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# REPORT No. 33

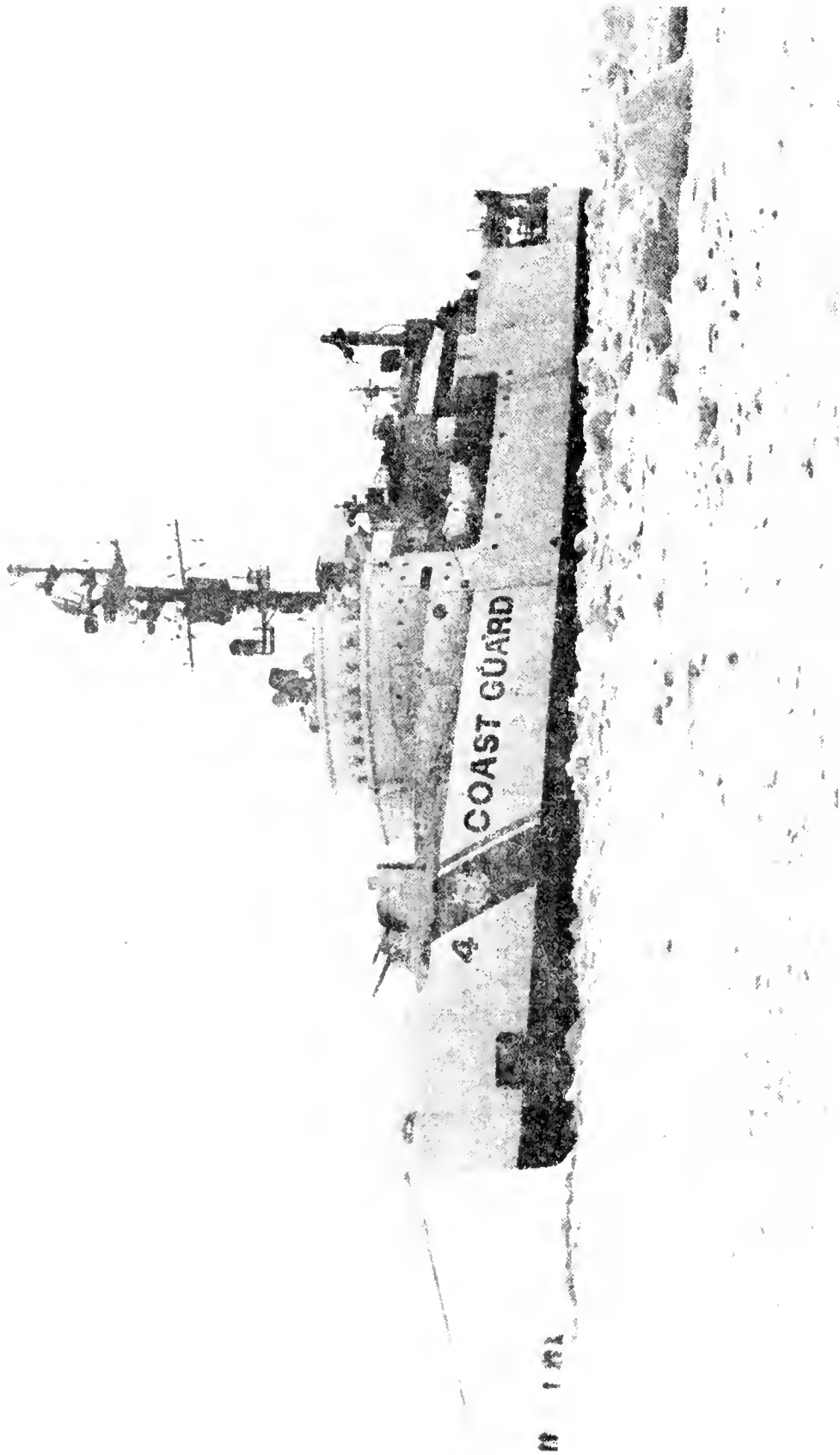
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## DISTRIBUTION OF NUTRIENTS IN THE WEDDELL SEA

FEBRUARY-MARCH 1968—FEBRUARY-MARCH 1969

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USCGC GLACIER (WAGB 4)

# ABSTRACT

This report discusses the nutrient distribution in the Weddell Sea during the austral summers of 1968 and 1969. The work was done on the icebreaker USCGC GLACIER (WAGB 4) as part of the International Weddell Sea Oceanographic Expedition. Simultaneous measurements of phosphate, nitrate, nitrite, ammonia, silicate, and oxygen yield useful information regarding the biological activity in the Weddell Sea.



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# Distribution Of Nutrients In The Weddell Sea

February–March 1968

February–March 1969

## INTRODUCTION

With the exception of the Ross Sea, the Weddell Sea forms the largest indentation in the roughly zonal coastline of the Antarctic Continent. It is bounded to the west by the Palmer Peninsula, to the east by Coats Land and to the south by the Filchner Ice Shelf. To the north, the basin is partially blocked by part of the Scotia Ridge (fig. 1).

Knowledge of the Weddell Sea has been limited to its periphery due to a perennial ice cover. Except for a few observations that were made along the drift tracks of the DEUTSCHLAND (1911–1912) (Brennecke, 1921) and the ENDURANCE (1914–1916) (Deacon, 1937), the waters of the central and western regions of the sea remain unknown. From the scanty data available, the Weddell Sea is recognized as a major source of Antarctic Bottom Water (Deacon, 1963). This Bottom Water is a major constituent of the deep water found in the Pacific, Indian, and Atlantic Oceans, and is important in deep-water circulation.

Nutrient measurements in the Weddell Sea are almost nonexistent. The work of Clowes (1938) and others show that the amount of phosphate, nitrate, and silicate in the Antarctic surface waters rarely fall below the winter maxima of temperate regions. A southward moving, warm saline layer ( $>0.2^{\circ}\text{C}$ .  $>34.67\text{‰}$ ) in the Antarctic region has the highest phosphate and nitrate concentrations. Silicate is most abundant in the bottom waters.

## IWSOE '68 AND '69

Scientists of the U.S. Antarctic Research Program of the National Science Foundation

have been interested for several years in obtaining oceanographic data in the Weddell Sea. Under their coordination, the International Weddell Sea Oceanographic Expedition (IWSOE) was formed as a cooperative multidisciplinary study of this unknown region. The United States assigned the icebreaker USCGC GLACIER (WAGB 4) as the research vessel for the cruise. As a research platform, the GLACIER was modified to accommodate five laboratories, an expendable bathythermograph launcher and recorder, a STD (salinity-temperature-depth) system, a hydrographic winch, a luffing crane, a PDP-8 computer, a precision depth recorder, a satellite navigation system, and an automatic picture transmission system for recording satellite photos.

The IWSOE was divided into different phases. The primary objective of IWSOE '68, the first phase, was to place four Norwegian instrumented buoys on the Weddell Sea's continental slope to measure temperature and deep currents believed associated with the formation of Antarctic Bottom Water (University of Bergen). Other studies carried out for the IWSOE '68 were primary productivity (Texas A&M University), benthic zonation (University of Connecticut), sub-ice productivity (University of Miami, Florida), sedimentation (Florida State University), trace elements (Yale University), and seal populations (University of Minnesota). The Coast Guard Oceanographic Unit obtained hydrographic data, bottom photographs, cores, and nutrient samples. More detailed information on the programs can be found in the work of Elder and Seabrooke (in press).

IWSOE '69 was the second phase of the

oceanographic program. Its primary objective was the recovery of the four instrumented buoys placed near 74° S. and 40° W., which was not achieved due to severe ice conditions. Several other programs were carried out during the expedition: seal census (University of Minnesota), bottom coring (University of California, Los Angeles), and benthic zonation (University of Connecticut). The Coast Guard Oceanographic Unit obtained hydrographic data, bottom photographs, and nutrient samples. More detailed information on the programs can be found in the paper of Hufford and Seabrooke (in press).

### DATA ACQUISITION

The USCGC GLACIER operated in the Weddell Sea from February 1 to March 15, 1968 and again from February 17 to March 24, 1969. The station locations are shown in Figure 1. Water was sampled as close to the sea floor as possible with a Benthos pinger attached to the end of the hydro-wire. The water samples were obtained in Teflon-coated Nansen bottles and in some cases, from plastic (PVC) Niskin bottles. Acquisition of the physical data obtained is described by Hufford and Elder (1969).

Water samples were analyzed at sea for salinity, dissolved oxygen, pH, inorganic phosphate, nitrate-Nitrogen, nitrite-Nitrogen, and silicate. Techniques described in the manual of Strickland and Parsons (1965) were used to determine pH, silicate, nitrate, nitrite, phosphate and dissolved oxygen. Salinity was determined using an inductive salinometer. Frozen samples for ammonia and total phosphorus were returned to the U.S. Coast Guard Oceanographic Unit for later analysis. Nitrogen data for stations 30-60 and phosphorus values for stations 43-60 from the 1968 cruise proved unreliable due to accidental thawing after malfunction of the spectrophotometer required that the samples be frozen. However, a few individual nitrate values from stations 30-60 which were quality controlled have been used in cross sections A and B.

Section profiles of the data taken in the Weddell Sea during the '68 and '69 cruises are given in Figures 2-17. The distribution of the chemical parameters measured is indicated by

smooth contours, omitting any questionable points. Exact placement of the individual sections may be obtained from the map of station positions and section locations in Figure 1.

### DISTRIBUTION OF NUTRIENTS

The ranges of concentration for the various nutrients in the Weddell Sea were:

inorganic phosphate	1.1-2.7 $\mu\text{g-at/L}$
nitrate-Nitrogen	16-32 $\mu\text{g-at/L}$
nitrite-Nitrogen	0.1-0.5 $\mu\text{g-at/L}$
silicate-Silicon	39-125 $\mu\text{g-at/L}$
ammonia (amino acids)	0.1-6 $\mu\text{g-at/L}$

The surface waters of the southwest and southeast regions of the Weddell Sea have comparable nutrient concentrations. However, the central region was an area of lower concentrations. These lower values may be due to the heavy perennial ice cover, but many factors affecting this area are unknown and further investigation is needed.

In general, the vertical distributions of the nutrients in the Weddell Sea fit the classical description. On the continental shelf, phosphate, nitrate, and silicate concentrations increase with depth to about 50 meters, then remain constant to the bottom. Off the shelf, phosphate, nitrate and silicate generally increase with depth until a maximum is reached at an intermediate depth (400-1600 meters). This maximum is associated with the Warm Deep Layer. Farther north, in the deep basin, phosphate and nitrate distribution is similar to the area just off the shelf, but the silicate concentration increases monotonically with depth to within a few hundred meters of the bottom, reaching values as high as 120  $\mu\text{g-at/L}$ .

Nitrite and ammonia are intermediate products of organic decomposition. Both fractions tend to accumulate below the euphotic zone where regeneration to nitrate is assumed to be intense (Redfield, Ketchum and Richards, 1963). In the Weddell Sea, nitrite and ammonia were present in highest concentrations in the upper 200 meters. However, both were present in deeper waters. This may be due to a large mortality of sinking phytoplankton which are decomposing at depth.

## DISCUSSION

In his original paper on the proportions of organic derivatives in sea water, Redfield (1934) speculated that biological processes might determine these proportions. Marine organisms contain in their protoplasm nitrogen and phosphorus in approximately the same ratio as in the ocean. The stoichiometric ratios have been determined by previous workers (Redfield, 1934; Cooper, 1938; Fleming, 1940) to be—O : C : N : P = 276 : 106 : 16 : 1. Grill and Richards (1964) obtained the silicate to phosphate ratio of 23:1 during the biochemical oxidation of organic matter in the laboratory. This linear relationship existed only in an intermediate concentration range (15–40  $\mu\text{g-at/L}$  of silicate).

In order to compare the ratios found in the Weddell Sea with the theoretical stoichiometric ratios given above, the nutrient quantities were converted to ratios by atoms and subjected to a least squares regression. Using the general mean values from the vertical sections for IWSOE '69 (fig. 13–17), these ratios were obtained:

Continental Shelf N : Si : P = 15.8 : 31.2 : 1  
Warm Deep Layer N : Si : P = 14.3 : 55.2 : 1  
Bottom Layer N : Si : P = 14.4 : 55.1 : 1

The ratios for nitrate and phosphate observed in the Weddell Sea were in general agreement with the theoretical ratios. However, there was a large deviation from the 23 : 1 silicate-to-phosphate ratio suggested by Grill and Richards (1964), particularly in deep water samples in which there were very high ( $>40 \mu\text{g-at/L}$ ) concentrations of silicate. Silicate values in the Weddell Sea increased monotonically with depth to concentrations greater than  $120 \mu\text{g-at/L}$  near the bottom of the basin. These high silicate values distort the ratios of silicate and phosphate from the classical stoichiometric values.

The close correspondence of the nitrate-to-phosphate ratios with 16 : 1, the theoretical value, allowed the use of the preformed nutrient concept in tracing water masses in the Weddell Sea (Redfield, 1942). In calculating preformed nutrients, the oxidation ratio of O : N : P = 276 : 16 : 1 was used. The good fit between the observational values and the values in the literature provide a valuable check on the validity of the concept in the Weddell Sea.

Hufford and Seabrooke (in press) used preformed nutrient values from the Weddell Sea to determine the water masses present. Analysis of the data indicated three water masses: continental Shelf Water ( $\text{PO}_4 = 1.81$ ,  $\text{NO}_3 = 23.07 \mu\text{g-at/L}$ ); a Warm Deep Layer ( $\text{PO}_4 = 1.35$ ,  $\text{NO}_3 = 9.11 \mu\text{g-at/L}$  (400–1600 meters)); and Antarctic Bottom Water ( $\text{PO}_4 = 1.59$ ,  $\text{NO}_3 = 13.85 \mu\text{g-at/L}$ ) (fig. 10, 11, 16, 17). There was an excellent similarity between the distributions of temperature, salinity and the preformed nutrients.

Simultaneous observations of oxygen and the nutrients can yield useful information regarding the biological activity in the surface waters. In the absence of physical dissipation and *in situ* temperature changes, the degree of oxygen supersaturation or negative apparent oxygen utilization (AOU) in the surface layer should represent the excess of photosynthesis over respiration (Steffanson and Richards, 1964). Negative AOU and oxygen supersaturation were calculated using the tables of Green and Carrett (1967). Negative AOU and oxygen supersaturation were found only in the southwest region of the Weddell Sea indicating this area to be more biologically active than the central or southeastern regions. Distribution of surface chlorophyll and carbon-14 measurements in the Weddell Sea by El-Sayed (1968) also indicate that the southwest portion is by far the most productive; but there were conspicuous variations in productivity within areas visited.

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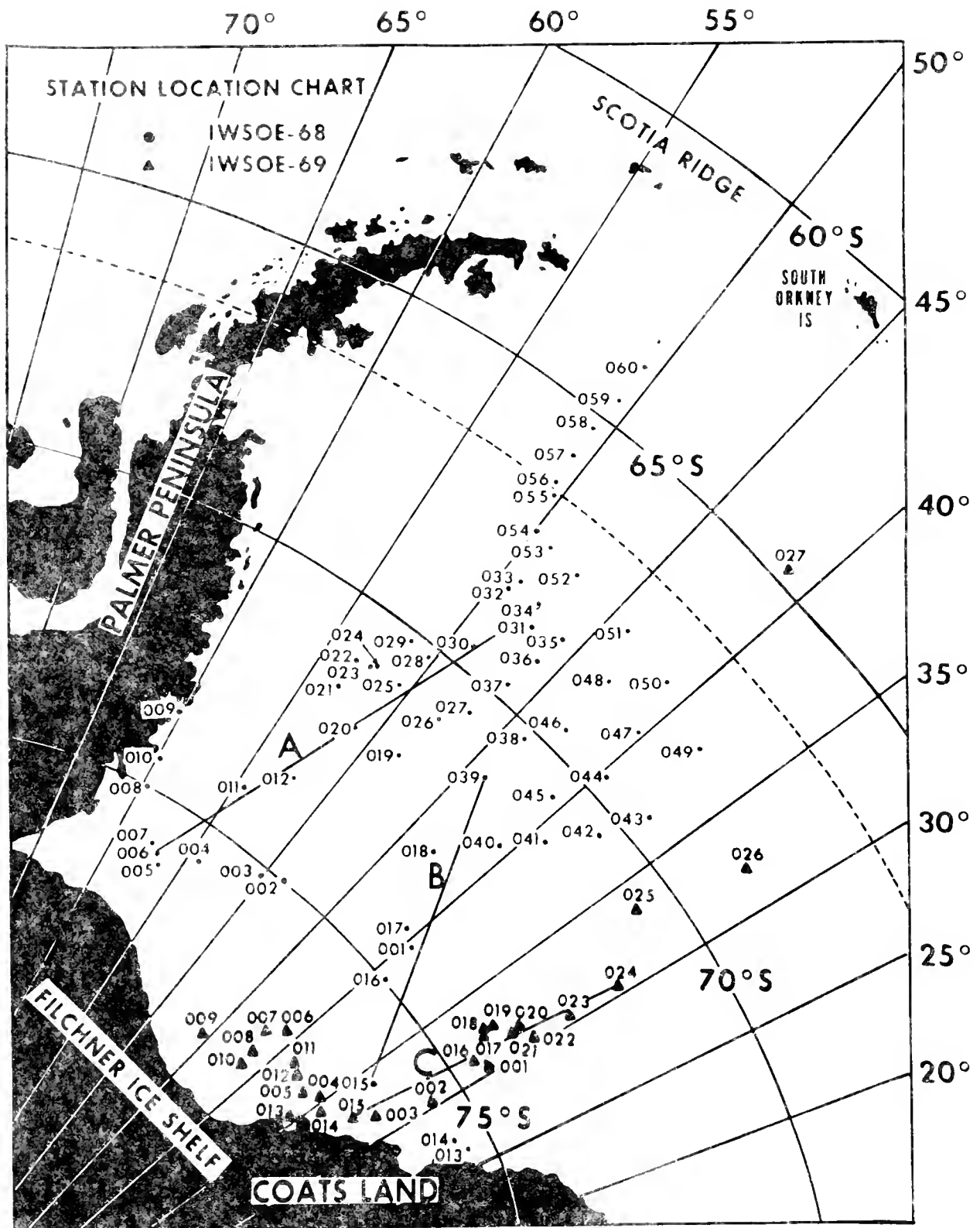


Figure 1. Location of stations and sections taken by the icebreaker USCGC GLACIER during 1968 and 1969.

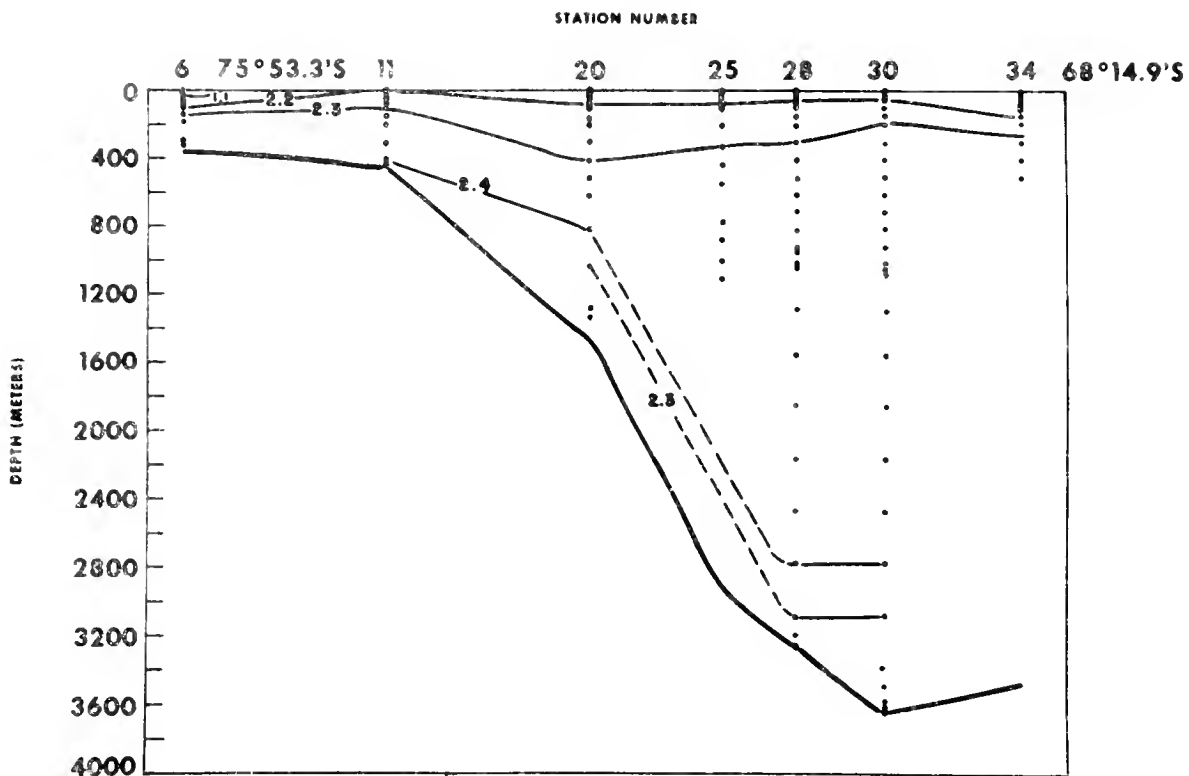


Figure 2. Distribution of inorganic phosphate along a section (A) perpendicular to the Filchner Ice Shelf (IWSOE '68). Contour interval is  $0.1 \mu\text{g-at/L}$ .

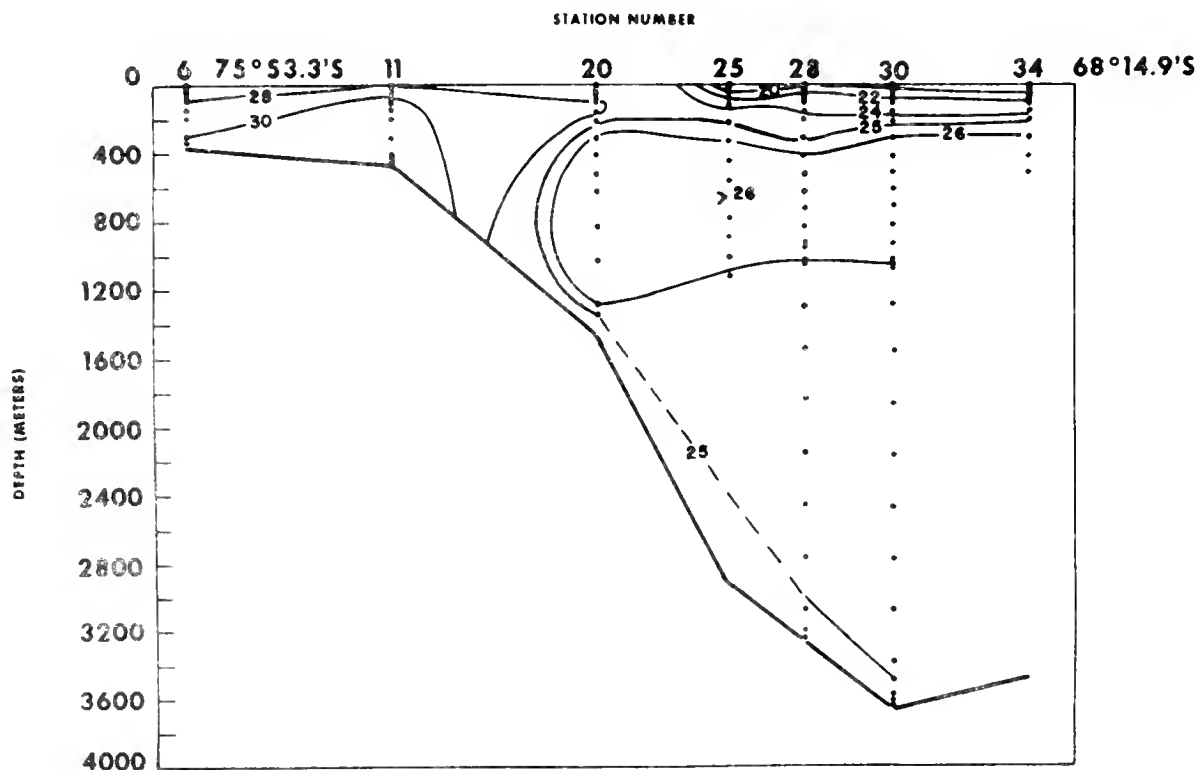


Figure 3. Distribution of nitrate along a section (A) perpendicular to the Filchner Ice Shelf (IWSOE '68). Contour interval is  $2 \mu\text{g-at/L}$  except for the  $25 \mu\text{g-at/L}$  contour.

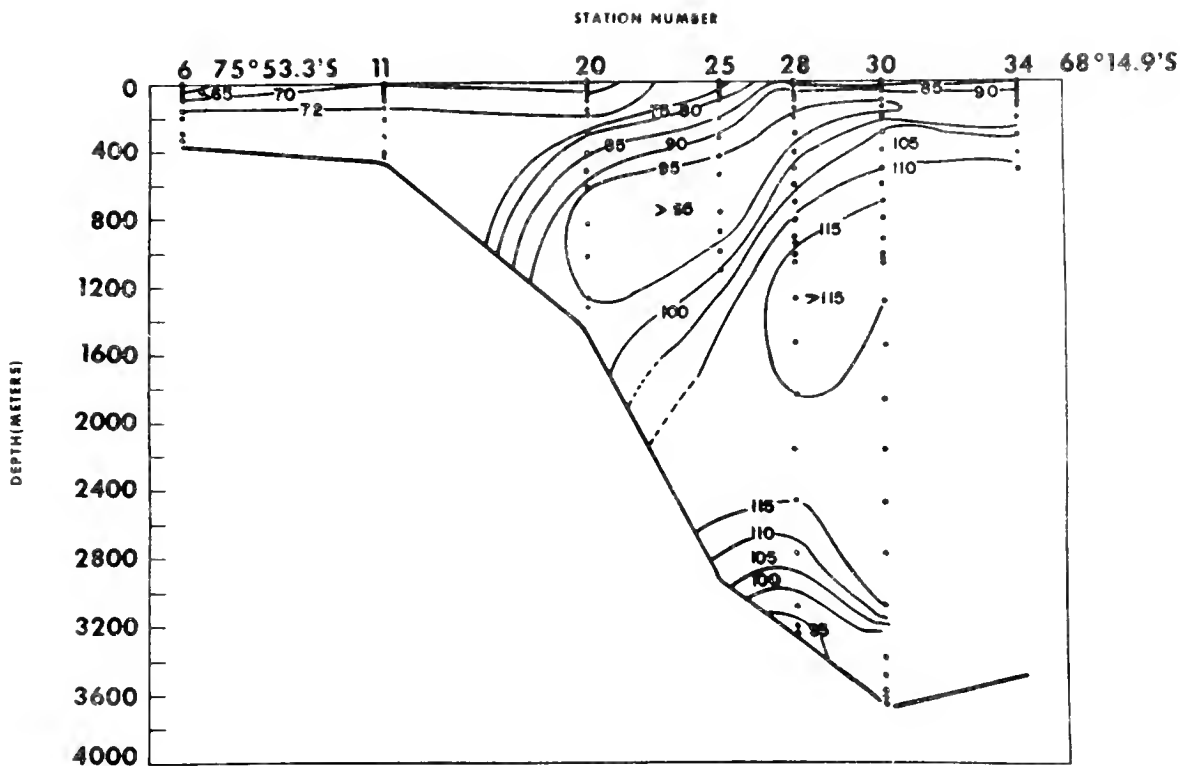


Figure 4. Distribution of silicate along a section (A) perpendicular to Filchner Ice Shelf (IWSOE '68). Contour interval is 5  $\mu\text{g-at/L}$ .

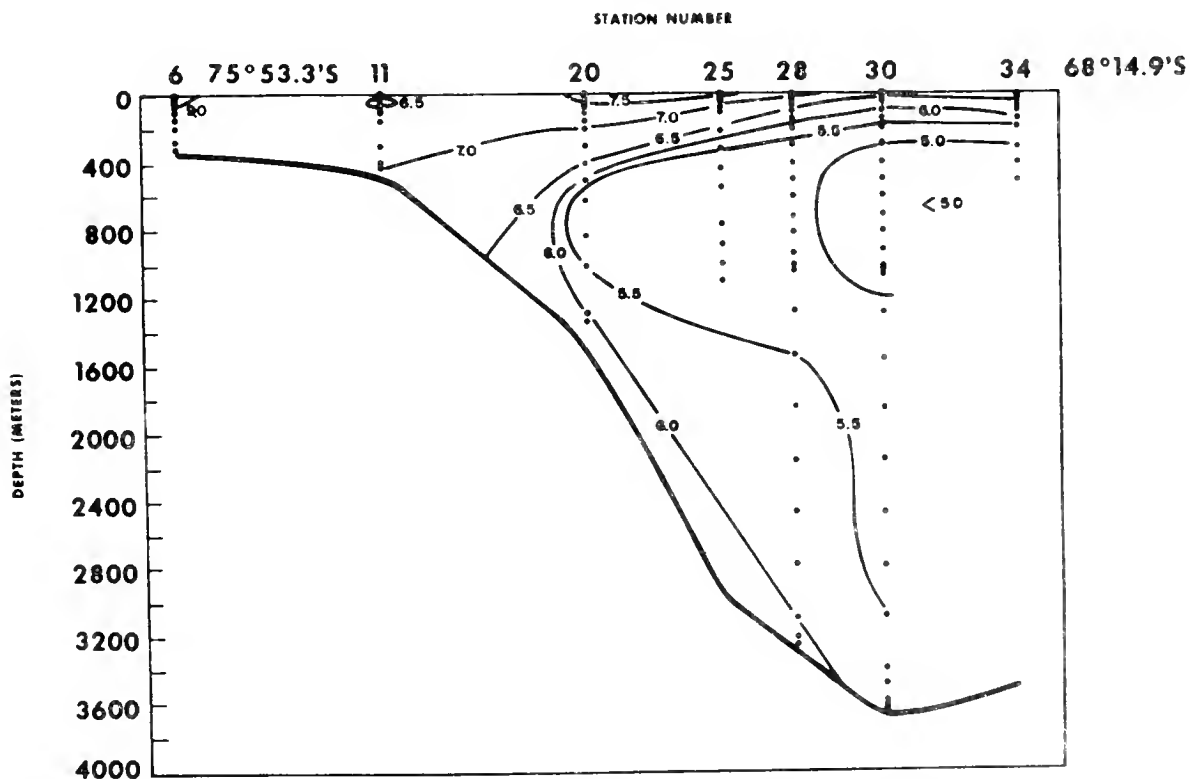


Figure 5. Distribution of dissolved oxygen along a section (A) perpendicular to the Filchner Ice Shelf (IWSOE '68). Contour interval is 5 ml/l except for values  $>7.5$  ml/l.

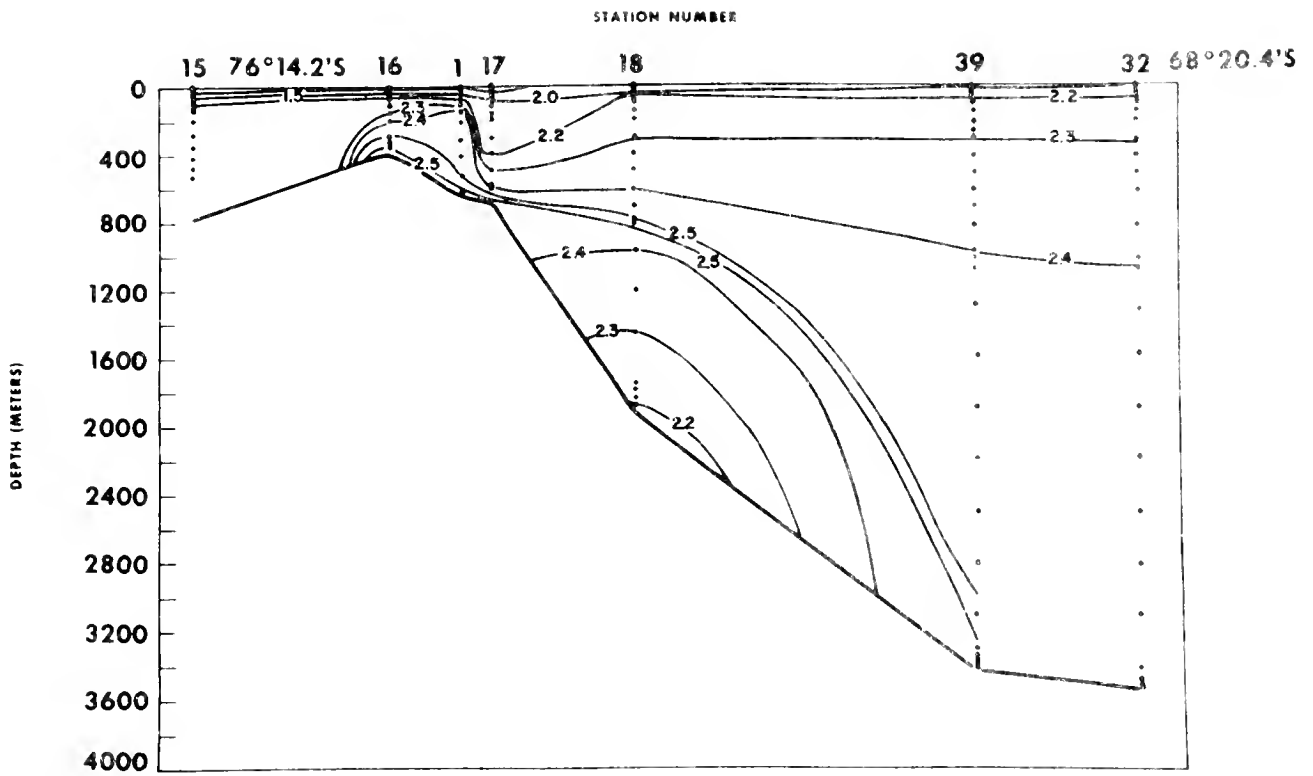


Figure 6. Distribution of inorganic phosphate along a section (B) perpendicular to Coats Land (IWSOE '68). Contour interval is  $0.1 \mu\text{g-at/L}$  except for the  $1.5 \mu\text{g-at/L}$  contour over the shelf.

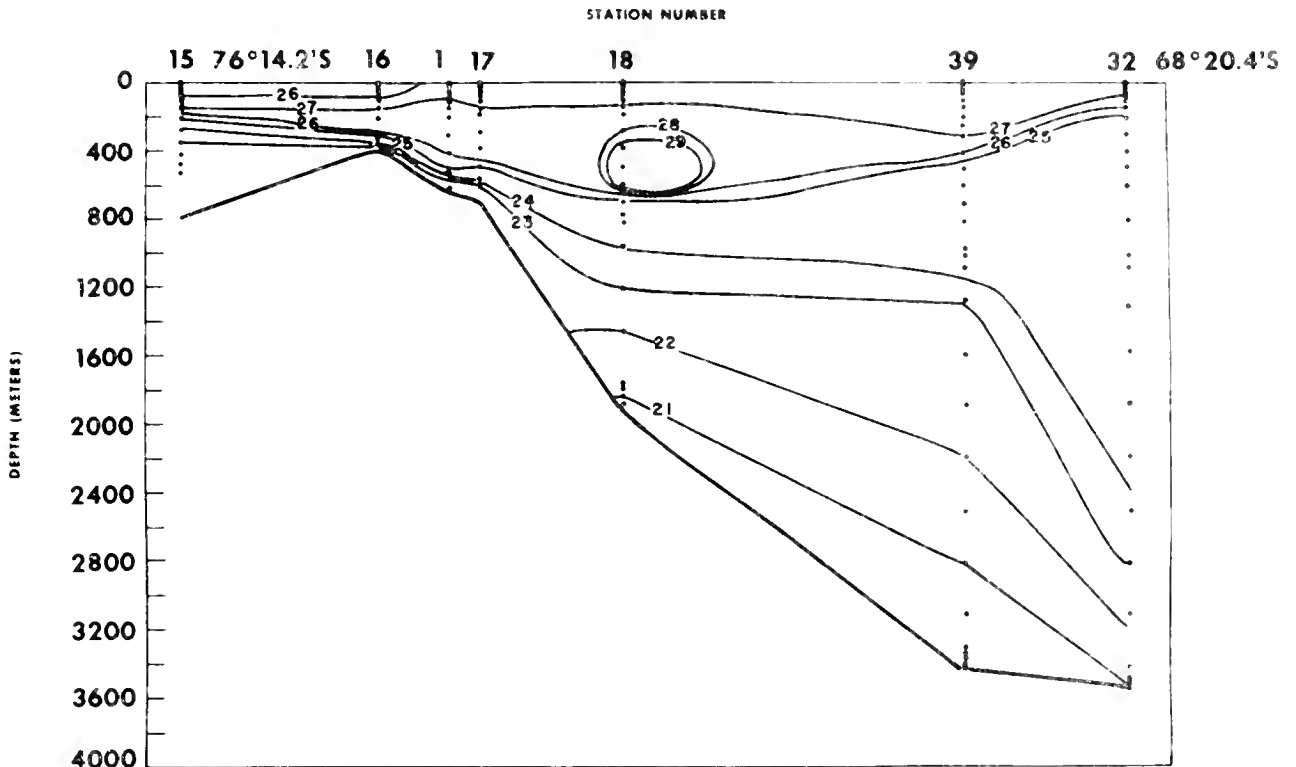


Figure 7. Distribution of nitrate along a section (B) perpendicular to Coats Land (IWSOE '68). Contour interval is  $1 \mu\text{g-at/L}$ .



