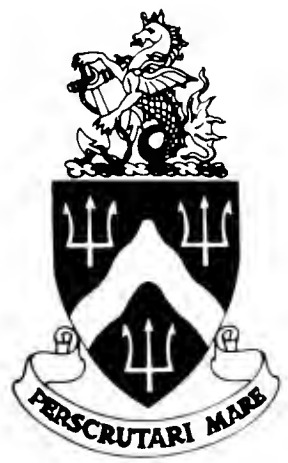
UNITED STATES COAST GUARD

OCEANOGRAPHIC



UNITED STATES COAST GUARD OCEANOGRAPHIC UNIT

REPORT No. 30 CG 373-30

OCEANOGRAPHY OF THE WEDDELL SEA

January–March 1968

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WASHINGTON, D.C. April 1970

USCGC GLACIER (WAGB–4)

Abstract

During January–March 1968, the USCGC GLACIER (WAGB 4) penetrated the pack ice of the Weddell Sea to over 75° S. latitude in support of the first phase of the International Weddell Sea Oceanographic Expedition (IWSOE). Fifty-eight oceanographic stations were occupied in the southwestern and western Weddell Sea, most of which were in areas never before surveyed. The U.S. Coast Guard Oceanographic Unit performed analyses of temperature, salinity, oxygen and dissolved nutrients. These data are presented, accompanied by a preliminary interpretation of the oceanography of the Weddell Sea. The water masses and processes involved in the formation of Antarctic Bottom Water are discussed.

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January - March 1968

Introduction

The importance of the oceanographic processes of the Weddell Sea and the need for their study has long been recognized. This area is generally believed to be the source of most of the Antarctic Bottom Water that flows northward into the ocean basins. There are varying opinions on the northward extent of Antarctic Bottom Water. Defant (1961) indicated that it can be traced to 25°N. in the Pacific and 8° N. in the Atlantic while Dietrich (1965) traced it to as far north as 50° N. latitude in the Pacific and 45° N. latitude in the Atlantic.

Just as the importance of the oceanographic processes of the Weddell Sea has long been recognized, the difficulty of such a study has also been apparent. Prior to the International Geophysical Year (IGY) the Weddell Sea was only crossed five times; by James Weddell in 1823, by Sir James Clark Ross in 1843, by W. S. Bruce in 1904, by Wilhelm Filchner in 1911, and by Ernest Shackleton in 1915. (Klepikov 1963). The latter two accounts especially indicate the treachery of the Weddell Sea since both ships became ice-bound for prolonged periods of time and, in the case of Shackleton's voyage, resulted in the complete destruction of ENDURANCE. The sheer heroism of the account of the survival of Shackleton and his crew is unequalled outside of fiction.

Even with modern icebreakers, an extensive area in the Western Weddell Sea remained unstudied. In the early 1960's several methods of observation were considered. One idea was to initiate a program similar to the Arctic's Operation Ski Jump. Upon further investigation, this proved to be impractical owing to the remote location of the Weddell Sea. The flight time from an existing air support site or the practical problems in setting up a temporary site were formidable. More important, ice conditions in the Weddell Sea are not suitable for even the most daring aviator to attempt landing; hence plans for an aircraft supported oceanographic program were abandoned.

Despite obvious difficulties, the National Science Foundation included the study of the oceanography of the Weddell Sea in its long range plans. The need for such a program was also evident to the U.S. Coast Guard and fit into its expanded oceanographic mission. Consequently, owing to the combined needs of the National Science Foundation and the U.S. Coast Guard, it was decided to modify USCGC GLACIER (WAGB 4), the largest of the nation's icebreakers, to make it capable of carrying out an extensive oceanographic program. Modifications made prior to IWSOE '68 for Antarctic oceanographic operations included addition of five oceanographic laboratories, two oceanographic winches, a level luffing crane for over-the-side work, a salinity-temperature-depth recording system, an 8K memory computer, and standard oceanographic laboratory equipment. Prior to IWSOE '69 an additional winch and luffing crane were installed to give USCGC GLACIER piston coring and heavier dredging capacity. These modifications made meaningful, well-rounded oceanographic programs possible. Figure 1 shows the alterations accomplished on USCGC GLACIER.

Two items which contributed greatly to the success of IWSOE '68 were satellite photo information and satellite navigational equipment. Navigation in the Weddell Sea is extremely difficult and inaccurate. No navigational aids are available and celestial navigation is hampered by skies that are generally overcast, coupled with an indistinct horizon due to the presence of ice. These conditions make the calculations of even the best of navigators subject to considerable uncertainty.

The accuracy of satellite navigation was not affected by either clouds or indistinct horizon, hence, the quality of the navigation during the expedition was quite high. Use of satellite photos to determine areas of light ice and to aid in prediction of ice conditions in particular areas also contributed towards more effective operation and lessened the chance of unintentionally wintering over.

IWSOE '68 Programs

A number of institutions took part in the expedition. A brief description of each of their programs is given below.

University of Bergen

A program to investigate currents related to the formation of Antarctic Bottom Water was directed by Dr. Thor Kvinge of the University of Bergen. One of the theories of formation of bottom water calls for a "release" of bottom water on the shelf periodically during the austral winter. To evaluate this theory, Dr. Kvinge installed four buoy systems on the shelf to measure currents and temperature throughout the winter. A schematic of this buoy system is presented in a report by Kvinge (1968) and is reproduced as Figure 2.

University of Connecticut

The zonation of the benthic organisms in the Weddell Sea was studied by Dr. John S. Rankin of the University of Connecticut. Dr. Rankin used epibenthic sleds, anchor dredges, Blake trawls and Van Veen grab samplers. Upon collection, all sediment samples were washed through seives and the macroscopic organisms were classified and preserved. Preliminary analysis showed two zones: a shallow zone (depths up to 1000 meters) that was characterized by a great number and variety of relatively large animals and a deeper zone that was characterized by few numbers and kinds of relatively small animals. The size of some of the foraminifera was noteworthy, some of them being as large as ¾ inch long.

Texas A&M University

Primary productivity was studied in a program under the direction of Dr. Sayed Z. El Sayed of Texas A&M University. This program consisted of the study of:

a. Light penetration.

b. Chlorophyll and phasophytin concentration.

c. Photosynthesis (C^{14} uptake method).

d. Phytoplankton and zooplankton (collected with vertical tows).

e. Quantitative phytoplankton studies by filtering large water samples.

Dr. El Sayed's data indicated conspicuous variations in the productivity of the areas visited. The southwest and western regions of the Weddell Sea were found to be more productive than the central and southern regions.

University of Minnesota

A program to study the population dynamics of Antarctic seals (and penguins) was conducted by Dr. Donald B. Siniff of the University of Minnesota, Museum of Natural History. Census-taking was achieved by counting the number of seals within ¼ mile of the ship for a two hour period at selected times throughout the day. Blood samples were also collected from representative animals and processed for later study. Analysis of the samples by electrophoresis will show if racial differences exist among the wide-spread seal population of the Weddell Sea. Helicopters were used to land on ice floes inhabited by seals; the seals were anesthetized using a dart gun and the blood samples were then drawn.

University of Miami

A program to investigate the microalgae and protozoa of Antarctic pack ice was conducted by Dr. Chum Chi Lee of the University of Miami. Observations and samples were obtained within and under the pack ice by divers and correlated with observations obtained by other investigators.

U.S. Coast Guard Oceanographic Unit

The program conducted by the U.S. Coast Guard Oceanographic Unit included physical oceanographic measurements, nutrient and pH determinations, bottom photography and gravity coring. This program will be discussed in detail later in the paper. Personnel making up the U.S. Coast Guard Oceanographic Unit field part included:

Robert B. Elder, *Oceanographer.*

LT. James M. SEABROOKE, USCG, *Oceanographer.*

SOI–SI James A. WADE, USCG, *Oceanographic Technician.*

SOI–SI John M. MURPHY, USCG, *Oceanographic Technician.*

AGI Peter R. SAN JULE, USCG, *Oceanographic Technician.*

SO2–SI Robert C. MURRELL, USCG, *Oceanographic Technician.*

YN2 Dwight E. OLSON, USCG, *Oceanographic Technician.*

SN Scott B. ROBERTSON, USCG, *Oceanographic Technician.*

IWSOE '68 Cruise Procedure

The International Weddell Sea Oceanographic Expedition, 1968, was scheduled to begin upon termination of USCGC GLACIER's support work at McMurdo Station. The scientific party met CGC GLACIER in Punta Arenas, Chile on 20 January 1968. Departure was delayed until 26 January owing to late arrival of last-minute shipments. While in the Drake Passage, contact with the Argentine Icebreaker GEN. SAN MARTIN was made and it was determined that a rendezvous at Hope Bay would be possible by diverting slightly. Rendezvous was made and various facets of the expedition were discussed. CGC GLACIER departed Hope Bay on 31 January 1968 enroute to 74° S., 40° W., the desired site of the current meter—water sampler buoy installation. It was decided to steam directly to the buoy site without delay to increase the chances that the SRN–9 Satellite Navigation system would be operative and because ice reconnaissance photos indicated that the desired area was free of ice. The time was also used for the various investigators to set up their equipment. An initial bathymetric survey of the buoy site was conducted to determine the general bottom characteristics and to make sure that the buoys would not be set in a depression. Upon completion of the bottom survey four buoys were set. Details of the buoy installation procedure are given by Kvinge (1968).

Upon completion of the buoy installation, occupation of oceanographic stations was begun to obtain data in the areas of the Weddell Sea ordinarily inaccessible. It was believed that ice conditions during the austral summer of 1967–1968 were lighter than usual. Therefore, areas which would be inpenetrable or very difficult to pentrate under normal ice conditions were given the highest priority of study. When the ice became so heavy that the ship's progress was slowed greatly (to about 3 knots), lighter ice was sought. With the exception of a run to Halley Bay because of a medical emergency, this procedure was carried out throughout the cruise.

Station Procedure

The initial procedure followed by the ship upon arriving on station depended largely on ice conditions. The difficulty in setting the ship properly for station was generally inversely proportional to the ice concentration. In heavy concentrated ice it was usually possible to ease into an opening in the ice and allow the wind to hold the ship against the downwind side. Most of the time, there would not be enough ice dislodged to cause any problems after the first few minutes. In less concentrated ice the same procedures were attempted, but difficulties arose when the ice was not firm enough to keep the ship from drifting through the ice. Frequently under these circumstances, blocks of dislodged ice converged in the wake

or windward side of the ship and caused problems with any gear over the side. Possibly the ice conditions which were most hazardous to oceanographic equipment were in open pack ice where the ice and the ship were free to drift independently. Under these conditions it was impossible to predict when floes would drift in and tangle or break the oceanographic cable. The best solution was to try to find open areas where the ship could drift free of ice long enough to complete a cast, then reposition the ship before starting another cast. Late in the survey, a 10′ by 10′ coffer dam was built of ten inch square timbers. It was floated underneath the platform and the casts were lowered through it. It was initially designed to keep brash ice (up to the size that might trip a Nansen bottle) away from the cable. On occasion, however, it kept out rather large floes under considerable pressure.

In the cases where the ship's movement into an area might have disturbed the surface water measurements, observations of other than surface phenomena were made first so that surface conditions could return to more nearly normal before measurement.

Although station plans were constantly changing owing to a number of circumstances, there were generally two station types: a somewhat abbreviated station taken near local apparent noon, and a more complete or major station taken at night. The local apparent noon station usually consisted of a secchi disc observation, submarine photometer observations, a combined vertical zoo-phytoplankton tow, water sampling from six levels (using "Van Dorn" sampling bottles), and a Nansen bottle cast to 1000 meters. The major station, occupied at night to make optimum use of the dark hours when the ship's progress would be slowed or stopped, usually consisted of two overlapping Nansen cast (one from surface to about 1000 meters, and the other from about 1000 meters to the bottom), a cast to obtain samples for chlorophyll analysis, a vertical plankton tow, an STD cast, and either bottom cores or photography. In addition to the two main types of stations, a trawl or dredge station was occupied when ice conditions allowed.

Data Acquisition And Initial Analysis Methods

Nansen Casts

Teflon-lined Nansen bottles were used throughout the cruise. All bottles were equipped with two protected reversing thermometers and at approximately alternate depths below 200 meters with unprotected thermometers. Nominal sampling depths were 0, 10, 25, 50, 75, 100, 150, 200, 300, 400, 500, 600, 700, 800, 1000, 1250 and 1500 meters and at 300 meter intervals below that. Several bottles were placed at 25 meter intervals near the bottom to determine whether any changes in the water structure might occur at that level. These depths were frequently modified to provide more optimum sampling. Two overlapping Nansen casts were generally required to obtain samples from the surface to the bottom. The shallower cast was generally from 0 to 1000 meters and the deeper cast from 1000 meters to the bottom. A pinger was used to aid in sampling near the bottom. In the cases where the ship was firmly held by the ice, a zero wire angle was generally obtained which made it possible to obtain samples within a few meters of the bottom.

Temperature Data

Standard analysis procedures for correcting thermometers and determining thermometric and accepted depths were used. Use of the shipboard computer made quick, accurate data analysis possible and thus allowed prompt response to any conditions that might indicate that a change in sampling procedure was desirable.

Salinity Determination

Salinity was determined using an inductive type salinometer. Final calculations of salinity were made by computer. Shipboard quality control of salinity and temperature data included examination of T–S plots for distribution of stability and agreement with historical norms.

Nutrient Analysis

At the beginning of the cruise, phosphates, nitrates, and silicates were determined aboard ship using the methods described by Strickland and Parsons (1965). Unfortunately, the spectrophotometer purchased for the ship became inoperative. The spare instrument from the U.S. Coast Guard Oceanographic Unit was also inoperative owing to damage in shipment. Consequently, the samples were frozen for the remainder of the cruise. Frozen samples were returned to the U.S. Coast Guard Oceanographic Unit to determine nitrates, nitrites, silicates, phosphates and ammonia. Some of these samples were ruined by freezer malfunction. Consequently, nitrite determinations from stations 030 to 060 and all nutrient data from stations 043 to 060 were invalid.

Oxygen

The amount of dissolved oxygen was determined on all samples using a modified (Strickland and Parsons, 1965) Winkler method.

Salinity-Temperature-Depth System (STD)

The STD was used at the major stations to obtain a continuous profile of temperature and salinity with depth. When deep STD and Nansen casts were taken at the same station, the STD cast was usually terminated at about 2000 meters depth. This saved time, yet allowed all the important inflection points (except any that occurred very near the bottom) to be observed. A single Nansen bottle was attached to the STD cable just above the underwater unit so that quality control and calibration of the STD data could be accomplished.

Bottom Cores

Bottom cores were obtained by using two gravity corers attached to a bridle to permit simultaneous lowering. The arrangement worked quite well. Core lengths averaged about three feet. The cores were retained in the plastic core liners and were then coated with wax and stored upright in cold storage.

Bottom Photography

A Thorndike (1959) type bottom contact camera was used for bottom photographs. Both Plus-X black and white film and high speed color film were used. The camera system was set so that a photograph was taken with the camera lens about three feet above the bottom and at an angle of approximately sixty degrees from the vertical. The strobe light was attached beneath the camera and oriented at about the same angle as the camera. This resulted in a close-up of the bottom at an oblique angle which gave somewhat of a three-dimensional effect because of shadows. The ship's photographer was able to develop both types of film. The results of the bottom photography are presented in a paper by Hollister and Elder (1969).

Vertical Plankton Tow

Two ¼ meter nets were used simultaneously to obtain plankton samples. One of the nets had a mesh size suitable for zooplankton and the other a mesh size suitable for phytoplankton. These were lowered to 200 meters. Lowering and retrieving rates were approximately 20 meters per minute.

Productivity and Chlorophyll

Although chlorophyll content was not measured continuously, as was originally planned, it was measured frequently by obtaining samples with a bucket. Samples at depths governed by various levels of incident radiation were obtained using Van Dorn bottles. Because of loss of bottles through damage, two casts were required to obtain six near-surface samples. These were obtained at local apparent noon at depths of 100, 60, 23, 11 and 2 percent of incident light penetration plus two other depths selected for other reasons. A secchi disc was used to determine light extinction. A submarine photometer was also used from time to time as a further measurement of light penetration.

Results of Analysis

Sixty-one oceanographic stations were taken by USCGC GLACIER during IWSOE '68. Four sections through these stations were selected for analysis (fig. 3). Vertical distribution of sigma-t, temperature, salinity and oxygen content were determined for these sections and are reproduced in Figures 4–19.

Analysis of the data indicate that two main

water masses mixed to form Antarctic Bottom Water. These were the cold ($<-1.9°$ C.) saline ($>34.60‰$) water which was found on the continental shelf below about 200 meters and the Warm Deep Layer ($>0.2°$ C. and $>34.67‰$, based on IWSOE data) which was found from about 500 to 1000 meters depth off the shelf (Sections B and C). These two water masses met at the upper part of the continental slope.

Seaward of the continental shelf, mixing and sinking of dense shelf water and Warm Deep Layer water are clearly indicated. Sections A, B and C (fig. 4–15) show this, particularly in the vicinity of stations 18 and 25. Further mixing at depth is also made apparent by the sigma-t distributions. The 27.85 and 27.86 isopycnals plotted on the temperature cross sections illustrate this (figs. 4, 8, 12 and 16) as do the isentropic analyses of the temperature distribution on the 27.85 and 27.86 sigma-t surfaces.

The primary conclusion reached as a result of the data analyses is that water of sufficient density to mix with the Warm Deep Layer and form Antarctic Bottom Water was being formed during the austral summer in the Southwestern Weddell Sea. The data indicate that this dense shelf water was not formed at the air-sea interface nor was it formed elsewhere and transported into the Southwestern Weddell Sea area. Its presence during the summer can not be explained as winter-formed water entrapped by bottom topography since the area is quite flat and can not prevent water from flowing off the shelf (fig. 24). Consequently, it is concluded that the most logical method of formation is the mechanism described by Lusquinos (1963). This method of formation requires that the dense shelf water attain its temperature-salinity characteristics by interaction with the extensive ice shelf in the Southwestern Weddell Sea. The temperature of the water is reduced, the salinity is increased due to freezing and the density of the water is therefore increased. Thus the cold dense shelf water is formed on a continuous basis and subsequently mixes with warm deep water to form Antarctic Bottom Water.

These data as well as additional data collected during IWSOE '69 are presently being analysed in detail and the results will be published in the near future.

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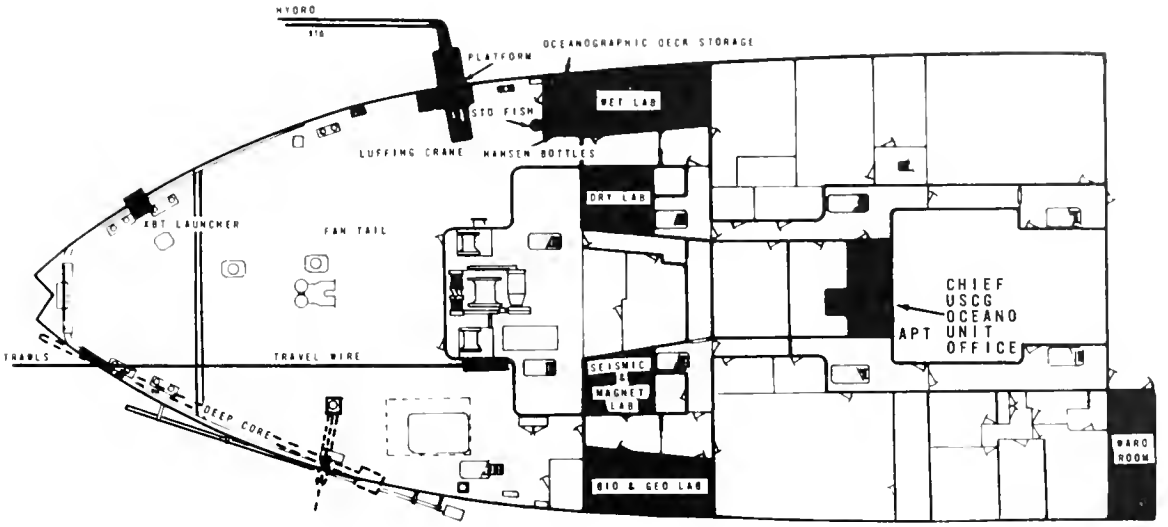
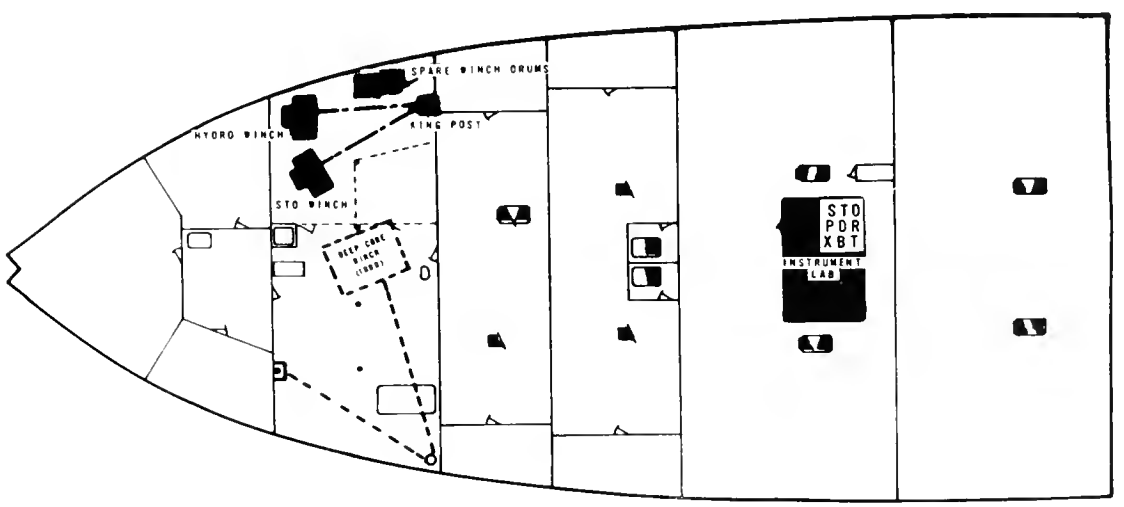


MAIN DECK AFT

OCEANOGRAPHIC SPACES



SECOND DECK AFT

Figure 1. USCGC GLACIER (WAGB 4) oceanographic alterations.

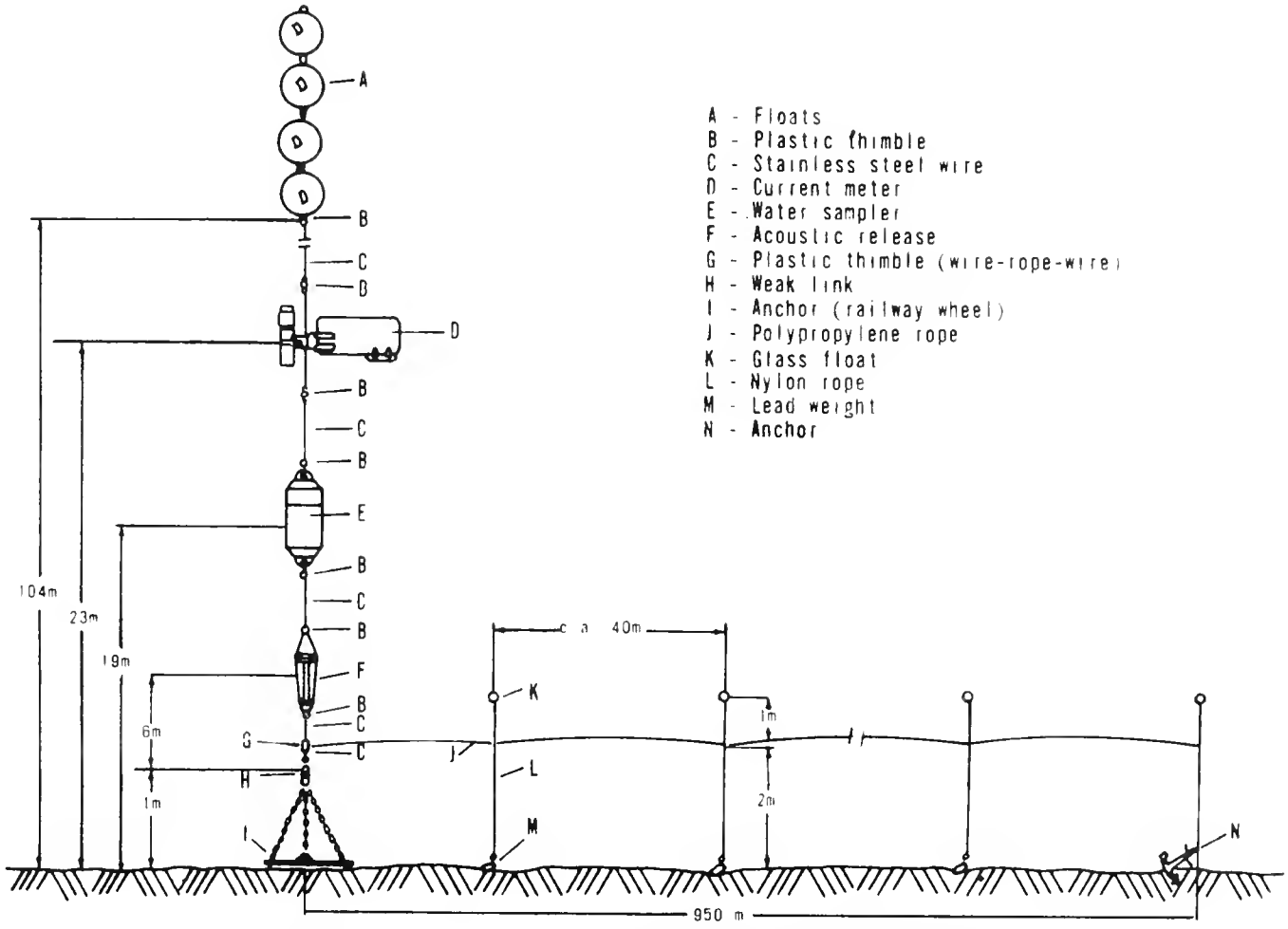


Figure 2. University of Bergen current meter system. After Kvinge, 1968.

Figure 3. Locations of stations and sections for the 1968 International Weddell Sea Oceanographic Expedition.

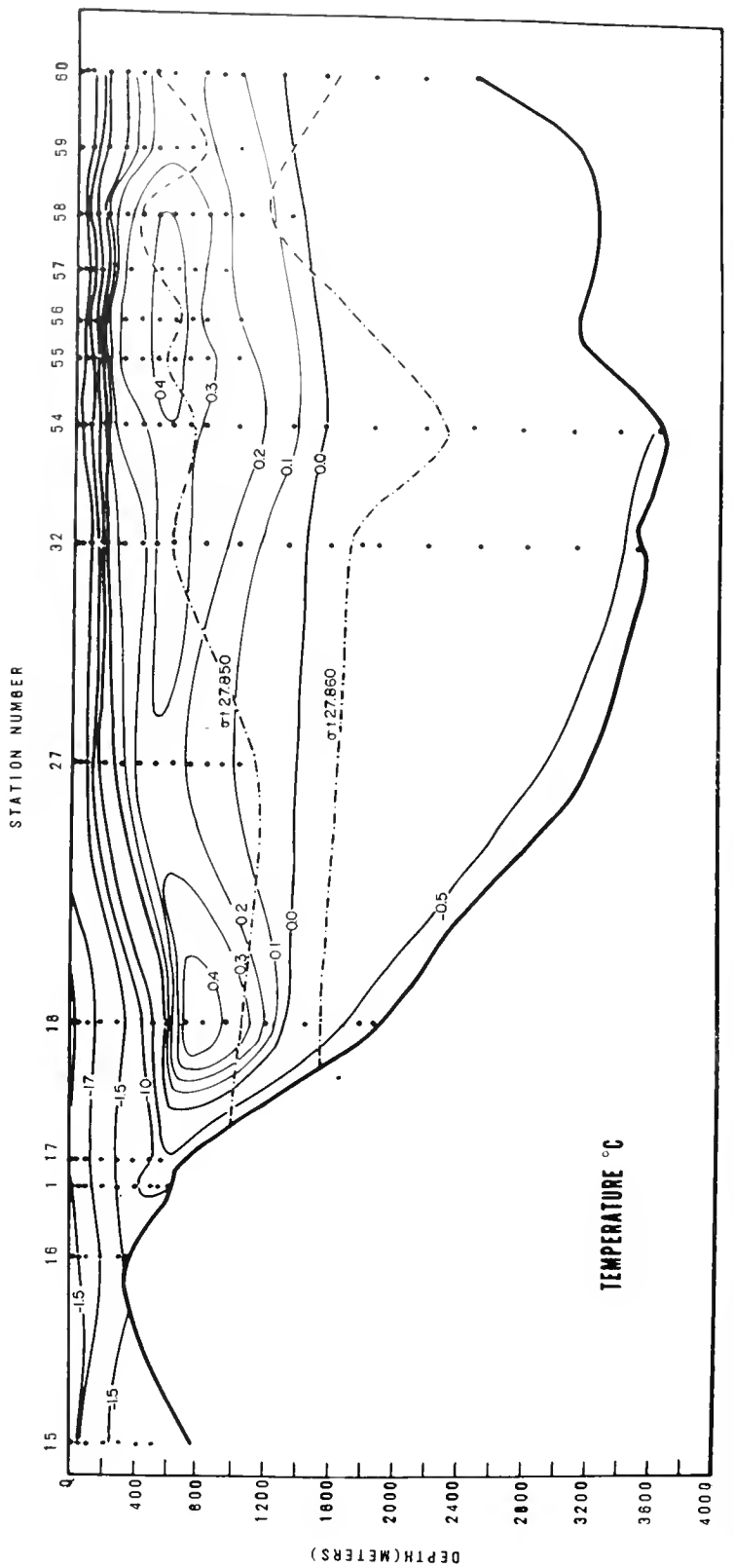


Figure 4. Vertical distribution of temperature (°C) with selected isopycnals (σt, in g/l) along Section A. Contour intervals are 0.1°C in the 0.0 to 0.4°C range, 0.5°C in the 0.0 to −1.5°C range, and 0.2°C in the −1.5 to −1.7°C range.

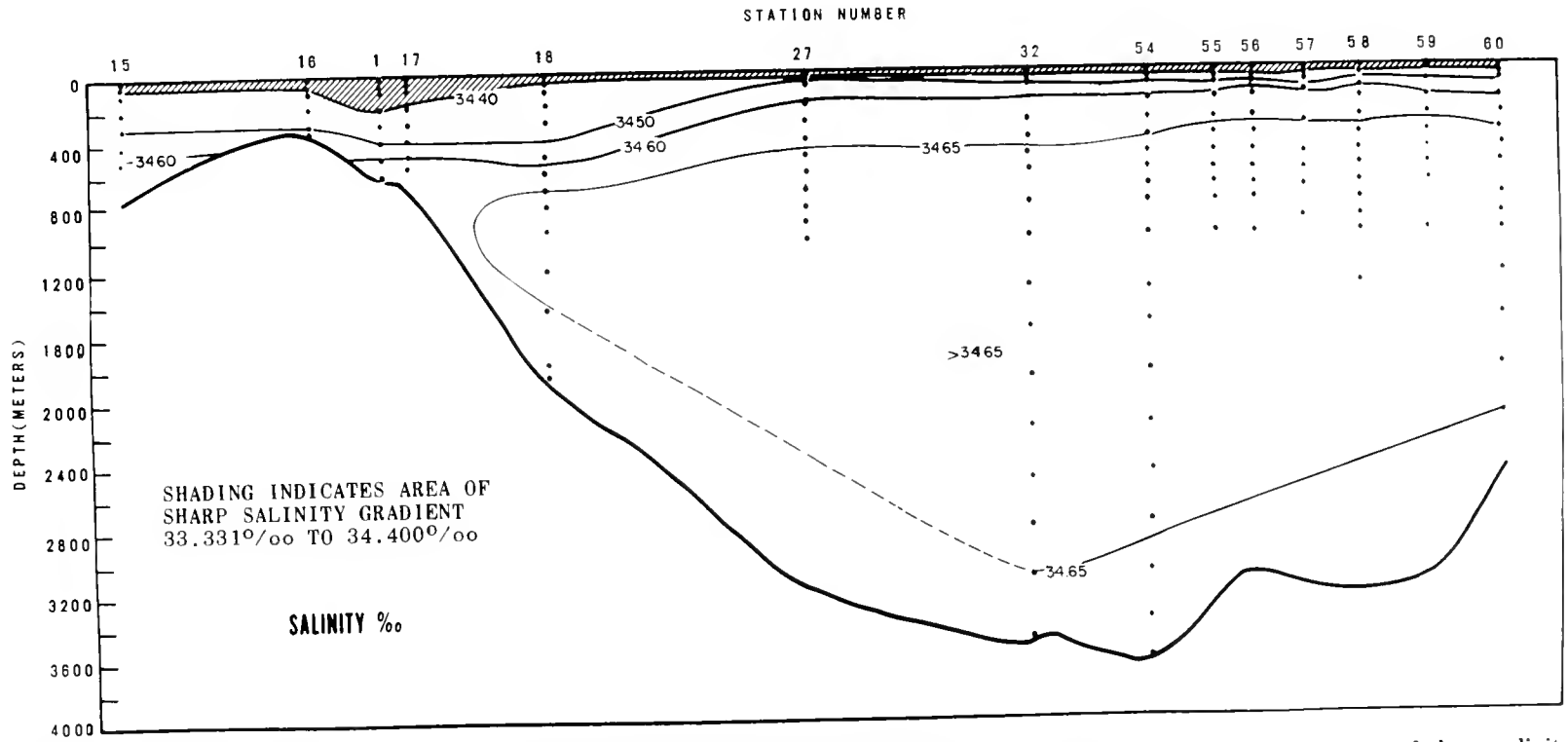


Figure 5. Vertical distribution of salinity (°/₀₀) along Section A. Values less than 34.40 °/₀₀ not contoured. Shading indicates area of sharp salinity gradient (33.331 °/₀₀ to 34.400 °/₀₀).

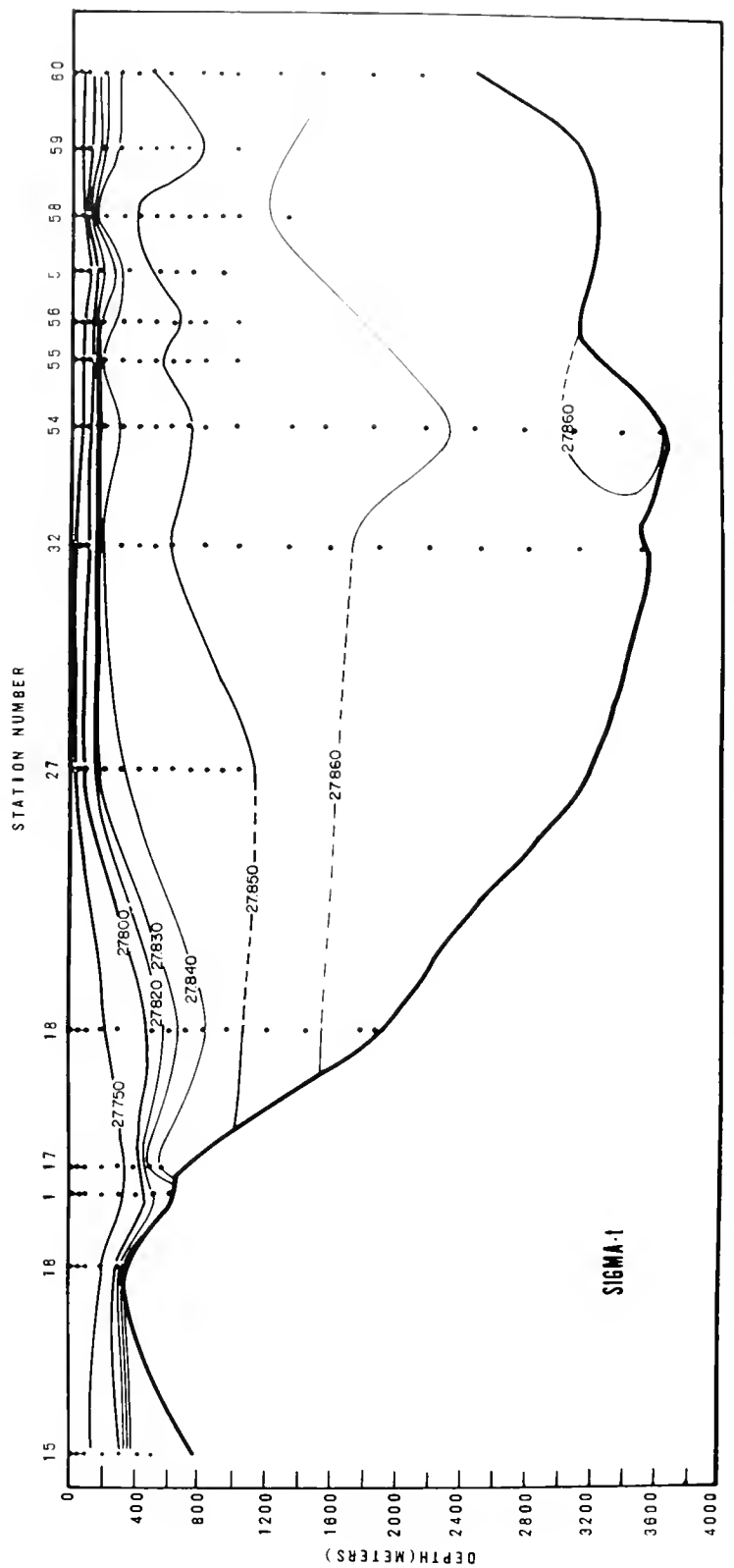


Figure 6. Vertical distribution of density (σt, in g/l) along Section A. Values less than 27.750 g/l not contoured.

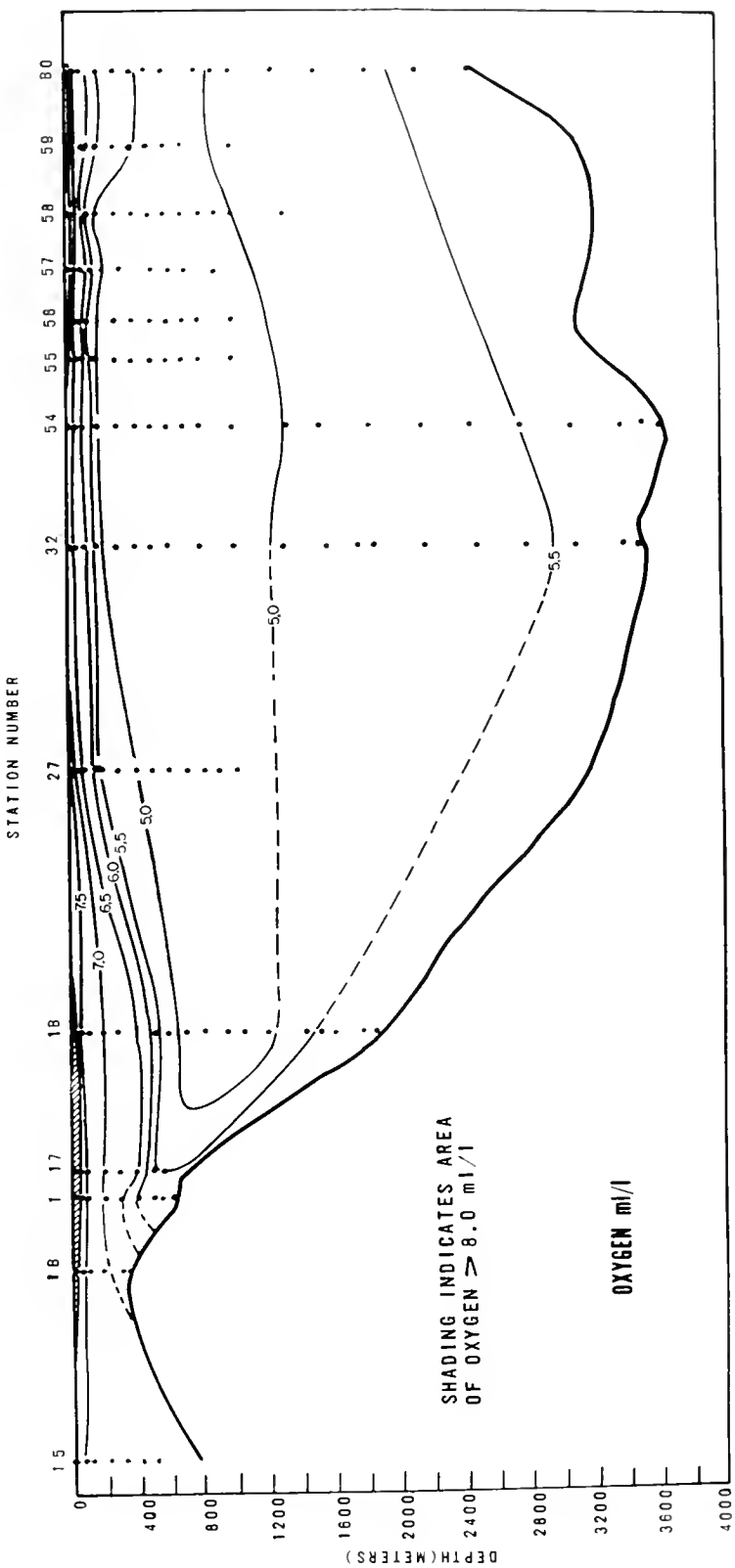


Figure 7. Vertical distribution of dissolved oxygen (ml/l) along Section A. Shading indicates area of oxygen greater than 8.0 ml/l.

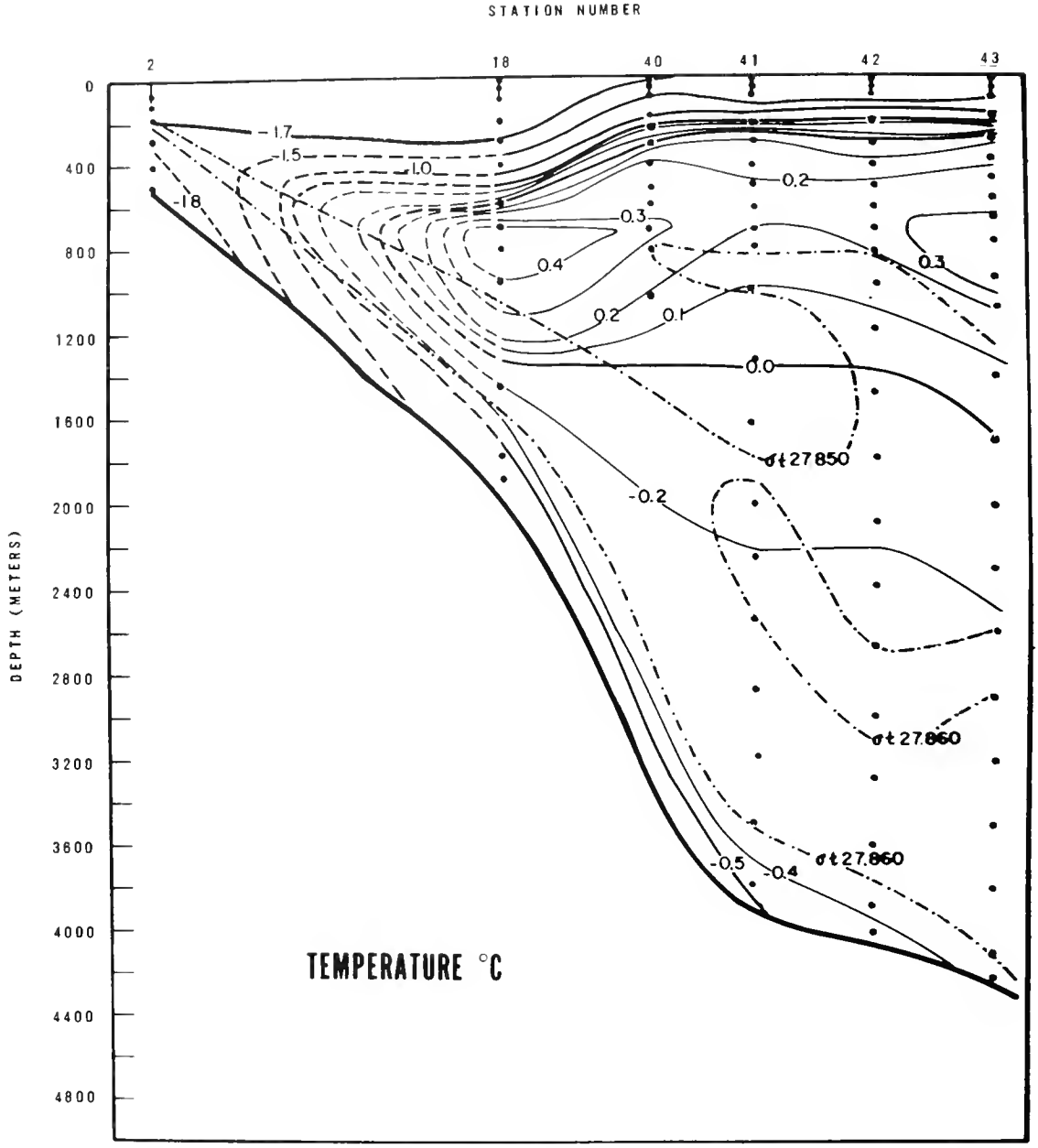


Figure 8. Vertical distribution of temperature (°C) with selected isopycnals (σt in g/l) along Section B. Contour intervals are 0.1°C in the −0.4 to −0.5°C and 0.0 to 0.4°C ranges, 0.2°C in the −1.5 to −1.7°C and −0.4 to 0.0°C ranges and 0.5°C in the −1.5 to −0.5°C range.

