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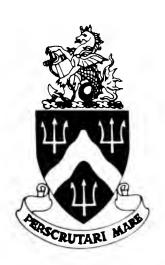
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REPORT No. 30



OCEANOGRAPHY OF THE WEDDELL SEA

January-March 1968

Robert B. Elder James M. Seabrooke

WASHINGTON, D.C.



April 1970





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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OCEANOGRAPHY OF THE WEDDELL SEA 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 suit-

able 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 salinitytemperature-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 3/4 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 (C14 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. Sinniff of the University of Minnesota, Museum of Natural History. Census-taking was achieved by counting the number of seals within 1/4 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 the wide-spread among 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, Occanographic Technician.

SOI-SI John M. MURPHY, USCG, Ocean-ographic Technician.

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

SO2-SI Robert C. MURRELL, USCG, Oceanographic Technician.

YN2 Dwight E. OLSON, USCG, Oceano-graphic Technician.

SN Scott B. ROBERTSON, USCG, Ocean-ographic Technician.

IWSOE'68 Cruise Procedure

The International Weddell Sea Oceanographic Expedition, 1968, was scheduled to begin upon termination of USCGC GLAC-IER'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 chlorophy!l 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 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.

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

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 ½ 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 seechi disc was used to determine light extinction. A submarine photometer was also used from time to time as a further measurement of light penetration.

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 ($<-1.9^{\circ}$ C.) saline ($>34.60^{\circ}/_{00}$) water which was found on the continental shelf below about 200 meters and the Warm Deep Layer ($>0.2^{\circ}$ C. and $>34.67^{\circ}/_{00}$, 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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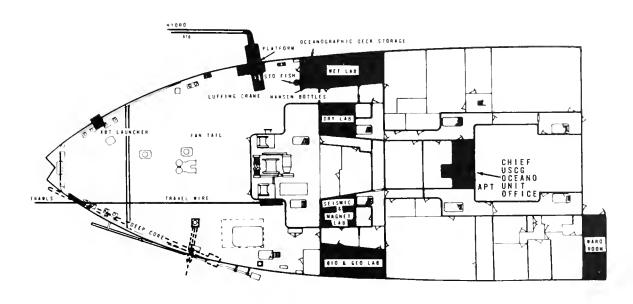
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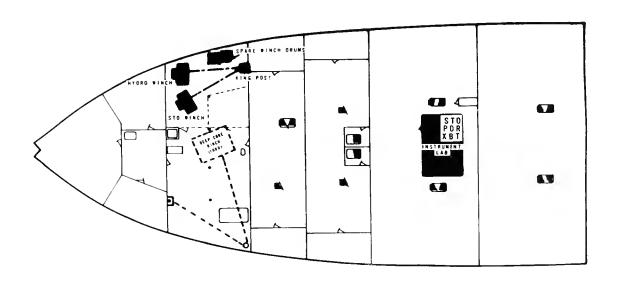
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MAIN DECK AFT OCEANOGRAPHIC SPACES



SECOND DECK AFT

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

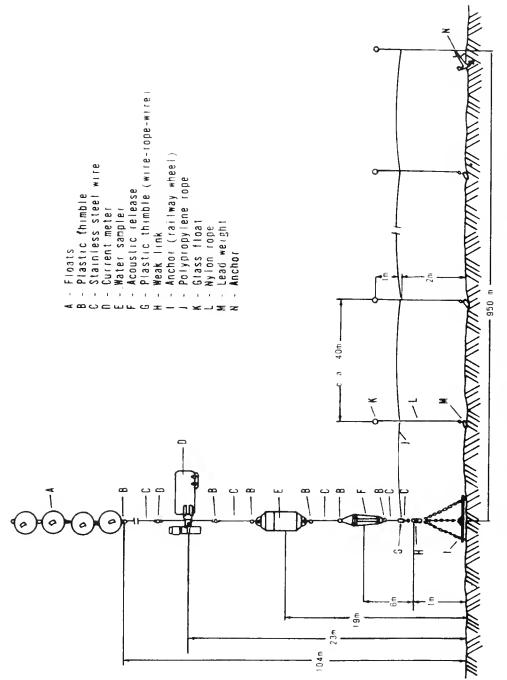


Figure 2. University of Bergen current meter system. After Kvinge, 1968.

STATION LOCATION CHART - IWSOE 1968

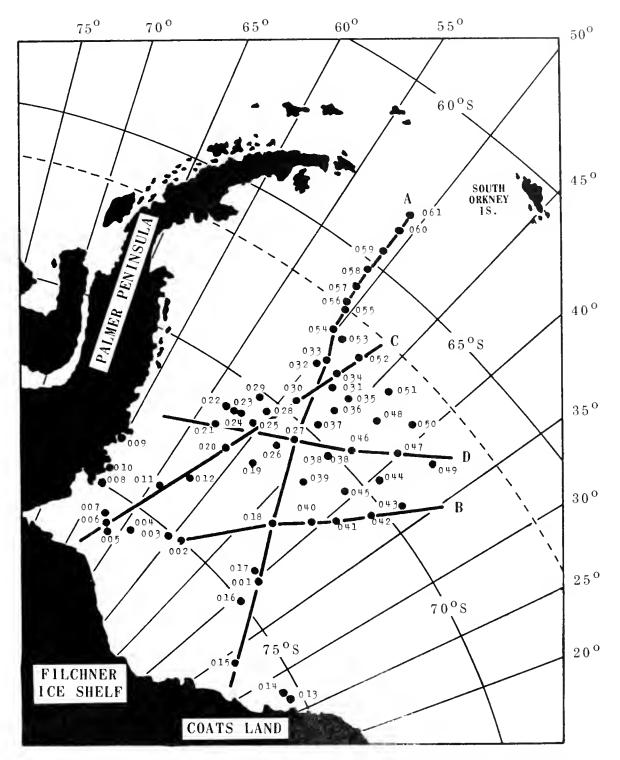


Figure 3. Locations of stations and sections for the 1968 International Weddell Sea Oceanographic Expedition.

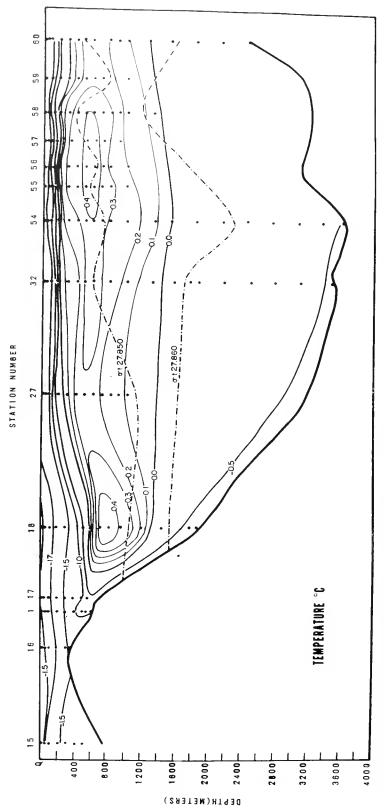


Figure 4. Vertical distribution of temperature (°C) with selected isopycnals (\(\sigma t\), in g/l) along Section A. Contour intervals are 0.1°C in the 0.0 to 0.4°C range, 0.5°C in the 0.0 to -1.5°C range, and 0.2°C in the -1.5 to -1.7°C range.

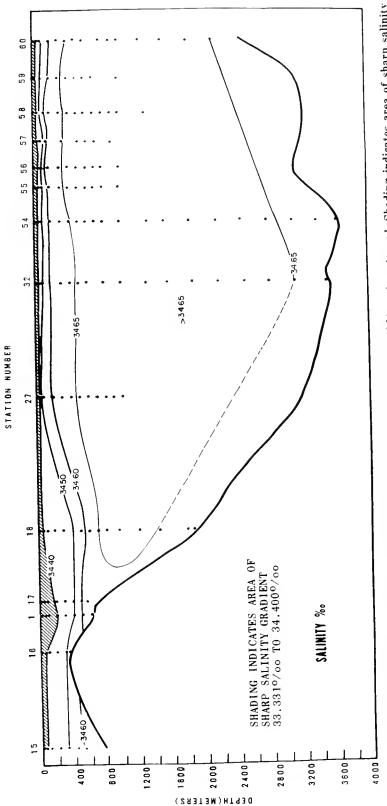


Figure 5. Vertical distribution of salinity (0/100) along Section A. Values less than 34.40 0/100 not contoured. Shading indicates area of sharp salinity gradient (33.331 $^{\circ}/_{\odot}$ to 34.400 $^{\circ}/_{\odot}$).

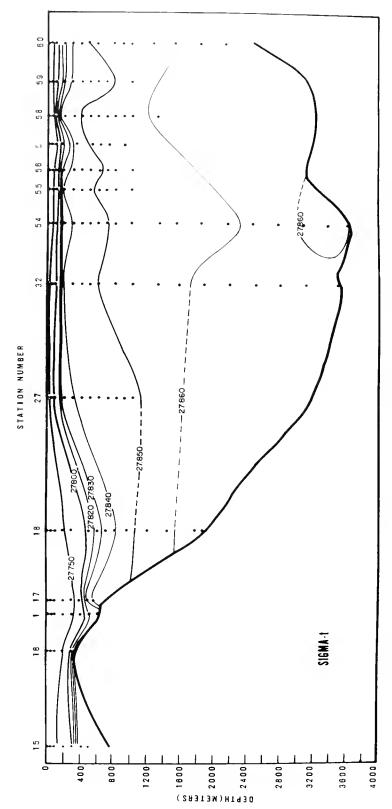


Figure 6. Vertical distribution of density (σt, in g/l) along Section A. Values less than 27.750 g/l not contoured.

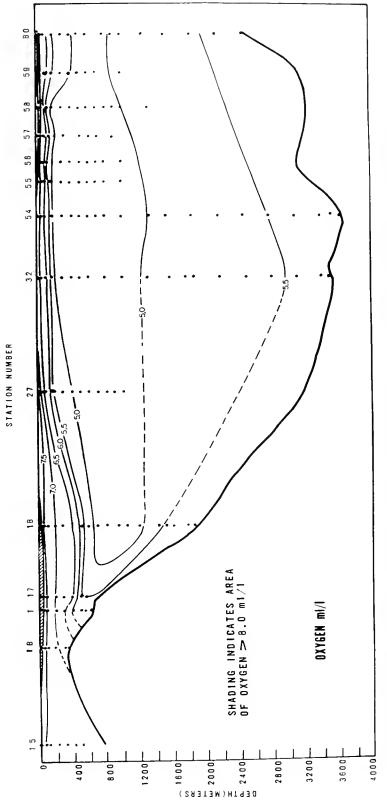


Figure 7. Vertical distribution of dissolved oxygen (ml/l) along Section A. Shading indicates area of oxygen greater than 8.0 ml/l.

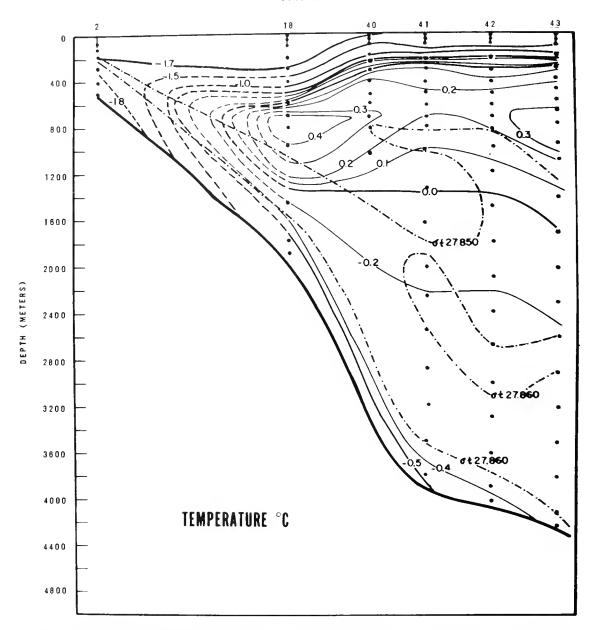


Figure 8. Vertical distribution of temperature (°C) with selected isopycnals (σ t in g/l) along Section B. Contour intervals are 0.1°C in the -0.4 to -0.5°C and 0.0 to 0.4°C ranges, 0.2°C in the -1.5 to -1.7°C and -0.4 to 0.0°C ranges and 0.5°C in the -1.5 to -0.5°C range.

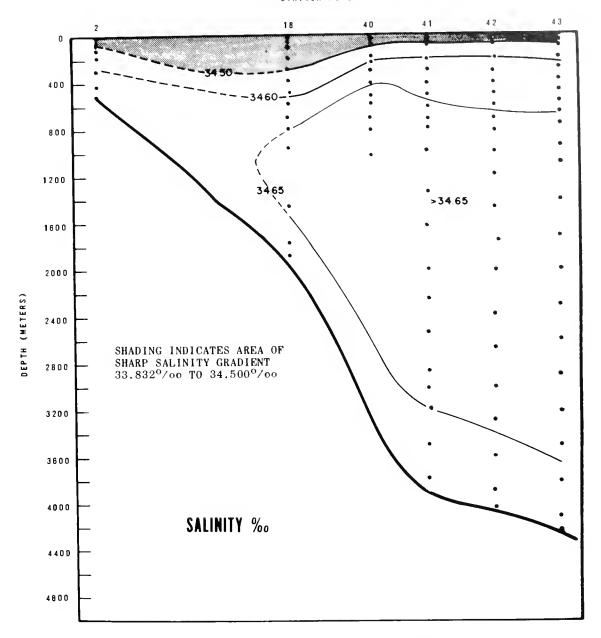


Figure 9. Vertical distribution of salinity ($^{\circ}/_{00}$) along Section B. Values less than 34.50 $^{\circ}/_{00}$ not contoured. Shading indicates area of sharp salinity gradient (33.832 $^{\circ}/_{00}$ to 34.500 $^{\circ}/_{00}$).

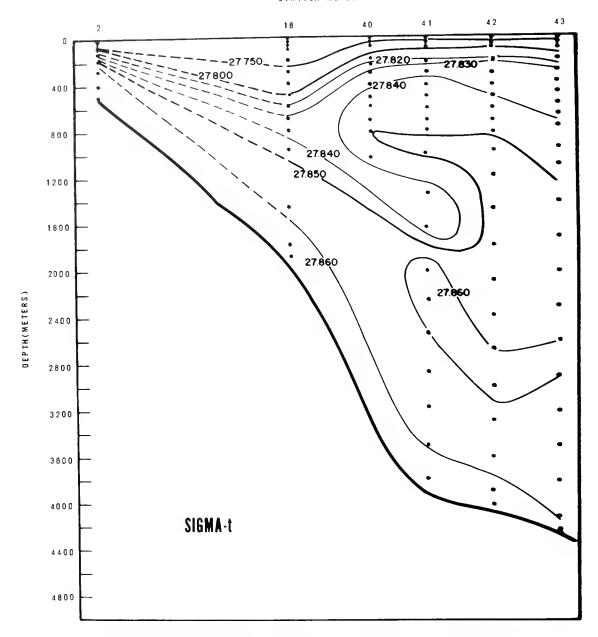


Figure 10. Vertical distribution of density (σt , in g/l) along Section B. Values less than 27.750 g/l not contoured.

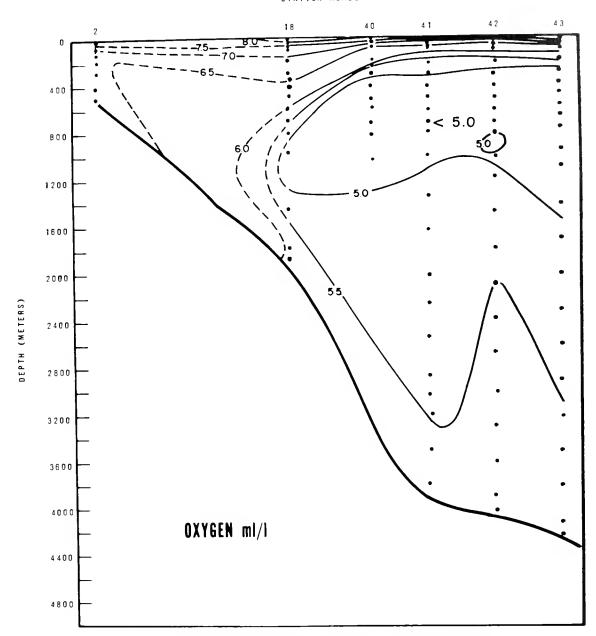


Figure 11. Vertical distribution of dissolved oxygen (ml/l) along Section B.

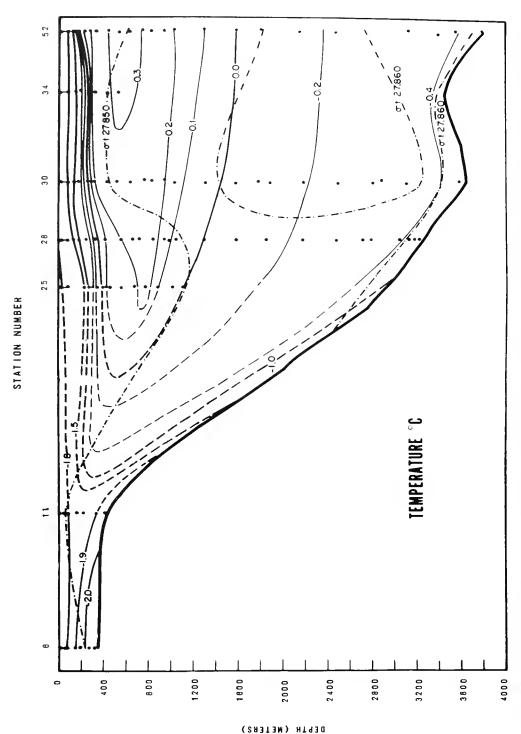


Figure 12. Vertical distribution of temperature (°C) with selected isopycnals (σt, in g/l) along Section C. Contour intervals are 0.1°C in the 0.3°C range, 0.2°C in the 0.0 to -0.4°C range, 0.6°C in the -0.4 to -1.0°C range, 0.5°C in the -1.0 to -1.5°C in the -1.0°C range, 0.5°C range range, 0.3°C in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

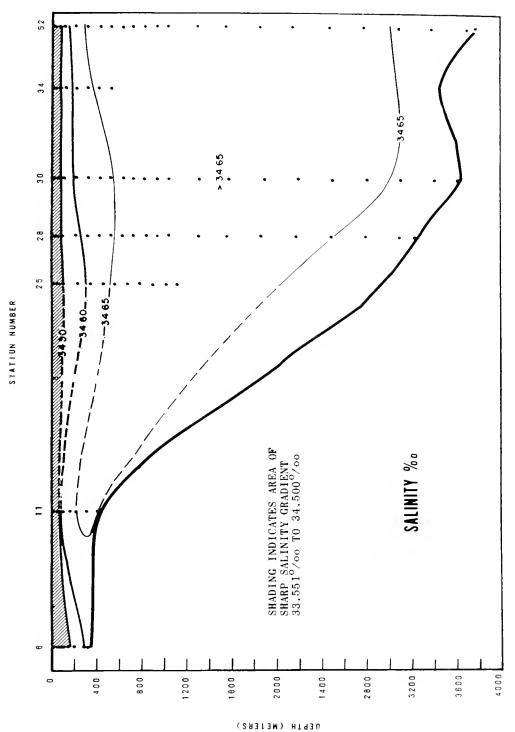


Figure 13. Vertical distribution of salinity ($^{0}/_{\omega}$) along Section C. Values less than 34.50 $^{0}/_{\omega}$ not contoured. Shading indicates area of sharp salinity gradient (33.551 $^{0}/_{\omega}$ to 34.500 $^{0}/_{\omega}$).

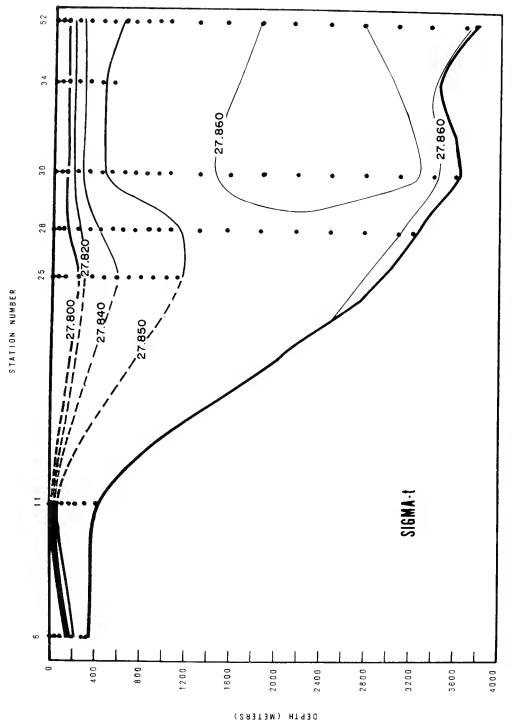


Figure 11. Vertical distribution of density (at, in g/1) along Section C. Values less than 27.800 g/1 not contoured.

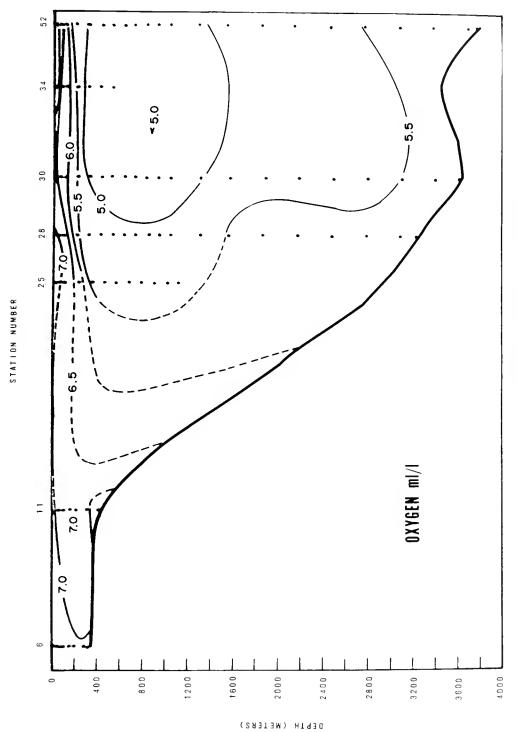


Figure 15. Vertical distribution of dissolved oxygen (ml/1) along Section C.

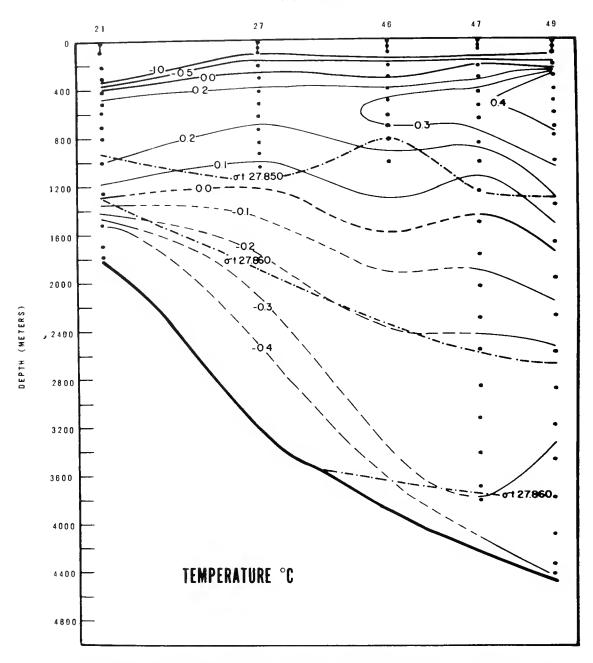


Figure 16. Vertical distribution of temperature (°C) with selected isopycnals (σt , in g/l) along Section D.

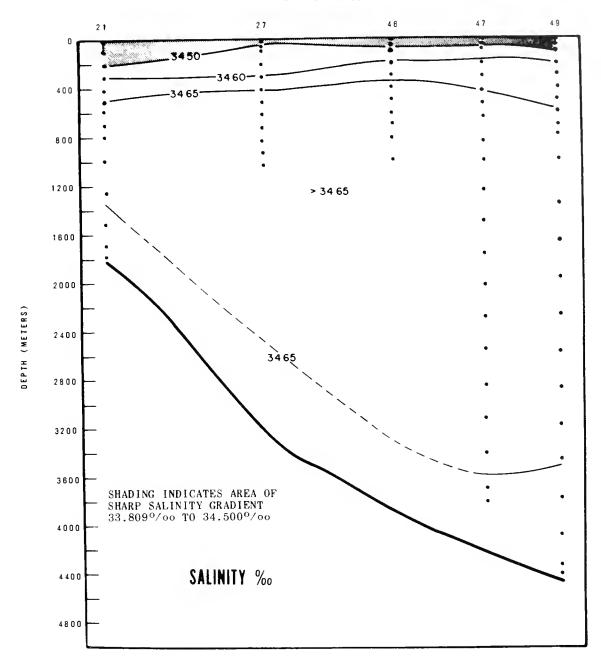


Figure 17. Vertical distribution of salinity ($^{\circ}/_{00}$) along Section D. Values less than 34.50 $^{\circ}/_{00}$ not contoured. Shading indicates area of sharp salinity gradient (33.809 $^{\circ}/_{00}$ to 34.500 $^{\circ}/_{00}$).

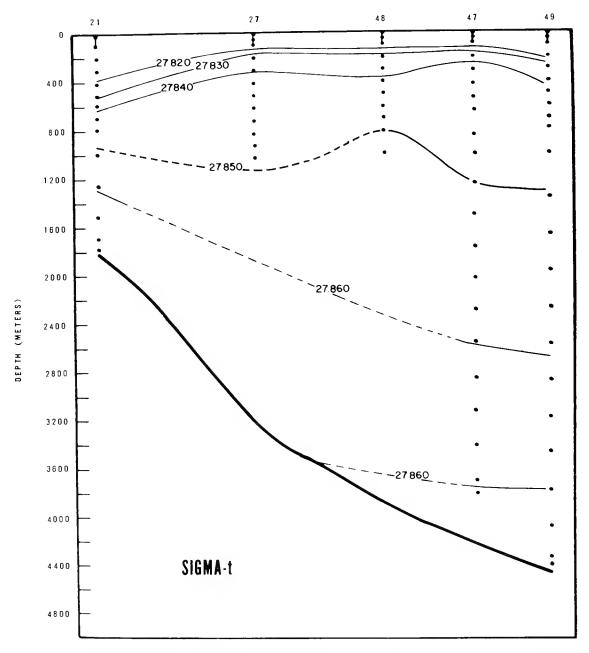


Figure 18. Vertical distribution of density (σ t, in g/l) along Section D. Values less than 27.820 g/l not contoured.

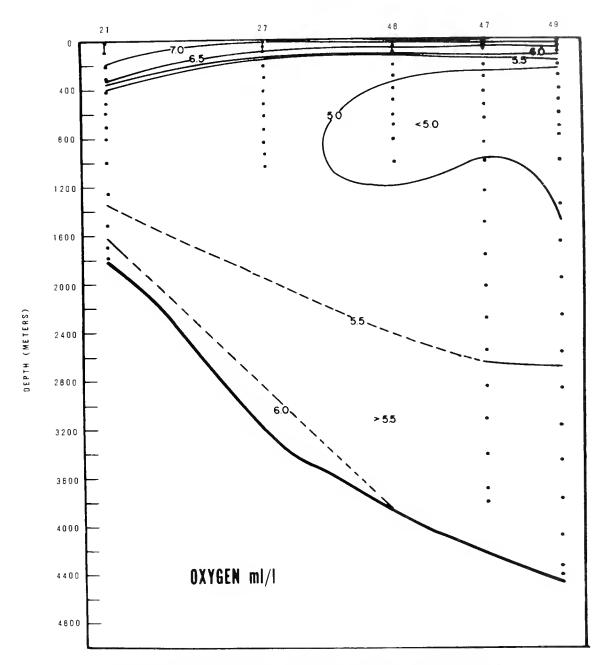


Figure 19. Vertical distribution of dissolved oxygen (ml/l) along Section D.

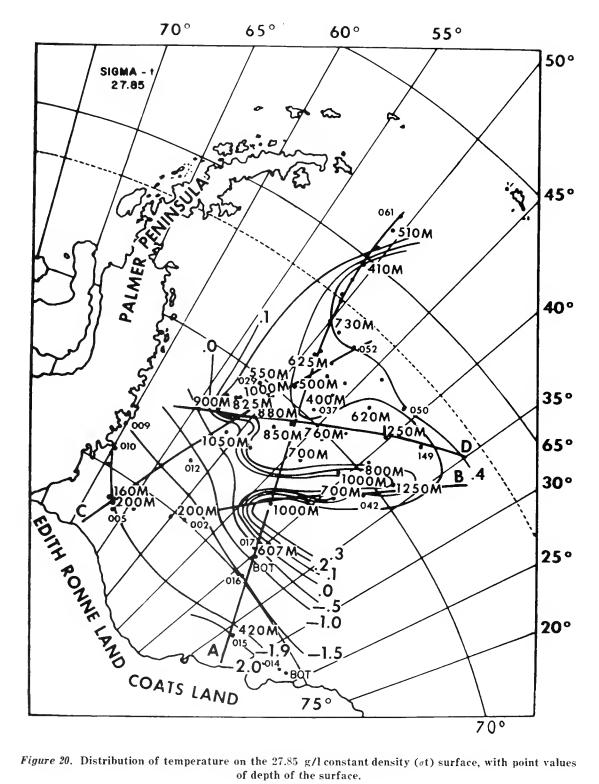


Figure 20. Distribution of temperature on the 27.85 g/l constant density (\sigma t) surface, with point values of depth of the surface.

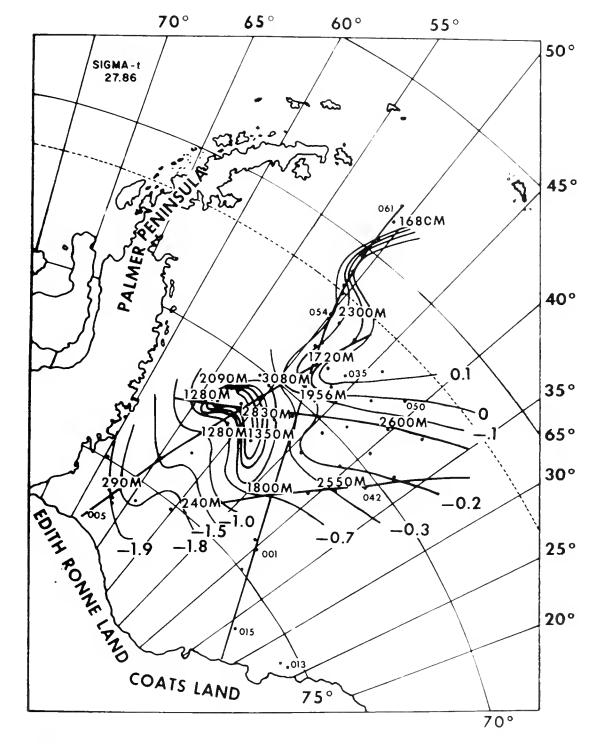


Figure 21. Distribution of temperature on the 27.86 g/l constant density (σ t) surface, with point values of depth of the surface.

WEDDELL SEA BOTTOM TOPOGRAPHY

(prepared by Dr. Thor Kvinge)

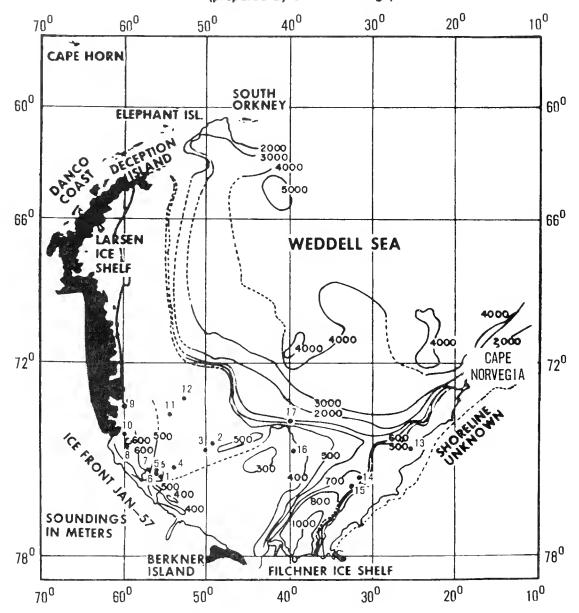


Figure 22. Weddell Sea bottom topography (prepared by Thor Kvinge).

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.

self-explanatory	are ue	astribed below.
Depth to Bottom Max. Depth of San Wave observations		Corrected or uncorrected sounding in meters. Depth of deepest sample to nearest multiple of one hundred meters.
		Rounded to nearest multiple of ten degrees. 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 Weather Code		Sea state according to WMO Code 3700 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. 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.
		Transparency in whole meters as determined by Secchi disc.
Wind		D. I. I
Speed or For	ce	Rounded to nearest multiple of ten degrees. 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		
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 °/00		
SIGMA-T		Entered to hundredths.
Specific-volume		Multiply entry by 10 ⁻⁷ to obtain specific-volume anomaly in cubic centimeters per gram.
Anomaly— $x 10^{\circ}$		1 C. Lauria haight in dynamic meters refer-
Σ∆D Dyn. M. x 1	.0 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 avvgen 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 μ g-at/l		Total phosphous in microgram-atoms per liter entered to hundredths.
NO ₂ -N μg-at/1		Nitrate-nitrogen in microgram-atoms per liter entered to tenths.

Nitrate-nitrogen in microgram-atoms per liter entered to tenths.

SiO₄-Si μg-at/l _____Silicate-silicon in microgram-atoms per liter entered to whole units.

NO₃-N μg-at/l

Entered to hundredths.

REFE	RENCE		SHIP			NUFT OCTR	MARS		STA	HON		W. 40		ORIGINATOR'S	DEPTH	MAX. DEPTH		WAV			WEA-		2300	NODC
CODE	ID. NO.	0	DDE	LATITUDE 1/10	LONGITUDE	DIO N	10*	1.	MD		HR_1/10	YE AR	CRUISE NO.	STATION NUMBER	BOTTOM	OF S'MPL'S	DIR.	HGT		SEA	CODE			STATION
3 I	B03	7	GL	740751	039365W		555	49	02	06	208	1968		001	0640	06	00	0	X		× 1	6	6	0001

ĺ	WAT	ER	, v	VIND	BARO-	AIR TE	MP C		NO.	SPECIAL
ĺ	CODE	TRANS.	DIR.	SPEED OR FORCE	METER (mbs)	DRY BULB	W ET BULB	COD6	OBS. DEPTHS	OBSERVATIONS
i			3.0	504	011	010	0.22	-		

MESSENGR	CASI	CARD			/		SPECIFIC VOLUME	≨ ∆ D	SOUND		PO4-P	NH1-N	NO 2-N	ND3-N	SI O4-SI	
HR 1/10	NO,	TYPE	DEPTH (m)	1 ,C	5 %.	SIGMA-T	ANOMALT-X107	X 10 ³	VELOCITY	D2 ml/l	νg = 01/1	μ ο • α1/1	₽g − αl/l	ا/10 - ولا	µg = a1/1	ρН
		STD	0000	-0139	3386	2727	0008147	0000	14413	864						
2118		OBS	1000	-0139	33864	2727			14413	864	156			224	044	825
		SID	0010	-0153	3387	2728	0008034	0008	14408	850						
208		OBS	0010	-0153	33873	2728			14408	850	159			199	045	826
		SID	0020	-0148	3406	2743	0006606	0015	14414	827						
208		085	2026	-0147	34152	2750			14417	815	176			245	053	825
		STO	2030	-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	1103	-0178	34352	2767			14418	726	210			330	068	822
		STD	1125	-0179	3436	2768	000416	2065	14422	720						
		STD	0150	-0180	3437	2769	0004066	0075	14425	712						
208		OBS	TO 155	-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	2003744	0114	14449	672						
		STD	0300	-015I	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	<u>0</u> 002664	0194	14522	595						
2 18		085	T1520	-0^840	34573	27820				598	231			315	090	819
		STD	1600	-0103	3457	2783	0002642	0221	14539	579						
208		OBS	T0627	-0102	34561	2782			14544	566	249			311	094	830

CI	RY DE	ID. NO.	SHIP	LATITUDE 1/10		DIUFT	MARS SDU		ST.	TION			CRUISE NO.	STATION NUMBER	DEPTH 10 6DTTOM	MAX. DEPTH OF S'MPL'S	OBSERV	AVE ATIONS	WEA- THER CODE	CODES	NODC STATION NUMBER
1	316	1037	GL	745595	0484 <u>0</u> 5W		556	48	0.2	8.0	000	1968	Ц	002	0544	0.5	00 0	X	х1	0 3	0002

WATER WIND

BARODOR TEAMS DIR. DIR. OF FORCE (mbs) BULE BULE

DT SD 19 508 959 019 022 7 16

			DT	SD I9	508	959 -019 -0	22 7	16								
MESSENGE CAST	CARD TYPE	DEPTH (m)	1.5	5 %.	SIGMA-	SPECIFIC VOLUME	≨ △ D DYN. M. x 10 ³	SOUND	O2 ml/l	PO 4-P	NH 3 - N		NO3~N vg = at/1	\$1 D4-\$1 pg - a1/\$	ρН	SCC
																\top
	STD	0000	-0173	3393	2733	0007568	0000	14397		1	'	,	1			
015	OBS	0000	-0173	33928	2733			14397								
	STO	0010 •	-0159	3420	2754	0005523	0007	14410								
	OBS	0010	-0159	34198	2754			14410								
	OBS	2016	-0159	34238	2757			14411								
	STD	0020	-0166	3437	2768	0004194	0011	14410								
	035	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								
	035	0050	-0165	34463	2776			14417								
	STD	0075	-0166	3452	2780	0003014	0031	14422								
	OBS	0075	-0166	34518	2780			14422								
	STD	0100	-0172	3452	2791	0002945	0038	14423								
	035	2100	- 0172	34523	2781			14423								
	STD	2125	-0165	3454	2782	0002836	0046	14431								
	OBS	0125	-0165	34538	2782			14431								
	SID	0150	-0172	3455	2783	0002687	0052	14432								
	OBS	5157	-0172	34553	2783			14432								
	STD	200ء	-0174	3457	2785	0002539	0065	14439								
	CBS	0.200	-0174	34568	2785			14439								
	STD	0250	-0175	3458	2786	0002393	0078	14447								
	OBS	2250	-0175	34583	2786			14447								
	STD	0330	-0178	3460	2788	0002203	0089	14454								
	0.85	0300	-0178	34603	2788			14454								
	STD	0400	-0183	3462	2789	0001978	0110	14469								
	085	0400	-0183	34623	2789			14469								
	SIL	0500	-0182	3468	2794	0001507	0128	14487								
	085	0500	-0182	34678	2794			14487								
	085	0544	-0183	34683	2794			14494								

SHIP	LATITUDE	1.0	NGITUDE	DCTE	MARS		STA	TION TI	IME	YEAR			NATO			EPTH TO	MAX. DEPTH	OBS	WAV		WEA		OUD			NODE
CDDE	1/1	1	1/10	2 5	10*		MO	DAY H	R,1/10		CK	O.	NUM				S'MPL'S			PER SE	000	35	AART			NUMBER
7. GL	745595	0.4	8415W		556	48	02	08 0	144	195	8	0	SC		05	62	05	00	0	K.	X 1	. 7	17			0003
					[WA	TER	٧	V IN D	_	RO-	AIR 1	EMP.	C V		10.	SPEC	CIAL								
						COLOR	TRAN!	DIR.	SPEED ON FORCE	1 4-	TER bs)	ORY BUL8	BU	T co	nd C	PTHS		ATIONS								
								20	519	91	67	-336	-0	39 7] 1	2						,				
MESSENGE TIME HR 1/10		ARD TYPE	OEPTH 6	m)	Т	₹	5	*/**	SIG A	A A ~T		CIFIC VO		≨ ∆ DYN. x 10	Μ.	VELO		0 2 ml/l) 4 → P - o† /	NH 3 - P			NO3-N ND - of I		
																	Ì									
		STD	0000			169	3.3		27		0	0072	55	000	0	144		786								
744	• 0	B<	2000)		169		970	27							144		786	1 '	91	216	01	3	289	066	816
		STD	1010			17^		97	27		C	0072	46	500	7	144		797								
744		85	0010			170		970	2.7							144		797	1	91	117	0.2	0	303	065	816
		STD	0050			166		2.2	2.7		Û	0053	3	001	4	144	-	786								
044		BS	005.			165		349	27	-						144		776	2	15	142	01	2	248	067	810
		STD	0030			166		36	27			0042		001		144		769								
		STD	2050			169		42	2.7		Ü	0037	70	002	6	144		733								
044		BS	0054			170	_	431	27							144		728	2	27	266	01	5	290	072	814
		STD	0075			159		49	27		0	0032	48	003	5	144		712								
044	+ 0	85	2080			158		499	27							144		708	2	25	642	0.0	8	2 + 7	075	814
		STD	2100		_	166		52	27		0	0029	85	004	3	144		630								
044	+ 0	85	010.	7		168		529	27	81						144		685	2	4.5	131	04	1	279	076	810
		STD	0125	5		168		5.4	27			0028		005	0	144		680								
		STD	0150			168	34	55	27	-	0	0027	22	005	7	144		673								
0.44		85	T0159			168	-	556	27							144	-	671	2	36	123	00	7	288	077	80
		STD	0200			172		57	27	-	0	0025	3	007	0	144		661								
744	• 0	RS	021			173		578	27	85						144		660	- 2	33	135	01	2	245	077	801
		STD	0250	3	-0	176	34	59	27		0	0023	37	008	2	144	47	669								
		STD	0300)	-0	179	34	60	27	87	\cap	0022	23	009	4	144	54	678								
944	. 0	BS	9314	4	-0	180	34	605	27	8.8						144	56	680	2	28	203	01	3	304	076	80
		STD	0400)	-0	183	34	63	27	90	Č	0019	26	011	5	144	69	686								
244	. 0	BS	0415	5	-0	183	34	532	27	90						144	72	687	2	31	154	02	4	286	074	808
744	. 0	BS	0465	5	-¢	182	3.4	650	27	9.2						144	81	687	2	26	494	01	0	295	076	808
		STD	25.06)	-0	193	34	67	27	93	0	0015	64	013	2	144	86	680								
0.44	. 0	B S	10515	5	-0	184	34	679	27	94						144	89	676	2	۷7	212	01	0	311	082	80

CE O.	SHIP	LATITU	DE	LON	GITUOE	DCTR DCTR	MARS		AT2	TION TI		YEAR	CRUIS	ORIGIN	ATOR'S		DEPTH TO	DEPTH		W A SERV	VE A TIONS	s	WEA-	CLOUD		NODC
Ö.	1000	•	1/10		1/10		10*	111	MO	OAY H	R.1/10		NO		UMBER	1	BOTTON	S'MPL	'S DIR	HGT	PER S	SEA	CODE	TYPE AN	a l	NUMBER
37	GL	7500	5	050	021 W		557	50	0.2		80 1	968		00			0503	05	00	0	х		X 1	0 3		0004
								WA	TER	W	IND	BAI		AIR TE	AP. C	VIS	NO.	SPI	ECIAL							
								COLOR	TRAN	DIR.	SPEED OR FORCE	MET (mt		ORY BULB	BULB	CODE	OBS. OEPTHS	OBSESS	VATIONS							
								DT	SD	13	511	0.3	4 -1	007	-020	7	16									
	MESSENGE TIME HR 1/10	CAST NO.	C.A. TYI		DEPTH	(m)	1	٣	5	٠4.	SIG A	NA ≁T		C VOLU	7 0	∆ D YN. # x 10 ³		UNO OCITY	02 ml/		O4-P 4 - 61/1		13-N - 01/1	NQ2-N ug - al/l	NO3-N 19-01/1	
				TD	000			162	34	0.0	27:		01	705	7 0	000	14	404								
	187	7	08	_	0.0			162		998	273							404								
			_	TD.	001			163		38	276		000	1413	0	006		410								
			08		001			163		378	276							410								
			08	TD	002			173		45	277		0.01	352	4 0	009		408								
			_	S TD	003			173	_	453	277		0.0	. 2 2 7		0.1.2		408								
			08		003			178 178		48 483	277		CO	327	2 0	013		408								
			08		003	-	-	172		488	277							408 411								
				a TD	005			174		51	278	-	0.07	304		019		414								
			OB		005		_	174		513	278		1101)) (4 .	+	019		414								
				TD .	207			174		53	278		201	287	5 0	027		418								
			OB		007		_	174		533	278		001	J2071	0	021		418								
				TD	010			174		55	278		001	274	7 0	034		422								
			08		010			174		548	278		001	7217	, 0	0) 4		422								
				TD	012			179		56	278		001	264	3 0	040		424								
			ОВ		012			179	-	558	278		00.		- 0			424								
				כד	015			181		57	27F		0.0	0254	6 0	047		428								
			08	5	015	0		181	34	568	278							428								
			08	5	018	4		185		578	278							431								
			5	TO	020	0		183	34	58	278		0.0	2239	7 0	059		435								
			08	5	020	0	- 0	183	34	583	278	36						435								
				TD	225		-0	187	34	60	278	3 7	0.0	0224	* 0	071	14	442								
			08	S	0.25	0	-0	187		598	278	3.7					14	442								
				T D	030			185		62	278	39	0.0	0206	6 0	082	14	451								
			08	S	030	0	-0	185	34	618	278	39					14	451								
				T D	040		-0	186	34	65	279	⊋]	0.01	177	7 0	101	14	468								
			ОВ	S	040	0	-0	186	34	648	270	1					14	468								
			08	S	045	8	-0	186	34	658	270	2					14	478								