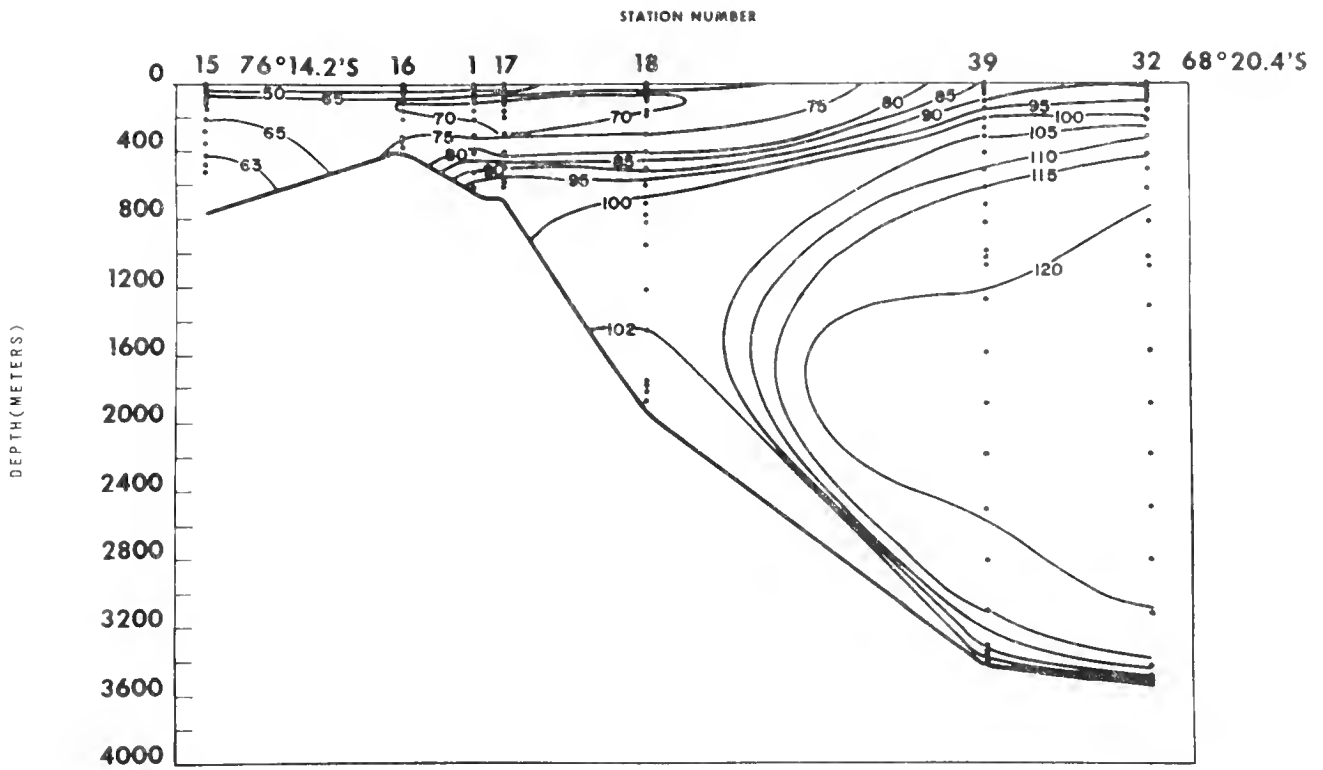


Figure 8. Distribution of silicate along a section (B) perpendicular to Coats Land (IWSOE '68). Contour interval is 5  $\mu\text{g-at/L}$  except for the 102  $\mu\text{g-at/L}$  contour and the area over the shelf.

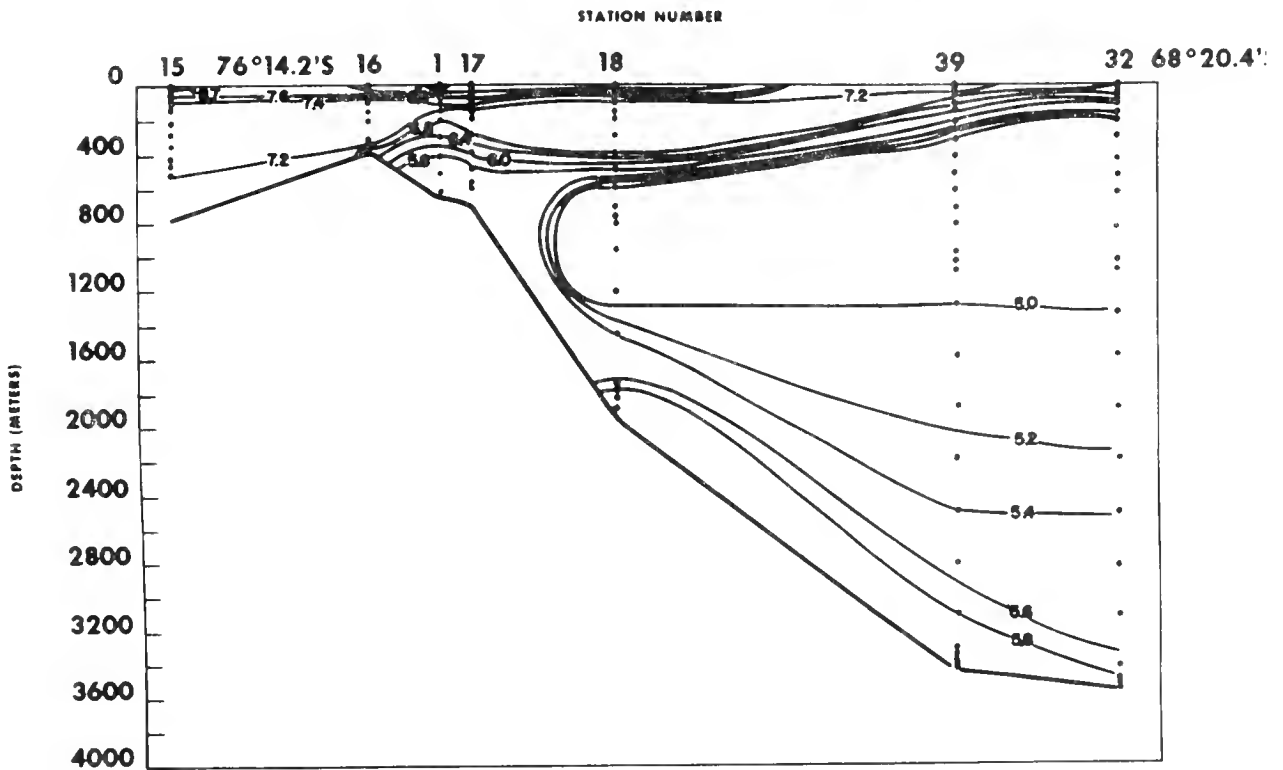


Figure 9. Distribution of dissolved oxygen along a section (B) perpendicular to Coats Land (IWSOE '68). Contour interval is 0.2 ml/l except for the values between 6.0 and 7.2 ml/l when interval is 0.4 ml/l.

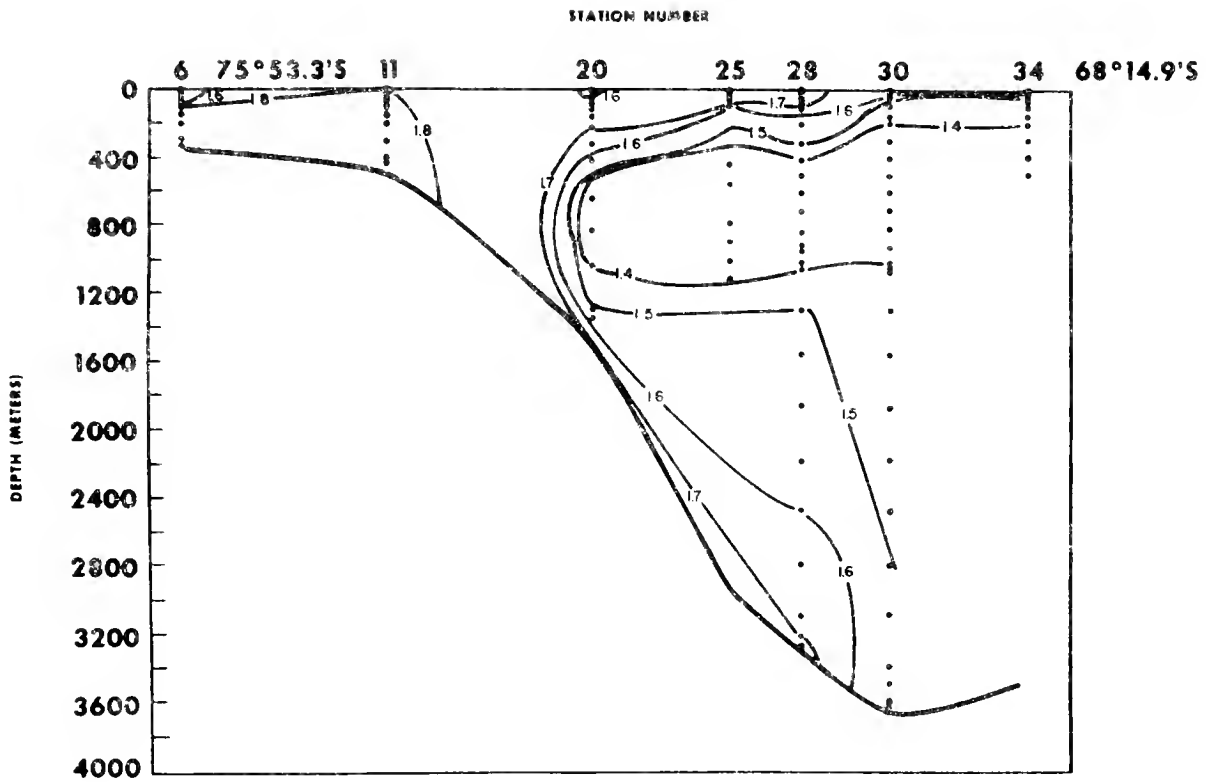


Figure 10. Distribution of preformed phosphate along section (A) perpendicular to the Filchner Ice Shelf (IWSOE '68). Contour interval is  $0.1 \mu\text{g-at/L}$ .

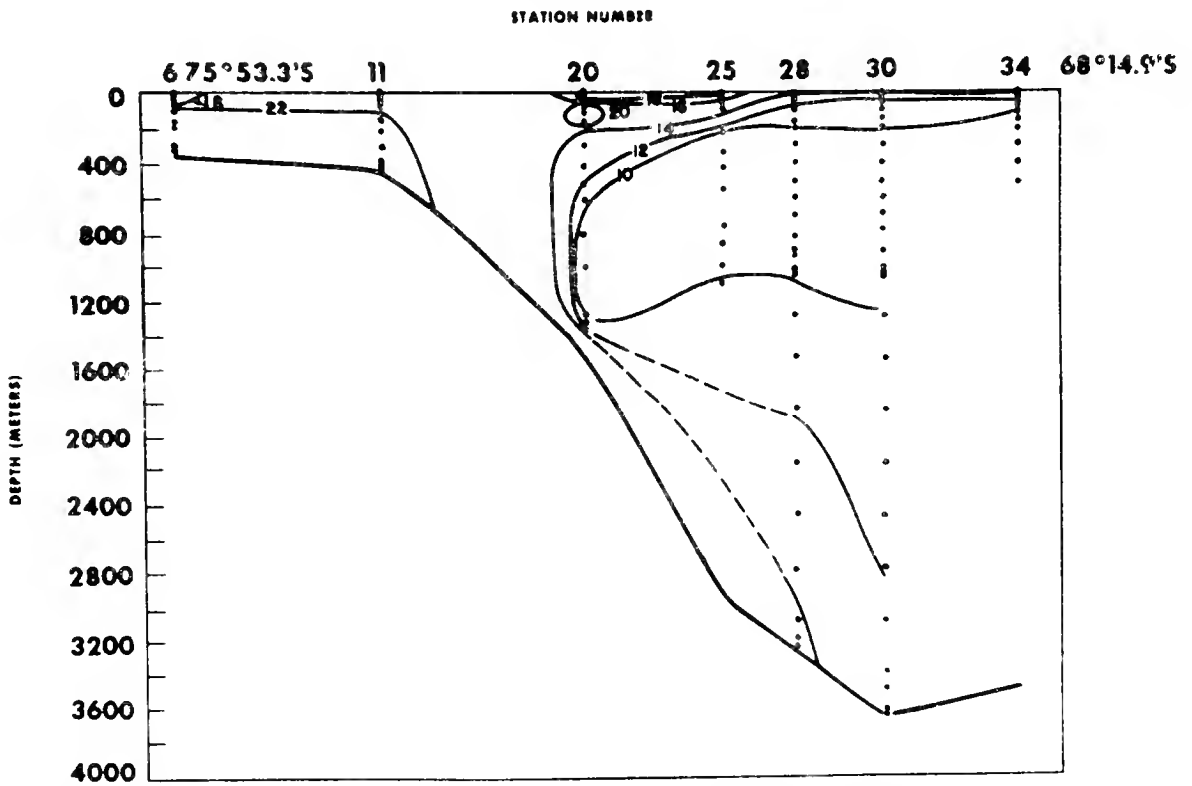


Figure 11. Distribution of preformed nitrate along a section (A) perpendicular to the Filchner Ice Shelf (IWSOE '68). Contour interval is  $2 \mu\text{g-at/L}$ .

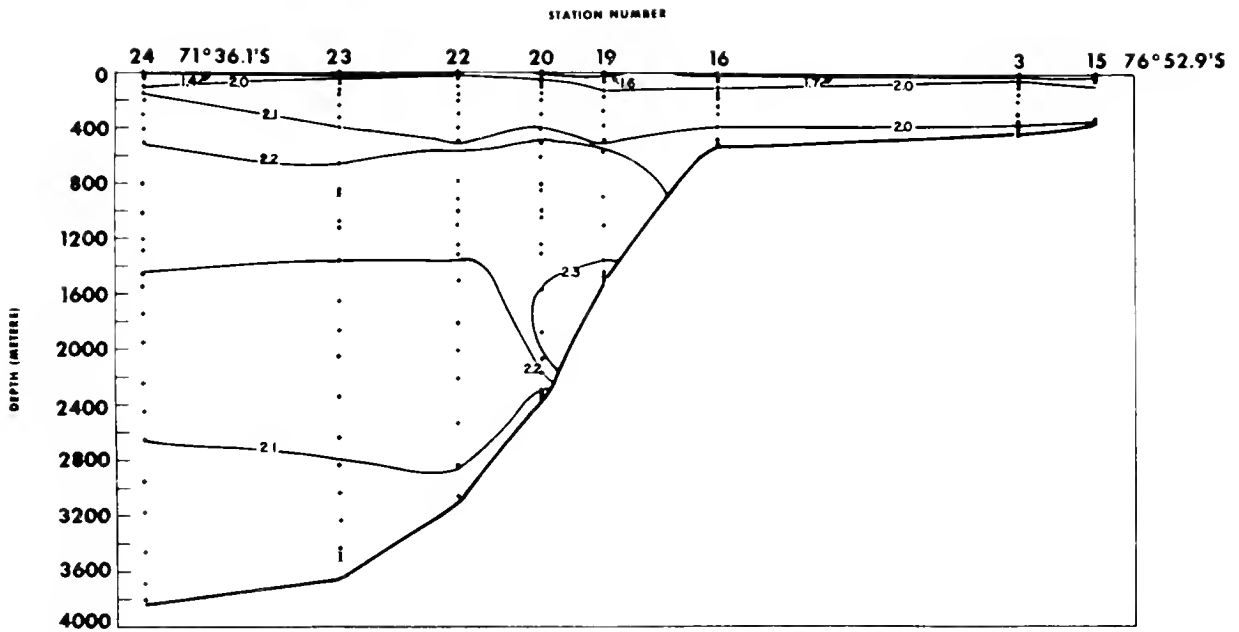


Figure 12. Distribution of inorganic phosphate along a section (C) perpendicular to Coats Land (IWSOE '69). Contour interval is  $0.1 \mu\text{g-at/L}$  except in the near-surface waters where it is irregular.

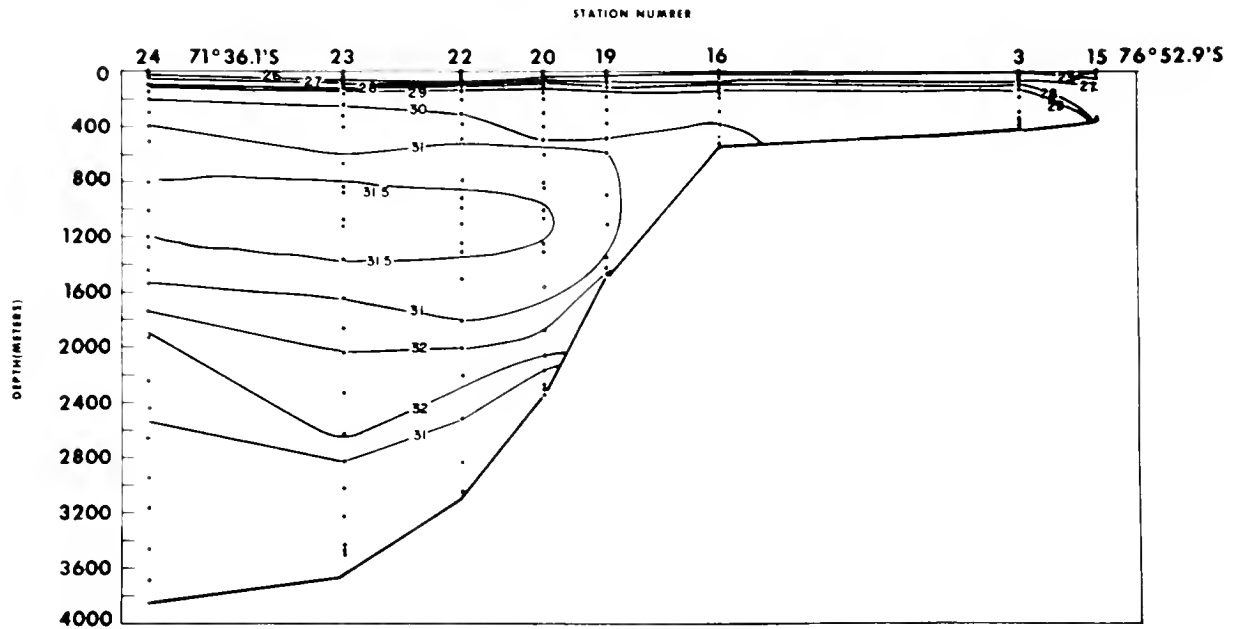


Figure 13. Distribution of nitrate along a section (C) perpendicular to Coats Land (IWSOE '69). Contour interval is  $1 \mu\text{g-at/L}$ .

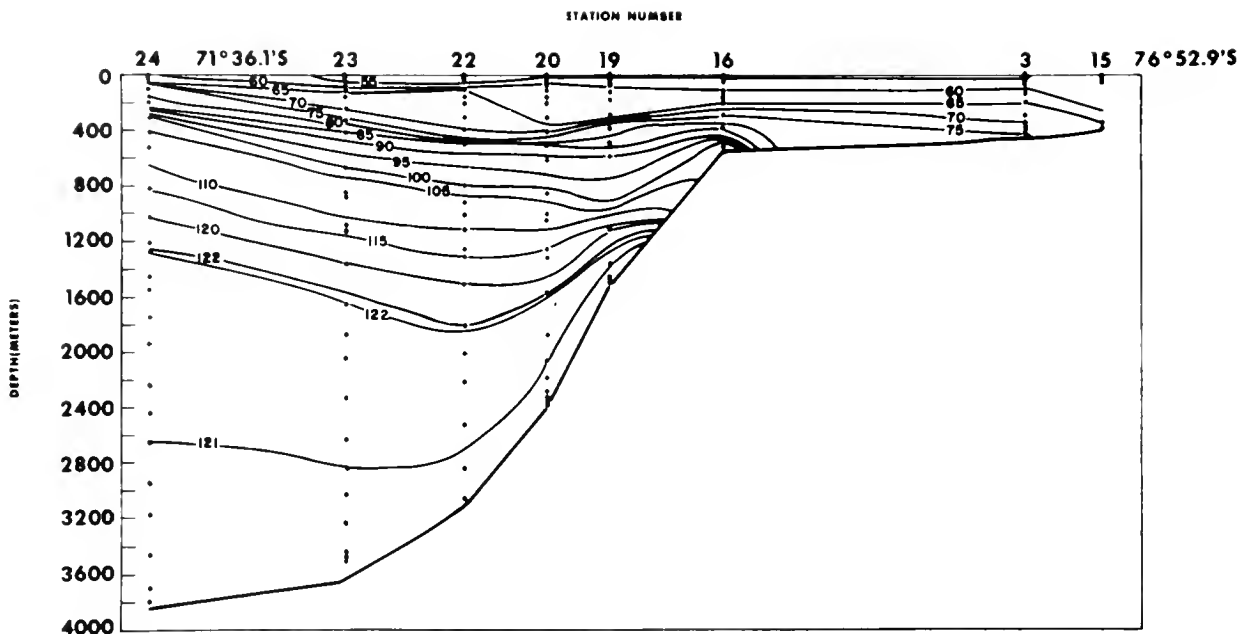


Figure 14. Distribution of silicate along a section (C) perpendicular to Coats Land (IWSOE '69). Contour interval is 5  $\mu\text{g-at/L}$  except between 120 and 122  $\mu\text{g-at/L}$  contours.

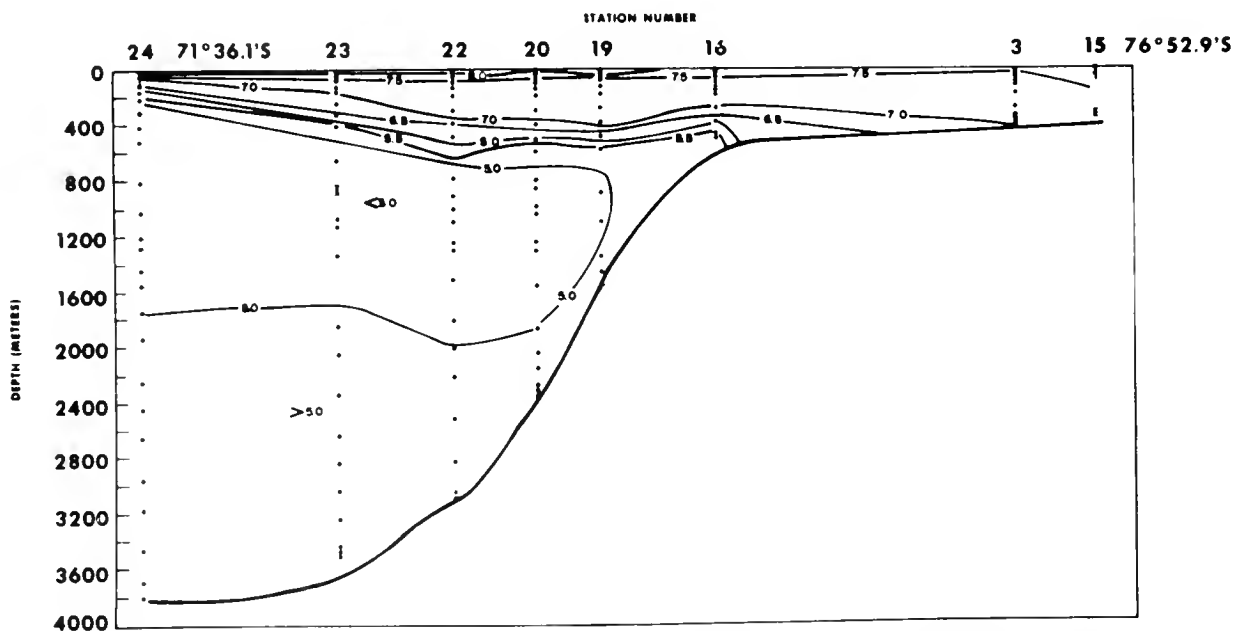


Figure 15. Distribution of dissolved oxygen along section (C) perpendicular to Coats Land (IWSOE '69). Contour interval is 0.5 ml/l.

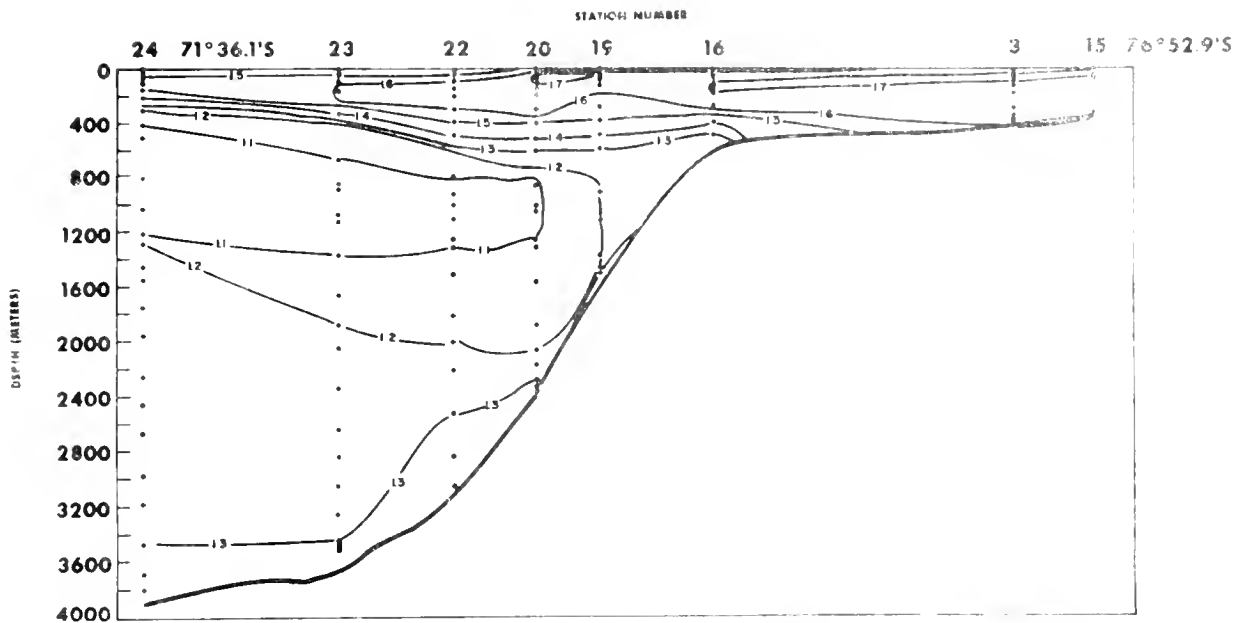


Figure 16. Distribution of preformed phosphate along a section (C) perpendicular to Coats Land (IWSOE '69). Contour interval is  $0.1 \mu\text{g-at/L}$ .

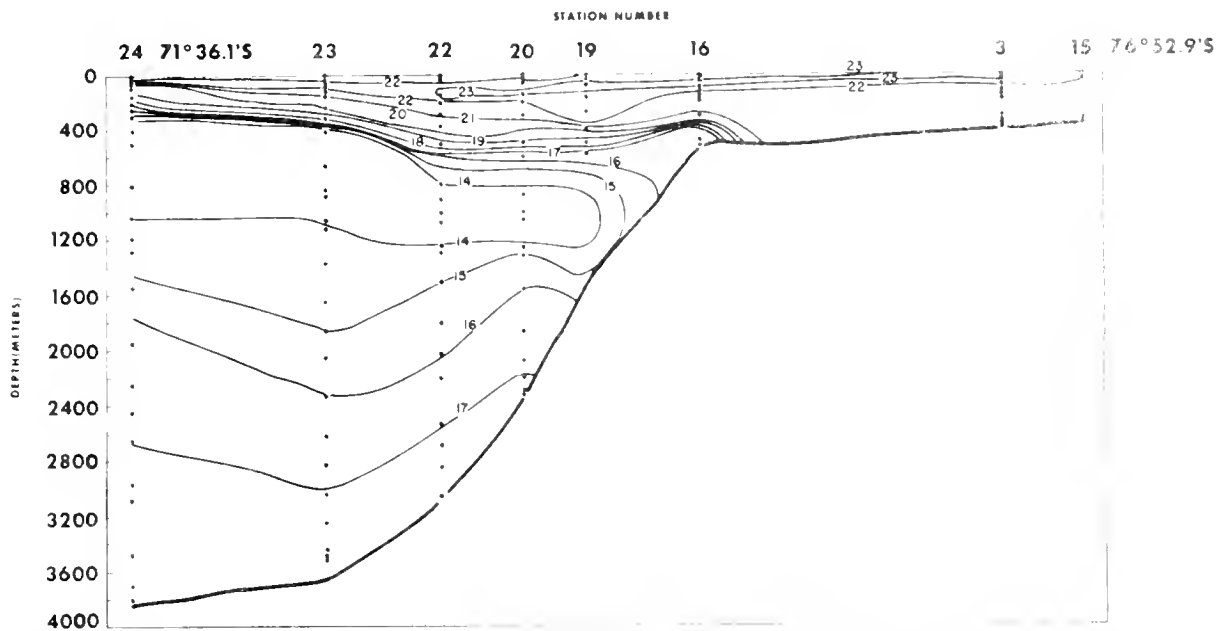


Figure 17. Distribution of preformed nitrate along a section (C) perpendicular to Coats Land (IWSOE '69). Contour is  $1 \mu\text{g-at/L}$ .

# APPENDIX A

## OCEANOGRAPHIC DATA

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

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

Depth to Bottom	Corrected or uncorrected sounding in meters.
Max. Depth of Samples	Depth of deepest sample to nearest multiple of one hundred meters.
Wave observations	
DIR	Rounded to nearest multiple of ten degrees.
HGT	In increments of 1/2 m. Sum of 5 meters plus increments of 1/2 m if 50 is added to direction.
PER	In numerals 2 through 9 are entered, period in seconds is twice the numeric entry or 2X (numeric entry) + 1. For other entries see WMO Code 3155.
SEA	Sea state according to WMO Code 3700.
Weather Code	If preceded by x, weather according to WMO Code 4501. If a two-digit entry, weather according to WMO Code 4677.
Cloud Code	
Type	Cloud type according to WMO Code 0500.
Amount	Cloud amount in eights. Entry of the numeral 9 indicates cloud amount could not be estimated.
Water	
Color Code	Color according to Forel-Ule scale.
Trans	Transparency in whole meters as determined by Secchi disc.
Wind	
Dir	Rounded to nearest multiple of ten degrees.
Speed or Force	If preceded by letter S, wind speed in knots; if preceded by letter F, wind force according to Beaufort scale.
Barometer	Barometric pressure given in tens, units and tenths of millibars.
Air Temp. °C	Air temperature to tenths of a degree centigrade.
Vis. Code	Visibility according to WMO Code 4300.
No obs. depths	Number of observed levels associated with the station.
Messenger time	Entered in hours and tenths of an hour GMT. For Nansen casts, indicates time of release of messenger applicable to the observational level. For STD casts, indicates the starting time of lowering the sensor.
Card type	OBS designates observed levels. STD indicates the values at this standard level were interpolated by a modified 3-point LaGrange formula.
Depth(m)	Depth to nearest meter. A postscript T indicates depth was obtained thermometrically; indicates uncorrected "wire out" depth. Postscript Q indicates value was marked doubtful by originator; P indicates value was considered doubtful by NODC. Postscripts P and Q retain this meaning throughout the following entries.
T °C	Temperature to hundredths of a degree Centigrade.
S ‰	Salinity in parts-per-thousand.
SIGMA-T	Entered to hundredths.

Specific-volume Anomaly - x 10 <sup>7</sup>	.....	Multiply entry by 10 <sup>-7</sup> to obtain specific-volume anomaly in cubic centimeters per gram.
ΣΔD Dyn. M. x 10 <sup>3</sup>	.....	Multiply entry by 10 <sup>-3</sup> 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 <sub>2</sub> ml/l	.....	Dissolved oxygen in millimeters per liter entered to hundredths.
PO <sub>4</sub> - P μg-at/l	.....	Inorganic phosphate in microgram-atoms per liter entered to hundredths.
Total-P μg-at/l	.....	Total phosphorus in microgram-atoms per liter entered to hundredths.
NO <sub>2</sub> -N μg-at/l	.....	Nitrite-nitrogen in microgram-atoms per liter entered to hundredths.
NO <sub>3</sub> -N μg-at/l	.....	Nitrate-nitrogen in microgram-atoms per liter entered to tenths.
SiO <sub>4</sub> -Si μg-at/l	.....	Silicate-silicon in microgram-atoms per liter entered to whole units.
pH	.....	Entered to hundredths.