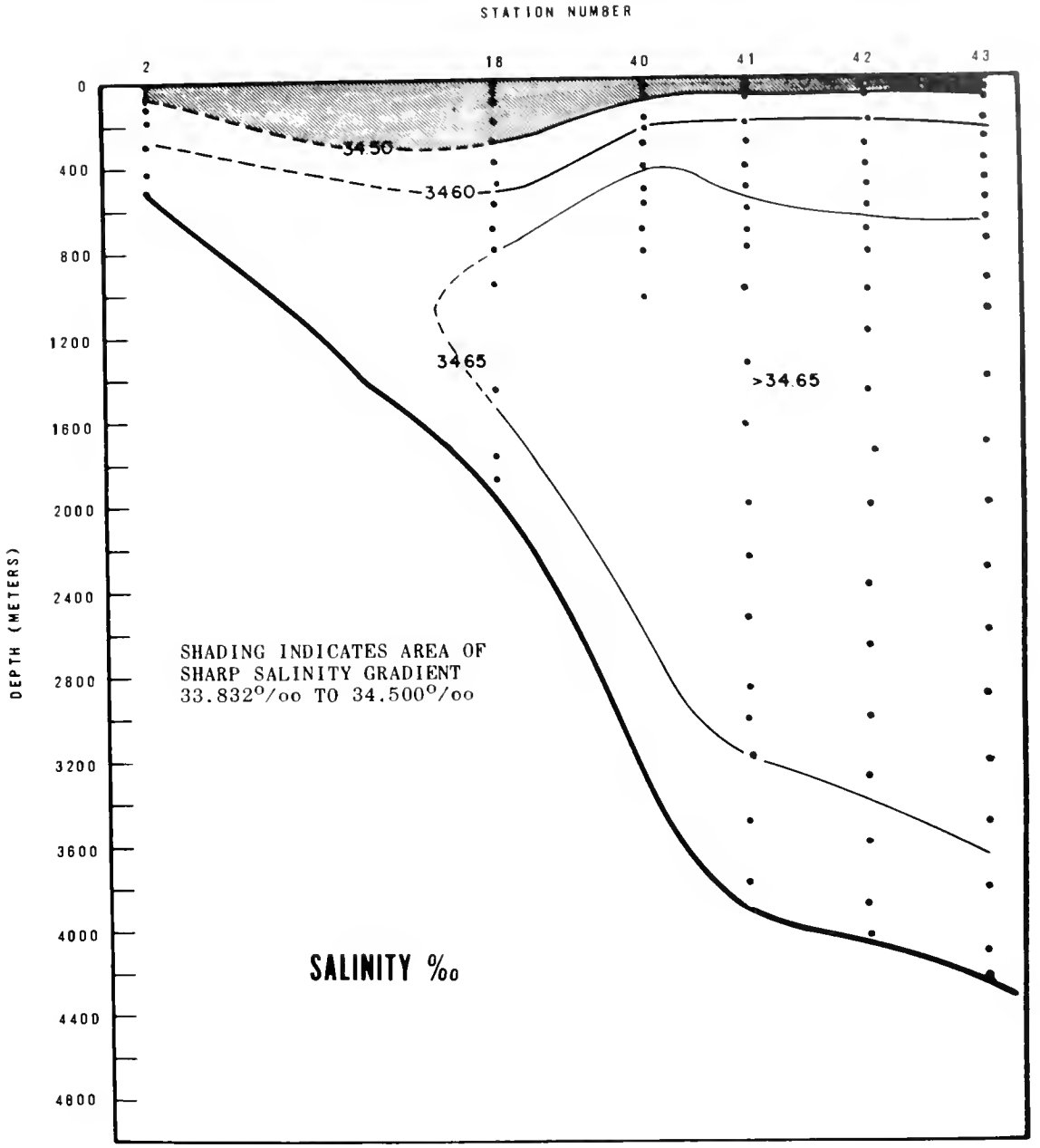


Figure 9. Vertical distribution of salinity (°/₀₀) along Section B. Values less than 34.50 °/₀₀ not contoured. Shading indicates area of sharp salinity gradient (33.832 °/₀₀ to 34.500 °/₀₀).

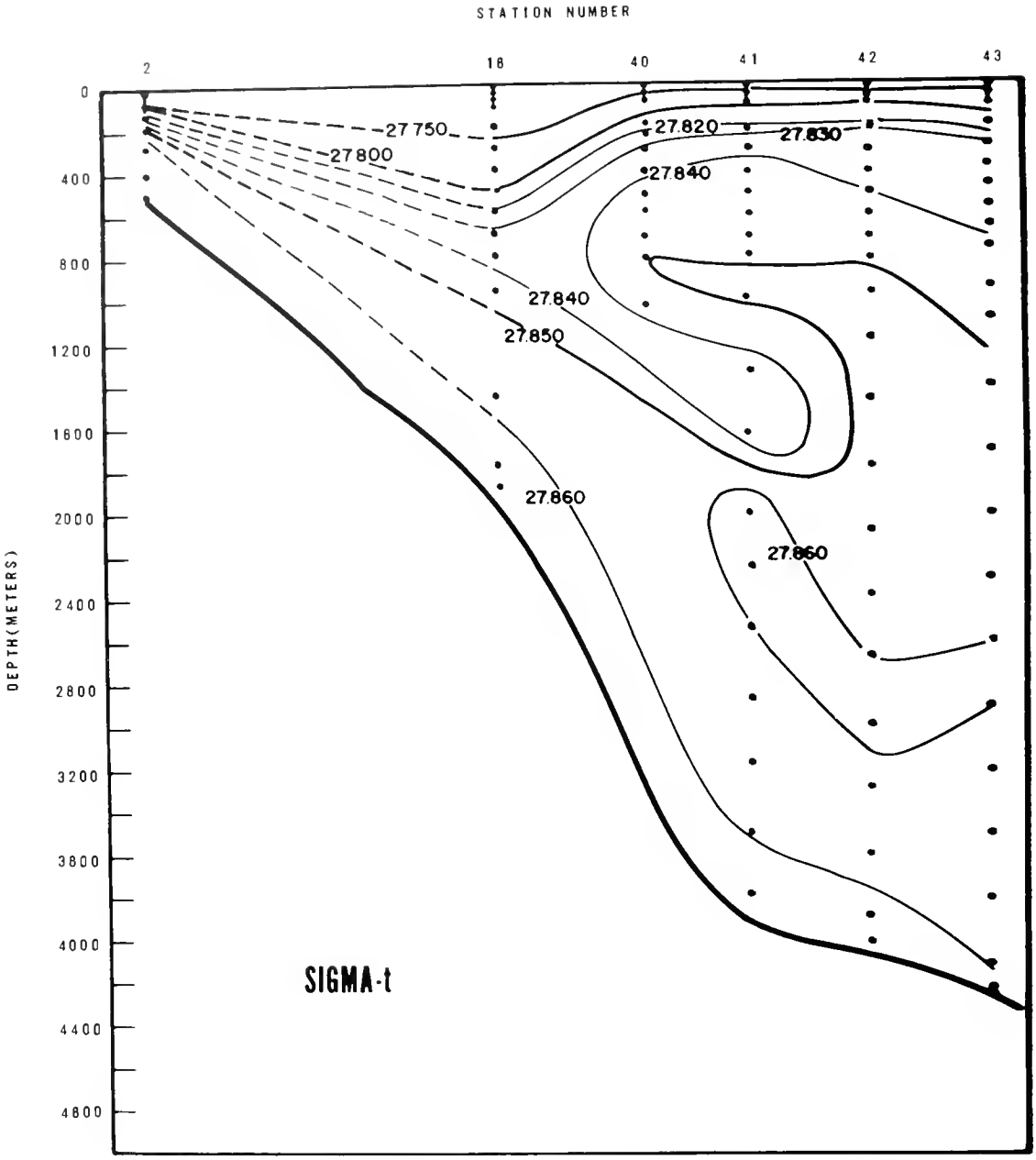


Figure 10. Vertical distribution of density (σt, in g/l) along Section B. Values less than 27.750 g/l not contoured.

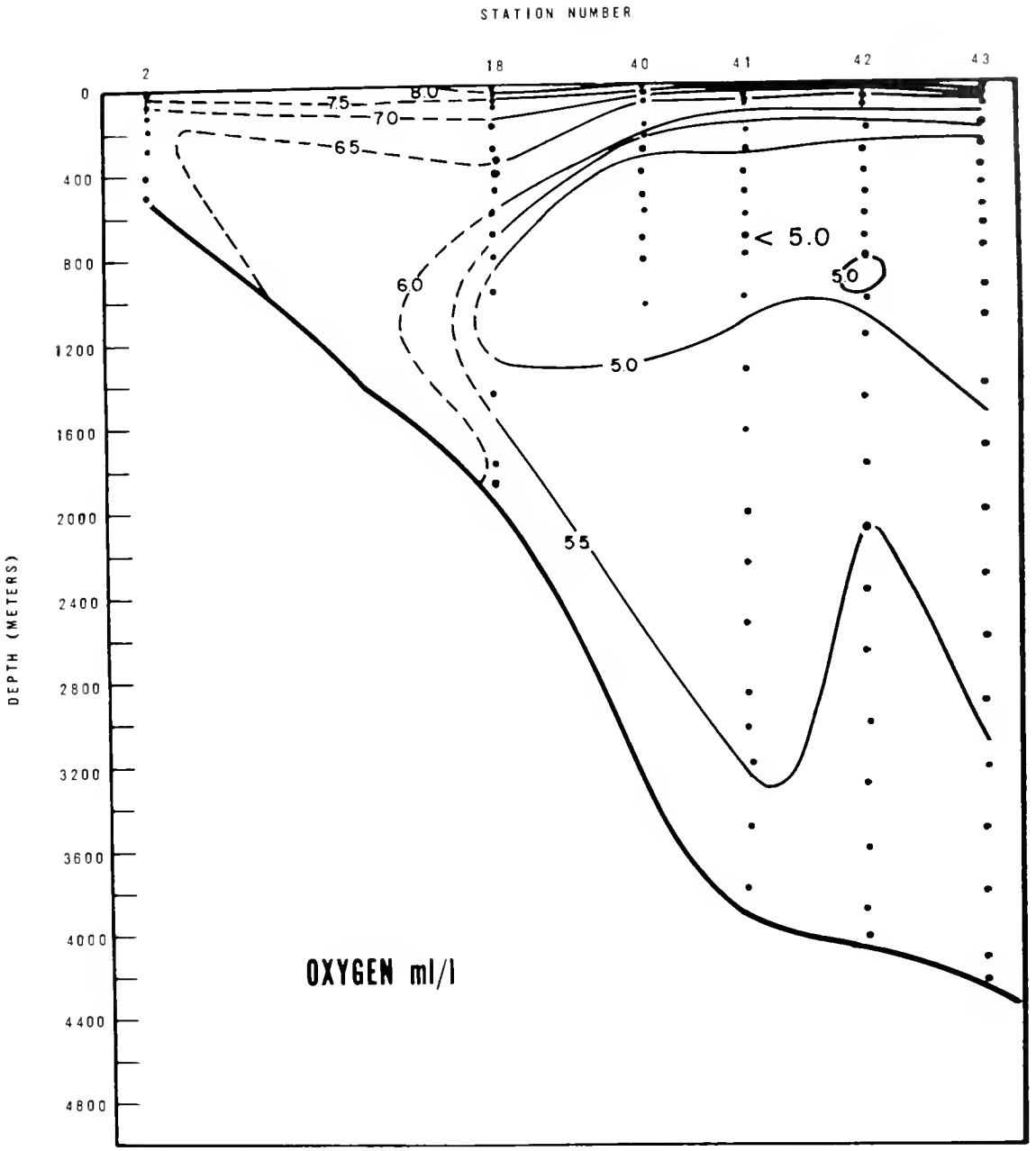


Figure 11. Vertical distribution of dissolved oxygen (ml/l) along Section B.

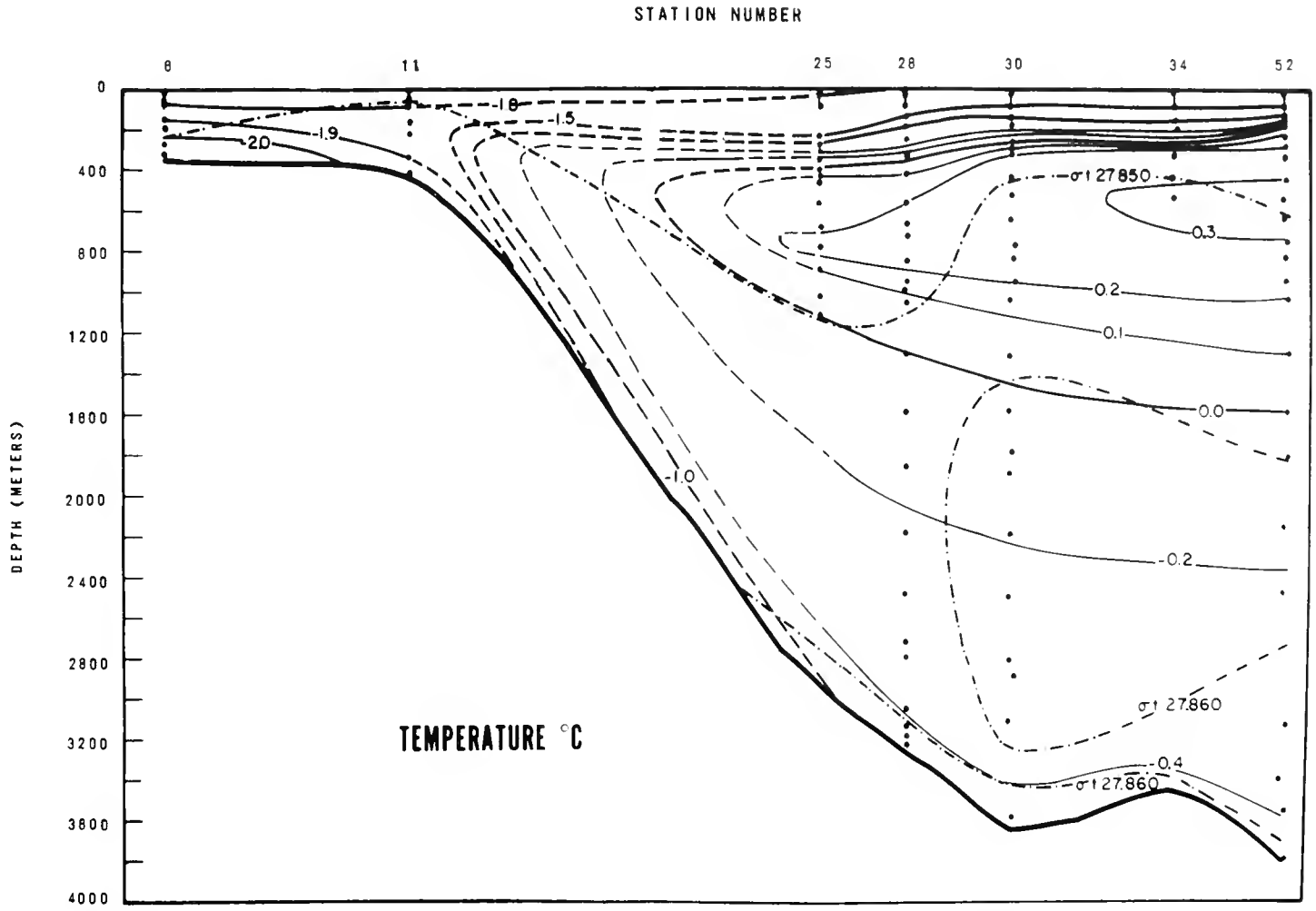


Figure 12. Vertical distribution of temperature (°C) with selected isopycnals (σt, in g/l) along Section C. Contour intervals are 0.1°C in the 0.0 to 0.3°C range, 0.2°C in the 0.0 to −0.4°C range, 0.6°C in the −0.4 to −1.0°C range, 0.5°C in the −1.0 to −1.5 range, 0.3°C in the −1.5 to −1.8°C range and 0.1°C in the −1.8 to −2.0°C range.

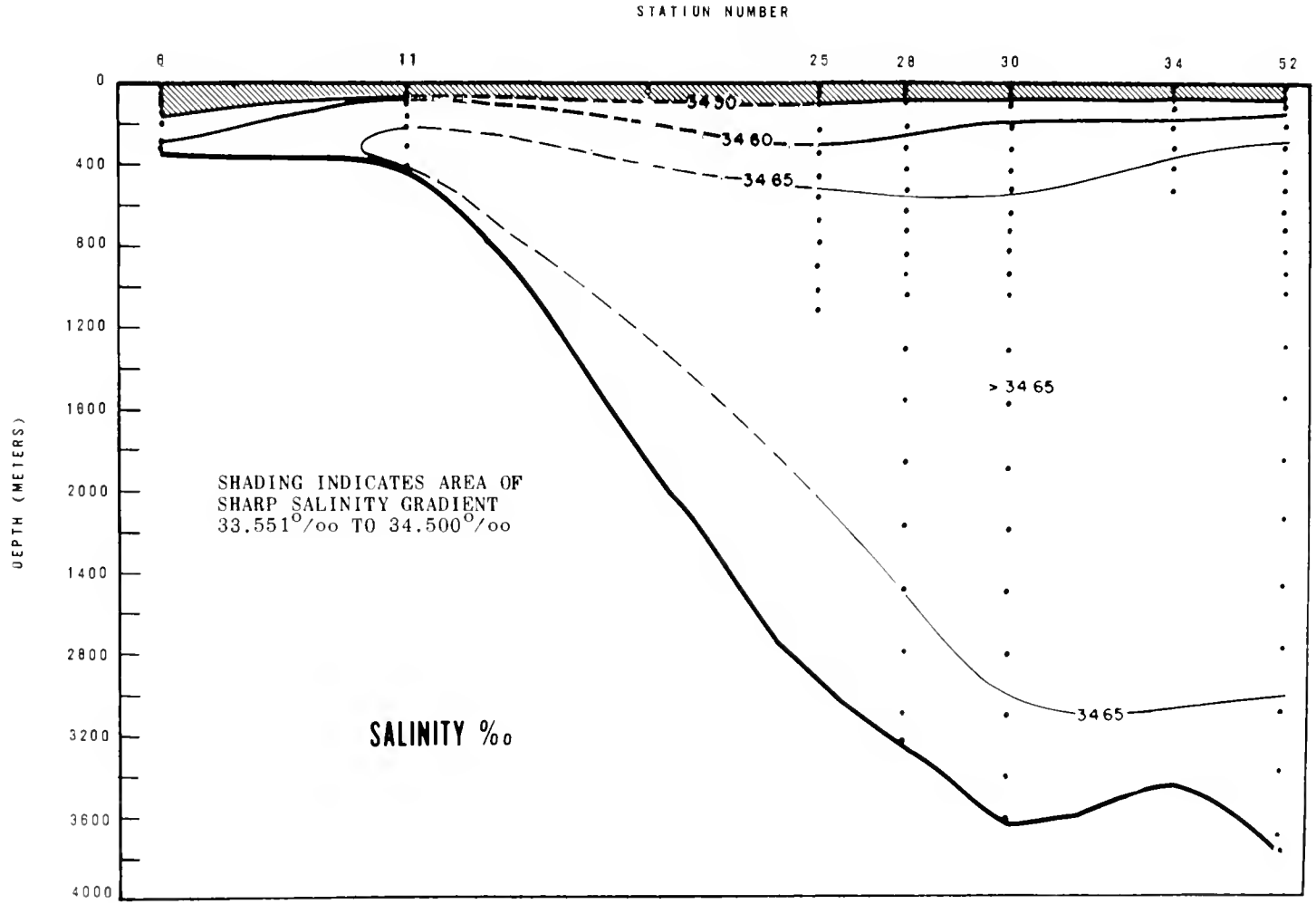


Figure 13. Vertical distribution of salinity (°/₀₀) along Section C. Values less than 34.50 °/₀₀ not contoured. Shading indicates area of sharp salinity gradient (33.551 °/₀₀ to 34.500 °/₀₀).

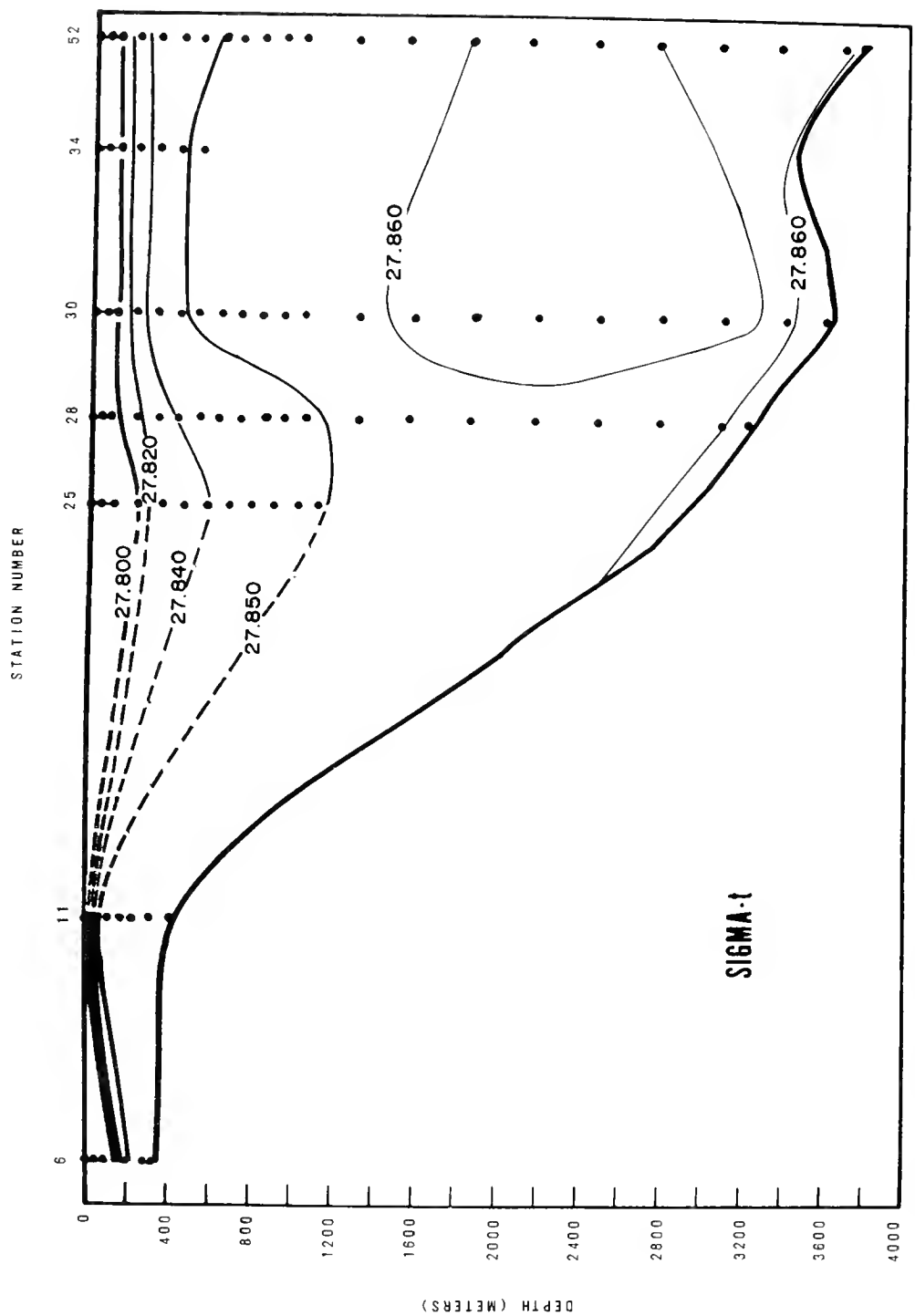


Figure 14. Vertical distribution of density (σt, in g/l) along Section C. Values less than 27.800 g/l not contoured.

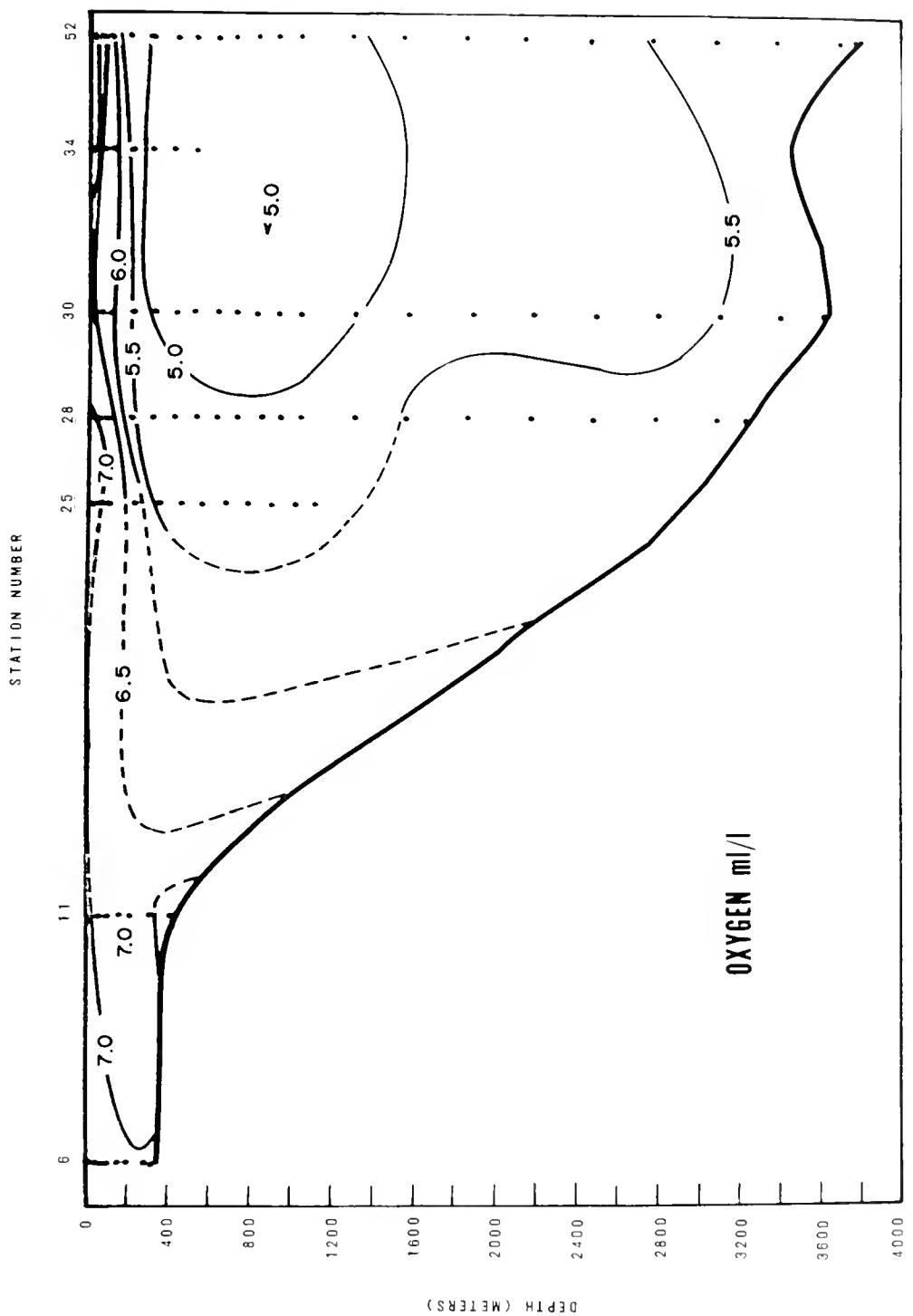


Figure 15. Vertical distribution of dissolved oxygen (ml/l) along Section C.

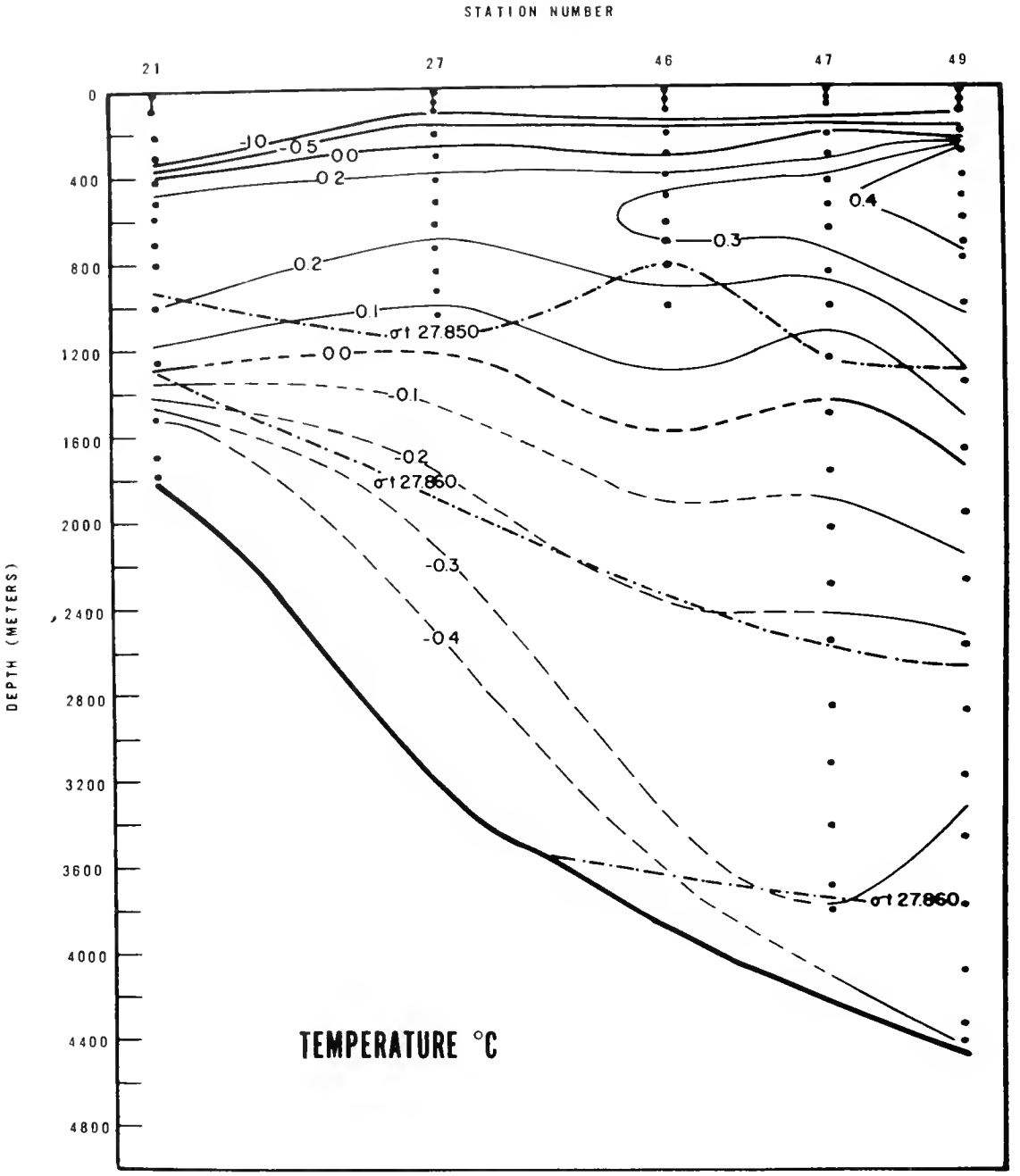


Figure 16. Vertical distribution of temperature (°C) with selected isopycnals (σt, in g/l) along Section D.

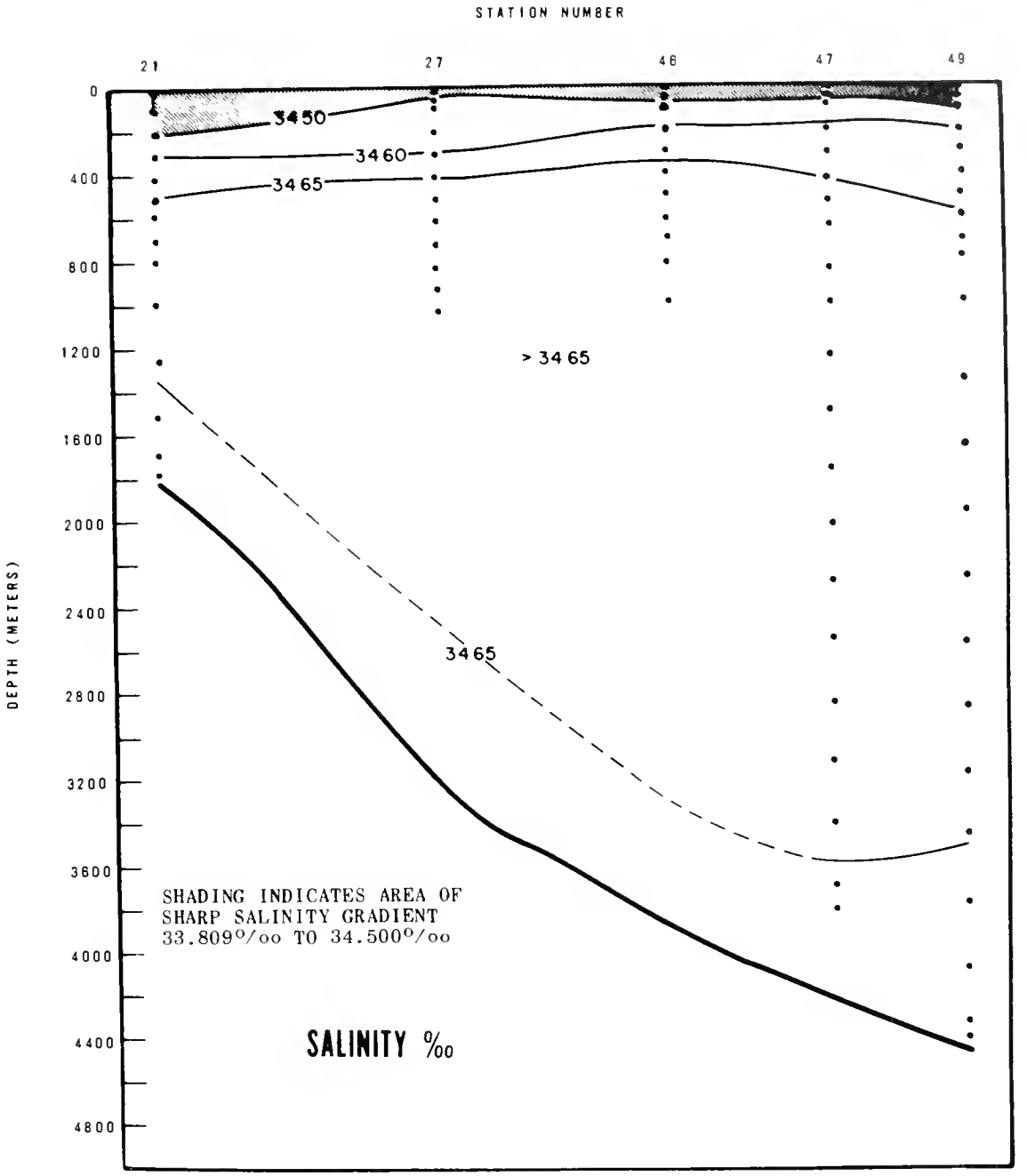


Figure 17. Vertical distribution of salinity (°/₀₀) along Section D. Values less than 34.50 °/₀₀ not contoured. Shading indicates area of sharp salinity gradient (33.809 °/₀₀ to 34.500 °/₀₀).

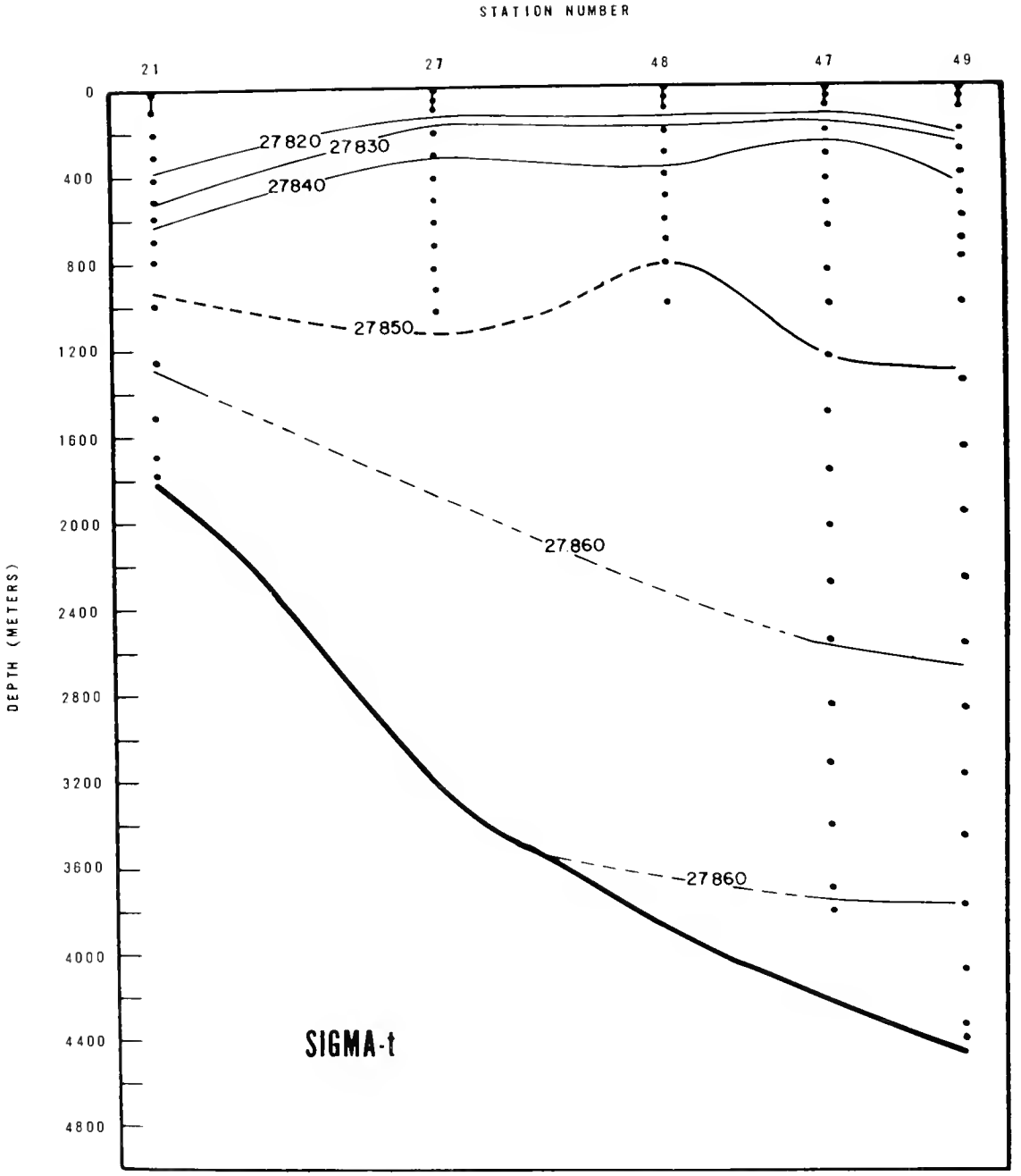


Figure 18. Vertical distribution of density (σt, in g/l) along Section D. Values less than 27.820 g/l not contoured.

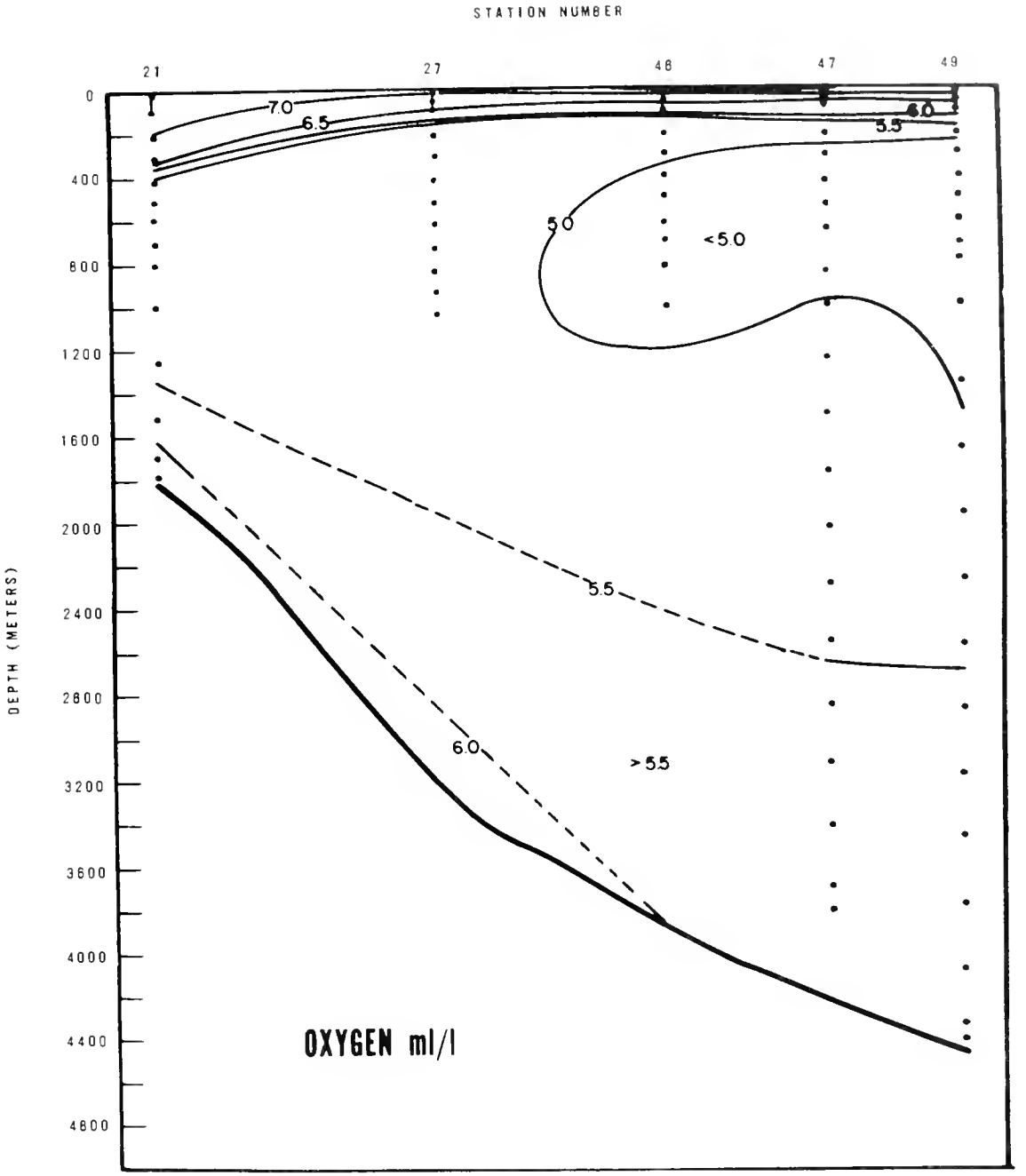


Figure 19. Vertical distribution of dissolved oxygen (ml/l) along Section D.

