBS	0100	-0111	33339	2683			14435								
		STD	0125	-0075	3351	2696	0011010	0184	14458								
		OBS	0125	-0075	33510	2696			14458								
		STD	0150	-0022	3369	2708	0009866	0210	14489								
		OBS	0150	-0022	33689	2708			14489								
		OBS	0170	0000	33795	2716			14504								
		STD	0200	0190	3420	2736	0007324	0253	14600								
		OBS	0200	0190	34200	2736			14600								
		STD	0250	0372	3456	2749	0006273	0287	14692								
		OBS	0250	0372	34560	2749			14692								
		OBS	0260	0385	34720	2760			14701								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	54320N	053500W		18	6	43	06	06	237	1966		9646		0241	02	32	5	3		X1	0	4		0145

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	32	S19	122	028	017	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–10^7	$\Sigma\Delta D$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at/l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SCC
		STD	0000	0069	3272	2626	0017724	0000	14493								
	237	OBS	0000	0069	32722	2626			14493								
		STD	0010	0074	3277	2629	0017391	0018	14497								
		OBS	0010	0074	32769	2629			14497								
		STD	0020	0116	3315	2657	0014731	0034	14523								
	002	OBS	0020	0116	33150	2657			14523								
		STD	0030	0188	3319	2655	0014900	0048	14557								
		OBS	0030	0188	33190	2655			14557								
		STD	0050	0050	3349	2689	0011749	0075	14503								
		OBS	0050	0050	33492	2689			14503								
		STD	0075	0011	3372	2709	0009807	0102	14493								
		OBS	0075	0011	33720	2709			14493								
		STD	0100	0072	3394	2723	0008480	0125	14527								
		OBS	0100	0072	33938	2723			14527								
		STD	0125	0146	3407	2729	0007960	0145	14567								
		OBS	0125	0146	34070	2729			14567								
		STD	0150	0214	3428	2741	0006887	0164	14604								
		OBS	0150	0214	34280	2741			14604								
		STD	0200	0340	3464	2758	0005315	0194	14671								
		OBS	0200	0340	34640	2758			14671								
		OBS	0230	0408	34722	2758			14706								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	54250N	054020W		18	6	44	06	07	008	1966		9647		0225	02	32	4	2		X1	0	4		0146

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	32	S09	135	028	017	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA–T	SPECIFIC VOLUME ANOMALY–10^7	$\Sigma\Delta D$ DYN M x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4–P µg-at l	TOTAL–P µg-at/l	NO_2–N µg-at/l	NO_3–N µg-at/l	SiO_4–Si µg-at/l	pH	SCC
		STD	0000	0029	3267	2623	0017958	0000	14474								
	008	OBS	0000	0029	32665	2623			14474								
		STD	0010	0025	3267	2624	0017914	0018	14474								
		OBS	0010	0025	32668	2624			14474								
		STD	0020	-0002	3268	2626	0017696	0036	14463								
		OBS	0020	-0002	32680	2626			14463								
		STD	0030	-0098	3310	2664	0014112	0052	14426								
		OBS	0030	-0098	33100	2664			14426								
		STD	0050	-0125	3323	2674	0013059	0079	14418								
		OBS	0050	-0125	33225	2674			14418								
		STD	0075	-0099	3346	2693	0011327	0109	14438								
		OBS	0075	-0099	33460	2693			14438								
		STD	0100	-0070	3356	2700	0010673	0137	14457								
		OBS	0100	-0070	33558	2700			14457								
		STD	0125	-0028	3370	2709	0009799	0162	14483								
		OBS	0125	-0028	33695	2709			14483								
		STD	0150	0047	3387	2719	0008889	0186	14523								
		OBS	0150	0047	33865	2719			14523								
		STD	0200	0200	3434	2747	0006345	0224	14607								
		OBS	0200	0200	34340	2747			14607								
		OBS	0220	0296	34465	2748			14653								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
31	8001	EV	54180N	054150W		186	44	06	07	020	1966		9648	0201	02	31	4	2		X1	0	4	0147

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	31	S09	132	022	011	7	12	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁵	Σ△D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0049	3260	2617	0018536	0000	14482								
020		OBS	0000	0049	32602	2617			14482								
		STD	0010	0049	3261	2618	0018488	0019	14484								
		OBS	0010	0049	32608	2618			14484								
		STD	0020	0049	3262	2619	0018394	0037	14486								
		OBS	0020	0049	32620	2619			14486								
		STD	0030	-0075	3290	2646	0015753	0054	14434								
		OBS	0030	-0075	32895	2646			14434								
		STD	0050	-0098	3308	2661	0014292	0084	14429								
		OBS	0050	-0098	33075	2661			14429								
		OBS	0067	-0125	33270	2678			14422								
		STD	0075	-0100	3329	2679	0012625	0118	14435								
		OBS	0075	-0100	33290	2679			14435								
		OBS	0086	-0112	33340	2683			14432								
		STD	0100	-0075	3345	2691	0011464	0148	14453								
		OBS	0100	-0075	33452	2691			14453								
		STD	0125	-0056	3360	2702	0010438	0175	14468								
		OBS	0125	-0056	33595	2702			14468								
		STD	0150	-0018	3380	2717	0009040	0200	14493								
		OBS	0150	-0018	33800	2717			14493								
		OBS	0175	0051	33945	2725			14530								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR 1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001		EV	54110N	054270W		186	44	06	07	031	1966		9649	0186	02	29	3	3		X0	0	4	0148