**Table 1. Observed and interpolated oceanographic data from stations taken by USCGC GLACIER during the 1968 International Weddell Sea Oceanographic Expedition, 6 February to 14 March 1968, prepared from NODC listing No. 31-8037.**

REFERENCE		SHIP CODE	LATITUDE ° 10'	LONGITUDE ° 10'	DEPTH METERS	WATER SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER																									
CRUISE CODE	ID. NO.					10'	10'	MO	DAY		HR.	MIN.			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT																						
318037	GL	740755	039365W	555	02	06	206	1968	001	0640	06	00	0	X	X1	6	6		0001																											
<table border="1"> <thead> <tr> <th colspan="2">WATER</th> <th colspan="2">WIND</th> <th rowspan="2">BARO-METER (mb)</th> <th colspan="2">AIR TEMP. °C</th> <th rowspan="2">VIS CODE</th> <th rowspan="2">NO. OBS DEPTHS</th> <th rowspan="2">SPECIAL OBSERVATIONS</th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. (m)</th> <th>DIR.</th> <th>SPEED (KT)</th> <th>DRY BULB</th> <th>WET BULB</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>946</td> <td>-033</td> <td>7</td> <td>12</td> <td></td> <td></td> </tr> </tbody> </table>																					WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED (KT)	DRY BULB	WET BULB					946	-033	7	12		
WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS																																					
COLOR CODE	TRANS. (m)	DIR.	SPEED (KT)		DRY BULB	WET BULB																																								
				946	-033	7	12																																							
MESSNGR TIME HR. 10/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S. ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D DYN. ML. 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>3</sub> -N μg-at/l	NO <sub>2</sub> -N μg-at/l	SiO <sub>4</sub> -Si μg-at/l	pH	SIC																													
		STD	0000	-0139	3386	2727	0008147	0000	14413	864																																				
	208	OBS	0000	-0139	33864	2727			14413	864	156				224	044	825																													
		STD	0010	-0153	3387	2728	0008034	0008	14408	850																																				
	208	OBS	0010	-0153	33873	2728			14408	850	159				199	045	826																													
		STD	0020	-0148	3405	2743	0006006	0015	14414	827																																				
	208	OBS	0026	-0147	34154	2750			14417	815	176				245	053	825																													
		STD	0030	-0150	3418	2753	0006675	0021	14417	810																																				
		STD	0050	-0162	3429	2762	0004787	0032	14416	782																																				
	208	OBS	0054	-0163	34293	2762			14416	779	188				237	065	826																													
		STD	0075	-0169	3434	2766	0004370	0043	14418	744																																				
	208	OBS	0077	-0170	34347	2767			14418	742	233				255	070	817																													
		STD	0100	-0177	3435	2767	0004257	0054	14418	728																																				
	208	OBS	0103	-0178	34354	2767			14418	726	210				330	068	822																													
		STD	0125	-0174	3436	2768	0004160	0065	14422	720																																				
		STD	0150	-0180	3437	2765	0004066	0075	14425	714																																				
	208	OBS	T0155	-0180	34374	2769			14426	710	204				304	070	830																													
		STD	0200	-0174	3439	2771	0003885	0095	14424	688																																				
	208	OBS	0207	-0176	34397	2771			14426	685	215				245	075	825																													
		STD	0250	-0166	3441	2774	0003744	0114	14449	672																																				
		STD	0300	-0151	3444	2774	0003541	0132	14465	652																																				
	208	OBS	0312	-0147	34445	2774			14469	646	246				339	071	825																													
		STD	0400	-0112	3451	2778	0003121	0166	14501	587																																				
	208	OBS	0416	-0107	34515	2778			14506	582	236				327	083	824																													
		STD	0500	-0105	3457	2783	0002864	0194	14522	595																																				
	208	OBS	T0520	-0084	34573	2782			14532	598	201				315	090	819																													
		STD	0600	-0103	3457	2787	0002642	0221	14539	577																																				
	208	OBS	T0627	-0102	34561	2782			14544	566	249				311	094	830																													

REFERENCE		SHIP CODE	LATITUDE ° 10'	LONGITUDE ° 10'	DEPTH METERS	WATER SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER																									
CRUISE CODE	ID. NO.					10'	10'	MO	DAY		HR.	MIN.			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT																						
318037	GL	745545	046405W	556	08	08	000	1968	002	0544	05	00	0	X	X1	0	3		0002																											
<table border="1"> <thead> <tr> <th colspan="2">WATER</th> <th colspan="2">WIND</th> <th rowspan="2">BARO-METER (mb)</th> <th colspan="2">AIR TEMP. °C</th> <th rowspan="2">VIS CODE</th> <th rowspan="2">NO. OBS DEPTHS</th> <th rowspan="2">SPECIAL OBSERVATIONS</th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. (m)</th> <th>DIR.</th> <th>SPEED (KT)</th> <th>DRY BULB</th> <th>WET BULB</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>959</td> <td>-022</td> <td>7</td> <td>16</td> <td></td> <td></td> </tr> </tbody> </table>																					WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED (KT)	DRY BULB	WET BULB					959	-022	7	16		
WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS																																					
COLOR CODE	TRANS. (m)	DIR.	SPEED (KT)		DRY BULB	WET BULB																																								
				959	-022	7	16																																							
MESSNGR TIME HR. 10/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S. ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D DYN. ML. 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>3</sub> -N μg-at/l	NO <sub>2</sub> -N μg-at/l	SiO <sub>4</sub> -Si μg-at/l	pH	SIC																													
		STD	0000	-0173	3393	2733	0007568	0000	14397																																					
	215	OBS	0000	-0173	33926	2733			14397																																					
		STD	0010	-0159	3420	2754	0005523	0007	14410																																					
		OBS	0010	-0159	34198	2754			14410																																					
		OBS	0016	-0159	34238	2757			14411																																					
		STD	0020	-0166	3437	2768	0004194	0011	14410																																					
		OBS	0020	-0166	34368	2768			14410																																					
		STD	0030	-0170	3441	2772	0003571	0015	14411																																					
		OBS	0030	-0170	34408	2772			14411																																					
		STD	0050	-0165	3446	2775	0003452	0023	14417																																					
		OBS	0050	-0165	34463	2776			14417																																					
		STD	0075	-0166	3452	2780	0003014	0031	14422																																					
		OBS	0075	-0166	34518	2780			14422																																					
		STD	0100	-0172	3452	2781	0002945	0038	14423																																					
		OBS	0100	-0172	34523	2781			14423																																					
		STD	0125	-0165	3454	2782	0002836	0046	14431																																					
		OBS	0125	-0165	34513	2784			14431																																					
		STD	0150	-0172	3455	2782	0002687	0052	14432																																					
		OBS	0150	-0172	34553	2783			14432																																					
		STD	0200	-0174	3457	2785	0002530	0065	14439																																					
		OBS	0200	-0174	34568	2785			14439																																					
		STD	0250	-0175	3458	2786	0002493	0076	14447																																					
		OBS	0250	-0175	34583	2786			14447																																					
		STD	0300	-0174	3461	2783	0002403	0069	14454																																					
		OBS	0300	-0176	34603	2788			14454																																					
		STD	0400	-0183	3462	2789	0001578	0115	14459																																					
		OBS	0400	-0183	34623	2789			14459																																					
		STD	0500	-0182	3468	2794	0001507	0128	14487																																					
		OBS	0500	-0182	34678	2794			14487																																					
		OBS	0544	-0183	34683	2794			14494																																					



REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARSSEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
						10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA				
						10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA				
318037	GL		74559S	048405W		556	48	02	08	044	1968	002	0560	05	00	0	X		X1	7	7		0003
						WATER		WIND		BARO- METER		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE											
									20	S09	967		-039	7	12								

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ D DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	3 C C
		STD	0000	-0169	3397	2736	0007255	0000	14400	786							
044		OBS	0000	-0169	3397	2736			14400	786	191		013	289	066	816	
		STD	0010	-0170	3397	2736	0007246	0007	14401	797							
044		OBS	0010	-0170	3397	2736			14401	797	191		020	303	065	816	
		STD	0020	-0166	3422	2756	0005330	0014	14408	786							
044		OBS	0027	-0165	34349	2767			14412	776	215		012	248	067	816	
		STD	0030	-0166	3436	2768	0004251	0018	14412	769							
		STD	0050	-0169	3442	2773	0003770	0026	14414	733							
044		OBS	0054	-0170	34431	2773			14415	728	227		015	290	072	814	
		STD	0075	-0159	3449	2778	0003248	0035	14424	712							
044		OBS	0080	-0158	34499	2779			14426	708	225		008	297	075	814	
		STD	0100	-0166	3452	2781	0002985	0043	14426	690							
044		OBS	0107	-0168	34529	2781			14426	685	245		041	279	076	810	
		STD	0125	-0168	3454	2782	0002812	0050	14429	680							
		STD	0150	-0168	3455	2783	0002722	0057	14433	673							
044		OBS	T0159	-0168	34556	2784			14435	671	236		007	288	077	807	
		STD	0200	-0172	3457	2785	0002530	0070	14440	661							
044		OBS	0211	-0173	34578	2785			14442	660	233		012	245	077	809	
		STD	0250	-0176	3459	2786	0002337	0082	14447	669							
		STD	0300	-0179	3460	2787	0002223	0094	14454	678							
044		OBS	0314	-0180	34605	2788			14456	680	228		013	304	076	809	
		STD	0400	-0183	3463	2790	0001926	0115	14469	686							
044		OBS	0415	-0183	34632	2790			14472	687	231		024	286	074	808	
044		OBS	0465	-0182	34650	2792			14481	687	226		010	295	076	808	
		STD	0500	-0183	3467	2793	0001564	0132	14486	680							
044		OBS	T0515	-0184	34679	2794			14489	676	227		010	311	082	801	

REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARSSEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER		
						10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA					
						10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA					
318037	GL		75031S	050122W		557	50	02	08	180	1968	003	0503	05	00	0	X		X1	0	3		0004	
						WATER		WIND		BARO- METER		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE												
									01	S13	S11	014		-020	7	16								

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ D DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	3 C C
		STD	0000	-0162	3400	2738	0007057	0000	14404								
187		OBS	0000	-0162	33998	2738			14404								
		STD	0010	-0163	3438	2769	0004131	0006	14410								
		OBS	0010	-0163	34378	2769			14410								
		STD	0020	-0173	3445	2775	0003524	0009	14408								
		OBS	0020	-0173	34453	2775			14408								
		STD	0030	-0178	3448	2778	0003275	0013	14408								
		OBS	0030	-0178	34483	2778			14408								
		OBS	0032	-0172	34488	2778			14411								
		STD	0050	-0174	3451	2780	0003044	0019	14414								
		OBS	0050	-0174	34513	2780			14414								
		STD	0075	-0174	3453	2782	0002876	0027	14418								
		OBS	0075	-0174	34533	2782			14418								
		STD	0100	-0174	3455	2783	0002747	0034	14422								
		OBS	0100	-0174	34548	2783			14422								
		STD	0125	-0179	3456	2784	0002643	0040	14424								
		OBS	0125	-0179	34558	2784			14424								
		STD	0150	-0181	3457	2785	0002546	0047	14428								
		OBS	0150	-0181	34568	2785			14428								
		OBS	0184	-0185	34578	2786			14431								
		STD	0200	-0183	3458	2786	0002397	0059	14435								
		OBS	0200	-0183	34583	2786			14435								
		STD	0250	-0187	3460	2787	0002241	0071	14442								
		OBS	0250	-0187	34598	2787			14442								
		STD	0300	-0185	3462	2789	0002066	0082	14451								
		OBS	0300	-0185	34618	2789			14451								
		STD	0400	-0186	3465	2791	0001777	0101	14468								
		OBS	0400	-0186	34648	2791			14468								
		OBS	0458	-0186	34658	2792			14478								

REFERENCE CTRY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH IN METERS	W/RSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEATH- ER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
					10'	1'	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	75320S	054260W	557	54	02	09	030	1968	004		0476	04	00	0	X		X1	03	0005
					WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	VIS CODE									
					DT	SD	20	506	005	-065	7	20								

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	3 CON
		STD	0000	-0153	3386	2727	0008155	0000	14406								
022		OBS	0000	-0153	33858	2727			14406								
		OBS	0007	-0138	34298	2762			14420								
		STD	0010	-0161	3434	2766	0004443	0006	14411								
001		OBS	0010	-0161	34338	2766			14411								
		OBS	0016	-0169	34368	2768			14408								
		STD	0020	-0172	3439	2770	0004026	0011	14408								
		OBS	0020	-0172	34388	2770			14408								
		STD	0030	-0180	3441	2772	0003846	0014	14406								
		OBS	0030	-0180	34408	2772			14406								
		OBS	0032	-0181	34408	2772			14406								
		OBS	0040	-0182	34418	2773			14407								
		STD	0050	-0181	3442	2773	0003747	0022	14409								
		OBS	0050	-0181	34419	2773			14409								
		STD	0075	-0179	3444	2774	0003576	0031	14414								
		OBS	0075	-0179	34440	2774			14414								
		OBS	0080	-0179	34440	2774			14415								
		STD	0100	-0178	3446	2776	0003426	0040	14419								
		OBS	0100	-0178	34458	2776			14419								
		STD	0125	-0175	3447	2777	0003343	0048	14425								
		OBS	0125	-0175	34468	2777			14425								
		STD	0150	-0174	3450	2779	0003095	0056	14430								
		OBS	0150	-0174	34499	2779			14430								
		STD	0200	-0175	3454	2782	0002773	0071	14438								
		OBS	0200	-0175	34537	2782			14438								
		STD	0250	-0178	3456	2784	0002567	0084	14446								
		OBS	0250	-0178	34559	2784			14446								
		STD	0300	-0188	3460	2787	0002209	0096	14450								
		OBS	0300	-0188	34598	2787			14450								
		OBS	0320	-0191	34608	2788			14452								
		OBS	0360	-0189	34618	2789			14459								
		OBS	0392	-0191	34628	2790			14464								

REFERENCE CTRY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH IN METERS	W/RSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEATH- ER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
					10'	1'	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	76002S	056459W	557	66	02	09	150	1968	005		0450	04	00	0	X		X1	03	0006
					WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	VIS CODE									
					DT	SD	22	513	017	-110	7	14								

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	3 CON
		STD	0000	-0152													
147		OBS	0000	-0152													
		STD	0010	-0183	3431	2764	0004619		14400								
		OBS	0010	-0183	34308	2764			14400								
		STD	0020	-0185	3436	2768	0004186		14401								
		OBS	0020	-0185	34363	2768			14401								
		STD	0030	-0186	3438	2770	0004024		14403								
		OBS	0030	-0186	34383	2770			14403								
		STD	0050	-0185	3440	2772	0003860		14407								
		OBS	0050	-0185	34403	2772			14407								
		STD	0075	-0183	3443	2774	0003658		14412								
		OBS	0075	-0183	34428	2774			14412								
		STD	0100	-0183	3444	2774	0003566		14417								
		OBS	0100	-0183	34438	2774			14417								
		STD	0125	-0185	3444	2775	0003507		14420								
		OBS	0125	-0185	34443	2775			14420								
		STD	0150	-0184	3446	2776	0003342		14425								
		OBS	0150	-0184	34463	2776			14425								
		STD	0200	-0176	3453	2782	0002800		14438								
		OBS	0200	-0176	34533	2782			14438								
		STD	0250	-0173	3456	2784	0002553		14448								
		OBS	0250	-0173	34563	2784			14448								
		STD	0300	-0172	3460	2787	0002223		14457								
		OBS	0300	-0172	34603	2787			14457								
		STD	0400	-0183	3465	2791	0001787		14469								
		OBS	0400	-0183	34648	2791			14469								
		OBS	0418	-0186	34678	2794			14471								

REFERENCE CITY NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MUNROEN SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES (TYPE) (AMT)	NODC STATION NUMBER		
					10"	1"	M/D	DAY	HR./10		CRUISE NO.	STATION NUMBER			WAVE DIR.	HGT. PER SEA	PER SEA					
318037	GL	76002S	056457W	557	66	02	09	180	1968		005	0450	04	00	0	X		X1	3	7	0007	
					WAVE		WIND		BARO-			AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (M)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DRY BULB	WET BULB	WIS CODE										
							24	S10	015		-090	7	11									

MESSAGE# TIME OF HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \theta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \text{at/l}$	pH	SIC
		STD	0000	-0167	3394	2734	0007467	0000	14401	911							
171		OBS	0000	-0167	3394.3	2734			14401	911	12.7		030	144	056	837	
		STD	0010	-0153	3401	2739	0006990	0007	14410	944							
171		OBS	0010	-0153	3400.9	2739			14410	944	146		016	164	057	840	
		STD	0020	-0154	3413	2749	0006053	0014	14413	904							
171		OBS	0025	-0155	3417.6	2752			14414	886	181		014	198	060	830	
		STD	0030	-0159	3422	2756	0005343	0019	14413	873							
		STD	0050	-0171	3435	2767	0004302	0029	14413	826							
171		OBS	0051	-0172	3436.0	2768			14412	824	202		017	258	068	821	
		STD	0075	-0182	3443	2774	0003645	0039	14413	785							
171		OBS	0077	-0183	3443.7	2774			14413	781	223		014	293	071	815	
		STD	0100	-0186	3444	2775	0003544	0048	14415	718							
171		OBS	0102	-0186	3444.0	2775			14415	714	235		022	291	072	819	
		STD	0125	-0185	3445	2775	0003493	0057	14420	713							
		STD	0150	-0183	3445	2775	0003444	0065	14425	712							
171		OBS	T0154	-0183	3445.1	2775			14426	712	258		015	289	072	815	
		STD	0200	-0176	3446	2776	0003359	0082	14437	721							
171		OBS	0206	-0175	3446.2	2776			14438	722	227		013	290	073	816	
		STD	0250	-0173	3449	2778	0003109	0099	14447	694							
		STD	0300	-0171	3453	2781	0002783	0113	14457	677							
171		OBS	T0308	-0171	3453.4	2782			14458	676	231		030	313	075	816	
		STD	0400	-0181	3466	2792	0001703	0136	14471	695							
171		OBS	T0414	-0183	3467.4	2793			14472	698	220		009	300	074	815	
171		OBS	T0443	-0188	3469.4	2795			14475	688	225		012	290	073	820	

REFERENCE CITY NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MUNROEN SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES (TYPE) (AMT)	NODC STATION NUMBER		
					10"	1"	M/D	DAY	HR./10		CRUISE NO.	STATION NUMBER			WAVE DIR.	HGT. PER SEA	PER SEA					
318037	GL	75533S	057239W	557	57	02	10	030	1968		006	0300	03	00	0	X		X1	0	3	0008	
					WAVE		WIND		BARO-			AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (M)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DRY BULB	WET BULB	WIS CODE										
							07	S0	18	S10	015		-110	7	14							

MESSAGE# TIME OF HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \theta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \text{at/l}$	pH	SIC
		STD	0000	-0184	3384	2726	0008236	0000	14391								
023		OBS	0000	-0184	3383.8	2726			14391								
		STD	0010	-0171	3425	2759	0005109	0007	14405								
		OBS	0010	-0171	3424.8	2759			14405								
003		OBS	0012	-0146	3424.8	2758			14417								
		STD	0020	-0159	3428	2761	0004904	0012	14412								
		OBS	0020	-0159	3427.8	2761			14412								
		STD	0030	-0174	3434	2766	0004398	0016	14408								
		OBS	0030	-0174	3433.8	2766			14408								
		STD	0050	-0180	3439	2770	0003988	0025	14409								
		OBS	0050	-0180	3438.8	2770			14409								
		STD	0075	-0181	3442	2773	0003748	0034	14413								
		OBS	0075	-0181	3441.7	2773			14413								
		STD	0100	-0183	3446	2776	0003413	0043	14417								
		OBS	0100	-0183	3445.8	2776			14417								
		STD	0125	-0188	3447	2777	0003308	0052	14419								
		OBS	0125	-0188	3446.8	2777			14419								
		STD	0150	-0199	3450	2780	0002995	0060	14418								
		OBS	0150	-0199	3450.3	2780			14418								
		STD	0200	-0212	3457	2786	0002432	0073	14421								
		OBS	0200	-0212	3456.8	2786			14421								
		STD	0250	-0213	3458	2786	0002312	0085	14429								
		OBS	0250	-0213	3457.9	2786			14429								
		STD	0300		3459												
		OBS	0300		3458.8												
		OBS	0340		3459.7												

REFERENCE CITY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
					10"	1'	MO DAY HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA
318037	GL	75533S	057239W	557	57	02	10	030	1968	006	0360	03	00	0	X	X1	7	16	0009

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		18	S10	015	-110	7	10		

MESSNGR TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-t	SPECIFIC VOLUME ANOMALY- $\sigma_t$	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S C C
		STD	0000	-0174	3383	2725	0008296	0000	14396	957							
		OBS	0000	-0174	33833	2725			14396	957	111			108	053	837	
		STD	0010	-0175	3383	2725	0008295	0008	14397	993							
		OBS	0010	-0175	33832	2725			14397	993	111			107	053	839	
		STD	0020	-0170	3384	2725	0008238	0017	14401	986							
		OBS	0025	-0168	33871	2728			14403	982	123			115	053	839	
		STD	0030	-0168	3401	2739	0006931	0024	14406	923							
		STD	0050	-0170	3437	2768	0004182	0035	14413	766							
		OBS	0050	-0170	34366	2768			14413	766	215			265	068	813	
		OBS	0074	-0181	34423	2773			14413	747	227			285	070	811	
		STD	0075	-0181	3443	2774	0003648	0045	14413	745							
		OBS	0099	-0184	34467	2777			14416	714	215			290	071	811	
		STD	0100	-0184	3447	2777	0003318	0054	14416	714							
		STD	0125	-0188	3449	2779	0003139	0062	14419	715							
		OBS	0149	-0190	34512	2781			14422	715	236			291	071	809	
		STD	0150	-0190	3451	2781	0002943	0069	14423	715							
		OBS	0198	-0191	34558	2784			14431	724	224			295	067	811	
		STD	0200	-0192	3456	2784	0002547	0083	14431	724							
		STD	0250	-0209	3458	2786	0002315	0095	14431	713							
		OBS	T0295	-0214	34615	2789			14437	703	230			306	069	810	
		STD	0300	-0214	3462	2790	0001963	0106	14438	704							
		OBS	T0319	-0213	34637	2791			14442	712	231			301	071	808	

REFERENCE CITY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
					10"	1'	MO DAY HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA
318037	GL	75445S	057479W	557	57	02	10	060	1968	007	0433	04	00	0	X	X1	0	3	0010

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		DT	SD 15	015	-109	7	14		

MESSNGR TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-t	SPECIFIC VOLUME ANOMALY- $\sigma_t$	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S C C
		STD	0000	-0172	3386	2727	0008070	0000	14397								
		OBS	0000	-0172	33863	2727			14397								
		STD	0010	-0172	3387	2728	0008025	0008	14399								
		OBS	0010	-0172	33868	2728			14399								
		OBS	0016	-0146	34138	2749			14416								
		STD	0020	-0161	3428	2761	0004898	0015	14411								
		OBS	0020	-0161	34278	2761			14411								
		STD	0030	-0168	3438	2769	0004068	0019	14411								
		OBS	0030	-0168	34383	2769			14411								
		STD	0050	-0178	3443	2774	0003647	0027	14411								
		OBS	0050	-0178	34433	2774			14411								
		STD	0075	-0183	3449	2779	0003159	0035	14413								
		OBS	0075	-0183	34493	2779			14413								
		STD	0100	-0184	3450	2780	0003065	0043	14417								
		OBS	0100	-0184	34503	2780			14417								
		STD	0125	-0188	3453	2782	0002848	0050	14420								
		OBS	0125	-0188	34528	2782			14420								
		STD	0150	-0188	3454	2783	0002756	0057	14424								
		OBS	0150	-0188	34538	2783			14424								
		STD	0200	-0192	3455	2783	0002639	0071	14430								
		OBS	0200	-0192	34548	2783			14430								
		STD	0250	-0194	3456	2785	0002488	0084	14438								
		OBS	0250	-0194	34563	2785			14438								
		STD	0300	-0200	3458	2786	0002286	0096	14444								
		OBS	0300	-0200	34583	2786			14444								
		OBS	0388	-0198	34613	2789			14460								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SPLS	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	HODC STATION NUMBER	
CITY CODE	ID. NO.					10'	1'	MO	DAY	HR		1/10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	754455	057479W	557	57	02	10	060	1968		007	0400	04	00	0	X	X1	67	0011			
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbars)	DRY BULB	WET BULB	7	11										
				DT	SD	19	S29	074	-109		7	11										

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME AND MLT-210°	Σ Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg · ml <sup>-1</sup>	TOTAL-P μg · ml <sup>-1</sup>	NO <sub>2</sub> -N μg · ml <sup>-1</sup>	NO <sub>3</sub> -N μg · ml <sup>-1</sup>	SiO <sub>4</sub> -S μg · ml <sup>-1</sup>	pH	S C C
		STD	0000	-0166	3394	2733	0007531	0000	14401	976							
	073	OBS	0000	-0166	33935	2733			14401	976	104		016	088	054	841	
		STD	0010	-0165	3394	2733	0007520	0008	14403	980							
	073	OBS	0010	-0165	33936	2733			14403	980	104		015	081	051	843	
		STD	0020	-0165	3394	2733	0007506	0015	14405	977							
	073	OBS	0026	-0165	33937	2733			14406	975	117		012	074	051	843	
		STD	0030	-0164	3400	2738	0007019	0022	14408	966							
	073	OBS	0050	-0156	3426	2759	0005034	0034	14419	834							
		STD	0052	-0155	34280	2761			14420	825	189		011	223	070	823	
	073	OBS	0075	-0166	3438	2769	0004071	0046	14420	766							
		STD	0078	-0167	34389	2770			14420	760	211		006	258	069	820	
	073	OBS	0100	-0178	3448	2778	0003258	0055	14419	728							
		STD	0104	-0179	34489	2778			14420	723	220		012	292	073	811	
	073	OBS	0125	-0182	3452	2781	0002926	0063	14422	706							
		STD	0150	-0184	3455	2783	0002676	0070	14426	694							
	073	OBS	0156	-0185	34560	2784			14427	692	227		010	324	077	810	
		STD	0200	-0189	3458	2786	0002402	0082	14432	698							
	073	OBS	0207	-0190	34586	2787			14433	699	222		010	300	075	810	
		STD	0250	-0193	3460	2788	0002207	0094	14439	699							
	073	OBS	0310	-0198	34619	2789			14447	699	225		006	306	073	809	
	073	OBS	0354	-0197	34625	2790			14455	701	219		010	303	078	807	
	073	OBS	0394	-0199	34636	2791			14461	695	234		025	330	074	806	

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SPLS	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	HODC STATION NUMBER	
CITY CODE	ID. NO.					10'	1'	MO	DAY	HR		1/10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	73310S	060034W	558	30	02	11	090	1968		009	0603	05	00	0	X	X1	03	0012			
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbars)	DRY BULB	WET BULB	7	14										
				DT	SD	19	S29	074	-08P		7	14										

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME AND MLT-210°	Σ Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg · ml <sup>-1</sup>	TOTAL-P μg · ml <sup>-1</sup>	NO <sub>2</sub> -N μg · ml <sup>-1</sup>	NO <sub>3</sub> -N μg · ml <sup>-1</sup>	SiO <sub>4</sub> -S μg · ml <sup>-1</sup>	pH	S C C
		STD	0000	-0193	3400	2739	0006986	0000	14389								
	089	OBS	0000	-0193	33998	2739			14389								
		STD	0010	-0190	3425	2759	0005026	0006	14396								
		OBS	0010	-0190	34253	2759			14396								
		STD	0020	-0191	3429	2762	0004748	0011	14397								
		OBS	0020	-0191	34288	2762			14397								
		STD	0030	-0191	3433	2766	0004434	0015	14400								
		OBS	0030	-0191	34328	2766			14400								
		STD	0050	-0190	3437	2769	0004078	0024	14404								
		OBS	0050	-0190	34373	2769			14404								
		STD	0075	-0190	3441	2772	0003756	0034	14409								
		OBS	0075	-0190	34413	2772			14409								
		STD	0100	-0190	3444	2775	0003510	0043	14413								
		OBS	0100	-0190	34443	2775			14413								
		STD	0125	-0190	3446	2777	0003341	0051	14418								
		OBS	0125	-0190	34463	2777			14418								
		STD	0150	-0190	3450	2780	0003019	0059	14422								
		OBS	0150	-0190	34503	2780			14422								
		STD	0200	-0190	3455	2784	0002606	0073	14431								
		OBS	0200	-0190	34553	2784			14431								
		STD	0250	-0192	3467	2793	0001691	0084	14440								
		OBS	0250	-0192	34668	2793			14440								
		STD	0300	-0193	3472	2798	0001238	0092	14449								
		OBS	0300	-0193	34723	2798			14449								
		STD	0400	-0193	3479	2803	0000685	0101	14467								
		OBS	0400	-0193	34788	2803			14467								
		OBS	0456	-0192	34803	2804			14477								

REFERENCE CITY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
					10'	1'	N/O		MO	DAY			HR./10	CRUISE NO.	STATION NUMBER				DIR.
318037	GL	74229S	059534W	557 49	02	11	18U	1968		010	0604	05	00	0	X		X1	03	0013
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
		COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB											
		DT	SD	21	S08	075			-085	7	18								

MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C C
185		STD	0000	-0191	3450	2779	0003147	0000	14397								
		OBS	0000	-0191	34498	2779			14397								
		STD	0010	-0191	3450	2779	0003141	0003	14399								
		OBS	0010	-0191	34498	2779			14399								
		STD	0020	-0191	3451	2780	0003066	0006	14400								
		OBS	0020	-0191	34507	2780			14400								
		OBS	0025	-0191	34509	2780			14401								
		STD	0030	-0191	3451	2780	0003044	0009	14402								
		OBS	0030	-0191	34509	2780			14402								
		OBS	0040	-0191	34511	2780			14404								
		STD	0050	-0190	3452	2781	0002981	0015	14406								
		OBS	0050	-0190	34516	2781			14406								
		STD	0075	-0188	3461	2788	0002265	0022	14412								
		OBS	0075	-0188	34608	2788			14412								
		STD	0100	-0190	3468	2794	0001700	0027	14417								
		OBS	0100	-0190	34679	2794			14417								
		STD	0125	-0191	3471	2797	0001453	0031	14421								
		OBS	0125	-0191	34709	2797			14421								
		STD	0150	-0191	3473	2796	0001278	0034	14425								
		OBS	0150	-0191	34730	2796			14425								
		STD	0200	-0191	3477	2801	0000958	0040	14434								
		OBS	0200	-0191	34768	2801			14434								
		STD	0250	-0191	3479	2803	0000769	0044	14443								
		OBS	0250	-0191	34789	2803			14443								
		STD	0300	-0191	3480	2804	0000657	0048	14451								
		OBS	0300	-0191	34800	2804			14451								
		STD	0400	-0191	3483	2806	0000395	0053	14468								
		OBS	0400	-0191	34827	2806			14468								
		OBS	0480	-0191	34838	2807			14482								
		STD	0500	-0191	3484	2807	0000256	0056	14485								
		OBS	0500	-0191	34838	2807			14485								
		OBS	0542	-0191	34838	2807			14492								

REFERENCE CITY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
					10'	1'	N/O		MO	DAY			HR./10	CRUISE NO.	STATION NUMBER				DIR.
318037	GL	74229S	059534W	557 49	02	11	18U	1968		010	0604	06	00	0	X		X1	67	0014
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
		COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB											
				21	S08	075			-085	7	13								

MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C C
176		STD	0000	-0186	3458	2786	0002498	0000	14401	789							
		OBS	0000	-0186	34584	2786			14401	789	202		027	249	068	830	
		STD	0010	-0188	3458	2786	0002503	0003	14401	791							
176		OBS	0010	-0188	34582	2786			14401	791	200		048	270	067	823	
		STD	0020	-0189	3458	2786	0002503	0005	14403	792							
176		OBS	0026	-0189	34580	2786			14403	792	211		005	308	068	826	
		STD	0030	-0189	3458	2786	0002504	0008	14404	796							
		STD	0050	-0189	3458	2786	0002484	0012	14407	813							
176		OBS	0052	-0189	34581	2786			14408	815	199		005	255	068	825	
		STD	0075	-0188	3458	2786	0002464	0019	14412	795							
176		OBS	0077	-0188	34582	2786			14412	792	201		007	261	068	823	
		STD	0100	-0191	3470	2796	0001537	0024	14417	728							
176		OBS	0103	-0191	34706	2796			14417	722	224		008	310	071	821	
		STD	0125	-0191	3473	2798	0001292	0027	14421	714							
		STD	0150	-0191	3475	2800	0001124	0030	14425	707							
176		OBS	0156	-0191	34756	2800			14427	706	233		005	308	071	818	
		STD	0200	-0191	3478	2802	0000897	0035	14434	700							
176		OBS	0206	-0191	34779	2802			14435	699	229		003	316	072	809	
		STD	0250	-0191	3480	2804	0000684	0039	14443	700							
		STD	0300	-0192	3482	2806	0000501	0042	14451	701							
176		OBS	0307	-0192	34822	2806			14452	701	226		002	304	072	815	
		STD	0400	-0190	3481	2805	0000527	0047	14468	706							
176		OBS	0411	-0190	3486P	2809P			706	235			002	300	073	811	
		STD	0500	-0189	3480	2804	0000583	0053	14485	710							
176		OBS	0514	-0189	34794	2803			14488	710	224		032	330	072	809	
176		OBS	0540	-0189	34817	2805			14492	708	219		008	278	071	819	
176		OBS	0566	-0190	34817	2805			14496	686	224		009	354	068	820	

REFERENCE CROSS ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDICIA	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S			DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODE	NODC STATION NUMBER		
					10'	1"	MO	DAY	HR.		1/10	CRUISE NO.	STATION NUMBER			DRIP	HGT	PER				SEA	
					10'	1"	MO	DAY	HR.		1/10	CRUISE NO.	STATION NUMBER			DRIP	HGT	PER				SEA	
318037	GL	74010S	054455W	557	44	02	12	120	1968		011		0459	04	00	0	X		X1	6	7	0015	
		WATER		WIND		BARO- METER		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS										
		COLOR CODE		TRANS M		DIR		SPEED OR FORCE		BARO- METER (mb)		DRY BULB		WET BULB		VIS CODE							
								00		500		022		-043		17						11	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANGMALT-30°	$\frac{\Delta \sigma}{\sigma}$ DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg-at/l	TOTAL-P µg-at/l	NO <sub>2</sub> -N µg-at/l	NO <sub>3</sub> -N µg-at/l	SiO <sub>4</sub> -Si µg-at/l	pH	STATION NO.
		STD	0000	-0178	3428	2761	0004860	0000	14400	722							
129		OBS	0000	-0178	34279	2761			14400	722	222			287	070	811	
		STD	0010	-0178	3427	2761	0004900	0005	14402	734							
129		OBS	0010	-0178	34273	2761			14402	734	228		011	284	070	804	
		STD	0020	-0168	3443	2773	0003713	0004	14410	733							
129		OBS	0020	-0163	34500	2779			14415	732	242		005	312	072	807	
		STD	0030	-0161	3451	2780	0003114	0013	14417	714							
		STD	0050	-0148	3457	2784	0002680	0018	14427	657							
129		OBS	0050	-0147	34573	2784			14427	654	242		005	323	080	807	
		STD	0075	-0173	3451	2788	0002289	0025	14420	666							
129		OBS	0075	-0175	34516	2789			14419	669	245		005	313	078	804	
		STD	0100	-0182	3465	2792	0001944	0030	14420	704							
129		OBS	0100	-0183	34651	2792			14420	708	237		004	309	070	808	
		STD	0125	-0185	3466	2792	0001844	0035	14423	699							
		STD	0150	-0188	3466	2792	0001321	0039	14425	693							
129		OBS	0150	-0189	34666	2792			14426	692	245		004	309	072	807	
		STD	0200	-0188	3467	2793	0001716	0048	14434	695							
129		OBS	0200	-0188	34675	2794			14435	695	243		017	321	071	802	
		STD	0250	-0188	3468	2794	0001618	0056	14442	694							
		STD	0300	-0189	3468	2794	0001557	0064	14450	693							
129		OBS	0310	-0189	34684	2794			14452	693	237		006	326	072	808	
		STD	0400	-0194	3475	2800	0000971	0077	14466	713							
129		OBS	0410	-0195	34770	2800			14468	717	236		000	288	070	811	
129		OBS	0430	-0194	34786	2803			14471	709	235		009	290	065	807	