SHIP LATIT	UDE LOI	NGITUDE 50	MARSD SQUAL	PE	STATION THE	,	YEAR	CRUISE NO.	NATO MEATS MEDIA) N	OEPTH TO BOTTOM	MAX, DEPTH OF S'MPL'S	085	WAVE ERVATIONS HGT PER SE	WEA- THER CODE	CLOUD CODES		5	NOOC TATION TUMBER
7 GL 753	105 05	4.250W	557	54 (2 20 2	30 1	968	0	0.4		0476	04	0.0	n x	×1	03	1		000
				WAT	ER W	INO	BARC	AIR	TEMP.	C VIS	NO.	SPEC	IAL						
				OLOR	TRANS. DIR.	SPEED OR FORCE	METE (mbs		9U		DEPTHS	OBSERV	TONS						
				D T	50 20	506	0.0	5 -056	-00	5 7	20								
MESSENGE CAST	C ARD TYPE	DEPTH (m)	Ť	°C	5 %.	SIGM	A-1	SPECIFIC VO		₹ △ C DYN. A x 10 ³	A. LIELE	DCITY	O 2 ml/1	PO4=P #9 = 01/1	NH ₃ + N ×5 - a1/1		NO3-N #9 - al/1	\$1 O4-\$1 µg = a1/	
					1														
	STD	0000	-01		3386	272		00081	55	0000		406							
0.2.2	085	0.00	- 01		33858	272						406							
	085	0007	-01		34299	276						420							
	STD	2010	-01		3434	276		00044	4 3	0006		411							
JUI	085	0010	-01		34338	276						411							
	085	0016	-01		34368	276				001		408							
	STD	0020	-01		3439	277		00040	126	001	-	408							
	085	0020	-01		34388	277		00036	17.7	001		408 406							
	SID	0030	-01		3441	277		00038	40	0014		406							
	085	0030	-01		34408	277						406							
	OBS	0032	-01		34409	277						407							
	085	1040	-0 I		34418	277		00037	, 7	002		407							
	STD	0050	-01		3442	277		00000	4 /	102		409							
	085	0050	-01		34419	277		00035	7.6	003		414							
	STD	0075			34440	277		00000	770	1103		414							
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	085	0100	-01		3446	277		00034	26	2041		419							
	STD 085	0100	-01		34458	277		1.17(1.5)	120	1104		419							
	510	0125	-01		3447	277		00033	343	004		425							
	085	0125	-01		34468	27		0.5115.		0 3		425							
	STD	0150	-01		3450	277		00030	195	005		430							
	085	0150	-01	-	34409	27				000		430							
	SID	0220	-01		3454	278		0002	773	007		438							
	OBS	0200	-01		34537	278		3001		0 - 1	_	438							
	STD	0250	-01		3456	278		00025	567	008		446							
	OBS	1250	-01		34559	278			-			446							
	STD	0300	-n:		3460	278		2002	209	009		450							
	ORS	0300	-01		34598	278			-			450							
	085	0320	-01		34608	278						452							
	OBS	2360		189	34618	278					14	459							
	035	0392	-01		34628	27					14	464							

REFERENCE CTAY IO. CODE NO.	SHIP	LATITU	OE 1/10	LONGITUDE		ARSOEN DUARÉ	STATION THE	YE	AR		OR'S TION MBER		DEPTH TO BOTTOM	MAX, OEPTH OF S'MPL'S	OBS	WAVE ERVATIONS	COD	CODES		5	NODC TATION NUMBER	
318037	7 GL	7600	25	0564591	55	7 66	02 09 1	150 19	68	005		(0450	04	00	0 X	×1	0 3	1	- 1	0006	
			- ,			WA	TER V	ONIV	BARO	AIR TEMP	· °C	VIS.	NO.	SPE	141							
						COLOR	TRANS. OIR.	SPEED ,	METE (mbs	R ORY	WET	CODE		OBSERV								
						DT	SD 22	-	01	7 -104 -1	110	7	14									
	MESSENGA TIME HR 1/10	CAST NO.	CAR TYP		lm J	1 °C	s ·/	SIGMA-	-1	SPECIFIC VOLUME ANOMALY—X107	ים	△ 0 YN, M. x 10 ³		OCITY	O2 ml/l	PO4-P +0 - 01/1	NH 3 - N 29 + at/1		NO3-N	51 O4-51 ug - at/1		500
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			51			0185	3436	2768		0004186				401								
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			5.1			-0186	7438	2770		0004024				403								
			0B5			.0186	34383	2770						403								
			51			0185	3440	2772		000386				407								
			089			0185	34403	2772						407								
			5			0183	3443	2774		0003658				412								
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			089			0183	34438	2774						417								
			51			0185	3444	2775		0003507				420								
			089			1185	34443	2775						420								
			S.			-0184	3446	2776		0003342				425								
			089			-0184	34463	2776						425								
			S.			-0176	3453	2782		000280				438								
			089			0176	34533	2782						438								
			S.			0173	3456	2784		0002553				448								
			085			-0173	34563	2784						448								
			S			-0172	3460	2787		0002223				457								
			083			-0172	34603	2787						457								
			S.			0183	3465	2791		0001787				469								
			08			-0183	34648	2791						469								
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	SHIP	LATITU	DE LON	IGITUDE TO THE	MARS SQU	ARE	STATE	ON TIA	Y	rear	ORIG CRUISE NO.	STATION NUMBE	N	OEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	OBSE	WAVE RVATIONS	WEA- THER CODE	CLOUD CODES			NODC STATION NUMBER
-	GL	7500	-	5457W	557					768	. 0	05		0450	04	00	o x	×1	3 7			0001
1	0 -					WA	ER		NO	BARO	•	EMP. °C	VI\$.	NO.	SPEC	TAL						
						COLDS	TRANS.	DIR.	SPEED OR FORCE	tmbs1		BULE	COD	DEPTHS	OBSERV	A TION S						
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M	ESSENGR TIME	CAST NO.	CARO	DEPTH (m)	1	*c	s	•/	SIGMA	A-1	SPECIFIC VO	LUME	≨ ∆ D	SOL	DOLLT	O 2 ml/l	PO 4-P	NH ₃ - N	NO2=N #8 + al/1	NO3+N pg = of 1	# 1 # 2 0 4 1	, н
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	1 /	1	STD	0020		154	341		274	9	00060	5 1	2014	14	413	904				10.		
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			STD	0150		183	341		277		00034		0065		425	712						
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		75.5.2	1/10		sou		STAT	ON TIN	ΛΕ 1,1/10		CRUISE NO.		N	10	DEPTH	OBS	WAVE ERVATIONS HGT PER 35	THER	CODES	i		BMUM
	ODE	·	1/10	11/10 E	10"	57	MO 0	T MOI	AE	YEAR	CRUISE NO.	STATIO	ER .	0360	OF S'MPL'	OBS	HGT PER SE	THER	TYPE AM	i		STATIO
	ODE	·	1/10	11/10 E	10"	57 WA COLOR CODE	MO CO	DAY HE	AE/10 1 IND SPEED ON FORCE	YEAR 968 BARC METE	CRUISE NO. AIR O- AIR O- BULB	STATIO NUMBI 0.6 TEMP. *C	T COC	0360 NO. OBS. DEPTHS	OF S'MPL'	OBS	HGT PER SE	THER	TYPE AM	i		STATIO
3.7	5L	7653	1/10 2.5 1.5	11/10 E	10"	57	MO CO	T MOI	AE/10	YEAR	CRUISE NO.	STATIO NUMBI 0.6 TEMP. 10 WE! BUL	T COC	0360 NO. OBS. DEPTHS	OBSERV	OBS	HGT PER SE	THER CODE	TYPE AM	1	110	NUMBE
3 7	GL TIME	7 - 5 2	1/10	11/10 E	10°	57 WA COLOR CODE	MO COLUMN TER	DAY HE	AE/10 1 IND SPEED ON FORCE	YEAR 968 BARC METE	CRUISE NO. AIR O- AIR O- BULB	STATIO NUMBI	T COC	NO. OBS. OEPTHS	OF S'MPL'	OBS	HGT PER SE	THER	TYPE AM	i	y0 - a	STATION NUMBER OF OOO
3 7	GL SERVE	7 - 5 2	1/10 3.5 7.5	7239W	10°	57 WA COLOR CODE	MO COLUMN TER	DAY HE	AE LI/10 30 1 IND SPEED ON FORCE \$10	YEAR 968 BARC METE	CRUISE NO.	STATIO NUMBI	VISTO	NO. OBS. OEPTHS	OBZERY OF STMPL	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SL SENGE	75.5.2 7.6.53 9. NO.	1/10 2.5 7.5 CARD TYPE	7239W	10°	ST WA COLOR CODE	MO COLUMN TERNIS	DAY HE	JU10 JO 1 IND SPEED ORE SIGM 272	YEAR 968 BARC METE Imba 01	CRUISE NO.	STATIONUMBI	VISTO	0360 NO. OBS. DEPTHS	OEPTH OF S'MPL' O3 SPE OBSERV	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	GL TIME	75.5.2 7.6.53 9. NO.	25 75 CARD TYPE STD OBS	7234W	10°	ST WA COLOR CODE	MO COLOR TRANS. Imb	OON 11/10 OOAY HIS OOR. W	30 1 100 SPEED ON FORCE SIGM 272 272	YEAR 968 BARCOMETE [Imba 01	CRUISE NO. O AIR R DRY BULB 5 - 108 SPECIFIC VC ANOMALY	STATIONUMBIONO NUMBIONO NUMBINA NUMBIONO NUMBIONO NUMBIONO NUMBIONO NUMBIONO NUMBIONO NUMBION	VIST COOR B COOR X 103	10 80 TO BOTTON OBS. OBS. OEPTHS 14	OEPTH OF SYMPLY	OBS	PO4-P	THER CODE	0 3	NO3-N		STATIO NUMBE 000
3 7	SL SESSENGE TIME (R. 1/10	75.5.2 * : CAST * NO.	1/10 2.5 7.5 CARD TYPE	7239W	10°	ST WA COLOR CODE	MO C OZ 1 TER TRANS. Im) SD S 338 328 334.	OON 11/10 OOAY HIS OOR. W	JU10 JO 1 IND SPEED ORE SIGM 272	YEAR 968 BARK METERINA 011 A-T	CRUISE NO. AIR DRY BULB 5 - 1 0 8 SPECIFIC VI ANOMALY	STATIONUMBIONO NUMBIONO NUMBINA NUMBIONO NUMBIONO NUMBIONO NUMBIONO NUMBIONO NUMBIONO NUMBION	VIST COO 7	10 BOTTON 0360 NO. OBS. DEPTHS 14 0A. SOVEL	03 SPE 085ERV	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SL SENGE	75.5.2 * : CAST * NO.	1/10 25 75 CARD TYPE STD OBS STD OBS OBS	DEPTH IMI 0000 1000 1000 1000 1000 1000 1000	10°	184 171 184 171 171 146	MO CO2 1 TER TRANS. Im. SD S S S S S S S S S S S S S S S S S S	ON 11M GM11 O O O W OIR. 18	30 1 IND 5040 Process S10 S1GM	VEAR O 6 8 BARCHER IMBE O 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CRUISE NO.	\$1410 NUMBI 0.6 TEMP. 'C BUL -11 DLUME -110?	ER VIST COC T T S A C C C C C C C C C C C C C C C C C C	10 BOTTON 0 36 JO NO. OBS. DEPTHS 14 OA. SO VEL 14 14 14 14 14 14 14 14 14 14	03 SPE 085ERV	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SL SESSENGE TIME (R. 1/10	75.5.2 * : CAST * NO.	2S 35 35 35 35 35 35 35 35 35 35 35 35 35	1/10 0 2 7 2 3 4 W	10°	57 WA COLOR CODE DT TC	MO C	ON 11M GM11 O O O W OIR. 18	30 1 30 1 IND SPEED PORCE 510 SIGM 272 272 275 275	SARCE METERS OF SARCE METERS O	CRUISE NO. O AIR R DRY BULB 5 - 108 SPECIFIC VC ANOMALY	STATIONUMBIO	VIST COOR B COOR X 103	14 0.36.0 NO. OBS. DEPTHS 14 0.3. SO VEL	03 SPE 085ERV	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	1/16	DEPTH Int 2000 1000	- 0 - 0 - 0 - 0 - 0 - 0 - 0	184 171 171 146 159 174	MO C	ON 11/16 GM11 18 1 18 1 18 1 18 1 18 1 18 1 18 1	SIGM 272 275 275 276	BARRA MEFFE Imbe	CRUISE NO.	STATIONUMBI 0.5 TEMP. TO WE' BULL -110 236	ER VIST COC T T S A C C C C C C C C C C C C C C C C C C	14 SO VEL	03 SPE OBSERV UND OCITY 391 391 405 407 412 412 428	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	T/10	7234 W 72	- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	157 WA COLOR CODE DT TC 184 171 146 159 174 17	MO C C C C C C C C C	ON 11/0 O O W OR. 18 338 225 248 278 334 338	272 275 276 276 276 277 276 276 276 276 276 276	968 BARCAMETER INDIANATI	CRUISE NO. 37	STATIONUMBI 0.5 TEMP. C. BUL -110 2.36 -109	: VIST COC 7 7 2 \$ △ C 7 2 10 10 10 10 10 10 10 10 10 10 10 10 10	0.360 NO. 085. EDEPTHS 14 0.4. SOOK VEL	03 SPE 085ERV UND 0CITY 291 391 405 405 412 412 428 408	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	1/16	DEPTH Int 2000 1000	-00 -00 -00 -00 -00 -00 -00 -00 -00 -00	184 171 171 146 159 174	338 338 344 344 344 344 344 344 344	ON 11/0 O O W OR. 18 338 225 248 278 334 338	SIGM 272 275 275 276	068 BARCHEIMBER 011 011 010 010 010 010 010 010 010 01	CRUISE ND. 3	STATIONUMBI 0.5 TEMP. C BUL -110 2.36 0.9	VIST COE B C 7 E △ C DYN. A X 103	0360 NO. OBS. DEPTHS 14 03. SO VEL	03 SPE OBSERN UND OCITY 391 391 405 405 407 412 418 408 409	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	T/10	DEPTH Intl 2000 2000 2000 2010 2010 2010 2010 20	-010	157 WA COLOR C	MO C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	OON 11/0 GM1 HIGH OF THE PROPERTY OF THE PROPE	272 275 276 276 276 276 276 276 276 276 276 276	968 BARCH METER ME	CRUISE NO. 37	STATIONUMBIO 0.6 TEMP. 'C WE'S BULL 11 DEUME -110 36 98 98 988	: VIST COC 7 7 2 \$ △ C 7 2 10 10 10 10 10 10 10 10 10 10 10 10 10	10 10 10 10 10 10 10 10 10 10 10 10 10 1	03 SPE 085EN 2391 391 405 405 412 428 408 409 413	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	CARD 1976 95 95 95 95 95 95 95 95 95 95 95 95 95	DEPTH IM1 2000 1000 1000 1000 1000 1000 1000 1	-01-01-01-01-01-01-01-01-01-01-01-01-01-	184 171 184 171 171 171 146 159 174 180 181 181	NO C 1 1 1 1 1 1 1 1 1	OON 100 M	272 275 276 276 277 277 277 277 277 277 277	968 BARCH METER (mbb) 01' A-1	CRUISE NO. 1 20 20 20 20 20 20 20 20 20 20 20 20 20	STATION NUMBIN OF STATION NUMBIN OF STATION NUMBIN OF STATION OF S	Vistor Visto	0360 085. 085. 085. 085. 085. 085. 085. 085	OBSERV 03 SPE 085ERV 291 391 391 405 405 417 412 428 408 409 4413 4413	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TIO	DEPTH Int 1 0000 1000 1000 1000 1000 1000 1000	-0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -	184 171 184 184 171 171 146 159 180 180 181 181 183 183	3.38 FERNAS 3.24 3.34 3.34 3.34 3.34 3.34 3.34 3.34	DAY HIGH	272 275 276 276 276 276 276 276 276 276 277 277	968 BARCH METERING 01 01 66 67 73 73 76 76	CRUISE NO	STATION NUMBING TEMP. TO TEMP.	T T COCC T T T COCC T T T COCC T T T T COCC T T T T	C3600 NO. 0850 NO. 08	OBSERV 03 SPEN 085ERV 391 391 405 405 417 408 408 409 413 413 417 417	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TO TO TO TO TO TO TO	DEPTH IMI 2000 2000 2000 2010 2010 2010 2010 20	- 00 - 00 - 00 - 00 - 00 - 00 - 00 - 0	184 171 184 184 171 146 159 174 180 181 181 181 181 181 183 183	338 334 334 344 344 344 344 344 344 344	ON 10 O O O O O O O O O O O O O O O O O O	30 1 1 NO 1 1 NO 1 NO 1 NO 1 NO 1 NO 1 NO	968 BARKETE IMPERIOR OF THE PROPERTY OF THE PR	CRUISE NO. 1 20 20 20 20 20 20 20 20 20 20 20 20 20	STATION NUMBING TEMP. TO TEMP.	VIS COC 7 1 8 COC 7 1 8 COC 7 10 10 10 10 10 10 10 10 10 10 10 10 10	C3600 NO. 03600 NO. 0685.8 OFF. NO. 075.4 NO.	OBSERV UND OBSERV 391 391 405 417 412 412 412 412 412 413 413 413 417 417 417 419	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TIO	DEPTH Int 1 0000 1000 1000 1000 1000 1000 1000	10° 10° 10° 10° 10° 10° 10° 10° 10° 10°	184 171 184 184 171 171 146 159 180 180 181 181 183 183	338 334 334 344 344 344 344 344 344 344	ON THE COLOR OF TH	272 275 276 276 276 276 276 276 276 276 277 277	068 BARCHER OLD	CRUISE NO	STATION NUMBER NUMBER STATION NUMBER STATION NUMBER STATION NUMBER NUMB	T T COCC T T T COCC T T T COCC T T T T COCC T T T T	C360 NO. C36	OBSERV 03 SPEN 085ERV 391 391 405 405 417 408 408 409 413 413 417 417	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TO TO TO TO TO TO TO	DEPTH Intl 0000 0000 0000 00100 00100 00100 00100 0050 0050 0050 0050 0100 0125 0125	-00-00-00-00-00-00-00-00-00-00-00-00-00	184	MO C C C C C C C C C C C C C C C C C C C	ON 11/2 GM11 18 0 OR 18 3338 2248 248 228 3338 3388 427 417 468 478 478 478	30 1 1 NO SHIP SHIP SHIP SHIP SHIP SHIP SHIP SHIP	968 BARC METERS (MAC MAC MAC MAC MAC MAC MAC MAC MAC MAC	CRUISE NO. 1	STATION OF STATE OF S	1	NO. O3.60 NO. O3.60 NO. O3.60 NO. O3.60 NO. O3.60	OBSERVA 391 391 391 405 417 412 408 409 413 417 419 4418	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TIO	□ 1/10 0 ≥ 2 72.34	-01-01-01-01-01-01-01-01-01-01-01-01-01-	184 171 146 159 1189 1189 1189 1181 1181 1183 1188 1188	328 328 328 328 328 328 334 334 334 334 334 334 334 334 334 33	00N 11/2 00N 11	272 275 276 277 277 277 277 277 277 277 277 277	068 BARC METER (METER) 011 BARC METER (METER) 011 BARC METER (METER) 012 BA	CRUISE NO. 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	STATION OF STATE OF S	V V V V V V V V V V	NO. O3.6.0 NO. O3.6.0	OSSERVING OSSERV	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TO TO TO TO TO TO TO	DEPTH Intl 0000 0000 0000 00100 00100 00100 00100 0050 0050 0050 0050 0100 0125 0125	-00-00-00-00-00-00-00-00-00-00-00-00-00	184	328 328 328 328 328 328 334 334 334 334 334 334 334 334 334 33	ON 11/2 GM11 DAY HE 	30 1 1 NO SHIP SHIP SHIP SHIP SHIP SHIP SHIP SHIP	068 8ARCHIMBS 011 011 01777 777 800 806 806 806 806 806 806 806 806 806	CRUISE NO. 1	STATION OF THE PROPERTY OF THE	1	NO. OBS. NO. OBS. OB	OBSERVA 391 391 391 405 417 412 408 409 413 417 419 4418	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TIO	DEPTH IMI 2000 2000 2000 2010 2010 2010 2010 20	-00-00-00-00-00-00-00-00-00-00-00-00-00	DT 184 159 159 188 1188 1188 1189 1199 1291 1291 1291	333 34 34 34 34 34 34 34 34 34 34 34 34	00 N 11/2 GM1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	272 272 275 276 276 277 277 277 277 277 277 277 277	968 BARCMETER INDICATE OF THE PROPERTY OF THE	CRUISE NO. 1 200 AIR OF THE PROPERTY OF THE PR	STATION OF THE PROPERTY OF THE	20000 20	NO. O3.60	OSSERVING OSSERV	OBS	PO4-P	THER CODE	0 3	NO3-N		
3 7	SCODE SESSENGE	75.5.2 * : CAST * NO.	TIO TO TO TO TO TO TO TO	DEPTH IMI 0000 0000 0000 0010 0012 0020 0030 0050 0050 0075 0175 0175 0125 0125 0125 01250 02200 02200 0250	-00-00-00-00-00-00-00-00-00-00-00-00-00	184 157 184 184 171 146 159 174 1181 181 181 183 183 188 188 188 189 199 121 222 221	328 SD S S S S S S S S S S S S S S S S S S	00 N 11/2 GM1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30 1 1 NO 31 1	968 BARCMETER INDICATE OF THE PROPERTY OF THE	CRUISE NO. 1 200 AIR OF THE PROPERTY OF THE PR	STATION TO NUMBER 1	20000 20	NO. O3.60	OBSERVA 391 391 405 417 412 408 409 413 417 4117 4119 418 418 418 418 418	OBS	PO4-P	THER CODE	0 3	NO3-N		STATION NUMBER OF OOO

SHIP LA	TITUOE LO	NGITUDE 5	E MARS		STATION T		YEAR	CRUISE	RIGIN.	TATIO		DEPTH	DEPTH	. I	WAVE SERVATION:	WEA THER				NOOC
NO. CODE	1/10	1/10	Z 10*	11.	MO OAY	R-1/10		NO.		MUMB		BOTTOM	S'MPL	S DUL	HGT PER	COO	TYPE AA	41		UMBER
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			, , ,	WAT		MIND	BARG	2 /	IN TEA		1	NO.	1		, ,		, , ,	•	'	0007
				COLOR	TRANS DIR	SPEED OR FORCE	MET	ER C	IRY JLB	BUL		000		CIAL VATIONS						
					18	510	01	5 -10	08	-11	0 7	10								
MESSENGE CA	O. TYPE	DEPTH (m	, ,	₹	s */	SIG	MA-T	SPECIFIC AHDM			₹ △ D DYN. M x 10 ³		DOITY	O2 m1/1	204-2 vg + ot/l	NH 3 - N	NO2=N ug - o!/l	NO ₃ -N vg - o1/l	\$1 04-\$1 vg - a1/\$	
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037	085	0010	-01	175	33832	27							397	993	111			107	053	839
	STO	0020	-0	_	3384	27		000	823	8	0017		401	986						
037	085	0025	-0		33871	27							403	982	123			115	053	839
	STD	0030	-0	-	3401	27		000		-	0024		406	923						
037	STO	0050	-0	170	3437 34366	27 27		000	418	2	0035		413 413	766 766	215			34.5	- (0	
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037	085	0149	-0	190	34512	27	81					14	422	715	236			291	071	809
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037	OBS	0198	-01	_	34558	27	-						431	724	224			295	067	811
	STD	0200		192	3456	27		000			0083		431	724						
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FERENCE	41H2	LATITU	GE .	ONGITUDE	F 5	MARSDEN	ITATE	ON TIM		re ar		NATORS	[DEPTH	MAX. DEPTH	085	WAVE ERVATIONS	WEA- THER	CLOUE			NODC
n ID. of NO.	CODE	•	1/10	1/10	88	10. 1.		AY HR			NO.	STATION		BOTTOM	OF S'MPL'S		HGT PER SE	CODE		1		RIBMUN
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!	MESSENGR	CAST	CARD	DEPTH	[1 %		·/	SIGMA		SPECIFIC VOL	UME 3	Δ O	SOL		O2 m1/i	PO4-P	ИН Н	NO:-N	NO3-N	Tsina-	s.
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			STD	005		-0156		-	275		000501		034		419	834						
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FERENCE	SHIP	LAMUI	- 1	DNGITUGE	20	MARSOEN SOUARE	STATIC (G	ON TIM		EAR	CRUISE	NATOR'S STATION	_	DEPTH TO	MAX. DEPIN OF	0951	WAVE ERVATIONS	WEA-	Cronp			NODC STATION
10. E NO.	CODE	•	1/10	1/10	P DO	SOUARE 10° 1°	MO D	MTI NY HR.	/10		NO.	STATION NUMBER	+	OT MOTTOR	DEPTN OF S'MPL'S	OBSI DIR.	HGT PER SE	THER	TYPE AM	Ť		STATION
10.	CODE	7331	1/10		P DO	50UARE 10° 1° 58 30	(G	MTI	710 0 19	968	NO.	STATION NUMBER		90110M 0603	DEPTN OF S'MPL'S	DIR.	RVATIONS	THER	COOES	1		STATION
10. E NO.	CODE	•	1/10	1/10	P DO	50UARE 10° 1° 58 30 w	MO DA	MTI AY HR.	710 10 1 9	968 BARO- METER	O C	STATION NUMBER 9 EMP. °C	VIS	OT MOTTOR	DEPTN OF S'MPL'S	DIR OO	HGT PER SE	THER	TYPE AM	ī		STATION
10. E NO.	CODE	•	1/10	1/10	P DO	50UARE 10° 1° 58 30 W COLO COD	MO DA	MTI AY HR.' 1 09 WIN	1/10 10 10 SPEED OB	968 BARO- METER (mbs)	CRUISE NO.	STATION NUMBER 9 EMP. C WET BULB	VIS.	NO. ORS.	DEPTN OF S'MPL'S 05	DIR OO	HGT PER SE	THER	TYPE AM	ī		STATION
10. NO. 18037	GL	7331	1/10 0 S 0	1/10 60034W	5	50UARE 10* 1* 58 30 W COLO CODI	MO DO DATER R TEANS. tml	MTI 1 09 WIN DIR. 19 5	0 19 0 19 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BARO- METER (mbs)	CRUISE NO. AIR TE DRY BULB	9 EMP. C WET BULB	VIS.	0603 NO. ORS. DEPTHS	DEPTN OF S'MPL'S O 5	OBSI DIR O O	HIGH PER SE	THER CODE	TYPE AM			STATION NUMBER 0012
10. NO.	GL GL	7331	1/10	1/10	5	50UARE 10° 1° 58 30 W COLO COD	MO DA	MTI 1 09 WIN DIR. 19 5	1/10 10 10 SPEED OB	BARO- METER (mbs)	CRUISE NO.	STATION NUMBER 9 EMP. C WET BULB -088	VIS.	NO. ORS.	DEPTIN OF S'MPL'S O 5 SPEC OBSERVA	DIR OO	HIGH PER SE	THER	TYPE AM	NO3-N Ng - ol I	\$1 Q4=\$	STATION NUMBER 0012
10. NO.	GL	7331	1/10 0 S 0	1/10 60034W	5	50UARE 10* 1* 58 30 W COLO CODI	MO DO DATER R TEANS. tml	MTI 1 09 WIN DIR. 19 5	0 19 0 19 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BARO- METER (mbs)	OC AIR TE DRY BULB	STATION NUMBER 9 EMP. C WET BULB -088	VIS.	NO. DEPTHS	DEPTIN OF S'MPL'S O 5 SPEC OBSERVA	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. 10. 10.	GL MESSENGR TIME O	7331	CARG TYPE	0000	m) 5	50UARE 10° 1° 58 30	MO D/O O O O O O O O O O	MT1 AV HR. 1 09 WINDIR 19 5	7/10 0 1 5 10 10 10 10 10 10 10 10 10 10 10 10 10	BARO-METER (mba) 074	OC AIR TE DRY BULB	STATION NUMBER 9 MP. C WET BULS -088	VIS.	NO. DEPTHS	DEPTN OF S'MPL'S SPEC OBSERVA	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. NO.	GL GL	7331	CARO TYPE STD OBS	0000	m) 5	500 ARE 10° 1° 58 30 W COLO CODD 1 ° CODD	MO D, 02 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MT1 AV HR. 1 09 WIN DIR. 19 5 4.	2739 2739	BARO-METER (mba) 0 74	AIR TE BULB - 085	STATION NUMBER 9 EMP. C WET BULS -088 UME D 366	VIS. CODE 7 △ 0 7 × 10³	10 80110M 0603 NO. ORS. DEPTHS 14 3 14 3 14 3	DEPTN OF S'MPL'S SPEC OBSERVA	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. 10. 10.	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STD	0000	5 S	50UARE 10° 1° 58 30	MO D/O O O O O O O O O O	MTI 1 09 WIP DIR 19 5 4	7/10 0 1 5 10 10 10 10 10 10 10 10 10 10 10 10 10	968 BARO- METER (mbs) 074	AR TE DRY BULB - 085	STATION NUMBER 9 EMP. C WET BULS -088 UME D 366	VIS. CODE 7 △ O YN. M. x 103	10 BDTTOM 0603 NO. ORS. DEPTHS 14 SOULVELO	DEPTN OF S'MPL'S SPEC OBSERVA	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. NO.	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STO OBS STO	0000 0010 0010	m) 5	50UARE 10' 1' 58 30	MO D. O2 1 ATER R TEANS. Im1 SO 340 339 342 342 342	MTI NY HR. 1 09 WIN 19 5 4 0 98 5 3 9	2739 2739 2739 2739 2759 2762	968 BARO-METER (mbs) 074	AIR TE BULB - 085	STATION NUMBER 9 MP. C WET BULS -088 UME 1107 D	VIS. CODE 7 △ 0 7 × 10³	10 BDTTOM 0603 NO. ORS. DEPTHS 14 SOU VELO 143 143 143 143	OF STAPE OF	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. 10. 10.	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STO OBS STO OBS	0000 0001 0010 0020	5	SOUARE 10° 1° 58 30	MO D. 02 1 ATER R TEANS. 50 5. 340 339 342 342 342 342	MTI NY HR. 1 09 WIN 19 5 4. 0 98 5 53 9 88	2739 2739 2739 2739 2759 2762 2762	968 BARO- METER (mba) 074 	CRUISE NO. OC ARE 11 DAY BULB OSS SPECIFIC VDL ANOMALT—X OOOS 02 OOOS 02	99 MP. C WET BULB D D D D D D D D D D D D D D D D D D D	7 7 2 0 0 7 0 0 0 0	143 143 143 143	DEPIN OF 5'MPL'S SPEC OBSERV ND CITY 889 899 966 97	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. 10. 10.	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STO OBS STO	0000 0010 0010	5	50UARE 10' 1' 58 30	MO D. O2 1 ATER R TEANS. Im1 SO 340 339 342 342 342	MTI 1 09 WIFT DIR. 19 5 553 9888 3	2739 2739 2739 2739 2759 2762	968 BARO- METER (mba) 074 	CRUISE NO. AR TI DE SECONDO POR SECONDO P	STATION NUMBER 99 MP. C WET BULS 107 0 88 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VIS. CODE 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	10 BDTTOM 0603 NO. ORS. DEPTHS 14 SOU VELO 143 143 143 143	DEPIN OF S'MPL'S OF S'MPL'S OF SPEC OBSERV/	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
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10. E NO. 18037	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STO OBS STO OBS STO OBS STO OBS STO OBS	0000 0000 0010 0010 0020 0030 0030 0050	5 5	SOUARE 10° 1. 58 3 w COLO COD 1 ° C -0193 -0193 -0191 -0191 -0191 -0190 -0190	340 339 342 342 342 343 343 343 343	MTI 1 09 WIFE 19 5 00 998 88 3 228 7 73	2739 2739 2759 2766 2766 2769 2769 2769 2769 2769 276	968 BARO-METER (mbs) 0744 -T	CRUISE NO. OC AR 11 DRY SULB PRINCE VOL ANOMALY-3 OC 4 4 3 OC 4 4 7 OC 4 4 7 OC 4 4 7 OC 4 4 7 OC 4 0 OC 4 OC 7 OC 4 OC 4 OC 4 OC 4 OC 4 OC 4	STATION NUMBER 99 EMP. C WET BULB 1107 B 0107 108 108 108 108 108 108 108	VIS CODE 7 7 Δ Ω (N. Μ. Μ. Μ. Ν. 10 ³) 0 0 0 0 0 1 1 0 1 5	143 143 144 144 144 144 144	DEFIN OF S'MPL'S O S PEC OBSERVA	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. E NO. 18037	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STO OBS STO OBS STD OBS STD	0000 0001 0001 0010 0010 0020 0030 0030	500000000000000000000000000000000000000	SOUVARE 58 30 58 30 COLO COD 10 1 5 -0193 -0190 -0191 -0191 -0191 -0191 -0190	340 339 342 342 342 343 343 343	MTI NY HR. 1 0.9 WIF 1 0.9 WIF	2739 2739 2739 2759 2762 2766 2766 2766	968 BARO-METER (mbs) 0744 	OCO 502	STATION NUMBER 99 EMP. C WET BULB 1107 B 0107 108 108 108 108 108 108 108	VIS. CODE 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	0603 NO. ORS. DEFTHS 14 143 143 143 144 144 144 144	DEFINE OF S'MPL'S OF S'MPL'S OF SPEC OBSERV/	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
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10. E NO. 18037	GL MESSENGR TIME O	7331	CARO TYPE STD OBS	0000 0000 0010 0020 0030 0030 0030 0050 0050 0070 0070	50000000000000000000000000000000000000	SOUARE 10* 1. 5.8 30	340 340 342 342 342 343 343 343 344 344 344	MTI HR. 1 09 WIR 19 5 5 5 3 9 9 8 8 8 8 7 7 3 1 1 1 3 4 4 4 4 3	7/10 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	968 BARO-METER (mba) 074 -T 99 99 99 90 90 90 90 90 90 9	CRUISE NO. OC AR 11 OC STORY SULB SECOND OC OC OC OC OC OC OC O	STATION NUMBER	7 7 0000 000 000 000 000 000 000 000 00	143 143 143 144 144 144 144	DEPIN OF 5'MPL'3' SPECOBSERVI ND CITY 889 889 889 996 997 997 000 004 004 009 113	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. E NO. 18037	GL MESSENGR TIME O	7331	CANO TYPE STD OBS STD OB STD OB STD OB STD OB STD OB OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB STD OB OB STD OB	0000 0000 0010 0020 0030 0030 0050 0050 0050 0050	500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SOUARE 10* 1. 58 30	3400 S	MTI	Time	968 BARO-METER (mba) 074 	CRUISE NO. OC AR 11 OC OC OC OC OC OC OC	STATION NUMBER	77 70000 000 000 000 000 000 000 000 00	TO 0603 No. 085. DEPTHS 14 SOUVELO	DEPIN OF 5'SMPL'3 O5 SPEC OBSERVA	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. E NO. 18037	GL MESSENGR TIME O	7331	CARO TIPE STD OBS STD	0000 0000 0010 0010 0020 0030 0050 0077 0079 0100 0129 0129	500000000000000000000000000000000000000	SOUARE 10* 1. 58 30	MO D.	MTI	710 710 710 710 710 710 710 710	968 BARO-METER (mba) 979 979 979 979 979 979 979 9	CRUISE NO. OC AR 11 OC STORY SULB SECOND OC OC OC OC OC OC OC O	STATION NUMBER	7 7 0000 000 000 000 000 000 000 000 00	143	DEPIN OF 5'MPL'S SPEC OBSERV/	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. E NO. 18037	GL MESSENGR TIME O	7331	CARD TYPE STD OBS	0000 0000 0000 0010 0010 0010 0010 001	500000000000000000000000000000000000000	SOUARE 10* 1* 58 30* 6000 CODE 00190 -01	340 S.0 S.0 S.0 S.0 S.0 S.0 S.0 S.0 S.0 S.	MTI 1 0.5 WIP 119 5 WIP 11	Triple T	968 BARO-METER (mba) 074 -1 99 99 99 90 22 55 57 77 70 70 70	OCC 443 000443 000447 000443 000351	STATION NUMBER STATION NUMBER STATION STATIO	VIS CODE 7 7 7 000 000 001 015 024 034 043 051	143 143 143 143 143 143 143 143 143 143	DEPIN OF STMPL'S SPECT OBSERVALUE OBSERVAL	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. E NO. 18037	GL MESSENGR TIME O	7331	CARO TIPE STD OBS STD	0000 0000 0010 0010 0020 0030 0050 0050 0079 0079 0079 0079 0079 007	180 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	SOUARE 10* 1. 5.8 3c w coolc coo	MO D.	MT HR. 1 1 0.5 MIR WIFE MIR	710 710 710 710 710 710 710 710	968 BARD-METER (mba) 074 -T 999 999 999 222 566 992 225 567 77	CRUISE NO. OC AR 11 OC OC OC OC OC OC OC	STATION NUMBER STATION NUMBER STATION STATIO	77 70000 000 000 000 000 000 000 000 00	143	DEFIN OF 5'SMPL'3 O 5 SPEC OBSERVA ND CITY 1889 1889 1889 1899 1000 1000 113 118 118 122 131	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
10. E NO. 18037	GL MESSENGR TIME O	7331	CARO TYPE STD OBS STD	0000 0000 0000 0010 0010 0010 0010 001	30 30 30 30 30 30 30 30 30 30 30 30 30 3	SOUARE 10* 1* 58 30*	340 S.0 S.0 S.0 S.0 S.0 S.0 S.0 S.0 S.0 S.	NT HR. 1 0.5 WIF WIF 19 5 4. 0 0 998 5 5 3 9 988 8 3 2 7 7 7 3 1 1 3 4 4 4 3 6 6 6 3 0 0 0 3 5 5 5 3 7 7 7 9 1 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Time	968 BARO-METERS 074 074 	OCC 443 000443 000447 000443 000351	STATION NUMBER STATION NUMBER STATION NUMBER STATION STA	VIS CODE 7 7 7 000 000 001 015 024 034 043 051	143 No. OSS. 144 SOUVELOU VELOU VELO	DEPIN OF 5 SPECT OF STAFF OF S	OBSI DIR O O	PO4-P	THER CODE	TYPE AM 0 3	NO3+N	SI ©4=S	STATION NUMBER 0012
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REFERENCE	SHIP CODE	LATIT	- 1	LONG		DRIFT	MARS			ION T		YEAR	CRUISE NO.	ORIGIN.	ATOR'S TATION TUMBER	\dashv	DEPTH TO BOTTOA	DEFIL	1 0	BSER	A VE VA TIO		WEA THER COD	L	CODES		5	NODC TATION IUMBER
3180	-	742	1/10 295		534W		557		02	11		1968		0 1 f)		0604	1		\top		- 1	×1	\top	0 3			0013
								COLOR		+	SPEED OR FORCE	1	ER I	DRY ULB	WET	CODI	NO. OBS. DEPTHS	OBSER	ECIAL VATION	s								
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	MESSENI TIME HR 1/1	of NO.	CAI		DEFTH	(m)	ī	tc	s	٠/٠.	SIG	MA-T		VOLU ALY-Z1	77 D	∆ D YN. M x 10 ³		OCITY	O ₂ m	1/1	PO4-		NH 3 - N		D ₂ -N g + ol/	NO3~N ug + o1/I	NB + alv (
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			0B	T D	001			191		498		79	000	717	1 0	003		399										
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			08		002			191	34	507	27	80					14	4400										
			OB	5	002	5	-0	191	34	509	27	80						401										
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				TD	020			191	34	77	2.8	01	000	095	8 0	040	14	4434										
			OB		020	0	-0	191	34	768	2.8	01					1	4434										
			9	TD	025	0	-0	191	34	79	2.8	103	000	076	9 0	044	. 14	4443										
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			OB		030			191	_	800	-	04						4451										
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			08		040			191		827		106						4468										
			OB		048			191	_	838		307						4482										
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TRY	ID.	SHIP	LATIT	NOE	LONGITU	JOE .	8 '	ARSI		TATE	ION T	IME	YEAR	CRUI	32	NATO	ON	₹.	DEPTH TO	MAX. DEPTH OF	l	WAVE		WEA- THER	CLOUD		9	NODC TATION NUMBER
3 C	NO.	0000		1/10		1/10	Z 1	0.	1.	MO [Y AC	R,1/10		NO	4	MUM	BER	Į,	BOTTOM	S'MPL'S	DIR.	HGT PE	SEA	CODE	TYPE AM			+UMBER
31	3037	GL	742	295	05953	34W	5	57	49	02 1	11	180 :	1968	İ	01	10		0	604	06	00	0 X		X1	617			0014
									WAT	ER	,	VIND	BARG)- L	AR I	EMP.		215	NO.	SPEC	TAL							
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		MESSENG TIME HR 1/1		CAR		EPTH (n	n J	Ť	℃	5	٠/	SIGA	AA-T		FIC YOL		₹ △ DYN. X I	Μ.	SQU VELO		O ₂ m1/1	PD ₄		NH ₂ - N ug - ol 4	NO2-N ug - al 'l	NO3~N	51 O ₄ -5 µg - at/	
				S.		0000		-01		345		271		00	024	98	000	0.0	144		789							
		17	6	OB:		0000		-01		345		271							144		789	20	2	388	027	249	068	63
						0010		-01		345		271		00	0250	03	000) 3	144		791							
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		1 7		S.		0020		-01		345		271		00	0250	03	000)5	144		792	2.1		221	200	200	040	0.0
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		17	6	0B:		0052		-01		345		271		00	0240	04	001		144		815	19	0	112	005	255	068	82
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		17	6	OB:		0103		-01		34	-	27		00	0 - 2.		002		144	-	722	22	4	437	800	310	071	8.2
		- '				0125		-01		34		27		0.0	012	9.2	002	7	144		714	-			000	0	0 1 2	
				S	TD (0150)	-01	91	34	75	28	00	0.0	011;	24	003	30	144	425	707							
		17	6	0B:	5 (0156	,	-01	91	34	756	280	0.0						144	127	706	23	3	1+0	005	308	071	81
				5	TD (0200)	-01	91	34	78	28	0.2	00	0089	97	003	35	144	434	700							
		17	6	OB:	S (0206	,	-01	91	34	779	280	2.0						144	435	699	22	9		003	316	072	80
				S.	TD (0250)	-01	91	348	30	28) 4	00	0068	84	003	39	144	443	700							
				S	TD (0300)	-01	92	341	3 2	283	36	00	005	01	004	+2	144	+51	701							
		17	6	OB:		0307		-01			322	28							144	452	701	22	6	138	002	304	072	81
						0400			.90	341		28	0.5	00	005	27	004	+7	144	468	706							
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				5	. –	0500		-03	89	34	80	28	04	00	005	8.3	005	53	144	485	710							
		17	6	OB.	S	0514	+	-01	189	34	794	28	0.3						144	488	710	22	4	279	032	330	072	80
		17		OB	5	0540)	-0]	89	34	817	28	0.5						144	492	708	21		212	800	278	071	81
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IO.	SHIP CODE	۱,	LATITUDE		ACILINDE POST	MARSE SQUA	RE		ION TI		YEA	R C	RUISE NO.	PRIGINA ST N	ATIONS UMBER		DEPTH TD BOTTOM	MAX, DEPTH DF S'MPL"	OBSE	WAVE RVATIONS		WEA- THER CODE	CLDU CODE	s		NODC STATION NUMBER
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						1	OLDR	TRANS	OIR	SPEE		ARO- AETER	D	ORY TEM	WET	CODE	HO. OBS.	SPE	CIAL ATIONS							
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	MESSENGA TIME HR 1/10		NO.	TYPE	DEPTH Imi	1	₹	\$	٠/	SIC	MA-			ALY-110	;; c	E ∆ D DYN. M. I 10 ³		CITY	0 2 m1/i	PD 4=P)- N	NO2=4 NO - QL	NO3-		-31 ph
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	129	9	0	85	0010	-01			273		761							402	734	228	3	12	011	284	070	804
	129	9	0	STD BS	002 0 0026	-01 -01		349	43 500		773 779		000	3713	3 (0009		410 415	733 732	242	1	75	005	312	072	807
				STD	0030	-01	61	34			780			3114		0013		417	714							
	129	9	0	STD BS	0050 0052	-01 -01		34	57 573		784 784		000	268	(0018		427 4 27	657 654	243	14	40	005	323	080	807
				STD	0075	-01	73	34	61	2	788		000	2289	9 (0025	14	420	666							
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				STD	0125 0150	-01		34			792 792			1844		0035		423 425	699 693							
	129	9	0	STD BS	0156	-01			666		793		500	102.	. (J U J F		425	692	245	2	42		359	072	807
				STD	0200	-01		34			793		000	1716	5 (0048		434 435	695	243	1	0.2	017	201	071	000
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ERENCE	129					MARS	DEN	STAT	TIDH T	IME				DRIGIN.	ATOR'S	.]	DEPTH	MAX	. 1	WAVE		WEA	CLO	JD.		NODC
ID. NO.	SHIP	1	LATITUDE: 1/740105	10	NGITUDE 11/10	MARS SQU/ 10°	1° 44	02	12	18,1/10 L 5 O	19	68	NO.	01	TATIOI TUMBE	N R	0459	DEPTH OF S'MPL'	S DOL	WAVE ERVATION HGT PER		WEA-THER CODE	CLOU	ES MT		NODC STATION NUMBER
ID. NO.	SHIP	1	• 1/	10	1/10 Z	10° 557	12 E	MD 02	DAY H	L 5 O VIND	19	_	CRUISE NO.	2	TATIOI TUMBE	VIS.	0459	DEPTH OF S'MPL'	S DOL	HGT PER		CODE	TYPL	ES MT		NUMBER
ID. NO.	SHIP	1	• 1/	10	1/10 Z	10° 557	44 WA	MD 02 TER	DAY H	18,1/10 L 5 O VIND	19	68	CRUISE NO.	O1 AIR TEA	TATIOI TUMBE	VIS.	0459 HO.	DEPTH OF S'MPL'	OBS DR.	HGT PER		CODE	TYPL	ES MT		NUMBER
ID. NO.	SNIP CODE GL	7	740105	10	1/10 Z	557	44 WA COLOR CODE	MD 02 TER TRANS	DAY H	IR.1/10 L 5 O VIND SMEE OI FOI	19	68 RARO- METER (mbs)	CRUISE NO.	O1	TATION	VIS. CODE	16	DEPTH OF S'MPL'	OBS DR.	HGT PER	NH NH	X1	TYPL	3 N NO3		OO16
ID. NO.	SNIP CODE	7	740105	0.5 0.5	* 1/10 SZ 4455W	557	44 WA COLOR CODE	MD 02 TER TRANS	DAY H	IR.1/10 L 5 O VIND SMEE OI FOI	19	68 RARO- METER (mbs)	CRUISE NO.	O1 AIR TEA	TATION	vis.	16	DEPTH OF S'MPL' O4 SPI DBSER*	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	740105	CARD TYPE	1/10 2 4 4 5 5 W	500/ 10° 557	WA COLOR CODE	MD O2 TER TRANS (m) SO S	DAY H 12 : DR. 09	SPET STEE	19 5 6 7 5 7 5 9	68 RARO-METER (mbs)	CRUISE NO.	O1 AIR TEA	TATION NUMBER	VIS. CODE	16 SO	DEPTHOF SYMPL' O4 SPIDBSER* UND OCITY	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		STATION NUMBER 0016
ID. NO.	SNIP CODE GL	7	740105	CARD TYPE	1/10 2 4 4 5 5 W DEPTH (m)	500/ 10° 557	WA COLOR CODE	MD O2 TER TRANS (Int) SO S	DAY H 12 V DR. 09	SO SI	19 5MA- 759	68 RARO-METER (mbs)	CRUISE NO.	O1 AIR TEA	TATION TO ME BULE	N R VIS CODE 8 7 ₹ △ D DYN. M x 10 ³	0459 HO. OBS. DEPTHS 16 SO VEL	DEPTH OF SYMPL! 04 SPI DBSER! UND OCITY 398 398	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		STATION NUMBER 0016
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST NO.	CARD TYPE STD BS STD BS STD	DEPTH (m) 0000 0000 0010 0010	557 557	WA COLOR CDDE DT ©	MD 02 TER TRANS Unit 50 S 34 34 34 34 34 34 34	DAY H 12 . DR. 09 •4	SPEE OI FOR	759 759 767	68 RARO-METER (mbs) 019	CRUISE NO.	O1 AIR TEA DRY FULB O3 C VOLU (ALT-E) (428)	TATION TO ME BULB	VIS. CODE 8 7	16 14 14 14 14	DEPTH OF SYMPL! 04 SPE DBSER* UND OCITY 398 398 401 401	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	1/740105	CARD TYPE STD BS STD BS STD STD	DEPTH (m1 0000 0010 0010 0020	557 557	WA COLOR CDDE DT ©	MD 02 TER TRANS (m) 50 S 34 34 34 34 34 34 34	DAY H 12 DR. 09 •/	SILL SO	759 759 767 767	68 BARO-METER (mbs) 019	CRUISE NO.	O1 AIR TEA	TATION TO ME BULB	N R VIS CODE 8 7 ₹ △ D DYN. M x 10 ³	16 14 14 14 14	DEPTH OF S'MPL' 04 SPE DBSER* UND OCITY 398 398 401	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	1/740105	CARD TYPE SID BS SID BS SID BS SID BS SID SID BS S	0000 0010 0010 0020 0030	-0: -0: -0: -0: -0:	WA COLOR CDDE DT T 182 182 182 182 151 151 140	MD 02 TER TRANS (un) 50 5 3 4	DAY H 12 09 09	SO SII	759 759 767 777 777	BARO-METER (mbs)	CRUISE NO.	O1 AIR TEA DRY FULB O3 C VOLU (ALT-E) (428)	TATION TO THE STATE OF THE STAT	VIS. CODE 8 7	16 SO VEL	04 SPED DESER* UND OCITY 398 398 401 419 419 427	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	1/740105	CARD TYPE STD BS STD BS STD BS STD BS STD BS STD	DEPTH (m1 0000 0000 0010 0020 0020 0030 0030	-0: -0: -0: -0: -0: -0:	WA COLOR CDDE DT C 182 182 182 182 181 151 140 140 140	MD 02 TER TRANS (un) SO S 34 34 34 34 34 34 34	DAY H 12 V DIR. 09 09	SO Sti	759 759 767 777 777 782	BARO-METER (mbs)	CRUISE NO.	01 O1	TATION TO THE PROPERTY OF THE	VIL CODE B 7 \$ △ D OOO OOO OOO OOO OOO OOO OOO	0459 HO. OBS. DEPTHS 16	04 SPED DBSER* UND OCITY 398 398 401 401 419 427 427	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	7/4010S	STD BS STD BS STD BS STD BS STD	DEPTH (m) 0000 0010 0010 0020 0030 0030 0050	-0: -0: -0: -0: -0: -0: -0: -0: -0:	WA COLOR CDDE DT & 182 182 182 151 151 140 140 169 169	MD 02 TER TRANS (un) 50 5 34 34 34 34 34 34 34	DR. 09 -4. 25 253 335 249 485 55 59 591	Solution State Solution State Solution State Solution State Solution	199 7759 767 777 777 777 782 7782 7782	68 BARO-METER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	1 WET BULB 00 ((4 () 6 () 6 () 6 () 6 () 7 ()	VIL CODE 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 SC VEL 14 14 14 14 14 14 14 14 14 14 14 14 14	04 SPIDBSER* 04 SPIDBSER* 398 398 401 401 419 427 427 427 417	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		STATION NUMBER 0016
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	7/4010S	CARD TYPE STD BS STD	DEPTH (m) 0000 0010 0020 0020 0030 0050 0050 0075	-0: -0: -0: -0: -0: -0: -0: -0: -0: -0:	WA COLOR CDDE DT \tag{2} 182 182 182 182 1551 1540 169 169 183	MD 02 TER TRANSITION SO S 34 34 34 34 34 34 34	DAY 12 12 09 09 09 09 09 09 09 0	SI 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7599 7759776777777782278867889	68 RARO-METER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	1 WET BULB 00 ((4 () 6 () 6 () 6 () 6 () 7 ()	VIL CODE B 7 \$ △ D OOO OOO OOO OOO OOO OOO OOO	0459 HO	DEFINITION SYMPLE O 4 SPINITION O 4 SPINITION O 5 STATE	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	7/4010S	STD BS STD BS STD BS STD BS STD	DEPTH (m1) 0000 0010 0010 0020 0030 0050 0050 0075 0075	-0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -	WA COLOR CDDE DT \tag{2} 182 182 182 182 185 1 140 140 140 140 140 183 183 188	MD 02 TER TRANSITION SO S 34 34 34 34 34 34 34	DAY 12 12 09 09 09 09 09 09 09 0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	199 7599 75977597767777777777777777777777	68 BARO-MMETER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	11 MP. C WEET 8UL8 0 ((4 ((6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	VIL CODE 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 459 HO. O 659 HO. O 650 VEL 14 14 14 14 14 14 14 14 14 14 14 14 14	DEFINE OF A STANFILL OF A STAN	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	74010S	CCARD UTTYPE STD UBS	DEPTH (m) 0000 0000 0010 0020 0030 0030 0050 0075 0075	-0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -	MARE 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	MD 02 TERN SO S 34 34 34 34 34 34 34	DAY 12 1 09 09 09 09 09 09 09	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	199 7599 75977597767777777777777777777777	68 BARO-MMETER (mbs)	CRUISE NO.	S	11 me. C Wet in 80 me 80 me 80 me 90 me 11 me 12	VIE. CODE VIE. SEAD DYN. M TOTAL NO. O. O	0 4599 HO. OS. DEFINE 16 14 14 14 14 14 14 14 14 14 14 14 14 14	DEFIN OF A STAMPLY	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		STATION NUMBER 0016
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	74010S	CCARD TYPE STD BBS ST	DEPTH (m1) 0000 0010 0010 0020 0030 0050 0050 0075 0075	-0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0	WA COLOR CDDE DT \tag{2} 182 182 182 182 182 185 140 140 140 169 183 183 188	MD 02 TER 1 TRANSS S S S S S S S S S S S S S S S S S S	DAY 12 1 09 09 09 09 09 09 09	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	199 7599 75977597767777777777777777777777	68 RARO-METER (mbs) 019	CRUISE NO.	S S S S S S S S S S S S S S S S S S S	TATION TO THE PROPERTY OF THE	N R R VILL R R R R R R R R R R R R R R R R R R	0 45 9 HO. OBS. DEFINIS	DEFINE OF SYMPIC	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		STATION NUMBER 0016
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	74010S	CARD TYPE STD BBS STD	DEPTH (m1) 0000 0000 0010 0020 0020 0030 0050 0075 0075 0100 0125 0125 0125	-0 10° 10° 10° 10° 10° 10° 10° 10°	WA COLOR CODE DT v 182 182 182 182 182 182 182 183 188 188 188 188 188 188 188 188 188	34 34 34 34 34 34 34 34 34 34 34 34 34 3	DAY 12 12 13 12 13 13 13 13	Solution 7599 7597 7677 7777 7777 7777 7777 7777	68 BARO-METER (mbs)	CRUISE NO	S	TATION TO THE PROPERTY OF THE	VIE. CODE VIE. SEAD DYN. M TOTAL NO. O. O	0 4599 HO. 085. DEFINE 16 SO VEL 14 14 14 14 14 14 14 14 14 14 14 14 14	DEFINATION OF STANDARY OF STAN	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16	
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	74010S	CARD TYPE SID BS SID B	DEPTH (m) 0000 0010 0010 0020 0030 0050 0050 0075 0100 0125 0150	-0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0	DT t 182 182 182 182 183 183 183 183 188 189 189	MD 02 TER 1 TEANS: Um1 50 S 34 34 34 34 34 34 34 34 34 34 34 34 34 3	DAY 12 V DIR. 09 09 09 09 09 09 09 0	SO SO SO SO SO SO SO SO	759 759 767 777 777 777 777 777 777 777 777 77	68 BARO-METER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	TATION THE MARKET THE TENT OF	N R R VILL R R R R R R R R R R R R R R R R R R	0 459 HO. OBS. OBSTHIS HO. SCENERAL 14 14 14 14 14 14 14 14 14 14 14 14 14	DEFINE OF SYMPIC	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		STATION NUMBER 0016
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST NO. C	CCARD OF TYPE STD MBS	0000 0000 0010 0020 0030 0050 0075 0100 0125 0125 0125 0120 0200	-0 10° 10° 10° 10° 10° 10° 10° 10°	WA COLOR CODE DT T T 182 182 182 182 181 140 140 149 188 188 188 188 189 189 189 189 189 18	02 TER TRANS SO SO 34 34 34 34 34 34 34 34 34 34 34 34 34	DAY DR. DR.	SO SI ST ST ST ST ST ST ST	7599 75977597767777777782278867789779179277927792779277927792779277927792	68 BARO-METER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	TATION TO MARKET TO THE TOTAL TO THE T	VIL CODE 1 CODE	144 144 144 144 144 144 144 144 144 144	DESTRICT OF STANDARD OF STANDA	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST C C C C C C C C C C C C C C C C C C	CARD TYPE STD 08S STD 08S SSTD 08S SST	DEPTH (m1) 0000 0010 0020 0030 0050 0075 0100 0125 0150 0200 0200 0250	-0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -	WA COLOR CODE DT T T T T T T T T T T T T T T T T T	34 34 34 34 34 34 34 34 34 34 34 34 34 3	12 V Dr. 09 V. 25 33 5 2 4 4 8 5 5 5 5 9 1 6 6 1 8 6 6 3 3 6 4 8 6 6 5 6 6 6 6 5 6 6 6 5 6 6 6 5 6 6 6 5 6 6 6 5 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6 6 6 6 5 6	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7599 759776777777782278867799179917992779277927792779277927792779	68 BAROMETER (mbs)	CRUISE NO.	01 01 01 03 03 03 05 05 05 05 05 05 05 05 05 05 05 05 05	TATION TO MARKET TO THE TOTAL TO THE T	VIL (COD) (C	16 Society 14 14 14 14 14 14 14 14 14 14 14 14 14	DEFINITION OF STANDARD OF STAN	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST NO. C	CARD 177FE	0000 0000 0010 0010 0020 0020 0030 0050 0050 0075 0100 0125 0125 0125 0120 0220 0220 0330	-00 -00 -00 -00 -00 -00 -00 -00 -00 -00	WA COLOR CODE DT t	34 34 34 34 34 34 34 34 34 34 34 34 34 3	12 V DR. 25 3 3 5 2 2 5 3 3 5 2 4 8 5 5 5 5 9 9 1 6 6 1 8 6 6 5 4 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6	Still Stil	7599 7597 7597 7777 7777 7777 7777 7777	68 BARO-METER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	TATION SE STATE OF ST	VIL CODE 1 CODE	14 14 14 14 14 14 14 14 14 14 14 14 14 1	04 ssymbol octive of sample of sample of sample of sample of sample octive of sample octive of sample octive octiv	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST CA	CARD TYPE SID 05 BS SID 08	DEPTH (m1) 0000 0000 0010 0020 0030 0050 0075 0100 0125 0125 0150 0200 0250 0250 0300 0300	-0 10° 557	WA COLOR CODE 182 182 182 182 185 1 184 189 189 189 189 189 189 189 189 189 189	34 4 3 4 4 4 3 4 4 4 3 4	12 V Dr. 09 V. 25 33 5 2 4 4 8 5 5 5 5 9 1 6 6 6 8 8 6 6 6 5 8 6 6 6 6 6 6 6 6 6 6	Solution 7599 7577777777777777777777777777777777	68 BARO-METER (mbs)	CRUISE NO.	S N N N N N N N N N N N N N N N N N N N	TATION SE STATE OF ST	VIL COOL 12 CO	Depths 16 . Soc vet 14 14 14 14 14 14 14 14 14 14 14 14 14	04 SPR 04	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16	
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST NO. C	CARD 177FE	0000 0000 0010 0010 0020 0020 0030 0050 0050 0075 0100 0125 0125 0125 0120 0220 0220 0330	-00 -00 -00 -00 -00 -00 -00 -00 -00 -00	WA COLOR CODE DT t	SO S S S S S S S S S S S S S S S S S S	12 V DR. 25 3 3 5 2 2 5 3 3 5 2 4 8 5 5 5 5 9 9 1 6 6 1 8 6 6 5 4 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6	SSI 7599 7597 7597 7777 7777 7777 7777 7777	68 BARO-METER (mbs)	000 000 000 000 000 000	Sh	TATION TO THE TENT OF THE TENT	N N N N N N N N N N N N N N N N N N N	14 14 14 14 14 14 14 14 14 14 14 14 14 1	04 sseries of same of	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16	
ID. NO.	SNIP CODE GL MESSENGE TIME HR 1/10	7	CAST CA	CARD TYPE STD BS STD B	DEPTH (m1) 0000 0000 0010 0020 0030 0050 0050 0075 0100 0125 0125 0150 0200 0250 0250 0330 0328	-0 10° 557	WA COLOR CODE 18	34 4 3 4 4 4 3 4 4 4 3 4 4 4 3 4 4 4 4 3 4	12 v Dr. Dr. 25 33 5 2 2 25 5 3 3 5 2 2 4 8 5 5 5 5 9 1 6 6 6 3 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6	State	7599 75977677777777777777777777777777777	68 BARO-METER ((mbs))	000 000 000 000 000 000	Sh	TATION TO THE TENT OF THE TENT	VIL COOL 12 CO	Depths 16 . Soc vet 14 14 14 14 14 14 14 14 14 14 14 14 14	04 sseries of same of	OBS OR OO CIAL /ATIONS	PD4=P	NH NH	X1	TYPE O	3 N NO3		OO16