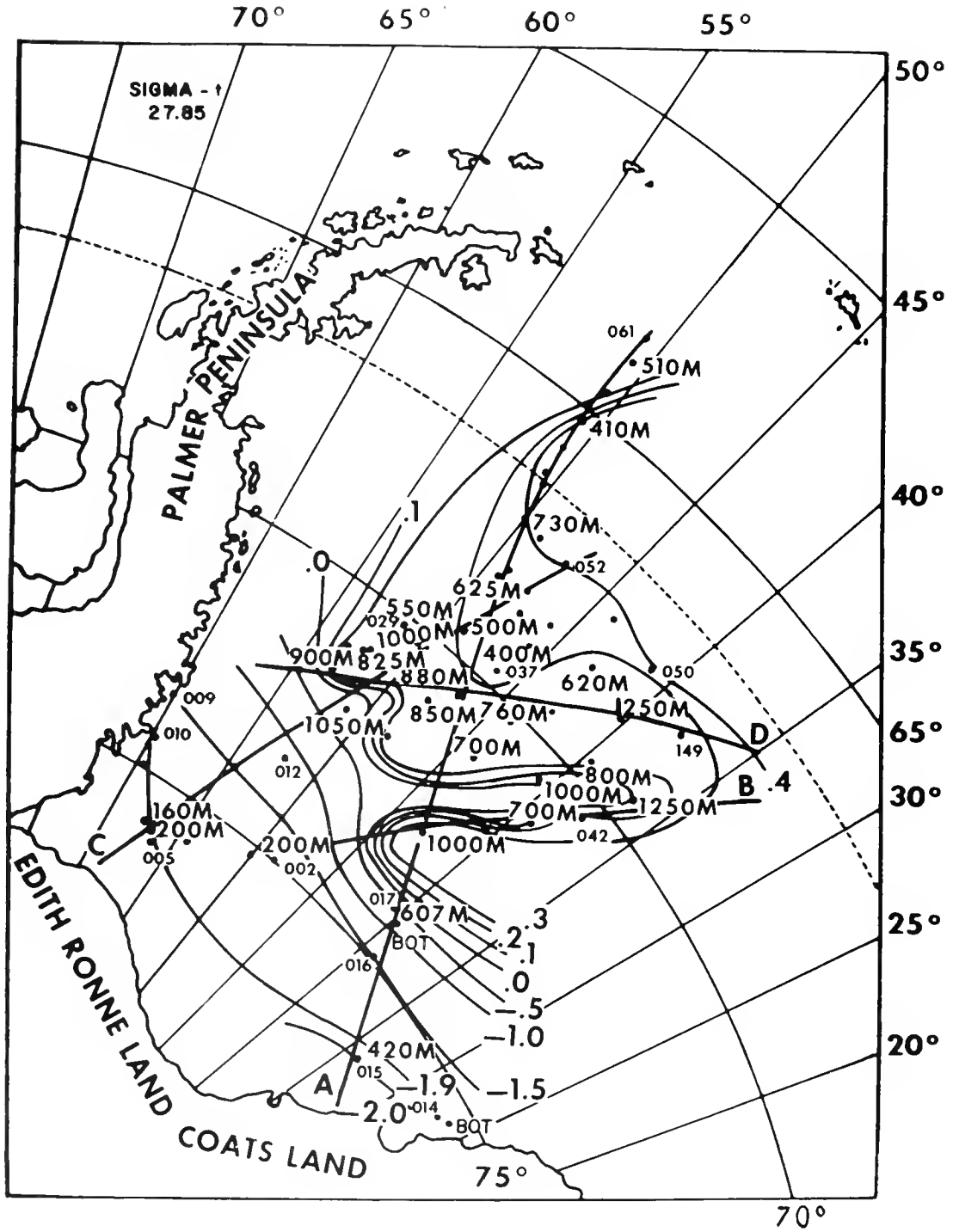


Figure 20. Distribution of temperature on the 27.85 g/l constant density (σt) surface, with point values of depth of the surface.

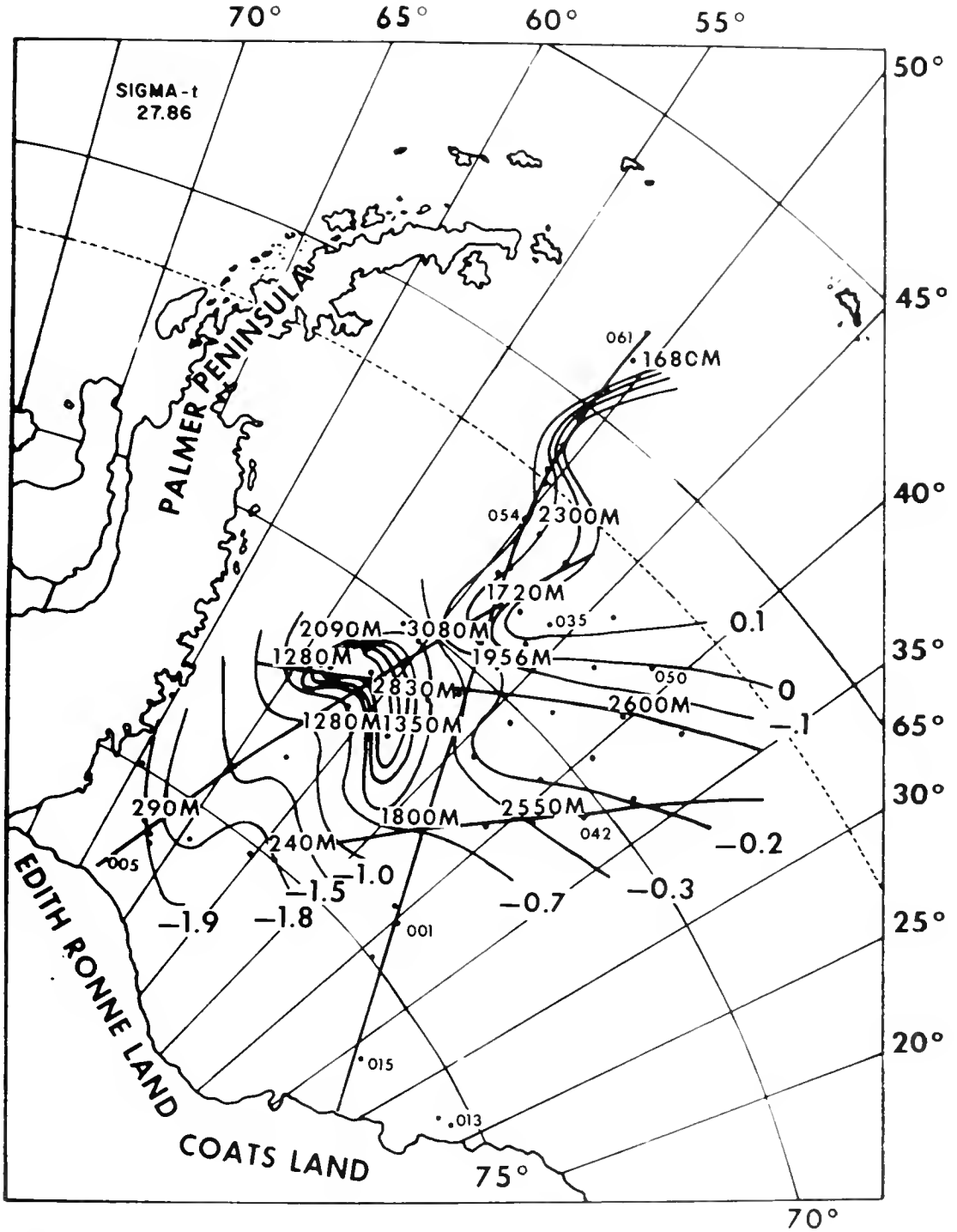


Figure 21. Distribution of temperature on the 27.86 g/l constant density (σt) surface, with point values of depth of the surface.

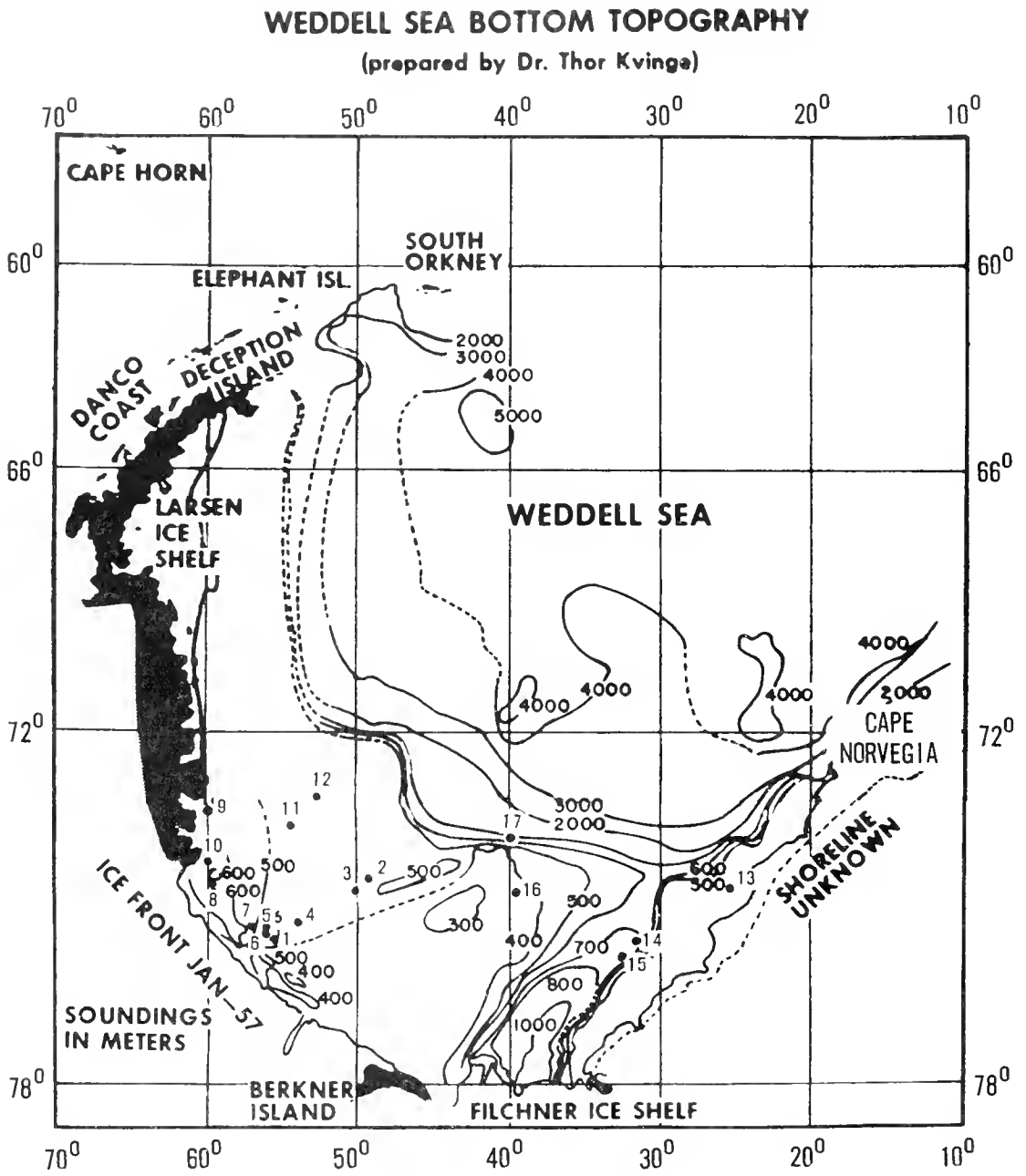


Figure 22. Weddell Sea bottom topography (prepared by Thor Kvinge).

APPENDIX A
OCEANOGRAPHIC DATA

A complete description of the codes utilized in the tabulation of oceanographic station data can be found in National Oceanographic Data Center publication M–2, *Processing Physical and Chemical Data from Oceanographic Stations.* (Rev. August 1964, supplement issued May 1966.)

To facilitate use of the oceanographic station data listing, entry headings which are not self-explanatory are described below.

Depth to Bottom	Corrected or uncorrected sounding in meters.
Max. Depth of Samples	Depth of deepest sample to nearest multiple of one hundred meters.
Wave observations	
DIR	Rounded to nearest multiple of ten degrees.
HGT	In increments of ½ m. Sum of 5 meters plus increments of ½ m if 50 is added to direction.
PER	If numerals 2 through 9 are entered, period in seconds is twice the numeric entry or 2X (numeric entry) + 1. For other entries see WMO Code 3155.
SEA	Sea state according to WMO Code 3700
Weather Code	If preceded by X, weather according to WMO Code 4501. If a two-digit entry, weather according to WMO Code 4677.
Cloud Code	
Type	Cloud type according to WMO Code 0500.
Amount	Cloud amount in eights. Entry of the numeral 9 indicates cloud amount could not be estimated.
Water	
Color Code	Color according to Forel-Ule scale.
Trans	Transparency in whole meters as determined by Secchi disc.
Wind	
Dir	Rounded to nearest multiple of ten degrees.
Speed or Force	If preceded by letter S, wind speed in knots; if preceded by letter F, wind force according to Beaufort scale.
Barometer	Barometric pressure given in tens, units and tenths of millibars.
Air Temp. ° C.	Air temperature to tenths of a degree centigrade.
Vis. Code	Visibility according to WMO Code 4300.
No obs. depths	Number of observed levels associated with the station.
Messenger time	Entered in hours and tenths of an hour GMT. For Nansen casts, indicates time of release of messenger applicable to the observational level. For STD casts, indicates the starting time of lowering the sensor.
Card type	OBS designates observed levels. STD indicates the values at this standard level were interpolated by a modified 3-point LaGrange formula.
Depth (m)	Depth to nearest meter. A postscript T indicates depth was obtained thermometrically; ~ indicates uncorrected "wire out" depth. Postscript Q indicates value was marked doubtful by originator; P indicates value was considered doubtful by NODC. Postscripts P and Q retain this meaning throughout the following entries.
T °C.	Temperature to hundredths of a degree Centigrade.
S °/oo	Salinity in parts-per-thousand.
SIGMA–T	Entered to hundredths.
Specific-volume Anomaly—x 10^7	Multiply entry by 10^{-7} to obtain specific-volume anomaly in cubic centimeters per gram.
$\Sigma\triangle D$ Dyn. M. x 10^3	Multiply entry by 10^{-3} to obtain anomaly of dynamic height in dynamic meters referenced to the sea surface.
Sound Velocity	Sound velocity according to Wilson's formula entered to tenths of a meter per second.
O_2 ml/l	Dissolved oxygen in milliliters per liter entered to hundredths.
PO_4—p μg–at/l	Inorganic phosphate in microgram-atoms per liter entered to hundredths.
Total P μg–at/l	Total phosphous in microgram-atoms per liter entered to hundredths.
NO_2–N μg–at/l	Nitrite-nitrogen in microgram-atoms per liter entered to hundredths.
NO_3–N μg–at/l	Nitrate-nitrogen in microgram-atoms per liter entered to tenths.
SiO_4–Si μg–at/l	Silicate-silicon in microgram-atoms per liter entered to whole units.
pH	Entered to hundredths.

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPL 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	8037	GL	74075S	039365W		555	49	02	06	208	1968		001	0640	06	00	0	X		X1	6	6		0001

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	S04	046	-019	-033	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 Δ D DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0139	3386	2727	0008147	0000	14413	864							
208		OBS	0000	-0139	33864	2727			14413	864	156			224	044	825	
		STD	0010	-0153	3387	2728	0008034	0008	14408	850							
208		OBS	0010	-0153	33873	2728			14408	850	159			199	045	826	
		STD	0020	-0148	3406	2743	0006606	0015	14414	827							
208		OBS	0026	-0147	34152	2750			14417	815	176			245	053	825	
		STD	0030	-0150	3419	2753	0005675	0022	14417	810							
		STD	0050	-0162	3429	2762	0004787	0032	14416	782							
208		OBS	0052	-0163	34295	2762			14416	779	188			237	065	826	
		STD	0075	-0169	3434	2766	000437	0043	14418	744							
208		OBS	0077	-0170	34347	2767			14418	742	233			255	070	817	
		STD	0100	-0177	3435	2767	0004257	0054	14418	728							
208		OBS	0103	-0178	34352	2767			14418	726	210			330	068	822	
		STD	0125	-0179	3436	2768	000416	0065	14422	720							
		STD	0150	-0180	3437	2769	0004066	0075	14425	712							
208		OBS	T0155	-0180	34372	2769			14426	710	234			304	070	830	
		STD	0200	-0179	3439	2770	0003885	0095	14434	688							
208		OBS	0207	-0178	34395	2771			14436	685	215			225	075	825	
		STD	0250	-0166	3441	2772	0003744	0114	14449	672							
		STD	0300	-0151	3444	2774	000354*	0132	14465	652							
208		OBS	0312	-0147	34445	2774			14469	646	246			339	071	825	
		STD	0400	-0112	3451	2778	0003123	0166	14501	587							
208		OBS	0416	-0107	34515	2778			14506	582	238			327	083	824	
		STD	0500	-0105	3457	2783	0002664	0194	14522	595							
208		OBS	T0520	-00840	34573	27820				598	231			315	090	819	
		STD	0600	-0103	3457	2783	0002642	0221	14539	579							
208		OBS	T0627	-0102	34561	2782			14544	566	249			311	094	830	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPL 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	8037	GL	74559S	048405W		556	48	02	08	000	1968		002	0544	05	00	0	X		X1	0	3		0002

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	S08	059	-019	-022	7	16	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0173	3393	2733	0007568	0000	14397								
015		OBS	0000	-0173	33928	2733			14397								
		STD	0010	-0159	3420	2754	0005523	0007	14410								
		OBS	0010	-0159	34198	2754			14410								
		OBS	0016	-0159	34238	2757			14411								
		STD	0020	-0166	3437	2766	0004194	0011	14410								
		OBS	0020	-0166	34368	2768			14410								
		STD	0030	-0170	3441	2772	0003871	0015	14411								
		OBS	0030	-0170	34408	2772			14411								
		STD	0050	-0165	3446	2776	0003452	0023	14417								
		OBS	0050	-0165	34463	2776			14417								
		STD	0075	-0166	3452	2780	0003014	0031	14422								
		OBS	0075	-0166	34518	2780			14422								
		STD	0100	-0172	3452	2781	0002945	0038	14423								
		OBS	0100	-0172	34523	2781			14423								
		STD	0125	-0165	3454	2782	0002836	0046	14431								
		OBS	0125	-0165	34538	2782			14431								
		STD	0150	-0172	3455	2783	0002687	0052	14432								
		OBS	0150	-0172	34553	2783			14432								
		STD	0200	-0174	3457	2785	0002539	0065	14439								
		OBS	0200	-0174	34568	2785			14439								
		STD	0250	-0175	3458	2786	0002393	0078	14447								
		OBS	0250	-0175	34583	2786			14447								
		STD	0300	-0178	3460	2788	0002203	0089	14454								
		OBS	0300	-0178	34603	2788			14454								
		STD	0400	-0183	3462	2789	0001978	0110	14469								
		OBS	0400	-0183	34623	2789			14469								
		STD	0500	-0182	3468	2794	0001507	0128	14487								
		OBS	0500	-0182	34678	2794			14487								
		OBS	0544	-0183	34683	2794			14494								

REFERENCE CTRY CODE	REFERENCE 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	9037	GL	74559S	048405W		56	48	02	08	044	1968		002	0562	05	00	0	X		X1	7	7	0003

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		20	509	967	-036	-039	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 Δ D DYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0169	3397	2736	0007255	0000	14400	786							
044		OBS	0000	-0169	33970	2736			14400	786	191	216	013	289	066	816	
		STD	0010	-0170	3397	2736	0007246	0007	14401	797							
044		OBS	0010	-0170	33970	2736			14401	797	191	117	020	303	065	816	
		STD	0020	-0166	3422	2756	000533	0014	14408	786							
044		OBS	0027	-0165	34349	2767			14412	776	215	142	012	248	067	816	
		STD	0030	-0166	3436	2768	0004251	0018	14412	769							
		STD	0050	-0169	3442	2773	0003770	0026	14414	733							
044		OBS	0054	-0170	34431	2773			14415	728	227	266	015	290	072	814	
		STD	0075	-0159	3449	2778	0003248	0035	14424	712							
044		OBS	0080	-0158	34499	2779			14426	708	225	642	008	247	075	814	
		STD	0100	-0166	3452	2781	0002985	0043	14426	690							
044		OBS	0107	-0168	34529	2781			14426	685	225	131	041	279	076	810	
		STD	0125	-0168	3454	2782	0002812	0050	14429	680							
		STD	0150	-0168	3455	2783	0002722	0057	14433	673							
044		OBS	T0159	-0168	34556	2784			14435	671	236	123	007	288	077	807	
		STD	0200	-0172	3457	2785	000253	0070	14440	661							
044		OBS	0211	-0173	34578	2785			14442	660	233	136	012	245	077	809	
		STD	0250	-0176	3459	2786	0002337	0082	14447	669							
		STD	0300	-0179	3460	2787	0002223	0094	14454	678							
044		OBS	0314	-0180	34605	2788			14456	680	228	203	013	304	076	809	
		STD	0400	-0183	3463	2790	0001926	0115	14469	686							
044		OBS	0415	-0183	34632	2790			14472	687	231	154	024	286	074	808	
044		OBS	0465	-0182	34650	2792			14481	687	226	494	010	295	076	808	
		STD	0500	-0183	3467	2793	0001564	0132	14486	680							
044		OBS	T0515	-0184	34679	2794			14489	676	227	212	010	311	082	801	

REFERENCE CTRY CODE	REFERENCE 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	8037	GL	7500 S	05021 W		55	50	02	08	180	1968		003	0503	05	00	0	X		X1	0	3	0004

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	13	S11	014	-007	-020	7	16	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0162	3400	2738	0007057	0000	14404								
187		OBS	0000	-0162	33998	2738			14404								
		STD	0010	-0163	3438	2769	000413	0006	14410								
		OBS	0010	-0163	34378	2769			14410								
		STD	0020	-0173	3445	2775	0003524	0009	14408								
		OBS	0020	-0173	34453	2775			14408								
		STD	0030	-0178	3448	2778	0003275	0013	14408								
		OBS	0030	-0178	34483	2778			14408								
		OBS	0032	-0172	34488	2778			14411								
		STD	0050	-0174	3451	2780	0003044	0019	14414								
		OBS	0050	-0174	34513	2780			14414								
		STD	0075	-0174	3453	2782	0002876	0027	14418								
		OBS	0075	-0174	34533	2782			14418								
		STD	0100	-0174	3455	2783	0002747	0034	14422								
		OBS	0100	-0174	34548	2783			14422								
		STD	0125	-0174	3456	2784	0002643	0040	14424								
		OBS	0125	-0179	34558	2784			14424								
		STD	0150	-0181	3457	2785	0002546	0047	14428								
		OBS	0150	-0181	34568	2785			14428								
		OBS	0184	-0185	34578	2786			14431								
		STD	0200	-0183	3458	2786	0002397	0059	14435								
		OBS	0200	-0183	34583	2786			14435								
		STD	0250	-0187	3460	2787	000224*	0071	14442								
		OBS	0250	-0187	34598	2787			14442								
		STD	0300	-0185	3462	2789	0002066	0082	14451								
		OBS	0300	-0185	34618	2789			14451								
		STD	0400	-0186	3465	2791	0001777	0101	14468								
		OBS	0400	-0186	34648	2791			14468								
		OBS	0458	-0186	34658	2792			14478								

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	8037	GL	76022S	054260W		55	7	02	09	030	1968		004	0476	04	00	0	X		X1	0	3		0005

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	S06	005	-056	-065	7	20	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCU
		STD	0000	-0153	3386	2727	0008155	0000	14406								
022		OBS	000	-0153	33858	2727			14406								
		OBS	0007	-0138	34299	2762			14420								
		STD	0010	-0161	3434	2766	0004443	0006	14411								
111		OBS	0010	-0161	34338	2766			14411								
		OBS	0016	-0169	34368	2768			14408								
		STD	0020	-0172	3439	2770	0004026	0011	14408								
		OBS	0020	-0172	34388	2770			14408								
		STD	0030	-0180	3441	2772	0003846	0014	14406								
		OBS	0030	-0180	34408	2772			14406								
		OBS	0032	-0181	34409	2772			14406								
		OBS	0040	-0182	34418	2773			14407								
		STD	0050	-0181	3442	2773	0003747	0022	14409								
		OBS	0050	-0181	34419	2773			14409								
		STD	0075	-0179	3444	2774	0003576	0031	14414								
		OBS	0075	-0179	34440	2774			14414								
		OBS	0080	-0179	34440	2774			14415								
		STD	0100	-0178	3446	2776	0003426	0040	14419								
		OBS	0100	-0178	34458	2776			14419								
		STD	0125	-0175	3447	2777	0003343	0048	14425								
		OBS	0125	-0175	34468	2777			14425								
		STD	0150	-0174	3450	2779	0003095	0056	14430								
		OBS	0150	-0174	34489	2779			14430								
		STD	0200	-0175	3454	2782	0002773	0071	14438								
		OBS	0200	-0175	34537	2782			14438								
		STD	0250	-0178	3456	2784	0002567	0084	14446								
		OBS	0250	-0178	34559	2784			14446								
		STD	0300	-0188	3460	2787	0002209	0096	14450								
		OBS	0300	-0188	34598	2787			14450								
		OBS	0320	-0191	34608	2788			14452								
		OBS	0360	-0189	34618	2789			14459								
		OBS	0392	-0191	34628	2790			14464								

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	8037	GL	76002S	056459W		55	66	02	09	150	1968		005	0450	04	00	0	X		X1	0	3		0006

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	22	S13	017	-104	-110	7	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SCU
		STD	0000	-0152													
147		OBS	0000	-0152													
		STD	0010	-0183	3431	2764	0004619		14400								
		OBS	0010	-0183	34308	2764			14400								
		STD	0020	-0185	3436	2768	0004186		14401								
		OBS	0020	-0185	34363	2768			14401								
		STD	0030	-0186	3438	2770	0004024		14403								
		OBS	0030	-0186	34383	2770			14403								
		STD	0050	-0185	3440	2772	000386		14407								
		OBS	0050	-0185	34403	2772			14407								
		STD	0075	-0183	3443	2774	0003658		14412								
		OBS	0075	-0183	34428	2774			14412								
		STD	0100	-0183	3444	2774	0003566		14417								
		OBS	0100	-0183	34438	2774			14417								
		STD	0125	-0185	3444	2775	0003507		14420								
		OBS	0125	-0185	34443	2775			14420								
		STD	0150	-0184	3446	2776	0003342		14425								
		OBS	0150	-0184	34463	2776			14425								
		STD	0200	-0176	3453	2782	000280		14438								
		OBS	0200	-0176	34533	2782			14438								
		STD	0250	-0173	3456	2784	0002553		14448								
		OBS	0250	-0173	34563	2784			14448								
		STD	0300	-0172	3460	2787	0002223		14457								
		OBS	0300	-0172	34603	2787			14457								
		STD	0400	-0183	3465	2791	0001787		14469								
		OBS	0400	-0183	34648	2791			14469								
		OBS	0418	-0186	34678	2794			14471								

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	037	GL	750025	0564457W		557	66	02	29	180	1968		003	0450	04	00	0	X		X1	3	7		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
		24	S10	015	-080	-040	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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	
		STD	0000	-0167	3394	2734	0007467	0000	14401	911							
171		OBS	0000	-0167	33943	2734			14401	911	127		030	144	056	837	
		STD	0010	-0153	3401	2739	0006990	0007	14410	944							
171		OBS	0010	-0153	34009	2739			14410	944	146	223	016	164	057	840	
		STD	0020	-0154	3413	2749	0006053	0014	14413	904							
171		OBS	0025	-0155	34178	2752			14414	886	181	212	014	156	060	830	
		STD	0030	-0159	3422	2756	0005343	0019	14413	873							
		STD	0050	-0171	3435	2767	0004302	0029	14413	826							
171		OBS	0051	-0172	34360	2768			14412	824	202	229	017	258	068	821	
		STD	0075	-0182	3443	2774	0003645	0039	14413	785							
171		OBS	0077	-0183	34437	2774			14413	781	223	526	014	293	071	819	
		STD	0100	-0186	3444	2775	0003544	0048	14415	718							
171		OBS	0102	-0186	34440	2775			14415	714	235	131	022	291	072	819	
		STD	0125	-0185	3445	2775	0003493	0057	14420	713							
		STD	0150	-0183	3445	2775	0003444	0065	14425	712							
171		OBS	T0154	-0183	34451	2775			14426	712	258	239	015	289	072	815	
		STD	0200	-0176	3446	2776	0003359	0082	14437	721							
171		OBS	0206	-0175	34462	2776			14438	722	227	136	013	290	073	816	
		STD	0250	-0173	3448	2778	0003109	0099	14447	694							
		STD	0300	-0171	3453	2781	0002783	0113	14457	677							
171		OBS	T0308	-0171	34534	2782			14458	676	231	158	030	313	075	816	
		STD	0400	-0181	3466	2792	0001703	0136	14471	695							
171		OBS	T0414	-0183	34674	2793			14472	698	220	426	009	300	074	815	
171		OBS	T0443	-0188	34694	2795			14475	688	225	167	012	290	073	820	

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	037	GL	755335	0572334W		557	57	02	10	030	1968		006	0360	03	00	0	X		X1	0	3		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
DT	50	18	S10	015	-108	-110	7	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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	
		STD	0000	-0184	3384	2726	0008236	0000	14391								
029		OBS	0000	-0184	33838	2726			14391								
		STD	0010	-0171	3425	2759	0005109	0007	14405								
		OBS	0010	-0171	34248	2759			14405								
003		OBS	0012	-0146	34248	2756			14417								
		STD	0020	-0159	3428	2761	0004904	0012	14412								
		OBS	0020	-0159	34278	2761			14412								
		STD	0030	-0174	3434	2766	0004398	0016	14408								
		OBS	0030	-0174	34338	2766			14408								
		STD	0050	-0180	3439	2770	0003988	0025	14409								
		OBS	0050	-0180	34388	2770			14409								
		STD	0075	-0181	3442	2773	0003748	0034	14413								
		OBS	0075	-0181	34417	2773			14413								
		STD	0100	-0183	3446	2776	0003413	0043	14417								
		OBS	0100	-0183	34458	2776			14417								
		STD	0125	-0188	3447	2777	0003308	0052	14419								
		OBS	0125	-0188	34468	2777			14419								
		STD	0150	-0199	3450	2780	0002995	0060	14418								
		OBS	0150	-0199	34503	2780			14418								
		STD	0200	-0212	3457	2786	0002432	0073	14421								
		OBS	0200	-0212	34566	2786			14421								
		STD	0250	-0213	3458	2786	0002312	0085	14429								
		OBS	0250	-0213	34579	2786			14429								
		STD	0300		3459												
		OBS	0300		34588												
		OBS	0343		34597												

REFERENCE: CTRY CODE	REFERENCE: ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DUPT 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	B037	GL	75533S	057239W		55	7	02	10	030	1968		006	0360	03	00	0	X		X1	7	6		0009

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	S10	015	-108	-110	7	10	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	CODE
		STD	0000	-0174	3383	2725	0008296	0000	14396	957							
037		OBS	0000	-0174	33833	2725			14396	957	111			108	053	837	
		STD	0010	-0175	3383	2725	0008295	0008	14397	993							
037		OBS	0010	-0175	33832	2725			14397	993	111			107	053	839	
		STD	0020	-0170	3384	2725	0008238	0017	14401	986							
037		OBS	0025	-0168	33871	2728			14403	982	123			115	053	839	
		STD	0030	-0168	3401	2739	0006931	0024	14406	923							
		STD	0050	-0170	3437	2768	0004182	0035	14413	766							
037		OBS	0050	-0170	34366	2768			14413	766	215			265	068	813	
037		OBS	0074	-0181	34423	2773			14413	747	227			285	070	811	
		STD	0075	-0181	3443	2774	0003648	0045	14413	745							
037		OBS	0099	-0184	34467	2777			14416	714	215			290	071	811	
		STD	0100	-0184	3447	2777	0003318	0054	14416	714							
		STD	0125	-0188	3449	2779	0003139	0062	14419	715							
037		OBS	0149	-0190	34512	2781			14422	715	236			291	071	809	
		STD	0150	-0190	3451	2781	0002943	0069	14423	715							
037		OBS	0198	-0191	34558	2784			14431	724	224			295	067	811	
		STD	0200	-0192	3456	2784	0002547	0083	14431	724							
		STD	0250	-0209	3458	2786	0002315	0095	14431	713							
037		OBS	T0295	-0214	34615	2789			14437	703	230			306	069	810	
		STD	0300	-0214	3462	2790	0001963	0106	14438	704							
037		OBS	T0319	-0213	34637	2791			14442	712	231			301	071	808	

REFERENCE: CTRY CODE	REFERENCE: ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DUPT 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	B037	GL	75445S	057479W		55	7	02	10	060	1968		007	0433	04	00	0	X		X1	0	3		0010

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	15	S15	015	-103	-109	7	14	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	CODE
		STD	0000	-0172	3386	2727	0008070	0000	14397								
061		OBS	0000	-0172	33863	2727			14397								
		STD	0010	-0172	3387	2728	0008025	0008	14399								
		OBS	0010	-0172	33868	2728			14399								
002		OBS	0016	-0146	34138	2749			14416								
		STD	0020	-0161	3428	2761	0004898	0015	14411								
		OBS	0020	-0161	34278	2761			14411								
		STD	0030	-0168	3438	2769	0004068	0019	14411								
		OBS	0030	-0168	34383	2769			14411								
		STD	0050	-0178	3443	2774	0003647	0027	14411								
		OBS	0050	-0178	34433	2774			14411								
		STD	0075	-0183	3449	2779	0003159	0035	14413								
		OBS	0075	-0183	34493	2779			14413								
		STD	0100	-0184	3450	2780	0003065	0043	14417								
		OBS	0100	-0184	34503	2780			14417								
		STD	0125	-0188	3453	2782	0002848	0050	14420								
		OBS	0125	-0188	34528	2782			14420								
		STD	0150	-0188	3454	2783	0002756	0057	14424								
		OBS	0150	-0188	34538	2783			14424								
		STD	0200	-0192	3455	2783	0002639	0071	14430								
		OBS	0200	-0192	34548	2783			14430								
		STD	0250	-0194	3456	2785	0002488	0084	14438								
		OBS	0250	-0194	34563	2785			14438								
		STD	0300	-0200	3458	2786	0002286	0096	14444								
		OBS	0300	-0200	34583	2786			14444								
		OBS	0388	-0198	34613	2789			14460								

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	8037	GL	75445S	057479W		55	7	02	10	060	1968		007	0400	04	00	0	X		X1	6	7		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
		15	S15	015	-103	-109	7	11	

MESSENGR TIME OF NR 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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	S CC
		STD	0000	-0166	3394	2733	0007531	0000	14401	976							
073		OBS	0000	-0166	33935	2733			14401	976	104	258	016	088	054	841	
		STD	0010	-0165	3394	2733	0007520	0008	14403	980							
073		OBS	0010	-0165	33936	2733			14403	980	109	374	015	081	051	843	
		STD	0020	-0165	3394	2733	0007506	0015	14405	977							
073		OBS	0026	-0165	33937	2733			14406	975	117	247	012	074	051	843	
		STD	0030	-0164	3400	2738	0007019	0022	14408	946							
		STD	0050	-0156	3426	2759	0005034	0034	14419	834							
073		OBS	0052	-0155	34280	2761			14420	825	189	382	011	223	070	823	
		STD	0075	-0166	3438	2769	0004071	0046	14420	766							
073		OBS	0078	-0167	34389	2770			14420	760	211	412	008	258	069	820	
		STD	0100	-0178	3448	2778	0003258	0055	14419	728							
073		OBS	0104	-0179	34489	2778			14420	723	220	240	012	292	073	811	
		STD	0125	-0182	3452	2781	0002926	0063	14422	706							
		STD	0150	-0184	3455	2783	0002676	0070	14426	694							
073		OBS	0156	-0185	34560	2784			14427	692	227	274	010	324	077	810	
		STD	0200	-0189	3458	2786	0002402	0082	14432	698							
073		OBS	0207	-0190	34586	2787			14433	699	222	182	010	300	075	810	
		STD	0250	-0193	3460	2788	0002207	0094	14439	699							
		STD	0300	-0197	3462	2789	0002043	0104	14446	699							
073		OBS	0310	-0198	34619	2789			14447	699	225	145	006	306	073	809	
073		OBS	0354	-0197	34625	2790			14455	701	219	352	010	303	078	807	
073		OBS	0394	-0199	34636	2791			14461	695	234	367	025	330	074	806	

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	8037	GL	73310S	060034W		58	3	02	11	090	1968		009	0603	05	00	0	X		X1	0	3		0012

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	19	S29	074	-085	-088	7	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	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	S CC
		STD	0000	-0193	3400	2739	0006986	0000	14389								
089		OBS	0000	-0193	33998	2739			14389								
		STD	0010	-0190	3425	2759	0005026	0006	14396								
		OBS	0010	-0190	34253	2759			14396								
		STD	0020	-0191	3429	2762	0004748	0011	14397								
		OBS	0020	-0191	34288	2762			14397								
		STD	0030	-0191	3433	2766	0004434	0015	14400								
		OBS	0030	-0191	34328	2766			14400								
		STD	0050	-0190	3437	2769	0004078	0024	14404								
		OBS	0050	-0190	34373	2769			14404								
		STD	0075	-0190	3441	2772	0003756	0034	14409								
		OBS	0075	-0190	34413	2772			14409								
		STD	0100	-0190	3444	2775	000351	0043	14413								
		OBS	0100	-0190	34443	2775			14413								
		STD	0125	-0190	3446	2777	000334*	0051	14418								
		OBS	0125	-0190	34463	2777			14418								
		STD	0150	-0190	3450	2780	0003019	0059	14422								
		OBS	0150	-0190	34503	2780			14422								
		STD	0200	-0190	3455	2784	0002606	0073	14431								
		OBS	0200	-0190	34553	2784			14431								
		STD	0250	-0192	3467	2793	0001691	0084	14440								
		OBS	0250	-0192	34668	2793			14440								
		STD	0300	-0193	3472	2798	0001238	0092	14449								
		OBS	0300	-0193	34723	2798			14449								
		STD	0400	-0193	3479	2803	0000685	0101	14467								
		OBS	0400	-0193	34788	2803			14467								
		OBS	0456	-0192	34803	2804			14477								

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	B037	GL	74229S	059534W		55	7	49	02	11	180	1968		010	0604	05	00	0	X		X1	0	3		0013

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	21	S08	075	-075	-085	7	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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0191	3450	2779	0003147	0000	14397								
185		OBS	0000	-0191	34498	2779			14397								
		STD	0010	-0191	3450	2779	0003141	0003	14399								
		OBS	0010	-0191	34498	2779			14399								
		STD	0020	-0191	3451	2780	0003066	0006	14400								
		OBS	0020	-0191	34507	2780			14400								
		OBS	0025	-0191	34509	2780			14401								
		STD	0030	-0191	3451	2780	0003044	0009	14402								
		OBS	0030	-0191	34509	2780			14402								
		OBS	0040	-0191	34511	2780			14404								
		STD	0050	-0190	3452	2781	0002981	0015	14406								
		OBS	0050	-0190	34516	2781			14406								
		STD	0075	-0188	3461	2788	0002265	0022	14412								
		OBS	0075	-0188	34608	2788			14412								
		STD	0100	-0190	3468	2794	0001700	0027	14417								
		OBS	0100	-0190	34679	2794			14417								
		STD	0125	-0191	3471	2797	0001453	0031	14421								
		OBS	0125	-0191	34709	2797			14421								
		STD	0150	-0191	3473	2798	0001278	0034	14425								
		OBS	0150	-0191	34730	2798			14425								
		STD	0200	-0191	3477	2801	0000958	0040	14434								
		OBS	0200	-0191	34768	2801			14434								
		STD	0250	-0191	3479	2803	0000769	0044	14443								
		OBS	0250	-0191	34789	2803			14443								
		STD	0300	-0191	3480	2804	0000657	0048	14451								
		OBS	0300	-0191	34800	2804			14451								
		STD	0400	-0191	3483	2806	0000395	0053	14468								
		OBS	0400	-0191	34827	2806			14468								
		OBS	0480	-0191	34838	2807			14482								
		STD	0500	-0191	3484	2807	0000256	0056	14485								
		OBS	0500	-0191	34838	2807			14485								
		OBS	0542	-0191	34838	2807			14492								

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	B037	GL	74229S	059534W		55	7	49	02	11	180	1968		010	0604	06	00	0	X		X1	6	7		0014

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	075	-075	-085	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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0186	3458	2786	0002498	0000	14401	789							
176		OBS	0000	-0186	34584	2786			14401	789	202	388	027	249	068	630	
		STD	0010	-0188	3458	2786	0002503	0003	14401	791							
176		OBS	0010	-0188	34582	2786			14401	791	200	068	048	270	067	823	
		STD	0020	-0189	3458	2786	0002503	0005	14403	792							
176		OBS	0026	-0189	34580	2786			14403	792	211	321	005	308	068	826	
		STD	0030	-0189	3458	2786	0002504	0008	14404	796							
		STD	0050	-0189	3458	2786	0002484	0012	14407	813							
176		OBS	0052	-0189	34581	2786			14408	815	199	112	005	255	068	825	
		STD	0075	-0188	3458	2786	0002464	0019	14412	795							
176		OBS	0077	-0188	34582	2786			14412	792	201	266	007	261	068	823	
		STD	0100	-0191	3470	2796	0001537	0024	14417	728							
176		OBS	0103	-0191	34706	2796			14417	722	224	437	008	310	071	821	
		STD	0125	-0191	3473	2798	0001292	0027	14421	714							
		STD	0150	-0191	3475	2800	0001124	0030	14425	707							
176		OBS	0156	-0191	34756	2800			14427	706	233	140	005	308	071	818	
		STD	0200	-0191	3478	2802	0000897	0035	14434	700							
176		OBS	0206	-0191	34779	2802			14435	699	229		003	316	072	809	
		STD	0250	-0191	3480	2804	0000684	0039	14443	700							
		STD	0300	-0192	3482	2806	0000501	0042	14451	701							
176		OBS	0307	-0192	34822	2806			14452	701	226	138	002	304	072	815	
		STD	0400	-0190	3481	2805	0000527	0047	14468	706							
176		OBS	0411	-0190	3486P	2809P				706	235		002	300	073	811	
		STD	0500	-0189	3480	2804	0000583	0053	14485	710							
176		OBS	0514	-0189	34794	2803			14488	710	224	279	032	330	072	809	
176		OBS	0540	-0189	34817	2805			14492	708	219	212	008	278	071	819	
176		OBS	0566	-0190	34817	2805			14496	686	224	475	009	354	068	820	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPLT 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	8037	GL	74010S	054455W		55	7 44	02	12	120	1968		011	0459	04	00	0	X		X1	6	7		0015