REFERENCE CROSS ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDICIA	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S			DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODE	NODC STATION NUMBER		
					10'	1"	MO	DAY	HR.		1/10	CRUISE NO.	STATION NUMBER			DRIP	HGT	PER				SEA	
					10'	1"	MO	DAY	HR.		1/10	CRUISE NO.	STATION NUMBER			DRIP	HGT	PER				SEA	
318037	GL	74010S	054455W	557	44	02	12	150	1968		011		0459	04	00	0	X		X1	0	3	0016	
		WATER		WIND		BARO- METER		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS										
		COLOR CODE		TRANS M		DIR		SPEED OR FORCE		BARO- METER (mb)		DRY BULB		WET BULB		VIS CODE							
								50		509		019		-038		7						16	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANGMALT-30°	$\frac{\Delta \sigma}{\sigma}$ DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg-at/l	TOTAL-P µg-at/l	NO <sub>2</sub> -N µg-at/l	NO <sub>3</sub> -N µg-at/l	SiO <sub>4</sub> -Si µg-at/l	pH	STATION NO.
		STD	0000	-0182	3425	2759	0005050	0000	14398								
147		OBS	0000	-0182	34253	2759			14398								
		STD	0010	-0182	3435	2767	0004284	0005	14401								
		OBS	0010	-0182	34352	2767			14401								
		STD	0020	-0151	3449	2777	0003338	0008	14419								
		OBS	0020	-0151	34485	2777			14419								
		STD	0030	-0140	3455	2782	0002906	0012	14427								
		OBS	0030	-0140	34545	2782			14427								
		STD	0050	-0169	3454	2786	0002459	0017	14417								
		OBS	0050	-0169	34591	2786			14417								
		STD	0075	-0183	3462	2789	0002201	0023	14415								
		OBS	0075	-0183	34618	2789			14415								
		STD	0100	-0188	3463	2790	0002058	0028	14417								
		OBS	0100	-0188	34633	2790			14417								
		STD	0125	-0189	3464	2791	0002002	0033	14421								
		OBS	0125	-0189	34638	2791			14421								
		STD	0150	-0189	3465	2792	0001911	0038	14425								
		OBS	0150	-0189	34648	2792			14425								
		STD	0200	-0189	3465	2792	0001844	0047	14433								
		OBS	0200	-0189	34653	2792			14433								
		STD	0250	-0189	3466	2792	0001776	0057	14442								
		OBS	0250	-0189	34658	2792			14442								
		STD	0300	-0190	3467	2793	0001668	0065	14450								
		OBS	0300	-0190	34668	2793			14450								
		OBS	0328	-0191	34683	2794			14454								
		OBS	0332	-0198	34688	2795			14452								
		STD	0400	-0195	3477	2802	0000793	0077	14465								
		OBS	0400	-0195	34773	2802			14465								
		OBS	0418	-0195	34773	2802			14468								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	W. SP. SQ. NO.	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NOOC STATION NUMBER					
CRUISE NO.	ID. NO.					10'	1'	MO.		DAY	HR./10			CRUISE NO.	STATION NUMBER	DIR.		HGT.	PER.		SEA	TYPE	AMT.		
318037	GL	732305	052180W	557	32	02	13	030	1968		012	0421	04	00	0	X	X1	0	3	0017					
WATER		WIND		BARO-METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS													
COLOR CODE		TRANS. (m)		DIR.		SPEED OF FORCE		METER (mba)		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
DT		SD		00		500		998		-055		7		19											

MEASUREMENT TIME OF DAY	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	S Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>2</sub> -N μg-at/l	NO <sub>3</sub> -N μg-at/l	SiO <sub>4</sub> -Si μg-at/l	pH	S/C
021		STD	0000	-0163	3425	2759	0005087	0000	14397								
		OBS	0000	-0183	34248	2759			14397								
		STD	0010	-0178	3430	2763	0004708	0005	14402								
		OBS	0010	-0178	34298	2763			14402								
002		OBS	0016	-0170	34363	2768			14408								
		STD	0020	-0172	3438	2770	0004064	0009	14408								
		OBS	0020	-0172	34383	2770			14408								
		STD	0030	-0172	3442	2773	0003751	0013	14410								
		OBS	0030	-0172	34423	2773			14410								
		STD	0050	-0175	3447	2777	0003346	0020	14413								
		OBS	0050	-0175	34473	2777			14413								
		OBS	0056	-0171	34485	2778			14416								
		OBS	0064	-0173	34496	2779			14416								
		STD	0075	-0162	3451	2779	0003102	0028	14423								
		OBS	0075	-0162	34508	2779			14423								
		OBS	0096	-0147	34530	2781			14434								
		STD	0100	-0159	3454	2782	0002875	0036	14429								
		OBS	0100	-0159	34537	2782			14429								
		STD	0125	-0140	3455	2782	0002824	0043	14443								
		OBS	0125	-0140	34550	2782			14443								
		OBS	0137	-0133	34558	2783			14448								
		STD	0150	-0159	3457	2784	0002597	0050	14438								
		OBS	0150	-0159	34570	2784			14438								
		OBS	0163	-0157	34576	2785			14441								
		STD	0200	-0183	3463	2790	0002053	0061	14436								
		OBS	0200	-0183	34628	2790			14436								
		STD	0250	-0187	3467	2793	0001714	0071	14443								
		OBS	0250	-0187	34667	2793			14443								
		STD	0300	-0188	3468	2794	0001575	0079	14451								
		OBS	0300	-0188	34681	2794			14451								
		STD	0400	-0191	3473	2798	0001157	0093	14467								
		OBS	0400	-0191	34727	2798			14467								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	W. SP. SQ. NO.	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NOOC STATION NUMBER					
CRUISE NO.	ID. NO.					10'	1'	MO.		DAY	HR./10			CRUISE NO.	STATION NUMBER	DIR.		HGT.	PER.		SEA	TYPE	AMT.		
318037	GL	752675	026326W	554	56	02	15	150	1968		013	0507	05	00	0	X	X1	0	3	0018					
WATER		WIND		BARO-METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS													
COLOR CODE		TRANS. (m)		DIR.		SPEED OF FORCE		METER (mba)		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
DT		SD		07		510		978		-068		7		18											

MEASUREMENT TIME OF DAY	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	S Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>2</sub> -N μg-at/l	NO <sub>3</sub> -N μg-at/l	SiO <sub>4</sub> -Si μg-at/l	pH	S/C
141		STD	0000	-0099	3375	2716	0009158	0000	14430								
		OBS	0000	-0099	33748	2716			14430								
		STD	0010	-0096	3378	2718	0008930	0009	14438								
		OBS	0010	-0096	33783	2718			14438								
		STD	0020	-0061	3383	2721	0008675	0018	14452								
		OBS	0020	-0061	33828	2721			14452								
		OBS	0025	-0050	33943	2730			14459								
		STD	0030	-0056	3401	2735	0007315	0026	14458								
		OBS	0030	-0056	34008	2735			14458								
		OBS	0032	-0061	34040	2738			14457								
		OBS	0040	-0062	34083	2742			14458								
		OBS	0048	-0060	34114	2744			14461								
		STD	0050	-0071	3412	2745	0006352	0040	14456								
		OBS	0050	-0071	34124	2745			14456								
		STD	0075	-0186	3426	2760	0004955	0054	14408								
		OBS	0075	-0186	34258	2760			14408								
		STD	0100	-0188	3429	2763	0004665	0066	14412								
		OBS	0100	-0188	34293	2763			14412								
		STD	0125	-0188	3430	2763	0004573	0077	14416								
		OBS	0125	-0188	34303	2763			14416								
		STD	0150	-0189	3433	2766	0004355	0088	14420								
		OBS	0150	-0189	34329	2766			14420								
		STD	0200	-0189	3435	2768	0004094	0110	14429								
		OBS	0200	-0189	34359	2768			14429								
		STD	0250	-0189	3437	2769	0003955	0130	14438								
		OBS	0250	-0189	34373	2769			14438								
		STD	0300	-0190	3439	2770	0003814	0149	14446								
		OBS	0300	-0190	34337	2770			14446								
		STD	0400	-0192	3441	2773	0003547	0186	14462								
		OBS	0400	-0192	34410	2773			14462								
		OBS	0480	-0190	34418	2773			14476								



REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCH	MARSOEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
CTRY CODE	ID. NO.						10'	1'	MO		DAY	HR./10			CRUISE NO.	STATION NUMBER	DIR.				HGT/PER
318037	GL	752675	026326W	554	56	02	15	180	1968		013	0507	05	00	0	X	X1	6	7	0019	
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mb)	DRY BULB	WET BULB	VIS CODE								
								04	S07	975		-055	7	14							

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \sigma$ DTN. M. $\times 10^2$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S CODE
		STD	0000	-0084	3381	2720	0008757	0000	14438	847							
186		OBS	0000	-0084	33807	2720			14438	847	131		012	149	065	833	
		STD	0010	-0085	3380	2720	0008788	0009	14439	838							
186		OBS	0010	-0085	33802	2720			14439	838	141		006	149	064	835	
		STD	0020	-0070	3383	2721	0008625	0017	14448	855							
186		OBS	0025	-0064	33855	2723			14452	861	158		006	150	064	827	
		STD	0030	-0061	3388	2725	0008274	0026	14454	860							
		STD	0050	-0049	3399	2734	0007477	0042	14465	855							
186		OBS	0051	-0048	33997	2734			14465	855	137		008	148	065	834	
		STD	0075	-0048	3416	2747	0006175	0059	14472	865							
186		OBS	0076	-0049	34161	2747			14471	865	155		005	154	063	835	
		STD	0100	-0122	3425	2757	0005191	0073	14443	819							
186		OBS	0101	-0124	34252	2758			14442	817	175		007	223	069	823	
		STD	0125	-0164	3428	2761	0004838	0085	14427	783							
		STD	0150	-0190	3430	2763	0004559	0097	14420	758							
186		OBS	0152	-0191					757	236			005	293	070		
		STD	0200	-0189	3435	2768	0004132	0119	14429	745							
186		OBS	0203	-0189	34357	2768			14430	744	215		009	298	072	818	
		STD	0250	-0188	3432	2764	0004401	0140	14437	744							
186		OBS	0253	-0188	34312	2764			14438	744	221		009	305	073	813	
		STD	0300	-0187	3439	2771	0003800	0161	14447	727							
186		OBS	0304	-0187	34396	2771			14448	726	210		025	317	072	814	
		STD	0400	-0194	3441	2772	0003565	0198	14461	734							
186		OBS	T0408	-0194	34413	2773			14462	735	220		005	309	071	813	
186		OBS	0457	-0194	34423	2773			14471	733	228		015	287	069	810	
186		OBS	T0478	-0194	34437	2775			14474	733	226		010	302	070	811	
186		OBS	T0499	-0193	34427	2774			14478	736	234		005	312	066	811	

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCH	MARSOEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
CTRY CODE	ID. NO.						10'	1'	MO		DAY	HR./10			CRUISE NO.	STATION NUMBER	DIR.				HGT/PER
318037	GL	75311S	027144W	554	57	02	16	150	1968		014	0768	02	00	0	X	X7	0	3	0020	
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mb)	DRY BULB	WET BULB	VIS CODE								
						DT	SD	10	S11	793		-014	7	13							

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \sigma$ DTN. M. $\times 10^2$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S CODE
		STD	0000	-0019	3412	2743	0006603	0000	14472								
159		OBS	0000	-0019	34123	2743			14472								
		STD	0010	-0022	3412	2743	0006587	0007	14472								
		OBS	0010	-0022	34123	2743			14472								
		STD	0020	-0030	3414	2745	0006435	0013	14471								
		OBS	0020	-0030	34138	2745			14471								
		STD	0030	-0097	3420	2752	0005713	0019	14442								
		OBS	0030	-0097	34197	2752			14442								
		OBS	0035	-0104	34223	2755			14440								
		OBS	0040	-0113	34241	2756			14437								
		STD	0050	-0134	3427	2759	0005053	0030	14429								
		OBS	0050	-0134	34266	2759			14429								
		OBS	0054	-0141	34288	2761			14427								
		STD	0075	-0162	3433	2765	0004443	0042	14421								
		OBS	0075	-0162	34333	2765			14421								
		STD	0100	-0172	3437	2769	0004094	0052	14421								
		OBS	0100	-0172	34373	2769			14421								
		STD	0125	-0175	3438	2770	0003995	0063	14424								
		OBS	0125	-0175	34383	2770			14424								
		STD	0150	-0179	3440	2771	0003854	0072	14426								
		OBS	0150	-0179	34398	2771			14426								
		OBS	0194	-0179	34418	2773			14434								

REFERENCE CITY ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCL.	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
					10'	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	761425	033489W	555	63	02	17	000	1968	015	0768	06	2	2		X7	0	3	0021	
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS			
					COLOR CODE	TRANS (ml)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS								
					DT	SD	07	S20	849	-010	4	15								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \theta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \text{at/l}$	pH	S C C			
		STD	0000	-0048	3399	2733	0007517	0000	14457											
015		OBS	0000	-0048	33987	2733			14457											
		STD	0010	-0048	3399	2734	0007484	0008	14459											
		OBS	0010	-0048	33991	2734			14459											
002		OBS	0014	-0046	34038	2737			14461											
		STD	0020	-0091	3417	2750	0005945	0014	14443											
		OBS	0025	-0121	34253	2758			14431											
		STD	0030	-0145	3433	2765	0004539	0019	14421											
		OBS	0040	-0173	34418	2772			14411											
		STD	0050	-0174	3443	2773	0003719	0028	14412											
		OBS	0050	-0174	34425	2773			14412											
		STD	0075	-0175	3443	2774	0003641	0037	14416											
		OBS	0075	-0175	34433	2774			14416											
		STD	0100	-0175	3444	2775	0003542	0046	14420											
		OBS	0100	-0175	34444	2775			14420											
		STD	0125	-0173	3446	2776	0003410	0055	14426											
		OBS	0150	-0172	3448	2777	0003284	0063	14431											
		STD	0150	-0172	34475	2777			14431											
		OBS	0200	-0172	3449	2778	0003134	0079	14439											
		STD	0200	-0172	34491	2778			14439											
		OBS	0200	-0172	34491	2778			14439											
		STD	0250	-0174	3451	2780	0002954	0094	14447											
		OBS	0300	-0177	3454	2782	0002710	0108	14454											
		STD	0300	-0177	34537	2782			14454											
		OBS	0400	-0183	3458	2786	0002290	0133	14468											
		STD	0400	-0183	34582	2786			14468											
		OBS	0400	-0183	34582	2786			14468											
		STD	0500	-0195	3464	2791	0001785	0154	14480											
		OBS	0500	-0195	34635	2791			14480											
		STD	0560	-0203	34644	2792			14487											
		OBS	0592	-0207	34652	2792			14490											

REFERENCE CITY ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCL.	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
					10'	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	761425	033489W	555	63	02	17	030	1968	015	0768	05	00	0	X		X7	7	8	0022
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS			
					COLOR CODE	TRANS (ml)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS								
							08	S21	842	-018	2	14								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \theta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \text{at/l}$	pH	S C C			
		STD	0000	-0056	3402	2736	0007210	0000	14454	869										
028		OBS	0000	-0056	34023	2736			14454	869	111			013	164	040	832			
028		OBS	0007	-0057	34024	2737			14454	861	134			003	145	041	831			
		STD	0010	-0056	3407	2740	0006846	0007	14456	858										
028		OBS	0018	-0054	34186	2750			14460	841	147			008	144	044	829			
		STD	0020	-0062	3420	2751	0005826	0013	14457	830										
		STD	0030	-0098	3428	2759	0005074	0019	14443	784										
028		OBS	0037	-0121	34327	2764			14434	760	196			012	248	057	815			
		STD	0050	-0162	3440	2771	0003943	0028	14418	739										
028		OBS	0056	-0174	34417	2772			14413	732	240			015	194	065	814			
028		OBS	0073	-0183	34430	2774			14412	724	240			004	246	065	815			
		STD	0075	-0183	3443	2774	0003643	0037	14412	724										
		STD	0100	-0183	3443	2774	0003612	0046	14416	718										
028		OBS	0108	-0183	34432	2774			14418	716	229			009	255	067	810			
		STD	0125	-0181	3444	2774	0003541	0055	14422	726										
028		OBS	0141	-0179	34444	2775			14425	732	235			000	276	063	814			
		STD	0150	-0179	3445	2775	0003487	0064	14427	729										
		STD	0200	-0177	3446	2776	0003363	0081	14436	715										
028		OBS	0205	-0177	34460	2776			14437	713	212			003	260	065	810			
028		OBS	0225	-0193	34482	2778			14433	721	220			004	222	064	814			
		STD	0250	-0191	3449	2779	0003054	0097	14438	720										
		STD	0300	-0188	3451	2780	0002905	0112	14449	719										
028		OBS	0350	-0184	34524	2781			14459	718	216			000	236	064	812			
		STD	0400	-0192	3457	2785	0002350	0138	14464	717										
028		OBS	T0425	-0195	34583	2786			14467	716	219			000	229	063	812			
028		OBS	T0477	-0199	34606	2788			14474	715	221			004	260	063	811			
		STD	0500	-0199	3462	2789	0001885	0160	14478	712										
028		OBS	T0518	-0199	34624	2790			14481	709	236			000	221	061	808			

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDICATOR	MARSOEN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CRUISE CODE	IO. NO.					10"	1'	M/D	DAY	HR./10	CRUISE NO.		STATION NUMBER	DIR			HGT	PER	SEA			
318037	GL	74506S	039049W	555	49	02	17	180	1968	016		0384	04	00	0	X		X2	6	8	0023	
						WATER		WIND		AIR TEMP. °C												
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DRY BULB	WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
								09	S10	795			-015	7	11							
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \theta$ OYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	S CD					
		STD	0000	-0145	3377	2719	0008882	0000	14408	808												
177		OBS	0000	-0145	33766	2719			14408	808	154		016	184	043	826						
		STD	0010	-0147	3376	2718	0008948	0009	14409	828												
177		OBS	0010	-0147	33756	2718			14409	828	168		012	232	043	826						
		STD	0020	-0147	3377	2719	0008857	0018	14411	828												
177		OBS	0025	-0147	33772	2719			14412	828	176		012	163	043	824						
		STD	0030	-0150	3392	2731	0007669	0026	14413	815												
		STD	0050	-0161	3433	2765	0004483	0038	14417	769												
177		OBS	0051	-0162	34338	2766			14417	767	230		010	216	058	816						
		STD	0075	-0175	3440	2771	0003908	0049	14415	728												
177		OBS	0076	-0176	34400	2771			14415	727	250		007	192	069	813						
		STD	0100	-0181	3441	2772	0003803	0058	14417	721												
177		OBS	0102	-0181	34409	2772			14417	720	240		026	215	070	811						
		STD	0125	-0177	3442	2773	0003720	0068	14423	718												
		STD	0150	-0173	3443	2773	0003640	0077	14429	715												
177		OBS	T0152	-0173	34429	2773			14430	715	263		003	278	071	814						
		STD	0200	-0168	3445	2775	0003461	0095	14441	702												
177		OBS	0204	-0167	34452	2775			14442	701	249		TRC	271	073	813						
		STD	0250	-0162	3447	2777	0003269	0112	14452	697												
		STD	0300	-0157	3450	2778	0003086	0127	14463	692												
177		OBS	0306	-0156	34500	2779			14464	691	238		TRC	220	074	815						
177		OBS	T0334	-0146	34554	2783			14474	671	261		005	259	077	812						
177		OBS	T0356	-0146	34564	2784			14478	674	251		004	218	077	812						

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDICATOR	MARSOEN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CRUISE CODE	IO. NO.					10"	1'	M/D	DAY	HR./10	CRUISE NO.		STATION NUMBER	DIR			HGT	PER	SEA			
318037	GL	74024S	040372W	556	40	02	18	030	1968	017		0695	06	00	0	X		X7	7	8	0024	
						WATER		WIND		AIR TEMP. °C												
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DRY BULB	WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
								18	S12	814			-011	6	13							
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \theta$ OYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	S CD					
		STD	0000	-0150	3380	2722	0008577	0000	14407	844												
045		OBS	0000	-0150	33804	2722			14407	844	131		025	187	026	820						
		STD	0010	-0150	3380	2722	0008571	0009	14408	850												
045		OBS	0010	-0150	33804	2722			14408	850	129		020	142	030	818						
		STD	0020	-0155	3387	2728	0008045	0017	14408	850												
045		OBS	0024	-0156	33907	2731			14409	847	155		017	201	027	816						
		STD	0030	-0156	3400	2738	0007039	0024	14411	829												
045		OBS	0049	-0156	34226	2756			14418	781	191		013	133	050	806						
		STD	0050	-0157	3423	2757	0005261	0037	14418	779												
045		OBS	0073	-0167	34324	2765			14418	744	193		010	124	071	805						
		STD	0075	-0168	3433	2765	0004449	0049	14418	743												
045		OBS	0098	-0173	34367	2768			14420	735	200		023	198		806						
		STD	0100	-0173	3437	2769	0004114	0060	14420	734												
		STD	0125	-0175	3439	2770	0003942	0070	14424	723												
045		OBS	T0148	-0176	34400	2771			14427	714	188		010	165	080	805						
		STD	0150	-0176	3440	2771	0003840	0079	14428	713												
045		OBS	0197	-0170	34414	2772			14438	699	204		007		072	805						
		STD	0200	-0169	3442	2772	0003723	0098	14439	699												
		STD	0250	-0160	3443	2773	0003589	0117	14452	691												
045		OBS	0297	-0151	34449	2774			14464	681	210		005	218	070	804						
		STD	0300	-0150	3445	2774	0003468	0134	14465	681												
045		OBS	0397	-0121	34501	2778			14496	651	210		003		078	803						
		STD	0400	-0115	3451	2778	0003110	0167	14499	645												
045		OBS	0496	-0015	34622	2783			14563	540	217		005	216	089	797						
		STD	0500	-0022	3462	2783	0002736	0196	14561	544												
045		OBS	0572	-0070	34616	2785			14550	576	211		006	253	095	801						
045		OBS	T0597	-0050	34627	2785			14564	572	223		004	083	800							

REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT DIRECTION	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NOCC STATION NUMBER	
						10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA
318037	GL		72460S	042455W		556	22	02	18	180	1968	018A	1926	19	00	0	X		X2	6	8	0025

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		15	S09	787	-013	7	17		

MESSNGR TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t$ ?	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO <sub>2</sub> -N $\mu g \cdot dl/l$	NO <sub>3</sub> -N $\mu g \cdot dl/l$	SiO <sub>4</sub> -Si $\mu g \cdot dl/l$	pH	CTD
		STD	0000	-0156	3362	2707	0009991	0000	14401	807							
172		OBS	0000	-0156	33618	2707			14401	807	177		023	198	059	808	
		STD	0010	-0158	3362	2707	0009994	0010	14402	806							
172		OBS	0010	-0158	33616	2707			14402	806	174		021	206	056	810	
		STD	0020	-0131	3393	2732	0007652	0019	14421	826							
172		OBS	0025	-0125	34061	2742			14426	828	169		016	190	050	811	
		STD	0030	-0134	3416	2750	0005875	0026	14424	813							
		STD	0050	-0162	3442	2772	0003820	0035	14418	763							
172		OBS	0050	-0162	34416	2772			14418	763	195		016	220	063	804	
		STD	0075	-0177	3443	2773	0003689	0045	14415	720							
172		OBS	0075	-0177	34426	2773			14415	720	215		017	228	071	804	
172		OBS	0099	-0179	34426	2773			14418	715	214		011	176	073	794	
		STD	0100	-0179	3443	2774	0003638	0054	14418	715							
		STD	0125	-0180	3443	2774	0003621	0063	14422	709							
172		OBS	0149	-0181	34432	2774			14426	704	217		005	255	072	794	
		STD	0150	-0181	3443	2774	0003588	0072	14426	704							
172		OBS	T0199	-0177	34440	2774			14436	697	219		015	276	073	803	
		STD	0200	-0177	3444	2774	0003509	0090	14436	697							
		STD	0250	-0172	3446	2775	0003381	0107	14447	689							
		STD	0300	-0167	3447	2776	0003263	0123	14458	681							
172		OBS	0300	-0167	34469	2776			14458	681	216		003	224	074	796	
		STD	0400	-0095	3454	2780	0002973	0155	14509	659							
		STD	0500	-0038	3459	2781	0002869	0184	14553	635							
		STD	0600	0005	3463	2783	0002822	0212	14590	607							
		STD	0700	0034	3466	2783	0002796	0240	14620	576							
148		OBS	T0771	0045	3467b	2784			14637	552	223		007	250	102	790	
		STD	0800	0044	3468	2784	0002725	0268	14642	536							
		STD	0900	0042	3468	2785	0002716	0295	14657	495							
148		OBS	0964	0039	34681	2785			14667	479	231		006	264	103	790	
		STD	1000	0039	3468	2785	0002698	0322	14673	481							
		STD	1100	0035	3468	2785	0002670	0349	14688	486							
		STD	1200	0025	3468	2786	0002590	0375	14700	492							
148		OBS	T1210	0024	34679	2785			14702	492	232		009	230	103	790	
		STD	1300	0006	3467	2786	0002504	0401	14708	513							
		STD	1400	-0013	3466	2786	0002413	0426	14717	535							
148		OBS	1457	-0022	34653	2786			14722	546	229		013	288	102	790	
		STD	1500	-0027	3465	2786	0002335	0449	14727	553							
		STD	1750	-0057	3465	2787	0002060	0504	14756	591							
148		OBS	1757	-0058					592	229			008	221	101	792	
148		OBS	T1784	-0058	34649	2787			14761	576	225		009	227	100	791	
148		OBS	1832	-0074	34635	2787			14762	588	222		013	203	098	793	
148		OBS	T1869	-0072	34639	2787			14769	588	221		010	243	100	796	

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT DIR MICHN	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH M	MAX DEPTH OF SAMPLES	S.A.L.E DETERMINATIONS			WEA- TYPE CODE	TIDE CORR	NECC STATION NUMBER					
CRUISE NO.	STATION NUMBER					MO	DAY	HR	MIN	SEC		CRUISE NO.	STATION NUMBER			DIR	HGT REF	SEA								
318037	GL		724605	042455W		556	22	02	19	000	1968	0188	2044	08	00	C	X	X2	7	8	0026					
WATER		WIND		AIR TEMP °C		BARO- METER		VIS		NO. OBS. DEPTH		SPECIAL OBSERVATIONS														
COLOR CODE		TRANS %I		DIR		SPEED OR FORCE		WET BULB		WET BULB		VIS CODE		NO. OBS. DEPTH		SPECIAL OBSERVATIONS										
						20		505		809		-010		7		14										

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND WALT-10 <sup>3</sup>	SOUND VELOCITY DYN. M. x 10 <sup>2</sup>	O <sub>2</sub> ml/l	PCO <sub>2</sub> -P μg - ml/l	TOTAL-P μg - ml/l	NO <sub>2</sub> -N μg - ml/l	NO <sub>3</sub> -N μg - ml/l	SIO <sub>4</sub> -Si μg - ml/l	pH	S C C
		STD	0000	-0155	3361	2707	0010039	0900	14402	806						
017		OBS	0000	-0155	33612	2707			14402	806	195		027	249	058	
		STD	0010	-0157	3361	2707	0010012	0010	14402	824						
017		OBS	0010	-0157	33614	2707			14402	824	188		023	210	059	
		STD	0020	-0131	3396	2734	0007422	0019	14421	824						
017		OBS	0024	-0126	34075	2743			14426	824	179		019	173	049	
		STD	0030	-0141	3419	2753	0005624	0025	14421	796						
017		OBS	0049	-0173	34424	2773			14413	735	229		015	259	070	
		STD	0050	-0173	3442	2773	0003729	0035	14413	734						
017		OBS	0073	-0178	34429	2773			14424	717	226		017	205	073	
		STD	0075	-0178	3443	2774	0003656	0044	14415	717						
017		OBS	0098	-0160	34432	2774			14416	720	223		013	214	073	
		STD	0100	-0180	3443	2774	0003620	0053	14418	720						
		STD	0125	-0180	3444	2774	0003582	0062	14422	714						
017		OBS	0147	-0160	34438	2774			14426	709	235		009	284	072	
		STD	0150	-0180	3444	2774	0003530	0071	14426	708						
017		OBS	T0197	-0177	34444	2775			14436	699	218		016	275	074	
		STD	0200	-0177	3445	2775	0003471	0088	14436	699						
		STD	0250	-0173	3445	2775	0003386	0105	14446	699						
017		OBS	0297	-0169	34462	2776			14456	690	223		011	282	075	
		STD	0300	-0168	3446	2776	0003306	0122	14457	689						
017		OBS	0398	-0133	34494	2777			14490	645	225		020	299	078	
		STD	0400	-0132	3450	2778	0003112	0154	14491	644						
		STD	0500	-0061	3457	2781	0002921	0184	14542	579						
017		OBS	T0500	-0061	34566	2781			14542	579	233		015	299	089	
		STD	0600	0011	3463	2782	0002839	0213	14593	506						
017		OBS	0600	0011	34633	2782			14593	506	241		008	293	098	
		STD	0700	0041	3467	2783	0002812	0242	14624	492						
017		OBS	T0702	0042	34666	2783			14624	492	240		009	233	103	
		STD	0800	0046	3468	2784	0002776	0269	14642	486						
017		OBS	T0807	0046	34676	2784			14644	486	254		009	272	107	

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	MOY. INDIC.	MARSSEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NOOD STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318037	GL		71538S	048201W		556	18	02	19	210	1968		019	2044	20	00	0	X		X7	7	8	0027

WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		21	S08	935		-015	6	22	

MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta$ D. DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>2</sub> -S $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S.C.C.
		STD	0000	-0160	3384	2725	0008291	0000	14402	810							
		OBS	0000	-0160	33838	2725			14402	810	168				207	053	811
		STD	0010	-0163	3384	2725	0008300	0008	14403	815							
		OBS	0010	-0163	33835	2725			14403	815	172				235	053	812
		STD	0020	-0164	3427	2760	0004952	0015	14410	775							
		OBS	0026	-0166	34439	2774			14412	755	205				255	061	812
		STD	0030	-0169	3444	2774	0003613	0019	14412	744							
		OBS	0052	-0180	34456	2776	0003476	0026	14410	708							
		STD	0075	-0179	3446	2776	0003461	0035	14410	706	220				213	074	805
		OBS	0079	-0179	34455	2776			14414	709							
		STD	0100	-0177	3446	2776	0003438	0044	14415	709	225				279	074	804
		OBS	0104	-0176	34457	2776			14420	707							
		STD	0125	-0174	3447	2777	0003330	0052	14421	706	227				212	075	805
		OBS	0150	-0173	3448	2777	0003245	0060	14425	693							
		STD	0157	-0172	34482	2778			14430	679							
		OBS	0200	-0151	3449	2778	0003209	0076	14432	676	225				226	078	796
		STD	T0210	-0146	34495	2778			14439	661							
		OBS	0250	-0129	3452	2779	0003037	0092	14453	657	229				232	080	802
		STD	0300	-0100	3455	2781	0002908	0107	14468	632							
		OBS	0315	-0089	34558	2781			14490	601							
		STD	0400	-0002	3463	2783	0002788	0135	14498	591	244				219	087	801
		OBS	0420	0011	34641	2783			14553	533							
		STD	0500	0035	3467	2784	0002720	0163	14563	522	246				197	098	795
		OBS	0526	0038	34673	2784			14587	488							
		STD	0600	0032	3467	2784	0002703	0190	14593	483	243				245	103	796
		OBS	0632	0031	34669	2784			14603	489							
		STD	0700	0034	3468	2785	0002680	0217	14607	490	246				231	103	796
		OBS	T0740	0035	34678	2785			14620	488							
		STD	0800	0032	3468	2785	0002667	0244	14627	487	245				220	109	789
		OBS	T0847	0030	34674	2785			14636	489							
		STD	T0863	0023	34679	2786			14643	490	221				256	110	794
		OBS	0900	0022	3468	2786	0002570	0270	14643	490	220				266	109	797
		STD	1000	0018	3468	2786	0002554	0295	14648	493							
		OBS	1060	0015	34676	2786			14663	500							
		STD	1100	0013	3468	2786	0002530	0321	14672	504	215				274	111	800
		OBS	1200	0008	3467	2786	0002503	0346	14678	506							
		STD	1300	0003	3467	2786	0002475	0371	14693	512							
		OBS	1308	0003	34671	2786			14707	518							
		STD	1400	-0000	3467	2786	0002442	0396	14709	518	214				286	112	800
		OBS	1500	-0006	3467	2786	0002385	0420	14723	520							
		STD	1556	-0010	34671	2787			14737	525							
		OBS	1750	-0027	3466	2787	0002256	0478	14745	529	224				256	113	800
		STD	1856	-0045	34656	2787			14770	544							
		OBS	1931	-0062	34655	2788			14780	571	215				251	107	799
		STD	T1984	-0072	34634	2787			14785	598	218				260	095	801
		OBS	2000	-0075	3465	2788	0001848	0529	14789	586	197				250	096	801
		STD	T2003	-0076	34650	2788			14791	591							
		OBS							14791	592	217				262	094	803

REFERENCE		SHIP CODE	LATITUDE ° / 10'	LONGITUDE ° / 10'	DEPTH M	MAPS ON SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THEP CODE	CLOUD CODES		NOOD STATION NUMBER
CHIT CODE	ID. NO.					10'	10'	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE	
318037	GL	715655	051039W	557	11	02	20	040	1968	020	1472	13	00	0	X	X	7	8	0028			
WATER		WIND		BARO- METER		AIR TEMP °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS												
CICLOP CODE		TRANS (M)		DIR.		SPEED OR FORCE		METER		DRY BULB		WET BULB		VIS CODE								
		19		505		945		-054		6		16										

MESSNGR TIME HR / 10'	CASST NO.	CARD TYPE	DEPTH (M)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ D DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> M / l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>3</sub> -N μg - dl/l	NO <sub>2</sub> -N μg - dl/l	SIO <sub>4</sub> -S μg - dl/l	pH	ST CIC
		STD	0000	-0181	3395	2734	0007412	0000	14394	780							
044		OBS	0000	-0181	3394b	2734			14394	780	191		016	225	063	811	
		STD	0010	-0181	3395	2735	0007359	0007	14396	791							
044		OBS	0011	-0181	33953	2735			14396	792	163		016	206	062	810	
		STD	0020	-0175	3425	2759	0005078	0014	14404	775							
044		OBS	0027	-0173	3440b	2772			14409	763	206		016	246	066	810	
		STD	0030	-0174	3441	2772	0003846	0018	14409	757							
		STD	0050	-0178	3442	2773	0003747	0026	14410	726							
044		OBS	0054	-0179	34422	2773			14411	724	240		018	253	073	803	
		STD	0075	-0181	3442	2773	0003644	0035	14413	721							
044		OBS	0081	-0182	34425	2773			14414	720	242		013	224	073	805	
		STD	0100	-0184	3443	2773	0003649	0044	14416	722							
044		OBS	0107	-0184	34428	2774			14417	722	216		011	486	073	802	
		STD	0125	-0182	3443	2774	0003600	0053	14421	718							
		STD	0150	-0181	3444	2774	0003542	0062	14426	712							
044		OBS	0160	-0180	34440	2774			14428	710	219		007	480	072	804	
		STD	0200	-0179	3445	2775	0003464	0080	14435	703							
044		OBS	T0213	-0178	34447	2775			14426	701	219		009		073	800	
		STD	0250	-0177	3445	2775	0003403	0097	14444	701							
		STD	0300	-0173	3445	2775	0003388	0114	14455	695							
044		OBS	0317	-0170	34457	2776			14457	692	219		008	269	074		
		STD	0400	-0152	3449	2778	0003107	0146	14482	666							
044		OBS	0419	-0143	3449b	2776			14489	656	244		007	234	078	800	
		STD	0500	-0086	3455	2750	0002911	0176	14530	596							
044		OBS	0521	-0070	34565	2781			14541	581	247		009	258	085	798	
		STD	0600	-0000	3461	2781	0002940	0206	14587	526							
044		OBS	0623	0014	3462b	2782			14598	515	239		006	250	094	795	
		STD	0700	0017	3464	2783	0002631	0234	14612	510							
		STD	0800	0020	3466	2784	0002755	0462	14630	504							
044		OBS	0826	0021	34659	2784			14635	502	243		008	226	101	797	
		STD	0900	0001	3465	2784	0002631	0289	14638	520							
		STD	1000	-0022	3464	2785	0002530	0316	14645	541							
044		OBS	1028	-0028	34637	2785			14647	545	235		012	236	099	796	
		STD	1100	-0039	3464	2785	0002429	0340	14654	557							
		STD	1200	-0055	3463	2786	0002313	0363	14663	574							
044		OBS	T1281	-0067	34631	2786			14671	584	233		012	253	095	794	
		STD	1300	-0077	3463	2786	0002147	0386	14670	591							
044		OBS	T1333	-0098	34622	2787			14666	606	231		006	194	090	799	