CTRY	RENCE	SHIP	LATTIUDE	_	DRUFT		A R E		TION	1	ľ	CRUIS NO.	E 9	ATOR'S STATION NUMBER	\dashv	DEPTN TO BOTTOM	MAX, DEPTH OF		ERV	VE A TIO		WEA- THER CODE	, co	DES	NODC STATION NUMBER
31	NO.	GL	732305	052180W		557	32	02		HR.1/10	1968	1	01			0421	04	0.0	_	X	SEA	X 1	1446	3	0017
							CDLOR CODE	TRAN	S DIR	WIND SPEE OR	1	; -	AIR TEI DRY BULB	WET BULB	COD		SPEC								

				DT	SD 00	500	998 -052 -0	55 7	19							
MESSENGE TIME OF	CAST NO.	C ARD TYPE	DEPTN (m)	1.5	s -/.	SIGMA	-T SPECIFIC VOLUME ANOMALY-E107	≨ △ D DYN. M. R 10 ³	SOUND	0 2 ml/l	PO4-P ug - at/1	NN N 3 3 - 01/7	NO2-N ug - et/l	NO3-N vg - at/1	Si D4=5: yg = at/1	pH C
,	'	STD	0000	-0183	3425	2759	0005087	0000	14397	•						
021		OBS	0000	-0183	34248	2759	9		14397							
		STD	0010	-0178	3430	2763	0004708	0005	14402							
		085	0010	-0178	34298	2763	3		14402							
002		OBS	0016	-0170	34363	2768	3		14408							
		STD	0020	-0172	3438	2770	0004064	0009	14408							
		085	0020	-0172	34383	2770)		14408							
		STD	0030	-0172	3442	2773	3 0003751	0013	14410							
		OBS	n030	-0172	34423	2773			14410							
		STD	0050	-0175	3447	277	7 0003348	0020	14413							
		OBS	0050	-0175	34473	277	7		14413							
		OBS	0056	-0171	34485	2778			14416							
		085	0064	-0173	34496	2779			14416							
		STD	0075	-0162	3451	2779		0028	14423							
		OBS	0075	-0162	34508	2779			14423							
		085	0096	-0147	34530	278			14434							
		STD	0100	-0159	3454	2782		0036	14429							
		OBS	0100	-0159	34537	2782			14429							
		STD	0125	-0140	3455	2782		0043	14443							
		OBS	0125	-0140	34550	278			14443							
		085	0137	-0133	34558	278			14448							
		STD	0150	-0159	3457	278		0050	14438							
		088	0150	-0159	34570	278			14438							
		085	0163	-0157	34576	278			14441							
		STD	0200	-0183	3463	279		0061	14436							
		OBS	0200	-0183	34628	279			14436							
		STD	0250	- 0187	3467	279		0071	14443							
		085	0250	-0187	34667	279			14443							
		STD	0300	-0188	3468	279		0079	14451							
		088	0300	-0188	34681	279			14451							
		STO	0400	-0191	3473	279		0093	14467							
		085	0400	-0191	34727	279	8		14467							

REFERENCE CTRY ID.	CODE	LATTU		ONGITUDE DINE	MARS SQU	A RE	STATIO	ATI	1	EAR	CRUISE	ATOR'S STATION NUMBER		DEPTN TO BOTTOM	MAX. DEPTH OF	OBSI	WAVE ERVATIONS	WEA- THER CODE	CLOUD	J	1	NODC TATION TUMBER	
CODE NO.	.		1/10	1/10	10*		MO DA	Y HR	1/10	-	ND.	NUMBER			S'MPL"	_	HGT PER SE	^	1177	'	_		1
I 31B03	17 GL	7526	75 0	26326W	554	56 I	02 15	15 WIF		968	01	3 MP. ℃	\dashv	0507	05.	المعا	o lx l	l xı	013	1	ı	0018	ı
					ł	COLOR			SPEED	METE	•	WET	VIS.	■ O22* I		CIAL							
					l	CODE	(m)	DIR.	OR FORCE	(mbs)		BULB		DEPTHS	003241								
						DT	SDC	7 9	10	978	064	-068	7	18									
	MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	1	70	5 -/		SIGMA	A-T	SPECIFIC VOL	(7) E	∆ D YN. M R 10 ³		DCITY	O ₂ ml/l	PD 4-P #9 - 01/1	ИМ3 — М ид о1/1	NO2−N pg - o1/l	ND3-N yg - al/l	\$1 O4 - 5 yg - at/		S
]			-															
	'		STD	0000	-00	99	3375	5	271	6	000915	8 0	000		430								
	14	l	OBS	0000	-0	199	3374	8	271	-					430								
			STD			086	3378		271		000893	0 0	009		438								
			085	0010		086	3378		271						438								
			STD			061	3383		272		000867	5 0	018		452								
			085	0020		061	3382		272						452 459								
			085	0025	_	050	3394		273		000731		026		459 458								
			STD			056	3401		273 273		000731	. > (026		458 458								
			OBS	0030		056 061	3400		273						457								
			OBS	0032		062	3408		274						458								
			08s 08s	0048	_	060	341		274						461								
			STO			071	3412		274		000636	. 2	040		456								
			085	0050		071	3412		274		000000	,,,			456								
			STO			186	3426		276		000495	5 0	054		408								
			085	0075		186	342		276					14	408								
			STO			188	342	9	276	3	000466	5 0	066	14	412								
			085	0100	-0	188	342	93	276	3				14	412								
			STO	0125	-0	188	343(0	276	3	00045	73 (077	14	416								
			OBS	0125	-0	188	3430	03	276	3				14	416								
			STE	0150	-0	189	343	3	276	6	000435	55 (0088	3 14	420								
			085	0150	-0	189	343	29	276	6					420								
			5 T C		_	189	343		276		000409	94 (110		429								
			obs	0200		189	343		276						429								
			ST			189	343		276		00039	5 (130		438								
			OBS	0250		189	343		276				. 1		438								
			STI			190	343		277		00038	14 (149		446								
			085	0300		190	343		277		00035		1100		446								
			STE			192	344 344		277		000354	+ / (186		462								
38			085 085	0400 0480		192 190	344		277						476								

FERENCE IT ID. DE NO.	SHIP	LATITU		NGITUDE E	MARSDEN SQUARE		STATION (GMT		YEAR	CRUIS NO.		ATOR'S TATION		DEPTH TO BDTTOM	MAX. DEPTH OF S'MPL'	1	WAVE ERVATIONS HGT FER SE	WEA THER CDDI	. C	ODES			NDDC STATION NUMBER
1803	7 GL	752€	75 02	6326W	554 56		-+	180	1968	1	01			0507	0.5	1			1117	7		+	
POS	1 05 1	1720	113 02	0320#	٠ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ	WATER		WIND	BAI	<u> </u>	AIR TEA			NO.		CIAL	0 \(\)	X1	1 6	1/			0019
					COF		RANS DIR	SPEEC OR FORC)	TER	DBA DBA	WET	CODE	OBS. DEPTHS		ATIONS							
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ID. NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	CAND TYPE STD OBS	0457 T0478 T0499	-019/-019/-019/-019/-019/-019/-019/-019/	4 4 4 3 3 0 WATER TO T	34423 34437 34427 STATION IGMT 30 DAY 2 16: SD 10: S -4.	277 277 277 277 277 277 277 277 277 277	YEAR 1968 MA-1 743 743 743 743	BO- TER bis 3 9 3 -(O1 AIR TEI DRY BULB O08 FIC VOLUMALY—XI	TATION NUMBER 4 MP. C WET SULB -014 507 7 0	7 7 A D YN. M x 10 ³	0 6 6 7 1 4 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	MAX OCETY 02 SPI OBSER*	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
ID. NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	CAND 17PE STD OBS STD OBS STD OBS STD OBS	0457 T0478 T0499 NGITUOE 1/1/10 3489W	-019/-019/-019/-019/-019/-019/-019/-019/	4 4 4 3 3 3 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	34423 34427 34427 34427 34123 34123 34123 34123 34123 34123 34123	277 277 277 277 277 277 277 277 277 277	YEAR YEAR 1966 BACK IN 1970 MA-1 743 743 743 7443	BBO-TER bei 93 - (01 AIR TED DRY BULB 008 FIC VOLUD MALY-21 0660 0658	### 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 A D YN. M x 10 ³ 000	06P1H 14 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	MAX OCPITY 022 SPI OBSER: 472 472 472 472 471 471	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
ID. NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	CAND 1776 CAND 1776 STD OBS	0457 T0478 T0499	-019/-019/-019/-019/-019/-019/-019/-019/	4 4 4 3 3 0 WATER TO T T 9 9 9 2 2 2 0 0 0 7 7	34423 34427 34427 351ATION IGM1 10 OAY 2 16 E E E E E E E E E E E E E E E E E E	277 277 277 277 277 277 277 277 277 277	TEAR	BBO-TER bei 93 - (OBSECTION OF STREET OF STR	### 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 A D YN. M x 10 ³ 000	14 14 14 14 14 14 14 14 14 14 14 14 14 1	MAX OCPITY 022 SPI OBSER: 472 472 472 472 471 471	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
ID, NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	CAND 17PE LO STD OBS	0457 T0478 T0499 NGITUDE 1/10 3489W	-019/-019/-019/-019/-019/-019/-019/-019/	4 4 4 3 3 0 WATER TO	34423 34427 34427 34427 34123 34123 34123 34123 34123 34123 34123 34123 34123 34123 34123 34123 34123 34123	277 277 277 277 277 277 277 277 277 277	YEAR 1968 BA ME LIP 1968 70 743 743 743 745 745 755 755	BBO-TER bei 93 - (01 AIR TED DRY BULB 008 FIC VOLUD MALY-21 0660 0658	### 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 A D YN. M x 10 ³ 000	0 76 8 NO. 085. 085. 085. 13 SOIVELL 14 14 14 14 14 14 14 14 14 14 14 14 14	MAXX OFFIT OF SIMPLE OF SI	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
ID. NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	CAND 1/10 CAND 1/70 CAND 1	0457 T0478 T0499 NGITUOE 1049 3489W	-019/-019/-019/-019/-019/-019/-019/-019/	4 4 4 3 3 0 0 males	34423 34427 31410N IGMI 10 DAY 2 16 16 17 STATION IGMI 5 C C 3412 3412 3413 3412 3413 3413 3413 3413	277 277 277 277 277 277 277 277 277 277	TEAR TEAR TEAR TEAR TEAR TA TEAR TE	93 - (9 ANO 00)	01 AIR TEI DRY 801B 008 FIC VOLUMALY—X1 0660 0658 0643	4 wp. ℃ wet 8 vo. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 7 103 103 103 103 103 103 103 103 103 103	OEPTH 14 14 14 14 14 14 14 14 14 14 14 14 14	MAXX	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
ID, NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	OBS OBS OBS OBS 1/10 +2S O3 *** STD OBS STD OBS OBS OBS OBS OBS	0457 T0478 T0499 NGITUOE 1/10 3489 W	-019/-019/-019/-019/-019/-019/-019/-019/	9992200077744334	34423 34427 31410n IGMI 10 OAY 2 16 E EMNS OR 3412 3412 3412 3412 3412 3414 3420 3419 3420 34	277 277 277 277 277 277 277 277 277 277	YEAR YEAR 1968 BA ME	93 - (90)	01 AIR TED DRY BULB 008 FIC VOLUD MALY-21 0660 0658	4 wp. ℃ wet 8 vo. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 7 103 103 103 103 103 103 103 103 103 103	14 14 14 14 14 14 14 14 14 14 14 14 14 1	MAXX 00F111 00 00 00 00 00 00 00 00 00 00 00 00	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
ID, NO.	18 18 18 18 18 SHIP CODE 7 GL	7614	CAND 1/10 CAND 1/70 CAND 1	0457 T0478 T0499 NGITUOE 1049 3489W	-019/-019/-019/-019/-019/-019/-019/-019/	4 4 4 3 3 0 WATER TOOK TO	34423 34427 31410N IGMI 10 DAY 2 16 16 DAY 34123 34124 341	27 27 27 27 27 27 27 27 27 27 27 27 27 2	TEAR TEAR TEAR TEAR TEAR TA TEAR TE	93 - (90)	01 AIR TEI DRY 801B 008 FIC VOLUMALY—X1 0660 0658 0643	4 wp. ℃ wet 8 vo. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 7 103 103 103 103 103 103 103 103 103 103	14 14 14 14 14 14 14 14 14 14 14 14 14 1	MAXX	733 733 736	228 226 234	136 306 234	O I O I O I O I O I O I O I O I O I O I	15 10 05 CODES	287 302 312	069 070 066	NODC STATION NUMBER
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10. 10. 10.	SHIP	LATITU	DE 1/10	LONG	GITU O E	DEST	MARS SQU	ARE	10	ON THE	١	EAR	CRUISE NO.		OR"S TION MEER	7	0EPTH 10 0TTO M	MAX. OEPTH OF S'MPL"		WAV SERVA	E TIONS	WE.	r C	OOES		5.	NOOC TATION IUMBER
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								COLOR	TRANS.	OIR.	SPEED OR PDRCE	METE	R (WET CO		ORS. DEPTHS		CIAL 'ATIONS								
							- 1	DT	SD	07	520	84	9 -0	08	010 4	,	15										
	MESSENGR TIME (CAST NO.	CARD TYPE		ОЕРТН	(m)	Τ,	°c	s	٠/	SIGM	1 − 7		VOLUM	₹ Δ DYN. x 1	м.		CITY	O2 ml/1		4-P	NH 3-1		12-N - a1/1	NO3-N µg - 01/1	\$1 Da-Si µg - a1/1	рН
			ST	D	000	0	-0	048	339	9	273	3	000	7517	000	00	14	457									
	015	5	OBS		000	0	-0	048	339	87	273	3					14	457									
			ST	D	001	0	-0	048	339	99	273		000	7484	000	8		459									
			OBS		001			048	339		273							459									
	002	2	OBS		001			046	34(-	273							461									
			ST		002			091	34		275		000	15945	00	L 4		443									
			OBS ST		002			121 145	34	253	275 276		000)4539	00			431 421									
			0BS	_	004			173		•18	277		000	14009	00	19		411									
			5 T		005			174	34		277		000	3719	00	ο ο		412									
			085		005			174		+25	277		000	, , , , ,	00.	. 0		412									
			ST		007			175	344		277		000	3641	00:	3.7		416									
			QB5		007			175		433	277				0			416									
			ST		010			175	344		277		0.00	3542	004	+6		420									
			OBS	;	010	0		175	344	444	277							420									
			ST	0	012	5	-0	173	344	+6	277	6	000	3410	00	55	14	426									
			ST	D	015	0	-0	172	344	+8	277	7	000	3284	000	53	14	431									
			OBS		015	0	-0	172	34	+75	277	7					14	431									
			ST	D.	020	0	-0	172	344	+9	277	8	000	3134	00	79	14	439									
			OBS	;	020	0	-0	172	344	+91	277	8					14	439									
			ST		025			174	345		278			2954		94	14	447									
			ST		030			177	345		278		000	2710	010	8 (454									
			OBS		030			177		537	278						14	454									
			ST		040			183	34!	-	278		000	2290	01:	33		468									
			OBS		040			183		82	278							468									
			ST		050			195	346		279		000	1785	019	54		480									
			085		050			195		535	279							480									
			OBS		056			203		544	279							487									
			OBS	5	059	12	-0	207	346	552	279	2					14	490									

REFERENCE SHIP CODE	LATITU	OE LC	NGITUOE 1/10	SQL 10°	ARE		ON T		YEAR	CRUISE	NATOR*	N	OEPTH TO BOTTOM	MAX OEPTH OF S'MPL'	083	WAVE ERVATIO		WEA THER COOE	CO	OUO	-	5	DOOC NOITAT NOITAT
318037 GL	7614	25 0	34489W	555	64 WA' COLOR	rER	_	SPEED	BAR MET	O- AIR TE	MP. C	VIS.	0768 NO. OBS. DEPTHS		CIAL VATIONS	lolxl		x7	7	8			0022
					CODE	,	0.8	S21	84	-	-01		14										
MESSENG TIME HR 1/10	OF NO.	CARO	DEPTH (m	, 1	*	s	٠/	Τ	AA-T	SPECIFIC VOLI	UME	₹ ∆ 0 0 N. M. x 10 ³	SOU		O2 ml/l	PO 4-	P 1	4H - H	NO2-	=N of rl	NO3-N µg - o1/1	\$1.⊙4++\$1 µg + a1/1	рН
				\neg																		_	
		STD			056	341			36	00072	10	0000	-	454	869								
0.2	-	OBS	0000		0056		23	27						454	869	111	l	168	01	3	164	040	832
0.2	2.8	OBS	0007		057		24		37					454	861	134	+ .	216	00	3	145	041	831
		STD	0010		056	34			40	000684	+6	0007		456	858								
0.2	28	OBS	0018		054		186	27						460	841	147	7	170	00	8	144	044	829
		STD			062	34.		2.7		000582		0013		457	830								
		STD	0030		098	34			59	00050	74	0019		443	784					_			
0.2	28	OBS	0037		121		327	27	_					434	760	196		138	01	2	248	057	815
		STD	0050		162	34		27		00039	43	0028		418	739					_			
0.2		OBS	0056		174		+17	27						413	732	220		017	01		194	065	814
0.2	18	OBS	0073	-	183		+30	27						412	724	220) ;	112	00	4	246	065	815
		STD			183	34			74	000364		0037		412	724								
		STD	0100		183	34	_		74	00036	12	0046		416	718					_			
0.2	18	OBS	0108		183		+32	27						418	716	229	,	473	00	9	255	067	810
		STD	0125		181	34		27		000354	+ 1	0055		422	726								
0.2	. R	085	0141		179		444	27						425	732	235	,	222	00	0	276	063	814
		STD			179	34			75	000348		0064		427	729								
		STD			177	34	-		76	000336	53	0081		436	715	2.1					24-		
0.2		085	0205		177		460		76					437	713	212		130	00		260	065	810
0.2	2.8	OBS	0225		193		482		78	000301	- ,	0007		433	721	220)	059	00	4	222	064	814
		STD			191	34			79	00030!		0097		438	720								
0.7	2.0	STD			188	34	_		80	000290	10	0112		449	719	21.		. 0 /		_	221		012
0.2	. 8	OBS	0350		184		524	27		202771		0120		459	718	216)	094	0.0	0	236	064	812
0.2	2.0	STD			192	34			85	000235)	0138		464	717	310		n / E	0.0		220	063	0.1.2
0.2		OBS	T0425		195		583	27	-					467	716	219)65	0.0	-	229	063	812
0.2	. 0	085	T0477		199		506	27		00010		0140	_	474	715	221		183	00	4	260	063	811
0.0	10	STD	0500		199	34			89	000188	50	0160		478	712	22.		- 0		_			0
0.2	5 5	OBS	T0518	- (199	341	524	27	40				14	481	709	236) (3 B	00	O	221	061	808