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mba)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		00	S00	022	-040	-043	7	11	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	
		STD	0000	-0178	3428	2761	0004860	0000	14400	722							
129		OBS	0000	-0178	34279	2761			14400	722	222			287	070	811	
		STD	0010	-0178	3427	2761	0004900	0005	14402	734							
129		OBS	0010	-0178	34273	2761			14402	734	228	312	011	284	070	804	
		STD	0020	-0168	3443	2773	0003713	0009	14410	733							
129		OBS	0026	-0163	34500	2779			14415	732	242	175	005	312	072	807	
		STD	0030	-0161	3451	2780	0003114	0013	14417	714							
		STD	0050	-0148	3457	2784	000268	0018	14427	657							
129		OBS	0052	-0147	34573	2784			14427	654	243	140	005	323	080	807	
		STD	0075	-0173	3461	2788	0002289	0025	14420	666							
129		OBS	0078	-0175	34616	2789			14419	669	246	556	005	313	078	804	
		STD	0100	-0182	3465	2792	0001944	0030	14420	704							
129		OBS	0104	-0183	34651	2792			14420	708	237	391	009	309	070	808	
		STD	0125	-0185	3466	2792	0001844	0035	14423	699							
		STD	0150	-0188	3466	2792	0001821	0039	14425	693							
129		OBS	0156	-0189	34666	2793			14426	692	245	242		359	072	807	
		STD	0200	-0188	3467	2793	0001716	0048	14434	695							
129		OBS	0208	-0188	34675	2794			14435	695	243	102	017	321	071	802	
		STD	0250	-0188	3468	2794	0001618	0056	14442	694							
		STD	0300	-0189	3468	2794	0001557	0064	14450	693							
129		OBS	0312	-0189	34684	2794			14452	693	237	149		336	072	808	
		STD	0400	-0194	3475	2800	000097*	0077	14466	713							
129		OBS	0416	-0195	34770	2802			14468	717	236		000	288	070	811	
129		OBS	T0432	-0194	34786	2803			14471	709	235	195	009	280	065	807	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPLT 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	8037	GL	74010S	054455W		55	7 44	02	12	150	1968		011	0459	04	00	0	X		X1	0	3		0016

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mba)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	S0	09	S09	019	-003	-038	7	16	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	
		STD	0000	-0182	3425	2759	0005050	0000	14398								
147		OBS	0000	-0182	34253	2759			14398								
		STD	0010	-0182	3435	2767	0004284	0005	14401								
		OBS	0010	-0182	34352	2767			14401								
		STD	0020	-0151	3449	2777	0003338	0008	14419								
		OBS	0020	-0151	34485	2777			14419								
		STD	0030	-0140	3455	2782	0002906	0012	14427								
		OBS	0030	-0140	34545	2782			14427								
		STD	0050	-0169	3459	2786	0002459	0017	14417								
		OBS	0050	-0169	34591	2786			14417								
		STD	0075	-0183	3462	2789	0002201	0023	14415								
		OBS	0075	-0183	34618	2789			14415								
		STD	0100	-0188	3463	2790	0002058	0028	14417								
		OBS	0100	-0188	34633	2790			14417								
		STD	0125	-0189	3464	2791	0002002	0033	14421								
		OBS	0125	-0189	34638	2791			14421								
		STD	0150	-0189	3465	2792	0001911	0038	14425								
		OBS	0150	-0189	34648	2792			14425								
		STD	0200	-0189	3465	2792	0001844	0047	14433								
		OBS	0200	-0189	34653	2792			14433								
		STD	0250	-0189	3466	2792	0001776	0057	14442								
		OBS	0250	-0189	34658	2792			14442								
		STD	0300	-0190	3467	2793	0001668	0065	14450								
		OBS	0300	-0190	34668	2793			14450								
		OBS	0328	-0191	34683	2794			14454								
		OBS	0332	-0198	34688	2795			14452								
		STD	0400	-0195	3477	2802	0000793	0077	14465								
		OBS	0400	-0195	34773	2802			14465								
		OBS	0418	-0195	34773	2802			14468								

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	8037	GL	73230S	052180W		557	32	02	13	030	1968		012	0421	04	00	0	X		X1	0	3		0017

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	00	S00	998	-052	-055	7	19	

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. R 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NN_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SEC
		STD	0000	-0183	3425	2759	0005087	0000	14397								
021		OBS	0000	-0183	34248	2759			14397								
		STD	0010	-0178	3430	2763	0004708	0005	14402								
		OBS	0010	-0178	34298	2763			14402								
002		OBS	0016	-0170	34363	2768			14408								
		STD	0020	-0172	3438	2770	0004064	0009	14408								
		OBS	0020	-0172	34383	2770			14408								
		STD	0030	-0172	3442	2773	0003751	0013	14410								
		OBS	0030	-0172	34423	2773			14410								
		STD	0050	-0175	3447	2777	0003348	0020	14413								
		OBS	0050	-0175	34473	2777			14413								
		OBS	0056	-0171	34485	2778			14416								
		OBS	0064	-0173	34496	2779			14416								
		STD	0075	-0162	3451	2779	0003102	0028	14423								
		OBS	0075	-0162	34508	2779			14423								
		OBS	0096	-0147	34530	2781			14434								
		STD	0100	-0159	3454	2782	0002875	0036	14429								
		OBS	0100	-0159	34537	2782			14429								
		STD	0125	-0140	3455	2782	0002824	0043	14443								
		OBS	0125	-0140	34550	2782			14443								
		OBS	0137	-0133	34558	2783			14448								
		STD	0150	-0159	3457	2784	0002597	0050	14438								
		OBS	0150	-0159	34570	2784			14438								
		OBS	0163	-0157	34576	2785			14441								
		STD	0200	-0183	3463	2790	0002053	0061	14436								
		OBS	0200	-0183	34628	2790			14436								
		STD	0250	-0187	3467	2793	0001714	0071	14443								
		OBS	0250	-0187	34667	2793			14443								
		STD	0300	-0188	3468	2794	0001575	0079	14451								
		OBS	0300	-0188	34681	2794			14451								
		STD	0400	-0191	3473	2798	0001157	0093	14467								
		OBS	0400	-0191	34727	2798			14467								

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	8037	GL	75267S	026326W		554	56	02	15	150	1968		013	0507	05	00	0	X		X1	0	3		0018

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	07	S10	978	-064	-068	7	18	

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. R 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NN_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SEC
		STD	0000	-0099	3375	2716	0009158	0000	14430								
141		OBS	0000	-0099	33748	2716			14430								
		STD	0010	-0086	3378	2718	0008930	0009	14438								
		OBS	0010	-0086	33783	2718			14438								
		STD	0020	-0061	3383	2721	0008675	0018	14452								
		OBS	0020	-0061	33828	2721			14452								
		OBS	0025	-0050	33943	2730			14459								
		STD	0030	-0056	3401	2735	0007315	0026	14458								
		OBS	0030	-0056	34008	2735			14458								
		OBS	0032	-0061	34040	2738			14457								
		OBS	0040	-0062	34083	2742			14458								
		OBS	0048	-0060	34114	2744			14461								
		STD	0050	-0071	3412	2745	0006362	0040	14456								
		OBS	0050	-0071	34124	2745			14456								
		STD	0075	-0186	3426	2760	0004955	0054	14408								
		OBS	0075	-0186	34258	2760			14408								
		STD	0100	-0188	3429	2763	0004665	0066	14412								
		OBS	0100	-0188	34293	2763			14412								
		STD	0125	-0188	3430	2763	0004573	0077	14416								
		OBS	0125	-0188	34303	2763			14416								
		STD	0150	-0189	3433	2766	0004355	0088	14420								
		OBS	0150	-0189	34329	2766			14420								
		STD	0200	-0189	3436	2768	0004094	0110	14429								
		OBS	0200	-0189	34359	2768			14429								
		STD	0250	-0189	3437	2769	0003955	0130	14438								
		OBS	0250	-0189	34373	2769			14438								
		STD	0300	-0190	3439	2770	0003814	0149	14446								
		OBS	0300	-0190	34387	2770			14446								
		STD	0400	-0192	3441	2773	0003547	0186	14462								
		OBS	0400	-0192	34413	2773			14462								
		OBS	0480	-0190	34418	2773			14476								

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	B037	GL	75267S	026326W		554	56	02	15	180	1968		013	0507	05	00	0	X		X1	6	7		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
		04	S07	975	-050	-055	7	14	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0084	3381	2720	0008757	0000	14438	847						
	186	OBS	0000	-0084	33807	2720			14438	847	131	521	012	149	065	833
		STD	0010	-0085	3380	2720	0008788	0009	14439	838						
	186	OBS	0010	-0085	33802	2720			14439	838	141	205	006	149	064	835
		STD	0020	-0070	3383	2721	0008625	0017	14448	855						
	186	OBS	0025	-0064	33855	2723			14452	861	158	128	006	150	064	827
		STD	0030	-0061	3388	2725	0008274	0026	14454	860						
		STD	0050	-0049	3399	2734	0007477	0042	14465	855						
	186	OBS	0051	-0048	33997	2734			14465	855	137	224	008	148	065	834
		STD	0075	-0048	3416	2747	0006175	0059	14472	865						
	186	OBS	0076	-0049	34161	2747			14471	865	155	239	005	154	063	835
		STD	0100	-0122	3425	2757	000519	0073	14443	819						
	186	OBS	0101	-0124	34252	2758			14442	817	175		007	223	069	823
		STD	0125	-0164	3428	2761	0004838	0085	14427	783						
		STD	0150	-0190	3430	2763	0004559	0097	14420	758						
	186	LIT	0152	-0191						757	236	574	005	293	070	Q
		STD	0200	-0189	3435	2768	0004132	0119	14429	745						
	186	OBS	0203	-0189	34357	2768			14430	744	215	093	009	298	072	818
		STD	0250	-0188	3432	2764	0004401	0140	14437	744						
	186	OBS	0253	-0188	34312	2764			14438	744	221	225	009	305	073	813
		STD	0300	-0187	3439	2771	0003800	0161	14447	727						
	186	OBS	0304	-0187	34396	2771			14448	726	210	026	025	317	072	814
		STD	0400	-0194	3441	2772	0003565	0198	14461	734						
	186	OBS	T0408	-0194	34413	2773			14462	735	220	255	005	309	071	813
	186	OBS	0457	-0194	34423	2773			14471	733	228	136	015	287	069	810
	186	OBS	T0478	-0194	34437	2775			14474	733	226	306	010	302	070	811
	186	OBS	T0499	-0193	34427	2774			14478	736	234	234	005	312	066	811

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	B037	GL	76142S	033489W		555	63	02	16	150	1968		014	0768	02	00	0	X		X7	0	3		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
DT	SD	10	S11	793	-008	-014	7	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0019	3412	2743	0006603	0000	14472							
	159	OBS	0000	-0019	34123	2743			14472							
		STD	0010	-0022	3412	2743	0006587	0007	14472							
		OBS	0010	-0022	34123	2743			14472							
		STD	0020	-0030	3414	2745	0006435	0013	14471							
		OBS	0020	-0030	34138	2745			14471							
		STD	0030	-0097	3420	2752	0005713	0019	14442							
		OBS	0030	-0097	34197	2752			14442							
		OBS	0035	-0104	34223	2755			14440							
		OBS	0040	-0113	34241	2756			14437							
		STD	0050	-0134	3427	2759	0005053	0030	14429							
		OBS	0050	-0134	34266	2759			14429							
		OBS	0054	-0141	34288	2761			14427							
		STD	0075	-0162	3433	2765	0004443	0042	14421							
		OBS	0075	-0162	34333	2765			14421							
		STD	0100	-0172	3437	2769	0004094	0052	14421							
		OBS	0100	-0172	34373	2769			14421							
		STD	0125	-0175	3438	2770	0003995	0063	14424							
		OBS	0125	-0175	34383	2770			14424							
		STD	0150	-0179	3440	2771	0003854	0072	14426							
		OBS	0150	-0179	34398	2771			14426							
		OBS	0194	-0179	34418	2773			14434							

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	8037	GL	76142S	033489W		55	63	02	17	000	1968		015	0768	06		2	2		X7	0	3		0021

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	07	S20	849	-008	-010	4	15	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND ANOMALY-x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SOCO
		STD	0000	-0048	3399	2733	0007517	0000	14457								
015		OBS	0000	-0048	33987	2733			14457								
		STD	0010	-0048	3399	2734	0007484	0008	14459								
		OBS	0010	-0048	33991	2734			14459								
002		OBS	0014	-0046	34038	2737			14461								
		STD	0020	-0091	3417	2750	0005945	0014	14443								
		OBS	0025	-0121	34253	2758			14431								
		STD	0030	-0145	3433	2765	0004539	0019	14421								
		OBS	0040	-0173	34418	2772			14411								
		STD	0050	-0174	3443	2773	0003719	0028	14412								
		OBS	0050	-0174	34425	2773			14412								
		STD	0075	-0175	3443	2774	0003641	0037	14416								
		OBS	0075	-0175	34433	2774			14416								
		STD	0100	-0175	3444	2775	0003542	0046	14420								
		OBS	0100	-0175	34444	2775			14420								
		STD	0125	-0173	3446	2776	0003410	0055	14426								
		STD	0150	-0172	3448	2777	0003284	0063	14431								
		OBS	0150	-0172	34475	2777			14431								
		STD	0200	-0172	3449	2778	0003134	0079	14439								
		OBS	0200	-0172	34491	2778			14439								
		STD	0250	-0174	3451	2780	0002954	0094	14447								
		STD	0300	-0177	3454	2782	0002710	0108	14454								
		OBS	0300	-0177	34537	2782			14454								
		STD	0400	-0183	3458	2786	0002290	0133	14468								
		OBS	0400	-0183	34582	2786			14468								
		STD	0500	-0195	3464	2791	0001785	0154	14480								
		OBS	0500	-0195	34635	2791			14480								
		OBS	0560	-0203	34644	2792			14487								
		OBS	0592	-0207	34652	2792			14490								

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	8037	GL	76142S	034489W		55	64	02	17	030	1968		015	0768	05	00	0	X		X7	7	8		0022

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		08	S21	842	-014	-018	2	14	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND ANOMALY-x10⁷	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SOCO
		STD	0000	-0056	3402	2736	0007210	0000	14454	869							
028		OBS	0000	-0056	34023	2736			14454	869	111	168	013	164	040	832	
028		OBS	0007	-0057	34024	2737			14454	861	134	216	003	145	041	831	
		STD	0010	-0056	3407	2740	0006846	0007	14456	858							
028		OBS	0018	-0054	34186	2750			14460	841	147	170	008	144	044	829	
		STD	0020	-0062	3420	2751	0005826	0013	14457	830							
		STD	0030	-0098	3428	2759	0005074	0019	14443	784							
028		OBS	0037	-0121	34327	2764			14434	760	196	138	012	248	057	815	
		STD	0050	-0162	3440	2771	0003943	0028	14418	739							
028		OBS	0056	-0174	34417	2772			14413	732	220	017	015	194	065	814	
028		OBS	0073	-0183	34430	2774			14412	724	220	112	004	246	065	815	
		STD	0075	-0183	3443	2774	0003643	0037	14412	724							
		STD	0100	-0183	3443	2774	0003612	0046	14416	718							
028		OBS	0108	-0183	34432	2774			14418	716	229	473	009	255	067	810	
		STD	0125	-0181	3444	2774	0003541	0055	14422	726							
028		OBS	0141	-0179	34444	2775			14425	732	235	222	000	276	063	814	
		STD	0150	-0179	3445	2775	0003487	0064	14427	729							
		STD	0200	-0177	3446	2776	0003363	0081	14436	715							
028		OBS	0205	-0177	34460	2776			14437	713	212	130	003	260	065	810	
028		OBS	0225	-0193	34482	2778			14433	721	220	059	004	222	064	814	
		STD	0250	-0191	3449	2779	0003054	0097	14438	720							
		STD	0300	-0188	3451	2780	0002905	0112	14449	719							
028		OBS	0350	-0184	34524	2781			14459	718	216	094	000	236	064	812	
		STD	0400	-0192	3457	2785	000235	0138	14464	717							
028		OBS	T0425	-0195	34583	2786			14467	716	219	065	000	229	063	812	
028		OBS	T0477	-0199	34606	2788			14474	715	221	183	004	260	063	811	
		STD	0500	-0199	3462	2789	0001885	0160	14478	712							
028		OBS	T0518	-0199	34624	2790			14481	709	236	08	000	221	061	808	

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	8037	GL	74506S	039049W		555	49	02	17	180	1968		016	0384	04	00	0	X		X2	6	8		0023

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
		09	S10	795	-003	-015	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STO	0000	-0145	3377	2719	0008882	0000	14408	808						
177		OBS	0000	-0145	33766	2719			14408	808	154	248	016	184	043	826
		STO	0010	-0147	3376	2718	0008948	0009	14409	828						
177		OBS	0010	-0147	33756	2718			14409	828	168	166	012	232	043	826
		STO	0020	-0147	3377	2719	0008857	0018	14411	828						
177		OBS	0025	-0147	33772	2719			14412	828	176	070	012	163	043	824
		STO	0030	-0150	3392	2731	0007669	0026	14413	815						
		STD	0050	-0161	3433	2765	0004483	0038	14417	769						
177		OBS	0051	-0162	34338	2766			14417	767	230	156	010	216	058	816
		STO	0075	-0175	3440	2771	0003908	0049	14415	728						
177		OBS	0076	-0176	34400	2771			14415	727	250	068	007	192	069	813
		STO	0100	-0181	3441	2772	0003803	0058	14417	721						
177		OBS	0102	-0181	34409	2772			14417	720	240	251	026	215	070	811
		STO	0125	-0177	3442	2773	000372	0068	14423	718						
		STO	0150	-0173	3443	2773	0003640	0077	14429	715						
177		OBS	T0152	-0173	34429	2773			14430	715	263	109	003	278	071	814
		STO	0200	-0168	3445	2775	0003461	0095	14441	702						
177		OBS	0204	-0167	34452	2775			14442	701	249	155	TRC	271	073	813
		STD	0250	-0162	3447	2777	0003269	0112	14452	697						
		STD	0300	-0157	3450	2778	0003086	0127	14463	692						
177		OBS	0306	-0156	34500	2779			14464	691	238	059	TRC	220	074	815
177		OBS	T0334	-0146	34554	2783			14474	671	261	109	005	259	077	812
177		OBS	T0356	-0146	34564	2784			14478	674	251	095	004	218	077	812

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 BDTTDM	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	8037	GL	74024S	040372W		556	40	02	18	030	1968		017	0695	06	00	0	X		X7	7	8		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
		18	S12	814	-001	-011	6	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0150	3380	2722	0008577	0000	14407	844						
045		OBS	0000	-0150	33804	2722			14407	844	131		025	187	026	820
		STD	0010	-0150	3380	2722	000857*	0009	14408	850						
045		OBS	0010	-0150	33804	2722			14408	850	129		020	142	030	818
		STD	0020	-0155	3387	2728	0008045	0017	14408	850						
045		OBS	0024	-0156	33907	2731			14409	847	155		017	201	027	816
		STD	0030	-0156	3400	2738	0007039	0024	14411	829						
045		OBS	0049	-0156	34226	2756			14418	781	191		013	133	050	806
		STD	0050	-0157	3423	2757	0005261	0037	14418	779						
045		OBS	0073	-0167	34324	2765			14418	744	193		010	124	071	805
		STD	0075	-0168	3433	2765	0004449	0049	14418	743						
045		OBS	0098	-0173	34367	2768			14420	735	200		023	198		806
		STD	0100	-0173	3437	2769	0004114	0060	14420	734						
		STD	0125	-0175	3439	2770	0003942	0070	14424	723						
045		OBS	T0148	-0176	34400	2771			14427	714	188		010	165	080	805
		STD	0150	-0176	3440	2771	0003840	0079	14428	713						
045		OBS	0197	-0170	34414	2772			14438	699	204		007		072	805
		STD	0200	-0169	3442	2772	0003723	0098	14439	699						
		STD	0250	-0160	3443	2773	0003589	0117	14452	691						
045		OBS	0297	-0151	34449	2774			14464	681	210		005	218	070	804
		STD	0300	-0150	3445	2774	0003468	0134	14465	681						
045		OBS	0397	-0121	34501	2778			14496	651	210		003		078	803
		STD	0400	-0115	3451	2778	000311	0167	14499	645						
045		OBS	0496	-0015	34622	2783			14563	540	217		005	216	089	797
		STD	0500	-0022	3462	2783	0002736	0196	14561	544						
045		OBS	0572	-0070	34616	2785			14550	576	211		006	253	095	801
045		OBS	T0597	-0050	34627	2785			14564	572	223		004		083	800

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DIFF. IN DCTN	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	8037	GL	724600	042455W		556	22	02	18	180	1968		018A	1926	19	00	0	X		X2	6	8		0025

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
		15	S09	787	-010	-013	7	17	

MESSENGR TIME OR HR 1/10	CAST NO.	CARO 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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	S‰
		STD	0000	-0156	3362	2707	0009991	0000	14401	807							
172		OBS	0000	-0156	33618	2707			14401	807	177	113	023	198	059	808	
		STD	0010	-0158	3362	2707	0009994	0010	14402	806							
172		OBS	0010	-0158	33616	2707			14402	806	174	218	021	206	056	810	
		STD	0020	-0131	3393	2732	0007652	0019	14421	826							
172		OBS	0025	-0125	34061	2742			14426	828	169	048	016	190	050	811	
		STD	0030	-0134	3416	2750	0005875	0026	14424	813							
		STD	0050	-0162	3442	2772	000382	0035	14418	763							
172		OBS	0050	-0162	34416	2772			14418	763	195	174	016	220	063	804	
		STD	0075	-0177	3443	2773	0003689	0045	14415	720							
172		OBS	0075	-0177	34426	2773			14415	720	215	230	017	228	071	804	
172		OBS	0099	-0179	34426	2773			14418	715	214	120	011	176	073	794	
		STD	0100	-0179	3443	2774	0003638	0054	14418	715							
		STD	0125	-0180	3443	2774	000362	0063	14422	709							
172		OBS	0149	-0181	34432	2774			14426	704	217	070	005	255	072	794	
		STD	0150	-0181	3443	2774	0003588	0072	14426	704							
172		OBS	T0199	-0177	34440	2774			14436	697	219	236	015	276	073	803	
		STD	0200	-0177	3444	2774	0003509	0090	14436	697							
		STD	0250	-0172	3446	2775	0003381	0107	14447	689							
		STD	0300	-0167	3447	2776	0003263	0123	14458	681							
172		OBS	0300	-0167	34469	2776			14458	681	216	277	003	224	074	796	
		STD	0400	-0095	3454	2780	0002973	0155	14509	659							
		STD	0500	-0038	3459	2781	0002869	0184	14553	635							
		STD	0600	0005	3463	2783	0002822	0212	14590	607							
		STD	0700	0034	3466	2783	0002796	0240	14620	576							
148		OBS	T0771	0045	34676	2784			14637	552	223	275	007	250	102	790	
		STD	0800	0044	3468	2784	0002725	0268	14642	536							
		STD	0900	0042	3468	2785	0002716	0295	14657	495							
148		OBS	0964	0039	34681	2785			14667	479	231	035	006	264	103	790	
		STD	1000	0039	3468	2785	0002698	0322	14673	481							
		STD	1100	0035	3468	2785	0002670	0349	14688	486							
		STD	1200	0025	3468	2786	000259	0375	14700	492							
148		OBS	T1210	0024	34679	2785			14702	492	232	076	009	230	103	790	
		STD	1300	0006	3467	2786	0002504	0401	14708	513							
		STD	1400	-0013	3466	2786	0002413	0426	14717	535							
148		OBS	1457	-0022	34653	2786			14722	546	229	036	013	288	102	790	
		STD	1500	-0027	3465	2786	0002335	0449	14727	553							
		STD	1750	-0057	3465	2787	000206	0504	14756	591							
148		OBS	1757	-0058						592	229	044	008	221	101	792	
148		OBS	T1784	-0058	34649	2787			14761	576	225	063	009	227	100	791	
148		OBS	1832	-0074	34635	2787			14762	588	222	136	013	203	098	793	
148		OBS	T1869	-0072	34639	2787			14769	588	221	363	010	243	100	796	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT INDICES	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		
318037		GL	72460S	042455W		556	22	02	19	000	1968		018B	2044	08	00	0	X		X2	7	8		0026

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			
		20	505	809	-008	-010	7	14	

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	NH_3 N	NO_2-N	NO_3-N	[illegible]
		STD	0000	-0155	3361	2707	0010039	0000	14402	806					
017		OBS	0000	-0155	33612	2707			14402	806	195	114	027	249	058
		STD	0010	-0157	3361	2707	0010012	0010	14402	824					
017		OBS	0010	-0157	33614	2707			14402	824	188	102	023	210	058
		STD	0020	-0131	3396	2734	0007422	0019	14421	824					
017		OBS	0024	-0126	34075	2743			14426	824	179	113	018	173	049
		STD	0030	-0141	3419	2753	0005624	0025	14421	796					
017		OBS	0049	-0173	34424	2773			14413	735	229	147	016	259	070
		STD	0050	-0173	3442	2773	0003729	0035	14413	734					
017		OBS	0073	-0178	34429	2773			14414	717	226	073	017	205	073
		STD	0075	-0178	3443	2774	0003656	0044	14415	717					
017		OBS	0098	-0180	34432	2774			14418	720	223	113	013	214	073
		STD	0100	-0180	3443	2774	000362	0053	14418	720					
		STD	0125	-0180	3444	2774	0003582	0062	14422	714					
017		OBS	0147	-0180	34438	2774			14426	709	235	124	009	284	072
		STD	0150	-0180	3444	2774	0003530	0071	14426	708					
017		OBS	T0197	-0177	34444	2775			14436	699	218	069	016	275	074
		STD	0200	-0177	3445	2775	0003471	0088	14436	699					
		STD	0250	-0173	3445	2775	0003386	0105	14446	699					
017		OBS	0297	-0169	34462	2776			14456	690	223	041	011	282	075
		STD	0300	-0168	3446	2776	0003306	0122	14457	689					
017		OBS	0398	-0133	34494	2777			14490	645	225	116	020	299	078
		STD	0400	-0132	3450	2778	0003112	0154	14491	644					
		STD	0500	-0061	3457	2781	0002921	0184	14542	579					
017		OBS	T0500	-0061	34566	2781			14542	579	233		015	299	089
		STD	0600	0011	3463	2782	0002839	0213	14593	506					
017		OBS	0600	0011	34633	2782			14593	506	241	057	008	293	098
		STD	0700	0041	3467	2783	0002812	0242	14624	492					
017		OBS	T0702	0042	34666	2783			14624	492	240	108	009	233	103
		STD	0800	0046	3468	2784	0002776	0269	14642	486					
017		OBS	T0807	0046	34676	2784			14644	486	254	028	009	272	107

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DUPT 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	8037	GL	71538S	048201W		55	6	18	02	19	210	1968		019	2044	20	00	0	X		X7	7	8		0027

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
		21	508	935	-011	-015	6	22	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0160	3384	2725	0008291	0000	14402	810							
205		OBS	0000	-0160	33838	2725			14402	810	168			207	053	811	
		STD	0010	-0163	3384	2725	0008300	0008	14403	815							
205		OBS	0010	-0163	33835	2725			14403	815	172			235	053	812	
		STD	0020	-0164	3427	2760	0004952	0015	14410	775							
205		OBS	0026	-0166	34439	2774			14412	755	205			255	061	812	
		STD	0030	-0169	3444	2774	0003613	0019	14412	744							
		STD	0050	-0179	3446	2776	0003476	0026	14410	708							
205		OBS	0052	-0180	34456	2776			14410	706	220			213	074	805	
		STD	0075	-0179	3446	2776	0003461	0035	14414	709							
205		OBS	0079	-0179	34455	2776			14415	709	225			279	074	804	
		STD	0100	-0177	3446	2776	0003438	0044	14420	707							
205		OBS	0104	-0176	34457	2776			14421	706	227			212	075	805	
		STD	0125	-0174	3447	2777	000333	0052	14425	693							
		STD	0150	-0173	3448	2777	0003245	0060	14430	679							
205		OBS	0157	-0172	34482	2778			14432	676	225			226	078	796	
		STD	0200	-0151	3449	2778	0003209	0076	14449	661							
205		OBS	T0210	-0146	34495	2778			14453	657	229			232	080	802	
		STD	0250	-0129	3452	2779	0003037	0092	14468	632							
		STD	0300	-0100	3455	2781	0002908	0107	14490	601							
205		OBS	0315	-0089	34558	2781			14498	591	244			219	087	801	
		STD	0400	-0002	3463	2783	0002788	0135	14553	533							
205		OBS	0420	0011	34641	2783			14563	522	246			197	098	795	
		STD	0500	0035	3467	2784	000272	0163	14587	488							
205		OBS	0526	0038	34673	2784			14593	483	243			245	103	796	
		STD	0600	0032	3467	2784	0002703	0190	14603	489							
205		OBS	0632	0031	34669	2784			14607	490	246			231	103	796	
		STD	0700	0034	3468	2785	000268	0217	14620	488							
205		OBS	T0740	0035	34678	2785			14627	487	245			220	109	789	
		STD	0800	0032	3468	2785	0002667	0244	14636	489							
205		OBS	T0847	0030	34674	2785			14643	490	221			256	110	794	
170		OBS	T0863	0023	34679	2786			14643	490	220			266	109	797	
		STD	0900	0022	3468	2786	0002570	0270	14648	493							
		STD	1000	0018	3468	2786	0002554	0295	14663	500							
170		OBS	1060	0015	34676	2786			14672	504	215			274	111	800	
		STD	1100	0013	3468	2786	000253	0321	14678	506							
		STD	1200	0008	3467	2786	0002503	0346	14693	512							
		STD	1300	0003	3467	2786	0002475	0371	14707	518							
170		OBS	1308	0003	34671	2786			14708	518	214			286	112	800	
		STD	1400	-0000	3467	2786	0002442	0396	14723	520							
		STD	1500	-0006	3467	2786	0002385	0420	14737	525							
170		OBS	1556	-0010	34671	2787			14745	529	224			256	113	800	
		STD	1750	-0027	3466	2787	0002256	0478	14770	544							
170		OBS	1856	-0045	34656	2787			14780	571	215			251	107	799	
170		OBS	1931	-0062	34655	2788			14785	598	218			260	095	801	
170		OBS	T1984	-0072	34634	2787			14789	586	197			250	096	801	
		STD	2000	-0075	3465	2788	0001848	0529	14791	591							
170		OBS	T2003	-0076	34650	2788			14791	592	217			262	094	803	

REFERENCE CTRY CODE	REFERENCE IO. NO.	SHIP CODE	LATITUDE ° '1/10	LONGITUDE ° '1/10	DEPTH 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	8037	GL	71565S	051039W		557	11	02	20	040	1968		020	1472	13	00	0	X		X7	7	8		0028

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		19	S05	945	-052	-054	6	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0181	3395	2734	0007412	0000	14394	780						
044		OBS	0000	-0181	33946	2734			14394	780	191	432	016	225	063	811
		STD	0010	-0181	3395	2735	0007359	0007	14396	791						
044		OBS	0011	-0181	33953	2735			14396	792	163	080	016	206	062	810
		STD	0020	-0175	3425	2759	0005078	0014	14404	775						
044		OBS	0027	-0173	34408	2772			14409	763	206		016	246	066	810
		STD	0030	-0174	3441	2772	0003846	0018	14409	757						
		STD	0050	-0178	3442	2773	0003747	0026	14410	726						
044		OBS	0054	-0179	34422	2773			14411	722	220	14	018	253	073	803
		STD	0075	-0181	3442	2773	0003694	0035	14413	721						
044		OBS	0081	-0182	34425	2773			14414	720	222	05	013	224	073	805
		STD	0100	-0184	3443	2773	0003649	0044	14416	722						
044		OBS	0107	-0184	34428	2774			14417	722	216	154	011	286	073	802
		STD	0125	-0182	3443	2774	0003600	0053	14421	718						
		STD	0150	-0181	3444	2774	0003542	0062	14426	712						
044		OBS	0160	-0180	34440	2774			14428	710	219	065	007	280	072	804
		STD	0200	-0179	3445	2775	0003464	0080	14435	703						
044		OBS	T0213	-0178	34447	2775			14438	701	219	082	009		073	800
		STD	0250	-0177	3445	2775	0003403	0097	14444	701						
		STD	0300	-0173	3445	2775	0003388	0114	14455	695						
044		OBS	0317	-0170	34457	2776			14459	692	219	112	008	269	074	
		STD	0400	-0152	3449	2778	0003107	0146	14482	666						
044		OBS	0419	-0143	34496	2778			14489	656	224	095	007	234	078	800
		STD	0500	-0086	3455	2780	0002911	0176	14530	596						
044		OBS	0521	-0070	34565	2781			14541	581	227	056	009	258	085	798
		STD	0600	-0000	3461	2781	0002940	0206	14587	526						
044		OBS	0623	0014	34626	2782			14598	515	239	068	006	250	094	795
		STD	0700	0017	3464	2783	0002831	0234	14612	510						
		STD	0800	0020	3466	2784	0002735	0262	14630	504						
044		OBS	0826	0021	34659	2784			14635	502	243		008	226	101	797
		STD	0900	0001	3465	2784	0002631	0289	14638	520						
		STD	1000	-0022	3464	2785	0002530	0315	14645	541						
044		OBS	1028	-0028	34637	2785			14647	546	235	111	012	236	099	796
		STD	1100	-0039	3464	2785	0002429	0340	14654	557						
		STD	1200	-0055	3463	2786	0002313	0363	14663	572						
044		OBS	T1281	-0067	34631	2786			14671	584	233	142	012	253	095	794
		STD	1300	-0077	3463	2786	0002147	0386	14670	591						
044		OBS	T1333	-0098	34622	2787			14666	606	231	080	006	194	090	799

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
31	8037	GL	71317S	052434W		55	7	12	02	20	150	1968		021		1777	18	00	0	X			7	8		0029

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	S05	946	-044	-047	6	21	

MESSENGR TIME OR 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	NH_3-N 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	-0172	3408	2745	0006411	0000	14400	771							
163		OBS	0000	-0172	34079	2745			14400	771	211	777	024	216	069	816	
		STD	0010	-0180	3408	2745	0006378	0006	14398	781							
163		OBS	0010	-0180	34080	2745			14398	781	202	423	018	215	068	817	
		STD	0020	-0182	3409	2746	0006290	0013	14399	778							
163		OBS	0025	-0183	34095	2746			14399	775	203	016	018	220	069	816	
		STD	0030	-0182	3413	2749	0005975	0019	14401	766							
		STD	0050	-0179	3427	2761	0004895	0030	14408	735							
163		OBS	0051	-0179						734	211	274	021	208	073	815	
		STD	0075	-0180	3440	2771	000388*	0041	14413	714							
163		OBS	0077	-0180						713	220	155	020	238	071	813	
		STD	0100	-0182	3448	2778	0003247	0050	14418	712							
163		OBS	0102	-0182	34484	2778			14418	712	225	110	017	252	072	814	
		STD	0125	-0181	3449	2778	0003159	0058	14422	708							
		STD	0150	-0179	3449	2778	0003149	0066	14427	703							
163		OBS	0153	-0179	34491	2779			14428	702	226	175	012	204	073	813	
		STD	0200	-0177	3449	2778	0003126	0081	14437	697							
163		OBS	0205	-0176	34490	2778			14438	696	220	101	007	247	073	813	
		STD	0250	-0122	3455	2782	0002835	0096	14472	688							
		STD	0300	-0072	3460	2784	0002656	0110	14504	661							
163		OBS	T0306	-0137P	34606	2787P				656	228	192	010	219	079	812	
		STD	0400	-0002	3463	2783	000281*	0137	14553	539							
163		OBS	0410	0003	34629	2783			14557	532	234	144	008	275	091	804	
		STD	0500	0028	3465	2783	0002824	0165	14584	517							
163		OBS	T0513	0030	34652	2783			14587	516	239	178	009	234	096	804	
145		OBS	T0588	0029	34667	2784			14599	512	231		012	231	102	792	
		STD	0600	0029	3467	2784	0002720	0193	14601	512							
163		OBS	T0616	0028	34662	2784			14603	513	236	174	011		100	792	
145		OBS	0694	0028	34671	2785			14617	517	216	123	009	246	103	795	
		STD	0700	0028	3467	2785	000267*	0220	14618	516							
145		OBS	0796	0027	34672	2785			14633	511	212	106	013	265	106	796	
		STD	0800	0027	3467	2785	0002658	0247	14634	511							
		STD	0900	0024	3467	2785	0002630	0273	14649	513							
145		OBS	0999	0020	34674	2785			14664	515	221	159	009	239	110	796	
		STD	1000	0020	3467	2785	0002592	0299	14664	515							
		STD	1100	0018	3467	2785	0002577	0325	14680	519							
		STD	1200	0011	3467	2786	0002526	0351	14694	524							
145		OBS	T1254	0006	34673	2786			14701	526	213	153	012	247	112	797	
		STD	1300	0000	3467	2786	0002454	0375	14706	532							
		STD	1400	-0015	3466	2786	0002397	0400	14716	549							
		STD	1500	-0033	3466	2787	0002234	0423	14724	570							
145		OBS	1505	-0034	34657	2787			14725	571	236	270	018	229	107	796	
145		OBS	T1690	-0077	34643	2787			14736	622	231	149	010	233	094	794	
145		OBS	1743	-0096	34641	2788			14737	636	226	229	010	211	090	796	
		STD	1750	-0099	3464	2788	0001778	0473	14736	636							
145		OBS	T1775	-0113	34634	2788			14734	635	217	138	014	217	088	799	

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
CRFT CODE	ID. NO.	CODE	° 1/10	° ' 1/10	INDICES	10°	1°	MO	DAY	HR 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
318037	GL	71019S	052521W			557	12	02	21	150	1968		022	2312	23	00	0	X			7	8		0030

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			
		00	500	978	-001	-011	7	24	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	SIGMA-T	SPECIFIC VOLUME ANOMALY-810⁷	Σ Δ D DYN. M. x 10³	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at l	NO_3-N µg-at l	SiO_4-Si µg-at	pH	CODES
		STD	0000	-0173	3418	2753	0005655	0000	14401	741							
	156	OBS	0000	-0173	34177	2753			14401	741	204			177	073	813	
		STD	0010	-0182	3417	2752	0005705	0006	14398	745							
	156	OBS	0010	-0182	34167	2752			14398	745	204	186	019	212	073	814	
		STD	0020	-0182	3418	2753	000562*	0011	14400	750							
	156	OBS	0025	-0182	34182	2754			14401	751	204	266	022	238	074	809	
		STD	0030	-0181	3426	2760	0004981	0017	14403	750							
		STD	0050	-0175	3447	2777	0003370	0025	14412	746							
	156	OBS	0051	-0175	34473	2777			14413	746	211	185	020	259	077	814	
		STD	0075	-0178	3448	2778	0003272	0033	14415	699							
	156	OBS	0076	-0178	34485	2778			14416	698	217	20	015	272	076	813	
		STD	0100	-0175	3449	2778	0003196	0041	14421	712							
	156	OBS	0103	-0175	34489	2778			14422	713	213	174	012	269	077	812	
		STD	0125	-0173	3449	2778	0003174	0049	14426	712							
		STD	0150	-0170	3449	2778	0003151	0057	14432	706							
		STD	0200	-0165	3450	2779	0003109	0073	14442	679							
	156	OBS	0204	-0165	34497	2779			14443	676	221	124	008	258	085	812	
		STD	0250	-0104	3454	2780	0002984	0088	14480	632							
	156	OBS	T0254	-0099	34542	2780			14483	628	219	151	010	247	092	810	
		STD	0300	-0048	3458	2781	0002926	0103	14515	578							
	156	OBS	0307	-0041	34590	2782			14519	572	226	205	011	257	100	810	
		STD	0400	0024	3465	2783	0002797	0132	14565	532							
	156	OBS	0409	0027	34651	2783			14568	529	232	215	017	275	102	806	
		STD	0500	0027	3466	2784	0002742	0159	14584	511							
	156	OBS	0511	0027	34662	2784			14585	510	231	198	023	239	102	806	
		STD	0600	0026	3466	2784	0002739	0187	14600	514							
	156	OBS	T0615	0026	34660	2784			14602	515	230		018	241	105	801	
	114	OBS	T0628	0026	34661	2784			14604	512	238	266	015	269	106	803	
		STD	0700	0028	3467	2784	0002703	0214	14618	510							
	156	OBS	T0717	0029	34668	2784			14621	510	230	278	011		106	806	
	114	OBS	0735	0029	34667	2784			14624	511	235	195	015	271	110	805	
	114	OBS	0786	0025	34665	2784			14630	512	240	153	012	258	107	809	
		STD	0800	0025	3467	2784	0002696	0241	14633	515							
	114	OBS	0898	0022	34668	2785			14648	529	252	191	012	258	108	807	
		STD	0900	0022	3467	2785	0002652	0268	14648	529							
	114	OBS	T0993	0017	34664	2785			14662	529	242	084	015	285	110	809	
		STD	1000	0017	3466	2785	0002644	0294	14663	529							
		STD	1100	0013	3466	2785	0002611	0320	14678	530							
		STD	1200	0008	3466	2785	0002576	0346	14692	531							
	114	OBS	1245	0006	34663	2785			14699	531	242	141	009	251	111	806	
		STD	1300	0002	3466	2785	0002547	0372	14707	534							
		STD	1400	-0005	3466	2785	0002484	0397	14720	539							
		STD	1500	-0012	3466	2786	0002417	0422	14734	544							
	114	OBS	T1505	-0012	34658	2786			14735	544	244	254	013	246	110	806	
		STD	1750	-0014	3466	2786	0002406	0482	14776	551							
	114	OBS	1806	-0016	34655	2786			14784	555	242	162	009	214	113	792	
		STD	2000	-0026	3465	2786	0002311	0541	14813	573							
	114	OBS	T2117	-0042	34646	2786			14826	588	232		037	235	104	790	
	114	OBS	2265	-0072	34643	2787			14837	612	228	212	034	252	095	795	
	114	OBS	2310	-0093	34635	2787			14835	634	226	209	011	244		810	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPT INDCTR	MABSOEN 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	IO. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	70516S	052159W		557	02	02	22	060	1968		023	2561	25	00	0	X		71	7	8		0031

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			
		06	S05	984	-031	-033	6	24	

MESSENGR TIME OR 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	NH_3-N 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	-0183	3413	2749	0006024	0000	14396	755							
	076	OBS	0000	-0183	34126	2749			14396	755	215		016	257	072	809	
		STD	0010	-0183	3412	2749	0006048	0006	14397	762							
	076	OBS	0010	-0183	34122	2749			14397	762	209	299	013	233	073	813	
		STD	0020	-0184	3413	2749	0006017	0012	14399	783							
	076	OBS	0026	-0184	34126	2749			14399	788	217	318	025	220	073	816	
		STD	0030	-0182	3420	2755	0005438	0018	14402	780							
		STD	0050	-0173	3447	2777	0003375	0027	14413	747							
	076	OBS	0051	-0173	34474	2777			14414	746	220	271	013	137	075	819	
		STD	0075	-0177	3449	2778	0003222	0035	14416	731							
	076	OBS	0077	-0177	34488	2778			14416	729	230	073	011	263	076	818	
		STD	0100	-0176	3449	2778	0003186	0043	14421	701							
	076	OBS	0102	-0176	34493	2779			14421	699	230	273	006	258	076	818	
		STD	0125	-0170	3450	2779	0003129	0051	14428	693							
		STD	0150	-0163	3450	2779	0003091	0059	14435	687							
		STD	0200	-0148	3452	2780	0003027	0074	14451	674							
	076	OBS	0205	-0147	34516	2780			14452	673	234	143	003	213	079	814	
		STD	0250	-0106	3454	2780	0002976	0089	14479	630							
	076	OBS	T0254	-0102	34548	2781			14482	626	231	097	003	232	083	810	
		STD	0300	-0040	3460	2782	0002815	0103	14519	577							
	076	OBS	0308	-0031	34606	2782			14524	570	239	243	007	263	089	808	
		STD	0400	0021	3465	2783	0002778	0131	14564	520							
	076	OBS	0410	0024	34655	2784			14567	517	235	128	010	279	096	805	
		STD	0500	0020	3466	2784	0002731	0159	14580	523							
	076	OBS	0513	0019	34655	2784			14582	524	234	059	005	290	098	805	
		STD	0600	0020	3466	2784	0002696	0186	14597	516							
	076	OBS	T0614	0020	34662	2784			14599	515	234	130	008	272	100	806	
	076	OBS	T0671	0019	34664	2785			14608	512	234	079	005	261	100	805	
		STD	0700	0020	3467	2785	0002621	0213	14614	511							
	047	OBS	T0755	0023	34677	2785			14625	510	240	042	005	304	102	815	
		STD	0800	0025	3467	2785	0002628	0239	14633	509							
	047	OBS	0803	0025	34674	2785			14633	509	240	044	002	266	104	810	
	047	OBS	0854	0024	34674	2785			14642	543	231	094	004	298	105	817	
		STD	0900	0022	3467	2785	0002607	0265	14648	532							
	047	OBS	0955	0019	34675	2785			14656	524	239	060	003		108	818	
		STD	1000	0017	3468	2786	0002562	0291	14663	524							
	047	OBS	T1057	0014	34675	2786			14671	525	241	079	008	280	109	814	
		STD	1100	0012	3467	2785	0002559	0316	14677	526							
		STD	1200	0008	3467	2786	0002522	0342	14692	528							
		STD	1300	0004	3467	2786	0002483	0367	14707	530							
	047	OBS	1311	0003	34669	2786			14709	530	242	088	005	194	111	814	
		STD	1400	0000	3467	2786	0002457	0392	14723	532							
		STD	1500	-0003	3467	2786	0002433	0416	14738	535							
	047	OBS	T1574	-0005	34668	2786			14750	538	249	168	004	252	113	810	
		STD	1750	-0010	3467	2786	0002369	0476	14778	549							
	047	OBS	1871	-0013	34665	2786			14797	555	244	116	009	214	112	809	
		STD	2000	-0017	3466	2786	0002307	0534	14817	558							
	047	OBS	2189	-0022	34660	2786			14847	562	242	327	007	301	110	806	
	047	OBS	2484	-0066	34645	2787			14878	608	232	084	006	276	094	808	
		STD	2500	-0069	3465	2787	0001833	0638	14879	611							
	047	OBS	2536	-0076	34646	2788			14883	618	227	132	008	267	092	809	