REFERENCE STATION NO.	SHIP CODE	LATITUDE 1° 10'	LONGITUDE 1° 10'	MO. NO.	DAY	HR. 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS DIR HGT PER SEA	WEA- THER CODE	CLOUD CODES (TYPE AMT)	NOCC STATION NUMBER	
								CRUISE NO.	STATION NUMBER							
18037	GL	713175	052434W	557	12	02	20	150	1968	021	1777	18	00	0 X	7 8	0029
				WATER		WIND		BARO-			AIR TEMP. °C			NO. OBS.		SPECIAL OBSERVATIONS
				COLOR CODE	TRANS. mi	DIR.	SPEED OF FACE	BARO- METER (mb)	DRY BULB	WET BULB	WIL CODE	NO. OBS. DEPTH				
				16	505	946		-047	6	21						

MESSAGE TIME HR. 1/10	CAS- T NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-K10 <sup>3</sup>	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - dl/l	TOTAL-P µg - dl/l	NO <sub>2</sub> -N µg - dl/l	NO <sub>3</sub> -N µg - dl/l	SiO <sub>4</sub> -Si µg - dl/l	pH	σ <sub>t</sub> °C
163		STD	0000	-0172	3408	2745	0006411	0000	14400	771							
		OBS	0000	-0172	34079	2745			14400	771			024	216	069	816	
163		STD	0010	-0180	3408	2745	0006378	0006	14398	781							
		OBS	0010	-0180	34080	2745			14398	781			018	215	068	817	
163		STD	0020	-0182	3409	2746	0006290	0013	14399	778							
		OBS	0020	-0183	34095	2746			14399	775			018	220	069	816	
163		STD	0030	-0182	3413	2749	0005975	0019	14401	766							
		OBS	0030	-0179	3427	2761	0004895	0030	14408	735							
163		STD	0050	-0179	3440	2771	0003881	0041	14413	714							
		OBS	0051	-0179					734	211			021	208	073	815	
163		STD	0075	-0180	3440	2771	0003881	0041	14413	714							
		OBS	0077	-0180					713	220			020	238	071	813	
163		STD	0100	-0182	3448	2778	0003247	0050	14418	712							
		OBS	0102	-0182	34484	2778			14418	712			017	252	072	814	
163		STD	0120	-0181	3449	2778	0003159	0058	14422	708							
		OBS	0150	-0179	3449	2778	0003149	0066	14427	703							
163		STD	0150	-0179	34491	2779			14428	702			012	204	073	813	
		OBS	0200	-0177	3449	2778	0003126	0081	14437	697							
163		STD	0205	-0176	34490	2778			14438	696			007	247	073	813	
		OBS	0250	-0122	3455	2782	0002835	0096	14472	688							
163		STD	0300	-0072	3460	2784	0002656	0110	14504	661							
		OBS	T0300	-0137P	34606	2787P			656	228			010	219	079	812	
163		STD	0400	-0002	3463	2783	0002811	0137	14553	539							
		OBS	0410	0003	34629	2783			14557	532			008	275	091	804	
163		STD	0500	0028	3465	2783	0002824	0165	14584	517							
		OBS	T0510	0030	34652	2783			14587	516			009	234	096	804	
145		STD	T0580	0029	34667	2784			14599	512			012	231	102	792	
163		OBS	0600	0029	3467	2784	0002720	0193	14601	512							
145		STD	T0616	0028	34662	2784			14603	513			011		100	792	
145		OBS	0694	0028	34671	2785			14617	517			009	246	103	795	
145		STD	0700	0028	3467	2785	0002671	0420	14618	516							
145		OBS	0796	0027	34672	2785			14633	511			013	265	106	796	
		STD	0800	0027	3467	2785	0002656	0247	14634	511							
		OBS	0900	0024	3467	2785	0002630	0473	14649	513							
145		STD	0999	0020	34674	2785			14664	515			009	239	110	796	
		OBS	1000	0020	3467	2785	0002592	0499	14664	515							
		STD	1100	0018	3467	2785	0002577	0325	14680	519							
		OBS	1200	0011	3467	2786	0002526	0351	14694	524							
145		STD	T1254	0006	34673	2786			14701	526			012	247	112	797	
		OBS	1300	0000	3467	2786	0002454	0375	14706	532							
		STD	1400	-0015	3466	2786	0002397	0400	14716	549							
		OBS	1500	-0033	3466	2787	0002234	0423	14724	570							
145		STD	1505	-0034	34657	2787			14725	571			018	229	107	796	
145		OBS	T1690	-0077	34643	2787			14736	622			010	233	094	794	
145		STD	1750	-0096	34641	2788			14737	636			010	211	090	796	
		OBS	1750	-0099	3464	2788	0001778	0473	14736	636							
145		STD	T1775	-0113	34634	2788			14734	635			014	217	088	799	



REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ORIG. MONTH	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
318037	GL	71019S	052521W	557	12	02	21	150	1968		022	2312	23	00	0	λ		7	8		0030	
				WATER		WIND		BARO-METER		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB	VIS CODE											
						00	500	978		-011	7	24										

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ ρ DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SIO <sub>4</sub> -S μg - dl/l	PH	S CC
		STD	0000	-0173	3418	2753	0005655	0000	14401	741							
156		OBS	0000	-0173	34177	2753			14401	741	204			177	073	813	
		STD	0010	-0182	3417	2752	0005705	0006	14398	745							
156		OBS	0010	-0182	34167	2752			14398	745	204		019	212	073	814	
		STD	0020	-0182	3418	2753	0005621	0011	14400	750							
156		OBS	0025	-0182	34182	2754			14401	751	204		022	238	074	809	
		STD	0030	-0181	3426	2760	0004981	0017	14403	750							
		STD	0050	-0175	3447	2777	0003370	0025	14412	746							
156		OBS	0051	-0175	34473	2777			14413	746	211		020	259	077	814	
		STD	0075	-0178	3448	2778	0003272	0033	14415	699							
156		OBS	0076	-0178	34485	2778			14416	698	217		015	272	076	813	
		STD	0100	-0175	3449	2778	0003196	0041	14421	712							
156		OBS	0103	-0175	34489	2778			14422	713	213		012	269	077	812	
		STD	0125	-0173	3449	2778	0003174	0049	14426	712							
		STD	0150	-0170	3449	2778	0003151	0057	14432	706							
		STD	0200	-0165	3450	2779	0003109	0073	14444	679							
156		OBS	0204	-0165	34497	2779			14443	676	241		008	258	085	812	
		STD	0250	-0104	3454	2780	0002984	0088	14480	632							
156		OBS	T0254	-0099	34542	2780			14483	628	219		010	247	092	810	
		STD	0300	-0048	3458	2781	0002926	0103	14515	578							
156		OBS	0307	-0041	34590	2782			14519	572	226		011	257	100	810	
		STD	0400	0024	3465	2783	0002797	0132	14565	532							
156		OBS	0409	0027	34651	2783			14568	529	232		017	275	102	806	
		STD	0500	0027	3466	2784	0002742	0159	14584	511							
156		OBS	0511	0027	34662	2784			14585	510	231		023	239	102	806	
		STD	0600	0026	3466	2784	0002739	0187	14600	514							
156		OBS	T0615	0026	34660	2784			14602	515	230		018	241	105	801	
114		OBS	T0628	0026	34661	2784			14604	512	238		015	269	106	803	
		STD	0700	0028	3467	2784	0002703	0214	14618	510							
156		OBS	T0717	0024	34668	2784			14621	510	230		011		106	806	
114		OBS	0735	0029	34667	2784			14624	511	235		015	271	110	805	
114		OBS	0786	0025	34665	2784			14630	512	240		012	258	107	809	
		STD	0800	0025	3467	2784	0002696	0241	14633	515							
114		OBS	0898	0022	34668	2785			14648	529	252		012	258	108	807	
		STD	0900	0022	3467	2785	0002652	0268	14648	529							
114		OBS	T0993	0017	34664	2785			14662	529	242		015	285	110	809	
		STD	1000	0017	3466	2785	0002644	0294	14663	529							
		STD	1100	0013	3466	2785	0002611	0320	14678	530							
		STD	1200	0008	3466	2785	0002576	0346	14692	531							
114		OBS	1245	0006	34663	2785			14699	531	242		009	251	111	806	
		STD	1300	0002	3466	2785	0002547	0372	14707	534							
		STD	1400	-0005	3466	2785	0002484	0397	14720	539							
		STD	1500	-0012	3466	2786	0002417	0422	14734	544							
114		OBS	T1505	-0012	34658	2786			14735	544	244		013	246	110	806	
		STD	1750	-0014	3466	2786	0002406	0482	14776	551							
114		OBS	1806	-0016	34655	2786			14784	555	242		009	214	113	792	
		STD	2000	-0026	3465	2786	0002311	0541	14813	573							
114		OBS	T2117	-0042	34646	2786			14826	588	232		037	235	104	790	
114		OBS	2265	-0072	34643	2787			14837	612	228		034	252	095	795	
114		OBS	2310	-0093	34635	2787			14835	634	226		011	244		810	

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DEPTH METER	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	NODC STATION NUMBER	
CTRY CODE	ID. NO.					10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA
318037	GL	70516S	052159W	557	02	02	22	060	1968		023	2561	25	00	0	X		71	7	8	0031	
WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS										
COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		DRY BULB		WET BULB												
06		S05		984		-033		6		24												
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANDMALT=30°	Σ Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	σ <sub>t</sub>					
076		STD	0000	-0183	3413	2749	0006024	0000	14396	755												
		OBS	0000	-0183	34126	2749			14396	755	215			016	257	072	809					
		STD	0010	-0183	3412	2749	0006048	0006	14397	762												
076		OBS	0010	-0183	34122	2749			14397	762	209			013	233	073	813					
		STD	0020	-0184	3413	2749	0006017	0012	14399	783												
076		OBS	0026	-0184	34126	2749			14399	788	217			025	220	073	816					
		STD	0030	-0182	3420	2755	0005438	0018	14402	780												
		STD	0050	-0173	3447	2777	0003375	0027	14413	747												
076		OBS	0051	-0173	34474	2777			14414	746	240			013	137	075	819					
		STD	0075	-0177	3449	2778	0003222	0035	14416	731												
076		OBS	0077	-0177	34488	2778			14416	729	230			011	263	076	818					
		STD	0100	-0176	3449	2778	0003186	0043	14421	701												
076		OBS	0102	-0176	34493	2779			14421	699	230			006	258	076	818					
		STD	0125	-0170	3450	2779	0003129	0051	14428	693												
		STD	0150	-0163	3450	2779	0003091	0059	14435	687												
		STD	0200	-0148	3452	2780	0003027	0074	14451	674												
076		OBS	0205	-0147	34516	2780			14452	673	234			003	213	079	814					
		STD	0250	-0106	3454	2780	0002976	0089	14479	630												
076		OBS	T0254	-0102	34548	2781			14482	626	231			003	232	083	810					
		STD	0300	-0040	3460	2782	0002815	0103	14519	577												
076		OBS	0308	-0031	34606	2782			14524	570	239			007	263	089	808					
		STD	0400	0021	3465	2783	0002778	0131	14564	520												
076		OBS	0410	0024	34655	2784			14567	517	235			010	279	096	805					
		STD	0500	0020	3466	2784	0002731	0159	14580	523												
076		OBS	0513	0019	34655	2784			14582	524	234			005	290	098	805					
		STD	0600	0020	3466	2784	0002696	0186	14597	516												
076		OBS	T0614	0020	34662	2784			14599	515	234			008	272	100	806					
076		OBS	T0671	0019	34664	2785			14608	512	234			005	261	100	805					
		STD	0700	0020	3467	2785	0002621	0213	14614	511												
047		OBS	T0755	0023	34677	2785			14625	510	240			005	304	102	815					
		STD	0800	0025	3467	2785	0002628	0239	14633	509												
047		OBS	0803	0025	34674	2785			14633	509	240			002	266	104	810					
047		OBS	0854	0024	34674	2785			14642	543	231			004	298	105	817					
		STD	0900	0022	3467	2785	0002607	0265	14648	532												
047		OBS	0955	0019	34675	2785			14656	524	239			003		108	818					
		STD	1000	0017	3468	2786	0002562	0291	14663	524												
047		OBS	T1057	0014	34675	2786			14671	525	241			008	280	109	814					
		STD	1100	0012	3467	2785	0002559	0316	14677	526												
		STD	1200	0008	3467	2786	0002522	0342	14692	528												
		STD	1300	0004	3467	2786	0002483	0367	14707	530												
047		OBS	1311	0003	34669	2786			14709	530	242			005	194	111	814					
		STD	1400	0000	3467	2786	0002457	0392	14723	532												
		STD	1500	-0003	3467	2786	0002433	0416	14738	535												
047		OBS	T1574	-0005	34668	2786			14750	538	249			004	252	113	810					
		STD	1750	-0010	3467	2786	0002369	0476	14778	549												
047		OBS	1871	-0013	34665	2786			14797	555	244			009	214	112	809					
		STD	2000	-0017	3466	2786	0002307	0534	14817	558												
047		OBS	2189	-0022	34660	2786			14847	562	242			007	301	110	806					
047		OBS	2484	-0066	34645	2787			14878	608	232			006	276	094	808					
		STD	2500	-0069	3465	2787	0001833	0638	14879	611												
047		OBS	2536	-0076	34646	2788			14883	618	227			008	267	092	809					

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10'	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYP	
318037	GL	70569S	050265W	557	00	02	23	060	1968	025	2926	11	00	0	X	73	7	8	0032			

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
	10	527	825		-024	6	15		

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 <sup>3</sup>	S Δ D DYN. SA. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P ug - dl/l	TOTAL-P ug - dl/l	NO <sub>2</sub> -N ug - dl/l	NO <sub>3</sub> -N ug - dl/l	SiO <sub>4</sub> -Si ug - dl/l	pH	S C C
		STD	0000	-0184	3408	2745	0006360	0000	14394	744							
070		OBS	0000	-0184	34082	2745			14394	744	205		014	248	080	808	
		STD	0010	-0184	3408	2745	0006369	0006	14396	779							
070		OBS	0011	-0184	34077	2745			14396	781	204		020	175	077	812	
		STD	0020	-0184	3408	2745	0006385	0013	14398	774							
070		OBS	0028	-0184	34076	2745			14399	765	206		016	216	079	807	
		STD	0030	-0183	3412	2749	0006050	0019	14400	761							
070		OBS	0050	-0173	3443	2773	0003683	0029	14413	728							
		STD	0055	-0172	34480	2777			14415	722	213		013	220	077	808	
		STD	0075	-0173	3449	2778	0003210	0037	14418	705							
070		OBS	0083	-0173	34493	2779			14419	699	220		016	210	079	803	
		STD	0100	-0166	3450	2779	0003138	0045	14425	686							
070		OBS	0110	-0163	34501	2779			14429	680	217			205	081	807	
		STD	0125	-0163	3450	2779	0003110	0053	14431	677							
		STD	0150	-0163	3451	2779	0003065	0061	14435	671							
070		OBS	0200	-0164	3451	2780	0002984	0076	14443	659							
		STD	T0222	-0164	34517	2780			14447	654	220		006	183	080	805	
		STD	0250	-0116	3456	2782	0002783	0090	14475	613							
		STD	0300	-0048	3462	2784	0002622	0104	14515	557							
070		OBS	0331	-0018	34640	2785			14535	534	230		010	268	090	792	
		STD	0400	0005	3464	2784	0002732	0131	14557	529							
070		OBS	0441	0013	34645	2783			14567	526	230		020	294	094	798	
		STD	0500	0014	3465	2784	0002729	0158	14577	521							
070		OBS	T0552	0014	34653	2784			14586	517	230		012	232	092	799	
		STD	0600	0016	3466	2784	0002697	0185	14595	513							
070		OBS	0662	-01710	34660	27920			510	233			023	214	097	798	
		STD	0700	0019	3466	2784	0002685	0212	14613	510							
070		OBS	0772	0022	34664	2784			14627	508	235		016		100	798	
		STD	0800	0021	3467	2785	0002659	0239	14631	506							
070		OBS	0883	0018	34670	2785			14644	504	232		008	251	095	797	
		STD	0900	0018	3467	2785	0002604	0265	14646	506							
		STD	1000	0015	3467	2785	0002583	0291	14662	517							
070		OBS	T1001	0015	34665	2785			14662	517	237		007	231	096	795	
		STD	1100	0011	3466	2785	0002595	0317	14677	518							
070		OBS	T1103	0011	34664	2785			14677	518	235		008	272	100	796	

REFERENCE	SHIP	LATITUDE	LONGITUDE	MARS DEN	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH	MAX. DEPTH	WAVE			WEA-	CLOUD	NODC		
					MO	DAY	HR	1/10		CRUISE	STATION			TO	OF	DIR				HGT	PER
CTRY	ID.	1/10	1/10	INDIC	10"	1"	MO	DAY	HR	1/10	NO.	NUMBER	BOTTOM	SAMPL'S		CODE		NUMBER			
318037	GL	70551S	047456W	556	07	02	23	150	1968		026	3142	29	00	0	X	71	7	8	0033	
				WATER		WIND		BARO-		AIR TEMP. °C		NO.		SPECIAL							
				COLOR		DIR.		METER		DRY		WET		OBS.		OBSERVATIONS					
				CODE		SPEED		(mb)		BULB		BULB		DEPTHS							
						05		829		-011		5		27							
MESSAGE	CAST	CARD	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME	Σ Δ D	SOUND	O <sub>2</sub> ml/l	PO <sub>4</sub> -P	TOTAL-P	NO <sub>2</sub> -N	NO <sub>3</sub> -N	SI O <sub>4</sub> -S	pH	S				
TIME OF	NO.	TYPE					ANOMALY-10 <sup>3</sup>	DYN. M.	VELOCITY		μg - dl/l	μg - dl/l	μg - dl/l	μg - dl/l	μg - dl/l		C				
HR 1/10								x 10 <sup>3</sup>													
		STD	0000	-0180	3407	2744	0006453	0000	14396	772											
153		OBS	0000	-0180	34071	2744			14396	772	194		033	230	088	812					
153		OBS	0009	-0181	34070	2744			14397	777	197		022	237	087	804					
		STD	0010	-0181	3407	2744	0006452	0006	14397	777											
		STD	0020	-0181	3407	2745	0006423	0013	14399	774											
153		OBS	0021	-0181	34073	2745			14399	774	190		019	196	087	814					
		STD	0030	-0165	3432	2764	0004560	0018	14412	726											
153		OBS	0039	-0158	34474	2777			14419	692	194		013	172	085	814					
		STD	0050	-0167	3449	2778	0003239	0026	14417	678											
153		OBS	0059	-0173	34496	2779			14415	669	205		020	263	087	805					
		STD	0075	-0174	3450	2779	0003130	0034	14418	667											
		STD	0100	-0175	3450	2779	0003113	0042	14421	662											
153		OBS	0105	-0175	34504	2779			14422	660	202		009	237	087	812					
		STD	0125	-0171	3451	2780	0003002	0050	14427	653											
		STD	0150	-0155	3453	2781	0002938	0057	14439	639											
153		OBS	0155	-0151	34530	2781			14442	636	207		003	228	090	809					
		STD	0200	-0063	3460	2783	0002722	0071	14492	584											
153		OBS	0233	-0021	34627	2784			14517	557	215		003	253	100	807					
		STD	0250	-0015	3463	2784	0002719	0085	14522	551											
		STD	0300	-0002	3464	2784	0002688	0098	14537	536											
153		OBS	T0311	0000	34647	2784			14540	534	217		012	240	104	806					
153		OBS	T0399	0004	34653	2784			14556	528	218		014	254	105	805					
		STD	0400	0004	3465	2784	0002651	0125	14556	528											
153		OBS	0483	0011	34658	2784			14573	526	216		011	222	107	802					
		STD	0500	0014	3466	2784	0002657	0152	14578	522											
153		OBS	0571	0021	34664	2784			14593	512	218		004	254	112	805					
		STD	0600	0021	3467	2785	0002667	0178	14598	512											
153		OBS	T0662	0022	34668	2785			14608	513	219		008	229	114	801					
		STD	0700	0022	3467	2785	0002658	0205	14615	513											
153		OBS	T0748	0021	34666	2785			14622	512	223		013	210	115	798					
264		OBS	T0773	0020	34670	2785			14626	515	233		008	269	119	808					
		STD	0800	0019	3467	2785	0002614	0231	14630	514											
153		OBS	T0852	0017	34570	2785			14638	513	227		004	213	117	800					
		STD	0900	0017	3467	2785	0002599	0457	14646	518											
264		OBS	0963	0016	34667	2785			14656	524	220		007	218	118	807					
		STD	1000	0013	3467	2785	0002590	0283	14661	527											
264		OBS	1089	0008	34665	2785			14674	531	219		007	244	119	810					
		STD	1100	0008	3467	2785	0002564	0309	14676	531											
		STD	1200	0004	3466	2785	0002536	0334	14691	531											
		STD	1300	0001	3466	2785	0002522	0360	14706	531											
264		OBS	1320	0000	34662	2785			14709	531	226		006	242	120	808					
		STD	1400	-0003	3466	2786	0002483	0385	14721	541											
		STD	1500	-0007	3466	2786	0002450	0409	14736	550											
264		OBS	1605	-0010	34660	2786			14753	555	222		005	295	121	808					
		STD	1750	-0014	3466	2786	0002376	0470	14776	547											
264		OBS	1895	-0017	34657	2786			14799	545	224		007	257	120	807					
		STD	2000	-0019	3466	2786	0002336	0529	14816	552											
264		OBS	T2194	-0022	34654	2786			14848	562	214		006	294	123	806					
264		OBS	2493	-0028	34650	2786			14897	571	229		008	265	121	805					
		STD	2500	-0028	3465	2786	0002235	0643	14898	571											
264		OBS	T2790	-0036	34645	2786			14945	583	233		003	276	120	805					
264		OBS	2893	-0045	34647	2786			14959	591	227		007	262	117	805					
264		OBS	T2916	-0047	34646	2786			14962	595	230		007	287	113	803					
264		OBS	T2935	-0050	34646	2787			14964	601	229		011	258	108	806					

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODE		SOUND RECORD NUMBER						
CRUISE CODE	ID. NO.					10"	1"	MO	DAY	HR.	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMOUNT					
318037	GL		702825	046584W		556	06	02	25	060	1968		027	3173	10	00	0	X		71	6	18	0024						
WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS																	
COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		METER (mbars)		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS											
						24		507		926		-029		6		1c													

MESSAGE TIME OF HR 1/10	CART. NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t$	$\Sigma \Delta D$ DYN. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> (ml)	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{lit}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{lit}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{lit}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{lit}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{lit}^{-1}$	PH
049		STD	0000	-0179	3400	2739	0006978	0000	14396	748						
		OBS	0000	-0179	34003	2739			14396	748	204		028	232	087	815
		STD	0010	-0181	3399	2738	0007052	0007	14396	779						
049		OBS	0010	-0181	33992	2738			14396	779	209		025	220	087	814
		STD	0020	-0174	3415	2751	0005848	0013	14403	754						
049		OBS	0025	-0172	34220	2756			14406	741	213		021	320	090	814
		STD	0030	-0172	3430	2763	0004696	0019	14408	723						
		STD	0050	-0169	3450	2779	0003156	0027	14416	670						
049		OBS	0052	-0169	34509	2780			14416	666	222		016	260	092	813
		STD	0075	-0157	3451	2779	0003101	0034	14426	643						
049		OBS	0078	-0155	34514	2780			14427	642	132		020	253	093	812
		STD	0100	-0146	3452	2780	0003045	0042	14435	644						
049		OBS	0104	-0143	34525	2780			14437	644	223		012	248	093	812
		STD	0125	-0108	3455	2781	0002937	0050	14456	617						
		STD	0150	-0071	3458	2782	0002851	0057	14479	588						
049		OBS	0155	-0065	34584	2782			14483	583	237		018	262	093	813
		STD	0200	-0018	3462	2783	0002761	0071	14513	543						
049		OBS	T0207	-0013	34630	2783			14516	538	238		012	241	094	810
		STD	0250	-0004	3464	2784	0002726	0085	14528	528						
		STD	0300	0006	3465	2784	0002711	0098	14541	519						
049		OBS	0312	0008	34649	2784			14543	517	238		011	267	096	809
		STD	0400	0022	3466	2784	0002708	0125	14565	509						
049		OBS	0416	0023	34665	2784			14568	505	239		014	291	100	807
		STD	0500	0025	3467	2785	0002666	0152	14583	506						
049		OBS	0520	0025	34669	2785			14586	506	234		008	285	100	806
		STD	0600	0025	3467	2785	0002655	0179	14599	508						
049		OBS	0624	0024	34671	2785			14603	510	234		013	252	101	805
		STD	0700	0019	3467	2785	0002614	0205	14613	522						
049		OBS	T0729	0018	34666	2785			14618	524	233		014	241	103	805
		STD	0800	0017	3467	2785	0002630	0231	14624	523						
049		OBS	T0833	0016	34666	2785			14634	522	270		011	289	103	805
		STD	0900	0013	3467	2785	0002592	0257	14644	532						
049		OBS	T0932	0012	34667	2785			14649	534	244		009	270	118	804
		STD	1000	0009	3466	2785	0002612	0283	14659	533						
049		OBS	T1035	0008	34658	2785			14664	533	242		012	260	114	804

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	WATER SURFACE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
DATA CODE	ID. NO.					MO	DAY	HR		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
318037	GL		70143S	050103W	557	00	02	25	210	1968	028	3265	33	00	0	X		7	8	0035
						WIND		BARO-METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
						COLOP CODE	WINDS (mi)	DIR	SPEED OR FORCE	READ (mb)	DRY BULB	WET BULB	VIS CODE							
							10	S14	865		-032	6	27							
MESSAGE TIME (HR 1/10)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S. ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-1000	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>3</sub> -N μg-at/l	NO <sub>2</sub> -N μg-at/l	SiO <sub>4</sub> -Si μg-at/l	pH	σ <sub>t</sub> °C			
	214	STD	0000	-0180	3419	2754	0005508	0000	14398	708										
		OBS	0000	-0180	34194	2754			14398	708	216		037	214	085					
		STD	0010	-0183	3419	2755	0005495	0000	14398	714										
	214	OBS	0010	-0183	34194	2755			14398	714	213		037	221	085	816				
		STD	0020	-0184	3420	2755	0005464	0011	14400	714										
	214	OBS	0026	-0184	34199	2755			14400	714	217		027	191	085	817				
		STD	0030	-0182	3426	2760	0004977	0016	14403	710										
		STD	0050	-0173	3447	2777	0003375	0025	14413	688										
	214	OBS	0051	-0173	34481	2778			14414	687	220		027	204	088	813				
		STD	0075	-0173	3450	2779	0003132	0033	14418	662										
	214	OBS	0077	-0173	34502	2779			14418	661	225		025	221	088	808				
		STD	0100	-0168	3451	2780	0003056	0040	14425	657										
	214	OBS	0103	-0167	34512	2780			14426	656	236		018	216	088	807				
		STD	0125	-0162	3452	2780	0002983	0048	14432	649										
		STD	0150	-0147	3453	2781	0002949	0055	14443	636										
	214	OBS	0154	-0144	34530	2781			14445	633	228		026	244						
		STD	0200	-0085	3457	2782	0002853	0070	14461	594										
	214	OBS	T0205	-0080	34574	2782			14484	590	234		016	238	092	804				
		STD	0250	-0043	3461	2783	0002732	0084	14509	566										
		STD	0300	-0014	3463	2784	0002727	0098	14531	546										
	214	OBS	0308	-0010	34634	2784			14534	544	240		017	232	097	803				
		STD	0400	0007	3465	2784	0002691	0125	14558	532										
	214	OBS	0411	0009	34652	2784			14560	531	224		023	261	101	800				
		STD	0500	0016	3466	2784	0002683	0151	14579	520										
	214	OBS	0513	0019	34665	2785			14582	519	230		018	255	108	801				
		STD	0600	0021	3466	2784	0002671	0178	14597	516										
	214	OBS	0615	0021	34664	2784			14600	515	231		020	233	110	801				
		STD	0700	0019	3466	2784	0002676	0200	14613	509										
	214	OBS	T0717	0019	34661	2784			14616	508	230		006	213	109	799				
		STD	0800	0017	3466	2784	0002675	0232	14629	514										
	214	OBS	T0820	0016	34657	2784			14633	518	229		021	220	114	800				
		STD	0900	0014	3466	2784	0002659	0258	14645	539										
	214	OBS	T0920	0013	34660	2785			14647	545	229		018	228	114	799				
	184	OBS	T0932	0012	34670	2785			14649	530	240		018	219	114	800				
		STD	1000	0010	3466	2785	0002602	0285	14659	521										
	214	OBS	T1021	0009	34659	2785			14663	518	230		027	242	113	802				
	184	OBS	1033	0009	34665	2785			14665	529	238		024	218	118	802				
		STD	1100	0007	3467	2785	0002556	0310	14675	530										
		STD	1200	0003	3466	2785	0002528	0335	14690	532										
	184	OBS	1287	0000	34664	2786			14703	536	239		014	258	119	800				
		STD	1300	-0001	3466	2786	0002491	0361	14705	537										
		STD	1400	-0004	3466	2786	0002467	0385	14721	547										
		STD	1500	-0008	3466	2786	0002434	0410	14736	553										
	184	OBS	1540	-0009	34661	2786			14742	555	234		022	226	115	801				
		STD	1750	-0013	3465	2785	0002430	0471	14776	555										
	184	OBS	1846	-0015	34651	2785			14791	555	240		012	256	117	800				
		STD	2000	-0019	3465	2786	0002365	0531	14816	557										
	184	OBS	T2162	-0022	34654	2786			14843	559	238		018	216	113	798				
	184	OBS	2462	-0026	34651	2786			14892	576	239		013	288	116	797				
		STD	2500	-0026	3465	2786	0002257	0647	14899	577										
	184	OBS	T2776	-0031	34649	2786			14945	583	240		014	217	114	795				
		STD	3000	-0032	3465	2786	0002160	0757	14983	587										
	184	OBS	T3080	-0041	34645	2786			14993	588	240		013	215	112	794				
	184	OBS	3209	-0066	34643	2787			15005	635	232		006	280	095	795				
	184	OBS	T3260	-0080	34639	2787			15007	626	237		029	207	094	797				

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	SUNSHINE HOURS	WINDSPEED				STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	ID. NO.					10*	1*	MO	DAY	HR.	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TRF	ACT	
318037	GL		70118S	051207W	557	01	02	26	090	1968		029	3167	10	00	0	X		0	8		0036		
WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS															
COLOR CODE	TRANS (m)	DIR	SPEED (kts)		DRY RUL	WET RUL																		
		18	517	868			-052	6	07															

MESSNGR TIME HR 1/10	CASID NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10 <sup>3</sup>	Σ Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SIO <sub>4</sub> -Si μg - dl/l	pH	σ <sub>t</sub> °C
072		OBS	70378	0009	34655	2784			14554	531	225		021	215	106	804	
		STD	0400	0014	3466	2784	0002658		14560	525							
072		OBS	10474	0023	34668	2785			14577	514	228		022	249	109	804	
		STD	0500	0023	3467	2785	0002640		14581	513							
072		OBS	0571	0022	34674	2785			14593	515	232		015	256	108	801	
		STD	0600	0021	3467	2785	0002598		14597	515							
072		OBS	0668	0019	34673	2785			14607	515	232		023		112	800	
		STD	0700	0019	3467	2785	0002592		14613	511							
072		OBS	0764	0018	34673	2785			14623	510	237		018	245	112	801	
		STD	0800	0016	3467	2785	0002578		14628	517							
072		OBS	0862	0013	34670	2785			14637	524	233		017	238	116	802	
		STD	0900	0011	3467	2785	0002554		14643	523							
072		OBS	0959	0007	34667	2785			14651	522	247		019	204	109	805	

REFERENCE CROSS ID. NO.	SHIP CODE	LATITUDE 1-10	LONGITUDE 1-10	DATE DD-MN-YY	MARSden SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10'	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIP	HGT		PER	SEA		TYPE
318037	GL	093333	040473W	520	98	02	27	060	1968	030		3656	36	00	0	X		71	6	8	0037

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRAN- SM.	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		18	514	895					

MESSAGE TIME HR-10	CAS NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY-1000	S Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - ml/l	TOTAL-P μg - ml/l	NO <sub>2</sub> -N μg - ml/l	NO <sub>3</sub> -N μg - ml/l	SiO <sub>2</sub> -Si μg - ml/l	pH	S C C
		STD	0000	-0162	3417	2753	0005657	0000	14397	671							
		OBS	0000	-0162	34174	2753			14397	671	213						
		STD	0010	-0184	3417	2753	0005646	0006	14397	673					088	800	
063		OBS	0010	-0184	34174	2753			14397	673	212				091	806	
		STD	0020	-0185	3418	2753	0005615	0011	14399	680							
063		OBS	0020	-0185	34179	2753			14400	684	216				091	806	
		STD	0030	-0182	3424	2758	0005131	0017	14403	674							
		STD	0050	-0167	3446	2776	0003469	0025	14416	635							
063		OBS	0050	-0166	34477	2777			14417	634	223				092	798	
		STD	0070	-0157	3449	2778	0003254	0034	14425	623							
		STD	0100	-0144	3451	2779	0003178	0042	14436	610							
063		OBS	0104	-0142	34513	2779			14438	607	225				094	793	
		STD	0125	-0131	3453	2780	0003007	0049	14446	588							
		STD	0150	-0116	3455	2781	0002920	0057	14461	569							
063		OBS	0155	-0105	34553	2781			14464	566	246				098	797	
		STD	0200	-0038	3461	2783	0002766	0071	14503	542							
063		OBS	T0207	-0030	34621	2784			14508	538	233				103	790	
		STD	0250	-0004	3465	2785	0002634	0084	14528	508							
		STD	0300	0016	3466	2784	0002672	0098	14545	485							
063		OBS	0309	0019	34667	2785			14548	482	234				107	791	
		STD	0400	0023	3467	2785	0002639	0124	14565	477							
063		OBS	0411	0024	34670	2785			14567	476	234				113	791	
		STD	0500	0028	3468	2785	0002596	0150	14584	473							
063		OBS	T0508	0028	34682	2786			14586	473	238				112	791	
		STD	0600	0027	3468	2785	0002594	0176	14601	473							
063		OBS	0611	0027	34678	2785			14602	473	237				113	791	
		STD	0700	0023	3468	2786	0002575	0202	14615	464							
063		OBS	0713	0022	34674	2786			14617	485	238				117	791	
		STD	0800	0019	3467	2785	0004587	0228	14630	482							
063		OBS	0814	0019	34672	2785			14633	482	238				116	792	
		STD	0900	0022	3467	2785	0002609	0254	14648	493							
063		OBS	T0922	0023	34674	2785			14652	494	249				118	789	
		STD	1000	0015	3467	2785	0002561	0280	14662	488							
063		OBS	T1020	0014	34672	2785			14665	487	233				123	793	
028		OBS	T1047	0014	34678	2786			14669	487	234				120	797	
063		OBS	T1060	0012	34671	2785			14671	483	240				119	795	
		STD	1100	0011	3467	2786	0002543	0305	14677	485							
		STD	1200	0006	3467	2786	0002517	0331	14692	491							
028		OBS	T1296	0005	34671	2786			14707	496	237				121	798	
		STD	1300	0005	3467	2786	0002489	0356	14708	496							
		STD	1400	0001	3467	2786	0002451	0380	14723	502							
		STD	1500	-0002	3467	2786	0002427	0405	14739	507							
028		OBS	1555	-0004	34670	2786			14747	510	229				120	798	
		STD	1750	-0009	3467	2786	0002378	0465	14778	518							
028		OBS	1862	-0012	34663	2786			14796	523	234				119	797	
		STD	2000	-0015	3466	2786	0002324	0524	14818	531							
028		OBS	T2169	-0019	34663	2786			14845	537	233				123	793	
028		OBS	2475	-0024	34659	2786			14896	534	232				119	790	
		STD	2500	-0024	3466	2786	0002213	0637	14900	535							
028		OBS	T2781	-0028	34655	2786			14947	544	242				118		
		STD	3000	-0030	3465	2786	0002127	0746	14984	548							
028		OBS	3087	-0031	34653	2786			14999	550	233				118	791	
028		OBS	3394	-0039	34644	2786			15049	555	224				115	790	
028		OBS	3495	-0043	34640	2786			15065	564	231				113	790	
028		OBS	T3598	-0051	34635	2786			15080	566	232				111	786	
028		OBS	3624	-0056	34647	2787			15082	582	230				106	786	
028		OBS	3649	-0060	34648	2787			15085	576	228				105	786	



REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
						MO	DAY	HR:1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT		
318037	GL		683835	047200W	520	87	02	27	210	1968		031	3374	30	00	0	X		X7	0	3		0038
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE		TRANS. DIR.		SPEED OR FORCE		DRY BULB		WET BULB													
		DT		SD		18		S10		871		-063		6		45							

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C
		STD	0000	-0185	3406	2744	0006535	0000	14394								
223		OBS	0000	-0185	34059	2744			14394								
		STD	0010	-0185	3406	2744	0006528	0007	14395								
		OBS	0010	-0185	34059	2744			14395								
		STD	0020	-0185	3406	2744	0006521	0013	14397								
		OBS	0020	-0185	34059	2744			14397								
		OBS	0025	-0179	34067	2744			14401								
		STD	0030	-0167	3437	2768	0004186	0018	14411								
		OBS	0030	-0167	34368	2768			14411								
		OBS	0035	-0162	34414	2772			14415								
		OBS	0040	-0165	34418	2772			14415								
		STD	0050	-0167	3444	2774	0003600	0026	14416								
		OBS	0050	-0167	34443	2774			14416								
		OBS	0066	-0150	34488	2777			14427								
		STD	0075	-0154	3448	2777	0003347	0035	14427								
		OBS	0075	-0154	34479	2777			14427								
		OBS	0086	-0147	34493	2778			14432								
		OBS	0090	-0153	34470	2776			14429								
		STD	0100	-0143	3451	2779	0003147	0043	14436								
		OBS	0100	-0143	34508	2779			14436								
		STD	0125	-0123	3454	2781	0002974	0051	14450								
		OBS	0125	-0123	34538	2781			14450								
		STD	0150	-0092	3457	2782	0002854	0058	14469								
		OBS	0150	-0092	34568	2782			14469								
		STD	0200	-0015	3464	2785	0002632	0072	14514								
		OBS	0200	-0015	34643	2785			14514								
		STD	0250	0009	3466	2785	0002654	0085	14534								
		OBS	0250	0009	34657	2785			14534								
		STD	0300	0017	3466	2784	0002685	0098	14546								
		OBS	0300	0017	34659	2784			14546								
		STD	0400	0026	3467	2785	0002666	0125	14567								
		OBS	0400	0026	34669	2785			14567								
		STD	0500	0029	3468	2785	0002627	0151	14585								
		OBS	0500	0029	34677	2785			14585								
		STD	0600	0026	3468	2785	0002609	0178	14600								
		OBS	0600	0026	34677	2785			14600								
		STD	0700	0024	3468	2785	0002597	0204	14616								
		OBS	0700	0024	34677	2785			14616								
		STD	0800	0022	3468	2785	0002584	0230	14632								
		OBS	0800	0022	34677	2785			14632								
		STD	0900	0018	3468	2786	0002554	0255	14647								
		OBS	0900	0018	34677	2786			14647								
		STD	1000	0014	3468	2786	0002531	0281	14662								
		OBS	1000	0014	34676	2786			14662								
		STD	1100	0011	3467	2786	0002528	0306	14677								
		OBS	1100	0011	34673	2786			14677								
		STD	1200	0006	3467	2786	0002523	0331	14691								
		OBS	1200	0006	34668	2786			14691								
		STD	1300	0003	3467	2786	0002494	0356	14707								
		OBS	1300	0003	34668	2786			14707								
		STD	1400	0001	3467	2786	0002480	0381	14723								
		OBS	1400	0001	34667	2786			14723								
		STD	1500	-0003	3467	2786	0002448	0406	14738								
		OBS	1500	-0003	34666	2786			14738								
		OBS	1600	-0006	34661	2786			14754								
		OBS	1700	-0010	34659	2786			14769								
		STD	1750	-0012	3466	2786	0002402	0466	14777								
		OBS	1800	-0013	34658	2786			14785								
		OBS	1900	-0016	34658	2786			14800								
		STD	2000	-0014	3466	2786	0002370	0526	14818								
		OBS	2000	-0014	34658	2786			14818								
		OBS	2100	-0019	34658	2786			14833								
		OBS	2200	-0021	34657	2786			14850								
		OBS	2300	-0023	34657	2786			14866								
		OBS	2400	-0025	34656	2786			14882								
		STD	2500	-0026	3466	2786	0002220	0641	14899								
		OBS	2500	-0026	34655	2786			14899								
		OBS	2600	-0027	34654	2786			14916								
		OBS	2700	-0029	34648	2786			14932								
		OBS	2800	-0030	34648	2786			14949								
		OBS	2900	-0033	34643	2786			14965								
		STD	3000	-0034	3464	2785	0002187	0751	14982								
		OBS	3000	-0034	34639	2785			14982								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DRIFT * 1/10	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER				
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE	AMT		
318037		GL	683835	047200W		5 20	87	02	27	210	1968	031	3436	34	00	0	X	70	6	6	0039				
		WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE		SPECIAL OBSERVATIONS													
		COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		METER (mbs)		DRY BULB		WET BULB		NO. OBS. DEPTHS									
				18		S10		871				-063		6		26									
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-K10?	Σ Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - 01/l	TOTAL-P μg - 01/l	NO <sub>2</sub> -N μg - 01/l	NO <sub>3</sub> -N μg - 01/l	SiO <sub>4</sub> -Si μg - 01/l	pH	ST. CL.								
		STD	0000	-0182	3409	2746	0006318	0000	14395	698															
		OBS	0000	-0182	34088	2746			14395	698	205														
		STD	0010	-0184	3409	2746	0006315	0006	14396	706							806								
		OBS	0010	-0184	34087	2746			14396	706	205						806								
		STD	0020	-0184	3409	2746	0006308	0013	14398	706															
		OBS	0025	-0184	34087	2746			14399	702	199						796								
		STD	0030	-0178	3418	2753	0005602	0019	14404	687															
		STD	0050	-0163	3442	2772	0003779	0028	14417	649															
		OBS	0050	-0163	34421	2772			14417	649	213						804								
		STD	0075	-0160	3448	2777	0003360	0037	14424	650															
		OBS	0075	-0160	34475	2777			14424	650	215						801								
		STD	0100	-0154	3450	2778	0003212	0045	14431	600															
		OBS	0100	-0154	34495	2778			14431	600	224						795								
		STD	0125	-0146	3452	2780	0003056	0053	14439	596															
		STD	0150	-0124	3454	2781	0002952	0060	14454	581															
		OBS	0151	-0123	34540	2781			14455	580	240						798								
		STD	0200	-0037	3461	2783	0002771	0075	14504	517															
		OBS	T0201	-0036	34615	2783			14504	516	237						786								
		STD	0250	-0002	3465	2785	0002646	0088	14529	496															
		OBS	0274	0009	34656	2784			14538	489	233						792								
		STD	0300	0011	3466	2785	0002642	0102	14543	485															
		OBS	0363	0017	34668	2785			14556	478	233						790								
		STD	0400	0023	3467	2785	0002639	0128	14565	475															
		OBS	T0449	0029	34678	2785			14576	473	233						788								
		STD	0500	0030	3468	2785	0002621	0154	14585	472															
		OBS	T0530	0031	34679	2785			14591	471	257						792								
		STD	0600	0028	3468	2785	0002608	0180	14601	472															
		OBS	0688	0025	34680	2786			14614	473	236						791								
		STD	0700	0025	3468	2786	0002581	0206	14616	474															
		STD	0800	0021	3468	2786	0002554	0232	14631	480															
		OBS	T0850	0019	34678	2786			14639	483	234						790								
		STD	0900	0018	3468	2786	0002543	0257	14646	485															
		STD	1000	0015	3468	2786	0002520	0283	14662	489															
		OBS	T1016	0014	34678	2786			14664	490	239						802								
		STD	1100	0012	3468	2786	0002506	0308	14677	493															
		STD	1200	0009	3468	2786	0002480	0333	14693	497															
		OBS	1270	0006	34676	2786			14703	500	243						796								
		STD	1300	0004	3468	2786	0002450	0357	14708	502															
		STD	1400	-0000	3467	2786	0002427	0382	14723	508															
		STD	1500	-0004	3467	2786	0002402	0406	14738	513															
		OBS	1523	-0005	34670	2786			14741	514	240						799								
		STD	1750	-0011	3467	2787	0002330	0465	14777	518															
		OBS	1830	-0013	34665	2786			14790	521	238						788								
		STD	2000	-0018	3466	2786	0002294	0523	14817	532															
		OBS	2136	-0021	34662	2786			14839	537	236						793								
		OBS	T2443	-0025	34661	2787			14890	539	236						798								
		STD	2500	-0025	3466	2786	0002195	0635	14900	541															
		OBS	2752	-0029	34656	2786			14941	550	238						796								
		STD	3000	-0035	3465	2786	0002096	0742	14982	558															
		OBS	3063	-0038	34648	2786			14992	561	236						794								
		OBS	3321	-0052	34638	2786			15030	573	230						793								
		OBS	T3368	-0057	34644	2787			15037	576	233						792								
		OBS	3400	-0068	34643	2787			15037	589	226						796								
		OBS	T3434	-0078	34647	2788			15039	590	228						802								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	TIME INDEX	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NDDC STATION NUMBER
CTRY	ID. NO.					10"	1"		MO	DAY			HR./10	CRUISE NO.	STATION NUMBER		DIR.	HGT PER	
318037	GL	68204S	04921W	520	89	02	28	150	1968	032	3374	31	00	0	X	X7	0	3	0040
WATER		WIND		BARO-METER		AIR TEMP. °C		SPECIAL OBSERVATIONS											
COLOR CODE		TRANS. DIR.		SPEED OR FORCE		DRY BULB WET BULB		VIS. CODE NO. OBS. DEPTHS											
DT		SD		22		S09		894 -115 6 41											

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	Σ Δ D DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PD <sub>4</sub> -P μg - at/l	TOTAL-P μg - at/l	NO <sub>2</sub> -N μg - at/l	NO <sub>3</sub> -N μg - at/l	SiO <sub>4</sub> -Si μg - at/l	pH	SIG C
		STD	0000	-0181	3399	2738	0007089	0000	14395								
157		OBS	0000	-0181	33988	2738			14395								
		STD	0010	-0185	3410	2747	0006213	0007	14396								
		OBS	0010	-0185	34100	2747			14396								
005		STD	0020	-0172	3436	2768	0004256	0012	14407								
		OBS	0020	-0172	34358	2768			14407								
		OBS	0025	-0171	34398	2771			14409								
		STD	0030	-0171	3442	2773	0003754	0016	14410								
		OBS	0030	-0171	34423	2773			14410								
		STD	0050	-0168	3446	2776	0003444	0023	14416								
		OBS	0050	-0168	34463	2776			14416								
		STD	0075	-0164	3449	2778	0003257	0031	14422								
		OBS	0075	-0164	34487	2778			14422								
		STD	0100	-0154	3451	2779	0003112	0039	14431								
		OBS	0100	-0154	34508	2779			14431								
		STD	0125	-0130	3454	2781	0002903	0047	14447								
		OBS	0125	-0130	34544	2781			14447								
		STD	0150	-0080	3457	2782	0002881	0054	14475								
		OBS	0150	-0080	34571	2782			14475								
		STD	0200	-0004	3465	2784	0002653	0068	14519								
		OBS	0200	-0004	34648	2784			14519								
		STD	0250	0006	3466	2785	0002630	0081	14532								
		OBS	0250	0006	34658	2785			14532								
		STD	0300	0015	3467	2785	0002605	0094	14545								
		OBS	0300	0015	34668	2785			14545								
		STD	0400	0024	3468	2785	0002585	0120	14566								
		OBS	0400	0024	34678	2785			14566								
		STD	0500	0031	3469	2786	0002565	0146	14586								
		OBS	0500	0031	34687	2786			14586								
		STD	0600	0031	3469	2786	0002561	0172	14602								
		OBS	0600	0031	34688	2786			14602								
		STD	0700	0030	3469	2786	0002557	0197	14619								
		OBS	0700	0030	34688	2786			14619								
		STD	0800	0026	3469	2786	0002531	0223	14634								
		OBS	0800	0026	34688	2786			14634								
		STD	0900	0021	3469	2786	0002502	0248	14648								
		OBS	0900	0021	34687	2786			14648								
		STD	1000	0017	3468	2786	0002502	0273	14663								
		OBS	1000	0017	34683	2786			14663								
		STD	1100	0013	3468	2786	0002499	0298	14678								
		OBS	1100	0013	34679	2786			14678								
		STD	1200	0009	3468	2786	0002473	0323	14693								
		OBS	1200	0009	34678	2786			14693								
		STD	1300	0006	3468	2786	0002445	0347	14709								
		OBS	1300	0006	34678	2786			14709								
		STD	1400	0002	3468	2787	0002407	0372	14724								
		OBS	1400	0002	34678	2787			14724								
		STD	1500	-0002	3468	2787	0002368	0395	14739								
		OBS	1500	-0002	34678	2787			14739								
		OBS	1600	-0005	34677	2787			14754								
		OBS	1700	-0009	34673	2787			14770								
		STD	1750	-0011	3467	2787	0002308	0454	14777								
		OBS	1800	-0013	34673	2787			14785								
		OBS	1900	-0015	34669	2787			14801								
		STD	2000	-0017	3467	2787	0002267	0511	14817								
		OBS	2000	-0017	34668	2787			14817								
		OBS	2100	-0019	34667	2787			14833								
		OBS	2200	-0021	34667	2787			14850								
		OBS	2300	-0023	34663	2787			14866								
		OBS	2400	-0025	34661	2787			14882								
		STD	2500	-0026	3466	2787	0002184	0622	14899								
		OBS	2500	-0026	34660	2787			14899								
		OBS	2600	-0027	34659	2787			14916								
		OBS	2700	-0029	34658	2787			14932								
		OBS	2800	-0031	34658	2787			14949								
		OBS	2900	-0032	34658	2787			14966								
		STD	3000	-0034	3466	2787	0002071	0729	14982								
		OBS	3000	-0034	34655	2787			14982								
		OBS	3100	-0036	34648	2786			14999								

REFERENCE STATION ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	WGS84 GRID SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER			
					10°	1'	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE	AMT	
318037	GL	682045	049210W	520	89	02	28	180	1968		032	3541	35	00	0	X		71	7	8	0041		
				WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
				COLOR CODE		TRANS. (m)		DIR.		SPEED OF FORCE		METER (mbst)		DRY BULB		WET BULB		VIS. CODE					
						24		508		895				-105		6		26					
MESSAGE TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - at/l	TOTAL-P μg - at/l	NO <sub>2</sub> -N μg - at/l	NO <sub>3</sub> -N μg - at/l	SiO <sub>4</sub> -Si μg - at/l	pH	S C						
189		STD	0000	-0179	3414	2750	0005956	0000	14398	680													
		OBS	0000	-0179	34136	2750			14398	680	207				090	814							
		STD	0010	-0183	3413	2749	0006002	0006	14397	680													
189		OBS	0010	-0183	34128	2749			14397	680	206				087	813							
		STD	0020	-0184	3413	2749	0006002	0012	14399	665													
189		OBS	0026	-0184	34126	2749			14399	656	206				086	815							
		STD	0030	-0180	3420	2755	0005443	0018	14403	649													
		STD	0050	-0166	3444	2774	0003625	0027	14416	625													
189		OBS	0052	-0165	34459	2776			14417	623	219				092	808							
		STD	0075	-0166	3449	2778	0003259	0035	14421	619													
189		OBS	0078	-0166	34489	2778			14422	618	222				092	808							
		STD	0100	-0165	3450	2779	0003141	0043	14426	618													
189		OBS	0104	-0163	34505	2779			14428	617	222				092								
		STD	0125	-0139	3453	2781	0002980	0051	14443	597													
		STD	0150	-0104	3456	2782	0002867	0058	14464	570													
189		OBS	0155	-0096	34563	2782			14468	564	234				099	805							
		STD	0200	-0008	3464	2784	0002692	0072	14517	498													
189		OBS	T0207	0002	34647	2784			14523	491	237				109	803							
		STD	0250	0009	3465	2784	0002692	0086	14534	493													
		STD	0300	0014	3466	2784	0002683	0099	14544	496													
189		OBS	0311	0015	34658	2784			14547	496	236				111	804							
		STD	0400	0015	3466	2784	0002665	0126	14561	480													
189		OBS	0415	0015	34664	2785			14564	478	236				115	798							
		STD	0500	0030	3467	2784	0002686	0153	14585	472													
189		OBS	T0519	0032	34676	2785			14589	471	240				118	802							
		STD	0600	0033	3468	2785	0002641	0179	14603	476													
189		OBS	T0624	0033	34680	2785			14607	477	236				120	795							
		STD	0700	0031	3468	2785	0002624	0206	14619	479													
		STD	0800	0027	3468	2785	0002598	0232	14634	481													
189		OBS	T0825	0026	34678	2785			14638	482	237				123	796							
		STD	0900	0023	3468	2785	0002592	0258	14649	483													
		STD	1000	0019	3468	2786	0002570	0283	14664	488													
189		OBS	T1027	0017	34675	2786			14667	490	238				123	800							
220		OBS	T1075	0014	34675	2786			14674	494	235				124	803							
		STD	1100	0013	3467	2785	0002566	0309	14678	495													
		STD	1200	0009	3467	2786	0002532	0335	14693	499													
		STD	1300	0005	3467	2786	0002496	0360	14708	503													
220		OBS	1329	0004	34667	2786			14712	504	240				114	801							
		STD	1400	0001	3467	2786	0002480	0385	14723	507													
		STD	1500	-0002	3467	2786	0002457	0409	14739	512													
220		OBS	1579	-0005	34666	2786			14751	516	240				123								
		STD	1750	-0009	3466	2786	0002393	0470	14778	528													
220		OBS	1891	-0013	34663	2786			14800	533	237				121	794							
		STD	2000	-0016	3466	2786	0002314	0529	14818	533													
220		OBS	2198	-0021	34662	2786			14849	532	238				116	794							
		STD	2500	-0026	3466	2787	0002185	0641	14899	544													
220		OBS	2508	-0026	34659	2786			14901	544	240				114	793							
220		OBS	2814	-0030	34656	2786			14952	547	242				125	792							
		STD	3000	-0031	3465	2786	0002115	0749	14984	549													
220		OBS	T3124	-0034	34653	2786			15004	553	231				120	780							
220		OBS	3437	-0052	34635	2786			15051	570	235				118	788							
220		OBS	T3490	-0062	34630	2786			15056	578	231				113	790							
220		OBS	T3515	-0065	34635	2786			15059	584	231				111	791							
220		OBS	3532	-0065	34653	2788			15062	583	227				103	782							

REF ID	SHIP ID. NO.	LATITUDE '10	LONGITUDE '10	TIME IN HOUR	M/R SQDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SURF	WAVE OBSERVATIONS			W. F. THER. COEF	C. C. COEF	NODC STATION NUMBER	
					10'	1"	MO	DAY		HR	MIN			CP	ST	DIR				HGT
318037	GL	681165	049021W		520	89	02	29	030	1968	033	3512	30	00	0	X		X7	013	0047

WA. R. COLOR CODE	WIND DIR.	SPEED OR FORCE	BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OF DEF.	SPECIAL OBSERVATIONS
				DRY BULB	WET BULB			
					-114	6	41	

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME "NORMAL" * 10 <sup>3</sup>	S. D. DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	Dz m	PO-P (g-g/l)	TOTAL P (10 <sup>3</sup> g-cm <sup>2</sup> )	NO <sub>3</sub> -N (10 <sup>-3</sup> g-g/l)	NO <sub>2</sub> -N (10 <sup>-3</sup> g-g/l)	Fe (10 <sup>-3</sup> g-g/l)	PH
	041	STD	0000	-0186	3384	2726	0008227	0000	14389							
		OBS	0000	-0185	33838	2726			14389							
		STD	0010	-0189	3366	2727	0008064	0008	14391							
		OBS	0010	-0189	33858	2727			14391							
		STD	0020	-0188	3390	2731	0007752	0016	14393							
	005	OBS	0020	-0186	33898	2731			14393							
		OBS	0025	-0184	34158	2752			14400							
		STD	0030	-0180	3424	2758	0005113	0022	14404							
		OBS	0030	-0180	34243	2758			14404							
		OBS	0040	-0172	34289	2762			14410							
		STD	0050	-0172	3432	2765	0004507	0030	14412							
		OBS	0050	-0172	34323	2765			14412							
		STD	0075	-0163	3438	2769	0004087	0043	14421							
		OBS	0075	-0163	34379	2769			14421							
		STD	0100	-0143	3441	2771	0003912	0053	14435							
		OBS	0100	-0143	34408	2771			14435							
		STD	0125	-0103	3449	2776	0003430	0062	14459							
		OBS	0125	-0103	34488	2776			14459							
		STD	0150	-0052	3454	2778	0003256	0070	14487							
		OBS	0150	-0052	34538	2778			14487							
		STD	0200	0004	3457	2778	0003304	0087	14522							
		OBS	0200	0004	34568	2778			14522							
		STD	0250	0010	3458	2778	0003252	0103	14535							
		OBS	0250	0010	34579	2778			14535							
		STD	0300	0017	3459	2779	0003208	0119	14545							
		OBS	0300	0017	34590	2779			14545							
		STD	0400	0024	3460	2779	0003193	0151	14565							
		OBS	0400	0024	34598	2779			14565							
		STD	0500	0032	3461	2779	0003167	0183	14585							
		OBS	0500	0032	34608	2779			14585							
		STD	0600	0033	3461	2779	0003177	0215	14602							
		OBS	0600	0033	34608	2779			14602							
		STD	0700	0030	3461	2779	0003158	0246	14618							
		OBS	0700	0030	34608	2779			14618							
		STD	0800	0026	3461	2780	0003131	0278	14632							
		OBS	0800	0026	34608	2780			14632							
		STD	0900	0021	3461	2780	0003101	0309	14647							
		OBS	0900	0021	34607	2780			14647							
		STD	1000	0017	3460	2780	0003100	0340	14662							
		OBS	1000	0017	34603	2780			14662							
		STD	1100	0014	3460	2780	0003074	0371	14677							
		OBS	1100	0014	34603	2780			14677							
		STD	1200	0010	3460	2780	0003062	0402	14692							
		OBS	1200	0010	34600	2780			14692							
		STD	1300	0006	3460	2780	0003040	0432	14707							
		OBS	1300	0006	34598	2780			14707							
		STD	1400	0003	3460	2780	0003010	0462	14723							
		OBS	1400	0003	34598	2780			14723							
		STD	1500	-0003	3460	2780	0002959	0492	14737							
		OBS	1500	-0003	34597	2780			14737							
		OBS	1600	-0006	34597	2780			14753							
		OBS	1700	-0009	34594	2780			14768							
		STD	1750	-0011	3459	2780	0002920	0566	14776							
		OBS	1800	-0013	34589	2780			14784							
		OBS	1900	-0015	34588	2780			14800							
		STD	2000	-0017	3459	2780	0002855	0638	14816							
		OBS	2000	-0017	34588	2780			14816							
		OBS	2100	-0020	34587	2780			14832							
		OBS	2200	-0022	34587	2780			14848							
		OBS	2300	-0024	34583	2780			14864							
		OBS	2400	-0025	34579	2780			14881							
		STD	2500	-0026	3457	2779	0002853	0781	14896							
		OBS	2500	-0026	34568	2779			14898							
		OBS	2600	-0028	34568	2779			14914							
		OBS	2700	-0029	34568	2779			14931							
		OBS	2800	-0030	34568	2779			14948							
		OBS	2900	-0032	34568	2779			14965							
		STD	3000	-0033	3457	2779	0002711	0920	14982							
		OBS	3000	-0033	34568	2779			14982							

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DATE	STATION TIME (GMT)				YEAR	ORIGINATOR		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODE	NODC STATION NUMBER
CTRY CODE	ID NO.					10'	00'	00'	DA		HR	MIN			PRUSE NO.	STATION NUMBER	DIR			
	318037	GL	681495	147513W	570	87	02	29	180	1966	034	3475	C5	00	0	X		618	0043	
WATER		WIND		BARO-METER		AIR TEMP. °C		VIS CODE		NO. OBS DEPTHS		SPECIAL OBSERVATIONS								
SPEED (KTS)		DIP		DRY BULB		WET BULB														
OR		503		900		-085		7		11										

MESSAGE TIME OF DAY	CASST NO.	CARD TYPE	DEPTH (m)	TEMP. °C	S. T.	SIGMA-T	RELATIVE VOLUME AN. ANALYSIS	S. D. DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY (20 MHz)	PO <sub>4</sub> -P (μg/l)	TOTAL-P (μg/l)	NO <sub>3</sub> -N (μg/l)	NO <sub>2</sub> -N (μg/l)	SiO <sub>4</sub> -Si (μg/l)	PH	S. C.
		STD	2000	-0145	3410	2746	0006788	0000	14413	698						
181		OBS	2000	-0145	34104	2746			14413	698	194			085	804	
		STD	2010	-0171	3410	2747	0006222	0006	14403	708						
181		OBS	2010	-0171	34103	2747			14403	708	202			086	804	
		STD	2020	-0177	3410	2747	0006205	0012	14400	724						
181		OBS	2025	-0177	34101	2747			14401	725	203			086	804	
		STD	2030	-0176	3419	2754	0006202	0018	14405	703						
		STD	2035	-0161	3445	2775	0006563	0027	14419	647						
181		OBS	0051	-0160	34457	2775			14420	645	212			049	801	
		STD	0075	-0158	3450	2779	0006174	0036	14425	648						
181		OBS	0076	-0158	34505	2779			14425	648	219			090	798	
		STD	0100	-0141	3452	2783	0006271	0044	14437	676						
181		OBS	0102	-0140	34523	2783			14438	624	219			093	797	
		STD	0125	-0135	3453	2782	0006293	0051	14445	613						
		STD	0150	-0115	3454	2781	0006467	0059	14457	548						
181		OBS	0153	-0115	34547	2781			14459	596	225			094	794	
		STD	0200	-0147	3461	2783	0006760	0073	14499	555						
181		OBS	0204	-0042	34610	2783			14502	552	226			098	794	
		STD	0230	-0006	3464	2784	0006730	0087	14527	514						
		STD	0300	0014	3466	2785	0006659	0100	14547	487						
181		OBS	0306	0021	34667	2785			14549	485	229			106	791	
		STD	0400	0024	3467	2785	0006745	0127	14566	485						
181		OBS	0404	0025	34674	2785			14568	485	230			109	790	
		STD	0500	0030	3468	2785	0006824	0153	14586	479						
181		OBS	0513	0033	34680	2785			14589	478	229			113	790	

REF ID	SHIP CODE	LATITUDE	LONGITUDE	DATE	WATERS		STATION TIME		YEAR	ORIGINATOR'S		DEPTH	MAX DEPTH	WAVE OBSERVATION			AREA	TIME	NO. OF
					10'	20'	10	15		DAY	HR:10			STATION NO	STATION NUMBER	DIR			
318137	51	05 05 33	145501W	523	85	23	01	090	1958	035	3877	21	00	0	1	1	7	7	0044

WATER	COLOR	TRANSP	DIR	SPEED	OR FORCE	BARO-METER	AIR TEMP °C		NO. OF DEPTHS	SPECIAL OBSERVATIONS
							DRY BULB	WET BULB		
36	504	ROO					1066	7	21	

MESSAGE TIME OF DAY	CA. T. NO.	CARD TYPE	DEPTH (m)	T	S	W	SIGMA-T	SPECIFIC VOLUME	$\sigma_t$	SOUND VELOCITY	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	$\rho_{\sigma-t}$	
100		STD	0000	-0161	3437	2741	0006620	0000	14395	712									
		OBS	0000	-0181	3423	2741			14395	712	194						086	810	
		STD	0010	-0164	3433	2741	0006745	0007	14395	725									
100		OBS	0010	-0184	3431	2741			14395	725	193								
		STD	0020	-0185	3423	2741	0006745	0014	14397	740									
		OBS	0020	-0185	3430	2741			14398	741	195							085	810
		STD	0030	-0161	3431	2742	0006132	0020	14401	731									
		OBS	0030	-0163	3431	2772	0003864	0030	14417	686									
100		STD	0052	-0162	34436	2774			14418	682	213							088	805
		OBS	0052	-0158	3447	2776	0003404	0039	14425	651									
		STD	0100	-0147	3450	2778	0003195	0047	14434	621									
100		OBS	0103	-0145	34501	2778			14436	618	218							092	803
		STD	0125	-0130	3454	2781	0002934	0055	14447	599									
		OBS	0150	-0104	3458	2783	0002715	0062	14464	575									
100		STD	0155	-0097	34749	28100			14464	570	213							097	800
		OBS	0200	-0010	3463	2783	0002757	0076	14481	517									
100		STD	0207	-0002	34639	2784			14521	512	217							106	797
		OBS	0250	0009	3465	2784	0002670	0089	14534	496									
100		STD	0257	0011	34758	2784			14536	494	218							106	798
		OBS	0300	0017	3466	2784	0002681	0103	14546	489									
100		STD	0313	0019	34759	2784			14549	487	231							110	797
		OBS	0400	0025	3466	2784	002727	0153	14566	479									
100		STD	0413	0026	34690	2784			476	230								112	796
		OBS	0500	0029	3467	2784	0002682	0157	14565	474									
100		STD	0516	0030	34674	2785			14588	473	232							113	794
		OBS	0600	0029	3468	2785	002609	0161	14601	475									
100		STD	0617	0029	34684	2786			14604	476	234							118	795
		OBS	0700	0026	3469	2786	0002551	0209	14617	461									
100		STD	0715	0025	34685	2786			14620	462	233							120	796
		OBS	0800	0024	3458	2786	0002570	0235	14633	460									
100		STD	0820	0024	34690	2786			14636	460	226							119	794
		OBS	0900	0022	3468	2786	0002562	0260	14648	462									
100		STD	1000	0019	3468	2786	0002540	0286	14664	465									
		OBS	T1020	0018	34578	2786			14667	465	231							120	794
034		STD	T1100	0015	3468	2786	0002538	0311	14679	466									
		OBS	T1154	0013	34674	2786			14687	467	232							121	792
038		STD	T1200	0013	3457	2786	0002535	0337	14695	465									
		OBS	T1262	0012	34674	2786			14703	462	247							116	790
100		STD	T1272	0005	34667	2785			14705	500	242							122	792
		OBS	1300	0007	3467	2785	0002543	0362	14709	497									
038		STD	1430	0003	3467	2786	0002505	0367	14724	486									
		OBS	1460	0001	34682	2787			14734	487	253							119	790
038		STD	1500	-0000	3467	2786	0002473	0412	14739	493									
		OBS	1730	-0008	3467	2786	0002391	0473	14779	520									
038		STD	1750	-0008	34666	2786			14781	521	243							122	792
		OBS	2000	-0015	3466	2786	0002331	0532	14818	530									
036		STD	2066	-0017	34661	2786			14828	530	251							123	786

REFERENCE CITY CODE	SHIP LODGE	LATITUDE N-S	LONGITUDE E-W	WGS84 EPOCH	WGS84 EPOCH			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	0.1"	DAY	HR.	MIN.		CRUISE NO.	STATION NUMBER		DIR.	HGT	PER		SEA	TIME	
375137	3L	690185	046002W	1968	96	03	01	150	1968	036		3884	10	00	0	X		X2	7	8	0045

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (%)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		06	506	885	-053	7		16	

MESSAGE TIME HR. MIN.	CORR. NO.	CARD TYPE	DEPTH M	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ D DYN. AL E 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>2</sub> -Si μg - dl/l	pH	S C
151		STD	0100	0181	3402	2741	0006828	0000	14395	716							
		OR5	0300	-0181	34022	2741			14395	716	117				086	815	
151		STD	0010	-0183	3402	2741	0006809	0007	14396	721							
		OR5	0010	-0183	34023	2741			14396	721	194				084	816	
151		STD	0020	-0184	3402	2741	0006807	0014	14397	722							
		OR5	0020	-0185	34022	2741			14397	722	122				083	816	
151		STD	0030	-0180	3412	2748	0006057	0020	14402	708							
		OR5	0030	-0163	3444	2774	0003634	0030	14418	659							
151		STD	0040	-0162	34454	2775			14419	658	201				087	805	
		OR5	0040	-0158	3444	2777	0003328	0038	14425	656							
151		STD	0077	-0157	34481	2777			14426	655	210				089	811	
		OR5	0100	-0148	3450	2778	0003198	0047	14435	625							
151		STD	0107	-0144	34505	2779			14436	621	213				089	811	
		OR5	0125	-0118	3453	2780	0003053	0054	14453	594							
151		STD	0150	-0087	3456	2781	0002936	0062	14472	564							
		OR5	0154	-0082	34565	2781			14475	560	228				096	808	
151		STD	0200	-0018	3463	2784	0002715	0076	14513	511							
		OR5	0207	-0010	34638	2784			14518	506	228				101	805	
151		STD	0240	0003	3466	2785	0002598	0089	14531	493							
		OR5	0300	0015	3467	2785	0002590	0102	14545	483							
151		STD	0400	0030	3468	2785	0002630	0128	14568	477	231				107	802	
		OR5	0430	0031	34678	2785			14571	476	231				108	802	
151		STD	0500	0032	3468	2785	0002624	0155	14586	474							
		OR5	0511	0032	34683	2785			14588	474	232				110	800	
151		STD	0610	0028	3468	2786	0002584	0181	14601	480							
		OR5	0615	0027	34682	2786			14603	481	235				113	801	
151		STD	0730	0027	3468	2785	0002588	0217	14617	483							
		OR5	0723	0027	34681	2785			14621	483	233				113	799	
151		STD	0800	0025	3468	2786	0002583	0232	14633	484							
		OR5	0822	0024	34679	2785			14636	485	242				117	800	
151		STD	0900	0022	3468	2785	0002585	0258	14648	488							
		OR5	0925	0021	34676	2785			14652	489	237				118	802	
151		STD	1000	0018	3468	2785	0002584	0284	14663	489							
		OR5	1024	0017	34677	2785			14667	489	239				118	798	



REFERENCE CITY CODE	SHIP ID. NO. CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DATE INDEX	MARSDEN SQUARE		STATION TIME ISMTI			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10'	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
318037	GL	690165	046002W	520	96	03	01	172	1968		036	3884	36	00	0	X		X1	0	3	0046