ID.	SHIP	LATITU	DE LON	ACITUDE PO	M ARSDEN SQUARE	STATION T	IME	YEAR	CRUISE	STATION	\dashv	DEPTH	MAX. DEPTH OF	085	WAVE ERVATIONS	THER	CODES			STATION
NO.	CODE	•	1/10	· 1/10 0 Z	10" 1"	MD DAY	R.1/10		NO.	NUMBER	!	BOTTOM	S'MPL'S	Dur.	HGT PER SI	CODE	TYPE A M	1		NUMBER
8037	GL	7450	65 03	9049W	555 49	02 17	180	1968	0			0384	04	00	o x	X 2	6 8			002
						1	SPEED	BARO	٠ -	MP. C	VIS	NO. OBS.	SPEC							
					COLO	TRANS. DIR.	FORCE	METE (mbs		WET BULB	CODE	DEPTHS	DRSERV	ATIONS						
						09		79	5 -003	-015	7	11								
	MESSENGE	CAST	CARD		T	1			SPECIFIC VOL	UME E	A D	sau	JND	01/1	PO4=P	NH ₃ N	NOS-N	NO ₁ -N	1	
	HR 1/10	NO.	TYPE	DEFTH (m)	1 %	\$ *4.	SIGA	T-AA	ANOMALT-I	107 D	YN, M, X 10 ³	VELC	CITY	O 2 ml/1	µg + 01 1	μg - a1 1	µg − 01 +	NB - 01	υg − α1	
	1116 1710				1		+			_								Ť	1	
	I	,	510	0000	-0145	3377	27	19	00088	32 O	000	14	408	808	,	,				
	177	7	085	0000	-0145	33766	27	19					408	808	154	248	016	184	043	82
			510	0010	-0147	3376	27		00089	48 0	009		409	828	1.0	3 + 6	212	222		
	177	/	0BS ST0	0010	-0147 -0147	33756 3377	27 27		00088	57 0	018		409 411	828 828	168	166	012	232	043	8.2
	177	7	085	0025	-0147	33772	27		00000	, ,	,0 10		412	828	176	070	012	163	043	82
			STO	0030	-0150	3392	27	31	00076	59 0	026	14	413	815						
		_	STD	0050	-0161	3433	27		00044	33 0	038		417	769	22.	3.5.6		2 * 4		
	177	7	085 \$T0	0051 0075	-0162 -0175	34338 3440	27 2 7		00039	าลก	1049		417 415	767 728	230	156	010	216	058	81
	177	7	OBS	0076	-0176	34400			00057	, ,	104)		415	727	250	068	007	192	069	81
			STD	0100	-0181	3441	27	72	00038	0 3	058	14	417	721	-			_	/	- *
	177	7	OBS	0102	-0181	34409			0000		.0		417	720	240	251	026	215	070	81
			STD	0125 0150	-0177 -0173	3442 3443	27	73 73	00037		068 077		423 429	718 715						
	177	7	OBS	T0152	-0173	34429			00000	.0 0			430	715	263	109	003	278	071	81
			5 T 0	0200	-0168	3445	27		00034	61 0	1095	14	441	702	-					
	177	7	OBS	0204	-0167	34452	27				. 1		442	701	249	155	TRC	271	073	81
			STD	0250 0300	-0162 -0157	3447 3450		77 78	00032)112)127		452	697 692						
	17	7	0B5	0306	-0156	34500		79	00000	J 0 0	, = < 1		464	691	238	059	TRC	220	074	81
	17		OBS	T0334	-0146	34554		83					474	671	261	109	005	259	077	
	17	7	OBS	T0356	-0146	34564	2.7	84				14	478	674	251	095	004	218	077	8]
ID.	SHIP CDDE	LATITU	DE LON	GLINDE PERCEN	MARSDEN SQUARE	STATION T (GMT)		YEAR	ORIGII CRUISE ND.	NATOR'S STATION NUMBER		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL"	0.07	WAVE ERVATIONS	WEA- THER CODE	CLOUD CODES			STATIO
ID.		7402	1/10	1911UDE 1710 1710 0372W	SOUARE	MO DAY	(R.1/10	YEAR 1968	CRUISE	STATION NUMBER		10	DEPTH	0.07	ERVATIONS	THER	CODES	17		NUMBE
ID. ND.	CDDE	•	1/10	1710	10° 1° 556 40	MO DAY 02 18	030 VIND	1968 BARC	CRUISE ND.	STATION NUMBER 7		10 BD11DM 0695	OF S'MPL"	D DUR.	HGT PER S	THER CODE	TYPE AM	17		NUMBE
ID. ND.	CDDE	•	1/10	1710	10° 1° 556 40	MO DAY 02 18	030	1968	CRUISE ND. O	STATION NUMBER	VIS	10 BDTTDM 0695	OF S'MPL"	DIR.	HGT PER S	THER CODE	TYPE AM	17		STATION
ID. ND.	CDDE	•	1/10	1710	556 40 WA	MO DAY POZ 18	O 3 O WIND SPEED OR FORCE	1968 BARC METE	CRUISE ND.	STATION NUMBER 7 MP. °C	CODE	10 BD11DM 0695 NO. 085.	DEPTH OF S'MPL"	DIR.	HGT PER S	THER CODE	TYPE AM	17		NUMBE
ID. ND.	GL	7402	1/10	0372W	10° 1° 556 40 WA COLOR CODE	MO DAY FOR TER TEAMS DIR.	030 WIND SPEED OR FORCE 512	1968 METE (mbs	CRUISE ND.	TATION NUMBER 7 MP. C WET BULB -011	vis. code 6	NO. OBS. DEPTHS	DEPTH OF S'MPL" 06	O O CIAL 'A TION S	ERVATIONS	THER CODE	TYPE AM			002
ID. ND.	GL MESSENGR	7402	1/10	1710	556 40 WA	MO DAY FOR TERMS DIR.	030 WIND SPEED OR FORCE 512	1968 METE (mbs	CRUISE ND.	STATION NUMBER 7 MP. C WET BULB -011	vis. cope	NO. OBS. DEPTHS	DEPTH OF S'MPL"	DIR.	HGT PER S	THER CODE	TYPE AM	17	SIO4=5	OO2
ID. ND.	GL	7402	1/10 45 04	0372W	10° 1° 556 40 WA COLOR CODE	MO DAY FOR TER TEAMS DIR.	030 WIND SPEED OR FORCE 512	1968 METE (mbs	CRUISE NO.	STATION NUMBER 7 MP. C WET BULB -011	CODE	NO. OBS. DEPTHS	DEPTH OF S'MPL" 06 SPEI DBSERV	O O CIAL 'A TION S	PO4-P	THER CODE	TYPE AM	NO ₃ +Pe	SIO4=5	OO2
ID. ND.	GL MESSENGR	7402	1/10 45 04	0372W	10° 1° 556 40 WA COLOR CODE	MO DAY FOR TER TEAMS DIR.	030 WIND SPEED OR FORCE 512	1968 BARC METE (mbs 81	CRUISE NO.	STATION NUMBER 7 MF. C WET BULB -011	CODE	NO. OBDITOM 0695 NO. OBS. DEPTHS 13	DEPTH OF S'MPL" 06 SPEI DBSERV	O O CIAL 'A TION S	PO4-P	THER CODE	TYPE AM	NO ₃ +Pe	SIO4=5	OO2
ID. ND.	GL MESSENGR	CAST	CARD TYPE STD OBS	DEPTH (m)	10° 1° 556 40 COLOI CODE 1 ° ° COLOI CODE	GMTI MO DAY 02 18 TER 18 18 5 */	17.1/10 030 WIND SPEED OR FORCE 512 SIGA 27	1968 BARC METE (mbs) 81	CRUISE ND. AIR TER R DRY BULB 4 -001 SPECIFIC VOL ANOMALY-3	STATION NUMBER 17 MP. C WET BULB -011 -07 0 77	VIS. CODE 6 A D YN. M. x 10 ³	13 SOL VELCE	DEPTH OF S'MPL" O6 SPEIDBSERV	00 CIAL A TIONS	PO4-P	THER CODE	TYPE AM	NO ₃ +Pe	SIO4=5	OO2
ID. ND.	GL MESSENGR TIME CHR 1/10	CAST NO.	CARD TYPE STD OBS STD	DEPTH (m)	10° 1° 556 40 W/ COLON CODE CODE CODE CODE CODE CODE CODE CODE	MO DAY PO 2 18 TER STEEL	17.1/10 0 3 0 WIND SPEED OR FORCE 5 1 2 SIGA 2 7 2 7 2 7	1968 #ARCG METE (mbs) 81	CRUISE NO.	STATION NUMBER 17 MP. C WET BULB -011 -07 0 77	VIS. CODE 6 Δ D γν. м.	13 SOL VELCE	DEPTH OF SYMPLY OF SYMPLY OF SYMPLY OF SYMPLY OF SPECULAR OF SPECULAR OF SPECULAR OF SYMPLY OF S	00 CIAL 'A TION'S	FO4-P #90 - 01/1	THER CODE	TYPE AM 7 B	NO3+Pr µg-o1	S1 ∩ 4 − 5 1	OO2
ID. ND.	MESSENGR TIME O	CAST NO.	CARD TYPE STD OBS	DEPTH (m)	10° 1° 556 40 COLOI CODE 1 ° ° COLOI CODE	GMTI MO DAY 02 18 TER 18 18 5 */	17.1/10 0 3 0 WIND SPEED OR FORCE 5 1 2 SIGA 2 7 2 7 2 7	1968 BARC METE (mbs 81 AA-1 22 22 22 22	CRUISE ND. AIR TER R DRY BULB 4 -001 SPECIFIC VOL ANOMALY-3	STATION NUMBER 7 MP. C WET BULS -011 77 07*	VIS. CODE 6 A D YN. M. x 10 ³	13 SOUL VELCE	DEPTH OF S'MPL" O6 SPEIDBSERV	00 CIAL A TIONS	PO4-P	THER CODE	TYPE AM	NO3+4-	Si∩ _a −S ug - at	OO2
ID. ND.	GL MESSENGR TIME CHR 1/10	CAST NO.	CARD TYPE STD OBS STD OBS	DEPTH (m) 0000 0000 0010 0010	10° 1° 556 40 COLOI CODE 1 ° C -0150 -0150 -0150	GMTI MO DAY F 02 18 TER TER TER 18 18 5 */ 3380 3380 3380 3380 3380	(R.1/10 0 3 0 WIND SPEED PORCE 512 SIGA 2 7 2 7 2 7 2 7	1968 BARC METE (mbs 81 AA-1 22 22 22 22 28	CRUISE NO. 0 AIR 11 AIR 11 AIR 12 AIR 14 AIR 1	STATION NUMBER 7 MP. C WET BULS -011 77 07*	VIS. CODE 6 6 7N. M. X 103	13 SOUL VELCE	DEPTH OF SYMPLY OF SYMPLY OF SYMPLY OF SYMPLY OF SPECTOR OF SPECTOR OF SYMPLY OF SYMPL	00 CIAL 'ATIONS 02 ml/l 844 850 850	FO4-P #90 - 01/1	THER CODE	TYPE AM 7 B	NO3+Pr µg-o1	S1 ∩ 4 − 5 1	002
ID. ND.	MESSENGR TIME O HR 1/10	7402	CARD 179E STD 08S STD 08S STD 08S STD 08S STD 08S STD	0000 0000 0010 0010 0020 0024	SOUARE 10° 1° 556 400 60	GGMTI	27 27 27 27 27	1968 BARC METE (mb) 81 AA-T 22 22 22 22 22 22 28 31 38	CRUISE NO. 0 AIR 11 AIR 11 AIR 12 AIR 14 AIR 1	STATION NUMBER 1.7 MP. C WET BUL9 -011 7.7 0 7.7 0 4.5	VIS. CODE 6 6 7N. M. X 103	13 SOLUTION 14 14 14 14 14 14 14 14	DEPTH 06 SPEC DBSERV 407 408 408 408 409 411	02 ml// 844 844 850 850 847 829	FO4-P P9-01/1 131 129	THER CODE	TYPE AM 7 8 NO2+N νg - οι 1	NO3+N- µg-oil 187 142	026 030	002 82 81
ID. ND.	MESSENGR TIME o HR 1/10	7402	CARD TYPE STD OBS STD OBS STD OBS STD OBS	DEPTH (m) 0000 0000 0010 0020 0024 0030 0049	T T T T T T T T T T T T T T T T T T T	GMT MO DAY	12.1/10 0 3 0 WIND SPEED 5 PEED 5 1 2 5 1 2 5 1 2 5 1 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	1968 BARCO MÉTÉ (mbs) 81 AA-T 22 22 22 22 28 31 38 56	CRUISE NO. 0 : AIR TI R BULB 4 -001 SPECIFIC VOICE ANOMALT-1 00085 00085 00080	STATION NUMBER 1.7 MP. C WET BULS -011 7.7 0.7* 0.45	VIS. CODE 6 A D. N. M. X 103	10 BDTTDM 0695 NO. OBS. DEPTHS 13 SOL VELO 14 14 14 14 14 14 14 14	DEPTH OF STAPE STA	02 mi// 844 850 850 847 829 781	FO4-P pg - 01/1 131	THER CODE	NO2+N vg - ot 1	NO3+N- pg-of I	026	002 82 81
ID. ND.	MESSENGR TIME O HR 1/10	7402	CARD 11/FE STD 085 STD	DEPTH (m) 0000 0000 0010 0010 0020 0024 0030 0049 0050	100 100	GMTI GMTI GMTI GMTI GMTI GMTI GMTI GMTI	SIGA 27 27 27 27 27 27 27 27 27 27 27 27	1968 BARCO MÉTE (mbs) 81 AA-1 22 22 22 22 22 23 31 38 56 57	CRUISE NO. 0 1 1 1 1 1 1 1 1 1	STATION NUMBER 1.7 MP. C WET BULS -011 7.7 0.7* 0.45	VIS. CODE 6 6 70. M. X 103	13 SOLUTE 14 14 14 14 14 14 14 14 14 14 14 14 14	DEPTH O O O O O O O O O	S DR. 00 CIAL ATIONS 02 mI/I 844 850 850 850 857 829 781 779	FO4-P 199 - 171/1	THER CODE	NO2=N yg-of 025 020 017	NO3+No3+No3+No3+No3+No3+No3+No3+No3+No3+No	026 030 027	002 5, s, 82 81 81
ID. ND.	MESSENGR 171ME MR 1/10	7402	V10	DEPTH (m) 0000 0000 0010 0020 0024 0030 0049 0050 0073 0075	T T T T T T T T T T T T T T T T T T T	GMT MO DAY	ST ST ST ST ST ST ST ST	1968 BARCO METE (mb) 81 AA-1 22 22 22 22 22 22 28 31 38 56 56 65	CRUISE NO. 0 : AIR TI R BULB 4 -001 SPECIFIC VOICE ANOMALT-1 00085 00085 00080	STATION NUMBER 1.7	VIS. CODE 6 A D. N. M. X 103	10 BD 110 MO. 0695 NO. 085. DEPTHS 13 SOUVELCE 14 14 14 14 14 14 14 14 14 14 14 14 14	DEFTINE OF STAPE	02 mi// 844 850 850 847 829 781	FO4-P P9-01/1 131 129	THER CODE	TYPE AM 7 8 NO2+N νg - οι 1	187 142 201 133	026 030	002 5, s, 82 81 81
ID. ND.	MESSENGR TIME 6 HR 1/10	7402	V10	DEPTH (m) 0000 0000 0010 0020 0024 0030 0049 0050 0073 0075 0098	T T T	GM1 MO DAY PO PO PO PO PO PO PO P	SIGA	1968 BARCHE (mb) 81 82 22 22 22 22 22 28 31 38 56 65 665 665 666 8	CRUISE NO. 0 1 AIR 14 1 1 1 1 1 1 1 1 1	STATION NUMBER 1.7 MF. C WET BULS -011 UME TO	VIS. CODE 6 6 79N. M. X 10 ³ 100 00 00 17 100 24 100 37 100 49	14 14 14 14 14 14 14 14 14 14 14 14 14 1	OFFI 02 mi// 8444 850 850 850 857 847 779 744 743 735	FO4-P 199 - 171/1	THER CODE	NO2=N yg-of 025 020 017	NO3+No3+No3+No3+No3+No3+No3+No3+No3+No3+No	026 030 027	002 002 82 81 80 80	
ID. ND.	MESSENGR 171ME MR 1/10	7402	CARD 17/FE STD 08S STD	0000 0000 0010 0010 0024 0030 0049 0050 0073 0075 0078	10	GMT	SIGA	22 22 22 22 22 22 23 33 38 56 57 66 66 69	CRUISE NO. 0 1 AIR TI 1 1 1 1 1 1 1 1 1	STATION NUMBER 1.7 MP. ℃ WET SULB -011 777 0 450 0 107 107 108 109 109 109 109 109 109 109	VIS COOR (COOR)	TO 0695 NO. 085. NO. 085. DEPTHS 13 SOLVELCE 144 144 144 144 144 144 144 1	OFF	0; ml/l 844 850 850 857 744 743 734	FO4-P PO NO X 131 129 155 191 193	THER CODE	NC2+N 7 8	187 142 201 133	026 030 027	002 002 82 81 80 80
ID. ND.	MESSENGR 171ME MR 1/10	7402 CAST NO.	V10	DEPTH (m) 0000 0000 0010 0020 0024 0030 0049 0050 0073 0075 0098	T T T	GM1 MO DAY PO PO PO PO PO PO PO P	SIGA	22 22 22 22 22 22 26 31 38 557 665 668 669 70	CRUISE NO. 0 1 AIR 14 1 1 1 1 1 1 1 1 1	STATION NUMBER 1.7 MP. ℃ WET SULB -011 777 0 450 0 107 107 108 109 109 109 109 109 109 109	VIS. CODE 6 6 79N. M. X 10 ³ 100 00 00 17 100 24 100 37 100 49	TO 0695 NO. 0685. DEFINS 13 SOUTHS 144 144 144 144 144 144 144 1	OFF SAPE OFF SAPE OFF SAPE OFF SAPE OFF SAPE OFF SAPE OFF	02 ml/l 8444 844 850 850 847 829 744 743 735 723	FO4-P PO O X 131 129 155 191 193 200	THER CODE	025 020 017 013	187 142 201 133 124	026 030 027 050	82 81 81 80 8 C
ID. ND.	MESSENGR 17/10 MESSENGR 17/10 0.45 0.45 0.45	7402	CARD 17/FE STD 08S STD	0000 0000 0000 0010 0010 0020 0024 0030 0049 0050 0075 0075 0098 0100 0105	10° 1° 556 40° 60°	GMTI MO DAY PO CONTROL OF THE	SIGA	22 22 22 22 22 22 22 23 31 38 55 65 665 669 770 71	CRUISE NO. 0 1 AIR TI 1 1 1 1 1 1 1 1 1	STATION NUMBER 100	VIS COOR (COOR)	DEPTHS NO. 085. DEPTHS 13 SOLUTION 14 14 14 14 14 14 14 14 14 14 14 14 14	OFF	0; ml/l 844 850 850 857 744 743 734	FO4-P PO NO X 131 129 155 191 193	THER CODE	NC2+N 7 8	187 142 201 133	026 030 027	82 81 81 80 8 C
ID. ND.	MESSENGR TIME o MR 1/10	7402	CARD 1776 STD 085	0000 0000 0010 0010 0020 0024 0030 0049 0050 0075 0098 0100 0125 T0148 0150	T T T T T T T T T T	GMTI GMTI GMTI GMTI GMTI GMTI GMTI GMTI	SPECTOR SPEC	1968	CRUISE NO. 0 AIR TI R DRY DRY DRY DRY DRY DRY DRY DRY DRY D	STATION NUMBER 1	vis code 6 6 6 6 70 00 00 00 00 00 00 00 00 00 00 00 00	14 14 14 14 14 14 14 14 14 14 14 14 14 1	OFF SAPE OFF SAPE OFF SAPE OFF SAPE OFF SAPE OFF	02 ml// 8444 850 850 850 850 8744 743 7744 7743 7754 7713	FO4-P PO O X 131 129 155 191 193 200	THER CODE	025 020 017 013	187 142 201 133 124	026 030 027 050	0022 0022 55
ID. ND.	MESSENGR 17/10 MESSENGR 17/10 0.45 0.45 0.45	7402	V10	0000 0000 0010 0010 0020 0024 0030 0049 0050 0073 0075 0098 0105 0105 0105 0105 0105 0105 0105 010	T T T T T T T T T T	GMTI MO DAY PO CAN	SPEED SPEE	1968	CRUISE NO. 0 : AIR TI R BUIS BUIS STEUR'S COMMAND ALT -1 COMMAND A	STATION NUMBER 10 10 10 10 10 10 10 1	VIS. CODE VIS. CODE OCODE O	DETITION NO. 069.5 NO. 085.1 NO. 085	OFFINAL OFFINA	00 mill 844 844 850 850 857 847 879 744 773 735 734 774 714 713 699	FO4-P P0-01/1 131 129 155 191 193 200	THER CODE	NO ₂ +N ν ₉ · οι 1	187 142 201 133 124	\$104-51 up - of 026 030 027 050 071	0022 0022 55
ID. ND.	MESSENGR TIME 6 HR 1/10	7402	V10	0000 0000 0010 0010 0024 0030 0049 0050 0073 0075 0098 0100 0125 T0148 0150 0197	T T T T T T T T T T	GMTI GMTI GMTI GMTI GMTI GMTI GMTI GMTI	SPECIAL SIGA SPECIAL SPECIAL SPECIAL SIGA SPECIAL SIGA SPECIAL SPE	1968 381 81 22 22 22 22 22 22 26 31 38 65 76 65 66 86 69 771 772 773	CRUISE NO. 0 AIR TI R DRY DRY DRY DRY DRY DRY DRY DRY DRY D	STATION NUMBER 10 10 10 10 10 10 10 1	vis code 6 6 6 6 70 00 00 00 00 00 00 00 00 00 00 00 00	14 14 14 14 14 14 14 14 14 14 14 14 14 1	OFFI 02 ml/l 8444 850 857 847 847 87 87 87 87 87 87 87 87 87 87 87 87 87	FO4-P P0 - 0 / X 131 129 155 191 193 200 188 204	THER CODE	NO ₂ -N NO	187 142 201 133 124 198	026 030 027 050 071	82 81 81 80 8C 8C	
ID. ND.	MESSENGR 17/10 MESSENGR 17/10 0.45 0.45 0.45	7402	V10	0000 0000 0010 0010 0020 0024 0030 0049 0050 0073 0075 0098 0105 0105 0105 0105 0105 0105 0105 010	T T T T T T T T T T	GMTI MO DAY PO CAN	S1GA	1968 381 81 22 22 22 22 22 22 26 31 38 65 76 65 66 86 69 771 772 773	CRUISE NO. 0 : AIR TI R BUIS BUIS STEUR'S COMMAND ALT -1 COMMAND A	STATION NUMBER 1	VIS. CODE VIS. CODE OCODE O	14 14 14 14 14 14 14 14 14 14 14 14 14 1	OFFINAL OFFINA	00 mill 844 844 850 850 857 847 879 744 773 735 734 774 714 713 699	FO4-P P0-01/1 131 129 155 191 193 200	THER CODE	NO ₂ +N ν ₉ · οι 1	187 142 201 133 124	\$104-51 up - of 026 030 027 050 071	82 81 81 80 8C 8C
ID. ND.	MESSENGR TIME 6 HR 1/10	7402	V10	0000 0000 0010 0010 0024 0030 0049 0050 0073 0075 0098 0100 0125 T0148 0150 0197 0297 0297	T T T T T T T T T T	GMTI MO DAY NO D	SIGA	1968 81 81 22 22 22 22 22 22 22 23 1 35665668697071 71 72 73 74 78	CRUISE NO. 0 AIR TI R BUIS	STATION NUMBER 1.07	0000 0000 0000 0000 0000 0000 0000 0000 0000	14 14 14 14 14 14 14 14 14 14 14 14 14 1	OFFINAL OF SAME OF SAM	844 850 850 847 781 779 744 713 699 691 681 6651 6651	FO4-P P0 - 0 / X 131 129 155 191 193 200 188 204	THER CODE	NO ₂ -N NO	187 142 201 133 124 198	026 030 027 050 071	822 81 81 80 80 80
ID. ND.	MESSENGR 11ME 10 45 0 45 0 45 0 45 0 45 0 45 0 45 0 4	7402	V10	0000 0000 0010 0010 0024 0030 0049 0055 0073 0075 0098 0100 0125 T0148 0150 0197 0200 0297 0300 0297 0300 0397	10	GMT	SIGA	1968 B1	CRUISE NO. 0 1	STATION NUMBER 1.07	00000 6 6 1000000 100000 100000 100000 100000 100000 100000 100000 1000000 1000000 1000000 1000000 10000000 100000000	14 14 14 14 14 14 14 14 14 14 14 14 14 1	Offmen of SPEC	0; mI/I 8444 850 857 827 781 7733 7744 7733 6999 681 681 681 6645	FO4-P 10 X 131 129 155 191 193 200 188 204 210 210	THER CODE	NO2=N νη ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο	1877 142 201 133 124 198	026 030 027 050 071	822 81 81 80 80 80
ID. ND.	MESSENGR TIME CHR 1/10 045 045 045 045 045	7402	V10 45 04 45 04 45 04 45 04 45 04 45 04 45 04 45 085 510 085 0	0000 0000 0010 0010 0020 0024 0030 0049 0050 0075 0098 0100 0125 T0148 0197 0290 0297 0300 0397 0300 0397	-0150 -0150 -0150 -0150 -0150 -0150 -0156 -0156 -0156 -0156 -0157 -0168 -0173 -0173 -0175 -0176 -0176 -0170 -0169 -0150 -0150 -0150 -0150 -0150 -0151 -0151 -0173 -0173 -0173 -0175 -0176 -0176 -0170 -0169 -0150 -0151 -0150 -0151 -0150 -0151	GM1 MO DAY	ST ST ST ST ST ST ST ST	1968 81 81 AAA-1 22 22 22 22 22 22 28 31 38 556 655 665 665 665 670 71 772 72 73 74 74 78 88 3	CRUISE NO. 0: 0: AIR TI RE DEVE NO. 0: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0: 0:	STATION NUMBER TANKE TO TO TANKE TO TANKE TO TANKE TO TANKE TO TANKE TO TANKE TO TO TO TO TO TO TO T	1000 1000 1000 1000 1000 1000 1000 100	14 14 14 14 14 14 14 14 14 14 14 14 14 1	OFFINAL OFFINA	02 ml// 8444 850 850 850 850 8744 743 7744 7743 7744 7699 699 691 681 681 665 665 656 650 650 650 650 650 650 650	FO4-P S O X 131 129 155 191 193 200 188 204 210	THER CODE	025 020 017 013 010 023	187 142 201 133 124 198	026 030 027 050 071	822 81 81 80 80 80
ID. ND.	MESSENGR 11ME 10 45 0 45 0 45 0 45 0 45 0 45 0 45 0 4	7402	V10	0000 0000 0010 0010 0024 0030 0049 0055 0073 0075 0098 0100 0125 T0148 0150 0197 0200 0297 0300 0297 0300 0397	10	GMT	SIGA	1968 B1	CRUISE NO. 0 AIR TI R BUIS	STATION NUMBER TABLE TAB	0000 0000 0000 0000 0000 0000 0000 0000 0000	DOTE TO STATE OF THE STATE OF T	Offmen of SPEC	0; mI/I 8444 850 857 827 781 7733 7744 7733 6999 681 681 681 6645	FO4-P 10 X 131 129 155 191 193 200 188 204 210 210	THER CODE	NO2=N νη ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο	1877 142 201 133 124 198	026 030 027 050 071	82 81 81 80 80 80 80 80 87 9

EFERENCE	1 - 1				1-1	MARSDEN	STATION TIM	E	ORIGINA	OR'S	DEPTH	MAX.		VAVE VATIONS	WEA-	CLOUD		N ST.	OOC
RY ID.	SHIP	LATITU	DE L	ONGITUOE	INDC	SQUARE	(G M TI	YEAR		TION	BOTTON	0.5		GT PER SE	CODE	TYPE AMI			IMBER.
NO.	COOE	•	1/10	1/10	2	10" 1"	MO OAY HR.	/10	NO. NU	MIBER	-		1	1-1-		1			2025
1803	7 GL	7246	00 0	42455	9	556 22	02 18 18				1926	19	Lool	1 X I C	1 x 2	618	ı	1	0025
11-0-	1 1					WAT		- BAK		- VIS			CIAL						
						COLOR	TRANS DIR.	OR (mb		WET COL	DEPTHS	OBZERV	2 NOIT A						
						0000		FORCE		013 7	17								
							15	509 78	7 -010 -			<u> </u>							
	MESSENGE		CARO	DEPTH	(m)	1.40	s */	SIGMA-T	SPECIFIC VOLUM		M. SC	LOCITY	O 2 ml/1	PO4-P	NH 3 - N	NO2-N pg = at/1	NO3-N pg - 61/1	SLO 4-51 yg = at/1	pН
	HR 1/10	약 NO.	TYPE	Derin	007	, ,			ANOMINET-111	x 10	, ,,,,,			-	-				
	NK 1710	1									-	ļ		ļ					
	1	1	I ST	n 00	າດໍ່	-0156	3362	2707	0009991	000	0 1	4401	807						
	17	2	OBS	00		-0156	33618	2707				4401	807	177	113	023	198	059	80
	1 /	_	ST			-0158	3362	2707	0009994	001		4402	806				201	056	81
	17	2	OBS	00	10	-0158	33616	2707			- 7	4402	806	174	218	021	206	000	01
		_	ST	D 00	20	-0131	3393	2732	000765	2 001		4421	826 828	169	048	016	190	050	81
	17	2	085	0.0	25	-0125	34061	2742				4426 4424	813	IOA	040	010	170	020	0.1
			ST			-0134	3416	2750	0005879	002		4418	763						
			ST			-0162	3442	2772	000382	003		4418	763	195	174	016	220	063	80
	17	2	OBS			-0162	34416	2772 2773	0003689	9 004		4415	720		-				
			ST			-0177	3443 34426	2773	000000	7 004		4415	720	215	230	017	228	071	80
	1.7		OBS			-0177 -0179	34426	2773			1	4418	715	214	120	011	176	073	70
	17	72	OBS			-0179	3443	2774	000363	8 005	4 1	4418	715						
			ST		25	-0180	3443	2774	000362	006	3 1	4422	709						
		7.0	5 1 085		49	-0181	34432	2774			1	4426	704	217	070	005	255	072	7 9
	17	12	ST		50	-0181	3443	2774	000358	8 00	72 1	4426	704						
	17	7.2	0B9			-0177	34440	2774				4436	697	219	236	015	276	073	8 (
	1		S1		00	-0177	3444	2774	000350			4436	697						
			51	_	50	-0172	3446	2775	000338	_		4447	689						
			\$1	rD 03	00	-0167	3447	2776	000326	3 01		4458	681	21/	277	003	224	074	7
	1	72	089	03	00	-0167	34469	2776		1		4458	681	216	277	003	244	014	,
			\$1	rD 04	00	-0095	3454	2780	000297			.4509 .4553	659 635						
			S1		00	-0038	3459	2781	000286			. 4590 . 4590	607						
			S1		00	0005	3463	2783	000282			4620	576						
			51		00	0034	3466 34676	2783 2784	000279	0 02		4637	552	223	275	007	250	102	7
	1 4	48	OBS			0045		2784	000272	5 02		4642							
					300 300	0044	3468	2785	000271			14657	495						
	,	48	0B:		64	0039		2785		_	1	14667	479	231	035	006	264	103	7
	1	+ 0			000	0039		2785	000269	8 03		14673							
			_		00	0035		2785	000267			14688							
					200	0025	3468	2786	000259	03		14700			. 7.	000	72.	103	7
	1	48	OB.		210	0024	34679	2785				14702		232	076	009	230	103	,
	_	. 0			300	0006	3467	2786	000250		-	14708							
			S	TD 1	400	-0013		2786	000241	3 04		14717		220	036	013	288	102	7
	1	48	08		457	-0022	34653	2786				14722			026	013	200	102	,
			S		500	-002		2786	000231			14727 14756							
			S		750	-005		2787	000206	0 05	04	14100	592		044	008	221	101	7
	1	48	08		757	-0058		2707				1476			-		227	100	
		48	08		784	-0058		2787 2787				1476					203	098	
	-	48	ОВ	-	832	-007						1476					243	100	7
	1	48	ОВ	s T1	869	-007	2 34639	2101				0							

).).	SHIP CODE	LATTUE	DE 1/10	LONGITUDE	MAR SOL	SDEN JARE	STAT	ON TI		YEAR	CRUISE NO.		ATOR" TATIO	N	DEPTH TO BOTTOM	DEPTH OF S'MPL'	DRS	WAV SERVA		17	EA- HER DDE	CLOUD			NODC STATION NUMBER
-	٠.					1		-				١	0.0		3 + 1 1		1	+						-	
37	GLI	7246	051	042455W	556	22			000 L	1968	1-1-	O1		,	2044	1 08	1 20	lol	X 1)	K.Z. I	718	1		0026
						COLOR	T	DIR	SPEED	MET	o- ⊢	DRY	WE	VIS.	ND, ORS.	DATER	CIAL								
						CODE	tant	-	FORCE	(mb	.) 8	BULB	801	.8	DEPTHS										
_							Ļ	20	505	80	9 -0	800	-01		14	L.,		L.,			_				
	MESSENGI TIME HR 1/10	약 ND.	CARD		1	2 1	5	٠4.	SIGA	AA-T		C VOLU	M E 0 2	₹ ∆ D DYN. M x 10 ³	. SO VEL	OCITY	O 2 ml/1) a = P	+3 NH3	×	Na Og = Na Na Og = Na	N03-N 19-17		
			ST	0000	-(155	33	61	27	0.7	001	1003	9	0000	14	402	806								
	0.1	7	085	0000	-0	155	33	612	27						14	402	806	1	95	114	4	027	249	058	3
			ST	0 0010	- (157	33	61	27	0.7	001	1001	2	0010	14	402	824								
	01	7	085			157	33	614	27	07					14	402	824	1	88	10	2	023	210	058	3
			ST			131	33	-	27		000	742	2	0019	14	421	824								
	01	7	085		- (126	34	075	27	43					14	426	824	1	79	11:	3	018	173	049	7
			ST	D 0030	-(141	34	19	27	53	000	0562	4	0025	14	421	796								
	01	7	085			173		424	27							413	735		29	14	7	016	259	0.70)
			ST			173	34	42		73	000) 572	9	0035	14	413	734								
	01	7	085			178		429	27							414	717	2	26	0.7	3	017	205	073	3
			ST	-		178	34		_	74	000	365	6	0044		415	717								
	01	7	085			180	-	432	27							418	720		23	11	3	013	214	07.	1
			ST			180	34	43	27		000	362		0053		418	720								
			ST			0160	34		27		000	358	2	0062		422	714								
	01	7	085			180	-	438	27							426	709	2	35	12	4	009	284	072	2
			ST			180	34		27		000	353	0	0071		426	708								
	01	7	085			0177	-	444	27							436	699		18	06	9	016	275	074	•
			ST			177	34		27			347		0088		436	699								
			ST			173	34	-	27		000	338	6	0109		446	699								
	01	7	085			0169		462		76						456	690		23	04	1	011	282	075	>
		_	ST			0168	34	-		76	000	0330	6	0122		457	689		2.5						
	01	1	085			1133		494	27				-	0.1.0		490	645		25	11	ь	020	299	078	3
			ST			1132	34			78		0311		0154		491	644								
		~	ST			0061	34		27		000	0292	1	0184		542	579		2.0			- 1 5	300		
	91	1	OBS			1900		566	27							542	579		33			015	299	089	+
		_	ST			0011	34			82	000	283	9	0213		593	506						200		
	01	1	OBS			0011		633		82	0.0		2			593	506		41	05	1	008	293	098	5
		-	ST			0041	34			83	000	281	2	0242		624	492				0		222		
	01	1	085			0042		666		83	201		,	0344		624	492		40	10	Ö	009	233	10	3
	٠.	-	ST			0046	34			84	000	277	0	0269		1642	486		c .		0		273		
	0.1	I	085	T0807	(0040	54	676	2 (84					14	644	486		54	0.2	Ö	009	412	10	,

CODE	1.01	SHIP	LATITUDE 1/10	LONGITUDE 1/10	DRUFT	MAPS SQUA			TION IGMT			CRUISI NO.		ATOR'S STATION NUMBER		OEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S		OBSE	WAV RVAT	IONS	WEA- THER CODE		DES	ا ز	NOOC STATION NUMBER
3	803	7 GL	715385	048201W		556	18	02	19	210 WINO	1968	Ц	0 1	9 MP. C		2044	20	0	0	0		× 7	7	8		0027
							COLOR	TRAN		SPEED	M.Lit	R -	DRY BULB		VIS.	NO. OBS. DEPTHS	SPEC OBSERVA		NS							
								T	21	508	3 93	5 -0	011	-015	6	22										

				21	508 93	35 -011 -0	15 6	22								
MESSENGR CAST TIME OF NO. HR 1/10	CARO TYPE	DEPTH (m)	ס" ז	s */	SIGMA-T	SPECIFIC VOLUME	₹ △ D DYN. M. x 10 ³	SOUNO	O2 ml/l	PO4-P	NH N 3 20 - 01/5	ND 2=N µg = ot/1	NO3-N NO3-N	\$1.04~21 h0 = 01.1	ρН	S C C
'	STD	0000	-0160	3384	2725	0008291	0000	14402	810							
205	085	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	
	STO	0030	-0169	3444	2774	0003613	0019	14412	744							
	STD	0050	-0179	3446	2776	0003476	0026	14410	708	- 0						
205	085	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	
	STO	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	226						
205	OBS	0157	-0172	34482	2778			14432	676	225			226	078	796	
2.4.5	STD	0200	-0151	3449	2778	0003209	0076	14449	661	220			222		0 - 2	
205	OBS	T0210	-0146	34495	2778	0000007	0000	14453	657	229			232	080	802	
	STD	0250	-0129	3452	2779	0003037	0092	14468	632							
205	STD	0300	-0100	3455	2781	0002908	0107	14490	601	2//			210	407	0.0.1	
205	OBS	0315	-0089	34558	2781	0003700	0126	14498	591	244			219	087	801	
306	STD	0400	-0002	3463	2783	0002788	0135	14553	5 3 3	24.4			107		705	
205	OBS	0420	0011	34641 3467	2783 2784	000277	0163	14563 14587	522 488	246			197	098	795	
305	STD	0500 0526	0035	34673	2784	000272	0103	14593	483	243			245	103	796	
205	085	0600	0038	3467	2784	0002703	0190	14603	489	243			240	103	190	
205	STD OBS	0632	0032	34669	2784	0002103	0170	14607	490	246			231	103	796	
205	STO	0700	0031	3468	2785	000268	0217	14620	488	240			431	103	190	
205	085	T0740	0035	34678	2785	000200	0217	14627	487	245			220	109	789	
200	STD	0800	0032	3468	2785	0002667	0244	14636	489	247			220	107	109	
205	085	T0847	0030	34674	2785	000200,	0-44	14643	490	221			256	110	794	
170	085	T0863	0023	34679	2786			14643	490	220			266	109	797	
110	STD	0900	0022	3468	2786	0002570	0270	14648	493	220			200	10,	. , ,	
	STD	1000	0018	3468	2786	0002554	0295	14663	500							
170	085	1060	0015	34676	2786	000	0	14672	504	215			274	111	800	
	STD	1100	0013	3468	2786	000253	0321	14678	506						- 0 0	
	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	
	S T 0	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	085	T1984	-0072	34634	2787			14789	586	197			250	096	801	
	STD	2000	-0075	3465	2788	0001848	0529	14791	591							
170	085	T2003	-0076	34650	2788			14791	592	217			262	094	803	

NCE IO.	SHIP	LATITUO	٤ د	NGITUDE 5	MAE SOI	SOEN JARE	TATZ	ON TH		EAR	ORIG	STAT		DEPTH TO	DEPTH	3.1	WAVE SERVATION:		WEA- THER	CLOUD		2	NODC
NO.	CODE	•	1/10	1/10	Z 10*	1.	MO (AY HE	1/10		NO.		MBER	BOTTOM	S'MPL	"S DIR.	HGT PER 1	EA	COOE	TTPE AMI		N	UMBER
3037	GL	71565	5 0	51039W	55	7 11	0.2	20 0	40 1	968	0	20		1472	13	3 00	o x		X 7	7 8			0028
	, 04		, , , ,	203 111	1	WA			IND	BARC	A IR T			NO.	1]		,,			'	0020
						COLOR		OR.	SPEED	METE	R ORY		WET CODE	OBS. DEPTHS	OBSER	VATIONS							
						COOE	(m)		FORCE	(mbs	1 BULB		ULB	OCTIMS									
								19	505	94	5 -052	-0	054 6	16			1.						
	MESSENGE	CAST	CARO								SPECIFIC VO	UME	₹ △ 0	SO	UND		PO4-P	МН	- 14	NO ₂ -N	NO ₁ -N	31.04-51	
	HR 1/10	NO.	TYPE	OEPTH (m)		7	2	٠/	SIGMA	\-T	ANOMALY-	1107	x 10 ³	VEL	OCITY	03 ml/	pg + 01 1	ود	- 01-1	µg = ol l	vg - of 1	μg - at l	t H
	HR 1710	 -		-			+			-			1	+-			-	+					† -
	ļ			0000	1	0181	33	2 5	1 273	, 1	00074	1.2	0000	1 /	394	1 780			,				
	04.4		STD	0000				946	273		00074	1 2	0000		394	780		,	2.2	0.1.6	225	0/2	0.1
	044	+	STD	0010		0181	33		273		00073	50	0007		396	791		4	32	016	225	063	81
	044	4	085	0011		0181		953	273		00012	-	0001		396	792		0	80	016	206	062	810
	0 41	•	STD	0020		0175	34		275	-	00050	7.8	0014		404	775		Ų	~ U	010	200	002	011
	044	•	085	0027		0173		408	277		20070		001		409	763				016	246	066	810
			STD	0030		0174	34		277	_	00038	46	0018		409	757				5.0	2 . 3	000	01
			STD	0050		178	34	-	277		00037		0026		410	726							
	044	.	085	0054		0179		422	277						411	722		1	4	018	253	073	80
			STD	0075	-(181	34	42	277	3	00036	94	0035	14	413	721							-
	044	`	085	0081		0182	_	425	277	-					414	720		0	5	013	224	073	80
			STO	0100		0184	34		277		00036	49	0044		416	722							
	0 44	+	085	0107		0184		428	277						417	722		1	54	011	286	073	80
			STD	0125		0182	34		277		00036		0053		421	718							
			STD	0150		0181	34		277		00035	42	0062		4426	712							
	04	4	OBS	0160		0180		440	277						4428	710		0	65	007	280	072	80
	0.4		STD	0200		0179	34	-	277	-	00034	64	0080		435	703			0.7				0.+
	04	4	OBS	T0213		0178 0177	34	447	277	-	00034	^ 2	000		4444	70 l 70 l		0	82	009		073	80
			5 1 0	0300		0177	34	-	277		00034	-	0097		4455	695							
	04		085	0317		0170	_	457	277		00000	00	011		4459	692		1	12	008	269	074	
	04	•	STD	0400		0152	34	_	277	-	00031	0.7	0146		4482	666		1		000	20)	0 / 4	
	04	4	OBS	0419		0143		496	277		0000	J .	0 - 10		4489	656		0	95	007	234	078	80
			STO	0500		0086	34		278		00029	11	0176		530	596		5	-				- 0
	04	4	085	0521		0070		565	278						541	581		0	56	009	258	085	79
			STD	0600		0000	34		278	_	00029	40	0206		587	526		•					
	04	4	085	0623		0014	34	626	278	2				14	4598	515	239	0	68	006	250	094	79
			STO	0700		0017	34	64	278	3	00028	31	0234	. 14	612	510)						
			STD	0800		0020	34		278		00027	35	0262		6 30	504	•						
	04	4	085	0826		0021		659	278						635	502				800	226	101	79
			STO	0900		0001	34		278		00026		0289		+638	520							
			STD	1000		0022	34		278		00025	30	0315		1645	541							
	0.4	4	OBS	1028		0028		637	278						+647	546		1	11	012	236	099	79
			SID	1100		0039	34		278		00024		0340		+654	557							
	0.1		STD	1200		0055	34		278		00023	13	0363		4663	572			4.5	017	252	205	7.
	04	4	OBS	T1281		0067	_	631	278		00021	4.7	0304		+671	584		1	42	012	253	095	79
	0.	,	STD	1300		0077	34		278		00021	4/	0386		+670	591		_	9.0	006	194	000	7.0
	94	4	085	T1333	-	0098	24	622	278	5 /				14	4666	606	231	0	80	006	174	090	79

REFERENCE	SHIP	LATITU	DE	ONGITUDE	DCT	MARSDEN BRAUOZ		TION T		YE	AR	CRUISE	5	ATOR'S	-	DEPTH TO BOTTOA	DEPTH	OBS	WAVE ERVATIONS	WEA THER COOL	CODES		5	NODC TATION TUMBER
ODE NO.	1000		1/10	1/10	2	10" 1"	MO	DAY	HR, 1/10	_		NO.		HUMBER		BOILON	S'MPL	S DIR.	HIGT PER SE	* 000	TYPE A.M	T		UMBER
31803	7 GL	7131	75 ()52434W	5	57 12	02	20	150	19	68		0.2			1777	1.8	00	lo x	-	7 8			0029
						WA	1	+	WIND		BARO	• -		MP. C	VIS.	NO. OBS.	SPE	CIAL						
						COPO	TRAN (m)	DIR	OR	- 1	METER (mbs)		YRC JLB	W ET	CODI	OEPTHS	OBSER	2 NOT AV						
							+	16		-	946		44	-047	6	21								
							+	LIO	130		Т				_	1			1		1		T	T
	MESSENGE	of NO.	CARD	DEPTH (m1	1 ℃	'	14.	SIC	MA-	-т	SPECIFIC	VOLU	ME C	YN. M	. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	OCITY	0 2 mi/l	PO4=P	NH 3~ N PB OIT		NO3=N pg - at 1	\$1 O4-51 29 - 01:1	рН
	HR 1/10	1					+				\rightarrow				X 10 ³	-			-			7,		
					_				1		١			. !		,								
	1.7	2	ST			-0172		+08		745		000	641	.1 0	000		400	771	711	177	0.77	21.	0 / 0	0.1.7
	16	3	OBS	000		-0172 -0180		4079 408		745 745		000	437		0006		400	771 781	211	777	024	216	069	816
	16	2	ST OBs	001		-0180		+08 4080		745 745		000	001	0 (1000		398	781	202	423	018	215	068	817
	10		ST			-0182		+09		746		000	629	n n	013		399	778	202	723	010	213	000	017
	16	3	085	002		-0183		095		746		000	02)	, ,	, , , ,		399	775	203	016	018	220	069	816
			ST			-0182	34	+13		749		000	597	5 (019		401	766	- * *	0	0	0	00,	
			ST	005	0	-0179	3	+27	Z	761	l	000	489	5 (030	1 4	+408	735						
	16	3	085	005	1	-0179												734	211	274	021	208	073	815
			ST			-0180	3 4	+40	Z	77]	l	000	388	* (0041	. 14	413	714						
	16	3	OBS	007		-0180												713	220	155	020	238	071	813
		_	ST			-0182		+48		778		000	324	-7 (0050		418	712						
	16	3	OBS	010		-0182		4484		778							+418	712	225	110	017	252	072	814
			ST			-0181		449	_	778		000			058		+422	708						
	16	2	ST OBS	015 015		-0179 -0179	_	449 449]	_	778 7 7 9	-	000	314	19 (0066		427 428	703	226	176	012	7.07	073	012
	10	3	ST	-		-0177		+471 449		778		000	217	14 /	0081		4437	702 697	240	175	012	204	073	813
	16	. 3	085	020		-0176	-	+47 4490		778		000	212	. 0 (1001	-	+438	696	220	101	007	247	073	813
	10		ST			-0122		455		782		000	283	15 (096		+472	688	220	101	001	271	013	015
			ST			-0072		460		784		000			110		504	661						
	16	3	085	T030		-0137		4606		787		000			, - 20	-		656	228	192	010	219	079	812
			ST			-0002		463		783		000	281	# (137	1 1	+553	539			0.0		0.,	
	16	3	085	041	0	0003	3	4629	2	783	3					14	+557	532	234	144	008	275	091	804
			ST	D 050	0	0028	3	465	2	783	3	000	282	24 (165	14	1584	517						
	16		OBS	1051		0030		4652		783							587	516	239	178	009	234	096	804
	14	.5	OBS	T058		0029		4667		784							+599	512	231		012	231	102	792
		_	ST			0029	_	467		784		000	272	20 ()193		601	512		_				
	16		085	T061		0028		4662		784							603	513	236	174	011	7	100	792
	14	. 5	085 51	069 D 070		0028		467] 467		785 785		0.00	267	7 22 .	220		+617 +618	517 516	216	123	009	246	103	795
	14	. 5	0B5	079		0023		4672		785		000	201	, ,	1460		+633	511	212	106	013	265	106	796
	14		ST			0027		467		78		000	265	i 8	247		+634	511	212	100	013	200	106	190
			ST		-	0024	_	467	-	785	-		263		273		1649	513						
	14	. 5	OBS	099		0020		4674		785					, - , ,	_	+664	515	221	159	009	239	110	796
			ST	D 100	0	0020	3	467	_	785		000	259	92 (299		4664	515			00,		-10	. , .
			ST	D 110	0	0018	3	467	2	785	5	000	257	77 (325	5 1	+680	519						
			ST	D 120	0	0011	3	467	2	786	5	000	1252	26	351	14	+694	524						
	14	5	085			0006		4673		786							+701	526	213	153	012	247	112	797
			51			0000		467		786			245		375		4706	532						
			ST			-0015	_	466		786			239		0400		+716	549						
			5.7			-0033		466		78		000	223	34)423		+724	570						
	14	-	OBS	150	-	-0034	-	465	_	78							+725	571	236	270	018	229	107	796
	14 14	_	085	7169 174		-0077 -0096		4641 4641	_	78							4736 4737	622	231	149	010	233	094	794
	14		0BS	_		-0099		464. 464		788 788		000	177	70	0473		4736	636	226	229	010	211	090	796
	14	. 5	085	1177	-	-0113	_	4634		788		000	111		J 7 1 3		4734	635	217	138	014	217	088	799
	, 4		~~~	4 1 1 4	-	4117				. 00	~													

Ct	-1	-=	MARSDEN	STATION TIM		OR	GINAT		\Box	DEPTH	MAX. DEPTH	Date	WAVE RVATIONS	WEA-	CLDUD			ODC
ID. CODE LATIT		GUDDE S	SQUARE	(GMT)	YEAR	CRUISE ND.		TION		DILOW	DF S'MPL'S		HGT PER SE	CODE	TYPE AMT			ATION
(D. 0001 1	1/10	2521W			50 1968		022		1:	2312	23		0 X		7 8			003
037 GL 710	195 05	2521W	55 (12 WA1			A 11	TEMP	. °C	VK	ND.	SPEC		OINI	•	. ,	,	,	002
			COLOR	TEAN'S DIR.	SPEED MET	ER DR		W ET	cood	QOS. DEPTHS	DBSERV	TIONS						
			CODE		500 97	-	-	011	7	24		-						
				00	500 91	SHCING S				SDL	IND		PD4-P	ин, -и	NO ₂ -N	NO3-N	SI O4-Si	
MESSENGE CAST	CARD	DEPTH (m)	7.70	s ·/.	SIGMA-T	ANOMA		DY	∆ D N. M. 10 ³	VELC		D ₂ ml/l	μg = 01/I	3 µg - o)/I	h8 - al +	µg - al l	yg - al	p.t
HR 1/10			+					+=		+					-			
	STD	0000	-0173	3418	2753	0005	655	00	000	1 14	401	741						
156	OBS	0000	-0173	34177	2753						401	741	204			177	073	8]
	STD	0010	-0182	3417	2752	0005	705	0.0	006		398	745	201	1.07	010	212	073	0
156	OBS	0010	-0182	34167	2752	0005	628	0.	011		398 400	745 750	204	186	019	212	073	8]
154	STO	0020 0025	-0182 -0182	3418 34182	2753 2754	0005	02*	U	211		401	751	204	266	022	238	074	8 (
156	0BS 5TD	0030	-0181	3426	2760	0004	981	01	017		403	750			V			
	STO	0050	-0175	3447	2777	000			025	14	412	746						
156	OBS	0051	-0175	34473	2777						413	746	211	185	020	259	077	8
	STO	0075	-0178	3448	2778	0003	3272	0	033		415 416	699 698	217	20	015	272	076	8
156	OBS	0076	~0178	34485 3449	27 7 8 2778	0003	1106		041		421	712	211	20	015	212	076	0
154	STD	0100	-0175 -0175	34489	2778	000.	1170	0	0 - 1		422	713	213	174	012	269	077	8
156	OBS STD	0125	-0173	3449	2778	0003	3174	0	049		426	712						
	STD	0150	-0170	3449	2778	000	3151	. 0	057		432	706						
	510	0200	-0165	3450	2779	000	3109	0	073		442	679				25.0	*05	
156	OBS	0204	-0165	34497	2779						443	676	221	124	008	258	085	8
	STD	0250	-0104	3454	2780	0000	2984	0	088		480	632	219	151	010	247	092	8
156	OBS	T0254	-0099 -0048	34542 3458	2780 2781	000	2926	. 0	103		515	578	21)	101	010	2 . ,	0 / 2	·
156	STO OBS	0307	-0048	34590	2782	000		, 0	-05		519	572	226	205	011	257	100	8
100	STD	0400	0024	3465	2783	000	2797	7 0	132	14	565	532						
156	OBS	0409	0027	34651	2783						568	529	232	215	017	275	102	8
	STD	0500	0027	3466	2784	000	2742	2 0	159		584	511	231	100	023	239	102	е
156	OBS	0511	0027	34662	2784	000	2739		187		585	510 514	231	198	023	239	102	0
15/	STD	0600 T0615	0026 0026	3466 34660	2784 2784	000	4135	, 0	10/		602	515	230		018	241	105	8
156 114	OBS OBS	T0628	0026	34661	2784						604	512	238	266	015	269	106	8
114	STO	0700	0028	3467	2784	000	2703	3 0	214	14	618	510						
156	OBS	T0717	0029	34668	2784						621	510	230	278	011		106	8
114	OBS	0735	0029	34667	2784						+624	511	235	195	015	271	110	3
114	OBS	0786	0025	34665	2784	000	24.04	. ^	241		+630 +633	512 515	240	153	012	258	107	8
11/	STO	0800	0025 0022	3467 34668	2784 2785	000	2696) ر	- 41		+648	529	252	191	012	258	108	8
114	OBS STD	0898 0900	0022	3467	2785	000	265	2 0	268		+648	529			0		- 5 0	
114	OBS	10993	0017	34664	2785					14	+662	529		084	015	285	110	8
'	STO	1000	0017	3466	2785		2644		1294		+663	529						
	STD	1100	0013	3466	2785		261		320		+678	530						
	STO	1200	8000	3466	2785	000	Z576	5 (1346		+692 +699	531 531	242	141	009	251	111	8
114	085	1245 1300	0006 0002	34663 3466	2785 2785	000	254	7 (372		+699	534		141	007		1	
	STD STD	1400	-0005	3466	2785		248		397		720	539						
	510	1500	-0012	3466	2786		241		422	2 14	+734	544						
114	OBS	T1505	-0012	34658	2786						4735	544	244	254	013	246	110	{
	STD	1750	-0014	3466	2786	000	240	6 ()482		4776	551	24.5	1/2	0.00	211	117	
114	OBS	1806	-0016	34655	2786	000	221	, ,	5.6.1		4784	555 573		162	009	214	113	
	STD	2000	-0026 -0042		2786 2786	000	231	1 (54		4813 4826	588			037	235	104	-
114 114	OBS OBS	T2117 2265	-0042		2787						4837	612		212	034	252	095	7
114	OBS	2310	-0093		2787						4835	634		209	011	244		8