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DSDT 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.		° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	70569S	050265W		557	00	02	23	060	1968		025	2926	11	00	0	X		73	7	8		0032

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			
		10	S27	825	-022	-024	6	15	

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	NH_3-N µg-at/l	NO_3-N µg-at/l	NO_2-N µg-at/l	SiO_4-Si µg-at/l	
		STD	0000	-0184	3408	2745	0006360	0000	14394	744						
070		OBS	0000	-0184	34082	2745			14394	744	205	464	014	248	080	808
		STD	0010	-0184	3408	2745	0006369	0006	14396	779						
070		OBS	0011	-0184	34077	2745			14396	781	204	222	020	175	077	812
		STD	0020	-0184	3408	2745	0006385	0013	14398	774						
070		OBS	0028	-0184	34076	2745			14399	765	206	185	016	216	079	807
		STD	0030	-0183	3412	2749	0006050	0019	14400	761						
		STD	0050	-0173	3443	2773	0003683	0029	14413	728						
070		OBS	0055	-0172	34480	2777			14415	722	213	160	013	220	077	808
		STD	0075	-0173	3449	2778	000321	0037	14418	705						
070		OBS	0083	-0173	34493	2779			14419	699	220	508	016	210	079	803
		STD	0100	-0166	3450	2779	0003138	0045	14425	686						
070		OBS	0110	-0163	34501	2779			14429	680	217			205	081	807
		STD	0125	-0163	3450	2779	000311	0053	14431	677						
		STD	0150	-0163	3451	2779	0003065	0061	14435	671						
		STD	0200	-0164	3451	2780	0002984	0076	14443	659						
070		OBS	T0222	-0164	34517	2780			14447	654	220	158	006	183	080	805
		STD	0250	-0116	3456	2782	0002783	0090	14475	613						
		STD	0300	-0048	3462	2784	0002622	0104	14515	557						
070		OBS	0331	-0018	34640	2785			14535	534	230	404	010	268	090	792
		STD	0400	0005	3464	2784	0002732	0131	14557	529						
070		OBS	0441	0013	34645	2783			14567	526	230	177	020	294	094	798
		STD	0500	0014	3465	2784	0002729	0158	14577	521						
070		OBS	T0552	0014	34653	2784			14586	517	230	312	012	232	092	799
		STD	0600	0016	3466	2784	0002697	0185	14595	513						
070		OBS	0662	-01710	34660	27920				510	233	446	023	214	097	798
		STD	0700	0019	3466	2784	0002685	0212	14613	510						
070		OBS	0772	0022	34664	2784			14627	508	235	212	016		100	798
		STD	0800	0021	3467	2785	0002659	0239	14631	506						
070		OBS	0883	0018	34670	2785			14644	504	232	189	008	251	095	797
		STD	0900	0018	3467	2785	0002604	0265	14646	506						
		STD	1000	0015	3467	2785	0002583	0291	14662	517						
070		OBS	T1001	0015	34665	2785			14662	517	237	289	007	231	096	795
		STD	1100	0011	3466	2785	0002595	0317	14677	518						
070		OBS	T1103	0011	34664	2785			14677	518	235	270	008	272	100	796

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPL. 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	8037	GL	70551S	047456W		556	07	02	23	150	1968		026	3142	29	00	0	X		71	7	8		0033

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	S24	829	-009	-011	5	27	

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	NH3-N µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO4-Si µg-at/l	pH	DO
		STD	0000	-0180	3407	2744	0006453	0000	14396	772							
153		OBS	0000	-0180	34071	2744			14396	772	194	142	033	230	088	812	
153		OBS	0009	-0181	34070	2744			14397	777	197	200	022	237	087	804	
		STD	0010	-0181	3407	2744	0006452	0006	14397	777							
		STD	0020	-0181	3407	2745	0006423	0013	14399	774							
153		OBS	0021	-0181	34073	2745			14399	774	190	15	019	196	087	814	
		STD	0030	-0165	3432	2764	0004560	0018	14412	726							
153		OBS	0039	-0158	34474	2777			14419	692	194	226	013	172	085	814	
		STD	0050	-0167	3449	2778	0003239	0026	14417	678							
153		OBS	0059	-0173	34496	2779			14415	669	205	192	020	263	087	805	
		STD	0075	-0174	3450	2779	0003130	0034	14418	667							
		STD	0100	-0175	3450	2779	0003113	0042	14421	662							
153		OBS	0105	-0175	34504	2779			14422	660	202	089	009	237	087	812	
		STD	0125	-0171	3451	2780	0003002	0050	14427	653							
		STD	0150	-0155	3453	2781	0002938	0057	14439	639							
153		OBS	0155	-0151	34530	2781			14442	636	207	083	003	228	090	809	
		STD	0200	-0063	3460	2783	0002722	0071	14492	584							
153		OBS	0233	-0021	34627	2784			14517	557	215	115	003	253	100	807	
		STD	0250	-0015	3463	2784	0002719	0085	14522	551							
		STD	0300	-0002	3464	2784	0002688	0098	14537	536							
153		OBS	T0311	0000	34647	2784			14540	534	217	169	012	240	104	806	
153		OBS	T0399	0004	34653	2784			14556	528	218	265	014	254	105	805	
		STD	0400	0004	3465	2784	0002651	0125	14556	528							
153		OBS	0483	0011	34658	2784			14573	526	216	138	011	222	107	802	
		STD	0500	0014	3466	2784	0002657	0152	14578	522							
153		OBS	0571	0021	34664	2784			14593	512	218	068	004	254	112	805	
		STD	0600	0021	3467	2785	0002667	0178	14598	512							
153		OBS	T0662	0022	34668	2785			14608	513	219	167	008	229	114	801	
		STD	0700	0022	3467	2785	0002658	0205	14615	513							
153		OBS	T0748	0021	34666	2785			14622	512	223	262	013	210	115	798	
264		OBS	T0773	0020	34670	2785			14626	515	233	251	008	269	119	808	
		STD	0800	0019	3467	2785	0002614	0231	14630	514							
153		OBS	T0852	0017	34670	2785			14638	513	227	159	004	213	117	800	
		STD	0900	0017	3467	2785	0002599	0257	14646	518							
264		OBS	0963	0016	34667	2785			14656	524	220	231	007	218	118	807	
		STD	1000	0013	3467	2785	000259	0283	14661	527							
264		OBS	1089	0008	34665	2785			14674	531	219	302	007	244	119	810	
		STD	1100	0008	3467	2785	0002564	0309	14676	531							
		STD	1200	0004	3466	2785	0002536	0334	14691	531							
		STD	1300	0001	3466	2785	0002522	0360	14706	531							
264		OBS	1320	0000	34662	2785			14709	531	226	280	006	242	120	808	
		STD	1400	-0003	3466	2786	0002483	0385	14721	541							
		STD	1500	-0007	3466	2786	0002450	0409	14736	550							
264		OBS	1605	-0010	34660	2786			14753	555	222	277	005	295	121	808	
		STD	1750	-0014	3466	2786	0002376	0470	14776	547							
264		OBS	1895	-0017	34657	2786			14799	545	224	26	007	257	120	807	
		STD	2000	-0019	3466	2786	0002336	0529	14816	552							
264		OBS	T2194	-0022	34654	2786			14848	562	214	094	006	294	123	806	
264		OBS	2493	-0028	34650	2786			14897	571	229		008	265	121	805	
		STD	2500	-0028	3465	2786	0002235	0643	14898	571							
264		OBS	T2790	-0036	34645	2786			14945	583	233	121	003	276	120	805	
264		OBS	2893	-0045	34647	2786			14959	591	227	18	007	262	117	805	
264		OBS	T2916	-0047	34646	2786			14962	595	230		007	287	113	803	
264		OBS	T2935	-0050	34646	2787			14964	601	229		011	258	108	806	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPTH SOURCE	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	8037	GL	702825	046584W		556	06	02	25	060	1968		027	3173	10	00	01	X		71	61	8		0034

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	507	926	-021	-029	6	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	
		STD	0000	-0179	3400	2739	0006978	0000	14396	748							
049		OBS	0000	-0179	34003	2739			14396	748	204	619	028	232	087	815	
		STD	0010	-0181	3399	2738	0007052	0007	14396	779							
049		OBS	0010	-0181	33992	2738			14396	779	209	35	025	320	087	813	
		STD	0020	-0174	3415	2751	0005848	0013	14403	754							
049		OBS	0025	-0172	34220	2756			14406	741	213	299	021	320	090	814	
		STD	0030	-0172	3430	2763	0004696	0019	14408	723							
		STD	0050	-0169	3450	2779	0003156	0027	14416	670							
049		OBS	0052	-0169	34509	2780			14416	666	222	369	016	260	092	813	
		STD	0075	-0157	3451	2779	0003101	0034	14426	643							
049		OBS	0078	-0155	34514	2780			14427	642	232	217	020	253	093	812	
		STD	0100	-0146	3452	2780	0003045.	0042	14435	644							
049		OBS	0104	-0143	34525	2780			14437	644	223	166	012	248	092	813	
		STD	0125	-0108	3455	2781	0002937	0050	14458	617							
		STD	0150	-0071	3458	2782	0002851	0057	14479	588							
049		OBS	0155	-0065	34584	2782			14483	583	237	165	018	262	093	810	
		STD	0200	-0018	3462	2783	0002761	0071	14513	543							
049		OBS	T0207	-0013	34630	2783			14516	538	238	206	012	241	094	810	
		STD	0250	-0004	3464	2784	0002726	0085	14528	528							
		STD	0300	0006	3465	2784	0002711	0098	14541	519							
049		OBS	0312	0008	34649	2784			14543	517	238	137	011	267	096	809	
		STD	0400	0022	3466	2784	0002708	0125	14565	509							
049		OBS	0416	0023	34665	2784			14568	508	239	368	014	291	100	807	
		STD	0500	0025	3467	2785	0002666	0152	14583	506							
049		OBS	0520	0025	34669	2785			14586	506	234	239	008	285	100	806	
		STD	0600	0025	3467	2785	0002655	0179	14599	508							
049		OBS	0624	0024	34671	2785			14603	510	234	120	013	252	101	805	
		STD	0700	0019	3467	2785	0002614	0205	14613	522							
049		OBS	T0729	0018	34666	2785			14618	524	233	236	014	241	103	806	
		STD	0800	0017	3467	2785	0002630	0231	14629	523							
049		OBS	T0833	0016	34666	2785			14634	522	250	067	011	289	103	805	
		STD	0900	0013	3467	2785	0002592	0257	14644	532							
049		OBS	T0932	0012	34667	2785			14649	534	244	246	009	270	118	804	
		STD	1000	0009	3466	2785	0002612	0283	14659	533							
049		OBS	T1035	0008	34658	2785			14664	530	242	154	012	260	119	803	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DEPTH 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	8037	GL	70143S	050103W		557	00	02	25	210	1968		028	3265	33	00	0	X		71	7	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
		10	S14	865	-029	-032	6	27	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	CODE
		STD	0000	-0180	3419	2754	0005508	0000	14398	708							
214		OBS	0000	-0180	34194	2754			14398	708	218	166	037	214	085		
		STD	0010	-0183	3419	2755	0005495	0006	14398	714							
214		OBS	0010	-0183	34194	2755			14398	714	213	175	037	221	085	816	
		STD	0020	-0184	3420	2755	0005464	0011	14400	714							
214		OBS	0026	-0184	34199	2755			14400	714	217	213	027	191	085	817	
		STD	0030	-0182	3426	2760	0004977	0016	14403	710							
		STD	0050	-0173	3447	2777	0003375	0025	14413	688							
214		OBS	0051	-0173	34481	2778			14414	687	220	074	027	204	088	813	
		STD	0075	-0173	3450	2779	0003132	0033	14418	662							
214		OBS	0077	-0173	34502	2779			14418	661	225	202	025	221	088	808	
		STD	0100	-0168	3451	2780	0003056	0040	14425	657							
214		OBS	0103	-0167	34512	2780			14426	656	236	046	018	216	088	807	
		STD	0125	-0162	3452	2780	0002983	0048	14432	649							
		STD	0150	-0147	3453	2781	0002949	0055	14443	636							
214		OBS	0154	-0144	34530	2781			14445	633	228	078	026	244			
		STD	0200	-0085	3457	2782	0002853	0070	14481	594							
214		OBS	T0205	-0080	34574	2782			14484	590	234	109	016	238	092	804	
		STD	0250	-0043	3461	2783	0002732	0084	14509	566							
		STD	0300	-0014	3463	2784	0002727	0098	14531	546							
214		OBS	0308	-0010	34634	2784			14534	544	240	272	017	232	097	803	
		STD	0400	0007	3465	2784	000269*	0125	14558	532							
214		OBS	0411	0009	34652	2784			14560	531	224	152	023	261	101	800	
		STD	0500	0018	3466	2784	0002683	0151	14579	520							
214		OBS	0513	0019	34665	2785			14582	519	230	133	018	255	108	801	
		STD	0600	0021	3466	2784	000267	0178	14597	516							
214		OBS	0615	0021	34664	2784			14600	515	231	195	020	233	110	801	
		STD	0700	0019	3466	2784	0002676	0205	14613	509							
214		OBS	T0717	0019	34661	2784			14616	508	230	203	006	213	109	799	
		STD	0800	0017	3466	2784	0002675	0232	14629	514							
214		OBS	T0826	0016	34657	2784			14633	518	229	037	021	220	114	800	
		STD	0900	0014	3466	2784	0002659	0258	14645	539							
214		OBS	T0920	0013	34660	2785			14647	545	229	185	018	228	114	799	
184		OBS	T0932	0012	34670	2785			14649	530	240	316	018	219	114	800	
		STD	1000	0010	3466	2785	0002602	0285	14659	521							
214		OBS	T1021	0009	34659	2785			14663	518	230	136	027	242	113	802	
184		OBS	1033	0009	34665	2785			14665	529	238	106	022		118	802	
		STD	1100	0007	3467	2785	0002556	0310	14675	530							
		STD	1200	0003	3466	2785	0002528	0336	14690	532							
184		OBS	1287	0000	34664	2786			14703	536	239	06	014	258	119	800	
		STD	1300	-0001	3466	2786	0002491	0361	14705	537							
		STD	1400	-0004	3466	2786	0002467	0386	14721	547							
		STD	1500	-0008	3466	2786	0002434	0410	14736	553							
184		OBS	1540	-0009	34661	2786			14742	555	234	36	022	226	115	801	
		STD	1750	-0013	3465	2785	0002430	0471	14776	555							
184		OBS	1846	-0015	34651	2785			14791	555	240	235	012	256	117	800	
		STD	2000	-0019	3465	2786	0002365	0531	14816	557							
184		OBS	T2162	-0022	34654	2786			14843	559	238		018	216	113	798	
184		OBS	2462	-0026	34651	2786			14892	576	239	160	013	288	116	797	
		STD	2500	-0026	3465	2786	0002257	0647	14899	577							
184		OBS	T2776	-0031	34649	2786			14945	583	240	050	014	217	114	795	
		STD	3000	-0032	3465	2786	0002160	0757	14983	587							
184		OBS	T3080	-0041	34645	2786			14993	588	240	045	013	215	112	794	
184		OBS	3209	-0066	34643	2787			15005	635	232	096	006	280	095	795	
184		OBS	T3260	-0080	34639	2787			15007	626	237	137	029	207	094	797	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DUPL 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 SAMPLES	WAVE OBSERVATIONS DIR.	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WAVE OBSERVATIONS SEA	WEATHER CODE	CLOUD CODES TYPE	CLOUD CODES AMT		NODC STATION NUMBER
31	8037	GL	70118S	051207W		557	01	02	26	090	1968		029	3167	10	00	0	X			6	8		0036

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	S17	868	-042	-052	6	07	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	QCC
072		OBS	T0378	0009	34655	2784			14554	531	225	242	021	215	106	804	
		STD	0400	0014	3466	2784	0002658		14560	525							
072		OBS	T0474	0023	34668	2785			14577	512	228	263	022	249	109	804	
		STD	0500	0023	3467	2785	0002640		14581	513							
072		OBS	0571	0022	34674	2785			14593	515	232	333	015	256	108	801	
		STD	0600	0021	3467	2785	0002598		14597	515							
072		OBS	0668	0019	34673	2785			14607	515	232	278	023		112	800	
		STD	0700	0019	3467	2785	0002592		14613	511							
072		OBS	0764	0018	34673	2785			14623	510	237	109	018	245	112	801	
		STD	0800	0016	3467	2785	0002578		14628	517							
072		OBS	0862	0013	34670	2785			14637	524	233	188	017	238	116	802	
		STD	0900	0011	3467	2785	0002554		14643	523							
072		OBS	0959	0007	34667	2785			14651	522	247	063	019	204	109	805	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DEPTH 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	8037	GL	69333S	048473W		520	98	02	27	060	1968		030	3656	36	00	0	X		71	6	8		0037

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	514	885	-053	-059	6	29	

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	PO_4-P µg-at/l	NH_3-N 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	-0182	3417	2753	0005657	0000	14397	671							
063		OBS	0000	-0182	34174	2753			14397	671	213				088	800	
		STD	0010	-0184	3417	2753	0005646	0006	14397	673							
063		OBS	0010	-0184	34174	2753			14397	673	212				091	806	
		STD	0020	-0185	3418	2753	0005615	0011	14399	680							
063		OBS	0026	-0185	34179	2753			14400	684	216				091	806	
		STD	0030	-0182	3424	2758	0005131	0017	14403	674							
		STD	0050	-0167	3446	2776	0003469	0025	14416	635							
063		OBS	0052	-0166	34477	2777			14417	632	223				092	798	
		STD	0075	-0157	3449	2778	0003254	0034	14425	623							
		STD	0100	-0144	3451	2779	0003128	0042	14436	610							
063		OBS	0104	-0142	34513	2779			14438	607	225				094	793	
		STD	0125	-0131	3453	2780	0003007	0049	14446	588							
		STD	0150	-0110	3455	2781	000292	0057	14461	569							
063		OBS	0155	-0105	34553	2781			14464	566	226				098	797	
		STD	0200	-0038	3461	2783	0002766	0071	14503	542							
063		OBS	T0207	-0030	34621	2784			14508	538	233				103	790	
		STD	0250	-0004	3465	2785	0002634	0084	14528	508							
		STD	0300	0016	3466	2784	0002672	0098	14545	485							
063		OBS	0309	0019	34667	2785			14548	482	234				107	791	
		STD	0400	0023	3467	2785	0002639	0124	14565	477							
063		OBS	0411	0024	34670	2785			14567	476	234				113	791	
		STD	0500	0028	3468	2785	0002596	0150	14584	473							
063		OBS	T0508	0028	34682	2786			14586	473	238				112	791	
		STD	0600	0027	3468	2785	0002594	0176	14601	473							
063		OBS	0612	0027	34678	2785			14602	473	237				113	791	
		STD	0700	0023	3468	2786	0002575	0202	14615	484							
063		OBS	0713	0022	34679	2786			14617	485	238				117	791	
		STD	0800	0019	3467	2785	0002587	0228	14630	482							
063		OBS	0814	0019	34673	2785			14633	482	238				116	792	
		STD	0900	0022	3467	2785	0002609	0254	14648	493							
063		OBS	T0922	0023	34674	2785			14652	494	249				118	789	
		STD	1000	0015	3467	2785	0002561	0280	14662	488							
063		OBS	T1020	0014	34672	2785			14665	487	233				123	793	
028		OBS	T1047	0014	34678	2786			14669	487	234				120	797	
063		OBS	T1060	0012	34671	2785			14671	483	240				119	795	
		STD	1100	0011	3467	2786	0002543	0305	14677	485							
		STD	1200	0008	3467	2786	0002517	0331	14692	491							
028		OBS	T1296	0005	34671	2786			14707	496	237				121	798	
		STD	1300	0005	3467	2786	0002489	0356	14708	496							
		STD	1400	0001	3467	2786	0002451	0380	14723	502							
		STD	1500	-0002	3467	2786	0002427	0405	14739	507							
028		OBS	1555	-0004	34670	2786			14747	510	229				120	798	
		STD	1750	-0009	3467	2786	0002378	0465	14778	518							
028		OBS	1862	-0012	34663	2786			14796	523	234				119	797	
		STD	2000	-0015	3466	2786	0002324	0524	14818	531							
028		OBS	T2169	-0019	34663	2786			14845	537	233				123	793	
028		OBS	2475	-0024	34659	2786			14896	534	232				119	790	
		STD	2500	-0024	3466	2786	0002213	0637	14900	535							
028		OBS	T2781	-0028	34655	2786			14947	544	242				118		
		STD	3000	-0030	3465	2786	0002127	0746	14984	548							
028		OBS	3087	-0031	34653	2786			14999	550	233				118	791	
028		OBS	3394	-0039	34644	2786			15049	555	224				115	790	
028		OBS	3495	-0043	34640	2786			15065	564	231				113	790	
028		OBS	T3598	-0051	34635	2786			15080	566	232				111	786	
028		OBS	3624	-0056	34647	2787			15082	582	230				106	786	
028		OBS	3649	-0060	34648	2787			15085	576	228				105	786	

REFERENCE CTRY CODE	REFERENCE IO. 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	8037	GL	68383S	047200W		52	87	02	27	210	1968		031	3374	30	00	0	X		X7	0	3	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
0T	S0	18	S10	871	-060	-063	6	45	

MESSENGR TIME OF CAST 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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0185	3406	2744	0006535	0000	14394							
	223	OBS	0000	-0185	34059	2744			14394							
		STD	0010	-0185	3406	2744	0006528	0007	14395							
		OBS	0010	-0185	34059	2744			14395							
		STD	0020	-0185	3406	2744	000652	0013	14397							
		OBS	0020	-0185	34059	2744			14397							
		OBS	0025	-0179	34067	2744			14401							
		STD	0030	-0167	3437	2768	0004186	0018	14411							
		OBS	0030	-0167	34368	2768			14411							
		OBS	0035	-0162	34414	2772			14415							
		OBS	0040	-0165	34418	2772			14415							
		STD	0050	-0167	3444	2774	0003600	0026	14416							
		OBS	0050	-0167	34443	2774			14416							
		OBS	0066	-0150	34488	2777			14427							
		STD	0075	-0154	3448	2777	0003347	0035	14427							
		OBS	0075	-0154	34479	2777			14427							
		OBS	0086	-0147	34493	2778			14432							
		OBS	0090	-0153	34470	2776			14429							
		STD	0100	-0143	3451	2779	0003147	0043	14436							
		OBS	0100	-0143	34508	2779			14436							
		STD	0125	-0123	3454	2781	0002974	0051	14450							
		OBS	0125	-0123	34538	2781			14450							
		STD	0150	-0092	3457	2782	0002854	0058	14469							
		OBS	0150	-0092	34568	2782			14469							
		STD	0200	-0015	3464	2785	0002632	0072	14514							
		OBS	0200	-0015	34643	2785			14514							
		STD	0250	0009	3466	2785	0002654	0085	14534							
		OBS	0250	0009	34657	2785			14534							
		STD	0300	0017	3466	2784	0002685	0098	14546							
		OBS	0300	0017	34659	2784			14546							
		STD	0400	0026	3467	2785	0002666	0125	14567							
		OBS	0400	0026	34669	2785			14567							
		STD	0500	0029	3468	2785	0002627	0151	14585							
		OBS	0500	0029	34677	2785			14585							
		STD	0600	0026	3468	2785	0002609	0178	14600							
		OBS	0600	0026	34677	2785			14600							
		STD	0700	0024	3468	2785	0002597	0204	14616							
		OBS	0700	0024	34677	2785			14616							
		STD	0800	0022	3468	2785	0002584	0230	14632							
		OBS	0800	0022	34677	2785			14632							
		STD	0900	0018	3468	2786	0002554	0255	14647							
		OBS	0900	0018	34677	2786			14647							
		STD	1000	0014	3468	2786	0002531	0281	14662							
		OBS	1000	0014	34676	2786			14662							
		STD	1100	0011	3467	2786	0002528	0306	14677							
		OBS	1100	0011	34673	2786			14677							
		STD	1200	0006	3467	2786	0002523	0331	14691							
		OBS	1200	0006	34668	2786			14691							
		STD	1300	0003	3467	2786	0002494	0356	14707							
		OBS	1300	0003	34668	2786			14707							
		STD	1400	0001	3467	2786	000248	0381	14723							
		OBS	1400	0001	34667	2786			14723							
		STD	1500	-0003	3467	2786	0002448	0406	14738							
		OBS	1500	-0003	34666	2786			14738							
		OBS	1600	-0006	34661	2786			14754							
		OBS	1700	-0010	34659	2786			14769							
		STD	1750	-0012	3466	2786	0002402	0466	14777							
		OBS	1800	-0013	34658	2786			14785							
		OBS	1900	-0016	34658	2786			14800							
		STD	2000	-0014	3466	2786	0002370	0526	14818							
		OBS	2000	-0014	34658	2786			14818							
		OBS	2100	-0019	34658	2786			14833							
		OBS	2200	-0021	34657	2786			14850							
		OBS	2300	-0023	34657	2786			14866							
		OBS	2400	-0025	34656	2786			14882							
		STD	2500	-0026	3466	2786	0002220	0641	14899							
		OBS	2500	-0026	34655	2786			14899							
		OBS	2600	-0027	34654	2786			14916							
		OBS	2700	-0029	34648	2786			14932							
		OBS	2800	-0030	34648	2786			14949							
		OBS	2900	-0033	34643	2786			14965							
		STD	3000	-0034	3464	2785	0002187	0751	14982							
		OBS	3000	-0034	34639	2785			14982							

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DUPLICATE	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.		° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			OBS.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	68383S	047200W		52	87	02	27	210	1968		031	3436	34	00	0	X		70	6	6		0039

WATER		WIND		BAROMETER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	OBS.	SPEED OR FORCE		DRY BULB	WET BULB			
		18	S10	871	-060	-063	6	26	

MESSENGR TIME OR NR 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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/	SiO_4-Si µg-at/l	pH	QUAL CODE
		STD	0000	-0182	3409	2746	0006318	0000	14395	698							
	220	OBS	0000	-0182	34088	2746			14395	698	205					806	
		STD	0010	-0184	3409	2746	0006315	0006	14396	706							
	220	OBS	0010	-0184	34087	2746			14396	706	205					806	
		STD	0020	-0184	3409	2746	0006308	0013	14398	706							
	220	OBS	0025	-0184	34087	2746			14399	702	199					796	
		STD	0030	-0178	3418	2753	0005602	0019	14404	687							
		STD	0050	-0163	3442	2772	0003779	0028	14417	649							
	220	OBS	0050	-0163	34421	2772			14417	649	213					804	
		STD	0075	-0160	3448	2777	000336	0037	14424	650							
	220	OBS	0075	-0160	34475	2777			14424	650	215					801	
		STD	0100	-0154	3450	2778	0003212	0045	14431	600							
	220	OBS	0100	-0154	34495	2778			14431	600	224					795	
		STD	0125	-0146	3452	2780	0003056	0053	14439	596							
		STD	0150	-0124	3454	2781	0002952	0060	14454	581							
	220	OBS	0151	-0123	34540	2781			14455	580	240					798	
		STD	0200	-0037	3461	2783	0002771	0075	14504	517							
	220	OBS	T0201	-0036	34615	2783			14504	516	237					786	
		STD	0250	-0002	3465	2785	0002646	0088	14529	496							
	220	OBS	0274	0009	34656	2784			14538	489	233					792	
		STD	0300	0011	3466	2785	0002642	0102	14543	485							
	220	OBS	0363	0017	34668	2785			14556	478	233					790	
		STD	0400	0023	3467	2785	0002639	0128	14565	475							
	220	OBS	T0449	0029	34678	2785			14576	473	233					788	
		STD	0500	0030	3468	2785	0002621	0154	14585	472							
	220	OBS	T0530	0031	34679	2785			14591	471	257					792	
		STD	0600	0028	3468	2785	0002608	0180	14601	472							
	220	OBS	0688	0025	34680	2786			14614	473	236					791	
		STD	0700	0025	3468	2786	0002581	0206	14616	474							
		STD	0800	0021	3468	2786	0002554	0232	14631	480							
	220	OBS	T0850	0019	34678	2786			14639	483	234					790	
		STD	0900	0018	3468	2786	0002543	0257	14646	485							
		STD	1000	0015	3468	2786	0002520	0283	14662	489							
	186	OBS	T1016	0014	34678	2786			14664	490	239					802	
		STD	1100	0012	3468	2786	0002506	0308	14677	493							
		STD	1200	0009	3468	2786	000248	0333	14693	497							
	186	OBS	1270	0006	34676	2786			14703	500	243					796	
		STD	1300	0004	3468	2786	000245	0357	14708	502							
		STD	1400	-0000	3467	2786	0002427	0382	14723	508							
		STD	1500	-0004	3467	2786	0002402	0406	14738	513							
	186	OBS	1523	-0005	34670	2786			14741	514	240					799	
		STD	1750	-0011	3467	2787	000233	0465	14777	518							
	186	OBS	1830	-0013	34665	2786			14790	521	238					788	
		STD	2000	-0018	3466	2786	0002294	0523	14817	532							
	186	OBS	2136	-0021	34662	2786			14839	537	236					793	
	186	OBS	T2443	-0025	34661	2787			14890	539	236					798	
		STD	2500	-0025	3466	2786	0002195	0635	14900	541							
	186	OBS	2752	-0029	34656	2786			14941	550	238					796	
		STD	3000	-0035	3465	2786	0002096	0742	14982	558							
	186	OBS	3063	-0038	34648	2786			14992	561	236					794	
	186	OBS	3321	-0052	34638	2786			15030	573	230					793	
	186	OBS	T3368	-0057	34644	2787			15037	576	233					792	
	186	OBS	3400	-0068	34643	2787			15037	589	226					796	
	186	OBS	T3434	-0078	34647	2788			15039	590	228					802	

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 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	8037	GL	68383S	047200W		52	87	02	28	150	1968		032	3374	31	00	0	X		X7	0	3	0040

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	SD	22	S09	894	-108	-115	6	41	

MESSENGR TIME OR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/..	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0181	3399	2738	0007089	0000	14395							
	157	OBS	0000	-0181	33988	2738			14395							
		STD	0010	-0185	3410	2747	0006213	0007	14396							
		OBS	0010	-0185	34100	2747			14396							
		STD	0020	-0172	3436	2768	0004256	0012	14407							
	005	OBS	0020	-0172	34358	2768			14407							
		OBS	0025	-0171	34398	2771			14409							
		STD	0030	-0171	3442	2773	0003754	0016	14410							
		OBS	0030	-0171	34423	2773			14410							
		STD	0050	-0168	3446	2776	0003444	0023	14416							
		OBS	0050	-0168	34463	2776			14416							
		STD	0075	-0164	3449	2778	0003257	0031	14422							
		OBS	0075	-0164	34487	2778			14422							
		STD	0100	-0154	3451	2779	0003112	0039	14431							
		OBS	0100	-0154	34508	2779			14431							
		STD	0125	-0130	3454	2781	0002903	0047	14447							
		OBS	0125	-0130	34544	2781			14447							
		STD	0150	-0080	3457	2782	0002881	0054	14475							
		OBS	0150	-0080	34571	2782			14475							
		STD	0200	-0004	3465	2784	0002653	0068	14519							
		OBS	0200	-0004	34648	2784			14519							
		STD	0250	0006	3466	2785	0002630	0081	14532							
		OBS	0250	0006	34658	2785			14532							
		STD	0300	0015	3467	2785	0002605	0094	14545							
		OBS	0300	0015	34668	2785			14545							
		STD	0400	0024	3468	2785	0002585	0120	14566							
		OBS	0400	0024	34678	2785			14566							
		STD	0500	0031	3469	2786	0002565	0146	14586							
		OBS	0500	0031	34687	2786			14586							
		STD	0600	0031	3469	2786	0002561	0172	14602							
		OBS	0600	0031	34688	2786			14602							
		STD	0700	0030	3469	2786	0002557	0197	14619							
		OBS	0700	0030	34688	2786			14619							
		STD	0800	0026	3469	2786	0002531	0223	14634							
		OBS	0800	0026	34688	2786			14634							
		STD	0900	0021	3469	2786	0002502	0248	14648							
		OBS	0900	0021	34687	2786			14648							
		STD	1000	0017	3468	2786	0002502	0273	14663							
		OBS	1000	0017	34683	2786			14663							
		STD	1100	0013	3468	2786	0002499	0298	14678							
		OBS	1100	0013	34679	2786			14678							
		STD	1200	0009	3468	2786	0002473	0323	14693							
		OBS	1200	0009	34678	2786			14693							
		STD	1300	0006	3468	2786	0002445	0347	14709							
		OBS	1300	0006	34678	2786			14709							
		STD	1400	0002	3468	2787	0002407	0372	14724							
		OBS	1400	0002	34678	2787			14724							
		STD	1500	-0002	3468	2787	0002368	0395	14739							
		OBS	1500	-0002	34678	2787			14739							
		OBS	1600	-0005	34677	2787			14754							
		OBS	1700	-0009	34673	2787			14770							
		STD	1750	-0011	3467	2787	0002308	0454	14777							
		OBS	1800	-0013	34673	2787			14785							
		OBS	1900	-0015	34669	2787			14801							
		STD	2000	-0017	3467	2787	0002267	0511	14817							
		OBS	2000	-0017	34668	2787			14817							
		OBS	2100	-0019	34667	2787			14833							
		OBS	2200	-0021	34667	2787			14850							
		OBS	2300	-0023	34663	2787			14866							
		OBS	2400	-0025	34661	2787			14882							
		STD	2500	-0026	3466	2787	0002184	0622	14899							
		OBS	2500	-0026	34660	2787			14899							
		OBS	2600	-0027	34659	2787			14916							
		OBS	2700	-0029	34658	2787			14932							
		OBS	2800	-0031	34658	2787			14949							
		OBS	2900	-0032	34658	2787			14966							
		STD	3000	-0034	3466	2787	0002071	0729	14982							
		OBS	3000	-0034	34655	2787			14982							
		OBS	3100	-0036	34648	2786			14999							

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	18037	GL	68204S	049210W		52	0	89 02	28	180	1968		032	3541	35	00	0	X		71	7	8		0041

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	S08	895	-100	-105	6	26	

MESSENGR TIME OF HR 1/10	CAST NO.	CARO 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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0179	3414	2750	0005956	0000	14398	680							
189		OBS	0000	-0179	34136	2750			14398	680	207				090	814	
		STD	0010	-0183	3413	2749	0006002	0006	14397	680							
189		OBS	0010	-0183	34128	2749			14397	680	206				087	813	
		STD	0020	-0184	3413	2749	0006002	0012	14399	665							
189		OBS	0026	-0184	34126	2749			14399	656	206				086	815	
		STD	0030	-0180	3420	2755	0005443	0018	14403	649							
		STD	0050	-0166	3444	2774	0003625	0027	14416	625							
189		OBS	0052	-0165	34459	2776			14417	623	219				092	808	
		STD	0075	-0166	3449	2778	0003259	0035	14421	619							
189		OBS	0078	-0166	34489	2778			14422	618	222				092	808	
		STD	0100	-0165	3450	2779	000314*	0043	14426	618							
189		OBS	0104	-0163	34505	2779			14428	617	222				092		
		STD	0125	-0139	3453	2781	0002980	0051	14443	597							
		STD	0150	-0104	3456	2782	0002867	0058	14464	570							
189		OBS	0155	-0096	34563	2782			14468	564	234				099	805	
		STD	0200	-0008	3464	2784	0002692	0072	14517	498							
189		OBS	T0207	0002	34647	2784			14523	491	237				109	803	
		STD	0250	0009	3465	2784	0002692	0086	14534	493							
		STD	0300	0014	3466	2784	0002683	0099	14544	496							
189		OBS	0311	0015	34658	2784			14547	496	236				111	804	
		STD	0400	0015	3466	2784	0002665	0126	14561	480							
189		OBS	0415	0015	34664	2785			14564	478	236				115	798	
		STD	0500	0030	3467	2784	0002686	0153	14585	472							
189		OBS	T0519	0032	34676	2785			14589	471	240				118	802	
		STD	0600	0033	3468	2785	0002641	0179	14603	476							
189		OBS	T0624	0033	34680	2785			14607	477	236				120	795	
		STD	0700	0031	3468	2785	0002624	0206	14619	479							
		STD	0800	0027	3468	2785	0002598	0232	14634	481							
189		OBS	T0825	0026	34678	2785			14638	482	237				123	796	
		STD	0900	0023	3468	2785	0002592	0258	14649	483							
		STD	1000	0019	3468	2786	0002570	0283	14664	488							
189		OBS	T1027	0017	34675	2786			14667	490	238				123	800	
220		OBS	T1075	0014	34675	2786			14674	494	235				124	803	
		STD	1100	0013	3467	2785	0002566	0309	14678	495							
		STD	1200	0009	3467	2786	0002532	0335	14693	499							
		STD	1300	0005	3467	2786	0002496	0360	14708	503							
220		OBS	1329	0004	34667	2786			14712	504	240				114	801	
		STD	1400	0001	3467	2786	0002480	0385	14723	507							
		STD	1500	-0002	3467	2786	0002457	0409	14739	512							
220		OBS	1579	-0005	34666	2786			14751	516	240				123		
		STD	1750	-0009	3466	2786	0002393	0470	14778	528							
220		OBS	1891	-0013	34663	2786			14800	533	237				121	794	
		STD	2000	-0016	3466	2786	0002314	0529	14818	533							
220		OBS	2198	-0021	34662	2786			14849	532	238				116	794	
		STD	2500	-0026	3466	2787	0002185	0641	14899	544							
220		OBS	2508	-0026	34659	2786			14901	544	240				114	793	
220		OBS	2814	-0030	34656	2786			14952	547	242				125	792	
		STD	3000	-0031	3465	2786	0002115	0749	14984	549							
220		OBS	T3124	-0034	34653	2786			15004	553	231				120	780	
220		OBS	3437	-0052	34635	2786			15051	570	235				118	788	
220		OBS	T3490	-0062	34630	2786			15056	578	231				113	790	
220		OBS	T3515	-0065	34635	2786			15059	584	231				111	791	
220		OBS	3532	-0065	34653	2788	"		15062	583	227				103	782	

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		
31	8037	GL	681160	049021W		520	89	02	29	030	1968		033	3512	30	00	0	X		X7	0	3		0042

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			
07	50	18	506	918	-105	-114	6	41	

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	NH_3 N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l
		STD	0000	-0188	3384	2726	0008227	0000	14389					
	041	OBS	0000	-0188	33838	2726			14389					
		STD	0010	-0189	3386	2727	0008064	0008	14391					
		OBS	0010	-0189	33858	2727			14391					
		STD	0020	-0188	3390	2731	0007752	0016	14393					
	005	OBS	0020	-0188	33898	2731			14393					
		OBS	0025	-0184	34158	2752			14400					
		STD	0030	-0180	3424	2758	0005113	0022	14404					
		OBS	0030	-0180	34243	2758			14404					
		OBS	0040	-0172	34289	2762			14410					
		STD	0050	-0172	3432	2765	0004507	0032	14412					
		OBS	0050	-0172	34323	2765			14412					
		STD	0075	-0163	3438	2769	0004087	0043	14421					
		OBS	0075	-0163	34379	2769			14421					
		STD	0100	-0143	3441	2771	0003912	0053	14435					
		OBS	0100	-0143	34408	2771			14435					
		STD	0125	-0103	3449	2776	000343	0062	14459					
		OBS	0125	-0103	34488	2776			14459					
		STD	0150	-0052	3454	2778	0003256	0070	14487					
		OBS	0150	-0052	34538	2778			14487					
		STD	0200	0004	3457	2778	0003304	0087	14522					
		OBS	0200	0004	34568	2778			14522					
		STD	0250	0010	3458	2778	0003252	0103	14533					
		OBS	0250	0010	34579	2778			14533					
		STD	0300	0017	3459	2779	0003208	0119	14545					
		OBS	0300	0017	34590	2779			14545					
		STD	0400	0024	3460	2779	000319	0151	14565					
		OBS	0400	0024	34598	2779			14565					
		STD	0500	0032	3461	2779	0003167	0183	14585					
		OBS	0500	0032	34608	2779			14585					
		STD	0600	0033	3461	2779	0003177	0215	14602					
		OBS	0600	0033	34608	2779			14602					
		STD	0700	0030	3461	2779	0003158	0246	14618					
		OBS	0700	0030	34608	2779			14618					
		STD	0800	0026	3461	2780	0003131	0278	14632					
		OBS	0800	0026	34608	2780			14632					
		STD	0900	0021	3461	2780	0003101	0309	14647					
		OBS	0900	0021	34607	2780			14647					
		STD	1000	0017	3460	2780	000310	0340	14662					
		OBS	1000	0017	34603	2780			14662					
		STD	1100	0014	3460	2780	0003074	0371	14677					
		OBS	1100	0014	34603	2780			14677					
		STD	1200	0010	3460	2780	0003062	0402	14692					
		OBS	1200	0010	34600	2780			14692					
		STD	1300	0006	3460	2780	000304	0432	14707					
		OBS	1300	0006	34598	2780			14707					
		STD	1400	0003	3460	2780	000301	0462	14723					
		OBS	1400	0003	34598	2780			14723					
		STD	1500	-0003	3460	2780	0002959	0492	14737					
		OBS	1500	-0003	34597	2780			14737					
		OBS	1600	-0006	34597	2780			14753					
		OBS	1700	-0009	34594	2780			14768					
		STD	1750	-0011	3459	2780	0002920	0566	14776					
		OBS	1800	-0013	34589	2780			14784					
		OBS	1900	-0015	34588	2780			14800					
		STD	2000	-0017	3459	2780	0002855	0638	14816					
		OBS	2000	-0017	34588	2780			14816					
		OBS	2100	-0020	34587	2780			14832					
		OBS	2200	-0022	34587	2780			14848					
		OBS	2300	-0024	34583	2780			14864					
		OBS	2400	-0025	34579	2780			14881					
		STD	2500	-0026	3457	2779	0002853	0781	14898					
		OBS	2500	-0026	34568	2779			14898					
		OBS	2600	-0028	34568	2779			14914					
		OBS	2700	-0029	34568	2779			14931					
		OBS	2800	-0030	34568	2779			14948					
		OBS	2900	-0032	34568	2779			14965					
		STD	3000	-0033	3457	2779	0002711	0920	14982					
		OBS	3000	-0033	34568	2779			14982					

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPL 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	8037	GL	68149S	047513W		520	87	02	29	180	1968		034	3475	05	00	0	X			6	8		0043