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S06	139	035	022	7	11	

MESSENGR TIME OF T HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁵	Σ△D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0075	3260	2616	0018686	0000	14494								
031		OBS	0000	0075	32600	2616			14494								
		STD	0010	0074	3260	2616	0018679	0019	14495								
		OBS	0010	0074	32600	2616			14495								
		STD	0020	0062	3267	2622	0018080	0037	14492								
002		OBS	0020	0062	32670	2622			14492								
		STD	0030	-0071	3281	2639	0016432	0054	14435								
		OBS	0030	-0071	32809	2639			14435								
		OBS	0040	-0133	32910	2649			14409								
		STD	0050	-0117	3305	2660	0014439	0085	14420								
		OBS	0050	-0117	33048	2660			14420								
		STD	0075	-0111	3329	2679	0012596	0119	14430								
		OBS	0075	-0111	33289	2679			14430								
		STD	0100	-0100	3342	2689	0011632	0149	14441								
		OBS	0100	-0100	33418	2689			14441								
		STD	0125	-0062	3359	2702	0010459	0177	14465								
		OBS	0125	-0062	33589	2702			14465								
		STD	0150	-0014	3374	2712	0009524	0202	14494								
		OBS	0150	-0014	33739	2712			14494								
		OBS	0165	-0009	33797	2716			14499								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001	EV	54030N	054380W			186	44	06	07	043	1966		9650	0183	02	29	3	3		x1	0	4	0149

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S06	146	033	017	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCOD
		STD	0000	0051	3262	2618	0018409	0000	14483								
	043	OBS	0000	0051	32620	2618			14483								
		STD	0010	0050	3262	2618	0018402	0018	14484								
		OBS	0010	0050	32620	2618			14484								
		STD	0020	0048	3265	2621	0018161	0037	14486								
	002	OBS	0020	0048	32650	2621			14486								
		STD	0030	0103	3293	2641	0016304	0054	14516								
		OBS	0030	0103	32933	2641			14516								
		OBS	0040	-0115	33120	2666			14420								
		STD	0050	-0118	3323	2675	0013041	0083	14422								
		OBS	0050	-0118	33230	2675			14422								
		STD	0075	-0092	3345	2691	0011466	0114	14441								
		OBS	0075	-0092	33445	2691			14441								
		STD	0100	-0072	3359	2702	0010398	0141	14457								
		OBS	0100	-0072	33593	2702			14457								
		STD	0125	-0008	3379	2715	0009208	0166	14493								
		OBS	0125	-0008	33785	2715			14493								
		STD	0150	0115	3406	2730	0007630	0187	14557								
		OBS	0150	0115	34060	2730			14557								
		OBS	0160	0119	34060	2730			14560								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR,1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT	NODC STATION NUMBER
318001	EV	53550N	054500W			186	34	06	07	053	1966		9651	0174	02	29	3	3		x1	0	4	0150

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S07	152	039	028	7	12	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10⁷	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCOD
		STD	0000	0120	3301	2646	0015819	0000	14520								
	053	OBS	0000	0120	33010	2646			14520								
		STD	0010	0119	3306	2650	0015441	0016	14522								
		OBS	0010	0119	33059	2650			14522								
		STD	0020	0120	3306	2650	0015440	0031	14524								
	003	OBS	0020	0120	33060	2650			14524								
		STD	0030	0123	3308	2651	0015321	0046	14527								
		OBS	0030	0123	33078	2651			14527								
		OBS	0040	0090	33580	2693			14521								
		STD	0050	0125	3373	2703	0010398	0072	14540								
		OBS	0050	0125	33728	2703			14540								
		OBS	0060	0034	33920	2724			14503								
		STD	0075	0124	3401	2725	0008270	0096	14548								
		OBS	0075	0124	34008	2725			14548								
		STD	0100	0188	3420	2736	0007263	0115	14583								
		OBS	0100	0188	34201	2736			14583								
		STD	0125	0205	3435	2747	0006314	0132	14596								
		OBS	0125	0205	34345	2747			14596								
		STD	0150	0374	3467	2757	0005403	0147	14678								
		OBS	0150	0374	34667	2757			14678								
		OBS	0160	0375	34669	2757			14680								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	53480N	055035W		186	35	06	07	065	1966		9652	0152	01	29	3	3		X1	0	4		0151