**********						***	u. [10(C19)	A TOR'S	- 1	01000	MAX.		WAVE	T week	CLOUD			1000
REFERENCE	SHIP	LATITUD	E LO	NGITUOE E	MARSOEN	STATION TH	W.E	YEAR	CRUISE	-	TATION	\dashv	OEPTH TO	DEPTH	OBSE	RVA TIONS	WEA-	CODES		S1	ATION
CODE NO.	CODE	-	1/10	· '1/10 - ž	10" 1"	MO DAY HI	٤1/10		NO.		UMBER		BOTTOM	S'MPL'S	DIR.	HGT PER SEA	CODE	TYPE AMI		N	UMBER
31803	7 GL	70516	6 0	52159W	557 02	02 22 0	60 1	968		0.2	3		2561	25	00	o x	71	7 8			0031
1 2 10 0 3	1 04 1	10016	33 0	25127WI 1	WA		IND	BARC	_ A		MP. C		NO.	SPE		OIXI	. , ,		•	,	0001.
					COLOR	TRANS DIR.	SPEED	METE	# C	ORY	13W	CODE	OBS. DEPTHS	OBSERV							
					CODE	(m)	FORCE	(mba) 11	ULB	BULB	-									
						06	\$05	98	4 -0	31	-033	6	24								
	MESSENGR TIME 0	CASI	CARO	DEPTH (m)	1 10	5 %	SIGM		SPECIFIC		ME Z	Δ O.	so	UND	O2 ml/1	PO4-P	ин, -и	NO ₂ -N	NO3-N	\$1.04-51	рН
	HR 1/10	NO.	TYPE	DEPTH (m)	, ,	3 7	SIGM	^-'	ANOM	ALY11	٥, ا	110 ³	. VEL	OCITY	02 11171	yg - 01/1	μg - α1/I	hð - a4/1	yg - a1/[μg - al/l	l pri
	17.0	1		1	1		1									1					
	I	1 1	STD	0000	-0183	3413	274	70	000	602	4 0	000	14	396	755	1		,	,		
	076	5	OBS	0000	-0183	34126	274		000	002				396	755	215		016	257	072	809
	0.0	,	510	0010	-0183	3412	274		000	604	8 0	006	14	397	762					• -	- • -
	076	5	085	0010	-0183	34122	274	49					14	397	762	209	299	013	233	073	813
			STD	0020	-0184	3413	274	49	000	601	. 7 C	012		399	783						
	076	5	085	0026	-0184	34126	274							399	788	217	318	025	220	073	816
			STD	0030	-0182	3420	279		000			018		402	780						
			STD	0050	-0173	3447	27		000	1337	'5 C	027		413	747	224	272	- 1 2	107		0.0
	076	5	OBS	0051 0075	-0173 -0177	34474 3449	2 7		000	322	2 4	035		414	746 731	220	271	013	137	075	819
	0.74	,	STD			34488	27		000	322		033		416	729	230	073	011	263	076	818
	07€	3	OBS STD	0077	-0177 -0176	3449	27		000	31.0	16 (043		421	701	200	0,0	011	200	0,0	010
	076	5	0BS	0102	-0176	34493	27		500	- 40		V 7 2		421	699	230	273	006	258	076	818
	0.0	,	STD	0125	-0170	3450	27		000	312	9 (051		428	693					0.0	
			STD		-0163	3450	27	79	000	309	1 0	059	14	435	687						
			STD	0200	-0148	3452	27	80	000	302	27 (074	14	451	674						
	076	5	085	0205	-0147	34516	271							452	673	234	143	003	213	079	814
			STD		-0106	3454	27		000	297	76 (1089		479	630						
	076	6	OBS	T0254	-0102	34548	27							482	626	231	097	003	232	083	810
			STD		-0040	3460	27		000	281	(5)	103		519	577	210	262	207	262	000	0.00
	076	6	085	0308	-0031 0021	34606 3465	27. 27.		000	277	70 0	131		+524 +564	570 520	239	243	007	263	089	808
	076	4	STD OBS	0410	0021	34655	27		000	1211	0 (1 2 2 1		567	517	235	128	010	279	096	805
	011	0	570		0020	3466	27	-	000	273	31 (159		580	523		100	010		0,0	002
	076	6	085	0513	0019	34655	27	-	000					582	524	234	059	005	290	098	805
		_	STO		0020	3466	27	84	000	269	96 (186	, 14	1597	516						
	076	6	085	T0614	0020	34662	27						14	599	515	234	130	800	272	100	806
	076	6	OBS	T0671	0019	34664	27							608	512	234	079	005	261	100	805
			STD		0020	3467	27		000	262	21 (213		614	511						
	04	7	085	T0755	0023	34677	27							+625	510	240	042	005	304	102	815
	2.1	~	STO		0025	3467	27		000	262	20 (239		633	509	2/: 0	01.4	003	266	106	810
	04		OBS OBS	0803 0854	0025 0024	34674 34674	27 27							+633 +642	509 543	240 231	044 094	002 004	266 298	104	810 817
	0.4	ı	STO		0024	3467	27		000	260	77 4	269		+648	532	2 7 1	0 74	004	270	100	017
	0.4	7	085	0955	0019	34675	27		000		. (, - 0		1656	524	239	060	003		108	818
	0.4		STD		0017	3468	27		000	256	52 (29		663	524		3 - 0	000		-00	
	24	7	OBS	T1057	0014	34675	27							+671	525	241	079	800	280	109	814
			STO	1100	0012	3467	27	85	000	255		316		+677	526						
			STD		0008	3467	27			252		342		+692	528						
			STO		0004	3467	27		000	248	83 (36		+707	530		- 0.5				
	04	7	085	1311	0003	34669	27		0.00					709	530 532	242	088	005	194	111	814
			STO		0000 -0003	3467 3467	27 27			0245 0245)392)416		+723 +738	532						
	0.4	7	STO	1500 T1574	-0003	34668	27		000	124	ا در	, → 10	-	4750	538	249	168	004	252	113	810
	04	•	STD		-0010	3467	27		000	236	59	476		4778	549	277	100	004	272		010
	04	7	0B5	1871	-0013	34665	27		000	, , , , (. ,	,		4797	555	244	116	009	214	112	809
		•	STO		-0017	3466	27		000	230	07	534		4817	558			007			-0,
	04	7	OBS	2189	-0022	34660	27				- '	_		4847	562	242	327	007	301	110	806
	0.4		OBS	2484	-0066	34645	27							4878	608	232	084	006	276	094	808
			STO	2500	-0069	3465	27	87	000	018	33 ()631	9 1	4879	611						
	0.4	7	085	2536	-0076	34646	27	88					14	4883	618	227	132	800	267	092	809

ID.	SHIP	LATITU	- 1	LONG	SITUDE	DEST	M ARS	ARE		TION TO	^	EAR	CRUIS		ATOR'	N	DEPTH TO BOTTON	OF	089	WAVE ERVATIONS	WEA- THER CODE	CLOUD			NODC STATION NUMBER
NO.	 		1/10	_	1/10		10*	1.	MO	DAY H	R,1/10		NO	+	10m	ER		3 mrt	S DB.	HGT PER SEA		TYPE AMT	-	-	
103	GL	7056	95	050	265W	1 1	557		0.2			968	Ц.	0.2			2926	1]	00	OIX	7.3	7 8	l		0032
								WAT	ER	\ <u>\</u>	IHD	BARG		AIR TE	_	~ VIS	NO.	SP	ECIAL						
								COLOR	TRANS	OR.	SPEEO OR	M ETE		DRY BULB	W E BUL	T COD	OBS. DEPTHS	CREEP	VATIONS						
								CODE		1	FORCE	_	_		-	+	-	-							
									Ļ	10	527	82	5 -	022	-02	24 6	15			-,				_	
	MESSENGE		CAR		DEPTH (m.i	r	₩	١,	٠/	SIGMA	LT		nc volu		E A D	so	UND	O 2 ml/1	PO ₄ =P	NH3-N	NC2-N	24.13-24	51.04=	5
	TIME HR 1/10	NO.	TYPE	E	000			•	1	•••	3.0		ANO	MALY-X1	"	X 10 ³	. \ \\	OCITY		V4 - 01 1	μg - 01 1	μg - 01	vg mill	23 - 01	
		1		\neg																				_	
	l	'	ا 51	ro !	000	0	-0	184	34	0.8	274	5	່ດດ	0636	0	0000	1 14	4394	744			1			
	0.7	Ω	0B		000			184		082	274	_	00	0000		0000		4394	744	205	464	014	248	080	808
	0 .	0	S1	_	001			184		08	274		0.0	0636	9	0006		+396	779	200		01.	2 0	000	000
	0.7	0	OBS		001	-	_	184		077	274					0 - 0 -		4396	781	204	222	020	175	077	812
		_	51		002			184		0.8	274		0.0	0638	5	0013		4398	774	-	_	3-0			
	0.7	0	OBS		002	8	-0	184	34	076	274							4399	765	206	185	016	216	079	807
			51	D	003	0	-0	183	34	12	274	9	0.0	0605	0	0019	14	4400	761						
			51	10	005	0	-0	173	34	43	277	3	00	0368	3	0029	14	4413	728						
	0.7	0	OBS	5	005	5	-0	172	34	480	277	7					1 4	4415	722	213	160	013	220	077	808
			51	O	007	5	-0	173	3 4	49	277	8	0.0	0321		003	1 14	4418	705						
	0.7	0	0B5	5	008	3	-0	173	34	493	277	9					14	4419	699	220	508	016	210	079	803
			51	T D	010	0	-0	166	34	50	277	9	0.0	0313	8	0045		4425	686						
	77	0	OBS		011			163		501	277							4429	680	217			205	081	807
			51		012			163		50	277			0311		0053		4431	677						
			51		015		_	163		51	277			0306	-	006		4435	671						
		_	51		020		_	164		51	278		0.0	0298	4	0076		4443	659	2.2.					
	07	0	OBS		T022			164		517	278			0 270				+447	654	220	158	006	183	080	805
			51		025			116		56 62	278			0278		0090		4475	613						
	0.7	^	S1 0B9		033			048		640	278 278		ŲŪ	0262	2	0104		4515 4535	557 534	230		010	27.0		703
	0.7	U	51		040			005		64	278		0.0	0273	. 2	013		4557	529	230	404	010	268	090	792
	0.7	0	089		044			013		645	278		00	0212	, _	010.		4567	526	230	177	020	294	094	+ 798
	0 1	0	51		050			014		65	278		0.0	0272	0	015		4577	521	200	1,,	020	2) 4	0 94	190
	0.7	n	OBS		T055			014		653	278		00	0212	. ,	015		4586	517	230	312	012	232	092	799
	٠.	0	51	_	060			016	-	66	278		0.0	0269	7	018		4595	513	2,0	J12	012		0 7 2	. ,,,,
	0.7	n	089		066			1716		660	279		0.0		•	0-0.	_		510	233	446	023	214	097	7 798
	0,	0	51	-	070			019		66	278		0.0	0268	15	021	1	4613	510		4.0	023	617	0)	,,,
	0.7	0	OBS		077			022		664	278		-	0-00		0-1		4627	508		212	016		100	798
			51		080			021		67	278		0.0	0265	9	0239		4631	506					- 5 (
	0.7	0	089		088			018		670	278		- 0					4644	504	232	189	008	251	095	797
			51		090		C	018	34	67	278		0.0	0260	14	026		4646	506	_					
			51	10	100	0	C	015	34	67	278	5	0.0	0258	3	029		4662	517						
	0.7	0	089	5	T100	1	C	015	34	665	278							4662	517	237	289	007	231	096	795
			\$1	TO	110	0	C	011	34	66	278	5	0.0	0259	5	031	7 1	4677	518						
	0.7	0	OBS	5	T110	3	0	011	34	664	278	5					1 4	4677	518	235	270	008	272	100	796

															1	_		1				
REFERENCE	LATIT	UDE	LONGITUE	3. E. E. E.	MAR	SDEN ARE		N TIME	YEAR	CRUIS		ATOR'S		DEPTH TO	MAX. DEPTH	DBS	WAVE ERVATIONS	WEA-	CLOUD	1	ST	ATION
CODE NO. CODE		1/10		1/10	10*	111	MD DA	Y HR.1/	_ !	NO.		NUMBE		BOTTON	S'MPL"	DIR.	HGT PER SE	CODE	TYPE AM	1	N	JMBER
318037 GL	705	515	04745	6 W	556	0.7	02 2	3 150	1968	3	02	6		3142	29	00	o x	71	7 8			0033
	•	•		-		WA	ER	WIND	BAR		AIR TE		vis.	NO.	SPE	CIAL						
						COLOR	TRANS.	שור אור	EED MET		DRY BULB	WET	COD	DBS. DEPTHS	DBSERV	ATIONS						
							1		24 8	29 -	009	-01	1 5	27	†							
MESSE	Ge	T			T	L	\ -	-		1	ic vori	-	ξ Δ D	<u> </u>	UND		PD4-P	NH ₁ N	NO ₂ -N	NO ₃ -N	5104-51	5
TIM	GR CAST	CARE	DEF	TH (m)	1	°C	2 .	·- !	IGMA-T		MALY-I	(F)	X 10 ³	. VEL	OCITY	0 2 ml/l	pg = 01/1	μg + 94/1	µg • ol/	pg - 01/1	Pg - 014	pH C
In a	10		-		-		-			+				+								
1	1	ST	D 0	000	' - 0	180	340	7 '	2744	00	0645	3	2000	1 1 4	396	772	' '					
	53	085		000		180	340		2744						396	772	194	142	033	230	088	812
]	53	085		1009		181	340		2744			_			+397	777	197	200	022	237	087	804
		ST		010		181	340 340		27 4 4 2745		0645		0006 0013		+397 +399	7 7 7 7 7 4						
1	53	ST OBS		020		181	340		2745 2745	00	0642	.)	1013		+399	774	190	15	019	196	087	814
	23	5.7		1030		1165	343		2764	0.0	0456	0	0018	_	4412	726	1,0	10	01)	170	00,	014
1	53	085		039		158	344		2777						419	692	194	226	013	172	085	814
		ST		050		167	344		2778	0.0	0323	39	0026		4417	678						
1	53	085	-	1059		173	344		27 7 9						+415	669	205	192	020	263	087	805
		ST		1075		174	345 345	_	27 7 9 2 77 9		0313		0034 0042		418	667						
,	53	51 085		100)175)175	345		2779	00	0311		0042		+421 +422	662 660	202	089	009	237	087	812
	,,	51		125		171	345		2780	0.0	0300	2	0050		+427	653	202	00)	007		00 /	012
		ST		150		1155	345		2781		0293		005		4439	639						
1	53	OBS	. 0	155	- (151	345	-	2781						4442	636	207	083	003	228	090	809
		51		1200		0063	346		2783	00	0272	2.2	007		4492	584						
Ī	53	085		233		0021	346 346		2784 2784		0271	. 0	000		+517 +522	557 551	215	115	003	253	100	807
		5T 5T		300		0015	346		2784 2784		0271		800 8900		+522 +537	536						
1	53	089		311		0000	346		2784	00	0400	, 0	00 40		+540	534	217	169	012	240	104	806
	53	085		399		0004	346		2784						+556	528	218	265	014	254	105	805
		ST	D C	400		0004	346	5	2784	0.0	0265	1	0125	14	+556	528						
	53	085		1483		0011	346	-	2784						+573	526	216	138	011	222	107	802
		ST	-	500		0014	346		2784	0.0	0265	5 7	0152		+578	522	21.0			25.		
	53	085)571)600		0021	346 346		2784 2785	0.0	0266	. 7	0178		4593 4598	512 512	218	068	004	254	112	805
	53	S1 089		1662		0022	346		2785	00	0200	,	0116		4608	513	219	167	008	229	114	801
,		S1		700		0022	346		2785	0.0	0265	8 6	0209		+615	513	/	10.	000	•=-/		001
	53	085	T (748	(0021	346	66	2785					14	4622	512	223	262	013	210	115	798
	64	089		1773		0020	346		2785						+626	515	233	251	008	269	119	808
	53	S1		1800 1852		0019	346 346		2785 2785	0.0	026	14	023		4630	514	227	159	00/	213	117	800
	. 53	0B9		1900		0017	346		2785	0.0	0259	00	025		4638 4646	513 518	221	159	004	213	117	800
	64	QBS		963		2016	346		2785	0.0	5-5				4656	524	220	231	007	218	118	807
		51		000	Ò	0013	346		2785	0.0	0259	9	028		4661	527			55.		- • •	- 5 .
	64	0B		1089		8000	346		2785						4674	531	219	302	007	244	119	810
		51		1100		8000	346		2785		0256		0309		4676	531						
		SI	-	1200		0004	346		2785		025		0334		4691	531						
	264	S1 0B5		1300 1320		0001	346 346		2785 2785	00	0252	2.2	0360		4706 4709	531 531	226	280	006	242	120	808
•	.04	\$1		1400		0003	346		2786	0.0	0248	3 3	0389		4721	541	220	200	000	472	120	000
		\$1		500		0007	346		2786		024		040		4736	550						
	264	089	5 1	605	- (0010	346	60	2786					1	4753	555	222	277	005	295	121	808
		S1		1750		0014	346		2786	0.0	1053.	76	0470		4776	547						
	264	083		1895		0017	346		2786	~ ~		2.6	0534		4799	545	224	26	007	257	120	807
	264	S1 085		2000 2194		0019	346 346		2786 2786	UC	1023	0	0529		4816 4848	552 562	214	094	006	294	123	806
	264	0B:		2493		0028	346		2786						4897	571	229	U / 1	008	265	121	805
		S.		2500		0028	346		2786	0.0	022	35	064		4898	571						
	264	0B:		2790		0036	346	_	2786						4945	583	233	121	003	276	120	805
	264	08		2893		0045	346		2786						4959	591	227	18	007	262	117	805
	264	08:		2916 2935		0047 0050	346 346		2786						4962 4964	595	23 0 229		007	287 258	113	803
	164	OB:) [2730		0050	346	40	2787					1	4 904	601	229		011	208	108	806

CE							SDEN	ATZ	TION T	IME			ONGIN	ATOR	 2	DEPTH	DEPTH		WAVE SERVATIONS	WEA				ODC
D.	CODE	LATITU	DE	LON		ဂို အ	UARE		IGMTI		YEAR	CRUISE		TATIO		TO BOTTOM	l ns	1	HGT PER S	C00				JMBER
10.		· _	1/10		1/10	5 10°	1.	MO	DAY	R.1/10		NO.	├`	UME	36 K		SMIL	S DIR	HOT FEE 3			1		
037	GL	7028	325	04	6584W	55	6 06	0.2	25	060	1968		0.2			3173	10	1 00	lotxt	7 1	.1 618	1		0034
							- *	ATER	v	VIND	BARC	>- ⊦—	AIR TEA		VIS.	NO. 085.		CIAL						
							COL		DIR	SPEED	METE (mbs		DRY IULB	BUI		DEPTHS	OBSER	ZHOITAV						
							-	-	+	FORCE	+-		_		20 /	1.6	_							
						_	Т.	4-	24	507	9.2	6 -	21	-0:		16					T	Ī		
1	MESSENGE		CAR		DEPTH (m	,	7 °C	,	٠/	SIGA	AA-T		C VOLU		Ž ∆ D		OCITY	02 ml/	PO4+P	NH 3- N	NOgeN pg + ab l	NO3-N	\$1.04 - \$1 pg - at 1	e H
	TIME 6	" NO.	TYP	٤	••••	.				1				_	x 103	***	OC.III		- Py - u	, pg		PV - 0. 1		
		_									1			- }		1			ì					
		•	' _۶	тр'	0000	· -	0179	3.4	.00	27	39	000	0697	8	0000	14	396	748						
	0.44	9	ОВ		0000		017	34	+003	2.7	39					1 4	396	748	204	619	028	232	087	815
	~ ~			TD	0010		018		399	27	38	000	0705	2	0007		396	779						
	14	9	OB	5	0010	-	018	3.	3992	-	38						396	779		35	025	320	087	81
			5	TD	0020	-	017		415		51	000	0584	8	0013	_	403	754				224		0.7
	04	9	OB	5	0025		017	-	+220		56						406	741		299	021	320	090	31
			5	TD	0030		017		430		63		0469		0019		408	723						
			5	GT	0050		016		+50		79	0.01	0315	6	0027		416	670		010	. 1 /	266	• • •	0.3
	0.4	Q	ОВ	5	0052	2 -	016	-	1509		80						416	666		369	016	260	092	81
			5	TD	0075		015	_	+51		79	00	0310	1	0034		426	643		217		252	000	0.1
	0.4	g.	OB	5	0078		015		+514		80			_			+427	642		217	020	253	093	31
			5	TD	0100		014		452		80	0.0	0304	15.	0042		4435	644		161	017	240	003	0.1
	0.4	Q	ОВ	S	0104		014	-	4525	_	.80					_	4437	644		166	012	248	092	81
			5	TD	0125	5 -	010		455		81		0293		0050		+458	61						
			5	TD	0150	-	007	1 3	458		82	00	0285	1	0057		4479	588				24.2		
	04	9	08	5	0155	5 -	006	5 3	4584	_	82						+483	58		165	018	262	093	81
			5	TD	0200	-	100	3 3	462	_	83	0.0	0276	1	0071		+513	54				2		
	04	9	ОВ	5	T0207	7 -	001	3 3	4630	_	83						4516	538		206	012	241	094	81
			S	TD	0250	- (000		464		84		0272		008		+528	52						
			5	TD	0300		000		465		84	0.0	0271	1	0098		+541	519				247	• • • •	2 -
	0.4	9	ОВ	5	0312		000		4649		34				- 1		4543	51	-	137	011	267	096	90
			5	TD	0400		002		466		84	00	0270	8 (0129	_	4565	50		262	0.1 /	202	100	0.
	0.4	9	0.5	S	0416		002		4665	_	84		- 2 -		- 3		4568	508		368	014	291	100	80
				TD	0500		200		467		185	0.0	0266	6	015		4583	500		120	000	285	100	2.0
	04	9	08	_	0520		002		4669		785				- 2		4586	500		239	800	200	100	80
				TD	0600		002		467		/85	00	0269	25	0179	-	4599	50		170	013	262	101	0.0
	04	9	ОВ	-	0624		002		4671		785		- 26				4603	51		120	013	252	101	80
				TD	0700		001		467		785	00	0261	4	0209		4613	52.		221	0.1.	263	102	0 ^
	0.4	9	08		T0729		001	-	4666		785						4618	52		236	014	241	103	80
			-	TO	080		001		467		785	0.0	026	30	023	_	4629	52		067	011	790	103	۵.
		Q	OB	_	T083		001		4666		785		- 26		- 2		4634	52	-	067	011	289	103	80
				TD	0900		001		467	_	785	00	025	72	025		4644	53.		266	200	770	112	0.5
	04	9	OB	5	1093.		001		466	_	785				- 7.0		4649	5.3		246	009	270	118	80
				TD	1000		000		466	_	785	0.0	026	12	028		4659	53		251	017	360	110	9.0
	0.4	9	08	15	T103	5	000	8 3	4658	3 2	785					1	4664	53	0 242	154	012	260	119	80

CTRY ID.	SHIP	LATITU	DE L	ONGITUDE		ARSDEN DUARE		TION T		YEAR	CRUE		IATOR' STATID NUMB	N	DEPTH TO BOTTO	D	AAX. EPTH DF WPL'S		WAVE SERVATI	ONS	WEA THER CDD	CODE	s	5.	NDDC TATION UMBER
31803	7 GL	7014	35 0	50103W	5 5	7 00	02	25	210	1968		0,2	8		326	5	33	00	lo x		71	7 8	.		0035
						WA	TER	1	WIND	- AAR	p	AIR TE	MP. C	VIS	NO.		SPEC	IAL							
						COLDR	TRANS	DIR.	SPEE OB	1 72.		DRY BULB	BUL	r cop	DEPTH	2 DB		TIONS							
								10	51	4 86	5 -	029	-03	2 6	27				L,					T	
	MESSENGR TIME (CAST NO.	CARD TYPE	DEPTH 0	m)	τ °C	2	٠/	\$10	GMA-T		MALT-X	JME 107	₹ △ D DYN. W X 10 ³	. Se	LOCI		D 2 m1/		- P ot/1		ND2+N ug + 01/		\$1 D4=\$1 ug + at 1	рΗ
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			ST			-0173		47		777		0033		002		44]		688							
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REFER	ENCE	SHIP				- 5	MAR	SDEN		TION T				ORIGIN	NATOR	r*S		EPTH	MAX. DEPTH	1		4 V E	WEA				NDDC
CODE	ID.	CODE	LATITU		LONGIT	i = 1		ARE		IGMTI		YEAR	CRUI		STATI			TO MOT	OF	"		/A TIONS	CODE	COD			STATION
	NO.			1/10		1/10	10*	1.	MO	DAY	R.1/10		+~	<u>"</u>	NUM	e K	+		S'MPL"	D/R.	HG	T PER S	EA	TYPE A	MT		er G myt
31	8037	GL	701	185	0512	207W	55			26	090	1968	Щ.	0.2			31	167	.10	100	١l٥	X		6	8		003
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	- secretures						-	** * * * * * * * * * * * * * * * * * * *	.	STATION TIE	4.6		1-	ORIGIN	ATOR*	s	_	DEPTH	MAX.	,	WAV	E	WEA	clou	p [NODC	1
	CTRY ID.		LATITU	30		GITUDE	PE S	SOUARE		(GMTI		YEAR					1 -	10	OF	1			600	.		S	TATION	
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ENCE IO.	SHIP	LATITU	1	LONG	SITUDE SOUTH	MAR	ARE		ION TI		YEAR	CRUI	ORIGIN	OTA1	ION	0£7 TO 8017	2	MAX. OEPTH OF		WAV SERVA	E NONS	TH		CLDUI CODE	S			NOT STAT NUM	ION
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8037	GL	6838	3351	041	200W	520	WA	02 TER		VINO	BAR		AIR TE			NO).	SPE			^ 1	' ^		0.3	, כ			1 00	381
							COLOR	TRANS	O.R.	SPEE OR FORG			DRY	BU	ET CO	DEPT	S. C	DRSERV	ATIONS										
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ĺ	MESSENGR		CARO		OEPTH (m)	,	τ	s	٠/	SIC	MA-T	SPECI	FIC VOLU	JALE	₹ ∆ ¢	λ	SOUN		02 ml/		4-9		N	NO3+N				ş Ş	5 H
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			085 085		0040		162		418		772						144												
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			085 ST		1000		0014		676 67		786 786	0.0	0025	2.8	030		146												
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			089		2400	-	0025	34	+656	2	786						148	882											
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			089		2600		0026		+654		786						149	916											
			0B	5	2700	-	0029	3	4648	2	786						149												
			0B5		2800 2900		0030 0033		+648 +643		786 786							949 965											
			5	TD	3000	-	0034	3	64	2	785	0	0021	87	075	1	149	982											
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CTI	n I	ID, HD,	SHIP	LATITUDE 1/10	LONGITUDE	DALFT	MARS SQU/	ARE		TION 1			CRUISE NO.		TATION	\dashv	OEPTN TO BOTTOM	MAX, DEPTN OF S'MPL'S	SER	A VE	DNS SEA	WEA- THER COOE	co	0 U C 230	NOOC STATION NUMBER
\vdash	+	8037	GL	683835					02	27	210 WIND	1968		O3	*	\Box	3436 NO.	34	 1	x		70	6	6	0039
								COLOR	TRANS In1	OB.	FORC	METE (mbs	1 1	DRY	WET	CODI	OENTHS	OBSERV							

				-	TORCE OF		(2)	26								
				18	510 87	1 -060 -0	63 6	26						T		
MESSENGE CAST	CARO TYPE	OEPTH (m)	1.6	s *4.	SIGMA-T	SPECIFIC VOLUME	₹ △ 0 01N. M. x 103	SOUNO VELOCITY	O ₂ ml/l	PO4-P	NH 3 - 1		NO3-N /I vg - al/	\$1.04-5i 99 - 01/1	ρН	C
NR 1/10																
				2400	27//	0006310	0000	14395	698	1	'	1	1	,		, ,
	STD	0000	-0182	3409	2746	0006318	0000	14395	698	205					806	
220	OBS	0000	-0182	34088 3409	2746 2746	0006315	0006	14396	706	200					000	
	STD	0010	-0184 -0184	3409	2746	0006313	0006	14396	706	205					806	
220	085 STD	0010 0020	-0184	3409	2746	0006308	0013	14398	706	200					000	
220		0025	-0184	34087	2746	0000300	0013	14399	702	199					796	
220	OBS STD	0023	-0178	3418	2753	0005602	0019	14404	687	.,,						
	STD	0050	-0163	3442	2772	0003779	0028	14417	649							
220	085	0050	-0163	34421	2772	0002	0	14417	649	213					804	,
220	STD	0075	-0160	3448	2777	000336	0037	14424	650							
220	085	0075	-0160	34475	2777	000230		14424	650	215					801	
220	STD	0100	-0154	3450	2778	0003212	0045	14431	600							
220	085	0100	-0154	34495	2778	0005-11		14431	600	224					795)
220	STD	0125	-0146	3452	2780	0003056	0053	14439	596							
	STD	0150	-0124	3454	2781	0002952	0060	14454	581							
220	085	0151	-0123	34540	2781	0002732	0.00	14455	580	240					798	j
220	STD	0200	-0037	3461	2783	0002771	0075	14504	517	- •						
220	085	10201	-0036	34615	2783	0002172	0.0.1	14504	516	237					786	,
220	STD	0250	-0002	3465	2785	0002646	0088	14529	496							
220	085	0274	0009	34656	2784		*	14538	489	233					792	2
220	STD	0300	0011	3466	2785	0002642	0102	14543	485							
220	085	0363	0017	34668	2785	00000		14556	478	233					790)
220	STD	0400	0023	3467	2785	0002639	0128	14565	475							
220	085	10449	0029	34678	2785	• • • • • • • • • • • • • • • • • • • •	-	14576	473	233					788	3
220	STD	0500	0030	3468	2785	0002621	0154	14585	472							
220	OBS	T0530	0031	34679	2785	***		14591	471	257					792	2
220	STD	0600	0028	3468	2785	0002608	0180	14601	472							
220	OBS	0688	0025	34680	2786			14614	473	236					791	l
	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	J
	STD	0900	0018	3468	2786	0002543	0257	14646	485							
	STD	1000	0015	3468	2786	0002520	0283	14662								
186	OBS	T1016	0014	34678	2786			14664							80	2
-	STD	1100	0012	3468	2786	0002506	0308	14677								
	STD	1200	0009	3468	2786	000248	0333	14693								
186	085	1270	0006	34676	2786			14703							790	5
	STD	1300	0004	3468	2786	000245	0357	14708								
	STD	1400	-0000	3467	2786	0002427	0382	14723								
	STD	1500	-0004	3467	2786	0002402	0406	14738								_
186	085	1523	-0005	34670	2786			14741							79	7
	STD	1750	-0011	3467	2787	000233	0465								70	
186	OBS	1830	-0013	34665	2786			14790							78	8
	STD	2000	-0018	3466	2786	0002294	0523								7.0	•
186	085	2136	-0021	34662	2786			14839							79	
186	085	T2443	-0025	34661	2787			14890							79	8
	STD	2500	-0025	3466	2786	0002195	0635								7.0	
186	OBS	2752	-0029	34656				14941							79	О
	STD		-0035	3465	2786	0002096	0742								7.	
186	085	3063	-0038	34648				14992							79	
186	085	3321	-0052	34638				15030							79	
186	OBS	T3368	-0057	34644				15037							79	
186	085	3400	-0068	34643				15037							79	
186	085	T3434	-0078	34647	2788			15039	590	228					80	4

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						COLOR	TER	WIF	SPEEC	BARO- METER	H	AR TE	MP. T	1 VN	OBZ	· Loseri	PECIAL EVATION												
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	MESSENC	SR .	CAST NO.	CARO TYPE	OEPTH (m)	1 10	s	·/	SIGMA	_T S	PECIF	MALT-II	ME a?	₹ ∆ C	4. 3	OUND	02 m	LZI.	PO 4-		NH 3 F	1 6	102-	N	NO3-		04-5	2.44	
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				085 STD	0010	-0185 -0172	34	100	274		00	0425	,	001		4396 4407													
	0.0)5		OBS	0020	-0172		358	276		00	0423	0	001	_	4407													
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				085	0050	-0168	344	463	277	5						4416													
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				OBS STD	0100	-0164 -0154	34	487 51	277		00	0311	2	003		4422 4431													
				085	0100	-0154	34	508	277	9					1	4431													
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				STD	0150	-0130	34		278		00	0288	1	005		4447 4475													
				085	0150	-0080		571	278	2					1	4475													
				STD	0200 0200	-0004 -0004	34	65 648	278		00	0265	3	006		4519 4519													
				ST0	0250	0006	34		278		00	0263	0	8 00		4532													
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				ST0 085	0300 0300	0015	340	57 568	278		00	0260	5	009		4545 4545													
				STD	0400	0015	34		278		00	0258	5	012		4545 4566													
				085	0400	0024	341	578	278	5					1	4566													
				STD OBS	0500 0500	0031	340	59 587	278		00	0256	5	014		4586													
				STD	0600	0031	340		278		00	0256	1	017		4586 4602													
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				STD OBS	0700 0700	0030	340	59 588	278		00	0255	7	019		4619													
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				OBS	0800	0026		888	278	5					1	4634													
				STD OBS	0900 0900	0021 0021	346	59 587	278		00	0250	2	024		4648 4648													
				STD	1000	0017	340		278		00	0250	2	027		4663													
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				STD	1200	0009	340		278		00	0247	3	032		4693													
				OBS	1200	0009	346		278							4693													
				STD OBS	1300 1300	0006 0006	340	58 578	2786		00	0244	5	034		4709 4709													
				STO	1400	0002	340		278		00	0240	7	037		4724													
				OBS	1400	0002		578	278				_			4724													
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				OBS	1600	-0002	346	577	278							4739 4754													
				085	1700	-0009	346	573	278	7					1	4770													
				STD OBS	1750 1800	-0011 -0013	346		278		00	0230	8	045		4777													
				OBS	1900	-0015		5 73 569	278°							4785 4801													
				STO	2000	-0017	346	57	278	7	00	0226	7	051	1	4817													
				085 085	2000 2100	-0017 -0019		568 567	278° 278°							4817													
				08S	2200	- 0019		567	278							4833 4850													
				OBS	2300	-0023	346	663	278	7					1	4866													
				OBS STD	2400 2500	-0025 -0026	346 346	661	278		004	0218	,	067		4882													
				085	2500	-0026		660	278		JUI	0218	4	062		4899 4899													
				085	2600	-0027	346	559	278	7					1	4916													
				OBS	2700	-0029		558	278							4932													
				OBS OBS	2800 2900	-0031 -0032		558 558	278°							4949 4966													
				STO	3000	-0034	346		278		00	0207	1	072		4982													
				085	3000	-0034	346	555	278	7					1	4982													
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REFERENCE	1 1					MAR	O S N	STATION T	LAAF		1 0	DRIGIN	ATOR'S		OEPTH	MAX		WAV		WEA-	CLO	UD			ODC	1
CTRY ID.	CODE	LATITU	3C	LONGITUO	0.7	sou	ARE	(GMT)		YEAR	CRUISE NO.	S	TATIO		10 801108	OF	003	ERVA.		THER	. 1			ST.	ATION	
CODE NO.	1000	-	1/10		1/10	10-	1	MO DAY H								- S WAL			ER SEA		TYPE /			-	!	
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	ı	' '	51	тр′ с	0000	· -c	179	3414	2	750	000	595	6	0000		4398	680									
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			OBS	0040		-0172	342		276							14410											
			STD	0050		-0172	343		276		00	0450	7	0032		14412											
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			STD OBS	0075		-0163 -0163	343		276		UU	U-+ U 8	,	004		L4421 L4421											
			STD	0100		-0143	344	1	277	1	00	0391	2	0053		14435											
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			STD	0700		0030	346		277		00	0315	8	0246		14618											
			OBS STD	0700 0800		0030 0026	346		277		0.0	0313	1	0276		14618											
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			085	1300		0006	345		278	0						4707											
			STD	1400		0003	346		2780		00	0301		0462		4723											
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			STD OBS	2000		-0017	345		2780		00	0285	5	0638		4816											
			085	2000 2100		-0017 -0020	345		2780							4816											
			OBS	2200		-0022	345	87	2786	0					1	4848											
			085	2300		-0024	345		2780						1	4864											
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			085	2600		-0028	345	68	277	Q					1	4914											
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			OBS	2900		-0030	345		27 7 9							.4948 .4965											
			STD	3000		-0033	345		2779		00	0271	1	0920		4982											
			OBS	3000		-0033	345	68	2779	9						4982											

REFERENCE SHIP	1	GITUDE ED	MARSDEN SQUARE	STATION TI (GMT)	YE	AR		DR'S TIDN MBER	DEP T(BDTT	OFFIR	OBSE	WAVE RVATIONS	WEA- THER CODE	CLOUD CODES		51.	DOC ATION JMBER	
CODE ND.	/10						034		34	75 05	0.0	0 X		6 8			0043	
318037 GL 68149	5 04	7513W	520 87		T CONT	968	A IR TEMP	*	NC NC			01/1		. 0.0	'	, ,	00.5.	
			COLDR		-	METER	-	WET COL	DB	S. Daseav								
			CODE	TRANS DIR.	FORCE	(mbs)		ULB	DEP	THS								
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MESSENGR CAST TIME OF NO.	CARD TYPE	DEPTH (m)	τ°C	5 %.	SIGMA		SPECIFIC VOLUME	1 < A.	w. ,	SOUND VELDCITY	D ₂ ml/l	PO4-P	NH 3-N	NO2-N ug - a1/1		SI O 4 → Si µg = of I	рН	Si C
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181	0B5	0000	-0145	34104	2746	6				14413	698	194				085	804	
101	STD	0010	-0171	3410	274	7	0006222	000		14403	708						0.01	
181	OBS	0010	-0171	34103	274	7				14403	708	202				086	804	
	STD	0020	-0179	3410	274		0006205	001		14400	724	200				006	804	
181	OBS	0025	-0180	34101	274					14401	725	203				086	804	
	STD	0030	-0176	3419	275		0005529		_	14405	703 647							
	STD	0050	-0161	3445	277		0003563	002	1	14419 14420	645	212				089	801	
181	OBS	0051	-0160	34457			0003174	003	,	14425	648	212				00,	001	
	STD	0075	-0158	3450	277		0003174	003	0	14425	648	219				090	798	
181	OBS	0076	-0158	34505	27 7 278		0003061	004	4	14437	626	217				0,0		
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181	OBS	0102	-0140	3452	278		0002993	005	1	14445	613							
	STD	0125	-0135 -0118	3454	278	-	0002967			14457	598							
	STO	0150 0153	-0115	34543		_	0002701	003		14459	596	225				094	794	
181	OBS	0200	-0047	3461	278		0002760	007	73	14499	555							
	STD OBS	0200	-0047	34610			0002.00			14502	552	226				098	794	
181	510	0204	-00042	3464	278	-	0002730	008	37	14527	514							
	STD	0300	0019	3466	278		0002659		0	14547	487							
181	OBS	0306	0021	3466						14549	485	229				106	791	
101	STD	0400	0024	3467	278		0002645	012	27	14566	485							
181	OBS	0409	0025	34674	+ 278	5				14568	485					108	790	
101	STO	0500	0032	3468	278		0002624	015	3	14586	479					112	700	
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			STD	0150	-0087	3456	278		00029	36	006	-	4472	564 560					096	808
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	165	5	OB5	0410	0031	34678	278					1	4571	476	231				108	802
	10)		STO	0500	0032	3468	278	5	00026	24	015	-	4586	474						0 - 6
	165	5	OBS	T0511	0032	34683	278	5					4588	474					110	800
			STO	0600	0028	3468	278		00025	84	018		4601	480					113	801
	165	5	OBS	0616	0027		278				0.30	_	4603	481 481					113	001
			STO	0700	0027		278		00025	88	020		4617 4621	483					113	799
	165	5	OBS	T0723	0027		278 278		00025	βЗ	023		4621 4633	484					113	
		_	STD	0800	0025		278		00029	د ن	023		4636	48					117	800
	165	5	OBS	T0822	0022		278		00025	85	025		4648	488						
	165	5	STO OBS	T0925	0022		278		00023		0 - 2		4652	48					118	802
	103	,	SID	1000	0018		278		00025	54	028	4 1	4663	48						
	165	5	OBS	T1024	001		278					1	4667	48	9 239				118	798

	,														
CTRY ID.	SHIP	LATITU	JOE	LONG	SITUDE E	MARSDEN SOUARE	STATION 1	TIME	CKUISE SIA	TION	DEPTH DEPTH	H OBSERVATIONS	THER	LOUD	NODC
CODE NO.	+-	6901	1/10	04.6	1710 = 1 002W	10° 1° 520 96	MO DAY	172 196			J.mir.			PE AMT	NUMBER
31/803	7 GL	1 070.	103 (040	OUZWI I	WA	TER	WINO 8/	ARO- AIR TEMP	Z VIZ	3884 36	ECIAL OO O IXI	x1	0131	0046
						COLOR	TRANS DIR			WET CODE	OBS. OEPTHS OBSER	VATIONS			
						DT	50 07	515 9	15 -073 -	ე80 7	51				
	TIME		CAR		DEPTH (m)	1 °C	5 %.	SIGMA-T	SPECIFIC VOLUME	≨ ∆ D DYN. M. x 10 ³	SOUNO	02 ml/l PO4=P			NO3-N SIM4-S. ug - at 1
	HR 1/	10	-	-			-	+		X 10°	-				
	!	'		TD	0000	-0186	1	,	1	'	1		'	1	
	1	80	OB 5	S TD	0000	-0186 -0187									
			08	5	0010	-0187									
			5 08	TD S	0020	-0186 -0186									
			ОВ	5	0023	-0186									
			0B.	5 10	0025	-0163 -0162									
			OB OB	5	0030	-0162 -0156	34472	2776			14420				
				TD	0050	-0156	3448	2777	0003331		14422				
			OB:		0050	-0156 -0157	34482 34490				14422				
			08		0065	-0147	34502	2779			14429				
			OB.	5 T D	0072 0075	-0153 -0150	34517 3452	2780 2780	0003068		14427 14429				
			OB	5	0075	-0150	34517	2780			14429				
			S OB:	TD S	0100	-0123 -0123	3456 34556	2782	0002847		14446				
			5	TD	0125	-0092	3458	2783	0002755		14465				
			0B:	S TD	0125	-0092 -0054	34582 3464	2783 2786	0002493		14465 14488				
			08	S	0150	-0054	34637	2786			14488				
			0B	TD S	0200	0004 0004	3466 34657	2785 2785	0002628		14523 14523				
			S	TD	0250	0016	3467	2785	0002619		14537				
			0B	5 T D	0250	0016	34667 3467	2785 2785	0002654		14537 14548				
			OB.		0300	0022	34667				14548				
			OB	T D 5	0400 0400	0029 0029	3468 34677	2785 2785	0002624		14568 14568				
			5 0B	TD	0500 0500	0033	3468 34679	2785 2785	0002638		14586 14586				
				TD .	0600	0033	3468	2785	0002628		14500				
			08	S TD	0600 0700	0031 0027	34679 3468	2785 2785	0002603		14602 14617				
			οв,		0700	0027	34679		0002003		14617				
			5 0B:	TD s	0800 0800	0024	3468 34677	2785 2785	0002598		14632 14632				
			\$	TD	0900	0021	3468	2785	0002577		14648				
			OB:	S TD	0900	0021	34677 3468	2785 2786	0002547		14648 14663				
			08		1000	0017	34677				14663				
			08:	TD S	1100 1100	0014	3468 34677	2786 2786	0002522		14678 14678				
			5 08	TD	1200 1200	0011	3468 34677	2786	0002496		14694				
				TD .	1300	0011	3468		0002452		14694 14708				
			0B	S TD	1300 1400	0006	34677 3468	2786 2786	0002432		14708 14724				
			08	5	1400	0004	34677	2786			14724				
			5 0B	TD 5	1500 1500	0000	3468 34677	2787 2787	0002393		14740				
			08	5	1600	-0004	34676	2787			14755				
			OB.	S TD	1700 1750	-0006 -0008	34675 3467	2787 2787	0002329		14771 14778				
			08	5	1800	-C010	34672	2787	/		14786				
				TD	1900 2000	-0013 -0014	34670 3467	2787 2787	0002297		14802 14818				
			08 08		2000	-0014 -0017	34668 34667	2787			14818				
			ОВ	5	2200	-0019	34666	2787			14834				
			OB OB:		2300 2400	-0021 -0023	34665 34662				14867 14883				
			5	TD	2500	-0024	3466	2787	0002199		14900				
			OB:		2500 2600	-0024 -0025	34661 34659				14900 14917				
			08	5	2700	-0026	34658	2785			14934				
			0B 0B		2800 2900	-0027 -0028	34657 34657				14951 14968				
			5	TD	3000	-0029	3466	2786	0002117		14985				
			0B 0B		3000 3100	-0029 -0029	34657 34657				14985 15002				
			ОВ	S	3200	-0030	34656	2786			15019				
			0B 0B		3300 3400	-0031 -0032	34655 34654	2786			15036 15054				
			0 B	5	3500	-0033	34650	2786			15071				63
			08	5	3600	-0034	34647	2786			15088				