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

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - at/l	TOTAL-P µg - at/l	NO <sub>2</sub> -N µg - at/l	NO <sub>3</sub> -N µg - at/l	SiO <sub>4</sub> -S µg - at/l	pH	S C
		STD	0000	-0186													
180		OBS	0000	-0186													
		STD	0010	-0187													
		OBS	0010	-0187													
		STD	0020	-0186													
		OBS	0020	-0186													
		OBS	0023	-0186													
		OBS	0025	-0163													
		STD	0030	-0162													
		OBS	0030	-0162													
		OBS	0040	-0156	34472	2776				14420							
		STD	0050	-0156	3448	2777	0003331			14422							
		OBS	0050	-0156	34482	2777				14422							
		OBS	0056	-0157	34490	2778				14422							
		OBS	0065	-0147	34502	2779				14429							
		OBS	0072	-0153	34517	2780				14427							
		STD	0075	-0150	3452	2780	0003068			14429							
		OBS	0075	-0150	34517	2780				14429							
		STD	0100	-0123	3456	2782	0002847			14446							
		OBS	0100	-0123	34556	2782				14446							
		STD	0125	-0092	3458	2783	0002755			14465							
		OBS	0125	-0092	34582	2783				14465							
		STD	0150	-0054	3464	2786	0002493			14488							
		OBS	0150	-0054	34637	2786				14488							
		STD	0200	0004	3466	2785	0002628			14523							
		OBS	0200	0004	34657	2785				14523							
		STD	0250	0016	3467	2785	0002619			14537							
		OBS	0250	0016	34667	2785				14537							
		STD	0300	0022	3467	2785	0002654			14548							
		OBS	0300	0022	34667	2785				14548							
		STD	0400	0029	3468	2785	0002624			14568							
		OBS	0400	0029	34677	2785				14568							
		STD	0500	0033	3468	2785	0002638			14586							
		OBS	0500	0033	34679	2785				14586							
		STD	0600	0031	3468	2785	0002628			14602							
		OBS	0600	0031	34679	2785				14602							
		STD	0700	0027	3468	2785	0002603			14617							
		OBS	0700	0027	34679	2785				14617							
		STD	0800	0024	3468	2785	0002598			14632							
		OBS	0800	0024	34677	2785				14632							
		STD	0900	0021	3468	2785	0002577			14648							
		OBS	0900	0021	34677	2785				14648							
		STD	1000	0017	3468	2786	0002547			14663							
		OBS	1000	0017	34677	2786				14663							
		STD	1100	0014	3468	2786	0002522			14678							
		OBS	1100	0014	34677	2786				14678							
		STD	1200	0011	3468	2786	0002496			14694							
		OBS	1200	0011	34677	2786				14694							
		STD	1300	0006	3468	2786	0002452			14708							
		OBS	1300	0006	34677	2786				14708							
		STD	1400	0004	3468	2786	0002432			14724							
		OBS	1400	0004	34677	2786				14724							
		STD	1500	0000	3468	2787	0002393			14740							
		OBS	1500	0000	34677	2787				14740							
		OBS	1600	-0004	34676	2787				14755							
		OBS	1700	-0006	34675	2787				14771							
		STD	1750	-0008	3467	2787	0002329			14778							
		OBS	1800	-0010	34672	2787				14786							
		OBS	1900	-0013	34670	2787				14802							
		STD	2000	-0014	3467	2787	0002297			14818							
		OBS	2000	-0014	34668	2787				14818							
		OBS	2100	-0017	34667	2787				14834							
		OBS	2200	-0019	34666	2787				14851							
		OBS	2300	-0021	34665	2787				14867							
		OBS	2400	-0023	34662	2787				14883							
		STD	2500	-0024	3466	2787	0002199			14900							
		OBS	2500	-0024	34661	2787				14900							
		OBS	2600	-0025	34659	2786				14917							
		OBS	2700	-0026	34658	2786				14934							
		OBS	2800	-0027	34657	2786				14951							
		OBS	2900	-0028	34657	2786				14968							
		STD	3000	-0029	3466	2786	0002117			14985							
		OBS	3000	-0029	34657	2786				14985							
		OBS	3100	-0029	34657	2786				15002							
		OBS	3200	-0030	34656	2786				15019							
		OBS	3300	-0031	34655	2786				15036							
		OBS	3400	-0032	34654	2786				15054							
		OBS	3500	-0033	34650	2786				15071							
		OBS	3600	-0034	34647	2786				15088							

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE DD-MO-YY	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
318037	GL	69412S	046163W	520	96	03	02	050	1968		037	3857	39	00	0	X		X1	6	7	0047	
		WATER		WIND		AIR TEMP. °C		BARO- METER (mb)		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
		COLOR CODE		TRANS. M		DIR.		SPEED OR FORCE														
				11		505		873				-036		7		29						
MESSNGR TIME & HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\frac{\Delta \sigma}{\Delta \rho}$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - at/l	TOTAL-P µg - at/l	NO <sub>2</sub> -N µg - at/l	NO <sub>3</sub> -N µg - at/l	SiO <sub>4</sub> -Si µg - at/l	pH	S CC					
		STO	0000	-0179	3411	2748	0006164	0000	14397	689												
074		OBS	0000	-0179	34109	2748			14397	689	210				086	811						
		STO	0010	-0184	3410	2747	0006192	0006	14396	693												
074		OBS	0010	-0184	34103	2747			14396	693	203				086	811						
		STO	0020	-0185	3410	2747	0006199	0012	14398	697												
074		OBS	0026	-0185	34100	2747			14399	700	210				084	812						
		STO	0030	-0181	3417	2753	0005671	0018	14402	687												
		STO	0050	-0165	3444	2774	0003628	0028	14417	634												
074		OBS	0052	-0164	34461	2776			14418	630	220				087	806						
		STO	0075	-0153	3448	2777	0003342	0036	14427	620												
		STO	0100	-0138	3450	2778	0003224	0045	14439	606												
074		OBS	0103	-0136	34502	2778			14440	604	222				092	805						
		STO	0125	-0121	3452	2779	0003119	0052	14451	590												
		STO	0150	-0097	3455	2781	0002971	0060	14467	570												
074		OBS	0154	-0092	34556	2781			14470	567	229				094	804						
		STO	0200	-0023	3462	2783	0002765	0074	14510	518												
074		OBS	T0205	-0018	34622	2783			14513	514	230				100	800						
		STO	0250	0009	3465	2784	0002738	0088	14534	491												
074		OBS	0257	0012	34650	2784			14536	489	238				103	798						
		STO	0300	0019	3466	2784	0002690	0102	14547	483												
074		OBS	T0309	0020	34661	2784			14549	482	237				106	797						
		STO	0400	0029	3467	2784	0002707	0129	14568	479												
074		OBS	0411	0030	34667	2784			14570	478	238				108	797						
		STO	0500	0030	3467	2784	0002686	0156	14585	472												
074		OBS	T0512	0030	34672	2785			14587	471	238				110	799						
		STO	0600	0029	3467	2785	0002653	0182	14601	475												
074		OBS	0614	0029	34674	2785			14604	476	240				113	796						
		STO	0700	0028	3468	2785	0002633	0209	14618	477												
074		OBS	T0719	0027	34677	2785			14620	478	249				115	797						
		STO	0800	0023	3467	2785	0002617	0235	14632	484												
074		OBS	T0810	0023	34674	2785			14634	485	228				116	796						
		STO	0900	0020	3467	2785	0002599	0261	14647	488												
		STO	1000	0017	3467	2785	0002581	0287	14663	491												
074		OBS	T1018	0016	34672	2785			14665	491	247				119	795						
016		OBS	T1036	0016	34680	2786			14678	487	254				118	801						
		STO	1100	0014	3467	2786	0002552	0313	14678	493												
016		OBS	T1140	0012	34674	2786			14684	496	270				119	801						
		STO	1200	0010	3467	2786	0002540	0338	14693	497												
		STO	1300	0006	3467	2786	0002504	0363	14708	499												
016		OBS	1344	0005	34669	2786			14715	500	252				119	800						
		STO	1400	0004	3467	2786	0002499	0388	14724	502												
		STO	1500	0001	3467	2786	0002476	0413	14740	506												
016		OBS	1650	-0004	34665	2786			14763	512	256				118	802						
		STO	1750	-0008	3466	2786	0002402	0474	14778	518												
016		OBS	1956	-0015	34661	2786			14810	528	252				118	800						
		STO	2000	-0016	3466	2786	0002336	0533	14818	529												
016		OBS	T2262	-0021	34658	2786			14860	537	252				118	798						
		STO	2500	-0022	3466	2786	0002250	0648	14901	538												
016		OBS	2567	-0025	34658	2786			14911	541	251				118	797						
016		OBS	2872	-0028	34656	2786			14925	539	252				117	795						
		STO	3000	-0026	3465	2786	0002182	0759	14986	544												
039		OBS	T3185	-0029	34652	2786			15017	548	256				115	796						
039		OBS	3491	-0035	34649	2786			15068	557	252				115	794						
039		OBS	3773	-0047	34636	2786			15113	569	240				111	792						
039		OBS	3798	-0049	34637	2786			15116	575	251				109	790						
039		OBS	T3817	-0053	34637	2786			15118	779	226				107	791						
039		OBS	T3855	-0062	34645	2787			15121	580	222				097	797						

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ORIG. INCH	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	NODC STATION NUMBER		
CRS CODE	ID. NO.					10'	1"		MO	DAY			HR. 1/10	CRUISE NO.	STATION NUMBER				DIR.	HGT
318037	GL	694125	046163W	520	96	03	02	090	1968	037	3777	20	00	0	X		X1	0	3	0048

WATER		WIND		AIR TEMP. °C			NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO-METER (mb)	DRY BULB	WET BULB		
DT	SD	11	S05	865		-025	7	32

MESSNGR TIME & HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 <sup>3</sup>	S Δ D. DYN. M <sup>2</sup> x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	S C C
		STD	0000	-0185	3410	2747	0006219	0000	14394								
095		OBS	0000	-0185	34100	2747			14394								
		STD	0010	-0185	3410	2747	0006213	0006	14396								
006		OBS	0010	-0185	34100	2747			14396								
		OBS	0016	-0185	34100	2747			14397								
		STD	0020	-0175	3435	2767	0004317	0011	14406								
		OBS	0020	-0175	34349	2767			14406								
		OBS	0025	-0163	34450	2775			14414								
		STD	0030	-0164	3446	2776	0003488	0015	14414								
		OBS	0030	-0164	34460	2776			14414								
		OBS	0040	-0166	34467	2776			14415								
		STD	0050	-0160	3449	2778	0003258	0022	14420								
		OBS	0050	-0160	34490	2778			14420								
		STD	0075	-0142	3451	2779	0003147	0030	14433								
		OBS	0075	-0142	34510	2779			14433								
		STD	0100	-0128	3453	2780	0003028	0038	14444								
		OBS	0100	-0128	34530	2780			14444								
		STD	0125	-0100	3456	2782	0002892	0045	14461								
		OBS	0125	-0100	34560	2782			14461								
		STD	0150	-0050	3460	2783	0002793	0052	14489								
		OBS	0150	-0050	34600	2783			14489								
		STD	0200	0000	3465	2785	0002652	0066	14521								
		OBS	0200	0000	34651	2785			14521								
		STD	0250	0016	3466	2784	0002710	0079	14537								
		OBS	0250	0016	34655	2784			14537								
		STD	0300	0021	3466	2784	0002701	0093	14548								
		OBS	0300	0021	34660	2784			14548								
		STD	0400	0029	3467	2784	0002677	0120	14568								
		OBS	0400	0029	34670	2784			14568								
		STD	0500	0031	3467	2785	0002678	0147	14586								
		OBS	0500	0031	34672	2785			14586								
		STD	0600	0028	3467	2785	0002661	0173	14601								
		OBS	0600	0028	34672	2785			14601								
		STD	0700	0026	3467	2785	0002649	0200	14617								
		OBS	0700	0026	34672	2785			14617								
		STD	0800	0023	3467	2785	0002629	0226	14632								
		OBS	0800	0023	34672	2785			14632								
		STD	0900	0017	3467	2785	0002584	0252	14646								
		OBS	0900	0017	34672	2785			14646								
		STD	1000	0016	3467	2785	0002591	0278	14662								
		OBS	1000	0016	34670	2785			14662								
		STD	1100	0013	3467	2785	0002566	0304	14678								
		OBS	1100	0013	34670	2785			14678								
		STD	1200	0009	3467	2786	0002532	0329	14693								
		OBS	1200	0009	34670	2786			14693								
		STD	1300	0004	3467	2786	0002488	0355	14708								
		OBS	1300	0004	34670	2786			14708								
		STD	1400	0001	3467	2786	0002458	0379	14723								
		OBS	1400	0001	34670	2786			14723								
		STD	1500	-0003	3467	2786	0002426	0404	14738								
		OBS	1500	-0003	34669	2786			14738								
		OBS	1600	-0006	34668	2786			14754								
		OBS	1700	-0008	34667	2786			14770								
		STD	1750	-0010	3466	2786	0002384	0464	14778								
		OBS	1800	-0012	34660	2786			14785								
		OBS	1900	-0014	34660	2786			14801								
		STD	2000	-0015	3466	2786	0002346	0523	14818								
		OBS	2000	-0015	34660	2786			14818								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDIC.	M. ROSEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER				
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT					
318037	GL		70098S	043419W		556	03	03	02	180	1968		038	3713	10	00	0	X		X7	4	8		0049			
						WATER		WIND		BARO- METER		AIR TEMP. °C			SPECIAL OBSERVATIONS												
						COLOR CODE	TRANS. (m)	CUR.	SPEED OR FORCE	ORY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTH'S														
								14	S18	855			-030	6	15												

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \sigma$ OYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \text{at/l}$	pH	S C C
		STO	0000	-0177	3390	2731	0007767	0000	14395	780							
169		OBS	0000	-0177	33901	2731			14395	780	186				087	810	
		STD	0010	-0179	3390	2731	0007771	0008	14396	800							
169		OBS	0010	-0179	33899	2731			14396	800	193				086	813	
		STO	0020	-0158	3432	2764	0004584	0014	14413	733							
169		OBS	0025	-0152	34463	2776			14419	707	204				089	812	
		STD	0030	-0156	3447	2776	0003435	0018	14418	697							
		STD	0050	-0169	3448	2777	0003310	0025	14415	663							
169		OBS	0051	-0170	34484	2778			14415	662	214				092	805	
		STD	0075	-0171	3449	2778	0003215	0033	14419	632							
169		OBS	0077	-0171	34493	2778			14419	630	223				092	803	
		STD	0100	-0162	3451	2779	0003096	0041	14427	611							
169		OBS	0103	-0161	34509	2780			14428	609	229				095	804	
		STD	0125	-0150	3452	2780	0003020	0048	14437	606							
		STD	0150	-0129	3454	2781	0002927	0056	14452	594							
169		OBS	T0155	-0123	34542	2781			14455	590	226				092	801	
		STD	0200	-0051	3460	2783	0002779	0070	14497	537							
169		OBS	0206	-0043	34606	2783			14502	532	233				096	799	
		STD	0250	-0016	3463	2784	0002721	0084	14522	515							
		STD	0300	0005	3465	2784	0002683	0097	14540	500							
169		OBS	T0311	0009	34654	2784			14544	498	238				102	796	
		STD	0400	0019	3466	2784	0002690	0124	14563	490							
169		OBS	0412	0020	34664	2784			14566	489	237				106	794	
		STD	0500	0026	3467	2785	0002660	0151	14583	483							
169		OBS	T0518	0027	34673	2785			14587	482	240				107	792	
		STD	0600	0025	3467	2785	0002642	0177	14600	482							
169		OBS	0615	0025	34672	2785			14602	482	241				113	792	
		STD	0700	0024	3467	2785	0002636	0204	14616	486							
169		OBS	T0717	0024	34672	2785			14619	487	237				113	796	
		STD	0800	0020	3467	2785	0002607	0230	14631	489							
169		OBS	0818	0019	34672	2785			14633	490	240				116	795	
		STD	0900	0015	3467	2785	0002584	0256	14645	493							
		STD	1000	0011	3467	2785	0002552	0282	14660	496							
169		OBS	T1015	0010	34666	2785			14662	497	243				111	797	

REFERENCE	SHIP	LATITUDE	LONGITUDE	MO	DAY	HR	YEAR	ORIGINATOR	DEPTH	ANZ.	WAVE	WEA-	FLUO	NUC	
CRUISE	CODE	1/10	1/10	NO.	NO.	NO.	NO.	STATION	TO	DEPTH	OBSERVATIONS	THER	ID	ASSUM	
NO.								NUMBER	BOTTOM	OF		CODE	NO.	NUMBER	
										METRS					
318037	GL	71093S	043437W	556	13	03	03	060	1966	339	3305	40	00	013	0100

WATER		WIND		BARO-		AIR TEMP.		VIS		SPECIAL	
COLOR	SPHS	DIR.	SPEED	METER	DIR.	WET	BULB	CODE	NO.	OR.	OBSERVATIONS
CODE	NO.		F/SEC	(INCH)	WIND	BULB			OR.	DEPTH	
DT	SD	ZI	S06	068							

PASSENGER	CARD	DEPTH (M)	T °C	S. %	SIGMA-T	SPECIFIC VOLUME	Δ D	SOUND	O <sub>2</sub> (ml)	PO <sub>2</sub> -P	TOTAL-P	NO <sub>2</sub> -N	H <sub>2</sub> O-N	SiO <sub>4</sub> -D	P	Si
TIME	NO.					ANOMALY	DYN. M	VELOCITY		PL. (ml)	PH. (ml)	ML. (ml)	ML. (ml)	ML. (ml)	ML. (ml)	ML. (ml)
HR	1/10						° F 19									
070	STD	0000	-0184	3590	2731	0007767	0000	14392								
	OBS	0000	-0184	33899	2731			14392								
	STD	0010	-0184	3391	2732	0007644	0006	14394								
	OBS	0010	-0184	33914	2732			14394								
004	OBS	0017	-0184	33917	2732			14395								
	STD	0020	-0154	3443	2773	0003759	0013	14417								
	OBS	0020	-0154	34429	2773			14417								
	OBS	0025	-0170	34460	2776			14411								
	STD	0030	-0173	3447	2777	0003396	0017	14410								
	OBS	0030	-0173	34469	2777			14410								
	OBS	0040	-0176	34490	2778			14411								
	STD	0050	-0177	3450	2779	0003144	0024	14412								
	OBS	0050	-0177	34499	2779			14412								
	STD	0075	-0172	3452	2781	0002997	0031	14419								
	OBS	0075	-0172	34518	2781			14419								
	STD	0100	-0154	3453	2781	0002951	0039	14431								
	OBS	0100	-0154	34529	2781			14431								
	OBS	0112	-0141	34549	2782			14440								
	OBS	0121	-0148	34527	2781			14438								
	STD	0125	-0136	3453	2780	0002998	0046	14444								
	OBS	0125	-0136	34529	2780			14444								
	STD	0150	-0087	3463	2787	0002409	0053	14473								
	OBS	0150	-0087	34629	2787			14473								
	STD	0200	-0021	3467	2787	0002403	0065	14512								
	OBS	0200	-0021	34669	2787			14512								
	STD	0250	0004	3465	2784	0002687	0078	14531								
	OBS	0250	0004	34649	2784			14531								
	STD	0300	0003	3464	2784	0002717	0091	14539								
	OBS	0300	0003	34644	2784			14539								
	STD	0400	0016	3466	2785	0002656	0118	14562								
	OBS	0400	0016	34662	2785			14562								
	STD	0500	0022	3467	2785	0002641	0144	14581								
	OBS	0500	0022	34669	2785			14581								
	STD	0600	0023	3467	2785	0002649	0171	14599								
	OBS	0600	0023	34669	2785			14599								
	STD	0700	0021	3467	2785	0002636	0197	14614								
	OBS	0700	0021	34669	2785			14614								
	STD	0800	0016	3467	2785	0002600	0223	14629								
	OBS	0800	0016	34669	2785			14629								
	STD	0900	0016	3467	2785	0002599	0249	14646								
	OBS	0900	0016	34669	2785			14646								
	STD	1000	0013	3467	2785	0002575	0275	14661								
	OBS	1000	0013	34669	2785			14661								
	STD	1100	0007	3467	2786	0002526	0301	14675								
	OBS	1100	0007	34669	2786			14675								
	STD	1200	0005	3467	2786	0002507	0326	14691								
	OBS	1200	0005	34669	2786			14691								
	STD	1300	0000	3467	2786	0002462	0351	14706								
	OBS	1300	0000	34669	2786			14706								
	STD	1400	-0004	3467	2786	0002452	0375	14721								
	OBS	1400	-0004	34665	2786			14721								
	STD	1500	-0007	3466	2786	0002428	0400	14736								
	OBS	1500	-0007	34664	2786			14736								
	OBS	1600	-0010	34662	2786			14752								
	OBS	1700	-0013	34660	2786			14768								
	STD	1750	-0014	3466	2786	0002376	0460	14776								
	OBS	1800	-0015	34659	2786			14784								
	OBS	1900	-0017	34659	2786			14800								
	STD	2000	-0019	3466	2786	0002314	0519	14816								
	OBS	2000	-0019	34659	2786			14816								

REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	SPEED KNOTS	MMSDS SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL.	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODE	NODC STATION NUMBER	
						10'	1'	MO	DAY		HR	1/10			CRUISE NO.	STATION NUMBER	DIR				HGT
318037	GL		710935	043437W	556	13	03	03	0000	1968	059		3437	34	00	0	X		X1	67	0051
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS.		NO. OBS. DEPTH		SPECIAL OBSERVATIONS			
						COLOR	TRANS.	DIR.	SPEED OF FORCE	IMBLS	DRY BULB	WET BULB	WIS. CODE								
									21	506	866		-042	7	29						
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	T CODE				
		STD	0000	-0180	3391	2731	0007714	0000	14394	776											
061		OBS	0000	-0180	33907	2731			14394	776	197										
		STD	0010	-0181	3390	2731	0007728	0008	14395	782											
061		OBS	0010	-0181	33904	2731			14395	782	195										
		STD	0020	-0181	3391	2732	0007667	0015	14397	796											
061		OBS	0020	-0181	33915	2732			14398	805	196										
		STD	0030	-0179	3403	2741	0006751	0023	14401	780											
		STD	0050	-0173	3446	2776	0003453	0033	14413	665											
061		OBS	0050	-0172	34488	2778			14414	678	212										
		STD	0075	-0169	3450	2779	0003143	0041	14420	672											
		STD	0100	-0166	3451	2780	0003063	0049	14426	658											
061		OBS	0104	-0165	34516	2780			14427	655	218										
		STD	0125	-0150	3452	2780	0003020	0056	14437	626											
		STD	0150	-0125	3454	2781	0002941	0064	14454	604											
061		OBS	0156	-0118	34544	2781			14458	600	219										
		STD	0200	-0048	3460	2783	0002793	0078	14498	598											
061		OBS	T0205	-0042	34605	2783			14502	598	230										
		STD	0250	-0001	3464	2784	0002727	0092	14529	519											
061		OBS	0259	0004	34643	2784			14533	510	231										
		STD	0300	0005	3465	2784	0002712	0106	14545	504											
061		OBS	T0312	0005	34647	2784			14542	502	235										
		STD	0400	0015	3466	2784	0002680	0133	14561	492											
061		OBS	0413	0016	34660	2784			14564	491	234										
		STD	0500	0021	3467	2785	0002657	0159	14581	480											
061		OBS	T0514	0022	34667	2785			14584	479	235										
		STD	0600	0023	3467	2785	0002646	0186	14598	484											
061		OBS	0615	0023	34669	2785			14601	485	236										
		STD	0700	0025	3467	2785	0002655	0212	14616	488											
061		OBS	0715	0025	34674	2785			14619	489	237										
		STD	0800	0023	3467	2785	0002617	0239	14632	480											
061		OBS	0815	0022	34673	2785			14634	479	236										
		STD	0900	0022	3467	2785	0002637	0265	14648	482											
028		OBS	T0987	0016						485	242										
		STD	1000	0014	3467	2785	0002576	0291	14661	487											
061		OBS	T1015	0013	34669	2785			14664	489	242										
028		OBS	T1087	0012	34666	2785			14675	497	246										
		STD	1100	0011	3467	2785	0002580	0317	14677	497											
		STD	1200	0007	3466	2785	0002560	0342	14692	500											
028		OBS	1289	0003	34663	2785			14705	502	251										
		STD	1300	0003	3466	2785	0002531	0368	14707	502											
		STD	1400	-0001	3466	2785	0002500	0393	14722	505											
		STD	1500	-0004	3466	2785	0002476	0418	14738	508											
028		OBS	1547	-0007	34660	2786			14752	510	248										
		STD	1750	-0012	3466	2786	0002395	0479	14777	517											
028		OBS	1846	-0016	34659	2786			14800	523	254										
		STD	2000	-0019	3466	2786	0002314	0538	14816	526											
028		OBS	2199	-0022	34658	2786			14849	532	255										
		STD	2500	-0024	3465	2786	0002250	0652	14900	541											
028		OBS	2505	-0024	34654	2786			14901	541	254										
028		OBS	2811	-0029	34654	2786			14952	548	255										
		STD	3000	-0031	3465	2786	0002144	0762	14984	558											
028		OBS	3119	-0035	34648	2786			15003	562	258										
028		OBS	3325	-0046	34641	2786			15034	564	253										
028		OBS	3350	-0051	34636	2786			15036	571	253										
028		OBS	T3375	-0053	34643	2786			15040	582	251										
028		OBS	T3402	-0054	34641	2787			15039	589	248										
028		OBS	T3428	-0074	34639	2787			15039	596	248										

REFERENCE CTD CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	DEPTH FATHOMS	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	OBSERVATOR'S		DEPTH OF BOTTOM	TAY DEPTH OF STIMPLS	WAVE OBSERVATIONS			WEA THEP CODE	CLOUD CODES	NOFC STATION NUMBER	
						10°	1'	MO	DAY		HR.10	CRUISE NO.			STATION NUMBER	DIR	PERC.				PER
318037	GL		71476S	040413W	550	10	03	03	100	1968	040		3371	10	00	0	X	X1	0	7	0052

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS M	DIR	SPEED OF FORCE		DRY BULB	WET BULB			
			20	885	17	15			

MESSAGE TIME HR 1/10	CAST NO	CARD TYPE	DEPTH (m)	T °C	SAL	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t$	SOUND DYN. $\sigma_t$ A 10°	SOUND VELOCITY	$\sigma_t$ m	$\sigma_t$ -P $\mu$ - dt/l	TOTAL-P $\mu$ - dt/l	NO <sub>2</sub> -N $\mu$ - dt/l	NO <sub>3</sub> -N $\mu$ - dt/l	SiO <sub>4</sub> -Si $\mu$ - dt/l	PH	S C C
		STD	0000	-0179	3356	2704	0010253	0000	14390	806							
170		OBS	0000	-0179	33577	2704			14390	505	182				072	814	
		STD	0010	-0179	3357	2704	0010292	0010	14391	811							
170		OBS	0010	-0179	33571	2704			14391	811	231				071	814	
		STD	0020	-0148	3398	2730	0007220	0014	14413	791							
170		OBS	0026	-0138	34164	2751			14422	777	200				076	803	
		STD	0030	-0143	3423	2755	0005311	0025	14421	764							
		STD	0050	-0160	3447	2776	0003410	0034	14420	712							
170		OBS	0052	-0161	34484	2777			14420	708	212				081	797	
		STD	0075	-0162	3450	2779	0003163	0042	14423	678							
170		OBS	0077	-0162	34502	2779			14424	675	225				082	805	
		STD	0100	-0144	3451	2779	0003128	0050	14416	627							
170		OBS	0103	-0142	34514	2779			14437	625	240				083	803	
		STD	0125	-0140	3452	2780	0003047	0058	14442	625							
		STD	0150	-0137	3453	2780	0002992	0065	14448	624							
170		OBS	T0156	-0136	34530	2780			14447	624	727				085	791	
		STD	0200	-0067	3458	2782	0002856	0080	14489	622							
170		OBS	0206	-0039	34585	2782			14444	620	278				093	788	
		STD	0250	-0026	3461	2783	0002820	0094	14517	560							
		STD	0300	0002	3464	2784	0002741	0105	14539	513							
170		OBS	T0313	0007	34643	2784			14543	505	282				102	788	
		STD	0400	0022	3466	2784	0002730	0135	14565	495							
170		OBS	0411	0024	34660	2784			14567	494	239				104	787	
		STD	0500	0024	3466	2784	0002692	0163	14582	491							
170		OBS	T0514	0024	34662	2784			14585	491	231				107	781	
		STD	0600	0025	3467	2785	0002609	0189	14599	486							
170		OBS	0614	0025	34669	2785			14602	487	236				108	789	
		STD	0700	0032	3468	2785	0002652	0216	14619	484							
170		OBS	T0717	0033	34678	2785			14623	483	236				114	777	
		STD	0800	0028	3468	2785	0002675	024	14634	485							
170		OBS	0816	0027	34676	2785			14637	485	234				115	781	
		STD	0900	0023	3467	2785	0002645	0269	14649	486							
		STD	1000	0020	3467	2785	0002622	0295	14664	487							
170		OBS	T1018	0020	34664	2784			14667	487	238				115	782	

REFERENCE	SHIP CODE	LATITUDE	LONGITUDE	SUNTIME	W. SPEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		HODC STATION NUMBER	
					10'	1"	MO	DAY		HR.	1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA
318037	GL	71118S	039017W	455	19	03	04	060	1968		041	3813	20	00	0	X		X1	0	3	0053
				WAVE		WIND		BARO-METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
				COLOR		DIR.		SPEED OR FORCE		DRY BULB		WET BULB									
				DT		CD		00		500		921		-033		7		30			
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-1000	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg-at/l	TOTAL-P µg-at/l	NO <sub>2</sub> -N µg-at/l	NO <sub>3</sub> -N µg-at/l	SiO <sub>4</sub> -Si µg-at/l	µM	S	C			
		STD	0000	-0185	3353	2700	0010640	0400	14386												
062		OBS	0000	-0185	33525	2700			14386												
		STD	0010	-0177	3463	2708	0009881	0410	14393												
		OBS	0010	-0177	33625	2708			14393												
		STD	0020	-0142	3445	2774	0003671	0017	14423												
002		OBS	0020	-0142	34445	2774			14423												
		OBS	0025	-0160	34455	2775			14415												
		STD	0030	-0166	3447	2776	0003445	0021	14413												
		OBS	0030	-0166	34465	2776			14413												
		STD	0050	-0179	3450	2779	0003131	0027	14411												
		OBS	0050	-0179	34500	2779			14411												
		STD	0075	-0175	3454	2782	0002858	0035	14418												
		OBS	0075	-0175	34535	2782			14418												
		STD	0100	-0160	3454	2782	0002849	0042	14429												
		OBS	0100	-0160	34540	2782			14429												
		STD	0125	-0132	3457	2783	0002736	0049	14446												
		OBS	0125	-0132	34565	2783			14446												
		STD	0150	-0100	3459	2784	0002692	0056	14466												
		OBS	0150	-0100	34585	2784			14466												
		STD	0200	-0037	3468	2788	0002276	0068	14505												
		OBS	0200	-0037	34675	2788			14505												
		STD	0250	-0010	3464	2784	0002647	0080	14525												
		OBS	0250	-0010	34644	2784			14525												
		STD	0300	-0009	3464	2784	0002649	0094	14534												
		OBS	0300	-0009	34644	2784			14534												
		STD	0400	0012	3467	2785	0002601	0120	14560												
		OBS	0400	0012	34666	2785			14560												
		STD	0500	0021	3467	2785	0002657	0146	14581												
		OBS	0500	0021	34666	2785			14581												
		STD	0600	0020	3467	2785	0002644	0173	14597												
		OBS	0600	0020	34667	2785			14597												
		STD	0700	0019	3467	2785	0002599	0199	14613												
		OBS	0700	0019	34672	2785			14613												
		STD	0800	0016	3467	2785	0002570	0225	14629												
		OBS	0800	0016	34673	2785			14629												
		STD	0900	0013	3467	2785	0002592	0250	14644												
		OBS	0900	0013	34667	2785			14644												
		STD	1000	0008	3467	2785	0002559	0276	14659												
		OBS	1000	0008	34666	2785			14659												
		STD	1100	0004	3467	2785	0002532	0302	14674												
		OBS	1100	0004	34665	2785			14674												
		STD	1200	0003	3467	2786	0002513	0327	14690												
		OBS	1200	0003	34666	2786			14690												
		STD	1300	-0001	3467	2786	0002483	0352	14705												
		OBS	1300	-0001	34665	2786			14705												
		STD	1400	-0003	3467	2786	0002461	0377	14721												
		OBS	1400	-0003	34665	2786			14721												
		STD	1500	-0006	3467	2786	0002429	0401	14737												
		OBS	1500	-0006	34665	2786			14737												
		STD	1600	-0011	34664	2786			14752												
		OBS	1700	-0013	34663	2786			14768												
		STD	1750	-0014	3466	2786	0002354	0461	14776												
		OBS	1800	-0015	34663	2786			14784												
		STD	1900	-0017	34660	2786			14800												
		OBS	2000	-0018	3466	2786	0002316	0519	14817												
		STD	2000	-0018	34660	2786			14817												



REFERENCE OBT. CODE	SHIP NO.	LATITUDE 1/10	LONGITUDE 1/10	MOON PHASE	HARDEN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
					10'	1"	M/D	DAY	HR./10	CRUISE NO.		STATION NUMBER	DIR.			HGT.	PER.	SEA.	TYPE		AMT.		
318037	GL	71118S	039017W		555	19	03	04	060	1968		041	3895	39	00	0	X		X1	6	7		0054
					WATER		WIND		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
					COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	BARO-METER (mb)	DRY BULB	WET BULB	VIS. CODE											
							00	S00	921		-033	7	30										
MESSING TIME HR./10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D OYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>2</sub> -P µg - dl/l	TOTAL-P µg - dl/l	NO <sub>2</sub> -N µg - dl/l	NO <sub>3</sub> -N µg - dl/l	SiO <sub>2</sub> -Si µg - dl/l	pH	SEC.						
		STD	0000	-0178	3356	2703	0010386	0000	14390	791													
056		OBS	0000	-0178	33560	2703			14390	791	182				079	810							
		STD	0010	-0179	3355	2702	0010445	0010	14391	792													
056		OBS	0010	-0179	33551	2702			14391	792	177				079	811							
		STD	0020	-0168	3365	2710	0009702	0020	14399	782													
056		OBS	0025	-0164	33732	2717			14403	773	198				081	812							
		STD	0030	-0165	3392	2732	0007630	0029	14406	755													
056		OBS	0050	-0168	3448	2777	0003314	0040	14416	695													
		OBS	0051	-0168	34500	2779			14416	693	220				082	810							
		STD	0075	-0169	3451	2779	0003096	0048	14420	664													
056		OBS	0100	-0171	3451	2780	0003032	0056	14423	638													
		OBS	0102	-0171	34512	2780			14424	636	242				084	809							
		STD	0125	-0156	3452	2780	0003002	0063	14435	620													
		STD	0150	-0134	3454	2781	0002909	0071	14449	601													
056		OBS	0153	-0131	34544	2781			14451	598	238				086	805							
		STD	0200	-0070	3459	2783	0002767	0085	14488	553													
056		OBS	0205	-0064	34592	2783			14492	548	254				088	802							
		STD	0250	-0012	3463	2783	0002742	0099	14524	507													
056		OBS	0256	-0008	34637	2784			14527	504	249				092	799							
		STD	0300	-0007	3464	2784	0002690	0112	14534	503													
056		OBS	T0307	-0006	34640	2784			14536	503	248				092	798							
		STD	0400	0011	3465	2784	0002716	0139	14559	493													
056		OBS	0409	0012	34656	2784			14562	492	258				092	797							
		STD	0500	0021	3466	2784	0002703	0166	14581	486													
056		OBS	T0513	0022	34663	2784			14583	485	256				096	800							
		STD	0600	0022	3467	2785	0002642	0193	14598	483													
056		OBS	0611	0022	34670	2785			14600	483	255				098	798							
		STD	0700	0020	3467	2785	0002623	0219	14614	485													
056		OBS	T0718	0020	34667	2785			14617	485	263				100	797							
		STD	0800	0017	3467	2785	0002616	0246	14629	479													
056		OBS	T0806	0017	34668	2785			14630	478	257				099	791							
		STD	0900	0015	3467	2785	0002599	0272	14645	484													
		STD	1000	0010	3467	2785	0002567	0298	14660	490													
056		OBS	T1009	0009	34667	2785			14661	491	263				100	782							
023		OBS	1032	0007	34666	2785			14664	498	267				100	784							
		STD	1100	0005	3467	2785	0002533	0323	14674	499													
023		OBS	1134	0004	3465Q	2784Q			500	275					101	784							
		STD	1200	0002	3467	2786	0002505	0348	14690	503													
		STD	1300	-0001	3467	2786	0002476	0373	14705	508													
023		OBS	1339	-0002	3464Q	2784Q			510	258					101	784							
		STD	1400	-0004	3467	2786	0002445	0398	14721	513													
		STD	1500	-0007	3467	2786	0002406	0422	14736	517													
023		OBS	1647	-0011	3463Q	2783Q			521	265					101	784							
		STD	1750	-0012	3467	2786	0002343	0481	14777	522													
023		OBS	1954	-0014	34667	2787			14811	524	262				103	785							
		STD	2000	-0015	3467	2786	0002302	0539	14818	525													
023		OBS	2259	-0021	34662	2786			14860	532	267				104	787							
		STD	2500	-0026	3466	2786	0002220	0652	14899	538													
023		OBS	T2552	-0027	34653	2786			14908	539	272				105	768							
023		OBS	2870	-0027	34658	2786			14963	537	260				112	787							
		STD	3000	-0028	3466	2786	0002122	0761	14985	543													
023		OBS	3176	-0030	34659	2787			15015	549	252				110	786							
023		OBS	T3482	-0034	34650	2786			15067	557	250				110	783							
023		OBS	3790	-0044	34638	2786			15117	560	256				100	784							
023		OBS	3815	-0047	34637	2786			15120	562	267				100	767							
023		OBS	3841	-0048	34634	2785			15124	566	254				100	777							
023		OBS	T3868	-0054	34624	2785			15126	566	272				100	784							
023		OBS	T3890	-0068	34608	2784			15124	573	267				100								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE DD-MON-YY	WADSWORTH SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NOOD STATION NUMBER
CRUISE NO.	STATION NUMBER					10"	1"	MO	DAY		HR.	1/10			NO.	NUMBER	DIR.		HGT.	PER.	
318037	GL	70215S	037448W	555	07	03	04	180	1968	042	4023	40	00	0	X	X1	6	7	0055		