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			
		08	S03	929	-075	-085	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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at l	pH	SOC
		STD	0000	-0145	3410	2746	0006288	0000	14413	698							
181		OBS	0000	-0145	34104	2746			14413	698	194				085	804	
		STD	0010	-0171	3410	2747	0006222	0006	14403	708							
181		OBS	0010	-0171	34103	2747			14403	708	202				086	804	
		STD	0020	-0179	3410	2747	0006205	0012	14400	724							
181		OBS	0025	-0180	34101	2747			14401	725	203				086	804	
		STD	0030	-0176	3419	2754	0005529	0018	14405	703							
		STD	0050	-0161	3445	2775	0003563	0027	14419	647							
181		OBS	0051	-0160	34457	2775			14420	645	212				089	801	
		STD	0075	-0158	3450	2779	0003174	0036	14425	648							
181		OBS	0076	-0158	34505	2779			14425	648	219				090	798	
		STD	0100	-0141	3452	2780	0003061	0044	14437	626							
181		OBS	0102	-0140	34523	2780			14438	624	219				093	797	
		STD	0125	-0135	3453	2780	0002993	0051	14445	613							
		STD	0150	-0118	3454	2781	0002967	0059	14457	598							
181		OBS	0153	-0115	34543	2781			14459	596	225				094	794	
		STD	0200	-0047	3461	2783	0002760	0073	14499	555							
181		OBS	0204	-0042	34610	2783			14502	552	226				098	794	
		STD	0250	-0006	3464	2784	0002730	0087	14527	514							
		STD	0300	0019	3466	2785	0002659	0100	14547	487							
181		OBS	0306	0021	34667	2785			14549	485	229				106	791	
		STD	0400	0024	3467	2785	0002645	0127	14566	485							
181		OBS	0409	0025	34674	2785			14568	485	230				108	790	
		STD	0500	0032	3468	2785	0002624	0153	14586	479							
181		OBS	0513	0033	34680	2785			14589	478	229				113	790	

REFERENCE CTRY CODE	REFERENCE NO. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUPL 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	8037	GL	68253S	045501W		520	85	03	01	090	1968		035	3877	21	00	0	X		X1	7	7		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
		06	S09	890	-055	-065	7	21	

MESSENGR TIME OR NR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta$ DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at	SiO_4-Si µg-at/l	pH
		STD	0000	-0181	3402	2741	000682	0000	14395	712						
100		OBS	0000	-0181	34023	2741			14395	712	194				086	810
		STD	0010	-0184	3403	2741	0006745	0007	14395	725						
100		OBS	0010	-0184	34031	2741			14395	725	193				086	812
		STD	0020	-0185	3403	2741	0006745	0014	14397	740						
100		OBS	0026	-0185	34030	2741			14398	741	195				085	810
		STD	0030	-0181	3411	2748	0006132	0020	14401	731						
		STD	0050	-0163	3441	2772	0003864	0030	14417	686						
100		OBS	0052	-0162	34436	2774			14418	682	213				088	805
		STD	0075	-0158	3447	2776	0003404	0039	14425	651						
		STD	0100	-0147	3450	2778	0003195	0047	14434	621						
100		OBS	0103	-0145	34501	2778			14436	618	218				092	803
		STD	0125	-0130	3454	2781	0002934	0055	14447	599						
		STD	0150	-0104	3458	2783	0002715	0062	14464	575						
100		OBS	0155	-0097	3494Q	2812Q				570	223				097	800
		STD	0200	-0010	3463	2783	0002757	0076	14516	517						
100		OBS	0207	-0002	34639	2784			14521	512	227				106	797
		STD	0250	0009	3466	2784	0002670	0089	14534	496						
100		OBS	0259	0011	34658	2784			14536	494	228				106	798
		STD	0300	0017	3466	2784	0002685	0103	14546	489						
100		OBS	0313	0019	34659	2784			14549	487	231				110	797
		STD	0400	0025	3466	2784	0002727	0130	14566	479						
100		OBS	0413	0026	3469Q	2786Q				478	235				112	796
		STD	0500	0029	3467	2784	0002682	0157	14585	474						
100		OBS	0518	0030	34674	2785			14588	473	232				113	794
		STD	0600	0029	3468	2785	0002609	0183	14601	475						
100		OBS	0617	0029	34684	2786			14604	476	234				118	795
		STD	0700	0026	3469	2786	0002551	0209	14617	481						
100		OBS	0719	0025	34685	2786			14620	482	233				120	796
		STD	0800	0024	3468	2786	0002570	0235	14633	480						
100		OBS	0820	0024	34680	2786			14636	480	226				119	794
		STD	0900	0022	3468	2786	0002562	0260	14648	482						
		STD	1000	0019	3468	2786	000254	0286	14664	485						
100		OBS	T1020	0018	34678	2786			14667	485	231				120	794
		STD	1100	0015	3468	2786	0002538	0311	14679	486						
038		OBS	T1154	0013	34674	2786			14687	487	232				121	792
		STD	1200	0013	3467	2786	0002535	0337	14695	485						
038		OBS	T1262	0009	34674	2786			14703	482	247				116	790
100		OBS	T1273	0008	34666	2785			14705	500	242				122	793
		STD	1300	0007	3467	2785	0002543	0362	14709	497						
		STD	1400	0003	3467	2786	0002505	0387	14724	488						
038		OBS	1460	0001	3468Q	27870				487	255				119	790
		STD	1500	-0000	3467	2786	0002473	0412	14739	493						
		STD	1750	-0008	3467	2786	0002391	0473	14779	520						
038		OBS	1763	-0008	34666	2786			14781	521	243				122	792
		STD	2000	-0015	3466	2786	0002331	0532	14818	530						
038		OBS	2066	-0017	34661	2786			14828	530	251				123	786

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPLT 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	8037	GL	69016S	046002W		52	0	96	03	01	1968		036	3884	10	00	0	X		X2	7	8		0045

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			
		06	S06	885	-043	-053	7	16	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0181	3402	2741	0006828	0000	14395	716							
161		OBS	0000	-0181	34022	2741			14395	716	117				086	815	
		STD	0010	-0183	3402	2741	0006809	0007	14396	721							
161		OBS	0010	-0183	34023	2741			14396	721	194				084	816	
		STD	0020	-0184	3402	2741	0006807	0014	14397	722							
161		OBS	0026	-0185	34022	2741			14397	722	122				083	816	
		STD	0030	-0180	3412	2748	0006057	0020	14402	708							
		STD	0050	-0163	3444	2774	0003634	0030	14418	659							
161		OBS	0051	-0162	34454	2775			14419	658	201				087	805	
		STD	0075	-0158	3448	2777	0003328	0038	14425	656							
161		OBS	0077	-0157	34481	2777			14426	655	210				089	811	
		STD	0100	-0146	3450	2778	0003198	0047	14435	625							
161		OBS	0103	-0144	34505	2779			14436	621	213				089	811	
		STD	0125	-0118	3453	2780	0003053	0054	14453	594							
		STD	0150	-0087	3456	2781	0002936	0062	14472	564							
161		OBS	0154	-0082	34565	2781			14475	560	228				096	808	
		STD	0200	-0018	3463	2784	0002715	0076	14513	511							
161		OBS	T0207	-0010	34638	2784			14518	506	228				101	805	
		STD	0250	0003	3466	2785	0002598	0089	14531	493							
		STD	0300	0015	3467	2785	0002590	0102	14545	483							
165		OBS	0305		34671					482	231				107	802	
		STD	0400	0030	3468	2785	0002630	0128	14568	477							
165		OBS	0410	0031	34678	2785			14571	476	231				108	802	
		STD	0500	0032	3468	2785	0002624	0155	14586	474							
165		OBS	T0511	0032	34683	2785			14588	474	232				110	800	
		STD	0600	0028	3468	2786	0002584	0181	14601	480							
165		OBS	0616	0027	34682	2786			14603	481	235				113	801	
		STD	0700	0027	3468	2785	0002588	0207	14617	483							
165		OBS	T0723	0027	34681	2785			14621	483	233				113	799	
		STD	0800	0025	3468	2786	0002583	0232	14633	484							
165		OBS	T0822	0024	34679	2785			14636	485	242				117	800	
		STD	0900	0022	3468	2785	0002585	0258	14648	488							
165		OBS	T0925	0021	34676	2785			14652	489	237				118	802	
		STD	1000	0018	3468	2786	0002554	0284	14663	489							
165		OBS	T1024	0017	34677	2786			14667	489	239				118	798	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	QUADRANT 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	18037	GL	69016S	046002W		520	96	03	01	172	1968		036	3884	36	00	0	X		X1	0	3		004E

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BARO-METER (mba)	AIR TEMP. °C DRY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	SD	07	S15	915	-073	-080	7	51	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\frac{1}{2}\Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at.	NO_3-N µg-at.l	SiO_4-Si µg-at/l	pH	
		STD	0000	-0186													
180		OBS	0000	-0186													
		STD	0010	-0187													
		OBS	0010	-0187													
		STD	0020	-0186													
		OBS	0020	-0186													
		OBS	0023	-0186													
		OBS	0025	-0163													
		STD	0030	-0162													
		OBS	0030	-0162													
		OBS	0040	-0156	34472	2776			14420								
		STD	0050	-0156	3448	2777	0003331		14422								
		OBS	0050	-0156	34482	2777			14422								
		OBS	0056	-0157	34490	2778			14422								
		OBS	0065	-0147	34502	2779			14429								
		OBS	0072	-0153	34517	2780			14427								
		STD	0075	-0150	3452	2780	0003068		14429								
		OBS	0075	-0150	34517	2780			14429								
		STD	0100	-0123	3456	2782	0002847		14446								
		OBS	0100	-0123	34556	2782			14446								
		STD	0125	-0092	3458	2783	0002755		14465								
		OBS	0125	-0092	34582	2783			14465								
		STD	0150	-0054	3464	2786	0002493		14488								
		OBS	0150	-0054	34637	2786			14488								
		STD	0200	0004	3466	2785	0002628		14523								
		OBS	0200	0004	34657	2785			14523								
		STD	0250	0016	3467	2785	0002619		14537								
		OBS	0250	0016	34667	2785			14537								
		STD	0300	0022	3467	2785	0002654		14548								
		OBS	0300	0022	34667	2785			14548								
		STD	0400	0029	3468	2785	0002624		14568								
		OBS	0400	0029	34677	2785			14568								
		STD	0500	0033	3468	2785	0002638		14586								
		OBS	0500	0033	34679	2785			14586								
		STD	0600	0031	3468	2785	0002628		14602								
		OBS	0600	0031	34679	2785			14602								
		STD	0700	0027	3468	2785	0002603		14617								
		OBS	0700	0027	34679	2785			14617								
		STD	0800	0024	3468	2785	0002598		14632								
		OBS	0800	0024	34677	2785			14632								
		STD	0900	0021	3468	2785	0002577		14648								
		OBS	0900	0021	34677	2785			14648								
		STD	1000	0017	3468	2786	0002547		14663								
		OBS	1000	0017	34677	2786			14663								
		STD	1100	0014	3468	2786	0002522		14678								
		OBS	1100	0014	34677	2786			14678								
		STD	1200	0011	3468	2786	0002496		14694								
		OBS	1200	0011	34677	2786			14694								
		STD	1300	0006	3468	2786	0002452		14708								
		OBS	1300	0006	34677	2786			14708								
		STD	1400	0004	3468	2786	0002432		14724								
		OBS	1400	0004	34677	2786			14724								
		STD	1500	0000	3468	2787	0002393		14740								
		OBS	1500	0000	34677	2787			14740								
		OBS	1600	-0004	34676	2787			14755								
		OBS	1700	-0006	34675	2787			14771								
		STD	1750	-0008	3467	2787	0002329		14778								
		OBS	1800	-0010	34672	2787			14786								
		OBS	1900	-0013	34670	2787			14802								
		STD	2000	-0014	3467	2787	0002297		14818								
		OBS	2000	-0014	34668	2787			14818								
		OBS	2100	-0017	34667	2787			14834								
		OBS	2200	-0019	34666	2787			14851								
		OBS	2300	-0021	34665	2787			14867								
		OBS	2400	-0023	34662	2787			14883								
		STD	2500	-0024	3466	2787	0002199		14900								
		OBS	2500	-0024	34661	2787			14900								
		OBS	2600	-0025	34659	2786			14917								
		OBS	2700	-0026	34658	2786			14934								
		OBS	2800	-0027	34657	2786			14951								
		OBS	2900	-0028	34657	2786			14968								
		STD	3000	-0029	3466	2786	0002117		14985								
		OBS	3000	-0029	34657	2786			14985								
		OBS	3100	-0029	34657	2786			15002								
		OBS	3200	-0030	34656	2786			15019								
		OBS	3300	-0031	34655	2786			15036								
		OBS	3400	-0032	34654	2786			15054								
		OBS	3500	-0033	34650	2786			15071								
		OBS	3600	-0034	34647	2786			15088								

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 TD 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
	318037	GL	69412S	046163W		520	96	03	02	050	1968		037	3857	39	00	0	X		X1	6	7		0047

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
		11	S05	873	-025	-036	7	29	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SOU
		STD	0000	-0179	3411	2748	0006164	0000	14397	689							
074		OBS	0000	-0179	34109	2748			14397	689	210				086	811	
		STD	0010	-0184	3410	2747	0006192	0006	14396	693							
074		OBS	0010	-0184	34103	2747			14396	693	203				086	811	
		STD	0020	-0185	3410	2747	0006199	0012	14398	697							
074		OBS	0026	-0185	34100	2747			14399	700	210				084	812	
		STD	0030	-0181	3417	2753	0005671	0018	14402	687							
		STD	0050	-0165	3444	2774	0003628	0028	14417	634							
074		OBS	0052	-0164	34461	2776			14418	630	220				087	806	
		STD	0075	-0153	3448	2777	0003342	0036	14427	620							
		STD	0100	-0138	3450	2778	0003224	0045	14439	606							
074		OBS	0103	-0136	34502	2778			14440	604	222				092	805	
		STD	0125	-0121	3452	2779	0003119	0052	14451	590							
		STD	0150	-0097	3455	2781	0002971	0060	14467	570							
074		OBS	0154	-0092	34556	2781			14470	567	229				094	804	
		STD	0200	-0023	3462	2783	0002765	0074	14510	518							
074		OBS	T0205	-0018	34622	2783			14513	514	230				100	800	
		STD	0250	0009	3465	2784	0002738	0088	14534	491							
074		OBS	0257	0012	34650	2784			14536	489	238				103	798	
		STD	0300	0019	3466	2784	0002690	0102	14547	483							
074		OBS	T0309	0020	34661	2784			14549	482	237				106	797	
		STD	0400	0029	3467	2784	0002707	0129	14568	479							
074		OBS	0411	0030	34667	2784			14570	478	238				108	797	
		STD	0500	0030	3467	2784	0002686	0156	14585	472							
074		OBS	T0512	0030	34672	2785			14587	471	238				110	799	
		STD	0600	0029	3467	2785	0002653	0182	14601	475							
074		OBS	0614	0029	34674	2785			14604	476	240				113	796	
		STD	0700	0028	3468	2785	0002633	0209	14618	477							
074		OBS	T0719	0027	34677	2785			14620	478	249				115	797	
		STD	0800	0023	3467	2785	0002617	0235	14632	484							
074		OBS	T0810	0023	34674	2785			14634	485	228				116	796	
		STD	0900	0020	3467	2785	0002599	0261	14647	488							
		STD	1000	0017	3467	2785	000258	0287	14663	491							
074		OBS	T1018	0016	34672	2785			14665	491	247				119	795	
016		OBS	T1036	0016	34680	27860				487	254				118	801	
		STD	1100	0014	3467	2786	0002552	0313	14678	493							
016		OBS	T1140	0012	34674	2786			14684	496	270				119	801	
		STD	1200	0010	3467	2786	0002540	0338	14693	497							
		STD	1300	0006	3467	2786	0002504	0363	14708	499							
016		OBS	1344	0005	34669	2786			14715	500	252				119	800	
		STD	1400	0004	3467	2786	0002499	0388	14724	502							
		STD	1500	0001	3467	2786	0002476	0413	14740	506							
016		OBS	1650	-0004	34665	2786			14763	512	256				118	802	
		STD	1750	-0008	3466	2786	0002402	0474	14778	518							
016		OBS	1956	-0015	34661	2786			14810	528	252				118	800	
		STD	2000	-0016	3466	2786	0002336	0533	14818	529							
016		OBS	T2262	-0021	34658	2786			14860	537	252				118	798	
		STD	2500	-0022	3466	2786	0002250	0648	14901	538							
016		OBS	25670	-0025	34658	2786				541	251				118	797	
016		OBS	28720	-0028	34656	2786				539	252				117	795	
		STD	3000	-0026	3465	2786	0002182	0759	14986	544							
039		OBS	T3185	-0029	34652	2786			15017	548	256				115	796	
039		OBS	3491	-0035	34649	2786			15068	557	252				115	794	
039		OBS	3773	-0047	34636	2786			15113	569	240				111	792	
039		OBS	3798	-0049	34637	2786			15116	575	251				109	790	
039		OBS	T3817	-0053	34637	2786			15118	779Q	226				107	791	
039		OBS	T3855	-0062	34645	2787			15121	580	222				0°7	797	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPE INDICA	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	8037	GL	69412S	046163W		520	96	03	02	090	1968		037	3777	20	00	0	X		X1	0	3		0048

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			
0T	SD	11	S05	865	-021	-025	7	32	

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	NH_3-N µg-at l	NO_2-N µg-at l	NO_3-N µg-at	Si-Si µg-at	pH
		STD	0000	-0185	3410	2747	0006219	0000	14394							
095		OBS	0000	-0185	34100	2747			14394							
		STD	0010	-0185	3410	2747	0006213	0006	14396							
		OBS	0010	-0185	34100	2747			14396							
006		OBS	0016	-0185	34100	2747			14397							
		STD	0020	-0175	3435	2767	0004317	0011	14406							
		OBS	0020	-0175	34349	2767			14406							
		OBS	0025	-0163	34450	2775			14414							
		STD	0030	-0164	3446	2776	0003488	0015	14414							
		OBS	0030	-0164	34460	2776			14414							
		OBS	0040	-0166	34467	2776			14415							
		STD	0050	-0160	3449	2778	0003258	0022	14420							
		OBS	0050	-0160	34490	2778			14420							
		STD	0075	-0142	3451	2779	0003147	0030	14433							
		OBS	0075	-0142	34510	2779			14433							
		STD	0100	-0128	3453	2780	0003028	0038	14444							
		OBS	0100	-0128	34530	2780			14444							
		STD	0125	-0100	3456	2782	0002892	0045	14461							
		OBS	0125	-0100	34560	2782			14461							
		STD	0150	-0050	3460	2783	0002793	0052	14489							
		OBS	0150	-0050	34600	2783			14489							
		STD	0200	0000	3465	2785	0002652	0066	14521							
		OBS	0200	0000	34651	2785			14521							
		STD	0250	0016	3466	2784	000271	0079	14537							
		OBS	0250	0016	34655	2784			14537							
		STD	0300	0021	3466	2784	0002701	0093	14548							
		OBS	0300	0021	34660	2784			14548							
		STD	0400	0029	3467	2784	0002677	0120	14568							
		OBS	0400	0029	34670	2784			14568							
		STD	0500	0031	3467	2785	0002678	0147	14586							
		OBS	0500	0031	34672	2785			14586							
		STD	0600	0028	3467	2785	0002661	0173	14601							
		OBS	0600	0028	34672	2785			14601							
		STD	0700	0026	3467	2785	0002649	0200	14617							
		OBS	0700	0026	34672	2785			14617							
		STD	0800	0023	3467	2785	0002629	0226	14632							
		OBS	0800	0023	34672	2785			14632							
		STD	0900	0017	3467	2785	0002584	0252	14646							
		OBS	0900	0017	34672	2785			14646							
		STD	1000	0016	3467	2785	000259	0278	14662							
		OBS	1000	0016	34670	2785			14662							
		STD	1100	0013	3467	2785	0002566	0304	14678							
		OBS	1100	0013	34670	2785			14678							
		STD	1200	0009	3467	2786	0002532	0329	14693							
		OBS	1200	0009	34670	2786			14693							
		STD	1300	0004	3467	2786	0002488	0355	14708							
		OBS	1300	0004	34670	2786			14708							
		STD	1400	0001	3467	2786	0002458	0379	14723							
		OBS	1400	0001	34670	2786			14723							
		STD	1500	-0003	3467	2786	0002426	0404	14738							
		OBS	1500	-0003	34669	2786			14738							
		OBS	1600	-0006	34668	2786			14754							
		OBS	1700	-0008	34667	2786			14770							
		STD	1750	-0010	3466	2786	0002384	0464	14778							
		OBS	1800	-0012	34660	2786			14785							
		OBS	1900	-0014	34660	2786			14801							
		STD	2000	-0015	3466	2786	0002346	0523	14818							
		OBS	2000	-0015	34660	2786			14818							

REFERENCE CTRY CODE	REFERENCE IO. 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	8037	GL	70098S	043419W		556	03	03	02	180	1968		038	3713	10	00	0	X		X7	4	8		0049

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
		14	S18	855	-024	-030	6	15	

MESSENGR TIME OF CAST HR 1/10	CAST NO	CARO 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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0177	3390	2731	0007767	0000	14395	780							
169		OBS	0000	-0177	33901	2731			14395	780	186				087	810	
		STD	0010	-0179	3390	2731	0007771	0008	14396	800							
169		OBS	0010	-0179	33899	2731			14396	800	193				086	813	
		STD	0020	-0158	3432	2764	0004584	0014	14413	733							
169		OBS	0025	-0152	34463	2776			14419	707	204				089	812	
		STD	0030	-0156	3447	2776	0003435	0018	14418	697							
		STD	0050	-0169	3448	2777	000331	0025	14415	663							
169		OBS	0051	-0170	34484	2778			14415	662	214				092	805	
		STD	0075	-0171	3449	2778	0003215	0033	14419	632							
169		OBS	0077	-0171	34493	2778			14419	630	223				092	803	
		STD	0100	-0162	3451	2779	0003096	0041	14427	611							
169		OBS	0103	-0161	34509	2780			14428	609	229				095	804	
		STD	0125	-0150	3452	2780	000302	0048	14437	606							
		STD	0150	-0129	3454	2781	0002927	0056	14452	594							
169		OBS	T0155	-0123	34542	2781			14455	590	226				092	801	
		STD	0200	-0051	3460	2783	0002779	0070	14497	537							
169		OBS	0206	-0043	34606	2783			14502	532	233				096	799	
		STD	0250	-0016	3463	2784	0002721	0084	14522	515							
		STD	0300	0005	3465	2784	0002683	0097	14540	500							
169		OBS	T0311	0009	34654	2784			14544	498	238				102	796	
		STD	0400	0019	3466	2784	000269	0124	14563	490							
169		OBS	0412	0020	34664	2784			14566	489	237				106	794	
		STD	0500	0026	3467	2785	000266	0151	14583	483							
169		OBS	T0518	0027	34673	2785			14587	482	240				107	792	
		STD	0600	0025	3467	2785	0002642	0177	14600	482							
169		OBS	0615	0025	34672	2785			14602	482	241				113	792	
		STD	0700	0024	3467	2785	0002636	0204	14616	486							
169		OBS	T0717	0024	34672	2785			14619	487	237				113	796	
		STD	0800	0020	3467	2785	0002607	0230	14631	489							
169		OBS	0818	0019	34672	2785			14633	490	240				116	795	
		STD	0900	0015	3467	2785	0002584	0256	14645	493							
		STD	1000	0011	3467	2785	0002552	0282	14660	496							
169		OBS	T1015	0010	34666	2785			14662	497	243				111	797	

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	8037	GL	710935	043437W		556	13	03	03	060	1968		039	3365	20	00	0	X		X1	0	3		0050

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	21	506	868	-036	-042	7	34	

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	NH₃	N
		STD	0000	-0184	3390	2731	0007767	0000	14392				
070		OBS	0000	-0184	33899	2731			14392				
		STD	0010	-0184	3391	2732	0007644	0008	14394				
		OBS	0010	-0184	33914	2732			14394				
004		OBS	0017	-0184	33917	2732			14395				
		STD	0020	-0154	3443	2773	0003759	0013	14417				
		OBS	0020	-0154	34429	2773			14417				
		OBS	0025	-0170	34460	2776			14411				
		STD	0030	-0173	3447	2777	0003396	0017	14410				
		OBS	0030	-0173	34469	2777			14410				
		OBS	0040	-0176	34490	2778			14411				
		STD	0050	-0177	3450	2779	0003144	0024	14412				
		OBS	0050	-0177	34499	2779			14412				
		STD	0075	-0172	3452	2781	0002997	0031	14419				
		OBS	0075	-0172	34518	2781			14419				
		STD	0100	-0154	3453	2781	0002951	0039	14431				
		OBS	0100	-0154	34529	2781			14431				
		OBS	0112	-0141	34549	2782			14440				
		OBS	0121	-0148	34527	2781			14438				
		STD	0125	-0136	3453	2780	0002998	0046	14444				
		OBS	0125	-0136	34529	2780			14444				
		STD	0150	-0087	3463	2787	0002409	0053	14473				
		OBS	0150	-0087	34629	2787			14473				
		STD	0200	-0021	3467	2787	0002403	0065	14512				
		OBS	0200	-0021	34669	2787			14512				
		STD	0250	0004	3465	2784	0002687	0078	14531				
		OBS	0250	0004	34649	2784			14531				
		STD	0300	0003	3464	2784	0002717	0091	14539				
		OBS	0300	0003	34644	2784			14539				
		STD	0400	0016	3466	2785	0002656	0118	14562				
		OBS	0400	0016	34662	2785			14562				
		STD	0500	0022	3467	2785	0002641	0144	14581				
		OBS	0500	0022	34669	2785			14581				
		STD	0600	0023	3467	2785	0002649	0171	14599				
		OBS	0600	0023	34669	2785			14599				
		STD	0700	0021	3467	2785	0002636	0197	14614				
		OBS	0700	0021	34669	2785			14614				
		STD	0800	0016	3467	2785	0002600	0223	14629				
		OBS	0800	0016	34669	2785			14629				
		STD	0900	0016	3467	2785	0002599	0249	14646				
		OBS	0900	0016	34669	2785			14646				
		STD	1000	0013	3467	2785	0002575	0275	14661				
		OBS	1000	0013	34669	2785			14661				
		STD	1100	0007	3467	2786	0002526	0301	14675				
		OBS	1100	0007	34669	2786			14675				
		STD	1200	0005	3467	2786	0002507	0326	14691				
		OBS	1200	0005	34669	2786			14691				
		STD	1300	0000	3467	2786	0002462	0351	14706				
		OBS	1300	0000	34669	2786			14706				
		STD	1400	-0004	3467	2786	0002452	0375	14721				
		OBS	1400	-0004	34665	2786			14721				
		STD	1500	-0007	3466	2786	0002428	0400	14736				
		OBS	1500	-0007	34664	2786			14736				
		OBS	1600	-0010	34662	2786			14752				
		OBS	1700	-0013	34660	2786			14768				
		STD	1750	-0014	3466	2786	0002376	0460	14776				
		OBS	1800	-0015	34659	2786			14784				
		OBS	1900	-0017	34659	2786			14800				
		STD	2000	-0019	3466	2786	0002314	0519	14816				
		OBS	2000	-0019	34659	2786			14816				

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		
31	8037	GL	71093S	043437W		556	13	03	03	060	1968		039	3437	34	00	0	X		X1	6	7		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			
		21	S06	868	-036	-042	7	29	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °/₀₀	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	NH_3-N 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	3391	2731	0007714	0000	14394	776							
061		OBS	0000	-0180	33907	2731			14394	776	197				086	808	
		STD	0010	-0181	3390	2731	0007728	0008	14395	782							
061		OBS	0010	-0181	33904	2731			14395	782	195				086	808	
		STD	0020	-0181	3391	2732	0007667	0015	14397	796							
061		OBS	0026	-0181	33915	2732			14398	805	196				086	808	
		STD	0030	-0179	3403	2741	000675*	0023	14401	780							
		STD	0050	-0173	3446	2776	0003453	0033	14413	685							
061		OBS	0052	-0172	34488	2778			14414	678	212				088	805	
		STD	0075	-0169	3450	2779	0003143	0041	14420	672							
		STD	0100	-0166	3451	2780	0003063	0049	14426	658							
061		OBS	0104	-0165	34516	2780			14427	655	218				090	804	
		STD	0125	-0150	3452	2780	000302	0056	14437	626							
		STD	0150	-0125	3454	2781	0002941	0064	14454	604							
061		OBS	0156	-0118	34544	2781			14458	600	219				094	801	
		STD	0200	-0048	3460	2783	0002793	0078	14498	598							
061		OBS	T0205	-0042	34605	2783			14502	598	230				102	800	
		STD	0250	-0001	3464	2784	0002727	0092	14529	519							
061		OBS	0259	0004	34643	2784			14533	510	231				103	797	
		STD	0300	0005	3465	2784	0002712	0106	14540	504							
061		OBS	T0312	0005	34647	2784			14542	502	235				102	798	
		STD	0400	0015	3466	2784	0002680	0133	14561	492							
061		OBS	0413	0016	34660	2784			14564	491	234				102	796	
		STD	0500	0021	3467	2785	0002657	0159	14581	480							
061		OBS	T0514	0022	34667	2785			14584	479	235				113	797	
		STD	0600	0023	3467	2785	0002648	0186	14598	484							
061		OBS	0615	0023	34669	2785			14601	485	236				114	796	
		STD	0700	0025	3467	2785	0002655	0212	14616	488							
061		OBS	0715	0025	34674	2785			14619	489	237					794	
		STD	0800	0023	3467	2785	0002617	0239	14632	480							
061		OBS	0815	0022	34673	2785			14634	479	236				114	794	
		STD	0900	0022	3467	2785	0002637	0265	14648	482							
028		OBS	T0987	0016						485	242				113	793	
		STD	1000	0014	3467	2785	0002576	0291	14661	487							
061		OBS	T1015	0013	34669	2785			14664	489	242				113	792	
028		OBS	T1087	0012	34666	2785			14675	497	246				118	796	
		STD	1100	0011	3467	2785	000258	0317	14677	497							
		STD	1200	0007	3466	2785	0002560	0342	14692	500							
028		OBS	1289	0003	34663	2785			14705	502	251				120	791	
		STD	1300	0003	3466	2785	0002531	0368	14707	502							
		STD	1400	-0001	3466	2785	000250	0393	14722	505							
		STD	1500	-0004	3466	2786	0002476	0418	14738	508							
028		OBS	1593	-0007	34660	2786			14752	510	248				120	794	
		STD	1750	-0012	3466	2786	0002395	0479	14777	517							
028		OBS	1896	-0016	34659	2786			14800	523	254				120	793	
		STD	2000	-0019	3466	2786	0002314	0538	14816	526							
028		OBS	2199	-0022	34658	2786			14849	532	255				121	793	
		STD	2500	-0024	3465	2786	0002250	0652	14900	541							
028		OBS	2505	-0024	34654	2786			14901	541	254				121	789	
028		OBS	2811	-0029	34654	2786			14952	548	255				113	796	
		STD	3000	-0031	3465	2786	0002144	0762	14984	558							
028		OBS	3119	-0035	34648	2786			15003	562	258				115	797	
028		OBS	3325	-0046	34641	2786			15034	564	253				113	795	
028		OBS	3350	-0051	34636	2786			15036	571	253				103	794	
028		OBS	T3375	-0053	34643	2786			15040	582	251				102	794	
028		OBS	T3402	-0064	34641	2787			15039	589	248				103	798	
028		OBS	T3428	-0074	34639	2787			15039	596	248				102	798	

REFERENCE CTRY CODE	REFERENCE 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	8037	GL	71476S	040413W		556	10	03	03	180	1968		040	3371	10	00	0	X		X1	6	7		0052

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	S06	885	-045	-051	7	15	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	
		STD	0000	-0179	3358	2704	0010253	0000	14390	806						
170		OBS	0000	-0179	33577	2704			14390	806	182				072	814
		STD	0010	-0179	3357	2704	0010292	0010	14391	811						
170		OBS	0010	-0179	33571	2704			14391	811	231				071	814
		STD	0020	-0148	3398	2736	0007220	0019	14413	791						
170		OBS	0026	-0138	34164	2751			14422	777	200				076	803
		STD	0030	-0143	3423	2756	0005311	0025	14421	764						
		STD	0050	-0160	3447	2776	0003412	0034	14420	712						
170		OBS	0052	-0161	34484	2777			14420	708	212				081	797
		STD	0075	-0162	3450	2779	0003163	0042	14423	678						
170		OBS	0077	-0162	34502	2779			14424	675	225				082	805
		STD	0100	-0144	3451	2779	0003128	0050	14436	629						
170		OBS	0103	-0142	34514	2779			14437	625	220				083	803
		STD	0125	-0140	3452	2780	0003047	0058	14442	625						
		STD	0150	-0137	3453	2780	0002992	0065	14448	624						
170		OBS	T0156	-0136	34530	2780			14449	624	227				083	791
		STD	0200	-0067	3458	2782	0002856	0080	14489	622						
170		OBS	0206	-0059	34585	2782			14494	620	278				093	788
		STD	0250	-0026	3461	2783	0002820	0094	14517	560						
		STD	0300	0002	3464	2784	000274*	0108	14539	513						
170		OBS	T0313	0007	34643	2784			14543	505	282				102	788
		STD	0400	0023	3466	2784	000273	0135	14565	495						
170		OBS	0411	0024	34660	2784			14567	494	239				104	787
		STD	0500	0024	3466	2784	0002692	0163	14582	491						
170		OBS	T0514	0024	34665	2784			14585	491	231				107	781
		STD	0600	0025	3467	2785	0002669	0189	14599	488						
170		OBS	0614	0025	34669	2785			14602	487	236				108	789
		STD	0700	0032	3468	2785	0002652	0216	14619	484						
170		OBS	T0717	0033	34678	2785			14623	483	236				114	777
		STD	0800	0028	3468	2785	0002635	0242	14634	485						
170		OBS	0816	0027	34676	2785			14637	485	234				115	781
		STD	0900	0023	3467	2785	0002645	0269	14649	486						
		STD	1000	0020	3467	2785	0002622	0295	14664	487						
170		OBS	T1018	0020	34664	2784			14667	487	238				115	782

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPT 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	IQ. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	71118S	039017W		555	19	03	04	060	1968		041	3813	20	00	0	X		X1	0	3		0053

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	S0	00	S00	921	-031	-033	7	30	

MESSNGR 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	NH_3-N 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	-0185	3353	2700	001064	0000	14386								
062		OBS	0000	-0185	33525	2700			14386								
		STD	0010	-0177	3363	2708	000988	0010	14393								
		OBS	0010	-0177	33625	2708			14393								
		STD	0020	-0142	3445	2774	0003671	0017	14423								
002		OBS	0020	-0142	34445	2774			14423								
		OBS	0025	-0160	34455	2775			14415								
		STD	0030	-0166	3447	2776	0003445	0021	14413								
		OBS	0030	-0166	34465	2776			14413								
		STD	0050	-0179	3450	2779	0003131	0027	14411								
		OBS	0050	-0179	34500	2779			14411								
		STD	0075	-0175	3454	2782	0002858	0035	14418								
		OBS	0075	-0175	34535	2782			14418								
		STD	0100	-0160	3454	2782	0002849	0042	14429								
		OBS	0100	-0160	34540	2782			14429								
		STD	0125	-0132	3457	2783	0002736	0049	14446								
		OBS	0125	-0132	34565	2783			14446								
		STD	0150	-0100	3459	2784	0002692	0056	14466								
		OBS	0150	-0100	34585	2784			14466								
		STD	0200	-0037	3468	2788	0002276	0068	14505								
		OBS	0200	-0037	34675	2788			14505								
		STD	0250	-0010	3464	2784	0002647	0080	14525								
		OBS	0250	-0010	34644	2784			14525								
		STD	0300	-0009	3464	2784	0002649	0094	14534								
		OBS	0300	-0009	34644	2784			14534								
		STD	0400	0012	3467	2785	0002601	0120	14560								
		OBS	0400	0012	34666	2785			14560								
		STD	0500	0021	3467	2785	0002657	0146	14581								
		OBS	0500	0021	34666	2785			14581								
		STD	0600	0020	3467	2785	0002644	0173	14597								
		OBS	0600	0020	34667	2785			14597								
		STD	0700	0019	3467	2785	0002599	0199	14613								
		OBS	0700	0019	34672	2785			14613								
		STD	0800	0016	3467	2785	0002570	0225	14629								
		OBS	0800	0016	34673	2785			14629								
		STD	0900	0013	3467	2785	0002592	0250	14644								
		OBS	0900	0013	34667	2785			14644								
		STD	1000	0008	3467	2785	0002559	0276	14659								
		OBS	1000	0008	34666	2785			14659								
		STD	1100	0004	3467	2785	0002532	0302	14674								
		OBS	1100	0004	34665	2785			14674								
		STD	1200	0003	3467	2786	0002513	0327	14690								
		OBS	1200	0003	34666	2786			14690								
		STD	1300	-0001	3467	2786	0002483	0352	14705								
		OBS	1300	-0001	34665	2786			14705								
		STD	1400	-0003	3467	2786	0002461	0377	14721								
		OBS	1400	-0003	34665	2786			14721								
		STD	1500	-0006	3467	2786	0002429	0401	14737								
		OBS	1500	-0006	34665	2786			14737								
		OBS	1600	-0011	34664	2786			14752								
		OBS	1700	-0013	34663	2786			14768								
		STD	1750	-0014	3466	2786	0002354	0461	14776								
		OBS	1800	-0015	34663	2786			14784								
		OBS	1900	-0017	34660	2786			14800								
		STD	2000	-0018	3466	2786	0002316	0519	14817								
		OBS	2000	-0018	34660	2786			14817								

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	IO. NO.	CODE	° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	71118S	039017W		555	19	03	04	060	1968		041	3895	39	00	0	X		X1	6	7		0054

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			
		00	500	921	-031	-033	7	30	

MESSENGR TIME or 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	NH_3-N µg-at/l	NO_2-N µg-at	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0178	3356	2703	0010386	0000	14390	791						
056		OBS	0000	-0178	33560	2703			14390	791	182				079	810
		STD	0010	-0179	3355	2702	0010445	0010	14391	792						
056		OBS	0010	-0179	33551	2702			14391	792	177				079	811
		STD	0020	-0168	3365	2710	0009702	0020	14399	782						
056		OBS	0025	-0164	33732	2717			14403	773	198				081	812
		STD	0030	-0165	3392	2732	0007630	0029	14406	755						
		STD	0050	-0168	3448	2777	0003314	0040	14416	695						
056		OBS	0051	-0168	34500	2779			14416	693	220				082	810
		STD	0075	-0169	3451	2779	0003096	0048	14420	664						
		STD	0100	-0171	3451	2780	0003032	0056	14423	638						
056		OBS	0102	-0171	34512	2780			14424	636	242				084	809
		STD	0125	-0156	3452	2780	0003002	0063	14435	620						
		STD	0150	-0134	3454	2781	0002909	0071	14449	601						
056		OBS	0153	-0131	34544	2781			14451	598	238				086	805
		STD	0200	-0070	3459	2783	0002767	0085	14488	553						
056		OBS	0205	-0064	34592	2783			14492	548	254				088	802
		STD	0250	-0012	3463	2783	0002742	0099	14524	507						
056		OBS	0256	-0008	34637	2784			14527	504	249				092	799
		STD	0300	-0007	3464	2784	0002690	0112	14534	503						
056		OBS	T0307	-0006	34640	2784			14536	503	248				092	798
		STD	0400	0011	3465	2784	0002716	0139	14559	493						
056		OBS	0409	0012	34656	2784			14562	492	258				092	797
		STD	0500	0021	3466	2784	0002703	0166	14581	486						
056		OBS	T0513	0022	34663	2784			14583	485	256				096	800
		STD	0600	0022	3467	2785	0002642	0193	14598	483						
056		OBS	0611	0022	34670	2785			14600	483	255				098	798
		STD	0700	0020	3467	2785	0002623	0219	14614	485						
056		OBS	T0718	0020	34667	2785			14617	485	263				100	797
		STD	0800	0017	3467	2785	0002616	0246	14629	479						
056		OBS	T0806	0017	34668	2785			14630	478	257				099	791
		STD	0900	0015	3467	2785	0002599	0272	14645	484						
		STD	1000	0010	3467	2785	0002567	0298	14660	490						
056		OBS	T1009	0009	34667	2785			14661	491	263				100	782
023		OBS	1032	0007	34666	2785			14664	498	267				100	784
		STD	1100	0005	3467	2785	0002533	0323	14674	499						
023		OBS	1134	0004	3465Q	2784Q				500	275				101	784
		STD	1200	0002	3467	2786	0002505	0348	14690	503						
		STD	1300	-0001	3467	2786	0002476	0373	14705	508						
023		OBS	1339	-0002	3464Q	2784Q				510	258				101	784
		STD	1400	-0004	3467	2786	0002445	0398	14721	513						
		STD	1500	-0007	3467	2786	0002406	0422	14736	517						
023		OBS	1647	-0011	3463Q	2783Q				521	265				101	784
		STD	1750	-0012	3467	2786	0002343	0481	14777	522						
023		OBS	1954	-0014	34667	2787			14811	524	262				103	785
		STD	2000	-0015	3467	2786	0002302	0539	14818	525						
023		OBS	2259	-0021	34662	2786			14860	532	267				104	787
		STD	2500	-0026	3466	2786	0002220	0652	14899	538						
023		OBS	T2552	-0027	34653	2786			14908	539	272				105	768
023		OBS	2870	-0027	34658	2786			14963	537	260				112	787
		STD	3000	-0028	3466	2786	0002122	0761	14985	543						
023		OBS	3176	-0030	34659	2787			15015	549	252				110	786
023		OBS	T3482	-0034	34650	2786			15067	557	250				110	783
023		OBS	3790	-0044	34638	2786			15117	560	256				100	784
023		OBS	3815	-0047	34637	2786			15120	562	267				100	767
023		OBS	3841	-0048	34634	2785			15124	566	254				100	777
023		OBS	T3868	-0054	34624	2785			15126	566	272				100	784
023		OBS	T3690	-0068	34608	2784			15124	573	267				100	

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	8037	GL	70215S	037448W		55	07	03	04	180	1968		042	4023	40	00	0	X		X1	6	7		0055