									67.	TION 3	1445		_	ORIGIN	ATOR'S		DEPTH	MAX.	Τ ,	WAVE	WEA	CLOU			NOOC	
	REFERENCE		LATITUE	DE	LONGITUDE BIG		DCT	MARSOEN SQUARE	STA	STATION TIME		YEAR	CRUIS	ε !	TATION		TO	OEPTH	OBSE	WAVE RVATIONS	THER	CODE		S	NOOC STATION NUMBER	
	ND.	CODE	•	1/10		1/10	2	10" 1"		DAY		-	NO	+	4U M BER			SWIL	1	HGT PER SE	^ —	1177L A.				
318	103	GL	6941	25	046	163W	1 9	520 <u>96</u>			050	1968	<u> </u>	0.3			385	7 39	00	olxl	X1	61	1	1	0047	
								COLO	ATER	+-	SMEE	BAR		AIR TE	WET.	VIS	NO. 085.	0.000.00	CIAL							
								COOE	R TRAN	S OIR.	SPEE	E (mb		BULB	BULB	0050	OEPTH	S								
										11	50	5 8	73 -	025.	-036	7	29	J		.,	_	,			T	
	-	MESSENGR	CAST	CAR	0	DEPTH 6	_, [1 %		s ·/	510	MA-T	SPECI	ic volu	ME :	∆ D N. M X 10 ³	so	מאטכ	0 2 ml/l	PO 4-P		NO2-N			ρН	
		TIME 0	NO.	TYP		DEPIH O	m,			,	310	,m,n=1	ANG	MALY-X	0'	x 103	. \	LOCITY		μg - α1/I	μg • α1/1	µg - al/	yg - 61/	ug - al/k	-	
																	-	Į		1					1	
	!		' '	S	TD	0000	0	-0179		411		748	0.0	0616	4 (0000		4397	689							
		074	4	ОВ		0000		-0179	_	4109		748	0.0	0636		0006		4397 4396	689 693	210				086	811	
		074	,	S OB	10	0010		-0184 -0184		410 4103		747 747	00	0619	12	1006		4396	693	203				086	811	
		0 / 4	4	-	TD .	002		-0185		410		747	0.0	0619	9	0012		4398	697							
		074	4	ОВ		002		-0185	3	4100		747						4399	700	210				084	812	
					TD	003		-0181		417		753		0561		0018		4402	687							
					TO	005		-0165		444	_	774 776	0.0	0362	28	0028		4417 4418	634 630	220				087	806	
		0.7	4	08	S TD	005		-0164 -0153		446: 448		777	0.0	0334	12	0036		4427	620	220				001	000	
					TD	010		-0138		450		778		0322		0045		4439	606							
		07	4	OB		010		-0136	3	450	2 2	778						4440	604	222				092	805	
				S	TD	012		-0121		452		779		031		0052		4451	590							
					TD	015		-0097		455		781	0.0	029	7 1	0060		4467 4470	570 567	229				094	804	
		0.7	4	ОВ		015		-0092 -0023		4550 462		781 783	0.0	027	5.5	0074		4510	518	269				0,54	004	
		07	/.	0 B	T0	1020		-0018		462		783	u e	10211	, ,	001-		4513	514	230				100	800	
		0 / .	4		TD	025		0009		465		784	0.0	027	38	0088	3 1	4534	491							
		07	4	ОВ		025		0012		465		784						4536	489	238				103	798	
					TD	030		0019		466		784	0 (026	90	0102		4547	483	227				104	797	
		0.7	4	OB		1030		0020		466		784 784	0.0	027	2.7	012		4549 4568	482 479	237				106	191	
		0.7	/.	OB	10	040		0029		466		784	01	102 1	<i>J</i> 1	0 - 2		4570	478	238				108	797	
		0 7	4		510	050		0030		467		784	0.0	0026	86	0156	5 I	4585	472							
		07	4	OB		T051	2	0030		467		785						4587	471	238				110	799	
					STD	060		0029		467		785	0	0026	53	018		4601	475					113	796	
		07	4	0.6	_	061		0029		467 468		785	0	0026	2.2	020		4604	476 477					113	770	
		07	7.	08	5 T D	070 1071		002		467		785	0	1020	33	020		4620	478					115	79	
		0 7	4		5TD	080		002		467		785	0	0026	17	023		4632	484							
		07	4	OE		T081		002		467	4 2	785						4634	485					116	796	
				9	STD	090		002		3467		785		0025		026		4647	488							
		_			STD	100		001		3467		2785	0	0025	В	028		.4663 .4665	491 491					119	795	
		07		0.5	_	T101		001		3467 3468		2785 27860					,	. +665	487					118	80	
		Ų I	0		5 T D	110		001		3407		2786		0025	52	031	3 1	4678	493							
		01	. 6	OE		T114		001		3467	4 2	2786						4684	496					119	80	
					STD	120		001		3467		2786		3025		033		14693	497							
		_			STD	130		000		3467		2786	0	0025	04	036		L4708 L4715	499 500					119	80	
		0 1	6	OB		134		000		3466 3467		2786 2786	0	0024	99	038		14715 14724	502					117	0.01	
					STD STD	150		000		3467		2786		0024		041		14740	506							
		01	16		35	165		-000		3466		2786						14763	512	256				118	80.	
					STD	175	50	-000		3466		2786	0	0024	02	047		14778						110	9.0	
		0.1	16		BS	195		-001		3466		2786		0023	3.6	053		14810 14818	528 529					118	80	
		0.1	1.6		STD BS	200 T226		-001 -002		3466 3465		2786 2786	0	0023	J 0	0/3		14860	537					118	79	
		0.1	10		STD	250		-002		3466		2786	0	0022	50	064		14901	538	3						
		0.3	16		BS		670	-002	5	3465	8	2786							541					118		
		0 1			ВS		720	-002		3465		2786			0.5		0	1.600	539					117	79	
					STD	300		-002		3465		2786	0	0021	82	075		14986 15017						115	79	
		0.3			BS	T318		-002 -003		3465 3464		2786 2786						15068						115		
		03			BS BS	37		-003		3463		2786						15113						111	. 79	
		0.3			BS	37		-004		3463		2786						15116	575	251				109	79	
					BS	T38		-005		3463		2786						15118	779	0 226				107	7 79	
		0 3	39	U	D3	150.	T 1	-005		3464		2787						15121						0 9 7		

SHIP	LAT	ITUDE	LDI	GITUDE TO	MARS	DEN ARE	STATE	ON TI	WE	YEAR	CRUISE	ORIGINA		R'S	DEPT	1	MAX. DEPTH	01	v ISEF	VA VE RVATIONS	, Y	VEA-	CLDU	D ES			NODE	
CDDE		1/10		1/10 B 2	10°	1.		AY H	R,1/10		NO.		UM		80110	>M	S.Wbf	L		GT PER S	_ / 0	DOE	TYPE A				NUMB	
GL	69	4125	04	6163W	520					1968	L,	0.3		- T-	377	_,	20	_0.0	χŀ	o x		X 1	0	3			00	+ 8
						COLDR	TRANS	DIR	SPEED	BARC	/• 	DRY TEM		ET COL	' O82	.	SPEC OBSERV	CIAL										
						CDDE	(m)		FORCE	(mba	-+-	ULB	_	168	Deri				-									
		1				DT	SD	11	505	86		21 -		25 7	32				Ι,		T	-	_		_			
IIME). CA	IPE	DEPTH (m)	1	℃	\$	٠/	SIGA	A-T	ANOM	C VOLUA	ν.Ε) ⁷	\$ △ 0 0YN. / x 10 ³	۷. V	ELD	CITY	D2 ml	/1	PD 4+P	NH :	al 1	NO2-1	1 NG-		SI I4 PØ =		Н
HR 1/	10				+		+-		 				-		+				-		-							
	'	' :	STD	0000	-0	185	34		27		000	621	۰ '	000			394		1		,							
Ü	95		35	0000		185	34		27		0.00		2	200			394											
		0.5	STD	0010		185 185	34	L 11 L 0 0	27 27		000	0621	5	000			396 396											
0	0.6		35	0016		185		100	27								397											
			STD	0020		175	34		2 7		000	431	7	001			406											
			3 S 3 S	0020		175 163		349 450	27 27								406 414											
			STD	0030		164	34		27		000	348	8	001			414											
		0.8	35	0030		164		+60	27	76					1		414											
			3S	0040		166 160	34	467	2 7 2 7		000	325	д	002			415 420											
			STD BS	0050		160		+9 490	27		000	, , , ,	J	002			420 420											
			STD	0075	-0	142	34	51	27		000	314	7	003	0]	44	433											
			35	0075		142		510	27				^				433											
			STD BS	0100		128	34	530 530	27 27		000	0302	8	003	-		444 444											
			STD	0125		100	34		27		000	289	2	004			461											
			35	0125		100		560	27								461											
			STD BS	0150 0150		050	34	50 500	27 27		000	279	3	005			489 489											
			STD	0200		000	34		27		000	265	2	006			521											
			35	0200		000		551	27								521											
			STD	0250 0250		016	34	56 555	27		000	271		007			537											
			3S STD	0300		021	34		27 27		0.00	270	1	009			53 7 548											
			35	0300		021		560	27		000		-	9 - 7			548											
			STD	0400		029	34		27		000	267	7	012			568											
			35 510	0400 0500		029	34	570	27 2 7		000	267	Ω	014			568 586											
			35	0500		031		5 7 2	27		000	1401	0	014			586											
			STD	0600	0	028	34		27		000	266	1	017			601											
			35	0600		028		672	27			27//	_	030			601											
			STD BS	0700 0700		026	34	572	27 27		000	0264	9	020			617 617											
			STD	0800		023	34		27		000	0262	9	042			632											
			35	0800		023		572	27								632											
			STD BS	0900 0900		017	34	57 572	2 7 2 7		000	0258	4	025			646 646											
			STD	1000		016	34		27		000	259		027			662											
			BS_	1000		016		670	27	85						146	662											
			STD BS	1100 1 1 00		013	34	670 670	27		000	0256	6	030			678											
			os STD	1200		009	34		27 27		000	0253	2	032			678 693											
		0	BS	1200	0	009	34	670	2.7	86						14	693											
			STD	1300		004	34		27		000	0248	8	035			708											
			BS STD	1300 1400		1004	34	670 67	27 27		001	0245	н	037			708 723											
			85	1400		001		670	27		0.00		_	0 - 1			723											
			STD	1500	-0	003	34	67	27	86	000	0242	6	040	4	14	738											
			BS BS	1500 1600		1003		669 668									738											
			85 85	1700		1006		667	27 27								754 770											
			STD	1750		010	34		27		000	0238	4	046			778											
			BS	1800		012		660	27	86							785											
			BS	1900 2000		014		660 64	27		001	22/	_	057			801											
			STD BS	2000		015	34	660	27 27		60(0234	0	052			818 818											

	D. CODE		ATITUDE	LON	GITUOE 1/10	301	SOEN IARE	()	ON TIM	١	re A R	ORIGI CRUISE NO.	NATOR	NC	OEPTH TO BOTTOM	MAX. OEPTH OF S'MPL'S	OBSI	WAVE ERVATIONS HGT[PER] SE	WEA- THER CODE	CLOUD COOES		12	OOC ATION JMBER
+	10.	+-	1/10	-		556	+ +				968		38		3713	10	0.0	0 4	X7	4 8			0049
Ц8 (03₹ GL	. 1 /	00985	04	3419W	1000	WA.		WI		BARC	A IR T	EMP.	c T	NO.	1	CIAL	01					
							COLOR	TRANS.	DIR.	SPEED OR FORCE	METE (mbs	R ORY	BU		OBS. OEPTHS	OBSERV	ATIONS						
								-		518	85	5 -024	-0	30 6	15								
	MESSET TIM HR 1.	t or		ARO YPE	OEPTH 6	nj	2, 1	S	٠/	SIGM	A-T	SPECIFIC VOI	LUME X10 ⁷	₹ ∆ 0 0YN, M x 10 ³		OCITY	O2 ml/l	PO4-P ug = ot/s	NН 3 − N 1/10 + gų	NO ₂ -N νg - αl/l	NO ₃ -N уд - al/I	SI O4—Si µg - оН/I	рН
		\neg											1		1,	205	700		1	l		1	
				STD	000	-	0177	33		273		00077	6/	0000		395 395	780 780	186				087	810
]	169	-	BS	000		0177	33	901	273		00077	71	0008		+396	800	100				001	010
		1.0		STD	001	-	0179		899	273		00011	1.1	0000		+396	800	193				086	813
		169		BS STD	001		0158	34		276		00045	84	0014		4413	733						
		169		BS	002	-	0152		463	27					14	+419	707	204				089	812
		. 0)	_	STD	003		0156	34	47	27	76	00034	35	0018		4418	697						
				STD	005	0 -	0169	34	48	27		00033	1	0025		+415	663						0.01
		169	0	BS	005		0170		484	27						+415	662	214				092	80
				STD	007		0171	-	49	27		00032	215	0033		4419	632	223				092	80
		169	0	BS	007		0171	_	493	27		00030	106	0041	_	4427	611	223				0,2	00
		1 4 0	^	STD BS	010	-	0162 0161	-	509	27		00000	,,0	0041		4428	609	229				095	804
		169	U	STD	012		0150	_	52	27		00030)2	0048	3 1	4437	606						
				STD	015		0129		54	27	81	00029	927	0056		4452	594						
		169	0	BS	T015	5 -	0123	34	542	27	81					4455	590	226				092	80
				STD	020	-	0051	-	60	27		00027	779	0070	-	4497	537	233				096	79
		169	0	BS	020	-	0043		606	27		0000	7 2 1	000		4502 4522	532 515	233				090	1 7
				STD	025		0016	-	63	27	_	00027		008		4540 4540	500						
		1.0	^	STD	030 T031		0005		65 654	27	_	00020	, 0 ,	009		4544	498					102	79
		169	Ü	STD	040		0019		166	27		00026	59	012		4563	490						
		169	C	BS	041		0020	_	664	27	-				1	4566	489					106	79
		20)		STD	050		0026	34	67	27		00026	56	015		4583	483						7.0
		169	C	BS	T051	8	0027		673	27						4587	482					107	79
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		169	C	BS	061		0025	_	+672	27	-	0003	424	020		4602 4616	484					-12	1 2
			_	STD	070		0024	_	+67 +672	27 27	-	0002	036	020		4619	487					113	79
		169	C	BS	1071 080		0024	_	+672 467		85	0002	607	023		4631	489						
		140	,	STD BS	080	-	0019		+672		85	0002	007	U - J	-	4633	490					116	79
		169	(STD	090		0015		467		85	0002	584	025		4645	493						
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CTRY ID.	SHIP	LATITU		LONGITUDE	2 S	ARSDEN DUARE		ION T		YEAR	CRUI	SE	STATIO	N	DEPT		DEPTH		SERVA	TIONS	TH	EA+	CC	DUD DES			NODE	024
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			ST	002	0 .	-0154	34	43	27	773	0.0	037	59	0013	3 1	44	17											
			085 085	002		-0154 -0170		429		173 176						44												
			ST	003	0 .	-0173	34	47	27	777	0.0	033	96	0017	7 1	44	10											
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						COLOR	TRANS	DIR.	SPEED	BAR	O- ER	DRY	WET	VIS.	NO, ORS. DEPTHS		CIAL /ATIONS						
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			TD	0100		0166	34			80	0.0	03063	3	0049		426	658						
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			TD	0250		0001	_	64		84	0.0	0272	7	0092		+529	519					100	707
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	28		BS	281		-0029		465		786					1	4952	54					113	79
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	28		BS	332		-0046		464		786						5034 5036						113	79 79
	28		BS BC	3350 T337	-	-0051 -0051		463 464		786 786						5040						102	79
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FER	ENCE	T			I.	_≝ MA	RSOEN	STA	TION T	IME			ORIGIN	ATOR'S	T	DEPTH	MA		w	A VE		WEA	CLOU	D		WDD.
7.	ID. COOE	I LA	TITUDE	LO	NGITUDE	SO MA	UARE	-	IG MTI		YEAR	CRUISE		TATION	\neg	10	DEPT			VATION	ıs	THER	COD			STATION
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			9	TD	0075	_	0162	34	50	277	9	000	316	3 0	042	14	423	678	3							
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			5	TD	0125	-	0140	34	5.2	278	30	000	304	7 0	058	14	442	625		- 0					003	00
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	1	70	0.6	S	T0156	_	0136	34	530	278	30					14	449	624	4	227					083	79
			9	TD	0200	-	0067	34	58	278	3.2	000	285	6 0	080	14	489	622	2							
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SAMP COST	REFERENCE						MARSDEN	STATION T	IAA F	1		DRIGIN	IATOR'S		OEPTH	MAX.	_		/AVE	WEA] 0	ciono			100C	1
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	MESSENGE	CAST	CAR	,	DEPTH U		, ,			٠/		T-AN	SPECIFI	VOLU		A D		מאט	O ₂ ml	/1 F	PO 4 - P	NH ₃ - F	1	NO2-N	NO3-N	5104-5	рН
	TIME 0	약 NO.	TYPE		DEFIN	m 1			L.	***	יטוג	WA-1	MON	ALY-X1	107	x 10 ³	VEL	OCITY		· .	g = a1/l	yg - a+,	/1	ug - a1/1	yg - a1/l	µg - al/l	, pri
											1																1
	193	2	S1 085		000		-01 -01		33	65 646		09	000	980	6 0	000		407	80 80		153					069	809
	193	,	51		001		-01		33			09	000	982	3 (010		409	80		100					009	009
	193	3	089		001		-01			643		09			_			409	80		156					069	814
	193	3	S1 085		002		-01 -01	_	33	68 697		11	000	956	8 (020		413	80		162					071	809
	17.	3	\$1		003		-01		33			27	000	806	9 (028		415	77		102					011	007
		_	51		005		-01		34	-		76	000	346	4 (040		415	67		227					- 0.5	7.05
	193	3	085 51		005		-01 -01		34	497 51		79 80	000	306	. 9	048		415 418	6 6		226					095	795
	193	3	083		007		-01		34	509	27	80					14	418	64		226					097	798
		_	51		010		-01		34			80	000	305	0 0	056		424	64		224						705
	193	3	0B3		010		-01		34	516 53		80	000	295	64 r	063		4425 4439	63		230					099	795
			51		015		-01		34			81		291		071		456	59								
	193	3	089		015		-01			550		81		. 7 -				+460	58		235					100	792
	193	3	S1 085		020		-00		34	60 605		83	000	277	79 (085		+497 +502	54 54		240					100	784
	17.	,	51		025		-00		34			83	000	277	7 (099		1519	51							-00	
		_	51		030		-00		34			84	000	27]	19 (112		+537	50		24.						770
	193	3	089 51		T031			01	34 34	642 65		'84 '84	0.00	271	16 (139		+540 +559	49		244					100	779
	19	3	085		041			12		652		84	00.			,,		+562	49		241					100	786
		_	S.		050			22	34	_		84	000)27()9 (167	_	4581	49	-	24.5					100	700
	19	3	089	5 T D	T051			23	34	661 67		184 185	0.00	266	55 (193		4584 4600	48 48		245					100	788
	19	3	08:	5	061			27		671	27	85					14	+602	47		245					110	782
	10	•	5.		070 071			125		67 672		185 185	001	264	44 () 2 2 0		4616 4619	47 47		246					115	783
	19	3	08:	5 TD	080			25		67		85	00	0263	36 (246		4632	48		240					110	103
	19		083	S	T081	5	0.0	21		668	27	85					1	4634	48		250					116	790
	17	0	08:		T088			17		677 68	_	786 786	00	0254	. 7	272		4643 4646	52 52		240					118	790
	17	0	08:	TD S	1097			13		672		186	00	02)-	• 1 (1212		4657	51		236					119	794
			S	TD	100	0		13		67	2	785	0.0	256	58 (298		4661	50								
	19	3	OB:		T101			13		666 67		785	0.0	1756	= 7 /	324		4663 4676	49 50		242					119	792
	17	0	08:	TD S	110			109 106		668		185 186	0.01	0255) /)) 24		+670 +690	52		236					119	793
				TD	120	0		106	34			786		252		349		+691	52	1							
				TD TD	130		-00	02	34	67		786 786)25()248)374)399		4707 4722	52 52								
	17	0	08:		T147		-00			662		786	00	J E 7	,, ,	, , , ,		4734	53		243					120	792
				TD	150	0	-00	04	34	66	27	86		0246)424		4738	53	2							
	17	^		TD	175 178		-00			66 661		786 786	0.0	024()6 (0485		4777 4784	54 54	_	240					120	789
	1 /	U	OB:	5 TD	200		-00			66		786	00	023	36 ()544		4818	54		240					120	109
	17		083	S	208		-00	18		657		86						+832	55		245					119	789
	17	0	08:	S TD	238 250		-00		-	654 65	-	786 786	0.0	0223	a 0 1)658		4881 4900	56 56		234					117	788
	17	0	08		268		-00			653		786	150	. .	,	ار د ر		4931	56		243					111	788
	17	0	ОВ		T299	3	-00			652		786		071		. 7		4984	55		264					111	778
	17	0	08	TD s	300 328		-00			65 654		786 786	00	0216	55 ()/68		4985 5035	55 55		254					111	777
	17		0B		358		-00			652		786						5087	56		250					111	774
	17	0	08	S	388	9	-00	38		644		786						5137	56		250					111	772
	17 17		OB OB		391 393		-00			646		786 786						5141 5146	56 56		249 244					110 107	7 7 1 771
	17		08		1398		-00			638		786						5153	56		246					107	772
			5	TD	400	0 (00)42	34	64	2.	786	00	019	54 (974	1	5155	56	3							
	17	0	OB	5	T401	. 3	-00) 4 2	34	639	2	786					1	5158	55	8	246					100	779

NCE	SHIP					E.F.	MAR	OEN	STAT	ON TIA				RIGINA			DEFTH	MAX		WAVE ERVATIONS	T	WEA-	CLDUD		ND	DC
ID.	CODE	LATITU		LONG	1/10	DEST	500					EAR	CRUISE NO.		ATION		OT AOTTO	OF	1	HGT FER SE		COGE	COOES		STAT	10 N
	<u> </u>	(020	1/10	0.27		1	10*			AY HR		0.60				۲,	210	_			^+	-			+	
3037	GL	6929	25	0 36	522W		519	96 WAT			60 1	968	-	043 IR TEM		۲,	+219	T'		OIX	ı	x 7	616	1	0.0	056
								COLOR	TRANS.		SPEED	BARO METER	• -	RY	WET	ZIV	NO. OES.		CIAL VATIONS							
								CODE	(m)	DIR.	FORCE	(mbs)		ILE	8018		DEPTHS	0000	.,							
										02	508	920	5 -0	11 -	015	6	30									
	MESSENGR TIME	CAST	CAR	р			Π.	-	Γ.	.,			SPECIFIC	VOLUM	. ₹	7.0	50	UND		PO4-P	NH,	- N	NO2-N	NO1-1- 513	1 ₄ =5	
	TIME HR 1/10		TYPE	E	DEPTH I	(m)	'	Έ	,	٠/	SIGMA	'-'	ANOMA	LY-EIG	, U1	1. M.		OCITY	0 2 ml/l	₽₩ = 011	h 8	- 01 1	ug - at :	pg - at pg		рН
	,,,,						1					\neg								1				- 4	+	
		' '	51	TD	000	0	-0	103	33	80	272	0	000	877	7 0	00	14	4429	796	1						
	0.7	4	085		000			103		796	272							429	796							
			51	TD	001	0	-0	106	33		272		000	880	• 01	09		4429	798							
	0.7	4	085		001			106		791	272							4429	798							
				TD	002			113	33		272		000	8474	+ 01	17		+428	804							
	0.7	4	OB 5	S TD	002		_	118	34	878	272 274		000	6644	. 01	25		+427 +423	807 766							
	0.7	4	08:		004			166		476	277		000	004-	• 0	2)		4417	666							
	0 1			TD .	005			166	34		277		000	3319	9 01	35		4417	665							
				T D	007			163	34	40	277			3236		143		4422	642							
	0.7	4	085	-	009			161		503	27 7							4427	624							
				TD.	010			159	34		277			3128		51		+429	623							
		,		TD.	012			139	34		278		000	3072	2 01	159		4443	611							
	0.7	4	089		014			123		530	278		000	201-				4454	600							
	0.7	/1	51 085		015			090	34	558	278 278		000	3017	7 01	166		+455 +477	598 570							
	0 /	7		TD	020			081	34		278		000	2870) ()	81		4483	564							
				TD	025			023	34		278			2835		195		4518	519							
	0.7	4	083		028			006		638	278							4539	496							
			51	T D	030	0	0	007	34	54	278	3	000	2770	0	09	14	+541	494							
	9.7	4	083		T038			016		650	278							4559	482							
				T D	040			018	34		278		000	2759	9 0	. 37		4563	481							
	0.7	4	083		047			023	34	650	278		000	2770		, c		4578	478							
	0.7	/1	0B:	10	050 T057			1024		657	278 278		000	277	7 0	65		4582 4595	479 480							
	0 /	7		T D	060			027	34		278		000	2744	÷ 0	92		+600	479							
	0.7	4	085		066			031		667	278					-		4613	478							
			5	TD	070	0	0	032	34	67	278	4	000	2729	9 0	20	14	4619	477							
	0.7	4	089	S	T076	8	0	033	34	668	278	4					14	4631	476							
				TD	080			032	34		278			2726		47		+636	476							
				TD	090			030	34		278		000	2702	2 0	74		+652	476							
	07	4	083		1095			028		669	278			2404				4660	476							
	0.7	1.	08:	TD	100 T109			029	34	o 1 675	278 278		000	2688	3 ()	01		4668 4685	477							
	0 1	4		o TD	110			027	34		278		000	2679	2 0	28		4684	480 482							
	0.2	4	085		T111			019		667	278		000	207	- 0	- 20		4683	486							78
				TD	120			016	34		278		000	261	0	554		4696	488							
				TD	130			012	34		278			2580		80		4711	490							
		,		TD	140			009	34		278		000	2546	5 0	106		4726	492							٦.
	12	4	083	S TD	141			0008	34 34	667 67	278 278		000	2521	Ω ^	31		4729 4742	492 498							78
	0.2	4	08:		171			000		663	278		000	2220	b 0	,) I		4775	510							78
		~		T D	175			001	34		278		000	2494	4 0	94		4781	512							10
				TD	200			010	34		278			239		555		4820	523							
	n 2	4	085	S	T200	5	- 0	010	34	657	278	6					14	4821	523							78
	0.2	4	08	5	230	15	-0	018	34	658	278	6					14	4869	528							78
				1D	250			020	34		278		000	227	2 0	72		4902	533							
	0.2		OB:		260			0021		657	278							4920	536							78
	0.2	4	OB:	5 T D	290 300			025		655 66	278		000	217	3 ^	7 0 2		4970	544							78
	0.2	4	OB:		320			025	34	657	278 278		000	£11.	. 0	03			548 554							77
	02		08		350			033		653								5073								77
	0.2		08:		T380			030		652	278							5125								77
			S		400			030	34		278		000	203	1 0	93		5161								,
	0.2		08		410			032	34	652	278						1 :	5179	562							77
	0.2		08		415			033		649	278							5188								77
	0.2		OB:		418			034		653	278							5192								78
						198	- 0	035	34	651	278	16					1 1	5196	563							77
	02 02		08:		T420			036		645									555							78

REFERENCE	Τ				L :	MARS			ON TI			ORIGI	NATOR'	s	OEPTH	MAX.		WAVE	wŧ				NO	
ray IO.	CODE	LATITI	JDE	LON	GITUDE	7			SMTI		EAR	RUISE	STATIC		TO BOTTON	OF		ERVATIONS	1 00	ne l	- 1		STAT	
DE NO.		<u> </u>	1/10		1/10	10.	1-	MO [AY HE	1/10		NO.	NUMB	R		S'MPL"	DIA	HGT PER S	EA CO	TYPE	MT		-	
31803	IT GL	693	375	0.39	9339W	519		0.0			968		44		3995	10	00	olxl	l x	1 6	7 I		00	57
							WAT	TER	w	IND	BARO-		EMP. T	VIS.	NO.		CIAL							
							COLOR	TRANS.	DIR.	SPEED	(mbs)	BULE	BUL		OBS. OEPTHS	OBSERV	SHORE							
							CODE	-		FORCE		-	+-	-		-								
			_					Ļ	07	510	908	-002	-01		15	Ь.,			_	1	_	ī		
	MESSENG TIME HR 1/1	NO.	CA TY		DEPTH (m)	ī	τ	s	٠/	SIGMA	_т	SPECIFIC VOI		₹ Δ D DYN. M X 10 ³		OCITY	02 ml/1	PO4-P	NH 5— le gu				04-51 - at 1	ρН
			1																					
	1	1	' s	TD	0000	-0	111	33	83	272	3 '	00085	29	0000) 14	425	799							
	14	+5	OB		0000	-0	111	33	825	272	3				14	425	799							
			5	TD	0010	-0	113	33	82	272	3	00085	25	0009	9 14	426	800							
	14	+5	ΟE	15	0010	-0	113	33	824	272	3				1 4	426	800							
			9	TD	0020	-c	113	33	85	272	4	00083	44	001		428	800							
	14	45	08	5	0024	- 0	116	33	856	272	5					427	800							
			5	TD	0030	-0	132	34	06	274	.2	00066	47	0024	+ 14	424	753							
	14	+5	O.E	15	1049		165	-	487	277	-					417	655							
			9	TD.	0050	- C	165	34	49	277		00032	45	0034		+417	654							
	1 4	45	OE	35	0073		173		505	278						+418	637							
			-	TD	0075		174	34		278		00030	91	004		418	636							
	1 4	45	0.5	-	0098		176		510	278						+421	628							
				5TD	0100		175	34		278		00030		0050		+421	626							
				STD	0125		161	34		278		00029	72	005		432	607							
	1 4	45		35	T0146		149		532	278						4442	606							
				STD	0150		142	34		278		00028	82	006	-	4446	613							
	1 4	45	0.5		0195		075	34	585	278		00027	. 7	007		4485 4488	655 644							
				STD	0200		070	34		278 278		00027		007		+400	550							
	,			STD	0250		0029					00027	20	009		+535	499							
	1 4	45	OE		T0294		0004	34	639	278 278		00027	1 2	010		+536	499							
		/. E		STD	0392		0014		656 656	278		9002	13	0100	_	+550	487							
	1 4	45		35	0392		014		66	278		00026	65	013		+561	486							
	1 .	45	0.5	STD Re	T0490		019		663	278		00020		040		578	483							
	1,	4 2		STD	0500		019		66	278		00026	6.7	016		4580	484							
	1.	45		35	0589		017		665	278		.,0,0,20	٥.	J - U	-	4594	488							
	1.	+)		STD	0600		0018		67	278		00026	45	018		4596	487							
	1.	45	0.6		10687		0021		669	278		50020		J-0		4612	482							
	1.	, ,		STD	0700		0021		67	278		00026	36	021		4614	481							
	١.	45		35	0782		0020	-	670	278	-					4628	480							
	1			STD	0800		0020		67	278		00026	22	023		4631	481							
				STD	0900		0017		67	278		00025	-	026		4646	485							
	1	45		35	10988		0014		671	278						4659	489							

REFE	ENCE				-=	MARS			TION				ORIGIN.	ATOR'S		OEPTH	MAX. OEPTH		WA			WEA-		ouo		NODE
CTRY	ID.	COOE	LATITUDE 1/10	LONGITUDE	POR	2007	RE 1º		CAYT	HR 1/10	YEAR	CRUISE NO.		TATION		MOTTO8	OF		SERV		SEA	CODE	TYPE		ł	STATION NUMBER
31	8037	GL		040567W	+	556	00	03	06	030	1968		04	5		3892	39	00	0	A		X7	7	B		0058
						- 1	WA COLOR CDDE	-	+	SPEED OR FORCE	(-b.)	F	AIR TEA		VIS.	NO, OBS. DEPTHS	SPEC OBSERVA									

				0.3	510 9	04 -008 -0	12 6	29			
				1031	310 9	T-1-					
MESSENGR CAST TIME OF ND. HR 1/10	CARO	DEPTH (m)	3.1	s */	SIGMA-T	SPECIFIC VOLUME ANOMALT-X107	₹ △ D OYN. M. x 10 ³	VEFOCITA	O 2 m1/I	PO4=P NH3	
					İ		!				
	STD	2000	-0159	3353	2700	0010659	0000	14398	800		
042	OBS	0000	-0159	33530	2700			14398	800		813
	STD	0010	-0165	3351	2699	0010761	0011	14397	814		
042	OBS	0010	-0165 -0166	33514 3355	2699 2702	0010475	00.33	14397 14399	814		815
042	STD OBS	0025	- 0166	33618	2707	0010475	0021	14400	810 803		0.1.2
042	5 T D	0030	-0163	3386	2727	0008095	0031	14406	783		813
	STO	0050	-0160	3448	2777	000332	0042	14420	709		
042	085	0050	-0160	34482	2777	000332	0042	14420	709		811
042	OBS	0074	-0179	34484	2778			14415	630		809
0 - 2	S T D	0075	-0179	3448	2778	0003239	0050	14415	630		804
	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		
0.42	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		
0.42	OBS	T0503	0021	34658	2784			14581	486		801
042	085	0598	0022	34664	2784			14598	493		800
	STD	1600	0022	3466	2784	0002680	0200	14598	493		
	STD	0700	0023	3467	2784	000268	0227	14615	491		
0.42	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 1300	0006	3467	2786	0002511	0357	14692	499		
A 1 2		1300	0002 0002	3467 34666	2786	0002474	0382	14707	502		700
012	OBS STD	1400	-0002	3467	2786 2786	0002478	0407	14708 14722	502		799
	STD	1500	-0003	3466	2786	0002470	0432	14722	511 519		
112	OBS	1607	~0006	34661	2786	0002410	0752	14755	525		798
12	STD	1750	-0009	3466	2786	0002423	0493	14778	526		140
0.12	OBS	T1906	-0013	34659	2786	5002725	0 1 4 3	14803	529		798
012	STD	2000	-0015	3466	2786	0002353	0552	14818	533		140
012	OBS	2205	-0019	34658	2786	0002333	0,00	14851	539		796
012	STD	2500	-0025	3466	2786	0002232	0667	14900	541		1 76
012	OBS	2504	-0025	34655	2786	0002232	0001	14900	541		796
012	OBS	2804	-0025	34655	2786			14952	543		794
0.2	STD	3000	-0026	3466	2786	0002168	0777	14986	553		774
012	OBS	3103	-0027	34655	2786	3052100	0.,,	15004	557		794
012	OBS	3402	-0021	34650	2786			15054	562		795
012	085	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
	OBS	T3855	-0047	34628	2785			15127	571		793
012								15130			

SHIP		1	1000		E 6	MARSDEN SDUARE	STATION T	ME	YEAR			ATDR'S	\Box	DEPTH	MAX. DEPTH	089	WAVE SERVATION:	s	WEA- THER	CLDU	D			NDD)C
ID. CDDE	LATIT	1/10	LONG	17/10	CNDCT		MD DAY H		16.48	CRUISE ND.		STATION NUMBER		BOTTOM	S'MPL'S		HGT PER		CDDE	TYP) A			i	MUM	SER
037 GL	703	075	040	567W		556 00	03 06	060	1968		04	5		3877	20	0.0	o x		X1	0	3			00	5
						WAT	ER V	SPEED	BARG	o		MP. °C	vis.	ND.	SPEC	IAL									
						CODE	TRANS. DIR.	OR	(mbi		DRY ULB	BULB	CODE	DEPTHS	DBSERVA	TIDNS									
						DT	50 05	509		4 -0	19	-024	6	31											
MESSENC	CAST	CAR		DEPTH	(m)	1 10	5 %.	SIG	MA-T	SPECIFIC	VOLU	JME 2	A D	SDI	DCITY	D 2 m1/1	PO4-P		4H ₃ - N	NO ₂ -			SI D4-S		ph
HR 1/1	0		`-				-			-	_		103		-		-	+	-				-		
		_	TO	000	. 1	-0167	3352	27	00	001	0.71	. I	000	14	395		I				1	- 1			
0.0	68	OB		000		-0167	33521		00	001	J . 1	. •			395										
			TD	001		-0172	3352		99	001	073	3 0	011		394										
		08		001		-0172	33516 33631		99						394										
0.0	05	OB	5 TD	001		-0134 -0150	3383		08	000	836	58 N	020		410										
		08		002		-0150	33831		24	000	0,5	, ,			410										
		OB		002		-0157	34460		75					14	417										
			ŤD	003		-0161	3448		77	000	337	74 0	026		416										
		08		003		-0161 -0176	34476 3449		77	000	320		033		416										
		0B	TO S	005		-0176	3449		79	000	126	. 0	093		412										
			TD	007		-0178	3450		79	000	310	0 3	041	. 14	416										
		08		007	75	-0178	34502	27	79						416										
			TO	010		-0164	3452		81	000	1298	83 0	048		427										
		ОВ		010		-0164	34521		81	000	276	0	055		427										
		0 B	TO	012		-0136 -0136	3456 34561		'83 '83	000	121:	0 6	055		445										
			T0	015		-0111	3455		81	000	290	01 0	062		460										
		ов		015		-0111	34552		81						460										
			TD	020		-0051	3459		82	000	284	47 0	077		497										
		08		020		-0051	34591		782	000	. 2 7	10 0	001		497										
		5 0B	TO	025		-0008 -0008	3464 34636		784 784	000	27	19 0	091		+526 +526										
			T0	030		0001	3464		784	000	27	28 0	104		+538										
		OB		030		0001	34641		784					14	+538										
			TO	040		0017	3465		783	000	271	83 0	132		+562										
		ОВ		040		0017	34646		783	001		22 0	160		+562										
		08	0.0	050		0026 0026	3466 34661		784 784	000	27	28 0	159		+583 +583										
			T0	060		0025	3467		784	000	26	85 0	18		+599										
		08		060		0025	34666	2	784					1 4	+599										
			TO	070		0021	3467		785	000	26	58 C	21:		+614										
		08		0.70		0021	34666		785	00	20	~	240		+614										
		08	10	080		0019 0019	3467 34666		785 785	000	26	++ (£ 4 (+630 +630										
			55 570	090		0019	3467		785	001	026	14 0	26		4645										
		OB		090		0015	34666		785		_		- '		4645										
		5	T0	100		0011	3466		785	000	26	05 0	29		+660										
		OB		100		0011	34663		785						4660										
			STD	110		0007	3466		785 785	00	025	86 (31		4675 4675										
		OE	55 5TO	110		0007	34661 3466		785 785	0.0	025	58 r	34		4690										
		OE		120		0004	34661		785	0.0		(4690										
		5	5T0	130	00	0001	3466	2	785	0.0	025	37 (36	9 1	4706										
		OB		130		0001	34660		785		225	20 2	. 2 ~		4706										
		OE	510	140		-0003 -0003	3466 34656		785 785	00	325	28 (39		4721 4721										
			55 5 T D	150		-0006	3465		785 785	0.0	025	26 0)42		4737										
		08		15		-0006	34657		785			, _ `	_		4737										
		0.8	35	16	00	-0009	3465		785						4752										
		0.8		17		-0011	34652		785			, ,			4768										
			STD	17		-0013 -0014	3465 3465		785 785	00	024	44 (948		4776 4784										
		90	35	19		-0014	3465		785 785						4800										
			5T0	20		-0018	3465		785	00	023	82 (54		4817										
			35		00	-0018	3465		785		-	- '			4817										

REFE	RENCE	SHIP	LATITE		LONGIT		£ 20	MARS	DEN		ON TH		YEAR		-	A TOR'S		DEPTH	MAX.		WA	VE ATIONS		WEA-	Cro				NODC
CODE	NO.	CODE	i i	1/10	-	1/10	N DC	10*	11.		AY HR		TEAR	CRUISE NO.		HOITATION		BOTTOM	OF S'MPL"	1		PER S		THER CODE	TYPE				TATION
3.1	002	-	(0)		0 / 2 2		\vdash					1	060	_	1	,		2077		1	\top				1	\rightarrow			
1 31	8037	7 GL	693	1551	0423	3 DOWI		520	92			50 1	968	1	AIR TE		7—	3877 NO.	10		3101	X I	- 1	X 2	7	8		1	0060
									COLOR	TEANS.	DIR	SPEED	METE	R	ORY	WET	CODI	OBS.	ORSERV	CIAL (ATIONS									
									C001	Un)	-	FORCE	(mbs) (BULR	BULR	\perp	OEPTHS			4								
											04	509	87	6 -0	005	-01	6_	15			1.								
		TIME	CAST NO.	CARD		DEPTH &	v 1}	т	τ	s	٠	SIGM	A - T		C VOLU	<u>ت</u> ا	∆ 0 YN. M x 10 ³		NO	0 2 ml		04-P		3 - N	NO2-		103-N	51 O4 = \$ vg + at	£1
		HR 1/1	0				_	-		+		-	-			-	X 10	+-	-		-					-+			-
			ı	١	` I	000	,			1 220		l 37	ا		. 7 . 7	_		1,			,					1			
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		1.	+ 5	ST		001			152	339		273		000	752	2 /	0008		400	81									824
		14	. 3	085		001			152	339		273		000	1112	2 (,000		409	81									824
			• 5	51		0020			154	339		273		000	751	9 (0 1 5		410	819									024
		14	+3	085		002			155	339		273							410	820									824
				ST		0030			156	340		274		000	0657	9 (022		412	788									024
				ST		0050	0		162	344	+6	277			348		032		418	674									
		14	÷3	OBS		005	2	-0	163	344	87	277	78						419	666									819
				ST	D	0075	5	-0	174	344	19	277	7.8	000	320	7 (0 4 1	14	418	636	5								01,
		14	+ 3	OBS		0078	8	-0	175	344	94	277	79					14	417	633	3								819
				ST	D	0100	С	-0	161	345	1	278	30	000	307	6 (048	14	428	614	+								
		14	+3	085		0104	4	-0	158	345	14	278	30					14	430	611	l								815
				ST	D	012		-0	135	345	3	278	30	000	299	3 (056	14	445	598	3								
				51	0	0150	0	-0	106	345	5 5	278	3 1	000	293	6 (063	14	463	581	1								
		14	+ 3	085	T	ro15			098	345	60	278	3.2					14	468	575	5								811
				ST		0200			043	346	_	278		000	274	1 (0078	14	501	533									
		14	• 3	OBS		020			037	346		278							505	529									811
				ST		0250			020	346		278			269		091		520	51									
				SŤ		0300			004	346		278		000	270	7 (105		536	505									
		1 4	• 3	085		1030			002	346		278							538	504									809
		1.	. 2	ST		0400			020	346		278		000	270	3 (132		564	488									
		14	+ 3	085 ST		0500		-	021	346		278		000	260		1.50		565	48									807
		14	. 3	085	_	050		-	030	346		278		000	268	1 (159		585 587	479									0.00
		1 -	* 5	ST		0600			027	346		278		000	263	3 /	185		601	474									808
		14	. 3	085	_	0610		_	027	346	-	278		000	, 20)	٠ (, 100		602	474									900
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		14	+3	OBS	_	071		_	027	346	-	278		000	, 200	- 1	,-14		619	47									808
		•	-	ST		0800			024	346		278		000	262	3 (238		633	483									000
		14	• 3	085		081			024	346		278		000		- '			634	484									807
				ST		0900			021	346		278		000	260	(264		648	489									001
				ST	D	1000	0	0	017	346	57	278	-		257		290		663	494									
		14	· 3	085	T	100	6	0	017	346	73	278	35	-			-	14	664	494	4								806