WATER COLOR CODE	WATER TRANS (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	28	S07	152	033	022	7	10	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0108	3270	2622	0018085	0000	14510								
065		OBS	0000	0108	32703	2622			14510								
		STD	0010	0108	3272	2623	0017977	0018	14512								
		OBS	0010	0108	32717	2623			14512								
		STD	0020	0106	3274	2625	0017790	0036	14513								
001		OBS	0020	0106	32740	2625			14513								
		STD	0030	-0070	3324	2674	0013136	0051	14441								
		OBS	0030	-0070	33240	2674			14441								
		STD	0050	-0097	3344	2691	0011500	0076	14435								
		OBS	0050	-0097	33440	2691			14435								
		STD	0075	0008	3365	2703	0010325	0103	14490								
		OBS	0075	0008	33650	2703			14490								
		OBS	0085	-0013	33810	2717			14484								
		STD	0100	0037	3399	2729	0007885	0126	14512								
		OBS	0100	0037	33990	2729			14512								
		STD	0125	0170	3429	2745	0006466	0144	14580								
		OBS	0125	0170	34290	2745			14580								
		OBS	0140	0240	34390	2747			14615								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	Ev	53390N	055150W		186	35	06	07	075	1966		9653	0302	03	35	2	3		X1	0	4		0152

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	20	S05	152	039	028	7	16	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	Σ Δ D DYN. M x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	0183	3293	2635	0016832	0000	14547								
075		OBS	0000	0183	32930	2635			14547								
		STD	0010	0150	3299	2642	0016151	0016	14535								
		OBS	0010	0150	32991	2642			14535								
003		OBS	0012	0138	32997	2643			14530								
		STD	0020	0173	3299	2640	0016327	0033	14546								
		OBS	0020	0173	32988	2640			14546								
		STD	0030	0132	3292	2638	0016548	0049	14529								
		OBS	0030	0132	32924	2638			14529								
		OBS	0040	-0055	33150	2666			14448								
		STD	0050	0005	3322	2669	0013588	0079	14479								
		OBS	0050	0005	33221	2669			14479								
		OBS	0055	-0012	33300	2676			14473								
		STD	0075	-0075	3331	2680	0012568	0112	14447								
		OBS	0075	-0075	33309	2680			14447								
		OBS	0080	-0109	33342	2683			14433								
		STD	0100	-0084	3353	2698	0010841	0141	14450								
		OBS	0100	-0084	33529	2698			14450								
		STD	0125	-0042	3369	2709	0009789	0167	14476								
		OBS	0125	-0042	33688	2709			14476								
		STD	0150	0030	3387	2720	0008748	0190	14516								
		OBS	0150	0030	33871	2720			14516								
		STD	0200	0149	3419	2738	0007085	0230	14582								
		OBS	0200	0149	34191	2738			14582								
		STD	0250	0243	3434	2743	0006722	0264	14634								
		OBS	0250	0243	34340	2743			14634								
		OBS	0280	0241	34360	2745			14638								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDCTR	MARSDEN SQUARE 10°	MARSDEN SQUARE 1°	STATION TIME (GMT) MO	STATION TIME (GMT) DAY	STATION TIME (GMT) HR.1/10	YEAR	ORIGINATOR'S CRUISE NO.	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8001	EV	53350N	055280W		186	35	06	07	088	1966		9654	0144	01	22	2	3		X1	0	4		0153

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	25	S05	152	039	028	7	11	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁵	Σ△D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	TOTAL-P µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0015	3249	2611	0019109	0000	14451								
088		OBS	0000	-0015	32489	2611			14451								
		STD	0010	-0036	3252	2614	0018784	0019	14444								
		OBS	0010	-0036	32520	2614			14444								
		STD	0020	-0043	3252	2615	0018752	0038	14442								
003		OBS	0020	-0043	32520	2615			14442								
		STD	0030	-0047	3251	2614	0018808	0056	14442								
		OBS	0030	-0047	32510	2614			14442								
		OBS	0045	-0153	32690	2632			14397								
		STD	0050	-0151	3277	2638	0016519	0092	14400								
		OBS	0050	-0151	32765	2638			14400								
		OBS	0055	-0125	32780	2638			14413								
		STD	0075	-0132	3291	2649	0015445	0132	14415								
		OBS	0075	-0132	32909	2649			14415								
		STD	0100	-0116	3309	2663	0014090	0169	14429								
		OBS	0100	-0116	33090	2663			14429								
		STD	0125	-0103	3331	2680	0012473	0202	14442								
		OBS	0125	-0103	33305	2680			14442								
		OBS	0130	-0104	33310	2681			14443								

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