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
		08	S07	928	-025	-036	7	31	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0144	3365	2709	0009806	0000	14407	808							
193		OBS	0000	-0144	33646	2709			14407	808	153				069	809	
		STD	0010	-0144	3364	2709	0009823	0010	14409	809							
193		OBS	0010	-0144	33643	2709			14409	809	156				069	814	
		STD	0020	-0140	3368	2711	0009568	0020	14413	808							
193		OBS	0026	-0137	33697	2713			14416	807	162				071	809	
		STD	0030	-0144	3387	2727	0008069	0028	14415	777							
		STD	0050	-0169	3446	2776	0003464	0040	14415	672							
193		OBS	0052	-0171	34497	2779			14415	665	226				095	795	
		STD	0075	-0174	3451	2780	0003069	0048	14418	643							
193		OBS	0078	-0174	34509	2780			14418	641	226				097	798	
		STD	0100	-0170	3451	2780	0003050	0056	14424	640							
193		OBS	0104	-0168	34516	2780			14425	639	230				099	795	
		STD	0125	-0147	3453	2781	0002954	0063	14439	616							
		STD	0150	-0119	3455	2781	0002910	0071	14456	591							
193		OBS	0155	-0113	34550	2781			14460	586	235				100	792	
		STD	0200	-0051	3460	2783	0002779	0085	14497	549							
193		OBS	0207	-0044	34605	2783			14502	544	240				100	784	
		STD	0250	-0021	3462	2783	000277	0099	14519	519							
		STD	0300	-0002	3464	2784	0002719	0112	14537	501							
193		OBS	T0310	0001	34642	2784			14540	498	244				100	779	
		STD	0400	0011	3465	2784	0002716	0139	14559	496							
193		OBS	0411	0012	34652	2784			14562	496	241				100	786	
		STD	0500	0022	3466	2784	0002709	0167	14581	490							
193		OBS	T0512	0023	34661	2784			14584	489	245				100	788	
		STD	0600	0027	3467	2785	0002665	0193	14600	480							
193		OBS	0612	0027	34671	2785			14602	479	245				110	782	
		STD	0700	0025	3467	2785	0002644	0220	14616	478							
193		OBS	0714	0025	34672	2785			14619	478	246				115	783	
		STD	0800	0022	3467	2785	0002636	0246	14632	480							
193		OBS	T0815	0021	34668	2785			14634	485	250				116	790	
170		OBS	T0884	0017	34677	2786			14643	529	240				118	790	
		STD	0900	0016	3468	2786	0002547	0272	14646	527							
170		OBS	T0979	0013	34672	2786			14657	515	236				119	794	
		STD	1000	0013	3467	2785	0002568	0298	14661	500							
193		OBS	T1015	0013	34666	2785			14663	491	242				119	792	
		STD	1100	0009	3467	2785	0002557	0324	14676	508							
170		OBS	1189	0006	34668	2786			14690	521	236				119	793	
		STD	1200	0006	3467	2786	0002523	0349	14691	521							
		STD	1300	0002	3467	2786	0002501	0374	14707	525							
		STD	1400	-0001	3466	2786	0002485	0399	14722	528							
170		OBS	T1477	-0003	34662	2786			14734	531	243				120	792	
		STD	1500	-0004	3466	2786	0002469	0424	14738	532							
		STD	1750	-0010	3466	2786	0002406	0485	14777	544							
170		OBS	1789	-0011	34661	2786			14784	545	240				120	789	
		STD	2000	-0016	3466	2786	0002336	0544	14818	547							
170		OBS	2089	-0018	34657	2786			14832	550	245				119	789	
170		OBS	2389	-0023	34654	2786			14881	566	234				117	788	
		STD	2500	-0025	3465	2786	0002239	0658	14900	567							
170		OBS	2689	-0028	34653	2786			14931	569	243				111	788	
170		OBS	T2993	-0028	34652	2786			14984	555	264				111	778	
		STD	3000	-0028	3465	2786	0002165	0768	14985	555							
170		OBS	3289	-0029	34654	2786			15035	557	254				111	777	
170		OBS	3589	-0033	34652	2786			15087	561	250				111	774	
170		OBS	3889	-0038	34644	2786			15137	562	250				111	772	
170		OBS	3914	-0040	34646	2786			15141	566	249				110	771	
170		OBS	3939	-0039	34643	2786			15146	563	244				107	771	
170		OBS	T3986	-0042	34638	2786			15153	566	246				107	772	
		STD	4000	-0042	3464	2786	0001954	0974	15155	563							
170		OBS	T4013	-0042	34639	2786			15158	558	246				100	779	

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DUPL 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	18037	GL	69292S	036522W		519	96	03	05	060	1968		043	4219	42	00	0	X		X7	6	6		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
		02	S08	926	-011	-015	6	30	

MESSENGR TIME or 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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0103	3380	2720	0008777	0000	14429	796						
074		OBS	0000	-0103	33796	2720			14429	796						
		STD	0010	-0106	3379	2720	000880*	0009	14429	798						
074		OBS	0010	-0106	33791	2720			14429	798						
		STD	0020	-0113	3383	2723	0008474	0017	14428	804						
074		OBS	0024	-0118	33878	2727			14427	807						
		STD	0030	-0133	3406	2742	0006644	0025	14423	766						
074		OBS	0049	-0166	34476	2777			14417	666						
		STD	0050	-0166	3448	2777	0003319	0035	14417	665						
		STD	0075	-0163	3449	2778	0003236	0043	14422	642						
074		OBS	0098	-0161	34503	2779			14427	624						
		STD	0100	-0159	3450	2779	0003128	0051	14429	623						
		STD	0125	-0139	3452	2780	0003072	0059	14443	611						
074		OBS	0146	-0123	34530	2780			14454	600						
		STD	0150	-0121	3453	2780	0003017	0066	14455	598						
074		OBS	0194	-0090	34558	2781			14477	570						
		STD	0200	-0081	3457	2782	0002870	0081	14483	564						
		STD	0250	-0023	3461	2782	0002835	0095	14518	519						
074		OBS	0289	0006	34638	2783			14539	496						
		STD	0300	0007	3464	2783	0002770	0109	14541	494						
074		OBS	T0382	0016	34650	2784			14559	482						
		STD	0400	0018	3465	2783	0002759	0137	14563	481						
074		OBS	0478	0023	34650	2783			14578	478						
		STD	0500	0024	3465	2783	0002779	0165	14582	479						
074		OBS	T0574	0025	34657	2784			14595	480						
		STD	0600	0027	3466	2784	0002744	0192	14600	479						
074		OBS	0668	0031	34667	2784			14613	478						
		STD	0700	0032	3467	2784	0002729	0220	14619	477						
074		OBS	T0768	0033	34668	2784			14631	476						
		STD	0800	0032	3467	2784	0002726	0247	14636	476						
		STD	0900	0030	3467	2784	0002702	0274	14652	476						
074		OBS	T0954	0028	34669	2784			14660	476						
		STD	1000	0029	3467	2785	0002688	0301	14668	477						
074		OBS	T1091	0032	34675	2785			14685	480						
		STD	1100	0027	3467	2785	0002679	0328	14684	482						
024		OBS	T1117	0019	34667	2785			14683	486						788
		STD	1200	0016	3467	2785	000261	0354	14696	488						
		STD	1300	0012	3467	2785	0002580	0380	14711	490						
		STD	1400	0009	3467	2785	0002546	0406	14726	492						
024		OBS	1415	0008	34667	2785			14729	492						786
		STD	1500	0006	3467	2785	0002528	0431	14742	498						
024		OBS	1710	0000	34663	2785			14775	510						786
		STD	1750	-0001	3466	2785	0002494	0494	14781	512						
		STD	2000	-0010	3466	2786	0002397	0555	14820	523						
024		OBS	T2006	-0010	34657	2786			14821	523						785
024		OBS	2305	-0018	34658	2786			14869	528						784
		STD	2500	-0020	3466	2786	0002272	0672	14902	533						
024		OBS	2605	-0021	34657	2786			14920	536						780
024		OBS	2905	-0025	34655	2786			14970	544						780
		STD	3000	-0025	3466	2786	0002173	0783	14987	548						
024		OBS	3205	-0025	34657	2786			15023	554						778
024		OBS	3505	-0030	34653	2786			15073	555						779
024		OBS	T3801	-0030	34652	2786			15125	562						777
		STD	4000	-0030	3465	2786	0002031	0993	15161	562						
024		OBS	4107	-0032	34652	2786			15179	562						777
024		OBS	4157	-0033	34649	2786			15188	562						777
024		OBS	4183	-0034	34653	2786			15192	564						781
024		OBS	T4208	-0035	34651	2786			15196	563						778
024		OBS	T4233	-0036	34645	2786			15200	555						780

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	8037	GL	693375	039339W		519	99	03	05	150	1968		044	3995	10	00	0	X		X1	6	7		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
		07	S10	908	-002	-011	7	15	

MESSENGR TIME OF 1 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	NH_3-N 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	-0111	3383	2723	0008529	0000	14425	799							
145		OBS	0000	-0111	33825	2723			14425	799							
		STD	0010	-0113	3382	2723	0008525	0009	14426	800							
145		OBS	0010	-0113	33824	2723			14426	800							
		STD	0020	-0113	3385	2724	0008344	0017	14428	800							
145		OBS	0024	-0116	33856	2725			14427	800							
		STD	0030	-0132	3406	2742	0006647	0024	14424	753							
145		OBS	0049	-0165	34487	2778			14417	655							
		STD	0050	-0165	3449	2778	0003245	0034	14417	654							
145		OBS	0073	-0173	34505	2780			14418	637							
		STD	0075	-0174	3451	2780	0003091	0042	14418	636							
145		OBS	0098	-0176	34510	2780			14421	628							
		STD	0100	-0175	3451	2780	0003029	0050	14421	626							
		STD	0125	-0161	3452	2781	0002972	0057	14432	607							
145		OBS	T0146	-0149	34532	2781			14442	606							
		STD	0150	-0142	3454	2781	0002882	0065	14446	613							
145		OBS	0195	-0075	34585	2783			14485	655							
		STD	0200	-0070	3459	2783	0002767	0079	14488	644							
		STD	0250	-0029	3462	2783	0002728	0093	14516	550							
145		OBS	T0294	-0004	34639	2784			14535	499							
		STD	0300	-0003	3464	2784	0002713	0106	14536	498							
145		OBS	0392	0014	34656	2784			14560	487							
		STD	0400	0015	3466	2784	0002665	0133	14561	486							
145		OBS	T0490	0019	34663	2784			14578	483							
		STD	0500	0019	3466	2784	0002667	0160	14580	484							
145		OBS	0589	0017	34665	2785			14594	488							
		STD	0600	0018	3467	2785	0002645	0186	14596	487							
145		OBS	T0687	0021	34669	2785			14612	482							
		STD	0700	0021	3467	2785	0002636	0213	14614	481							
145		OBS	0782	0020	34670	2785			14628	480							
		STD	0800	0020	3467	2785	0002622	0239	14631	481							
		STD	0900	0017	3467	2785	0002592	0265	14646	485							
145		OBS	T0988	0014	34671	2785			14659	489							

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPL 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	8037	GL	70307S	040567W		556	00	03	06	030	1968		045	3892	39	00	0	A		X7	7	8		0058

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			
		03	S10	904	-008	-012	6	29	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	
		STD	0000	-0159	3353	2700	0010659	0000	14398	800						
042		OBS	0000	-0159	33530	2700			14398	800						818
		STD	0010	-0165	3351	2699	0010761	0011	14397	814						
042		OBS	0010	-0165	33514	2699			14397	814						815
		STD	0020	-0166	3355	2702	0010475	0021	14399	810						
042		OBS	0025	-0167	33618	2707			14400	803						813
		STD	0030	-0163	3386	2727	0008095	0031	14406	783						
		STD	0050	-0160	3448	2777	000332	0042	14420	709						
042		OBS	0050	-0160	34482	2777			14420	709						811
042		OBS	0074	-0179	34484	2778			14415	630						809
		STD	0075	-0179	3448	2778	0003239	0050	14415	630						
		STD	0100	-0177	3449	2779	0003161	0058	14420	626						
042		OBS	0100	-0177	34493	2779			14420	626						807
		STD	0125	-0168	3450	2779	0003119	0066	14429	616						
042		OBS	0149	-0155	34511	2779			14439	605						806
		STD	0150	-0154	3451	2780	0003056	0074	14440	605						
042		OBS	0198	-0113	34542	2781			14467	582						805
		STD	0200	-0111	3454	2781	000295	0089	14468	581						
		STD	0250	-0059	3458	2782	0002890	0103	14501	553						
		STD	0300	-0022	3461	2783	0002804	0118	14527	529						
042		OBS	T0300	-0022	34614	2783			14527	529						803
042		OBS	0398	0006	34636	2783			14557	495						802
		STD	0400	0006	3464	2783	0002793	0146	14557	495						
		STD	0500	0021	3466	2784	0002723	0173	14581	486						
042		OBS	T0503	0021	34658	2784			14581	486						801
042		OBS	0598	0022	34664	2784			14598	493						800
		STD	0600	0022	3466	2784	0002680	0200	14598	493						
		STD	0700	0023	3467	2784	000268	0227	14615	491						
042		OBS	T0704	0023	34665	2784			14616							799
042		OBS	T0793	0017	34663	2785			14628	490						798
		STD	0800	0017	3466	2785	0002652	0254	14629	490						
		STD	0900	0015	3467	2785	0002622	0280	14645	493						
		STD	1000	0013	3467	2785	0002599	0306	14661	495						
042		OBS	T1003	0013	34666	2785			14661	495						796
012		OBS	T1012	0014	34671	2785			14663	493						798
		STD	1100	0011	3467	2785	0002547	0332	14677	496						
		STD	1200	0006	3467	2786	0002511	0357	14692	499						
		STD	1300	0002	3467	2786	0002474	0382	14707	502						
012		OBS	1309	0002	34666	2786			14708	502						799
		STD	1400	-0001	3467	2786	0002478	0407	14722	511						
		STD	1500	-0003	3466	2786	0002470	0432	14738	519						
012		OBS	1607	-0006	34661	2786			14755	525						798
		STD	1750	-0009	3466	2786	0002423	0493	14778	526						
012		OBS	T1906	-0013	34659	2786			14803	529						798
		STD	2000	-0015	3466	2786	0002353	0552	14818	533						
012		OBS	2205	-0019	34658	2786			14851	539						796
		STD	2500	-0025	3466	2786	0002232	0667	14900	541						
012		OBS	2504	-0025	34655	2786			14900	541						796
012		OBS	2804	-0025	34655	2786			14952	543						794
		STD	3000	-0026	3466	2786	0002168	0777	14986	553						
012		OBS	3103	-0027	34655	2786			15004	557						794
012		OBS	3402	-0031	34650	2786			15054	562						795
012		OBS	T3701	-0035	34642	2786			15105	568						794
012		OBS	3801	-0041	34638	2785			15120	568						796
012		OBS	3826	-0044	34628	2785			15123	573						797
012		OBS	T3855	-0047	34628	2785			15127	571						793
012		OBS	T3881	-0051	34621	2785			15130	568						796

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	8037	GL	70307S	040567W		556	00	03	06	060	1968		045	3877	20	00	0	X		X1	0	3		0059

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	05	509	904	-019	-024	6	31	

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	D_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	S‰
		STD	0000	-0167	3352	2700	001071	0000	14395								
068		OBS	0000	-0167	33521	2700			14395								
		STD	0010	-0172	3352	2699	001073	0011	14394								
		OBS	0010	-0172	33516	2699			14394								
005		OBS	0018	-0134	33631	2708			14415								
		STD	0020	-0150	3383	2724	0008358	0020	14410								
		OBS	0020	-0150	33831	2724			14410								
		OBS	0025	-0157	34460	2775			14417								
		STD	0030	-0161	3448	2777	0003374	0026	14416								
		OBS	0030	-0161	34476	2777			14416								
		STD	0050	-0176	3449	2779	000320	0033	14412								
		OBS	0050	-0176	34492	2779			14412								
		STD	0075	-0178	3450	2779	0003103	0041	14416								
		OBS	0075	-0178	34502	2779			14416								
		STD	0100	-0164	3452	2781	0002983	0048	14427								
		OBS	0100	-0164	34521	2781			14427								
		STD	0125	-0136	3456	2783	0002753	0055	14445								
		OBS	0125	-0136	34561	2783			14445								
		STD	0150	-0111	3455	2781	0002901	0062	14460								
		OBS	0150	-0111	34552	2781			14460								
		STD	0200	-0051	3459	2782	0002847	0077	14497								
		OBS	0200	-0051	34591	2782			14497								
		STD	0250	-0008	3464	2784	0002719	0091	14526								
		OBS	0250	-0008	34636	2784			14526								
		STD	0300	0001	3464	2784	0002728	0104	14538								
		OBS	0300	0001	34641	2784			14538								
		STD	0400	0017	3465	2783	0002783	0132	14562								
		OBS	0400	0017	34646	2783			14562								
		STD	0500	0026	3466	2784	0002728	0159	14583								
		OBS	0500	0026	34661	2784			14583								
		STD	0600	0025	3467	2784	0002685	0187	14599								
		OBS	0600	0025	34666	2784			14599								
		STD	0700	0021	3467	2785	0002658	0213	14614								
		OBS	0700	0021	34666	2785			14614								
		STD	0800	0019	3467	2785	0002644	0240	14630								
		OBS	0800	0019	34666	2785			14630								
		STD	0900	0015	3467	2785	0002614	0266	14645								
		OBS	0900	0015	34666	2785			14645								
		STD	1000	0011	3466	2785	0002605	0292	14660								
		OBS	1000	0011	34663	2785			14660								
		STD	1100	0007	3466	2785	0002586	0318	14675								
		OBS	1100	0007	34661	2785			14675								
		STD	1200	0004	3466	2785	0002558	0344	14690								
		OBS	1200	0004	34661	2785			14690								
		STD	1300	0001	3466	2785	0002537	0369	14706								
		OBS	1300	0001	34660	2785			14706								
		STD	1400	-0003	3466	2785	0002528	0395	14721								
		OBS	1400	-0003	34656	2785			14721								
		STD	1500	-0006	3465	2785	0002526	0420	14737								
		OBS	1500	-0006	34652	2785			14737								
		OBS	1600	-0009	34652	2785			14752								
		OBS	1700	-0011	34652	2785			14768								
		STD	1750	-0013	3465	2785	0002444	0482	14776								
		OBS	1800	-0014	34651	2785			14784								
		OBS	1900	-0016	34651	2785			14800								
		STD	2000	-0018	3465	2785	0002382	0542	14817								
		OBS	2000	-0018	34651	2785			14817								

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	18037	GL	69315S	042356W		520	92	03	06	150	1968		046	3877	10	00	0	X		X2	7	8		0060

WATER COLOR 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
		04	509	876	-005	-011	6	15	

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	NH_3-N µg at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	
		STD	0000	-0152	3394	2733	0007520	0000	14408	817						
	143	OBS	0000	-0152	33941	2733			14408	817						824
		STD	0010	-0152	3394	2733	0007522	0008	14409	817						
	143	OBS	0011	-0152	33939	2733			14409	817						824
		STD	0020	-0154	3394	2733	0007519	0015	14410	819						
	143	OBS	0026	-0155	33939	2733			14410	820						824
		STD	0030	-0156	3406	2743	0006579	0022	14412	788						
		STD	0050	-0162	3446	2776	0003483	0032	14418	674						
	143	OBS	0052	-0163	34487	2778			14419	666						819
		STD	0075	-0174	3449	2778	0003207	0041	14418	636						
	143	OBS	0078	-0175	34494	2779			14417	633						819
		STD	0100	-0161	3451	2780	0003076	0048	14428	614						
	143	OBS	0104	-0158	34514	2780			14430	611						815
		STD	0125	-0135	3453	2780	0002993	0056	14445	598						
		STD	0150	-0106	3455	2781	0002936	0063	14463	581						
	143	OBS	T0157	-0098	34560	2782			14468	575						811
		STD	0200	-0043	3461	2783	0002741	0078	14501	533						
	143	OBS	0206	-0037	34612	2783			14505	529						811
		STD	0250	-0020	3463	2784	0002699	0091	14520	517						
		STD	0300	-0004	3464	2784	0002707	0105	14536	505						
	143	OBS	T0306	-0002	34642	2784			14538	504						809
		STD	0400	0020	3466	2784	0002703	0132	14564	488						
	143	OBS	0408	0021	34660	2784			14565	487						807
		STD	0500	0029	3467	2784	0002681	0159	14585	479						
	143	OBS	T0509	0030	34673	2785			14587	478						808
		STD	0600	0027	3468	2785	0002633	0185	14601	474						
	143	OBS	0610	0027	34675	2785			14602	474						808
		STD	0700	0027	3468	2785	0002633	0212	14617	476						
	143	OBS	T0711	0027	34675	2785			14619	477						808
		STD	0800	0024	3467	2785	0002623	0238	14633	483						
	143	OBS	0810	0024	34674	2785			14634	484						807
		STD	0900	0021	3467	2785	000260	0264	14648	489						
		STD	1000	0017	3467	2785	0002576	0290	14663	494						
	143	OBS	T1006	0017	34673	2785			14664	494						806

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DIFF. 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 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	8037	GL	684090	040045W		52	0	80	03	07	060	1968		047		4178	38		0	2		X7	6	8		0061

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		04	S10	891	-013	-018	4	30	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	CODE
		STD	0000	-0111	3393	2731	0007747	0000	14427	813							
047		OBS	0000	-0111	33927	2731			14427	813						820	
		STD	0010	-0111	3392	2731	0007765	0008	14428	813							
047		OBS	0011	-0111	33924	2731			14428	813						820	
		STD	0020	-0112	3393	2731	0007742	0016	14429	816							
047		OBS	0027	-0113	33928	2731			14430	818						820	
		STD	0030	-0122	3402	2739	0006985	0023	14428	794							
		STD	0050	-0165	3445	2775	0003551	0033	14417	680							
047		OBS	0054	-0170	34494	2779			14416	666						816	
		STD	0075	-0172	3450	2779	0003134	0042	14418	659							
047		OBS	0081	-0173	34506	2780			14419	655						811	
		STD	0100	-0154	3452	2780	0003020	0049	14431	636							
047		OBS	0107	-0146	34525	2780			14436	629						809	
		STD	0125	-0124	3454	2781	0002955	0057	14450	612							
		STD	0150	-0092	3457	2782	0002839	0064	14469	587							
047		OBS	T0168	-0068	34586	2782			14484	567						808	
		STD	0200	-0017	3463	2784	000272	0078	14513	525							
047		OBS	0215	0001	34646	2784			14524	510						807	
		STD	0250	0006	3465	2784	000269*	0092	14532	503							
		STD	0300	0014	3465	2784	0002736	0105	14544	495							
047		OBS	T0322	0017	34657	2784			14549	492						804	
		STD	0400	0031	3467	2784	0002720	0132	14569	490							
047		OBS	0430	0034	34670	2784			14575	488						804	
		STD	0500	0035	3468	2785	0002646	0159	14588	479							
047		OBS	T0541	0036	34681	2785			14595	477						801	
		STD	0600	0034	3468	2785	0002642	0186	14604	480							
047		OBS	0648	0033	34678	2785			14611	481						798	
		STD	0700	0032	3468	2785	0002647	0212	14619	482							
047		OBS	T0756	0030	34677	2785			14628	482						796	
		STD	0800	0026	3467	2785	0002666	0239	14633	484							
047		OBS	T0855	0022	34669	2785			14641	487						796	
		STD	0900	0020	3467	2785	0002629	0265	14647	491							
		STD	1000	0016	3467	2785	0002595	0291	14662	500							
011		OBS	T1010	0015	34669	2785			14664	501						797	
047		OBS	T1090	0012	34663	2785			14676	501						794	
		STD	1100	0011	3466	2785	0002603	0317	14677	502							
		STD	1200	0006	3466	2785	0002575	0343	14691	509							
011		OBS	1256	0004	34660	2785			14700	512						794	
		STD	1300	0003	3466	2785	0002554	0369	14707	514							
		STD	1400	0001	3466	2785	0002533	0394	14723	517							
		STD	1500	-0001	3466	2785	000251	0419	14739	521							
011		OBS	1505	-0001	34660	2785			14740	521						793	
		STD	1750	-0007	3466	2786	0002446	0481	14779	530							
011		OBS	T1770	-0007	34657	2785			14782	531						792	
		STD	2000	-0013	3465	2785	0002422	0542	14819	533							
011		OBS	2023	-0013	34653	2785			14823	533						790	
011		OBS	2290	-0018	34657	2786			14866	533						790	
		STD	2500	-0021	3466	2786	0002275	0660	14901	540							
011		OBS	T2556	-0022	34654	2786			14911	544						788	
011		OBS	2843	-0024	34664	2787			14960	581						786	
		STD	3000	-0027	3466	2787	0002105	0769	14986	563							
011		OBS	3123	-0028	34660	2787			15007	556						786	
011		OBS	T3402	-0028	34658	2786			15056	565						784	
011		OBS	3695	-0029	34657	2786			15107	567							
011		OBS	3743	-0030	34658	2787			15115	568						780	
011		OBS	3767	-0030	34655	2786			15119	567						780	
011		OBS	T3793	-0031	34652	2786			15124	568						776	
011		OBS	T3815	-0031	34645	2786			15127	570						777	

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	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	8037	GL	68409S	040045W		52	80	03	07	090	1968		047	4178	20		2	2		X7	0	3		0062

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	03	S13	892	-011	-015	7	32	

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	NH_3-N µg-at l	NO_2-N µg-at l	NO_3-N µg-at l	SiO_4-Si µg-at l	pH
		STD	0000	-0111	3390	2728	0007985	0000	14426							
	072	OBS	0000	-0111	33896	2728			14426							
		STD	0010	-0114	3390	2729	0007932	0008	14427							
		OBS	0010	-0114	33901	2729			14427							
		STD	0020	-0115	3391	2730	0007847	0016	14428							
	005	OBS	0020	-0115	33911	2730			14428							
		OBS	0025	-0166	34456	2775			14412							
		STD	0030	-0169	3447	2777	0003391	0021	14412							
		OBS	0030	-0169	34471	2777			14412							
		STD	0050	-0179	3449	2779	0003200	0028	14411							
		OBS	0050	-0179	34491	2779			14411							
		OBS	0064	-0181	34496	2779			14412							
		STD	0075	-0178	3450	2779	000311*	0036	14416							
		OBS	0075	-0178	34501	2779			14416							
		STD	0100	-0148	3454	2781	0002917	0043	14434							
		OBS	0100	-0148	34536	2781			14434							
		STD	0125	-0100	3454	2780	0003075	0051	14461							
		OBS	0125	-0100	34536	2780			14461							
		STD	0150	-0049	3460	2782	0002836	0058	14490							
		OBS	0150	-0049	34595	2782			14490							
		STD	0200	0003	3464	2784	0002744	0072	14522							
		OBS	0200	0003	34641	2784			14522							
		STD	0250	0003	3464	2783	0002757	0086	14531							
		OBS	0250	0003	34639	2783			14531							
		STD	0300	0001	3465	2784	000269	0100	14538							
		OBS	0300	0001	34646	2784			14538							
		OBS	0304	0014	34646	2783			14545							
		STD	0400	0024	3466	2784	0002713	0127	14566							
		OBS	0400	0024	34661	2784			14566							
		STD	0500	0036	3468	2785	0002681	0154	14588							
		OBS	0500	0036	34676	2785			14588							
		STD	0600	0031	3468	2785	0002659	0180	14602							
		OBS	0600	0031	34675	2785			14602							
		STD	0700	0027	3468	2785	0002633	0207	14617							
		OBS	0700	0027	34675	2785			14617							
		STD	0800	0022	3468	2785	0002599	0233	14632							
		OBS	0800	0022	34675	2785			14632							
		STD	0900	0017	3468	2786	0002562	0259	14646							
		OBS	0900	0017	34675	2786			14646							
		STD	1000	0013	3467	2786	0002538	0284	14661							
		OBS	1000	0013	34674	2786			14661							
		STD	1100	0009	3467	2786	0002527	0310	14676							
		OBS	1100	0009	34671	2786			14676							
		STD	1200	0006	3467	2786	0002500	0335	14692							
		OBS	1200	0006	34671	2786			14692							
		STD	1300	0003	3467	2786	0002450	0360	14707							
		OBS	1300	0003	34674	2786			14707							
		STD	1400	-0001	3467	2786	0002411	0384	14722							
		OBS	1400	-0001	34674	2786			14722							
		STD	1500	-0004	3467	2786	0002395	0408	14738							
		OBS	1500	-0004	34672	2786			14738							
		OBS	1600	-0006	34671	2786			14754							
		OBS	1700	-0008	34671	2787			14770							
		STD	1750	-0009	3467	2787	0002341	0467	14778							
		OBS	1800	-0010	34670	2787			14786							
		OBS	1900	-0013	34669	2787			14802							
		STD	2000	-0015	3467	2787	0002294	0525	14818							
		OBS	2000	-0015	34667	2787			14818							

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 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	8037	GL	682485	043037W		520	83	03	07	150	1968		048	4133	10	32	0	2		X1	6	7		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
		32	S05	894	-017	-027	7	15	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SAL CCL
		STD	0000	-0152	3399	2737	0007129	0000	14408	815							
142		OBS	0000	-0152	33992	2737			14408	815						825	
		STD	0010	-0152	3399	2737	0007138	0007	14410	819							
142		OBS	0011	-0152	33989	2737			14410	820						825	
		STD	0020	-0153	3400	2738	0007053	0014	14411	830							
142		OBS	0027	-0154	34048	2742			14413	837						825	
		STD	0030	-0155	3412	2748	000612*	0021	14414	815							
		STD	0050	-0160	3446	2776	0003488	0030	14419	708							
142		OBS	0053	-0161	34488	2778			14420	698						822	
		STD	0075	-0165	3449	2778	0003231	0039	14422	686							
142		OBS	0079	-0166	34491	2778			14422	678						821	
		STD	0100	-0167	3451	2779	0003090	0047	14425	605							
142		OBS	0105	-0167	34509	2780			14426	590						818	
		STD	0125	-0163	3451	2780	0003057	0054	14431	540							
		STD	0150	-0149	3453	2781	0002935	0062	14442	509							
142		OBS	T0158	-0143	34532	2781			14446	506						816	
		STD	0200	-0089	3457	2782	0002836	0076	14479	566							
142		OBS	0208	-0080	34577	2782			14485	572						813	
		STD	0250	-0045	3461	2783	0002722	0090	14508	541							
		STD	0300	-0014	3463	2784	0002727	0104	14531	515							
142		OBS	T0311	-0009	34639	2784			14535	511						811	
		STD	0400	0014	3466	2784	0002696	0131	14561	499							
142		OBS	0414	0016	34658	2784			14564	498						811	
		STD	0500	0021	3467	2785	0002628	0158	14581	491							
142		OBS	T0516	0022	34671	2785			14584	490						810	
		STD	0600	0020	3467	2785	0002616	0184	14597	495							
142		OBS	0618	0020	34671	2785			14600	496						810	
		STD	0700	0020	3467	2785	0002606	0210	14614	397							
142		OBS	T0723	0019	34672	2785			14617	394						810	
		STD	0800	0016	3467	2785	0002593	0236	14629	484							
142		OBS	0819	0015	34670	2785			14632	500						808	
		STD	0900	0013	3467	2785	0002569	0262	14644	502							
		STD	1000	0011	3467	2785	0002552	0287	14660	505							
142		OBS	T1020	0011	34667	2785			14663	505						808	

REFERENCE CTRY CODE	REFERENCE IO. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° '1/10	DUPT 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	8037	GL	675945	038001W		51	9	03	08	060	1968		049	4428	44	00	0	X		X1	6	7		0064

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	S10	934	-003	-008	7	30	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at	pH	
		STD	0000	-0114	3381	2721	0008642	0000	14424	806							
073		OBS	0000	-0114	33809	2721			14424	806							
		STD	0010	-0116	3382	2722	0008585	0009	14424	818							
073		OBS	0010	-0116	33815	2722			14424	818							
		STD	0020	-0116	3381	2722	0008603	0017	14426	820							
073		OBS	0026	-0119	33810	2722			14426	821							
		STD	0030	-0127	3395	2733	0007506	0025	14424	794							
		STD	0050	-0153	3442	2772	0003815	0037	14422	695							
073		OBS	0052	-0154	34443	2774			14422	688							
		STD	0075	-0153	3446	2775	0003496	0046	14427	663							
073		OBS	0078	-0152	34466	2776			14428	659							
		STD	0100	-0141	3448	2777	0003368	0054	14437	629							
073		OBS	0103	-0139	34486	2777			14438	625							
		STD	0125	-0110	3451	2778	0003235	0063	14456	601							
		STD	0150	-0081	3454	2779	0003113	0070	14474	576							
073		OBS	T0155	-0076	34542	2779			14477	572							
		STD	0200	-0036	3459	2781	0002966	0086	14504	539							
073		OBS	0205	-0032	34590	2781			14507	536							
		STD	0250	0020	3461	2780	0003097	0101	14538	502							
		STD	0300	0053	3463	2780	0003157	0116	14562	479							
073		OBS	T0305	0055						478							
		STD	0400	0041	3467	2783	000279	0146	14573	484							
073		OBS	0406	0040	34667	2784			14574	484							
		STD	0500	0045	3468	2784	0002722	0174	14592	473							
073		OBS	T0511	0046	34680	2784			14594	472							
		STD	0600	0047	3468	2784	000271	0201	14610	471							
073		OBS	0606	0047	34683	2784			14611	471							
		STD	0700	0043	3468	2784	0002711	0228	14624	472							
073		OBS	T0711	0042	34680	2785			14626	472							
073		OBS	T0799	0038	34678	2785			14639	487							
		STD	0800	0038	3468	2785	0002695	0255	14639	487							
		STD	0900	0036	3468	2785	0002688	0282	14654	474							
		STD	1000	0033	3468	2785	0002681	0309	14670	461							
024		OBS	T1004	0033						460							
073		OBS	T1005	0033						478							
024		OBS	1064	0029	34675	2785			14679	480							
		STD	1100	0028	3468	2785	0002650	0336	14685	481							
		STD	1200	0025	3468	2785	0002627	0362	14700	485							
		STD	1300	0021	3468	2785	0002587	0388	14715	490							
024		OBS	1366	0018	34676	2786			14725	494							
		STD	1400	0016	3468	2786	0002551	0414	14730	498							
		STD	1500	0011	3467	2786	000252	0439	14745	507							
024		OBS	T1669	0003	34669	2786			14770	518							
		STD	1750	-0000	3467	2786	0002455	0501	14782	519							
024		OBS	1969	-0008	34663	2786			14816	522							
		STD	2000	-0009	3466	2786	0002405	0562	14821	523							
024		OBS	2269	-0015	34659	2786			14864	532							
		STD	2500	-0020	3466	2786	0002279	0679	14902	543							
024		OBS	T2569	-0021	34655	2786			14913	546							
024		OBS	2869	-0024	34659	2786			14964	555							
		STD	3000	-0027	3466	2786	0002148	0790	14986	557							
024		OBS	3169	-0029	34652	2786			15014	559							
040		OBS	T3460	-0031	34653	2786			15065	564							
040		OBS	3774	-0032	34650	2786			15120	566							
		STD	4000	-0034	3465	2786	0001975	0996	15159	567							
040		OBS	4075	-0035	34652	2786			15172	568							
040		OBS	4326	-0037	34652	2786			15216	570							
040		OBS	T4380	-0038	34650	2786			15225	571							
040		OBS	T4401	-0041	34649	2786			15228	568							

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	8037	GL	5759-2	038001W		513	78	03	08	090	1968		049	4352	20	00	0	X		X1	0	3		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
DT	SD	26	505	938	-013	-017	7	33	

MESSENGER 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	NH_3-N µg	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at	pH	S.C.
		STD	0000	-0117	3379	2720	0008803	0000	14422								
	082	OBS	0000	-0117	33786	2720			14422								
		STD	0010	-0117	3379	2720	0008804	0009	14424								
		OBS	0010	-0117	33786	2720			14424								
		STD	0020	-0116	3379	2720	0008802	0018	14426								
		OBS	0020	-0116	33786	2720			14426								
		OBS	0025	-0150	34276	2760			14417								
		STD	0030	-0154	3440	2770	0004014	0024	14418								
		OBS	0030	-0154	34395	2770			14418								
		OBS	0033	-0157	34417	2772			14417								
		STD	0050	-0151	3445	2774	0003622	0032	14423								
		OBS	0050	-0151	34446	2774			14423								
		OBS	0070	-0139	34471	2776			14433								
		OBS	0073	-0140	34466	2776			14428								
		STD	0075	-0137	3446	2775	0003538	0041	14434								
		OBS	0075	-0137	34461	2775			14434								
		STD	0100	-0124	3449	2777	000334	0049	14445								
		OBS	0100	-0124	34491	2777			14445								
		STD	0125	-0115	3450	2777	0003316	0058	14453								
		OBS	0125	-0115	34497	2777			14453								
		STD	0150	-0057	3457	2780	000302	0065	14486								
		OBS	0150	-0057	34566	2780			14486								
		STD	0200	-0002	3462	2782	0002869	0080	14520								
		OBS	0200	-0002	34621	2782			14520								
		STD	0250	0054	3467	2783	0002819	0094	14554								
		OBS	0250	0054	34671	2783			14554								
		STD	0300	0054	3467	2783	0002801	0108	14563								
		OBS	0300	0054	34674	2783			14563								
		STD	0400	0043	3467	2784	0002778	0135	14573								
		OBS	0400	0043	34666	2784			14573								
		STD	0500	0044	3467	2784	000275	0164	14591								
		OBS	0500	0044	34674	2784			14591								
		STD	0600	0047	3468	2784	0002726	0191	14610								
		OBS	0600	0047	34681	2784			14610								
		STD	0700	0043	3469	2785	0002674	0218	14624								
		OBS	0700	0043	34685	2785			14624								
		STD	0800	0037	3468	2785	000265	0245	14638								
		OBS	0800	0037	34683	2785			14638								
		STD	0900	0033	3468	2785	0002639	0271	14653								
		OBS	0900	0033	34681	2785			14653								
		STD	1000	0032	3469	2786	0002597	0298	14670								
		OBS	1000	0032	34686	2786			14670								
		STD	1100	0029	3469	2786	0002576	0323	14685								
		OBS	1100	0029	34686	2786			14685								
		STD	1200	0023	3469	2786	0002529	0349	14699								
		OBS	1200	0023	34685	2786			14699								
		STD	1300	0017	3469	2786	0002479	0374	14714								
		OBS	1300	0017	34686	2786			14714								
		STD	1400	0014	3468	2786	0002489	0399	14729								
		OBS	1400	0014	34681	2786			14729								
		STD	1500	0009	3468	2786	0002458	0424	14744								
		OBS	1500	0009	34679	2786			14744								
		OBS	1600	0006	34678	2786			14759								
		OBS	1700	0002	34677	2787			14775								
		STD	1750	-0001	3468	2787	0002372	0484	14782								
		OBS	1800	-0003	34676	2787			14789								
		OBS	1900	-0006	34675	2787			14805								
		STD	2000	-0008	3468	2787	0002298	0542	14821								
		OBS	2000	-0008	34676	2787			14821								

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	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	8037	GL	67392S	040018W		520	70	03	08	170	1968		050	4279	10	00	0	x		X1	6	7		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			
		08	S11	920	-028	-038	6	15	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	Secchi
		STD	0000	-0142	3411	2747	0006228	0000	14415	795							
166		OBS	0000	-0142	34113	2747			14415	795							
		STD	0010	-0142	3411	2747	0006230	0006	14416	802							
166		OBS	0010	-0142	34112	2747			14416	802							
		STD	0020	-0144	3412	2747	0006196	0012	14417	808							
166		OBS	0025	-0146	34117	2747			14417	811							
		STD	0030	-0151	3420	2754	0005518	0018	14417	776							
		STD	0050	-0167	3449	2778	0003231	0027	14417	681							
166		OBS	0050	-0167	34491	2778			14417	681							
		STD	0075	-0172	3452	2781	0002982	0035	14419	667							
166		OBS	0075	-0172	3499P	2819P				667							
		STD	0100	-0168	3454	2782	0002826	0042	14425	642							
166		OBS	0100	-0168	3351P	2699P				642							
		STD	0125	-0117	3456	2782	0002827	0049	14453	596							
		STD	0150	-0069	3458	2782	0002845	0056	14480	554							
166		OBS	0150	-0069	34582	2782			14480	554							
		STD	0200	0019	3462	2781	0002993	0071	14529	484							
166		OBS	T0204	0023						480							
		STD	0250	0022	3464	2782	0002856	0085	14539	482							
166		OBS	T0299	0020	34663	2784			14547	483							
		STD	0300	0020	3466	2784	0002674	0099	14547	483							
		STD	0400	0040	3468	2785	0002679	0126	14573	471							
166		OBS	0401	0040	34679	2785			14573	471							
		STD	0500	0040	3469	2785	0002633	0153	14590	468							
166		OBS	T0503	0040	34686	2785			14590	468							
		STD	0600	0038	3469	2785	0002617	0179	14606	466							
166		OBS	0601	0036	34687	2785			14606	466							
		STD	0700	0039	3469	2785	0002637	0205	14623	468							
166		OBS	T0700	0039	34686	2785			14623	468							
		STD	0800	0033	3468	2785	0002643	0232	14637	467							
166		OBS	0802	0033	34679	2785			14637	467							
		STD	0900	0028	3468	2785	0002615	0258	14651	472							
		STD	1000	0025	3468	2785	0002594	0284	14667	482							
166		OBS	T1000	0025	34679	2785			14667	482							

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DUPLICATE INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES			NODC STATION NUMBER
CRY CODE	ID. NO.		° 1/10	° '1/10		10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT.	PER	SEA		TYPE	AMT.		
31	8037	GL	67315S	044128W		520	74	03	09	030	1968		051	3713	10	00	0	X		X7	7	8		0067

WATER		WIND		BAROMETER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		04	S18	830	-018	-023	6	15	

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	NH_3-N 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	-0181													
040		OBS	0000	-0181													
040		OBS	0009		33899					747							
		STD	0010	-0181	3390	2731	0007765		14395	747							
		STD	0020	-0182	3390	2731	0007735		14396	748							
040		OBS	0024	-0182	33903	2731			14397	748							
		STD	0030	-0173	3406	2743	0006535		14404	724							
040		OBS	0049	-0158	34389	2770			14419	672							
		STD	0050	-0159	3439	2770	0004028		14419	671							
040		OBS	0073	-0168	34471	2777			14420	656							
		STD	0075	-0168	3447	2777	000336*		14420	656							
040		OBS	0097	-0168	34483	2778			14424	651							
		STD	0100	-0167	3449	2778	0003242		14425	649							
		STD	0125	-0149	3451	2779	0003100		14438	629							
040		OBS	0145	-0126	34529	2780			14452	606							
		STD	0150	-0115	3454	2781	0002978		14458	596							
040		OBS	T0194	-0038	34608	2783			14502	524							
		STD	0200	-0033	3461	2783	0002791		14506	521							
		STD	0250	-0001	3464	2784	0002727		14529	498							
040		OBS	0292	0016	34660	2784			14544	486							
		STD	0300	0017	3466	2784	0002675		14545	486							
040		OBS	T0390	0022	34666	2785			14563	486							
		STD	0400	0023	3467	2785	0002639		14565	484							
040		OBS	T0492	0032	34675	2785			14585	475							
		STD	0500	0032	3468	2785	0002663		14586	475							
040		OBS	0588	0034	34680	2785			14602	478							
		STD	0600	0034	3468	2785	0002642		14604	477							
040		OBS	T0683	0032	34680	2785			14617	475							
		STD	0700	0031	3468	2785	0002624		14619	476							
040		OBS	T0796	0026	34676	2785			14633	483							
		STD	0800	0026	3468	2785	0002621		14633	483							
		STD	0900	0022	3467	2785	0002615		14648	485							
040		OBS	T0992	0019	34671	2785			14662	486							

REFERENCE CTRY CODE	REFERENCE IO. 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 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	8037	GL	67315S	044128W		520	74	03	09	060	1968		051	3713	31	00	0	X		X7	0	3		0068

WATER COLOR CODE	WATER TRANS. (m)	WIND DIR.	WIND SPEED OR FORCE	BAROMETER (mba)	AIR TEMP. °C ORY BULB	AIR TEMP. °C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
DT	S0	03	S19	820	-021	-024	2	41	