						_											_						٦.
C.	EFER	ID. NO.	SHIP	LATITUDE 1/10	LONGITUDE	MAR' SOU		AT2	IG M1	TIME 1) HR, 1/10	YEAR	CRUISE NO.	STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	OBSER	A VE /A TIC		WEA- THER CODE	CLO	DES	NODC STATION NUMBER	
L				17 10	17.10	10	+ '		DAI	1111,11110		-			1		+-	1		_			1
	2.1	9027	(c)	697.000	04004514	1520	80	0.3	0.7	060	1068	l '	047	14178	3.2	I۸	12		¥ 7	1 6	Ω	0061	1

					04	510 89	1 -013 -0	18 4	30						_		
MESSENGE TIME O HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	2.1	s */	SIGMA-T	SPECIFIC VOLUME ANOMALY-X107	₹ ∆ 0 DYN, M. x 10 ³	SDUND VELOCITY	O 2 ml/l	PO4-P 49 - 01/1	NH3 - N	NO2-N ug - at/l	NO3-N yg + al/l	\$1.004~\$1 ug = a1/1	рН	500
				1				2002	1//27	013			}	1	1		
		STD	0000	-0111	3393 33927	2731 2731	0007747	0000	14427	813 813						820	
0.47		OBS	0000	-0111 -0111	33921	2731	0007765	0008	14428	813						020	
047		STD OBS	0011	-0111	33924	2731	0001102	0000	14428	813						820	
041		STD	0020	-0112	3393	2731	0007742	0016	14429	816							
0.47		085	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							
0.47	•	OBS	0054	-0170	34494	2779			14416	666						816	
		STD	0075	-0172	3450	2779	0003134	0042	14418	659							
047	'	OBS	0081	-0173	34506	2780	0003030	0010	14419	655						811	
2.17		STD	0100	-0154	3452 34525	2780 2780	0003020	0049	14431 14436	636 629						809	
0.47		OBS STD	n107 0125	-0146 -0124	3454	2781	0002955	0057	14450	612						00)	
		5TD	0120	-0092	3457	2782	0002839	0064	14469	587							
0.47	,	OBS	T0168	-0068	34586	2782	0002037	000.	14484	567						808	
0.41		STD	0200	-0017	3463	2784	000272	0078	14513	525						505	
047	,	OBS	0215	0001	34646	2784	0002.2	0010	14524	510						807	
0 * '		STD	0250	0006	3465	2784	000269*	0092	14532	503						-	
		STD	0300	0014	3465	2784	0002736	0105	14544	495							
0.47	7	OBS	T0322	0017	34657	2784			14549	492						804	
		STD	0400	0031	3467	2784	0002720	0132	14569	490							
047	7	085	0430	0034	34670	2784			14575	488						804	
		STD	0500	0035	3468	2785	0002646	0159	14588	479							
0 4	7	OBS	T0541	0036	34681	2785			14595	477						801	
		STD	0600	0034	3468	2785	0002642	0186	14604	480						798	
041	7	085	0648	0033	34678	2785	0003//7	0212	14611 14619	481 482						140	
0.1		STD	0700	0032	3468 34677	2785 2785	0002647	0212	14619	482						796	
047	f	0BS S T D	T∩756 0800	0026	3467	2785	0002666	0239	14633	484							
0.4	7	085	T0855	0020	34669	2785	0002000	0237	14641	487						796	
Ç1 - 4 .	'	STD	0900	0020	3467	2785	0002629	0265	14647	491							
		STD	1000	0016	3467	2785	0002595	0291	14662	500							
0.1	1	OBS	T1010	0015	34669	2785			14664	501						797	
04		085	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							
0.1	1	OBS	1256	0004	34660	2785			14700							794	
		STD	1300	0003	3466	2785	0002554	0369	14707								
		STD	1400	0001	3466	2785	0002533	0394	14723 14739								
0.1	1	STD	1500 1505	-0001 -0001	3466 34660	2785 2785	000251	0419	14740	521						793	
01	1	OBS STD	1750	-0007	3466	2786	0002446	0481	14779							.,,	
0.1	1	085	T1770	-0007	34657	2785	0002440	0.01	14782							792	
() 1	1	STD	2000	-0013	3465	2785	0002422	0542	14819							_	
0.1	1	OBS	2023	-0013	34653	2785			14823							790	
0.1		OBS	2290	-0018	34657	2786			14866	533						790	
		STD	2500	-0021	3466	2786	0002275	0660	14901	540							
0.1	1	OBS	T2556	-0022	34654	2786			14911	544						788	
01	1	OBS	2843	-0024	34664	2787			14960							786	
		STD	3000	-0027	3466	2787	0002105	0769	14986							701	
0.1		OBS	3123	-0028	34660	2787			15007							786	
0.1		085	T3402	-0028	34658	2786			15056							784	
0.1		OBS	3695	-0029	34657	2786			15107							780	
0.1		OBS	3743	-0030	34658	2787			15115 15119							780	
01 01		0B5 0B5	3767 T3793	-0030 -0031	34655 34652	2786 2786			15119							776	
01		085	T3815	-0031	34645	2786			15127							777	
11.1	4	003	10010	-0001	3-0-0	2,00			121	,,0							

ENCE	Т					-=	MARSDE	N	STATION	TIME			0	RIGINA	TOR'S	T	DEPTH		AAX.		WAVE	:		VEA-	Cron		NI	ODC
ID. CODE		LATITU •			GITUDE	S O	SQUAR	E	IGMT)	YEA	R	CRUISE ND.		ATION UMBER		TO BOTTO	.''ا،،	OF .		SERVAT	10 N S	1	HER ODE	CODI	ES	STA	MILER
	+	00	1/10		1/10	-				HR,1710	100	_	NO.			\rightarrow			M PL*S	DIR.	HGTP		+-	-	FYPE A		 	
8037 GL	1 0	840	951	041	0045W	1 1	520	BO WAT	03 07	090 WIND	196	ARD	- L	O4			417	7	201		2 2	- 1	1	x 7	01:	3	1 0	100
							co	LDR	TRANS DIR	SPEE	O M	ETER	l D		WET	COOF	OBS. DEPTH	SOB	SPEC ISERVA	TONS								
							-	O D E	SD 0:	S1	-	mbs1 3 9 ;	+	\rightarrow	-015	7	_	+										
						- 1		D T	50/0.	1 21		7				_	32	1		!		-				T		
MESSEN TIME HR 1/		NO.	CAR	D E	OEPTH (m)	1.7		5 %.	\$10	MA-1	·	SPECIFIC ANOMA	VOLU:	;	Δ D N, M 10 ³	. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	LOCIT		2 m!/l	PO.	a P	NH3		NO3-1 ug - at		104-51 vg + at 1	ρН
// K //	*									1		\forall			1		1				-						+	
1	,	'	S	TD	000	ο '	-01	11	3390	2	728		000	798	5 0	000	1.	442	26		1					1		
Ü	72		ОВ		000		-01		33896	-	728							442										
			5 - 0 9	TD	001		-01 -01		3390 33901		729 729		000	793	2 0	008		442 442										
				o TD	002		-01		3391	_	730		000	784	7 0	016		442										
0	0.5		οв	5	002	0	-01	15	33911	. 2	730						1	442	28									
			OB.		002		-01 -01		34456 3447		775		000	2 2 0		021		441 441										
			0B.	TD S	003		-01		3447		777 7 7 7		000.	117	. 0	J Z 1		441 441										
			5	TD	005	0	-01	79	3449	2	779		000	320	0	028		441										
			OB.		005 006		-01		3449]		779							441										
			0 B	5 TD	207		-01 -01		34496		779 779		000	311	ŧ 0	36		441 441										
			OB:		007	5	-01		34501		779							441										
				TD	010		-01		3454		781		000	291	7 0	343		443										
			08	⊃ TD	010		-01 -01		34536 3454		791 780		000	307	5 0	051		443 446										
			OB.		012		-01		34536	2	780		000.				1	446										
				TD	015		-20		3460		782		000	283	0) 58		449										
			OB:	S TD	020		-00		34599 3464		782 784		000	74.		072		449 452										
			OB		020		00		34641		784		900.	. , 4	• 0	012		452										
				TD	025		00		3464		783		0000	275	7 0	086		453										
			OB.	S TD	025		00		3463° 3465		783 784		000	24.0	_	100		453 453										
			OB.		030		00		34646		784 784		000	204	U	100		453 453										
			ОВ		030	4	0.0		34646		783							454										
				TD.	040		00.		3466		784		000.	271	3 0	127		456										
			OB:	5 T D	040		00		34661 3468		784 785		000	268	1 0	154		456 458										
			OB:		050		00		34676		785							458										
			S		060		00		3468		785		000	265	0	180		460										
			0B:	S TD	060		00:		34675 3468		785 785		ono.	263	3 0	207		460 461										
			OB:		070		00		34675		785		0.104		. 0	-01		461										
			5	T D	080		00.	22	3468	2	785		000	259	9 0	233	1	463	12									
			08:	5 T D	080		00.		34679 3468		785 786		000	256	2 0	259		463 464										
			08		190		00		34675		786		000			- 27		464 464										
			S		100		00		3467	2	786		0000	253	3 0	284	1	466	1									
			OB:		100		001		34674	_	786		000	26.2	7 ^	210		466										
			OB:		110		001		3467 3467]		786 786		000	402	, 0	310		467 467										
			5	T D	120	0	00)6	3467	2	786		000	2501	0	335		469										
			OB:		120		000		3467]		786		000) /. c ·		2 / ^		469										
			OB:		130		001		3467 34674		786 786		000	45) ()	360		470 470										
			5	T D	140	0	-00	01	3467	2	786		000	241	0	384	1	472	2.2									
			08		140		-001		34674		786		0.00				1	472	2.2									
			0B:		150		-00		3467 34672		786 786		000.	239!	0	408		473 473										
			OB:		160		-001		34671		786							475 475										
			0B	S	170	0	-00	3.8	3467]	2	787						1	477	0									
			5 0B:		175		-00		3467 34670		787 787		000	234	1 0	467		477 478										
			OB		190		-00		34669		787 787							478 480										
			S	TD	200	0	-00	15	3467	2	787		000	229	+ 0	525	1	481	. 8									
			OB:		200		-00	1.0	34667		787							481	-									

SHIP	LATITU	DE LO	DAGITUDE		SDEN	STATION T	IME	YEAR	CRUISE	STATE	_	DEPTH TO	MAX. DEPTH		WAVE ERVATIONS	WEA				HDDC
ID. CODE		1/10	1/10	10°	11.	MQ DAY H	IR. 1/10		NO.	NUM		MOTTOR	S'MPL"	D IR.	HGT PER S	con		AA T		NUMBER
8037 GL	6824		43037W	520	+ +			1968	0	48		4133	10	32	0 2	×1	6	7		0063
		1			WAT		VIND	BAR	O- AIR 1	EMP.		NO.			, , ,				•	000
					CDLOR	TRANS. DIR.	SPEED	MET	ER DRY		ET CODE	OBS.		CIAL						
					CODE	(m)	FORCE	(mbi	aute	BU	LR	OCF III.3								
						32	\$05	89	4 -017	-0	27 7	15								
MESSENG TIME	CAST NO.	CARD	DEPTH In	., 1	70	s ·/	SIG	MA-T	SPECIFIC VO		₹ ∆ D	SOU		D2 ml/1	PO4=P µg + 61/1	NH3 N				
HR 1/10										-	x 10 ³				pg - 6//1	D\$ 0171	09-0	ng - 61/1	Vg - 61	1
	1			1		1	1		ĺ	- 1			1							-
		STD	0000		152	3399		37	00071	29	0000	144	408	815						
14	2	OBS	0000		1152	33992		37					408	815						82
		STD			152	3399		37	00071	38	0007			819						
14	2	085	0011		152	33989		37					410	820						82
		STD	-		153	3400		38	00070	153	0014			830						
14	2	085	0027		1154	34048		42				144		837						82
		STD			155	3412	-	48	00061		0021			815						
		STD			0160	3446		76	00034	88	0030		419	708						
1 4	2	085	0053		161	34488		78					420	698						82
		STD			0165	3449		78	00032	31	0039		422	686						
14	2	085	0079		166	34491	_	78					422	678						8 2
		STD			0167	3451		79	00030	90	0047		425	605						
14	-2	OBS	0109		0167	34509		80					426	590						81
		STD			0163	3451	_	80	00030		0054		431	540						
		STD			0149	3453		81	00029	35	0062		442	509						
14	-2	OBS	T0158		0143	34532		81					446	506						81
		STD			0089	3457		82	00028	336	0076		479	566						
14	+2	OBS	0208		0800	34577	-	82					485	572						81
		STD			0045	3461		83	00027		0090		508	541						
		STD			0014	3463	_	84	00027	727	0104		531	515						
14	+2	OBS	T0311		0009	34639	_	84					535	511						81
	_	STO			0014	3466		84	00026	96	0131		561	499						
1 4	+2	OBS	0414		0016	34658	_	84		2.0	.165		564	498						81
	_	STD	_		0021	3467		85	00026	28	0158		581	491						
14	+2	085	T0516		0022	34671	_	85			- 3		584	490						81
		STD			0020	3467		85	00026	16	0184		597	495						
14	+ 2	085	0618		0020	34671	_	785	00037		0210		600	496						81
		STD			0020	3467		785	00026	006	0210		614	397						٠.
14	+ 2	OBS	T0723		0019	34672	_	785	00076	0.3	0237		617	394						81
1.	. 2	STD			0016	3467		785	00025	773	0236		629	484						0.4
14	+ ~	OBS	081		0015	34670 3467		785	00026		026		632	500						80
		STD			0011	3467		785	00025		0262		644	502						
1 /		STD OBS	T1020		0011	34667		785 785	0002	122	028		660	505 505						0.0
14	† ∠	005	11020	, ,	0011	2400/	21	0.5				14	663	202						80

	SHIP		ATITUDE	10	NGITUDE 2		AARSDEN SOUARE	STAT	ON TI		'EAR	O PLUS	ORIGIN			DEPT	Otri	H OR	WAVE SERVATION:	s T	WEA- THER	CLC	OUD			NO STAT	DC NON
	CODE		1/10	100	NGITUDE S	1		MO C				CRUIS NO.		TATIC		8011			HGT PER		COOE		AMT			NUA	ABER
7	GL	6	75945	03	38001W	5	19 78			060 1	968		O 4			442 NO			lolxl	-	X 1	1 6	7			0 (064
							COLOR	IRANS.	OIR.	SPEED OR FORCE	BARI METI (mbi	ER	DRY BULB	W E	T COD			ECIAL VATIONS									
									36	510	93	34 -	003	-00	08 7	30											
	MESSENGE TIME	j c	AST CA	ARD YPE	OEPTH (m)	T	1 °C	s	٠/	SIGM	A T	SPECIF	IC VOLU	M.E	₹ △ 0 DYN. A X 103		ELOCITY	O2 mi/l	PO4-P		H ₃ - N	NO2		NO3-N ug - ot			рΗ
	HR 1/10	+	-		-			-		-				\dashv	X 10-	+		-	+	H		-	+		-	+	
		1		STD	0000	1	-0114	33	81	272	1	00	0864	2	0000)]	4424	806	1				,				
	07	3		BS	0000		-0114		809	272			0050	_	000		4424	806									
	0.7	3		STO BS	0010		-0116 -0116	33	82 815	272		00	0858	5	000		14424 14424	818 818									
		-		STD	0020		-0116	33		272		00	0860	3	001		4426	820									
	07	3		35	0026		-0119		810	272			0.75.0		000		14426	821									
				STD STD	0030		-0127 -0153	33 34		273			0750		002		L4424 L4422	794 695									
	0.73	3		B 5	0052		-0154		443	277		00	0001	_	000		14422	688									
				STD	0075		-0153	34	46	277	5	00	0349	6	004		4427	663									
	07	3		BS	0078		-0152		466	277					005		14428	659									
	0.7	2		STD BS	0100		-0141 -0139	34	48 486	277		00	0336	8	005		l 4437 l 4438	629 625									
	0.7)		STD	0125		-0110	34		277		0.0	0323	5	006		L4456	601									
				STD	0150		-0081	34		277			0311		007		14474	576									
	0.7	3		BS_	TO 155		-0076		542	277							14477	572									
	0.7	2		STD BS	0200 0205		-0036 -0032	34	59 590	278 278		0.0	0296	6	008		14504 14507	539 536									
	U F.	2		STD	0250		0020	34		278		00	0309	7	010		14538	502									
				STD	0300		0053	34		278		00	0315	7	011		14562	479									
	0.7	3		8.5	T0305		0055		_		_							478									
	0.7	2		STO	0400		0041		67 667	278		0.0	0279		014		l 4573 l 4574	484									
	0.7)		BS STD	0500		0045	34		278		0.0	0272	2	017		14592	473									
	0.7	3		85	T0511		0046		680	278							14594	472	!								
		_		STD	0600		0047	34		278		00	0271		020		4610	471									
	07	3		85 5 1 0	0606		0047	34	683 68	278		0.0	0271	1	022		14611 14624	471 472									
	0.7	3		B5	T0711		0042		680	278		00	10211	1	022		14626	472									
	07			85	T0799		0038		678	278	35						14639	487									
				STD	0800		0038	34		278			0269		025		14639	487									
				STD	0900 1000		0036	34 34		278 278			0268 0268		028		14654 14670	474 461									
	02	4		BS	T1004		0033	<i>></i> +	00	216	, ,	01.	,0206	1	0 > 0	7	1-070	460									
	0.7			BS	T1005		0033											478									
	02	4		B 5	1064		0029		675	278					_		14679	480									
				STD	1100		0028	34	68	278 278			0265 0262		033		14685 14700	481 485									
				STD STD	1300		0023	34		278			0258		038		14715	490									
	02	4		BS	1366		0018		676	278					-		14725	494									
				STD	1400		0016	34		278			0255		041		14730	498									
	0.2	4		STD BS	1500 T1669		0011		67 669	278 278		0.0	10252		043		14745 14770	507 518									
	02	7		STD	1750		-0000		67	278		0.0	0245	5	050		14782	519									
	02	4		BS	1969		-0008		663	278			, , , ,				14816										
				STD	2000		-0009	34		278		0.0	0240	5	056		14821	523									
	2.2	4		BS STD	2269 2500		-0015 -0020		659 66	278		0.0	0227	7.0	067		14864 14902	532 543									
	02	4		310 85	T2569		-0021		655			00	10221	4	007		14913										
	92			BS	2869		-0024		659								14964	555									
				STD			-0027		66	271		00	00214	8	079		14986										
	0.2 0.4			BS BS	3169 T3460		-0029 -0031		652 653								15014 15065										
	94			85 85	3774		-0032		650								15120										
				STO			-0034		65	27		00	00197	7.5	099	6	15159	567									
	04			85	4075		-0035		652								15172										
	04			85	4326		-0037		652								15216 15225										
	04			B 5 B 5	T4380 T4401		-0038 -0041		650 649								15228										

ERENCE					. :	MAR	SDEN	STATION	TIME			OR	IGINA	TOR"S		DEPTH		AAX. EPTH		WAVE	,	WEA-	CLOU			NODC
ID.	CODE	LATIT			GITUDE	sor	JARE	(GM		YEA	8 0	RUISE NO.	ST	ATION		10 101108	ابد	OF _		ERVA TION		THER	CODE	1		STATIO
NO.	+		1/10			+	1.	MO DAY			+				-		2.0	APL'S	DIR	HGT PER	SE A	-	TYPE AA	47		
1803.	4 50	575	3-3	0.3	9001W	519		03 <u>78</u>	090	196	58		0 + 9		, 1	435.	2]	20	00	0 X		X1	1 0 3	. 1		006
							WA		D NI W		ARO-	. —	TEM		VIS.	NO. OBS.		SPECIA								
							COLOR	TRANS DI	FOR	R	(ETER	BUL	.8	W ET BULB	CODE	DEPTH	12 083	SERVA 1	LONS							
							DT	SD 2	_		938	-01	3 -	017	7	33	\top		\neg							
			_				1	50 2	7	-	T					_		-		-	-				T	
	MESSEN	GR CAST	CA	0.0	DEP*H (m)	1	r *c	5 1/4.	SI	GMA-1	T :	SPECIFIC V	OLUM T-E10	ילם וי	Δ D.	. SC	LOCIT		⊋ ml/1	PO4-P		/3 — N	NO:=N	. NOg=14] µg = at 1		
	HR 1/1	10	1	`		\perp					-				103	-		-		-	+-			-	-	-+-
											ì			!												
				TD	0000		0117	3379		720		0008	800	0	000		442									
	7	8.2	28		0000		2117	3378		720		0008	0.0	_	009		442 442									
			08	TD -	0010		0117 0117	3379 3378		720		0000	000		004		442									
				TD.	0020		0116	3379		720		0008	802	2 0	018		442									
			0.8		0020		0116	3378		720							442									
			2.5		0025	- (0150	3427	6 2	760						1	441	. 7								
			9	TD	2030	-	0154	3440		771		2024	- 1 I	0	024	1	441	8 .								
			0.5		0030		0154	3439		770							441									
			08		0033		0157	3441		772		000					441									
				TD	2050		0151	3445 3444		774		0003	622	: 0	L 3 2		442									
			08		0050		0151	3444		774 776							443									
			0.6		0073		0148	3446		776							442									
				TD	0075		0137	3446		775		0003	538	3 0	041		443									
			0.6		0075	-	0137	3446	1 2	775						1	443	3 4								
			5	TD	1100	-	0124	3449		777		0003	34	0	049		444									
			0.5		1110		1124	3449		777							444									
				TD	0125		0115	3450		777		0003	316	5 0	058		445									
			OE		n125		0115 0057	3449 345**		7777 780		0003		0	065		445									
			25	TD.	1150		0057	3456		780		110 55	, 0 2		000		448									
				TD.	2200		0002	3452		782		1003	96	9 0	0.80		452									
			0.8		0200		2000	3462		782						1	452	20								
			9	TD	0250		0054	3467	2	783		00004	91	9 0	094	. 1	455	5 4								
			0.5		0250		0054	3467		783							455									
				TD	0300		0054	3467		783		0002	190	1 0	108		456									
			υE		0300 0400		0154	3467 3467		2783 2784		0002	77		136		456 457									
			0.5	STD e	1400		ÇÇ→↓ Aii+	3466		784		- 4	- 1 1		1.0		457									
				STD	0500		0044	3467		784		0000	275	0	164		459									
			0.6		1510		0044	3467	4 2	794						1	459	91								
				STD	06.00		0047	3468		2784		nnņ,	272	5 0	191		461									
			0.5		0.0 Ge		0047	3469		2784							461									
				STD	0700		0043	3+69		2785		0000	6 1	+ 0	418		.462									
			0.5		0700		0043	3468 3468		2785		0002	26		245		.462 .463									
				STD BS	0860 0800		0037	3468		2785 2785		0004	200		245		463									
				STD	0990		0033	3468		2785		000	263	a (E 7 1		465									
				35	0900		0033	3458		795			_				465									
				STD	1000		0032	3469		2786		0002	259	7 (298	3 1	467	70								
			Ü		1000		0032	3468		2786							467									
				STD	1100		0029			2786		000	257	5 0	323		1468									
				35	1100		0029	3469 3469		2786 2786		2000	רפל	0 -	349		1468 1469									
			0.0	STD as	1200		0023	3468		2786			-) +		J 4 ;		469									
				STD	1300		0017	3469		2786		000	247	9 (374		471									
				35	1300		0017	3468		2786							471									
				STD	1400		0014	3469		2786		0000	248	9 (300		472									
				3.5	1400			3468									472									
				STD	1500		0009			2786		000	245	8 (424											
				35	1500		9000			2786							474									
				35	1600 1700		0006			2796 2797							L475 L477									
				3 5 5 7 0	1750		3001			2787 2 7 87		000	237	2 1	1+A4		1471									
				35	1800		0001			2787		0.0.01		_			1478									
				35	1900		0006			2787						1	1480	25								
				STD	2000	-	8000	3468		2787	,	000	229	8 (542											
			0	35	2000	-	0008	3467	6 2	2787	7					1	48.	21								

REFERENCE	SHIP	LATITUOE		NGITUDE I	SOU	SDEN	STATION T		YEAR	CRUISE	NATOR'	N	DEPTH TO BOTTOM	MAX, DEPTH OF		WAVE EPVATION		WEA- THER CODE	CLOUD			NODC STATION NUMBER
ODE NO.	1	1/	10	1/10	10.	1.	MO DAY H	R_1/10		NO.	NUMB	P	30 10 M	S'MPL'S	DIE	HGT PEP	SEA	COOL	TYPE AM			
31803	GLL	67392	5 04	+0018W	520	170	03 08	170	1968	1 10	50		4279	10	0.0	lo x		X1	6 7			0066
- 4	, ,					WA		VIND	BARG	A ID T	EMP. °C		NO.									0030
						COLDR		SPEED	METE	R DRY	WE			SPEC OBSERVA								
						CODE	(an)	FORCE	(mbs	1 BULB	BUL	8	DEFINS									
							9.0	511	92	0 -028	-03	8 6	15									
	MESSENGE	7240	CARD	Ī			1			SPECIFIC VOL	IIME	≨ ∆ D 0YN. M	sou	ND.		PO ₄ =P	N	H ₃ – N	NO:en	401-4		
	TIME 0	NO.	TYPE	DEPTH (m)		, p	s ·/	SIGM	A-T	ANOWALY-	107	x 10 ³	. AFFG		0 2 ml/l	pg - 61			2 g = 51	* \$ - 9'	, g - p'	7**
					ŀ																	
			STD	0000		142	3411	27		00062	28	0000		415	795							
	166) (085	0000		142	34113	27						415	795							
			STD	0010		142	3411	27		00062	30	0006		416	802							
	166	. (085	0010		142	34112	27						416	802							
			STD	0020		144	3412	27		00061	96	0012		417	808							
	166	, (085	0025		146	34117	27						417	811							
			STD	0030		151	3420	27		00055		0018		417	776							
			STD	0050		167	3449	27		00032	31	0027		417	681							
	166	, (085	0050		167	34491	27		****		• 0 0 0		417	681							
			STD	0075		172	3452	271		00029	82	0035	14	419	667							
	166	, ()BS	0075		172	3499P		195	00000	2.6				667							
	1.7		STD	0100		168	3454 3351P	27		00029	26	2042	14	425	642							
	166	, (085	0100		1168			99P	20020	~ 7	0010	1 /		642							
			STD	0125		0069	3456 3458	27:		00028		0049		453 480	596 554							
	166	,	DBS	0150		069	34582	27		00020	49	0000		480	554							
	100	,	STD	2200		0019	3462	27:		00029	0.3	0071		400 529	484							
	166		31D 36 S	10204		0023	3402	21.	5 1	00023	7 7	0011		247	480							
	100	,	STD	0250		0022	3464	27	n "	00028	5.6	0085	14	539	482							
	166		DBS	T0299		020	34663	27		00020	20	000		547	483							
	100	'	STD	0300		0020	3466	27:		00026	74	0099		547	483							
			STD	0400		0040	3468	27:		00026		0126		573	471							
	166		295	2421		0140	34679	27				0-20		573	471							
		·	5-0	0500		0040	3469	27.		00026	23	0153		590	468							
	166		DBS	T0503		0040	34686	27		00040		,		590	468							
	100	,	STD	2620		0038	3469	27		00026	1.7	0179		606	466							
	156		385	0501		0036	34687	27		00000	* '	0 - 1 -		606	466							
	130	· ·	STD	0700		0039	3469	27		00026	3.7	0205		623	468							
	166	. ,	DBS	70700		0039	34686	27			- 1	0-01		623	468							
	100	· '	STD	0800		0033	3468	27		00026	4.2	0232		637	467							
	166	. (085	0802		0033	34679	27.		55020		0-02		637	467							
			STD	0900		0028	3468	27		00026	15	0258		651	472							
			STD	1000		025	3468	27		00025	_	2284		667	482							
	166	,	DBS	T1000		0025	34679	27				5-5-		€67	482							

REFERENCE CTRY ID.	SHIP	LATITU	DE	LONGITUDE	DC	SOUA	RE		ION I		YEAR	R	CRUISI		TATIO	N	1	DEPTH TO DTTOM	MAX. DEPTH OF	1	DBSE	WAV RVA	ions		TH CO	ER	C	OUO.			STA	DDC TION MRER
CODE NO.	CODE		1/10	1/10	Z 1	0.	1"	MO	DAY	HR,1/10			NO.	1	MUMB	E R	T,	DITOM	S'MPL	\$ 01	R.	HGTP	ER S	EA :		~`	TYP	E AM	1			
31803	7 GL	6731	55	044128W	5	20	74	03	09	030	196	8		05	1		3	3713	10	0	0	0	K .		Х	7	7	18		- 1	0	067
. 4000	, 02 1				, , -		WAT	ER	Γ,	WIND	B.	ARO		AIR TE	MP. *C	V		NO.	5.01	CIAL	7											
							CODE	TRANS.	OIR.	SPEE	O W	ETER mbal	١.	ORY IULB	BUL	r co	000	ORS. DEPTHS	OBSER		NS											
									04	51	8 8	330)-(18	-02	3 6	,	15														
	MESSENGI TIME HR 1/10	ON NO.	CAR		mi	1	τ	s	٠4.	SIG	5MA-1	,		C VOLU		≨ ∆ DYN. x 10	м.		CITY	021	ni/1		4+P		H3 -		NO.	2-N - at 1	NO3-N µg • 01/1	1		рН
	HR 1710	-	_					1		1		Ť			\neg	-			1													
	1	1	1 5	rD 000	0	-01	181	'		'		'						1														
	0.4	Ω	OB:		0	-01	181																									
	0.4	-	OB					33	899)										74	+7											
			5	001	0	-01	181	33	90	2	731		00	776	5			14	395	74	¥ 7											
			5	TO 002	0	-01	182	33	90	2	731		00	773	3.5			14	396	74	¥8											
	0.4	0	OB:	5 002	4	-01	182	33	903	3 2	731							14	397	70	¥8											
			S	ro 003	0	-01	173	34	06	2	743		00	0653	35			14	404	72	24											
	0.4	0	OB	5 004	9	-01	158	34	389	9 2	770							14	419	6	72											
			S	10 005	0	-0	159	34	39	2	770		0.0	0402	8 2			14	419	6	71											
	0.4	0	OB	5 007	3	-02	168	34	47	2	777							14	420	6.5	56											
			5	TO 007	5	-0	168	34	47	2	777		0.0	336	*				420	6												
	0.4	0	OB.	5 009	7	-0	168	34	48.	3 2	778							14	424	6	51											
			5	TO 010	0	-0	167	34	49	2	778		0.0	324	+ 2			14	425	64	49											
			S	TO 012	5	-0	149	34	51	2	779		0.0	0310	0.0			14	438	6	29											
	0.4	0	ОВ	5 014	5	-0	126	34	529	9 2	780							14	452	61	06											
			S	TO 015	0	-0	115	34	54	2	781		0.0	029	78			14	458	5	96											
	0.4	0	OB	s T019	4	-00	038	34	601	3 2	783							14	502	5.	24											
		-		TO 020	0	-00	033	34	61	2	783		0.0	027	91			14	506	5.	21											
				TO 025		-01	001	34	64	2	784		0.0	027	2 7			14	529	4	98											
		_	- 0			0	016	21		^ 7	704							3.6	51.1.		06											

14565

477

ST0

STO

OBS

OBS

OBS

OBS STD

OBS STO STO

OBS

T0390

T0492

T0992

T0683

T0796

HENCE 10.	COOE		ATITUD	E L	ONGITUE	DE 2	Z 10	RSDEN DU ARE	STATIO (G/	ATI		YEAR	CRUISE NO.	3	ATOR'S TATION NUMBER	-	OEPTH TO BOTTOM	MAX. OEPTH OF S'MPL"	L	WAVE SERVATIONS	COC	R	CLOUD CODES			NON TATE NUN	ЮN
1803	7 GL	6	7315)4412		5.2		03 0			1968		05			3713	31	0.0		X		0 3			0.0	168
								WAI	ER	W	SPEED	BARO		AIR TEA	WET	VIS.	NO.	SPE	CIAL								, , ,
								COLOR	Lini	IR.	FORCE	(mba)		ULB	RULS	CODE	DEPTHS	OBSERV	Y IION 2								
		_						DT	SD)3	519	82	0 -0	21	-024	2_	41	L ,		L,		T			1		
	MESSEN	i l c	AST NO.	CARD	DEI	TH Im	.	T *C	\$ "/		SIGN	T-A	SPECIFIC	VOLU ALT-X1	# By	A. 0 10 ³		DCITY	0 2 ml/	PO4-P	NH3 - h		NO2-N Fg - 01/1	NO3-N 99 - at/1	SI O4 -		pН
	HR 1/1	0	-		+-		-+-									10	+	-		•		+				+	
	1	1	'	STO) 0	000	· ' -	0183	339)	27	30	000	778	4 0	000	14	392		1			,		1	,	
	0.4	8+		OBS STO		000		0183	338		27 27		000	779		008		392									
				085		010		0184	338		27		000	, , , ,	0	000		393									
				STE		020		0183	339		27		000	760	9 0	015		396									
				OBS OBS		1020 1025		0183	339 344		27 27							396 416									
				STO) (030	-	0160	344	3	27	73	000	376	0 0	021	. 14	416									
				OBS		1030 1050		0160	344 344		27 27		000	349	5 0	028		416									
				OBS	C	050	-	0166	344	57	27		000				14	417									
				OBS		1075 1075		0167	344		27 27		000	333	3 0	037		420									
				STO		100		0157	345		27		000	319	5 0	045		430									
				OBS		100		0157	344		27							430									
				OBS		125		0130	345 345		27 27		000	288	8 0	053		447									
				STE	0	150	-	0085	346	ı	27	85	000	259	3 0	060	14	473									
				OBS STO		150		0085	346		27 27		000	266	.3 0	073		473									
				OBS		200		0005	346		27		000	200		ر ۽ ن		519									
				STE		250		0013	346		27		000	269	3 0	386		536									
				OBS		250		0013	346 346		27 27		000	273	6 0	100		536									
				OBS	0	300		0023	346	57	27	84					14	548									
				OBS		400		0026	346 346		27 27		000	268	1 0	127		567 567									
				STE		500		0034	346		27		000	266	8 0	154		587									
				OBS		1500 1600		0034	346 346		27 27		000	267	2 0	180		587									
				OB\$		600		0034	346		27		000	, 20 1	2 0	- 00		604									
				STO		700		0031	346		27		000	264	7 0	207		619									
				OBS STE		700 800		0031	346 346		27 27		000	262	1 0	233		619									
				OBS	0	800		0027	346	77	27	85					14	634									
				STE OBS		1900 1900		0024	346 346		27 27		000	260	0 0	259		649									
				STO		000		0020	346		27	86	000	257	0 0	285		664									
				OBS		100		0020	346 346		27		000	25/		211		664									
				STE OBS		100		0016	346		27 27		000	254	6 0	311		679									
				STE		200		0013	346		27		000	252	0 0	336		695									
				OBS STO		.200 .300		0013	346 346		27 27		000	247	7 0	361		709									
				OBS		300		8000	346		27							709									
				STS OBS		400		0005	346 346		27 27		000	244	8 0	386		725									
				ST		500		0001	346		27		000	240	9 0	410		740									
				OBS		500		0001	346		27							740									
				085 085		.600 .700		0003	346		27 27							755									
				STO)]	750) -	8000	346	8	27	87	000	231	4 0	469		779									
				0BS 0BS		.800 .900		0009	346 346		27 27							787 802									
				STO	2	000) -	0014	346	8	27	87	000	223	8 0	526	14	819									
				OBS OBS		1000		0014	346 346		27 27							819									
				085	2	200		0018			27							851									
				OBS		300		0021	346		27							867									
				OBS ST		2400 2500		0022	346 346			87 87	000	213	0	535	14	884 901									
				OBS	2	2500	-	0023	346	72	27	87	. • •		,		14	901									
				OBS OBS		2600 2700		0024	346 346		27 27							918									
				085	2	800	-	0027	346	69	27	87					14	951									
				OBS		900		0028	346				000	1201		720		968									
				STC OBS		8000		0029	346 346			87 87	000	j	5 0	135		985									
				OBS		100		0029	346									002									

REFERENCE CTRY ID.	SHIP	LATITU		LONGITUDE	sol sol	SDEN	STATION TO		YEAR	CRUISE		TATION		DEPTH TO	MA DEPT OF	H OBS	WAVE ERVATIO		WEA- THER CODE	CLOUD	5		NODO STATIO NUMBI	N
-	++	· –	1/10	1/10	10		MO DAY HI			NO.		UMBER			2.Wh		HGT PER	SEA	+	TYPE				-
31/803	7 GL	6722	00 0	047223W	520	77]		40 IND	1968	1	O 5		\top	3839 NO.	T -		0 X	•	× 7	718	1	I	006	ا9د
						COLOR	TRANS DIR	SPEED	METE	,	DRY	WET	CODE	OBS.	00000	ECIAL VATIONS								
						CODE	(35)	FORCE		-+-	BULB	BULB	+-	-										
	C			Т		l	00	500	80)29	-032		30	1		1	т.		T		T		
	MESSENGB TIME	CAST NO.	CARO	DEPTH In	n) '	7℃	s */	SIGA	MA-T	SPECIFI	C VOLU	<u>ه م</u>	∆ D IYN. M X 10 ³	. AEI	OCITY	O2 m1/1	PO 0		NH3 - N	NO2-N ug - of 1	NO3=N			14
	HR 1/10							-				\neg			-	 	+	+			-	-		
	1	1	ST	0000) -	0183	3402	27	40	000	0687	7 (000	1	4394	722	ı	'		1	1	*	'	
	23	2	OBS	0000		183	34015		40						4394	722							7 9	96
	23	2	ST OBS	0010 0010		0184 0184	3401 34011		40	000)689	9 (0007		4395 4395	731 731							7:	96
	23	۷.	ST			0184	3402	_	40	000	0683	8 (0014		4397	734							•	, ,
	23	2	OBS			0184	34021		41						4398	736							7	97
			ST ST			0181 0171	3408 3428		45 61		0636 0484)020)032		4401 4412	729 697								
	23	2	085			0170	34292		62	001	, ,,,		,0 ,2		4412								7	95
			ST			0163	3447	27	76	000	0339) (0042		4422								_	
	23	2	0BS ST			0162 0142	34472 3451		77	0.01	0313	.5	0050		4423 4437								7	94
	23	2	OBS			0140	34514		79	501	0 - 1 3	(, U , L		4438								7	94
			ST			0097	3455		81		0298		0058		4463									
	23	2	ST OBS			0057 0053	3459 34595		'82 '83	000	0283	37 (0065		4486 4488								7	88
	43	2	ST			0002	3464		184	000	0274	6 (0079		4522									30
	23	2	OBS			0005	34646		84						4524	491							7.	85
			ST			0016	3466		84		0267		0092		4537									
	23	2	ST OBS			0023 0024	3466 34665		'84 '84	001	0271	.4 (106		4548 4550								7.	84
	23	2	ST			0027	3467		85	00	0267	, (0133		4567									0-4
	23	2	OBS			0027	34669		785						4568								7.	82
	2.2	2	ST OBS			0034	3467 34675		784 785	0.0	0271	. (0160		4587 4588								7	81
	2 3	2	ST			0037	3468		785	0.0	0266	5 (018		4605								,	0.1
	23	2	OBS	060	8	0037	34683	27	785					1	4606	475							7	81
			ST			0031	3468		785	00	0262	26 1	021		4619								7	0.1
	23	2	OBS ST			0031	34680 3468		785 785	0.0	0260	7	023		4619 4635								ſ	81
	23	2	OBS			0029	34681		785	00	0400	,	0-2		4636								7	79
			ST			0025	3468		786	00	0258	35	0269		4650									
	17	9	OBS			0024	34676 3468		785 786	0.0	0256		029		4651 4665								7	84
	2.3	2	ST OBS			0021	34679		786	00	U406	37	029.		4666								7	80
	17		085			0021	34674		785						466	494								84
			ST			0017	3467		785		0259		031		4680									
	17	0	ST OBS			0013	3467 34666		785 785	00	0256	0.0	034		4695								7	82
	1.1	7	51			0010	3467		785	00	0256		036	8 l	4710								,	ے پ
			ST			0007	3467		785		0254		039		4726									
	17	· a	5 T 0 B S			0004	3466 34664		785 785	00	0252	25	041		474] 4744								7	83
	1 /	7	ST			0003	3466		786	00	024	10	048		4778								r	رر
	17	9	QB5	182		0011	34663		786						4790								7	83
			ST			0012	3466		786	00	023	53	0541		4819								7	0.3
	17 17		0B9			0014	34662 34657		786 786						4841 4891									83 82
		_	ST	D 250	0 -	0022	3466	2 -	786	00	022	50	065	5 1	490	545	,							
	17	9	089			0025	34654		786		0.31	. E	271		4943								7	81
	17	7 0	S1 0B5			0028	3465 34651		786 786	00	021	65	076		4985								7	80
	17		0B3	-		0034	34646		786						5046									80
	1.7	9	089	1367	0 -	0043	34640	2	786					1	5096	577	,							79
	17		0B5			0052	34632		785						5106									78 81
	17 17		OBS OBS			0058	34630 34635		786 786						5109 5111									81
		79	OB:			0065	34643		787						5114									85

ERENCE	T					ARSOEN	STATION TI	ME T		ORIGIN	IATOR'S	- 1	OFFIC	MAX		WA	v f		W E A	Cron		- 1	нолг	
10.	SHIP	LATITU	OE L	ONGITUDE	들입 s	OUARE	(GMT)		YEAR	CRUISE	STATION	\dashv	OEPTH TO	OEPTH	08		TIONS		WEA- THER	CODE			STATION	N
NO.	COOF	•	1/10	1/10	D Z 10		MO DAY H	R.1/10		NO.	NUMBE	2	BOTTOM	S'MPL	SDIR	HGT	PER SE	A (COOE	TYPE A	M T		38MUN	R
18037	GL	6722	05 (147223W	5	20 77	03 10 0	060 1	968	1 0:	12		3768	10	00	10	λ		х7		,	1	007	,,
						WA	ER W	IND	BARO	A 10 7 C	MP. C	VIS.	NO.	598	CIAL]							001	
						COLOR	TRANS DIR.	SPEED	METE	R ORY	WE1 BULB	CODE	OBS. DEPTHS		ATIONS									
								FORCE	 	_	-	+-				1								
				1		DT	5D 00	500	79	4 -032	-03	_	20	-		L	-		_		_		_	
l	MESSENGR TIME	CAST	C ARO	OEPTH I	m1	r tc	s 1/4.	SIGM	A-T	SPECIFIC VOLU	IME (E A O	. AEFO		D3 ml/		04~P		-N	NO2-N				н
Ĺ	HR 1/10	1	TTPE									x 103	VELO	Cit		20	- 01/1	13	07,1	μg = at-	µg - a	1 yg - a	1	
																-			1					
			5 T [-0185	3403	274		000679	6	0000		393										
	0.44	8	085	100		-0185	34025	274						393										
			STI			-0185	3403	274		000678	39	0007		395										
			OB5	001		-0185	34025	274						395										
			STO			-0185	3403	274		000678	32	0014		396										
			OBS	002		-0185	34025	274						396										
			OBS	002		-0183	34026	274			_			398										
			ST			-0175	3408	274		000640) 7	0020		404										
			OBS	003		-0175	34076	274						404										
			511			-0165	3447	277		000342	. 9	0030		417										
			OBS STI	005		-0165 -0150	34466 3450	277		00031	· ×	0038		417 429										
			OBS	007		-0150	34501	277		00051	, ,) ()) ()		429										
			510			-0115	3454	278		000302	ρ	0046		450										
			085	010		-0115	34536	278		000000		J U 4 U		450										
			ST(-0080	3457	278		000292	6	0053		471										
			OBS	012		-0080	34566	278		110020		, , , ,		471										
			ST			-0021	3463	278		000273	36	0061		503										
			085	015		-0021	34626	278			-			503										
			STO			0016	3466	278		00027		0074		529										
			OBS	020	0	0016	34655	278	3 4				14	529										
			ST	025	0	0019	3466	278	34	000272	2	0088	14	538										
			OBS	025	0	0019	34656	278	34				14	538										
			ST	030	0	0025	3467	278	34	000268	88	0101	14	549										
			OBS	030	0	0025	34665	278	34				14	549										
			ST			0030	3467	278		00026	6	128	14	568										
			085	040		0030	34671	278						568										
			STE			0034	3468	278		000263	8	155		587										
			OBS	050		0034	34680	278		00221		2101		587										
			STE			0034	3468	278		000261	14	0181		604										
			OBS	060		0034	34681	278		****	~	. 7		604										
			STE			0031	3468	278		00026	. /	207		619										
			OBS	070		0031	34681 3468	278		000357		2 2 2 2		619										
			STI OBS	080 080		0028	34681	278		00025	0	5233		634										
			STI			0026	3468	278		00025	77	3259		634 649										
			OBS	090		0024	34680	278		00020		J E D 9		649 649										
			STI			0020	3468	278		000254	. 8	285		664										
			OB5	100		0020	34680	278		30047		J = 0 J		664										
			003	100	~	0020	34000	210					1 4	004										