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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	SCC
		STD	0000	-0183	3390	2730	0007784	0000	14392								
048		OBS	0000	-0183	33897	2730			14392								
		STD	0010	-0184	3390	2730	000779	0008	14393								
		OBS	0010	-0184	33895	2730			14393								
		STD	0020	-0183	3392	2732	0007609	0015	14396								
		OBS	0020	-0183	33918	2732			14396								
		OBS	0025	-0158	34429	2773			14416								
		STD	0030	-0160	3443	2773	0003760	0021	14416								
		OBS	0030	-0160	34426	2773			14416								
		STD	0050	-0166	3446	2775	0003495	0028	14417								
		OBS	0050	-0166	34457	2775			14417								
		STD	0075	-0167	3448	2777	0003333	0037	14420								
		OBS	0075	-0167	34476	2777			14420								
		STD	0100	-0157	3450	2778	0003195	0045	14430								
		OBS	0100	-0157	34496	2778			14430								
		STD	0125	-0130	3455	2782	0002888	0053	14447								
		OBS	0125	-0130	34546	2782			14447								
		STD	0150	-0085	3461	2785	0002593	0060	14473								
		OBS	0150	-0085	34606	2785			14473								
		STD	0200	-0005	3465	2784	0002663	0073	14519								
		OBS	0200	-0005	34646	2784			14519								
		STD	0250	0013	3466	2784	0002693	0086	14536								
		OBS	0250	0013	34655	2784			14536								
		STD	0300	0023	3466	2784	0002736	0100	14548								
		OBS	0300	0023	34657	2784			14548								
		STD	0400	0026	3467	2784	0002681	0127	14567								
		OBS	0400	0026	34667	2784			14567								
		STD	0500	0034	3468	2785	0002668	0154	14587								
		OBS	0500	0034	34676	2785			14587								
		STD	0600	0034	3468	2785	0002672	0180	14604								
		OBS	0600	0034	34676	2785			14604								
		STD	0700	0031	3468	2785	0002647	0207	14619								
		OBS	0700	0031	34677	2785			14619								
		STD	0800	0027	3468	2785	0002621	0233	14634								
		OBS	0800	0027	34677	2785			14634								
		STD	0900	0024	3468	2785	0002600	0259	14649								
		OBS	0900	0024	34677	2785			14649								
		STD	1000	0020	3468	2786	0002570	0285	14664								
		OBS	1000	0020	34677	2786			14664								
		STD	1100	0016	3468	2786	0002546	0311	14679								
		OBS	1100	0016	34676	2786			14679								
		STD	1200	0013	3468	2786	0002520	0336	14695								
		OBS	1200	0013	34676	2786			14695								
		STD	1300	0008	3468	2786	0002477	0361	14709								
		OBS	1300	0008	34676	2786			14709								
		STD	1400	0005	3468	2786	0002448	0386	14725								
		OBS	1400	0005	34676	2786			14725								
		STD	1500	0001	3468	2786	0002409	0410	14740								
		OBS	1500	0001	34676	2786			14740								
		OBS	1600	-0003	34676	2787			14755								
		OBS	1700	-0006	34676	2787			14771								
		STD	1750	-0008	3468	2787	0002314	0469	14779								
		OBS	1800	-0009	34676	2787			14787								
		OBS	1900	-0012	34676	2787			14802								
		STD	2000	-0014	3468	2787	0002238	0526	14819								
		OBS	2000	-0014	34676	2787			14819								
		OBS	2100	-0016	34675	2787			14835								
		OBS	2200	-0018	34674	2787			14851								
		OBS	2300	-0021	34673	2787			14867								
		OBS	2400	-0022	34673	2787			14884								
		STD	2500	-0023	3467	2787	000213	0535	14901								
		OBS	2500	-0023	34672	2787			14901								
		OBS	2600	-0024	34672	2787			14918								
		OBS	2700	-0025	34671	2787			14934								
		OBS	2800	-0027	34669	2787			14951								
		OBS	2900	-0028	34668	2787			14968								
		STD	3000	-0029	3467	2787	0002045	0739	14985								
		OBS	3000	-0029	34667	2787			14985								
		OBS	3100	-0029	34666	2787			15002								

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	8037	GL	672200	047223W		520	77	03	09	240	1968		052	3839	38	00	0	X		X7	7	8		0069

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
		00	S00	805	-029	-032	4	30	

MESSENGR TIME of HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10^7	Σ Δ D DYN. M. x 10^3	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N 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	-0183	3402	2740	0006877	0000	14394	722							
232		OBS	0000	-0183	34015	2740			14394	722						796	
		STD	0010	-0184	3401	2740	0006899	0007	14395	731							
232		OBS	0010	-0184	34011	2740			14395	731						796	
		STD	0020	-0184	3402	2740	0006838	0014	14397	734							
232		OBS	0025	-0184	34021	2741			14398	736						797	
		STD	0030	-0181	3408	2745	0006362	0020	14401	729							
		STD	0050	-0171	3428	2761	0004848	0032	14412	697							
232		OBS	0051	-0170	34292	2762			14412	695						795	
		STD	0075	-0163	3447	2776	000339	0042	14422	651							
232		OBS	0076	-0162	34472	2777			14423	649						794	
		STD	0100	-0142	3451	2779	0003135	0050	14437	611							
232		OBS	0102	-0140	34514	2779			14438	608						794	
		STD	0125	-0097	3455	2781	000298	0058	14463	576							
		STD	0150	-0057	3459	2782	0002837	0065	14486	545							
232		OBS	0153	-0053	34595	2783			14488	542						788	
		STD	0200	0002	3464	2784	0002746	0079	14522	493							
232		OBS	0203	0005	34646	2784			14524	491						785	
		STD	0250	0016	3466	2784	0002672	0092	14537	491							
		STD	0300	0023	3466	2784	0002714	0106	14548	491							
232		OBS	T0306	0024	34665	2784			14550	491						784	
		STD	0400	0027	3467	2785	000267	0133	14567	487							
232		OBS	0406	0027	34669	2785			14568	487						782	
		STD	0500	0034	3467	2784	000271	0160	14587	477							
232		OBS	T0508	0034	34675	2785			14588	476						781	
		STD	0600	0037	3468	2785	000266	0187	14605	475							
232		OBS	0608	0037	34683	2785			14606	475						781	
		STD	0700	0031	3468	2785	0002626	0213	14619	475							
232		OBS	T0703	0031	34680	2785			14619	475						781	
		STD	0800	0029	3468	2785	0002607	0239	14635	490							
232		OBS	T0809	0029	34681	2785			14636	491						779	
		STD	0900	0025	3468	2786	0002585	0265	14650	480							
179		OBS	T0913	0024	34676	2785			14651	479						784	
		STD	1000	0021	3468	2786	0002565	0291	14665	484							
232		OBS	T1009	0021	34679	2786			14666	484						780	
179		OBS	1014	0021	34674	2785			14667	494						784	
		STD	1100	0017	3467	2785	0002598	0317	14680	495							
		STD	1200	0013	3467	2785	0002565	0343	14695	497							
179		OBS	1268	0011	34666	2785			14705	499						782	
		STD	1300	0010	3467	2785	0002568	0368	14710	501							
		STD	1400	0007	3467	2785	0002547	0394	14726	507							
		STD	1500	0004	3466	2785	0002525	0419	14741	513							
179		OBS	T1521	0003	34664	2785			14744	514						783	
		STD	1750	-0008	3466	2786	0002410	0481	14778	526							
179		OBS	1828	-0011	34663	2786			14790	529						783	
		STD	2000	-0012	3466	2786	0002353	0540	14819	534							
179		OBS	2134	-0014	34662	2786			14841	537						783	
179		OBS	2442	-0022	34657	2786			14891	544						782	
		STD	2500	-0022	3466	2786	0002250	0655	14901	545							
179		OBS	2749	-0025	34654	2786			14943	551						781	
		STD	3000	-0028	3465	2786	0002165	0766	14985	557							
179		OBS	T3062	-0029	34651	2786			14995	558						780	
179		OBS	3364	-0034	34646	2786			15046	564						780	
179		OBS	T3670	-0043	34640	2786			15096	577						779	
179		OBS	3751	-0052	34632	2785			15106	579						778	
179		OBS	T3779	-0058	34630	2786			15109	585						781	
179		OBS	3802	-0063	34635	2786			15111	594						781	
179		OBS	T3828	-0065	34643	2787			15114	599						785	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPL 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	NO.	CODE	° 1/10	° 1/10		10°	1°	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	67220S	047223W		52	07	03	10	060	1968		052	3768	10	00	0	X		X7	0	3		0070

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	00	S00	794	-032	-034	5	20	

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	NN_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	SIGMA-T
		STD	0000	-0185	3403	2741	0006796	0000	14393								
048		OBS	0000	-0185	34025	2741			14393								
		STD	0010	-0185	3403	2741	0006789	0007	14395								
		OBS	0010	-0185	34025	2741			14395								
		STD	0020	-0185	3403	2741	0006782	0014	14396								
		OBS	0020	-0185	34025	2741			14396								
		OBS	0025	-0183	34026	2741			14398								
		STD	0030	-0175	3408	2745	0006407	0020	14404								
		OBS	0030	-0175	34076	2745			14404								
		STD	0050	-0165	3447	2776	0003429	0030	14417								
		OBS	0050	-0165	34466	2776			14417								
		STD	0075	-0150	3450	2779	000319*	0038	14429								
		OBS	0075	-0150	34501	2779			14429								
		STD	0100	-0115	3454	2780	0003028	0046	14450								
		OBS	0100	-0115	34536	2780			14450								
		STD	0125	-0080	3457	2781	0002926	0053	14471								
		OBS	0125	-0080	34566	2781			14471								
		STD	0150	-0021	3463	2784	0002736	0061	14503								
		OBS	0150	-0021	34626	2784			14503								
		STD	0200	0016	3466	2784	000271	0074	14529								
		OBS	0200	0016	34655	2784			14529								
		STD	0250	0019	3466	2784	000272	0088	14538								
		OBS	0250	0019	34656	2784			14538								
		STD	0300	0025	3467	2784	0002688	0101	14549								
		OBS	0300	0025	34665	2784			14549								
		STD	0400	0030	3467	2785	0002676	0128	14568								
		OBS	0400	0030	34671	2785			14568								
		STD	0500	0034	3468	2785	0002638	0155	14587								
		OBS	0500	0034	34680	2785			14587								
		STD	0600	0034	3468	2785	0002634	0181	14604								
		OBS	0600	0034	34681	2785			14604								
		STD	0700	0031	3468	2785	0002617	0207	14619								
		OBS	0700	0031	34681	2785			14619								
		STD	0800	0028	3468	2785	0002598	0233	14634								
		OBS	0800	0028	34681	2785			14634								
		STD	0900	0024	3468	2786	0002577	0259	14649								
		OBS	0900	0024	34680	2786			14649								
		STD	1000	0020	3468	2786	0002548	0285	14664								
		OBS	1000	0020	34680	2786			14664								

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPLICATE 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		
31	8037	GL	671905	048598W		520	78	03	10	180	1968		053	3585	10	00	0	X		X1	7	7		0071

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			
		00	S00	789	-001	-011	6	15	

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	NN_3-N 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	-0177	3405	2742	0006645	0000	14397	723							
189		OBS	0000	-0177	34047	2742			14397	723						812	
		STD	0010	-0182	3405	2743	0006627	0007	14397	731							
189		OBS	0010	-0182	34047	2743			14397	731						812	
		STD	0020	-0172	3428	2761	0004855	0012	14406	685							
189		OBS	0026	-0168	34380	2769			14411	665						808	
		STD	0030	-0167	3439	2770	0004016	0017	14412	661							
		STD	0050	-0164	3444	2774	000363	0024	14417	642							
189		OBS	0052	-0164	34442	2774			14418	640						807	
		STD	0075	-0161	3447	2776	0003433	0033	14423	655							
189		OBS	0078	-0161	34468	2776			14424	657						806	
		STD	0100	-0164	3448	2777	0003298	0042	14426	643							
189		OBS	0104	-0164	34488	2778			14427	640						806	
		STD	0125	-0152	3450	2779	0003167	0050	14436	632							
		STD	0150	-0127	3453	2780	0003010	0058	14452	612							
189		OBS	0155	-0120	34534	2780			14457	607						805	
		STD	0200	-0031	3462	2784	0002725	0072	14507	531							
189		OBS	0207	-0021	34625	2783			14512	522						801	
		STD	0250	0002	3465	2784	0002668	0085	14530	499							
		STD	0300	0022	3467	2785	0002632	0099	14548	482							
189		OBS	T0311	0026	34672	2785			14552	480						798	
		STD	0400	0032	3467	2785	0002673	0125	14569	481							
189		OBS	0411		34673					481						798	
		STD	0500	0036	3468	2785	000265	0152	14588	479							
189		OBS	T0516	0037	34682	2785			14591	478						800	
		STD	0600	0039	3469	2785	0002637	0178	14606	473							
189		OBS	0615	0039	34685	2785			14608	472						801	
		STD	0700	0036	3469	2785	0002623	0204	14621	477							
189		OBS	0716	0035	34685	2785			14624	478						799	
		STD	0800	0032	3469	2786	0002583	0230	14636	479							
189		OBS	T0818	0031	34687	2786			14639	480						799	
		STD	0900	0027	3469	2786	0002563	0256	14651	484							
		STD	1000	0023	3468	2786	0002549	0282	14666	491							
189		OBS	T1014	0022	34683	2786			14668	492						798	

REFERENCE CTRY CODE	REFERENCE IO. 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	8037	GL	67135S	049577W		520	79	03	11	000	1968		054	3664	37	00	0	X		X1	7	7		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
		15	S09	805	-026	-036	6	29	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta$ DYN. M. x 10^3	SOUND VELOCITY	O2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH
		STD	0000	-0181	3410	2747	0006198	0000	14396	690						
009		OBS	0000	-0181	34104	2747			14396	690						809
		STD	0010	-0181	3410	2747	0006199	0006	14398	697						
009		OBS	0010	-0181	34103	2747			14398	697						808
		STD	0020	-0176	3414	2750	000592	0012	14402	683						
009		OBS	0026	-0172	34181	2753			14406	674						809
		STD	0030	-0165	3423	2757	0005250	0018	14410	664						
		STD	0050	-0141	3443	2773	0003774	0027	14428	625						
009		OBS	0052	-0139	34439	2773			14429	622						806
		STD	0075	-0131	3448	2776	0003412	0036	14437	602						
009		OBS	0077	-0130	34483	2776			14438	601						805
		STD	0100	-0122	3450	2778	0003278	0044	14446	600						
009		OBS	0103	-0120	34505	2778			14448	599						802
		STD	0125	-0089	3454	2780	0003088	0052	14466	572						
		STD	0150	-0055	3457	2781	0002999	0060	14487	544						
009		OBS	0155	-0048	34582	2781			14491	538						800
		STD	0200	0010	3464	2783	000279*	0074	14526	489						
009		OBS	T0206	0016	34649	2784			14530	484						796
		STD	0250	0023	3466	2784	0002713	0088	14540	480						
		STD	0300	0027	3466	2784	0002738	0102	14550	476						
009		OBS	0309	0028	34664	2784			14552	475						796
		STD	0400	0027	3466	2784	0002725	0129	14567	475						
009		OBS	T0412	0027	34662	2784			14569	475						795
		STD	0500	0036	3468	2785	0002674	0156	14588	466						
009		OBS	T0513	0037	34679	2785			14590	465						795
		STD	0600	0039	3468	2785	0002675	0183	14606	470						
009		OBS	0614	0039	34682	2785			14608	471						795
		STD	0700	0036	3468	2785	0002660	0209	14621	468						
009		OBS	0714	0035	34680	2785			14623	468						795
		STD	0800	0029	3468	2785	0002613	0236	14635	471						
009		OBS	0814	0028	34679	2785			14637	472						795
		STD	0900	0025	3468	2785	0002596	0262	14650	479						
036		OBS	0944Q	00390	34680	2785Q										
		STD	1000	0022	3468	2785	0002581	0288	14665	486						
009		OBS	T1014	0022	34678	2786			14668	487						794
036		OBS	1046	0026	34673	2785			14675	484						795
		STD	1100	0024	3467	2785	0002633	0314	14683	489						
		STD	1200	0019	3467	2785	0002592	0340	14697	496						
		STD	1300	0015	3467	2785	0002558	0366	14713	501						
036		OBS	1350	0012	34673	2786			14720	502						795
		STD	1400	0009	3467	2786	0002527	0391	14727	502						
		STD	1500	0003	3467	2786	0002471	0416	14741	501						
036		OBS	1554	-0000	34668	2786			14749	500						796
		STD	1750	-0008	3466	2786	0002410	0477	14778	516						
036		OBS	T1856	-0011	34660	2786			14795	523						797
		STD	2000	-0015	3466	2786	0002346	0536	14818	528						
036		OBS	2166	-0019	34655	2786			14845	534						797
036		OBS	2472	-0025	34658	2786			14895	544						795
		STD	2500	-0026	3466	2786	0002199	0650	14899	545						
036		OBS	2780	-0030	34656	2786			14946	551						795
		STD	3000	-0032	3465	2786	0002132	0758	14983	556						
036		OBS	T3093	-0033	34649	2786			14999	558						792
036		OBS	3390	-0037	34644	2786			15049	564						794
036		OBS	3551	-0041	3469P	2790P				570						788
036		OBS	T3596	-0052	34629	2785			15079	577						790
036		OBS	T3623	-0059	34631	2786			15080	585						792
036		OBS	T3659	-0066	34632	2786			15084	583						795

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	803	GL	67135S	049577W		520	79	03	11	060	1968		054	3603	20	00	0	X		X1	0	3		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
DT	SD	14	S06	811	-027	-032	6	31	

MESSENGR TIME OF T 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	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	QUAL CODE
		STD	0000	-0182	3397	2736	0007233	0000	14394								
067		OBS	0000	-0182	33969	2736			14394								
		OBS	0009	-0181	34058	2743			14397								
		STD	0010	-0179	3406	2743	0006549	0007	14398								
		OBS	0010	-0179	34058	2743			14398								
		STD	0020	-0170	3421	2756	0005374	0013	14406								
		OBS	0020	-0170	34213	2756			14406								
		OBS	0025	-0152	34407	2771			14418								
		STD	0030	-0147	3449	2777	0003321	0017	14423								
		OBS	0030	-0147	34488	2777			14423								
		STD	0050	-0125	3443	2772	0003802	0024	14435								
		OBS	0050	-0125	34433	2772			14435								
		STD	0075	-0108	3449	2776	0003438	0033	14448								
		OBS	0075	-0108	34487	2776			14448								
		STD	0100	-0067	3453	2779	0003240	0042	14472								
		OBS	0100	-0067	34533	2778			14472								
		STD	0125	-0033	3460	2782	0002893	0049	14493								
		OBS	0125	-0033	34598	2782			14493								
		STD	0150	-0005	3463	2783	0002803	0057	14510								
		OBS	0150	-0005	34628	2783			14510								
		STD	0200	0027	3465	2783	0002789	0070	14534								
		OBS	0200	0027	34653	2783			14534								
		STD	0250	0028	3466	2784	0002720	0084	14542								
		OBS	0250	0028	34663	2784			14542								
		STD	0300	0027	3466	2784	0002715	0098	14550								
		OBS	0300	0027	34663	2784			14550								
		STD	0400	0031	3467	2784	0002697	0125	14569								
		OBS	0400	0031	34669	2784			14569								
		STD	0500	0036	3467	2784	0002704	0152	14588								
		OBS	0500	0036	34673	2784			14588								
		STD	0600	0039	3468	2785	0002654	0179	14606								
		OBS	0600	0039	34683	2785			14606								
		STD	0700	0035	3468	2785	0002631	0205	14621								
		OBS	0700	0035	34683	2785			14621								
		STD	0800	0031	3468	2785	0002605	0231	14636								
		OBS	0800	0031	34683	2785			14636								
		STD	0900	0027	3468	2786	0002578	0257	14651								
		OBS	0900	0027	34683	2786			14651								
		STD	1000	0023	3468	2786	0002549	0283	14666								
		OBS	1000	0023	34683	2786			14666								
		STD	1100	0018	3468	2786	0002524	0308	14680								
		OBS	1100	0018	34681	2786			14680								
		STD	1200	0014	3468	2786	0002506	0333	14695								
		OBS	1200	0014	34679	2786			14695								
		STD	1300	0009	3468	2786	0002470	0358	14710								
		OBS	1300	0009	34678	2786			14710								
		STD	1400	0006	3468	2786	0002449	0383	14725								
		OBS	1400	0006	34677	2786			14725								
		STD	1500	0003	3467	2786	0002449	0407	14741								
		OBS	1500	0003	34673	2786			14741								
		OBS	1600	-0002	34673	2786			14756								
		OBS	1700	-0005	34673	2787			14771								
		STD	1750	-0006	3467	2787	0002355	0467	14779								
		OBS	1800	-0007	34672	2787			14787								
		OBS	1900	-0012	34671	2787			14802								
		STD	2000	-0014	3467	2787	0002275	0525	14819								
		OBS	2000	-0014	34671	2787			14819								

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH 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 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	8037	GL	66330S	050040W		521	60	03	11	180	1968		055	3338	10	00	0	X		X1	7	7		0074

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	507	792	-029	-033	6	15	

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁵	ΣΔD DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	
		STD	0000	-0180	3406	2744	0006523	0000	14396	695							
166		OBS	0000	-0180	34062	2744			14396	695							805
		STD	0010	-0184	3407	2744	000646	0006	14396	704							
166		OBS	0010	-0184	34068	2744			14396	704							804
		STD	0020	-0181	3414	2750	0005908	0013	14400	701							
166		OBS	0026	-0178	34186	2754			14403	695							803
		STD	0030	-0173	3424	2758	0005153	0018	14407	683							
		STD	0050	-0153	3442	2772	0003815	0027	14422	636							
166		OBS	0052	-0152	34432	2773			14423	633							801
		STD	0075	-0148	3447	2776	0003434	0036	14429	616							
166		OBS	0078	-0146	34475	2776			14431	614							801
		STD	0100	-0124	3451	2778	0003195	0045	14445	606							
166		OBS	0104	-0119	34516	2779			14448	603							799
		STD	0125	-0073	3456	2781	0003002	0052	14474	565							
		STD	0150	-0030	3461	2783	0002813	0060	14499	529							
166		OBS	T0155	-0023	34613	2783			14503	523							797
		STD	0200	0017	3465	2784	0002754	0073	14529	489							
166		OBS	0206	0021	34659	2784			14532	486							795
		STD	0250	0028	3467	2785	0002667	0087	14543	481							
		STD	0300	0034	3467	2784	0002705	0100	14554	476							
166		OBS	T0307	0035	34675	2785			14555	475							796
		STD	0400	0038	3468	2785	0002665	0127	14572	473							
166		OBS	0410	0038	34679	2785			14574	473							792
		STD	0500	0042	3468	2785	0002688	0154	14590	469							
166		OBS	0512	0042	34685	2785			14593	468							790
		STD	0600	0043	3469	2785	0002643	0181	14608	468							
166		OBS	T0616	0043	34688	2785			14610	468							791
		STD	0700	0039	3469	2785	0002630	0207	14623	470							
166		OBS	0713	0038	34687	2785			14624	470							792
		STD	0800	0034	3469	2785	0002605	0233	14637	471							
166		OBS	T0814	0033	34686	2786			14639	471							790
		STD	0900	0029	3468	2786	0002586	0259	14652	476							
		STD	1000	0024	3468	2786	0002564	0285	14666	487							
166		OBS	T1014	0023	34682	2786			14668	489							790

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	8037	GL	662215	050529W		521	60	03	12	000	1968		056	3109	10	00	0	X		X1	7	7		0075

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
		10	S15	852	-013	-016	6	15	

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	NH_3-N 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	-0182	3404	2742	0006703	0000	14395	679							
007		OBS	0000	-0182	34038	2742			14395	679							807
		STD	0010	-0184	3403	2741	0006730	0007	14395	691							
007		OBS	0010	-0184	34033	2741			14395	691							808
		STD	0020	-0184	3403	2741	0006738	0013	14397	712							
007		OBS	0026	-0184	34030	2741			14398	714							805
		STD	0030	-0182	3411	2743	0006130	0020	14401	697							
		STD	0050	-0169	3440	2771	0003924	0030	14414	638							
007		OBS	0052	-0167	34414	2772			14416	635							800
		STD	0075	-0143	3447	2776	000345	0039	14432	634							
007		OBS	0078	-0139	34479	2776			14434	631							799
		STD	0100	-0095	3453	2779	0003149	0047	14459	582							
007		OBS	0104	-0087	34539	2779			14464	574							798
		STD	0125	-0046	3458	2781	0002969	0055	14487	544							
		STD	0150	-0010	3462	2783	0002838	0062	14508	517							
007		OBS	0156	-0003	34630	2783			14512	512							794
		STD	0200	0019	3465	2783	0002765	0076	14530	496							
007		OBS	T0208	0022	34653	2783			14533	494							793
		STD	0250	0027	3466	2784	0002737	0090	14542	484							
		STD	0300	0032	3467	2784	0002708	0104	14553	476							
007		OBS	0311	0033	34670	2784			14555	475							787
		STD	0400	0036	3467	2784	0002712	0131	14571	475							
015		OBS	0412	0036	34671	2784			14573	475							790
		STD	0500	0039	3468	2785	0002669	0158	14589	464							
015		OBS	0515	0039	34681	2785			14592	463							790
		STD	0600	0040	3468	2785	000266	0184	14606	465							
015		OBS	0617	0040	34683	2785			14609	466							788
		STD	0700	0036	3468	2785	0002638	0211	14621	475							
015		OBS	T0718	0035	34683	2785			14624	476							786
		STD	0800	0029	3468	2785	0002605	0237	14635	478							
015		OBS	T0813	0028	34681	2785			14637	478							786
		STD	0900	0023	3468	2786	000257	0263	14649	482							
		STD	1000	0019	3468	2786	0002540	0288	14664	490							
015		OBS	T1014	0019	34675	2785			14666	491							789

REFERENCE CTRY CODE	REFERENCE ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	QUAD INCOR.	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	8037	GL	66201S	050529W		521	60	03	12	060	1968		056	3109	30	00	0	X		X1	0	3		0076

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	SD	14	S10	898	-018	-020	6	40	

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	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	SF
		STD	0000	-0183	3397	2736	0007238	0000	14393							
068		OBS	0000	-0183	33968	2736			14393							
		STD	0010	-0163	3420	2754	0005513	0006	14408							
		OBS	0010	-0163	34198	2754			14408							
		STD	0020	-0163	3441	2771	0003895	0011	14412							
		OBS	0020	-0163	34408	2771			14412							
		OBS	0025	-0161	34428	2773			14414							
		STD	0030	-0159	3445	2774	0003602	0015	14416							
		OBS	0030	-0159	34447	2774			14416							
		STD	0050	-0120	3452	2779	0003168	0022	14439							
		OBS	0050	-0120	34518	2779			14439							
		STD	0075	-0064	3458	2782	0002877	0029	14470							
		OBS	0075	-0064	34583	2782			14470							
		STD	0100	-0020	3462	2783	0002807	0036	14495							
		OBS	0100	-0020	34618	2783			14495							
		STD	0125	0003	3463	2783	0002808	0043	14510							
		OBS	0125	0003	34633	2783			14510							
		STD	0150	0017	3464	2783	0002808	0050	14521							
		OBS	0150	0017	34643	2783			14521							
		STD	0200	0025	3465	2783	0002777	0064	14533							
		OBS	0200	0025	34653	2783			14533							
		STD	0250	0032	3466	2784	0002744	0078	14544							
		OBS	0250	0032	34663	2784			14544							
		STD	0300	0033	3467	2784	0002721	0092	14553							
		OBS	0300	0033	34667	2784			14553							
		STD	0400	0038	3468	2784	0002697	0119	14572							
		OBS	0400	0038	34675	2784			14572							
		STD	0500	0041	3467	2784	0002738	0146	14590							
		OBS	0500	0041	34673	2784			14590							
		STD	0600	0036	3468	2785	0002633	0173	14605							
		OBS	0600	0036	34683	2785			14605							
		STD	0700	0033	3468	2785	0002616	0199	14620							
		OBS	0700	0033	34683	2785			14620							
		STD	0800	0028	3468	2786	0002583	0225	14634							
		OBS	0800	0028	34683	2786			14634							
		STD	0900	0024	3468	2785	0002585	0251	14649							
		OBS	0900	0024	34679	2785			14649							
		STD	1000	0017	3468	2786	0002532	0277	14663							
		OBS	1000	0017	34679	2786			14663							
		STD	1100	0013	3468	2786	0002507	0302	14678							
		OBS	1100	0013	34678	2786			14678							
		STD	1200	0008	3468	2786	0002472	0327	14692							
		OBS	1200	0008	34677	2786			14692							
		STD	1300	0004	3468	2786	0002436	0351	14708							
		OBS	1300	0004	34677	2786			14708							
		STD	1400	0000	3468	2786	0002412	0375	14723							
		OBS	1400	0000	34675	2786			14723							
		STD	1500	-0004	3467	2786	0002387	0399	14738							
		OBS	1500	-0004	34673	2786			14738							
		OBS	1600	-0008	34671	2787			14753							
		OBS	1700	-0012	34670	2787			14768							
		STD	1750	-0013	3467	2787	0002312	0458	14776							
		OBS	1800	-0014	34669	2787			14784							
		OBS	1900	-0017	34669	2787			14800							
		STD	2000	-0021	3467	2787	0002221	0515	14815							
		OBS	2000	-0021	34669	2787			14815							
		OBS	2100	-0023	34668	2787			14832							
		OBS	2200	-0025	34668	2787			14848							
		OBS	2300	-0027	34668	2787			14864							
		OBS	2400	-0029	34668	2787			14881							
		STD	2500	-0031	3467	2787	0002071	0622	14897							
		OBS	2500	-0031	34668	2787			14897							
		OBS	2600	-0033	34668	2788			14913							
		OBS	2700	-0034	34667	2787			14930							
		OBS	2800	-0037	34663	2787			14946							
		OBS	2900	-0042	34658	2787			14961							
		STD	3000	-0051	3465	2787	0001884	0721	14975							
		OBS	3000	-0051	34653	2787			14975							

REFERENCE		SHIP	LATITUDE	LONGITUDE	DUPE 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	NO.	CODE	° 1/10	° 1/10		10°	1°	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	65481S	050505W		521	51	03	12	180	1968		057	3210	09	00	0	X		X1	7	7		0077

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			
		14	509	930	-025	-034	6	15	

MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10^7	$\Sigma\Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	
		STD	0000	-0179	3398	2737	0007186	0000	14395	699							
179		OBS	0000	-0179	33976	2737			14395	699						810	
179		OBS	0008	-0184	33975	2737			14394	699						810	
		STD	0010	-0184	3397	2737	0007184	0007	14395	699							
		STD	0020	-0182	3397	2736	000721*	0014	14397	697							
179		OBS	0021	-0182	33970	2736			14397	697						810	
		STD	0030	-0176	3397	2737	0007188	0022	14402	697							
179		OBS	0044	-0168	33981	2737			14408	696						809	
		STD	0050	-0166	3412	2748	0006080	0035	14412	674							
179		OBS	0065	-0161	34357	2767			14420	634						805	
		STD	0075	-0157	3439	2770	0004020	0047	14424	627							
179		OBS	0087	-0149	34430	2773			14430	619						803	
		STD	0100	-0130	3445	2774	0003633	0057	14442	616							
		STD	0125	-0094	3449	2776	0003450	0066	14463	600							
179		OBS	0131	-0085	34503	2776			14469	594						802	
		STD	0150	-0056	3455	2779	0003147	0074	14486	563							
179		OBS	0175	-0024	34602	2782			14505	530						798	
		STD	0200	-0006	3463	2783	0002779	0089	14518	512							
		STD	0250	0020	3466	2784	0002695	0103	14539	488							
179		OBS	0263	0025	34665	2784			14543	484						798	
		STD	0300	0029	3467	2784	0002674	0116	14551	485							
179		OBS	0350	0034	34675	2785			14562	487						797	
		STD	0400	0037	3468	2785	0002653	0143	14572	478							
179		OBS	T0435	0038	34684	2785			14578	473						797	
		STD	0500	0039	3469	2785	0002632	0169	14589	469							
179		OBS	T0523	0039	34686	2785			14593	468						797	
		STD	0600	0038	3469	2785	0002625	0195	14606	471							
179		OBS	T0631	0037	34686	2785			14610	473						796	
		STD	0700	0034	3469	2785	0002608	0222	14620	478							
179		OBS	T0730	0033	34685	2785			14625	480						796	
		STD	0800	0030	3468	2786	0002590	0248	14635	484							
		STD	0900	0026	3468	2786	0002570	0273	14650	488							
179		DBS	T0929	0025	34682	2786			14655	489						796	

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH UNCERTAIN	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	NO.					10°	1°	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31	8037	GL	65142S	050475W		52	50	03	13	000	1968		058	3219	13	00	0	X		X1	7	7		007H

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			
		13	S13	973	-012	-016	7	18	

MESSENGR TIME OF HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10⁷	ΣΔΟ DYN. M. x 10³	SOUND VELOCITY	O₂ ml/l	PO₄-P µg-at/l	NH₃-N µg-at/l	NO₂-N µg-at/l	NO₃-N µg-at/l	SiO₄-Si µg-at/l	pH	
		STD	0000	-0190	3334	2685	0012053	0000	14381	816							
014		OBS	0000	-0190	33340	2685			14381	816							818
		STD	0010	-0185	3333	2684	0012135	0012	14387	836							
014		OBS	0010	-0180	33331	2684			14387	836							819
		STD	0020	-0175	3371	2715	0009225	0023	14397	760							
014		OBS	0026	-0172	33897	2730			14422	751							809
		STD	0030	-0171	3401	2739	0006925	0031	14405	737							
		STD	0050	-0164	3441	2772	0003862	0042	14417	679							
014		OBS	0052	-0163	34438	2774			14418	674							805
		STD	0075	-0138	3440	2777	0003312	0051	14434	632							
014		OBS	0077	-0135	34497	2778			14436	628							802
		STD	0100	-0087	3455	2780	0003027	0059	14463	577							
014		OBS	0103	-0081	34556	2781			14467	571							797
		STD	0125	-0045	3459	2782	0002897	0066	14487	544							
		STD	0150	-0015	3462	2783	0002812	0073	14506	518							
014		OBS	0155	-0010	34630	2783			14509	514							796
		STD	0200	0014	3465	2784	0002737	0087	14528	486							
014		OBS	T0206	0016	34657	2784			14530	484							794
		STD	0250	0019	3466	2784	0002674	0100	14538	485							
		STD	0300	0023	3467	2785	0002661	0114	14549	487							
014		OBS	0308	0024	34668	2785			14550	487							794
		STD	0400	0036	3468	2785	0002646	0140	14571	472							
019		OBS	0410	0037	34683	2785			14573	471							792
		STD	0500	0039	3469	2785	0002617	0167	14589	467							
019		OBS	T0509	0039	34687	2785			14591	466							791
		STD	0600	0039	3469	2785	0002624	0193	14606	468							
019		OBS	0611	0039	34687	2785			14608	468							792
		STD	0700	0037	3469	2785	0002623	0219	14622	468							
019		OBS	T0716	0036	34686	2785			14624	468							791
		STD	0800	0032	3469	2786	0002590	0245	14636	472							
019		OBS	0813	0031	34686	2786			14638	473							791
		STD	0900	0023	3469	2786	0002532	0271	14649	486							
071		OBS	0919	0022	34685	2786			14652	488							793
		STD	1000	0019	3468	2786	0002552	0296	14664	491							
019		OBS	T1014	0018	34677	2786			14666	491							792
071		OBS	T1018	0015	34678	2786			14665	500							792
		STD	1100	0012	3468	2786	0002499	0321	14677	504							
		STD	1200	0008	3468	2786	0002475	0346	14693	508							
		STD	1300	0005	3468	2786	0002442	0371	14708	512							
071		OBS	T1321	0004	34677	2786			14711	513							792

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	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	8037	GL	643605	050350W		521	40	03	13	180	1968		059	3146	10	00	0	X		X1	7	7		0079

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			
		20	S14	077	-054	-059	7	15	

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. $\times 10^3$	SOUND VELOCITY	O_2 ml/l	PO_4-P µg-at/l	NH_3-N µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	SiO_4-Si µg-at/l	pH	QUAL CODE
		STD	0000	-0178	3369	2714	0009379	0000	14392	756							
179		OBS	0000	-0178	33691	2714			14392	756						815	
		STD	0010	-0181	3368	2713	0009419	0009	14392	763							
179		OBS	0010	-0181	33684	2713			14392	763						816	
		STD	0020	-0178	3373	2717	0009065	0019	14396	706							
179		OBS	0025	-0176	33788	2721			14398	684						815	
		STD	0030	-0174	3396	2735	0007301	0027	14402	674							
		STD	0050	-0165	3442	2772	0003780	0038	14416	645							
179		OBS	0051	-0165	34434	2774			14417	644						809	
		STD	0075	-0167	3447	2777	0003379	0047	14420	629							
179		OBS	0076	-0167	34476	2777			14421	628						808	
		STD	0100	-0158	3450	2779	0003177	0055	14429	624							
179		OBS	0102	-0157	34500	2779			14430	623						807	
		STD	0125	-0121	3453	2780	0003042	0063	14451	597							
		STD	0150	-0088	3456	2781	0002932	0070	14471	573							
179		OBS	0153	-0084	34568	2782			14474	571						805	
		STD	0200	-0038	3461	2783	0002766	0085	14503	545							
179		OBS	T0206	-0033	34612	2783			14507	542						805	
		STD	0250	-0016	3463	2783	0002744	0098	14522	528							
		STD	0300	-0001	3465	2784	0002686	0112	14537	515							
179		OBS	0306	0000	34647	2784			14539	514						804	
		STD	0400	0015	3466	2784	0002665	0139	14561	501							
179		OBS	0407	0016	34662	2785			14563	500						802	
		STD	0500	0022	3467	2785	0002666	0165	14581	492							
179		OBS	0508	0023	34666	2784			14583	491						802	
		STD	0600	0027	3467	2785	0002667	0192	14600	490							
179		OBS	T0606	0027	34673	2785			14601	490						801	
		STD	0700	0026	3467	2785	0002634	0218	14617	490							
179		OBS	0712	0026	34674	2785			14619	490						801	
		STD	0800	0023	3467	2785	0002629	0245	14632	497							
179		OBS	T0814	0022	34672	2785			14634	498						800	
		STD	0900	0018	3467	2785	0002607	0271	14646	502							
		STD	1000	0014	3467	2785	0002576	0297	14661	504							
179		OBS	T1013	0013	34670	2785			14663	504						799	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPTH 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	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	8037	GL	6349 S	05036 W		521	30	03	14	060	1968		060	2487	21	00	0	A		X7	6	5		0080

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			
		19	S15	105	-086	-090	6	21	

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	NH_3-N 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	-0182	33663	2709	0009839	0000	14389	754							
051		OBS	0000	-0182	33630	2709			14389	754						808	
		STD	0010	-0182	3363	2708	000987	0010	14391	768							
051		OBS	0010	-0182	33625	2708			14391	768						806	
		STD	0020	-0182	3368	2713	000944	0020	14393	757							
051		OBS	0026	-0182	33751	2719			14395	745						807	
		STD	0030	-0180	3389	2730	0007824	0028	14399	723							
		STD	0050	-0167	3438	2769	0004079	0040	14414	648							
051		OBS	0051	-0168	34393	2770			14415	646						806	
		STD	0075	-0167	3445	2775	0003532	0050	14420	639							
051		OBS	0077	-0167	34455	2775			14421	638						803	
		STD	0100	-0161	3449	2778	0003260	0058	14428	621							
051		OBS	T0102	-0160	34489	2778			14428	619						801	
		STD	0125	-0143	3451	2779	0003120	0066	14441	597							
		STD	0150	-0120	3453	2780	0003036	0074	14456	576							
051		OBS	0153	-0117	34537	2780			14458	574						799	
		STD	0200	-0055	3459	2782	0002836	0088	14495	548							
051		OBS	0204	-0051	34598	2783			14498	546						799	
		STD	0250	-0023	3462	2783	0002759	0102	14519	527							
		STD	0300	-0001	3464	2784	0002724	0116	14537	513							
051		OBS	0305	0001	34646	2784			14539	512						797	
		STD	0400	0015	3466	2784	0002687	0143	14561	504							
051		OBS	0406	0016	34658	2784			14563	503						794	
		STD	0500	0023	3467	2785	0002643	0170	14582	492							
051		OBS	T0507	0024	34674	2785			14583	491						796	
		STD	0600	0027	3468	2785	0002592	0196	14600	487							
051		OBS	T0607	0027	34680	2785			14602	487						797	
		STD	0700	0023	3468	2786	0002569	0222	14615	487							
051		OBS	0708		34680					487						796	
		STD	0800	0019	3468	2786	0002542	0247	14630	495							
051		OBS	T0808	0019	34675	2785			14632	496						796	
		STD	0900	0016	3468	2786	0002543	0273	14645	502							
149		OBS	T0914	0015	34676	2786			14647	503						791	
		STD	1000	0015	3468	2786	0002546	0298	14662	504							
051		OBS	T1008	0013	34675	2786			14662	504						795	
149		OBS	1016	0011	34672	2786			14663	507						790	
		STD	1100	0007	3467	2786	0002519	0324	14675	510							
		STD	1200	0003	3467	2786	0002483	0349	14690	515							
149		OBS	T1269	0000	34665	2786			14700	518						791	
		STD	1300	-0002	3467	2786	0002475	0373	14705	520							
		STD	1400	-0006	3466	2786	000245	0398	14720	525							
		STD	1500	-0011	3466	2786	0002408	0422	14734	530							
149		OBS	1527	-0012	34661	2786			14736	531						791	
		STD	1750	-0019	3466	2786	0002330	0481	14773	540							
149		OBS	1838	-0023	34658	2786			14786	544						789	
		STD	2000	-0030	3466	2786	0002228	0535	14811	551							
149		OBS	T2149	-0036	34654	2787			14833	558						792	

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	5037	GL	6349 S	05036 W		521	30	03	14	090	1968		060	2487	25	00	0	X		X1	0	3		0081

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	S14	111	-095	-101	6	35	

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	PO_4-P µg-at/l	NH_3-N 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	-0178													
079		OBS	0000	-0178													
		STD	0010	-0183													
		OBS	0010	-0183													
		STD	0020	-0168													
		OBS	0020	-0168													
		OBS	0025	-0163													
		STD	0030	-0163	3360	2706	0010107		14402								
		OBS	0030	-0163	33596	2706			14402								
		STD	0050	-0166	3389	2729	0007860		14408								
		OBS	0050	-0166	33888	2729			14408								
		STD	0075	-0165	3417	2752	0005699		14417								
		OBS	0075	-0165	34168	2752			14417								
		STD	0100	-0148	3450	2779	0003169		14434								
		OBS	0100	-0148	34503	2779			14434								
		STD	0125	-0120	3454	2781	0002985		14452								
		OBS	0125	-0120	34538	2781			14452								
		STD	0150	-0094	3456	2781	0002930		14468								
		OBS	0150	-0094	34557	2781			14468								
		STD	0200	-0031	3462	2783	0002740		14507								
		OBS	0200	-0031	34618	2783			14507								
		STD	0250	-0007	3463	2783	0002747		14526								
		OBS	0250	-0007	34633	2783			14526								
		STD	0300	0004	3464	2783	0002760		14539								
		OBS	0300	0004	34639	2783			14539								
		STD	0400	0021	3466	2784	0002740		14564								
		OBS	0400	0021	34655	2784			14564								
		STD	0500	0024	3466	2784	0002692		14582								
		OBS	0500	0024	34664	2784			14582								
		STD	0600	0027	3467	2784	0002684		14600								
		OBS	0600	0027	34668	2784			14600								
		STD	0700	0023	3467	2785	0002657		14615								
		OBS	0700	0023	34668	2785			14615								
		STD	0800	0021	3467	2785	0002644		14631								
		OBS	0800	0021	34668	2785			14631								
		STD	0900	0016	3467	2785	0002607		14645								
		OBS	0900	0016	34668	2785			14645								
		STD	1000	0012	3467	2785	0002575		14660								
		OBS	1000	0012	34668	2785			14660								
		STD	1100	0007	3467	2786	0002534		14675								
		OBS	1100	0007	34668	2786			14675								
		STD	1200	0004	3467	2786	0002506		14690								
		OBS	1200	0004	34668	2786			14690								
		STD	1300	0001	3467	2786	0002477		14706								
		OBS	1300	0001	34668	2786			14706								
		STD	1400	-0002	3467	2786	0002447		14722								
		OBS	1400	-0002	34668	2786			14722								
		STD	1500	-0005	3467	2786	0002416		14737								
		OBS	1500	-0005	34668	2786			14737								
		OBS	1600	-0006	34668	2786			14754								
		OBS	1700	-0010	34668	2786			14769								
		STD	1750	-0012	3467	2786	0002336		14777								
		OBS	1800	-0015	34668	2787			14784								
		OBS	1900	-0023	34666	2787			14797								
		STD	2000	-0031	3467	2787	0002138		14811								
		OBS	2000	-0031	34667	2787			14811								
		OBS	2100	-0046	34665	2788			14821								
		OBS	2200	-0059	34663	2788			14832								
		OBS	2300	-0076	34663	2789			14842								
		OBS	2400	-0086	34665	2790			14854								
		STD	2500	-0102	3466	2790	0001399		14864								
		OBS	2500	-0102	34658	2790			14864								

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