ENCE SHIP		E É	MARSDEN	TATION TI		DRIGINATO	R*S	DEPTH DEPT		WAVE	WEA-				ODC
ID. CODE		NGITUDE BY	SOUARE	IGMT)	YEAR	CRUISE STAT		BOTTOM STAPE	, ,	ERVATIONS	CODE		1		ATION
NO.	1/10	1/10 =	10* 1*	MD DAY H		+-+		<u> </u>			1		1		
037 GL 67	1905 0	48598W	520 78		180 1968	A III TEAAR	7	3585 10	00 10	10 X	X1	1 717	1		0071
			COLOR		SPEED MET	0.	ET CODE	OBS. Carre	ECIAL VATIONS						
			CODE	TRANS DIR.	FORCE (mb		JLB	DELINZ	***************************************						
				00	500 78	39 -001 -0	11 6	15		•					
MESSENGE CASTIME OF NO	CARD TYPE	D(PTH (m)	7 %	5 %.	SIG MA-T	SPECIFIC VOLUME ANOMALY-E107	≵ ∆ D DYN, M x 10 ³	. SOUND VELOCITY	O2 m1/i	PO4-P ug = 01/1	NN3 - N	NO2-N ug - ai/l	NO3-N n3-01/1	\$1.04~2i nd + 01.1	ρН
						1	!					1			
•	STD	0000	-0177	3405	2742	0006645	0000		723						
189	OBS	0000	-0177	34047	2742			14397	723						812
	STD	0010	-0182	3405	2743	0006627	0007		731						
189	OBS	0010	-0182	34047	2743			14397	731						81.
	STD	0020	-0172	3428	2761	0004855	0012		685						
189	OBS	0026	-0168	34380	2769	222125	0017	14411	665						80
	STD	0030	-0167	3439	2770	0004016	0017		661						
	STD	0050	-0164	3444	2774	000363	0024		642						
189	085	0052	-0164	34442	2774			14418	640						80
	STD	0075	-0161	3447	2776	0003433	0033		655						
189	OBS_	0078	-0161	34468	2776			14424	657						80
	STD	0100	-0164	3448	2777	0003298	0042		643						0.0
189	085	0104	-0164	34488	2778	0007147	0050	14427	640						80
	STO	0125	-0152	3450	2779 2780	0003167	0050		632 612						
100	STD	0150	-0127	3453 34534	2780	0003010	0058	14457	607						80
189	085	0155	-0120	34534	2780	0002725	0072		531						80
100	STD	0200	-0031 -0021	34625	2784	0002725	0012	14512	522						80
189	OBS	0207 0250	00021	3465	2784	0002668	0085		499						00
	STD STD		0002	3467	2785	0002632	0099		482						
189	085	T0311	0022	34672		0002032	007	14552	480						79
109	STD		0020	3467	2785	0002673	0129		481						, 9
100		0400	0032	34673		3002073	0.2	, 14,07	481						79
189	085 STD		0036	3468	2785	000265	0152	14588	479						, 9
189	OBS	T0516	0037	34682		000203	0.10	14591	478						80
109	SID		0037	3469	2785	0002637	0178		473						00
189	085	0615	0039	34685		0002037	0-70	14608	472						80
109	STD		0036	3469	2785	0002623	0204		477						- 0
189	QBS	0716	0035	34685		300	J = J	14624	478						79
109	SID		0032	3469	2786	0002583	0230								. ,
189	OBS	T0818	0031	34687		,	'	14639	480						79
	STD		0027	3469	2786	0002563	0256	5 14651	484						
	STD		0023	3468	2786	0002549	0282	14666	491						
189	OBS	T1014	0022	34683	2786			14668	492						79

REFERENCE	1			MARSOEN	STAT	ION TIM	E I		01	UG1N/	ATOR'S	1	OEPTH	MAX		WAVE	WEA-	CLOUD			NODC
CTRY IO. CODE	LATITU		LONGITUDE	SQUARE	- 1	GMTI	1.	YEAR	CRUISE ND.		ATION		TO BOTTOM	OEPTH OF	:	WAVE ERVATIONS	THER	CODES		51	TATION
	·	1/10	1/10	10	WO C				ND.			-		S"MPL"S		HGT PER SEA	+	TYPE AMI	-		04 40
1 31/8037 GL	6713	355	049577W	520 79	03		00 1	968		O 54			3664	37	<u> </u>	10141	L X 1	7 7			0072
				COLOR	,	OIR.	SPEED	BARO- METER	-		WET.	VIS.	NO. 085.	SPEC OBSERV							
				COOE	C/N)	OIIC	FORCE	(mbs)	BU	LB	BULB	-	OEPTHS								
					Ļ	15	509	805	-02	?6	-036	6	29							-	
MESSEN!	CAST	CARO TYPE	DEPTH (m)	7 %	,	٠/	SIGM	A-T	SPECIFIC		AE S	Δ 0 N. M	501	INO	O-2 m1/l			N0;-N	$^{\rm N}\cap_{1}-^{\rm N}$	- 04-5	pH 5
HR 1/1		TYPE							ANUMA			103	VELC	CITY		νg + οι 1	P4 01 1	vg - 01,	νg - οι 1	yg = 31 1	- '
	1				1									1							
0.1) 9	ST 085		-0181 -0181	34	10 104	274		0006	19	8 0	000		396 396	690 690						0.00
01	39	51		-0181	34		274		2006	19	9 0	006		398	697						809
0.0	9	085		-0181		103	274					000	_	398	697						808
		ST		-0170	34		275		0005	92	0	012		402	683						
0.0	9	OBS ST		-0172 -0165	34	181	275		0005	. 25	0 0	018		406 410	674 664						809
		ST		-0141	34		277		0003			027		428	625						
0	09	085	0052	-0139		439	277	3			_			429	622						806
		ST		-0131	34		277		000	341	2 0	036		437	602						
01	9	08S ST		-0130 -0122	34	483	277		0003	227	в о	044		438 446	601						805
04	09	085		-0120		505	277		000.	1 2 0	a u	044		448	600 599						802
		ST		-0089	34		278		000	308	8 0	052		466	572						002
		ST		-0055	34		278		0002	299	9 0	060		487	544						
01	09	085		-0046	34	582	278		000	770	* ^	07/		491	538						800
0.0)9	ST 085		0010 0016		54 649	278		0002	2/4	* ()	074		526 530	489						796
0.	,	5.1		0023	34		278		0000	271	3 0	088		540	480						7 90
		\$ T	0 0300	0027	34		278		0002			102	14	550	476						
0	09	085		0028		664	278					1 20		552	475						796
0.0	0.0	ST 085		0027 0027	34	56 562	278		0002	2/2	5 0	129		567 569	475 475						795
01	J 9	ST		0021	34		278		0002	267	4 n	156		588	466						795
01	09	085		0037		679	278							590	465						795
		ST		0039	34		278		0002	267	5 0	183		606	470						
0.0	9	085		0039		682	278		000			300		608	471						795
01	9	ST OBS		0036 0035	34	680 680	278		000	200	0 0	209		621 623	468 468						795
0	,	ST		0029	34		278	-	0002	261	3 0	236		635	471						190
0.0	09	OBS		0028		679	278							637	472						795
2	3.4	ST		0025	34		278		000	259	6 0	262	14	650	479						
0	36	OBS ST		0039	، 34 . 34		278		0002) 5 g	1 0	288	1.6	665	486						
0.0	9	085		0022		578	278		0002	0	1 0	-00		668	487						794
	36	085		0026		673	278							675	484						795
		ST		0024	34		278		0002			314		683	489						
		ST		0019	34		278		000			340		697	496						
0.	36	0BS		0015		573	278		0002	(55	8 0	366		713 720	501 502						795
	- 0	ST		0009	34		278		0002	252	7 0	391		727	502						170
		ST	D 1500	0003	34		278		0000	247	1 0	416		741	501						
0:	36	085		-0000 -0008	34	68	278		000	27.3				749	500						796
0	36	ST 0B5		-0011		660	278		000	241	0 0	477		778 795	516 523						797
	-	ST		-0015	34		278		000	234	6 0	536		818	528						171
	36	085		-0019		655	278							845	534						797
0	36	OBS	2472	-0025		658	278							895	544						795
0	36	ST OBS		-0026 -0030	34	66 656	278		000	219	9 0	650		899 946	545 551						795
0.	-0	ST		-0030	34		278		000	213	2 ∩	758		983	556						140
0	36	OBS		-0033		549	278		5500		_ 0	. , ,		999	558						792
	36	OBS		-0037		644	278	36					15	049	564						794
	36	OBS		-0041		69P	279							0.70	570						788
	3 6 36	08 S		-0052 -0059		629 631	278							079 080	577 585						790 792
	36	085		-0066		632	278							084	583						795
·						-	~	-							- 0 -						

RENCE	SHIP				- 5	MARSDEN	STATION TH	ME	VF 4 5		NATOR		DEPTH	MAX. DEPTH	0	WAVE SERVATIONS	WEA-	CLOUD			NODC
ID.	CODE	LATITU	DE 1/10	LONGITUDE '1/10	DRIFT	SOUARE	MO DAY HE	1/10	YEAR	CRUISE NO.	STATIO)N IER	BOTTON	0.6		HGT PER SEA	CODE	TYPE AM			NUMBER
 	-	6713		049577W		520 79			1968		54		3503	1	00		у 1	0 3	T		0073
1803	4 GL 1	0111		Odatisk	1 1	WA:		IND	BARC	A ID T	EMP.	Vis.	NO.	SPEC	-	,0121	1 /1	1 17.3	,	,	007.
						COLOR	TRANS DIR.	SPEED	M ETT	R DRY	W I	T COD	OBS. DEPTHS	OBSERV							
						DT	SD 14	506	81		+-	_	31	†							
	MESSENGR	CALL	CARD				T			SPECIFIC VOI	UME	₹ ∆ D	50	UND		. PO.4-P	NH1 - N	NO3-N	NO3-N	5104-	S,
	TIME HR 1/10	NO.	TYPE	DEPTH	(m 1	т *с	s ·/	SIGA	AA-T	ANOMALY-	x10 ⁷	X 10 ³	VEL	OCITY	O 2 ml/	ug - at 1	22 U.S.	ug - at I	μg = αl/1	μg • σ†	
			_																		
	1		ST			-0182	3397	27		00072	33	0000		+394							
	0.6	7	085			-0182	33969	27						+394							
			083 ST			-0181 -0179	34058 3406	27 27		000 6 5	49	000		+397 +398							
			089			-0177	34058	27		00000	-	000		1398							
			51			-0170	3421	27		00053	74	0013		4406							
			OBS	002	0 :	-0170	34213	27						+406							
			OB 5			-0152	34407	27			D 7			+418							
			ST			-0147	3449		77	00073	21	001		4423							
			089			-0147 -0125	34488 3443	27	72	00038	0.3	002		4423 4435							
			ST 085			-0125	34433	27		00030	02	002		4435							
			ST			-0108	3449		76	00034	3.8	003		4448							
			085			-0108	34487		76		, -			4448							
			ST		0 (-0067	3453	2.7	78	00032	40	004.	2 14	4472							
			085			-0067	34533		78					4472							
			57			-0033	3460		2.8	00028	93	004		4493							
			OBS			-0033	34598		82	00035	0.7	205		4493							
			S1			-0005 -0005	3463 34628		83	00028	103	005		4510 4510							
			OB 5			0027	3465		83	00027	89	007		4534							
			089			0027	34653		83	0002	٠.	0 - 1		4534							
			51			0028	3466	27	84	00027	20	098	4 1	4542							
			089			0028	34663		84					4542							
			51			0027	3466		84	00027	15	009		4550							
			083			0027	34663		84	00030	^ 7	013		4550							
			51			0031	3467 34669		84	00026	1 40	012		4569 4569							
			085 S1			0036	3467		84	00027	704	015		4588							
			0B			0036	34673		784	,,,,,,		9-5		4588							
			51			0039	3468	27	85	00026	54	017	9 1	4606							
			089	5 060	0.0	0039	34683		785					4606							
			S.			0035	3468		785	00026	31	0-0		4621							
			OB			0035	34683		785	0053	0.5	222		4621							
				TD ก8เ ร กู้8เ		0031	3468 34683		785 785	00026	005	023		4636 4636							
			OB:	TD 091		0031	3468		786	00025	578	025		4651							
			OB:			0027	34683		786	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0-2		4651							
				TD 10		0023			786	00025	549	028		4666							
			0B:	s 10	00	0023	34683	2.7	786					4666							
				TD 11		0018			786	00025	524	030		4680							
			OB:			0018			786	00025	50-	033		4680 4695							
			0B:	TD 12:		0014			786 786	0002.	000	023		4695							
				TD 13		0000			786	00024	, ~ o	035		4710							
			08			0009			786					4710							
			S	TD 14	00	0006	3468	2 7	786	00024	+49	038		4725							
			08:	_		0006			786					4725							
				TD 15		0003			786	00024	449	040		4741							
			0B.			0003			786					4741 4756							
			0B			-0002 -0005			786 787					4771							
			08	5 17 TD 17		-0005			787	0002	355	046		4779							
			OB			-0007			787	5004				4787							
			ОВ			-0012			787				1	4802							
				TD 20		-0014			787	0002	275	052	5 1	4819							
			ОB	s 20	00	-0014	34671	2	787				1	4819							

FERE	ENCE			_ =	MAR	SDEN	STATION T	IME		0	RIGINA	TOR'S		DEPTH	MAX,		WAY	F	WEA	. CLO	10		
IY DE	ID. CODE	LATIT	IDE L	ONGITUDE S	sou		(GMT)		YEAR	CRUISE		ATION		10	DEPTH	OBS	ERVA		THE	COL	ES		STATION
+	NO.	ļ <u> </u>	1/10	1/10	10*	1.	MO DAY	4R,1/10		NO.	N	UMBER		BOTTOM	S'MPL"	DIR	HGT P	PER SE	COD	TYPE .	M1		NUMBER
1 8	8037 GL	663	30s 0	50040W	521			180	1768		0.5.5	5		3338	10	. 00	0.	x l	×1	1 7	7	Ì	007
						WA	-	WIND	BAR	0- A	IR TEN	P. *C	VIS.	NO.	S.P.F.	CIAL							007
						COLOR	TRANS. DIR.	OR FORCE	MET (mb		IRY JLB	WET	CODE	OBS.	OBSERV								
							13	1	7.9	-	-		 	1.5									
	MESSENC	NO.	CARD TYPE	DEPTH (m)	7	τ.	s *4.	SIGN	1	SPECIFIC ANOM	VOLUA	" DY	6 Δ D N. M 10 ³	SOU VELO		O 2 ml/1		4-9	NH ₃ = N	NO	N NO:		
	HR 1/1	•			+		-	+	_			- -*	10-	+-	-			-		1		50 50 50	-
		I	1 5TD	0000	1		3406	1 7		000		.											
	16	. 4	OBS	0000		180	34062	27		000	652	3 0	000		396	675							
	10	, ,	STD			184	3407	27 27		000	61.6	^	00.		396	695							80
	16	56	085	0010		184	34068	27		000	046	0	006		396	704							
	10	, 0	STD			181	3414	27		000	5001	2 0	0 1 2		396	704							80
	16	. 6	085	0026		178	34186	27		000	5901	5 0	013		400	701							
	10	0	5 T D			173	3424	27		000	G 1 E		^ 1 o		403	695							80
			STD			153	3442			000		-	018		407	683							
	16		085	0052		152	34432	27		000	281:	> 0	027		422	636							
	10	0	5 T D			148	34432	27 27		• • • •	2. 2.				423	633							80
	16	. 6	0B\$	0078		146	34475	27	-	000	3434	+ ():	36		429	616							
	10	, 0	STD	0100		124	3451	27		0.20	2100	- 0	٠, ۶		431	614							80
	16	. 6	OBS	0104		119	34516			000	3195	> 01	0 4 5		445	606							
	10	, 0	STD	0125		073		27		0.00	300				448	603							79
			STD				3456	27		000			052			565							
	16	. 4		0150		030	3461	271		000	2813	3 01	060		499	529							
	16	0	085	T0155		023	34613	27					_		503	523							79
	1.0	,	STD	0200		017	3465	27		000	2754	+ 0I	73			+89							
	16	0	OBS	0206		021	34659	27						-	532	486							79
			STD STD	0250 0300		028	3467	271	-	000		-	087			481							
	16	4			_	034	3467	27		000	2/05	0	100		554	476							
	10	0	OBS STD	T0307	_	035	34675	27				_		145		475							79
	16				-	038	3468	27		000	266	> 0	127		_	473							
	16	.0	OBS STD	0410		038	34679	278						149		473							79
	1.6	,		0500		042	3468	271		000	2688	3 0.	154		-	469							
	16	0	085	0512		042	34685	271						145		468							79
		,	STD	0600		043	3469	271		000	2643	3 0	181			468							
	16	0	085	T0616		043	34688	27			_			146		468							79
		,	STD	0700		039	3469	271		000.	2630	0.	207			470							
	16	6	OBS	0713		038	34687	271						146		470							79
			STD	0800		034	3469	271		000.	2605	0.	233	146	37	471							
	16	6	OBS	T0814		033	34686	271						146	539	471							79
			STD	0900		029	3468	278		000	2586	0.2	259	14€	552	476							
			STD	1000		024	3468	278		000	2564	0.	85	146	666	487							
	16	6	OBS	T1014	0	023	34682	278	36					146		489							790

FERENCE Y ID.	SHIP	LATITL	DE		SITUDE S	MAR SOU	SDEN		N TIME	YEA	R		TATION		10	MAX. DEPTH OF		WAVE ERVATION	45	WEA THER	CODI	ES		NDDC STATION NUMBER
NO.	CODE	٠	1/10		1/10	10°	1,	MO DA	Y HR.1.	10		NO. N	UMBER		S MOTION	'MPL'S	DIR.	HGT PER	SEA		TIPE A	MT.		HUMBER
18 ~ 3	GL	6623	315	050	1529W	521	60	03 1	2 00	0 196	68	0.5	6	- 1	3109	10	00	le lx l		X 1	171.	7 1	ļ	0075
							WA	ER	WIN		ARO	AIR TEA	MP. C	VIS	NO.	SPEC	CIAL							
							COLOR	TRANS	DIR.	OB 1.	A ETER (mbai		13 W	CODE	OBS. DEPTHS		A TION S							
								+	-+	-	_		_	+ - 1	1.6									
								Ļ	10[5	15	852	2 - 013	-016	- ·	15			•			_	_	T	
	MESSENG TIME HR 1/1		CARO		DEPTH IMI	٠ ١	*C	\$.	۸.	SIGMA-	,	SMCIFIC VOLU-	;; c	ΣΔ D YN, M, X 103	VELOC		02 ml/l	PO4-1		2 - N	NO2-1			
	-	-	1																					
	l	3	51	ro '	0000	-(182	340	4	2742		000670	3 (0000	143	95	679	'						
	0.0	7	OB S		0000	-0	182	340	38	2742					143	95	679							807
			51	0	0010	- (1184	340	3	2741		000673	0 (0007	143	95	691							
	0.0	7	OBS	5	0010	-(184	340	33	2741					143	95	601							808
			51	D	0020	- (0184	340	3	2741		000673	8 (013	143	97	712							
	2.0	7.	083	5	0026	- (0184	340	30	2741					143		714							805
			51	r D	0030		2182	341	-	2743		000013		0020		-	697							
			S		0050		0169	344	_	2771		000392	4	0030		-	638							
	C	7	0В:		0052		3167	344	-	2772					144		635							800
			S.		0075		0143	344		2776		000345	- 1	3039			634							700
	0.0	7.7	OB:		0078		139	344		2776		00031	0		144		631							799
	_		5.		0100		0095	345 345		2779		000314	4	0047	144 144		582 574							798
	0 (7.	0B:	-	0104		0087 0046	345		2779		000296	r .	0055		-	544							190
				TD TD	0150		0013	346	_	2783		000283		3062		-	517							
		2.7	08:		0156		0003	346		2783		000203	0	0002	145		512							794
	C	- 1		10	0200		0019	346		2783		000276	5	0076		-	496							
	1	0.7	0B:		T0208		0022	346		2783		0002.0			145		494							793
		~ /		T D	0250		0027	346		2784		000273	37	0090			484							
			_	TD	0300		0032	346	. 7	2784		000270		0104	145	53	476							
	e.	0.7	OB:		0311		0033	346		2784					145	55	475							787
				TD	0400		0036	346	7	2784		000271	. 2	0131	. 145	71	475							
	0	15	08:	S	0412		0036	346	71	2784					145	73	475							790
			S	TD	0500		0039	346	8	2785	,	000266	9	ე158	_		464							
	2	15	OB:		0515		0039	346		2785					145		463							790
				† D	0600		0040	346		2785		000266		0184			465							_
	5	15	08	_	0617		2040	346		2785					146		466							788
			_	TD	0700		2036	345	-	2785		000263	38	0211			475							7.0
	0	15	08		T0718		0035	346	-	2785					146		476							786
			_	ΤĐ	0800		0029	346		2785		000260)5	0237			478							700
	0	15	OB		T0813		0028	346		2735		00000			146		478							786
			_	TD	0900		0023	346	-	2786		000257		0263			482							
	_			CT	1000		0019	346		2786		000254	+ J	0288			490							789
	0	15	OB	5	11014	•	0019	346	12	2785	,				146	00	491							155

E	SHIP	LATITU	DE LO	MGITUDE TO	MARSDEN SQUARE	STATI	ION TIN		EAR C	ORIGIN	ATOP'S		DEPTH	MAX. DEPTH OF		WAVE ERVATIONS	WEA- THEF	CLOUD		NODE STATION
j.	CODE	•	1/10	1/10		MD D	AY HR		[UMBER		MOTTOM	S'MPL	S DIR.	HGT PER SE	0000	TTPE AM		NUNBER
37	GL	6620	15 05	50529W	521 60	03	12 0	60 1	968	0.5		3	3109	30	00	o x	×1	0 3		0076
					WA	_	-	ND SMEED	BARO-	AIR TEA		2TV	NO.	SPE	CIAL					
					COLOR	TRANS.	DB.	FORCE	M ETER (mbs)	BULB	WET BULB	CODE	DEPTHS	OBSERY	ZATIONS					
					0.1	SD	_	510	898	-018	-020	6	40							
[MESSENGI		6400	1	T				Τ,	PECIFIC VOLU		Δ D.	500	NO.		PO4-P	NH. N	t- O : - t-	NO ₃ +N 5	
ľ.	TIME	CAST	TYPE	DEPTH (m)	1 70	5	·/	SIGMA		ANOMALT-J	75 D	N, M.	VELO		07 =1/1	pg = 01/1	#3 01/1			a - of 5 = -
ľ	HR 1/10	<u> </u>			1															
- 1		1 1	STD	0000	-0183	33	97 '	273	6	000723	a o	000	14:	393		1				
	0.6	8	OBS	0000	-0183	33		273						393						
			STD	0010	-0163	34		275		000551	3 0	006		408						
			OBS STD	0010	-0163 -0163	34	198	275 277		000389	5 0	011		408 412						
			0Bs	0020	-0163		408	277		00000		,		412						
			065	0025	-0161	34	428	277	3				144	414						
			STD	0030	-0159	34		277		000360	2 0	015		416						
			OBS STD	0030 0050	-0159 -0120	34	447 52	277		000316	8 0	22		416 439						
			085	0050	-0120		518	277		003310		,		439						
			SID	0075	-0064	34		278		000287	7 0	029		470						
			OBS	0075	-0064 -0020		583 62	279		000390	7 ^	0.27		470						
			STD OBS	2100	-0020	341	62 619	278 278		000280		036		495 495						
			STD	0125	0003	34		278		000280	8 0	043		510						
			OBS	0125	0003		633	278						510						
			STD	0150	0017	34		278		000280	8 0	050		521						
			0BS ST0	0150 0200	0017	34	643 66	278		000277	7 0	064		521 533						
			085	0200	0025		653	278		000271	, ,	J () -4		533						
			STO	0250	0032	341	66	278	4	000274	4 0	078	14	544						
			OBS	0250	0032		663	278						544						
			S T D 0B5	03 0 0 03 0 0	0033	34	667 667	278		000272	1 0	092		553 553						
			STD	0400	0038	341		278		000269	7 0	119		572						
			OBS	0400	0038	34	675	279					14	572						
			STO	0500	0041	34		278		000273	8 0	146		590						
			085 STD	0500 0600	0041 0036	341	673 68	278 278		000263	3 0	173		590 605						
			085	2600	3036		683	278		000203		115		605						
			STD	0700	0033	34	68	278	5	000261	6)	199		620						
			OBS	2700	0033		683	278				200		620						
			STD	9800 9800	0028	34	58 683	278 278		000258	3 9	225		634 634						
			STD	0900	0024	34		278		000258	5 0	251		649						
			035	0900	0024		679	278						649						
			STD	1000	0017	34		278		000253	2 0	277		663						
			OBS STD	1000	0017	34	679 68	278 278		000250	17 n	302		653 678						
			095	1100	0013		672	278		202220	, ,	-02		678						
			STD	1200	0008	34		278		000247	72 0	327	14	692						
			095	1200	0008		577	278		206215		3 5 3		592						
			STD 085	1300 1300	0004 0004	34	677	278		000243	, 5 J	351		708 708						
			STD	1400	0000	34		279		000241	. 2 0	375		723						
			OBS	1400	0000	34	675	278	6				14	723						
			STD	1500	-0004	34		278		000238	17 0	399		738						
			08 \$ 08 \$	1500 1600	-0004 -0008		6 7 3 571	278						738 753						
			CBS	1700	-0012		570 570	278						768						
			STD	1750	-0013	34	67	279	7	000231	. 2 0	4 58	14	776						
			085	1800	+0014		569	278						784						
			085 STD	1900 2000	-0017 -0021	34	667 67	278		000222	1 0	5:5		800 815						
			OBS	2000	-5021		569 569	279		339462		- 4 -		615						
			085	2100	- 0023	34	668	278	7				14	832						
			085	2200	-0025		668	279						848						
			085	2300 2400	-0027 -0029		668 668	278						954 981						
			STO	2500	-0031		558 57	275		000217	1 0	622		881 897						
			085	2500	-1031	3 4	55E	278						597						
			OBS	2600	-0033		669	278						913						
			085	2796 2893	-0034 -0037		667 663	278						933						
			085	2900	-0042		663 659	279						961						
			STD	3000	-0051		65	278		000189	34)	721		975						
			ORS	3000	-0051		653							975						

	IO. SHII	. LA	TITUDE	LON		PROCTE	MARS	ARE		MTI		YEAR	CRUISE	STAT	ION	DEPTH TO BOTTOM	DEPTH	OB:	WAVE SERVATIO		WEA	co	000			NODC STATION NUMBER
1	NO.	•	1/10		1/10	4	10*	1,	MO D.	AY HE	.1/10		NO.	NUA	ABER	80110%	S'MPL	S DIR.	HGT PER	SEA	COD	TYPE	A MT			AUWREK
8	037 61	. 65	54815	0.5	อรารพ		521	54	03 1	2 1	.80	1968		057		3210	0.9	00	0 1		X1	7	7			0077
								WAT	TER	W	IND	BAR	0- AI	R TEMP.	200	NO.	SPI	CIAL								
								COLOR	TRANS.	OIR.	SPEED DR FORCE	(mb	•1 BU	L8 B	VET COD	DEPTHS	OBSER	ATIONS								
										14	509	73	0 -05	25 -0	134 6	15	L									
	MESSE TIA HR 1	NGP CA	AST CA		DEPTH 6	m I	Ť	℃	5	٧	\$IG#	7 A A	SPECIFIC		∑ ∆ D DYN. A x 10 ³	A.	UND OCITY	02 ml/l	PO 4 - 6		NH3 - N			NO3-N 1/10 - 61	\$1.04-5 yg = 6h	
			9	TD	0.00	0	-0	179	339	18		37	000	7186	0000) 14	395	699								
		179	OB		000		- 0	179	339			3.7					395	699								810
		179	0.8		000		-0	184	339			37					394	699								810
				TD	061			164	339			37	000		000		395	699								
				TD	002		_	182	339			36	000	721*	001		397	697								
		179	O E		002			182	339			36					397	697								810
				STD	003			176	339			3.7	000	7188	002		402	697								
		179	0.5		004			168	3 3 9			3.7					408	696								809
				TD	005			166	341			48	0000	080	003		412	674								
		179	OE	-	206			161	343			67					420	634								805
		170		TD	007			157	343			70	000	1020	004		424	627								
		179	OE	_	008			149	344			73	000	2. 22	005		430	619								803
				STD STD	012			130 094	344	_		74 76		3633 3450	005		+442 +463	616								
		179	08		013		_	085	349			76	000	1450	000		1469	594								0.03
		114		STD	015			056	345			79	000.	117.7	007		486	563								802
		179	OE		017			024	345			82	000) 1 4 7	007		+505	530								798
		114		TD.	020			005	345			83	000	2779	008		518	512								140
				STD	025			020	346			84		695	010		539	488								
		179	08		026			025	346			84	000	, 2	0-0		543	484								798
		• ()		STO	030			029	346			84	000	2674	011		+551	485								1 70
		179	OE		035		_	034	346			85	550		0-1	-	+562	487								797
				STD	040			037	346			85	0.00	2653	014		+572	478								
		179	08		T043			038	346			85	000		0		+578	473								797
				STD	050			039	346			85	000	2632	016		1589	469								
		179	0.5		T052			039	346			85			- 0		+593	468								797
				STD	060		G	038	346	5 9		85	000	2025	019	5 14	+606	471								
		170	OE	3.5	T063	1	0	037	346	999		85				14	+610	473								796
			9	STD	070		0	034	346	9	2.7	85	000	2608	022	2 14	+620	478								
		179	OE	35	1073	0	0	033	346	85	27	85				14	+625	480								796
			9	STD	080	0	0	030	346	8	27	86	000	2590	024	8 14	+635	484								
			9	STD	090	0	0	026	346	8 6	27	86	000	2570	027	3 14	+650	488								
		179	DE	3.5	T092	9	0	025	346	582	2.7	86				14	655	489								796

SHIP	LATITUOE			노름 선수	RSDEN UARE	STATION T			_ 0	RIGINA	TOR'S		OEPTH	MAX.		WA	VE	WI	EA-	CLDUD			NODC
CODE		10 10	1/10	20 20	n ake	MO DAY IH		YEAR	CRUISE NO.		ATION		TO BOTTOM	OF			ATIONS	TH		CDOES			STATION
37 GL	65142		50475W	52					110.	-		-		3 M/L	DIR.	HGT	PER SE	4	-	TYPE AM			NUMBE
2 W OF 1	00142	310	JU41JW1	152			000 1	968	1	058		Н	3 <u>219</u> NO.	1_13	ا مم	101	λ	(x	1	7 7		i	207
					COLOR	TRANS OIR.	SPEED OR	METE	R D	RY	WET	CODE	OBS. DEPTHS	SPE OBSERV	ATIONS								
						13	513	97	\rightarrow		016	7	18		-								
MESSENGR	CAST	CARO							SPECIFIC	_	1 -	-	sou			٠.							_
HR 1/10	NO.	TYPE	DEPTH 6	n1	T *C	s ·/	SIGM	A-T	ANOMA	LY-110'	DY	∆ 0 N. M. 10 ³	VELO		0 2 ml/l		D4=P + 21/1	NH ₃ =		N⊃2−N µg - at I	N G 3 - N 10 - 94	51 C4-	
		STD	0000	1	0100	2224					1		1										
014		085	9030		0190 0190	3334 33340	268		001.	2053	C4	000		381	816								
914		STD	2010		0180	3333	268		201	2125				381	810								81
014		085	0010		0180	33331	268		001	2135	0.0	012		387	836								
0.14		STD	0010		0175	3371	268 271		000	0.136		3 3 -		387	836								81
014		085	0026		0172	33897	273		000	9225	G.	023		397	760								
		SID	0030		0171	3401	273		000	6925	0.0			452	751								90
		STD	0050		0164	3441	277					331		405	737								
014		085	0052		0163	34438	277		090.	3862	.)(342		417	679								
		STD	0079		0138	3440	277		000	3312	0.0			418	674								8 (
014		0BS	9077		0135	34497	277		000	2217	0.0	051		434	632								
- • •	,	SID	0100		0087	3455	278		0003	3027	0.0)59		436	628								8 (
014	(085	0103		0081	34556	278		000	1021	U	154		463	577								
		STD	0125		0045	3459	278		0002	2807	0.0	167		467	571								7.9
		STD	0150		2015	3462	278		0002			966 973		487 506	544								
014	(085	0155		0010	34630	278		0004	-012	00	, , ,		509	518								
		STD	0200		0014	3465	278		0002	727	0.0	87	145		514								75
014	()BS	T0206		0016	34657	278		0002	. 131	00	001		530	486								
		STD	0250		0019	3466	278		0002	674	0.1	00	145		484 485								7.9
		SID	0300		0023	3467	278		0002			114	145		487								
014		085	0308		0024	34668	278		0002	.001	(/ 4	. 1 -4	145		487								
		STD	0400		0036	3468	278		0002	0046	0.1	40	145		472								7 9
019	()B5	0410	Ċ	0037	34683	278		31,1172				145		471								
		SID	0500		0039	3469	278		0002	617	οī	67	145		467								79
019	()BS	T0509		039	34687	278		3002		0.1	0 /	145		460								
		SID	0600		039	3469	278		0002	524	0.1	.93	146		468								7.9
019	C	B 5	0611		039	34687	278		5000	56,	-	- / 2	146		468								
		STD	0700	Ċ	037	3469	278	-	0002	623	n2	19	146		468								79
019	C	85	T0716		036	34686	278		0000		0 -	. /	146		468								7.0
		STD	0800		032	3469	278		0002	590	0.2	45	146		472								79
019	C	85	0813		031	34686	278					, ,	146		473								7.0
		STD	0900		1023	3469	278		0002	532	0.2	71	146		486								79
071	C)BS	0919	(1022	34685	278	6					146		488								79
		STD	1000	-	019	3468	278	6	0002	552	0.2	96	146		491								7.9
019		BS	T1014		018	34677	278	6			-		146		491								79
071	- 0	88	T1018	0	015	34678	278	6					146		500								
		SID	1100		012	3468	278	6	0002	499	03	21	146		504								79
		STD	1200	C	008	3468	278		0002			46	146		508								
		STD	1300	C	005	3468	278		0002		03		147		512								
071		BS	T1321		004	34677	278			-		-	_ ,		- 1 -								

EFERENCE	SHIP	LATITL	JOE	LONG	SITUOE	120	MARS			ON TIM		YEAR	CRUISE	GINATO	IION	\neg	OEPTH TO	MAX. GEPTH OF	OBS	WAVE ERVATIO	ons	WE	ER	CLOUG	5	-	NOOC STATIOI NUMBE	N
DE NO.	COOE	١.	1/10	•	1/10	°≆⊦	10"	11.	MO O	AY HR	.1/10		NO.	NU	ABER	'	ROTTOM	S'MPL'S	DIR.	HGT PER	SEA	CO	Dt	TYPE AN	<u> </u>		NUMBE	•
318037	61	6436	505	050	350W		521	40	03 1	3 1	80 1	968		059		-1:	3146	10	00	0 1		l x	1	7 7		i	007	9
1000	4 00	, 0,,,		0,50	,,,,,,,,,	' '		WAT			NO	BARC	A 10	TEMP.	c	_,	HO.											
								COLOR	TRANS.	OIR	SPEED	METE	R OR			ZIV DDE	OBS. DEPTHS	OBSERV	CIAL ATIONS									
								COOE	1001	-	FORCE	lmbs				\dashv	_											
									لـــــا	20	S14	0.7	7 -05	4 - ()59	7	15			-			r		_	-	_	_
	MESSENG TIME HR 1/1		CARC		DEPTH 6	m!	ı	τ-	s	٠4.	SIGM	A – T	SPECIFIC V		₹ ∆ NYO X I	Μ,	SOU		0 2 mt/1	PO 4-		NH3 —		NO2−N µg - at/l	NO3-6			н
												İ			İ		İ									1		
	'	'	'st	D.	000	0 ′	-0	178	336	59	27]	4	0009	379	000	00	14	392	756									
	1.7	79	089	;	000	0	-0	178	336	91	27	4						392	756								81	. 5
			ST	D	001	0	-0	181	336	8	271	13	0009	419	000	09		392	763									
	1.7	79	089	,	0 G 1	0	-0	181	336		27]							392	763								81	. 6
			SI	Ð	002	0	- 0	178	33		27		0009	065	00	19		396	706									
	1.7	79	089	5	002	5	-0	176	33	788	27:							398	684								8]	
			S1	D	003	J	-0	174	339	_	27		0007		00.			402	674									
			S1	D	005			165	344		27		0003	780	00	38		416	645									
	1.7	79	089	5	005		- 0	165		434	27							417	644								8 () 9
			ST	D.	207		- C	167	344		27		0003	379	0.0	47		420	629									
	17	79	OBS	5	207	6	- C	167		176	27							421	628								8 () 8
			SI		010			158	34		27		0003	177	0.0	55		429	624									
	17	79	089	5	010			157		00	27							430	623								8 () 7
			S1	D	012	5	-0	121	34		278	80	0003		00			451	597									
			51		015			088	34!	-	271		0002	932	00	70		471	573									
	1	79	QB5		015			084		568	27							474	571								8 () :
			S		020			1038	341		27		0002	766	0.0	85		503	545									
	1	70	083		1020			033		512	27							507	542								8 () :
			Si		025			1016	341		27	-	0002		00			522	528									
			Si		030			001	341		27		0002	686	01	12		537	515									
	1	79	OBS	-	030			0000	-	647	27				0.1	20		539	514								8 (ه ر
			5.		040			015	34		27		0002	665	01	39		561	501								_	
	1	79	089		040			016	-	662	27				- 1			563	500								8 (ه ز
				D	050			0022	34		27		0002	066	01	りう		581	492									_
	1	79	08	-	050			023	-	666	27				. 1			583	491								8	J
			_	D	060			0027	34		27		0002	667	01	92		600	490									
	1	79	08:	_	T060			0027		673	27				- 2			601	490								80	J.
			_	T D	970			0026	34		27		0002	1634	02	18		617	490									_
	1	79	08	-	071			0026	_	674	27		000					619	490								8	J.
		_	-	TD	080			0023	34		27		0002	629	02	45		632	497									_
	1	79	OB:		1081			1022		672	27		000	1 (0 7	0.3	- ·		634	498								8	J (
			_	TD	090			0018	34		27		0002		02			646	502									
	_	7.		T D	100			0014	34		27		0002	:5/6	02	47		661	504								7.	0.4
	1	79	OB:	S	T101	3	(0013	34	670	27	85					14	663	504								- /	99

	ATITUOE	LONGITUDE	DELT	MARSDEN SOUARE	STATION TO		YEAR	CRUISE	INATO	ON	DEPTH	OFFIN		WAVE ERVATIONS		CLOUE			NOOC
NO. CODE	1/10	1/1	10 3	10" 1"	MO OAY H	£1/10		NO.	NUM	BER	BOTTOA	S'MPL	S DIR.	HGT PER SE	CODE	TYPE A N	AT .	_	NUMBER
118037 GL 6	349 5	05036	W	521 30	03 14	060]	968	e	60		2487	21	0.0	0 1	X 7	1614		İ	0080
				WA	TER V	IND	BARC	A IR T	EMP.	C	NO.		CIAL					,	000
				COLOR	TRANS DIR.	SPEED	METE	R ORY	W BU		ORS.	O access	ATIONS						
				CODE		FORCE	Imbe		+		1	1							
					19	515	10	5 -086	-0	90 6	21	1	1						
MESSINGE C			d Imi	T to	s ·/	SIGM	A-T	SPECIFIC VOI	UME	≨ ∆ D	so	מאט	07 ml/l	PO4-F	NH3 - N	NO2-N	NO3-N	5104	-5:
HR 1/10	NO. TYP				1			ANOMALT-	x10'	x 10 ³	AET	OCITY	0,,	μg = 01 °I	PB 811	νg - σ1'i	µg - ab'	. βα - α	и Г
	5	rd cc	00	-0182	3363	270	9	00098	39	000	່ 1 4	+389 [°]	754	•	,				
051	0.8	5 00	00	-0182	33630	279	9					+389	754						808
	5	TD no	10	-0182	3363	270	18	00098	7	001) 14	391	768						000
051	0 B	5 00	10	-0182	33625	270	8 (14	391	768						808
	S	TD 00	20	-0182	3368	27	. 3	00094	4	002) 14	393	757						
051	08:	5 00	26	-0182	33751	27	19				14	+395	745						80
	S	TD 00	30	-0180	3389	273	3.0	00078	24	002	3 14	1399	723						- 0
	5		50	-0169	3438	27€		20040	79	004) 14	+414	648						
051	08:		51	-0168	34393	271	7.3				14	+415	646						808
			75	-0167	3445	27		00035	32	005	14	4 420	639						_
^51	08			-0167	34455	27					14	421	638						80
		TD 01		-0161	3449	27		00032	60	005	3 14	+428	621						
051	08:			-0160	34489	27	-					4428	619						80
		10 O1		-0143	3451	277		00031		006	5 14	441	597						
		TD 1		-0120	3453	278	9.0	00030	36	007	4 14	456	576						
051	08:	5 01	53	-0117	34537	278	3.0				14	458	574						79
	5		00	-0055	3459	278	3.2	00028	36	008		4495	548						
051	08		04	-0051	34598	27	3.3				1 4	4498	546						79
	5	TD 02		-0023	3462	278	3.3	00027	59	010.	2 14	519	527						
	S	ro 93	00	-0001	3464	278	34	00027	24	011	5 14	+537	513						
251	OB:		05	2001	34646	278	3 4				14	+539	512						79
	5	FD 94	00	0015	3466	278	3 4	00026	87	014	3 14	+561	504						
951	08	5 04	05	0016	34658	278	34				14	+563	503						79
	S	rD 05	OΟ	0023	3467	278	2.5	00026	43	017	n 14	582	492						
051	08	5 T.05	07	0024	34674	279	35				14	+583	491						79
	S	rD 96	00	0027	3468	278	3.5	00025	92	019	5 14	+633	487						
051	06:	5 106	07	0027	34680	278	15				14	-602	487						79
	5	D 07	00	0023	3468	278	36	00025	69	022.	2 14	615	487						
151	08:	5 07	9.0		34680								487						79
	S.	8c 01	0.0	0019	3468	278	36	00025	42	024	7 14	+630	495						, ,
051	081	5 TO8	08	0019	34675	278	35				14	632	496						79
	S.	rD 09	00	0016	3469	278	36	00025	43	027	3 14	645	502						
149	QB S	T09	14	0015	34676	278	36					647	503						79
	5.	D 10	00	0015	3468	278	36	00025	46	0291	3 14	662	504						
751	089	5 T10	8 0	0013	34675	278	36				14	662	504						79
149	089	10	16	0011	34672	278	36				14	+663	507						79
	S.	TD 11	00	0007	3467	275	6	00025	19	032	14	675	510						
	\$			0003	3467	278	36	00024	83	034	14	690	515						
149	069	T12	69	0000	34665	275	36				1 4	700	518						79
	S.	ro 13		-0002	3467	278	36	00024	75	037	3 14	705	520						. ,
	S.			-0006	3466	278	36	00024	5	039	3 14	720	525						
	5			-0011	3406	278	36	00024	0.8	042		734	530						
149	085			- 0012	34661	278	36					738	531						79
		TD 17	50	-0019	3466	278	6	00023	30	048		773	540						. ,
149	08:			-0023	34658	278	36				1 4	1786	544						78
	S		00	-0030	3466	27		90022	28	053		911	551						10
149	OB:	T21	49	-003s	34654	275	3.7					833	558						79.

MAX. DEPTH OF S'MPL'S REFERENCE ORIGINATOR'S STATION TIME WEA-THER CODE CLOUD NDCTR MARSDEN DEPTH WAVE OBSERVATIONS NODE SHIP YEAR LATITUDE LONGITUDE ID. NO. CRUISE BOTTOM NUMBER DIR. HGT PER SEA MO DAY HR.1/10 1/10 1/10 10" TYPE AMI GL S 05036 W 0.0 o x х 1 AIR TEMP. "C WIND NO. OBS. DEPTH BARO-SPECIAL OBSERVATIONS COLOR TRANS DIR. DRY BULB BUL8 WET (mbs) -095 -101 DI MESSENGR CAST TIME OF NO. HR 1/10 ₹ △ 0 0 vn. m x 10³ NH3 - N NO2-N ug - at 1 \$1 O4 -5 SOUND NO3-N O2 mi/i pg - at µg = aU1 -0178 STD OBS -0178 0.79 SID -0183 ARC -0183 STD -0168 OBS -0168 -0163 OBS -0163 STD OBS -0163 STD -0166 OBS -0166 5TD -0165 OBS -0165 STD -0148 OBS -0148 -0120 -0120 STD -0094 SID OBS -0094 SID -0031 OBS -0031 SID -0007 OBS -0007 SID OBS SID OBS STD OBS STD OBS STD OBS SID OBS 0.800 SID OBS STD OBS SID OBS STD OBS STD OBS SID -0002 OBS -0002 STD -0005 OBS -0005 OBS -0006 OBS -0010 STD -0012 -0015 OBS -0023 SID -0031 -0031 OBS -0046 OBS -0059 -0076 OBS OBS -0086

STD OBS

-0102

-0102

CODE