WATER		WIND		BARO-METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED (kts)		DRY BULB	WET BULB			
		08	S07	928	-036	7	31		

MESSAGE TIME & HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	SI O <sub>4</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	S. COND.
		STD	0000	-0144	3365	2709	0009806	0000	14407	808							
193		OBS	0000	-0144	33646	2709			14407	808	153					069	809
		STD	0010	-0144	3364	2709	0009823	0010	14409	809							
193		OBS	0010	-0144	33643	2709			14409	809	156					069	814
		STD	0020	-0140	3368	2711	0009568	0020	14413	808							
193		OBS	0026	-0137	33697	2713			14416	807	162					071	809
		STD	0030	-0144	3387	2727	0008069	0028	14415	777							
		STD	0050	-0169	3446	2776	0003464	0040	14415	672							
193		OBS	0052	-0171	34497	2779			14415	665	226					095	795
		STD	0075	-0174	3451	2780	0003069	0048	14418	643							
193		OBS	0078	-0174	34509	2780			14418	641	226					097	798
		STD	0100	-0170	3451	2780	0003050	0056	14424	640							
193		OBS	0104	-0168	34516	2780			14425	639	230					099	795
		STD	0125	-0147	3453	2781	0002954	0063	14439	616							
		STD	0150	-0119	3455	2781	0002910	0071	14456	591							
193		OBS	0155	-0113	34550	2781			14460	586	235					100	792
		STD	0200	-0051	3460	2783	0002779	0085	14497	549							
193		OBS	0207	-0044	34605	2783			14502	544	240					100	784
		STD	0250	-0021	3462	2783	0002770	0099	14519	519							
		STD	0300	-0002	3464	2784	0002719	0112	14537	501							
193		OBS	T0310	0001	34642	2784			14540	498	244					100	779
		STD	0400	0011	3465	2784	0002716	0139	14559	496							
193		OBS	0411	0012	34652	2784			14562	496	241					100	786
		STD	0500	0022	3466	2784	0002709	0167	14581	490							
193		OBS	T0512	0023	34661	2784			14584	489	245					100	788
		STD	0600	0027	3467	2785	0002665	0193	14600	480							
193		OBS	0612	0027	34671	2785			14602	479	245					110	782
		STD	0700	0025	3467	2785	0002644	0220	14616	478							
193		OBS	0714	0025	34672	2785			14619	478	246					115	783
		STD	0800	0022	3467	2785	0002636	0246	14632	480							
193		OBS	T0815	0021	34668	2785			14634	485	250					116	790
170		OBS	T0884	0017	34677	2786			14643	529	240					118	790
		STD	0900	0016	3468	2786	0002547	0272	14646	527							
170		OBS	T0979	0013	34672	2786			14657	515	236					119	794
		STD	1000	0013	3467	2785	0002568	0298	14661	500							
193		OBS	T1015	0013	34666	2785			14663	491	242					119	792
		STD	1100	0009	3467	2785	0002557	0324	14676	508							
170		OBS	1189	0006	34668	2786			14690	521	236					119	793
		STD	1200	0006	3467	2786	0002523	0349	14691	521							
		STD	1300	0002	3467	2786	0002501	0374	14707	525							
		STD	1400	-0001	3466	2786	0002485	0399	14722	528							
170		OBS	T1477	-0003	34662	2786			14734	531	243					120	792
		STD	1500	-0004	3466	2786	0002469	0424	14738	532							
		STD	1750	-0010	3466	2785	0002406	0485	14777	544							
170		OBS	1789	-0011	34661	2786			14784	545	240					120	789
		STD	2000	-0016	3466	2786	0002336	0544	14818	547							
170		OBS	2089	-0016	34657	2786			14832	550	245					119	789
170		OBS	2389	-0023	34654	2786			14881	566	234					117	788
		STD	2500	-0025	3465	2786	0002239	0658	14900	567							
170		OBS	2689	-0028	34653	2786			14931	569	243					111	788
170		OBS	T2993	-0028	34652	2786			14984	555	264					111	778
		STD	3000	-0028	3465	2786	0002165	0768	14985	555							
170		OBS	3289	-0029	34654	2786			15035	557	254					111	777
170		OBS	3589	-0033	34652	2786			15087	561	250					111	774
170		OBS	3889	-0038	34644	2786			15137	562	250					111	772
170		OBS	3914	-0040	34646	2786			15141	566	249					110	771
170		OBS	3939	-0039	34643	2786			15146	563	244					107	771
170		OBS	T3986	-0042	34638	2786			15153	566	246					107	772
		STD	4000	-0042	3464	2786	0001954	0974	15155	563							
170		OBS	T4013	-0042	34639	2786			15158	558	246					100	779

REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	INSTR. NO.	M/RSDEN: SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10"	1'	MO	DAY		HR	1/10			CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA	
318037	GL		69292S	036522W		1519	96	03	05	1060	1968	043	4219	42	00	0	X		X7	6	6	0056

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. IMI	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			
		02	508	926	-015	6	30		

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> ?	Σ Δ σ DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>3</sub> -N μg - dl/l	NO <sub>2</sub> -N μg - dl/l	SI O <sub>4</sub> -Si μg - dl/l	pH	3 CIT
		STD	0000	-0103	3380	2720	0008777	0000	14429	796							
074		OBS	0000	-0103	33796	2720			14429	796							
		STD	0010	-0106	3379	2720	0008801	0009	14429	798							
074		OBS	0010	-0106	33791	2720			14429	798							
		STD	0020	-0113	3383	2723	0008474	0017	14428	804							
074		OBS	0024	-0118	33878	2727			14427	807							
		STD	0030	-0133	3406	2742	0006644	0025	14423	766							
074		OBS	0049	-0166	34476	2777			14417	666							
		STD	0050	-0166	3448	2777	0003319	0035	14417	665							
		STD	0075	-0163	3449	2778	0003236	0043	14422	642							
074		OBS	0098	-0161	34503	2779			14427	624							
		STD	0100	-0159	3450	2779	0003128	0051	14429	623							
		STD	0125	-0139	3452	2780	0003072	0059	14443	611							
074		OBS	0146	-0123	34530	2780			14454	600							
		STD	0150	-0121	3453	2780	0003017	0066	14455	598							
074		OBS	0194	-0090	34558	2781			14477	570							
		STD	0200	-0081	3457	2782	0002870	0081	14483	564							
		STD	0250	-0023	3461	2782	0002835	0095	14518	519							
074		OBS	0289	0006	34638	2783			14539	496							
		STD	0300	0007	3464	2783	0002770	0109	14541	494							
074		OBS	T0382	0016	34650	2784			14559	482							
		STD	0400	0018	3465	2783	0002759	0137	14563	481							
074		OBS	0478	0023	34650	2783			14578	478							
		STD	0500	0024	3465	2783	0002779	0165	14582	479							
074		OBS	T0574	0025	34657	2784			14595	480							
		STD	0600	0027	3466	2784	0002744	0192	14600	479							
074		OBS	0668	0031	34667	2784			14613	478							
		STD	0700	0032	3467	2784	0002729	0220	14619	477							
074		OBS	T0768	0033	34668	2784			14631	476							
		STD	0800	0032	3467	2784	0002726	0247	14636	476							
		STD	0900	0030	3467	2784	0002702	0274	14652	476							
074		OBS	T0954	0028	34669	2784			14660	476							
		STD	1000	0029	3467	2785	0002688	0301	14668	477							
074		OBS	T1091	0032	34675	2785			14685	480							
		STD	1100	0027	3467	2785	0002679	0328	14684	482							
024		OBS	T1117	0019	34667	2785			14683	486							788
		STD	1200	0016	3467	2785	0002611	0354	14696	488							
		STD	1300	0012	3467	2785	0002580	0380	14711	490							
		STD	1400	0009	3467	2785	0002546	0406	14726	492							
024		OBS	1415	0008	34667	2785			14729	492							786
		STD	1500	0006	3467	2785	0002528	0431	14742	498							
024		OBS	1710	0000	34663	2785			14775	510							786
		STD	1750	-0001	3466	2785	0002494	0494	14781	512							
		STD	2000	-0010	3466	2786	0002397	0555	14820	523							
024		OBS	T2006	-0010	34657	2786			14821	523							785
024		OBS	2305	-0018	34658	2786			14869	528							784
		STD	2500	-0020	3466	2786	0002272	0672	14902	533							
024		OBS	2605	-0021	34657	2786			14920	536							780
024		OBS	2905	-0025	34655	2786			14970	544							780
		STD	3000	-0025	3466	2786	0002173	0783	14987	548							
024		OBS	3205	-0025	34657	2786			15023	554							778
024		OBS	3505	-0030	34653	2786			15073	555							779
024		OBS	T3801	-0030	34652	2786			15125	562							777
		STD	4000	-0030	3465	2786	0002031	0993	15161	562							
024		OBS	4107	-0032	34652	2786			15179	562							777
024		OBS	4157	-0033	34649	2786			15188	562							777
024		OBS	4183	-0034	34653	2786			15192	564							781
024		OBS	T4208	-0035	34651	2786			15196	563							778
024		OBS	T4233	-0036	34645	2786			15200	555							780

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MOBIL. INDIC.	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT	
318037	GL	693375	039339W	519	99	03	05	150	1968	044	3995	10	00	0	X	X1	6	7	0057			
		WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE		ND. OBS. DEPTHS		SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mb)	DRY BULB	WET BULB	VIS. CODE	ND. OBS. DEPTHS												
				07	S10	908		-011	7	15												

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY - t10 <sup>3</sup>	Σ Δ σ DYN. M. X 10 <sup>2</sup>	SOUND VELOCITY	D <sub>2</sub> ml/l	PO <sub>4</sub> -P μg · dl/l	TOTAL-P μg · dl/l	NO <sub>2</sub> -N μg · dl/l	NO <sub>3</sub> -N μg · dl/l	SiO <sub>2</sub> -Si μg · dl/l	pH	ST. C
		STD	0000	-0111	338.3	2723	0008529	0000	14425	799							
145		OBS	0000	-0111	338.25	2723			14425	799							
		STD	0010	-0113	338.2	2723	0008525	0009	14426	800							
145		OBS	0010	-0113	338.24	2723			14426	800							
		STD	0020	-0113	338.5	2724	0008344	0017	14428	800							
145		OBS	0024	-0116	338.56	2725			14427	800							
		STD	0030	-0132	340.6	2742	0006647	0024	14424	753							
145		OBS	0049	-0165	344.87	2778			14417	655							
		STD	0050	-0165	344.9	2778	0003245	0034	14417	654							
145		OBS	0073	-0173	345.05	2780			14418	637							
		STD	0075	-0174	345.1	2780	0003091	0042	14418	636							
145		OBS	0098	-0176	345.10	2780			14421	628							
		STD	0100	-0175	345.1	2780	0003029	0050	14421	626							
		STD	0125	-0161	345.2	2781	0002972	0057	14432	607							
145		OBS	T0146	-0149	345.32	2781			14442	606							
		STD	0150	-0142	345.4	2781	0002882	0065	14446	613							
145		OBS	0195	-0075	345.85	2783			14485	655							
		STD	0200	-0070	345.9	2783	0002767	0079	14488	644							
		STD	0250	-0029	346.2	2783	0002728	0093	14516	550							
145		OBS	T0294	-0004	346.39	2784			14535	499							
		STD	0300	-0003	346.4	2784	0002713	0106	14536	498							
145		OBS	0392	0014	346.56	2784			14560	487							
		STD	0400	0015	346.6	2784	0002665	0133	14561	486							
145		OBS	T0490	0019	346.63	2784			14578	483							
		STD	0500	0019	346.6	2784	0002667	0160	14580	484							
145		OBS	0589	0017	346.65	2785			14594	488							
		STD	0600	0018	346.7	2785	0002645	0186	14596	487							
145		OBS	T0687	0021	346.69	2785			14612	482							
		STD	0700	0021	346.7	2785	0002636	0213	14614	481							
145		OBS	0782	0020	346.70	2785			14628	480							
		STD	0800	0020	346.7	2785	0002622	0239	14631	481							
		STD	0900	0017	346.7	2785	0002592	0265	14646	485							
145		OBS	T0988	0014	346.71	2785			14659	489							

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	HEIGHT	WIND SQUARE	STATION TIME		YEAR	ORIGINATOR'S		DEPTH	WAVE PERIOD	WAVE OBSERVATIONS	WFA	WIND	WAVE	NO. OF STATIONS	NO. OF OBSERVATIONS
STATION NO.	ID. NO.						NO.	DAY		HR	MIN								
318037	GL		703075	040506	W	500	00	03	00	00	1968	045	3476	312	00	10	17	8	0058

COLOR CODE	TRANS	WIND		BAROMETER	AIR TEMP °C		NO. OF DEPTHS	SPECIAL OBSERVATIONS
		DIR.	SPEED		DIS. BULB	WET BULB		
		13	513	964				-0126

MESSAGE NO.	CAST NO.	CAND. TYPE	DEPTH (m)	T °C	SAL.	SIGMA-T	SPECIFIC VOLUME	S.D. DEN. M.	SOUND VELOCITY	D <sub>2</sub> (m)	PO-2	TOTAL-P	H <sub>2</sub> O-N	NO <sub>3</sub> -N	PH	SEC
		STD	0300	-0159	3555	27.70	0010559	0000	14495	600						
	042	OBS	0300	-0159	35530	27.70			14348	600						819
		STD	0010	-0165	3551	26.99	0010761	0011	14397	614						
	042	OBS	0010	-0165	35514	26.99			14397	614						819
		STD	0020	-0166	3555	27.02	0010475	0021	14349	610						
	042	OBS	0025	-0167	35618	27.07			14400	603						813
		STD	0030	-0163	3586	27.27	0008095	0031	14400	723						
		STD	0050	-0160	3448	27.77	0103120	0043	14420	709						
	042	OBS	0050	-0160	34482	27.77			14420	709						811
	042	OBS	0074	-0179	34484	27.75			14415	620						809
		STD	0075	-0179	3448	27.75	0003239	0050	14415	620						
		STD	0100	-0177	3445	27.79	0003161	0058	14420	626						
	042	OBS	0100	-0177	34493	27.79			14420	626						307
		STD	0125	-0168	3450	27.79	0003119	0065	14429	616						
	042	OBS	0144	-0155	34511	27.75			14439	605						805
		STD	0150	-0154	3451	27.80	0003056	0074	14440	605						
	042	OBS	0198	-0113	34542	27.81			14467	582						805
		STD	0200	-0111	3454	27.81	0002951	0069	14468	581						
		STD	0205	-0059	3458	27.82	0002890	0103	14501	553						
		STD	0300	-0022	3461	27.83	0002804	0118	14527	529						
	042	OBS	T0300	-0022	34614	27.83			14527	529						803
	042	OBS	0398	0006	34636	27.83			14557	495						802
		STD	0400	0005	3464	27.83	0002793	0146	14557	495						
		STD	0500	0021	3466	27.84	0002723	0173	14581	486						
	042	OBS	T0503	0021	34658	27.84			14581	486						801
	042	OBS	0598	0022	34664	27.84			14598	493						800
		STD	0600	0022	3466	27.84	0002680	0200	14598	493						
		STD	0700	0023	3467	27.84	0002680	0227	14615	491						
	042	OBS	T0704	0023	34665	27.84			14615							799
	042	OBS	T0793	0017	34663	27.85			14628	490						798
		STD	0800	0017	3466	27.85	0002652	0254	14629	490						
		STD	0900	0015	3467	27.85	0002622	0280	14645	493						
		STD	1000	0013	3467	27.85	0002599	0306	14661	495						
	042	OBS	T1003	0013	34666	27.85			14661	495						796
	012	OBS	T1012	0014	34671	27.85			14662	493						796
		STD	1100	0011	3467	27.85	0002547	0332	14677	496						
		STD	1200	0006	3467	27.86	0002511	0357	14692	499						
		STD	1300	0002	3467	27.86	0002474	0382	14707	502						
	012	OBS	1309	0002	34666	27.86			14708	502						799
		STD	1400	-0001	3467	27.86	0002478	0407	14722	511						
		STD	1500	-0003	3466	27.86	0002470	0432	14738	519						
	012	OBS	1607	-0006	34661	27.86			14755	525						798
		STD	1750	-0009	3466	27.86	0002423	0493	14778	526						
	012	OBS	T1906	-0013	34659	27.86			14803	529						798
		STD	2000	-0015	3466	27.86	0002353	0522	14818	533						
	012	OBS	2205	-0019	34658	27.86			14851	539						796
		STD	2500	-0025	3466	27.86	0002232	0667	14900	541						
	012	OBS	2504	-0025	34655	27.86			14900	541						796
	012	OBS	2804	-0025	34655	27.86			14952	543						794
		STD	3000	-0026	3466	27.86	0002168	0777	14986	553						
	012	OBS	3103	-0027	34655	27.86			15004	557						794
	012	OBS	3402	-0031	34650	27.86			15054	562						795
	012	OBS	T3701	-0035	34642	27.86			15105	568						794
	012	OBS	3801	-0041	34638	27.85			15120	568						796
	012	OBS	3826	-0044	34628	27.85			15123	573						797
	012	OBS	T3855	-0047	34628	27.85			15127	571						793
	012	OBS	T3881	-0051	34621	27.85			15130	568						796

REFERENCE STATION CODE	SHIP ID. NO. CODE	LATITUDE 1/10	LONGITUDE 1/10	WAVE METER NO.	WIND		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER
					DIR	SPD	HR	MIN		CRUISE NO.	STATION NUMBER			DIR	HGT	PER			

318037	GL	703075	040567W	550	00	03	06	06	1968	045		3877	20	00	C	X	X1	03	0059
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WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS MTR	DIR	SPEED OR FORCE		DRY BULB	WET BULB			

01	SD	05	509	904	-024	6	31	
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MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S... SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	S.A.D DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - dl/l	TOTAL-P µg - dl/l	NO <sub>2</sub> -N µg - dl/l	NO <sub>3</sub> -N µg - dl/l	SiO <sub>4</sub> -Si µg - dl/l	pH	S C C
		STD	0000	-0167	3352	2700	0010710	0000	14395							
068		OBS	0000	-0167	33521	2700			14395							
		STD	0010	-0172	3352	2699	0010730	0011	14394							
		OBS	0010	-0172	33516	2699			14394							
005		OBS	0018	-0134	33631	2708			14415							
		STD	0020	-0150	3383	2724	0008358	0020	14410							
		OBS	0020	-0150	33831	2724			14410							
		OBS	0025	-0157	34460	2775			14417							
		STD	0030	-0161	3446	2777	0003374	0026	14416							
		OBS	0030	-0161	34477	2777			14416							
		STD	0050	-0176	3449	2779	0003200	0033	14412							
		OBS	0050	-0176	34442	2777			14412							
		STD	0075	-0178	3450	2779	0003103	0041	14416							
		OBS	0075	-0178	34502	2779			14416							
		STD	0100	-0164	3452	2781	0002983	0048	14427							
		OBS	0100	-0164	34521	2781			14427							
		STD	0125	-0136	3456	2783	0002753	0055	14445							
		OBS	0125	-0136	34561	2783			14445							
		STD	0150	-0111	3455	2781	0002901	0062	14460							
		OBS	0150	-0111	34552	2781			14460							
		STD	0200	-0051	3459	2782	0002847	0077	14497							
		OBS	0200	-0051	34591	2782			14497							
		STD	0250	-0008	3464	2784	0002719	0091	14526							
		OBS	0250	-0008	34636	2784			14526							
		STD	0300	0001	3464	2784	0002728	0104	14538							
		OBS	0300	0001	34641	2784			14538							
		STD	0400	0017	3465	2783	0002783	0132	14562							
		OBS	0400	0017	34645	2783			14562							
		STD	0500	0026	3466	2784	0002728	0159	14583							
		OBS	0500	0026	34661	2784			14583							
		STD	0600	0025	3467	2784	0002655	0187	14597							
		OBS	0600	0025	34666	2784			14599							
		STD	0700	0021	3467	2785	0002658	0213	14614							
		OBS	0700	0021	34666	2785			14614							
		STD	0800	0019	3467	2785	0002644	0240	14630							
		OBS	0800	0019	34665	2785			14630							
		STD	0900	0015	3467	2785	0002614	0266	14645							
		OBS	0900	0015	34664	2785			14645							
		STD	1000	0011	3466	2785	0002605	0292	14660							
		OBS	1000	0011	34663	2785			14660							
		STD	1100	0007	3466	2785	0002586	0318	14675							
		OBS	1100	0007	34661	2785			14675							
		STD	1200	0004	3466	2785	0002558	0344	14690							
		OBS	1200	0004	34661	2785			14690							
		STD	1300	0001	3466	2785	0002537	0369	14706							
		OBS	1300	0001	34660	2785			14706							
		STD	1400	-0003	3466	2785	0002528	0395	14721							
		OBS	1400	-0003	34656	2785			14721							
		STD	1500	-0006	3465	2785	0002526	0420	14737							
		OBS	1500	-0006	34652	2785			14737							
		OBS	1600	-0009	34652	2785			14752							
		OBS	1700	-0011	34652	2785			14768							
		STD	1750	-0013	3465	2785	0002444	0482	14776							
		OBS	1800	-0014	34651	2785			14784							
		OBS	1900	-0016	34651	2785			14800							
		STD	2000	-0018	3465	2785	0002382	0542	14817							
		OBS	2000	-0018	34651	2785			14817							

REFERENCE SITE CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	SPEED KNOTS	WIND SQUARE			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WAT- TEMP CODE	CLOUD CODES	NODC STATION NUMBER
					TO	1'	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR.			
318037	GL	69315S	042356W	520	92	03	06	150	1968	046	3877	10	00	0	X	X2	718	0060

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS M	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		04	S09	876			-011	6	15

MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMAL- $\sigma_{\theta}$	$\Sigma \Delta \sigma$ DYN. M. $\gamma 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \sigma_1/\text{l}$	TOTAL-P $\mu\text{g} - \sigma_1/\text{l}$	NO <sub>3</sub> -N $\mu\text{g} - \sigma_1/\text{l}$	NO <sub>2</sub> -N $\mu\text{g} - \sigma_1/\text{l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \sigma_1/\text{l}$	pH	S CL
		STD	0000	-0152	3394	2733	0007520	0000	14408	817							
143		OBS	0000	-0152	3394	2733			14408	817							824
		STD	0010	-0152	3394	2733	0007522	0008	14409	817							
143		OBS	0011	-0152	33939	2733			14409	817							824
		STD	0020	-0154	3394	2733	0007519	0015	14410	819							
143		OBS	0026	-0155	33939	2733			14410	820							824
		STD	0030	-0156	3406	2743	0006579	0022	14412	788							
		STD	0050	-0162	3448	2776	0003483	0032	14418	674							
143		OBS	0052	-0163	34487	2778			14419	666							819
		STD	0075	-0174	3449	2778	0003207	0041	14418	636							
143		OBS	0078	-0175	34494	2779			14417	633							819
		STD	0100	-0161	3451	2780	0003076	0048	14428	614							
143		OBS	0104	-0158	34514	2780			14430	611							815
		STD	0125	-0135	3453	2780	0002993	0056	14445	598							
		STD	0150	-0106	3455	2781	0002936	0063	14463	581							
143		OBS	T0157	-0098	34560	2782			14468	575							811
		STD	0200	-0043	3461	2783	0002741	0078	14501	523							
143		OBS	0206	-0037	34617	2783			14508	522							811
		STD	0250	-0020	3463	2784	0002699	0091	14520	517							
		STD	0300	-0004	3464	2784	0002707	0105	14536	505							
143		OBS	T0306	-0002	34642	2784			14538	504							809
		STD	0400	0020	3466	2784	0002703	0132	14564	488							
143		OBS	0408	0021	34660	2784			14565	487							807
		STD	0500	0029	3467	2784	0002681	0159	14585	479							
143		OBS	T0509	0030	34673	2785			14587	478							808
		STD	0600	0027	3468	2785	0002633	0185	14601	474							
143		OBS	0610	0027	34675	2785			14602	474							808
		STD	0700	0027	3468	2785	0002633	0212	14617	476							
143		OBS	T0711	0027	34675	2785			14619	477							808
		STD	0800	0024	3467	2785	0002623	0238	14633	483							
143		OBS	0810	0024	34674	2785			14634	484							807
		STD	0900	0021	3467	2785	0002600	0264	14648	489							
		STD	1000	0017	3467	2785	0002576	0290	14663	494							
143		OBS	T1006	0017	34673	2785			14664	494							806

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	TIME 1/10	1/2 ROSEN SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CRUISE NO.	ID. NO.					10'	1'	M	DAY	HR.		1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER			
318037	GL	68409S	040045W	520	80	03	07	060	1968		047	4178	58			0	2		X7	6	8	0061
		WATER		WIND		BARO-METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
		COLOR		TRANS. (m)		DIR.		SPEED OR FORCE		DRY BULB		WET BULB										
				04		S10		891		-018		4		30								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10 <sup>3</sup>	Σ Δ O DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	σ <sub>t</sub> CC					
		STD	0000	-0111	3393	2731	0007747	0000	14427	813												
	047	OBS	0000	-0111	33927	2731			14427	813							820					
		STD	0010	-0111	3392	2731	0007765	0008	14428	813												
	047	OBS	0011	-0111	33924	2731			14428	813							820					
		STD	0020	-0112	3393	2731	0007742	0016	14429	816												
	047	OBS	0027	-0113	33928	2731			14430	818							820					
		STD	0030	-0122	3402	2739	0006985	0023	14428	794												
		STD	0050	-0165	3445	2775	0002551	0033	14417	680												
	047	OBS	0054	-0170	34694	2779			14416	666							816					
		STD	0075	-0172	3450	2779	0003104	0042	14418	659												
	047	OBS	0081	-0173	34506	2780			14419	656							811					
		STD	0100	-0154	3452	2780	0003020	0049	14431	636												
	047	OBS	0107	-0146	34525	2780			14430	629							809					
		STD	0125	-0124	3454	2781	0002955	0057	14450	612												
		STD	0150	-0092	3457	2782	0002839	0064	14460	587												
	047	OBS	T0168	-0068	34586	2782			14484	567							808					
		STD	0200	-0017	3463	2784	0002720	0078	14513	525												
	047	OBS	0215	0001	34646	2784			14524	510							807					
		STD	0250	0006	3465	2784	0002691	0092	14532	503												
		STD	0300	0014	3465	2784	0002736	0105	14544	495												
	047	OBS	T0322	0017	34657	2784			14549	492							804					
		STD	0400	0031	3467	2784	0002720	0132	14569	490												
	047	OBS	0430	0034	34670	2784			14575	486							804					
		STD	0500	0035	3468	2785	0002646	0159	14588	479												
	047	OBS	T0541	0036	34681	2785			14595	477							801					
		STD	0600	0034	3468	2785	0002642	0186	14604	480												
	047	OBS	0648	0033	34678	2785			14611	481							798					
		STD	0700	0032	3468	2785	0002647	0212	14619	482												
	047	OBS	T0756	0030	34677	2785			14628	482							796					
		STD	0800	0026	3467	2785	0002666	0239	14633	484												
	047	OBS	T0855	0022	34669	2785			14641	487							796					
		STD	0900	0020	3467	2785	0002629	0265	14647	491												
		STD	1000	0016	3467	2785	0002595	0291	14662	500												
	011	OBS	T1010	0015	34669	2785			14664	501							797					
	047	OBS	T1090	0012	34663	2785			14676	501							794					
		STD	1100	0011	3466	2785	0002604	0317	14677	502												
		STD	1200	0006	3466	2785	0002575	0343	14691	509												
	011	OBS	1256	0004	34660	2785			14700	512							794					
		STD	1300	0003	3466	2785	0002554	0369	14707	514												
		STD	1400	0001	3466	2785	0002533	0394	14723	517												
		STD	1500	-0001	3466	2785	0002511	0419	14739	521												
	011	OBS	1505	-0001	34660	2785			14740	521							793					
		STD	1750	-0007	3466	2786	0002446	0481	14779	530												
	011	OBS	T1770	-0007	34657	2785			14782	531							792					
		STD	2000	-0013	3465	2785	0002422	0542	14819	533												
	011	OBS	2023	-0013	34653	2785			14823	533							790					
	011	OBS	2240	-0018	34657	2786			14866	533							790					
		STD	2500	-0021	3466	2786	0002275	0660	14901	540												
	011	OBS	T2556	-0022	34654	2786			14911	544							788					
	011	OBS	2843	-0024	34664	2787			14960	581							786					
		STD	3000	-0027	3466	2787	0002105	0769	14986	563												
	011	OBS	3123	-0028	34660	2787			15007	556							786					
	011	OBS	T3402	-0026	34658	2786			15056	565							784					
	011	OBS	3695	-0029	34657	2786			15107	567												
	011	OBS	3743	-0030	34658	2787			15115	568							780					
	011	OBS	3767	-0030	34655	2786			15119	567							780					
	011	OBS	T3793	-0031	34652	2786			15124	568							776					
	011	OBS	T3815	-0031	34645	2786			15127	570							777					



REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	CHLOR. METER	MARKEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODE	NODC STATION NUMBER
CTRY CODE	IG. NO.					10"	1"	M	DAY		HR	1/10			CRUISE NO.	STATION NUMBER	DIR			
318037	GL	68409S	040045W	520	80	03	07	090	1968	047	4173	40	2	4	X7	03	0052			
				WIND		BARO-METER		AIR TEMP °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
				DIR.	SPEED OF FORCE	NO.	WET BULB	VIS CODE												
				DT	SD	03	513	892	-015	7	32									
WESSENGER TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	Σ Δ ρ DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>2</sub> -N μg-at/l	NO <sub>3</sub> -N μg-at/l	SIO <sub>4</sub> -Si μg-at/l	pH	ST. C.			
	072	STD	0000	-0111	3390	2728	0007985	0000	14426											
		OBS	0000	-0111	33896	2728			14426											
		STD	0010	-0114	3390	2729	0007932	0008	14427											
		OBS	0010	-0114	33901	2729			14427											
	005	STD	0020	-0115	3391	2730	0007847	0016	14428											
		OBS	0020	-0115	33911	2730			14428											
		OBS	0025	-0166	34456	2775			14412											
		STD	0030	-0169	3447	2777	0003391	0021	14412											
		OBS	0030	-0169	34471	2777			14412											
		STD	0050	-0179	3449	2779	0003200	0028	14411											
		OBS	0050	-0179	34491	2779			14411											
		OBS	0064	-0181	34496	2779			14412											
		STD	0075	-0178	3450	2779	0003111	0036	14416											
		OBS	0075	-0178	34501	2779			14416											
		STD	0100	-0148	3454	2781	0002917	0043	14434											
		OBS	0100	-0148	34536	2781			14434											
		STD	0125	-0100	3454	2780	0003075	0051	14461											
		OBS	0125	-0100	34536	2780			14461											
		STD	0150	-0049	3460	2782	0002836	0058	14490											
		OBS	0150	-0049	34595	2782			14490											
		STD	0200	0003	3464	2784	0002744	0072	14522											
		OBS	0200	0003	34641	2784			14522											
		STD	0250	0003	3464	2783	0002757	0086	14531											
		OBS	0250	0003	34639	2783			14531											
		STD	0300	0001	3465	2784	0002690	0100	14538											
		OBS	0300	0001	34646	2784			14538											
		OBS	0304	0014	34646	2783			14545											
		STD	0400	0024	3466	2784	0002713	0127	14566											
		OBS	0400	0024	34661	2784			14566											
		STD	0500	0036	3468	2785	0002681	0154	14588											
		OBS	0500	0036	34676	2785			14588											
		STD	0600	0031	3468	2785	0002659	0180	14602											
		OBS	0600	0031	34675	2785			14602											
		STD	0700	0027	3468	2785	0002633	0207	14617											
		OBS	0700	0027	34675	2785			14617											
		STD	0800	0022	3468	2785	0002599	0233	14632											
		OBS	0800	0022	34675	2785			14632											
		STD	0900	0017	3468	2786	0002562	0259	14646											
		OBS	0900	0017	34675	2786			14646											
		STD	1000	0013	3467	2786	0002538	0284	14661											
		OBS	1000	0013	34674	2786			14661											
		STD	1100	0009	3467	2786	0002527	0310	14676											
		OBS	1100	0009	34671	2786			14676											
		STD	1200	0006	3467	2786	0002500	0335	14692											
		OBS	1200	0006	34671	2786			14692											
		STD	1300	0003	3467	2786	0002450	0360	14707											
		OBS	1300	0003	34674	2786			14707											
		STD	1400	-0001	3467	2786	0002411	0384	14722											
		OBS	1400	-0001	34674	2786			14722											
		STD	1500	-0004	3467	2786	0002395	0408	14738											
		OBS	1500	-0004	34672	2786			14738											
		OBS	1600	-0006	34671	2786			14754											
		OBS	1700	-0008	34671	2787			14770											
		STD	1750	-0009	3467	2787	0002341	0467	14778											
		OBS	1800	-0010	34670	2787			14786											
		OBS	1900	-0013	34669	2787			14802											
		STD	2000	-0015	3467	2787	0002294	0525	14818											
		OBS	2000	-0015	34667	2787			14818											

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DEPTH (M)	M/RSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA-THER CODE	CLOUD CODES	NOOC STATION NUMBER				
CTRY CODE	IO. NO.					10"	1'	MO	DAY	HR.		1/10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER	SEA	TYPE	A.M.T.
318037	GL	68248S	043037W	520	83	03	07	150	1968		048	4133	10	32	10	2	X1	6	17	0063					
WATER		WIND		BARO-METER		AIR TEMP. °C			VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS												
COLOR CODE		TRANS. (mm)		DIR.		SPEED OR FORCE		METER		DRY BULB		WET BULB		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
				32		S05		894		-027		7		15											

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \sigma_{\theta}$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{dl/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{dl/l}$	SI O <sub>4</sub> -Si $\mu\text{g} - \text{dl/l}$	pH	S.C.C.
		STD	0000	-0152	3399	2737	0007129	0000	14408	815							
142		OBS	0000	-0152	33992	2737			14408	815							825
		STD	0010	-0152	3399	2737	0007138	0007	14410	819							
142		OBS	0011	-0152	33989	2737			14410	820							825
		STD	0020	-0153	3400	2738	0007053	0014	14411	830							
142		OBS	0027	-0154	34046	2742			14413	837							825
		STD	0030	-0155	3412	2748	0006121	0021	14414	815							
		STD	0050	-0160	3446	2776	0003488	0030	14419	708							
142		OBS	0053	-0161	34488	2778			14420	698							822
		STD	0075	-0165	3449	2778	0003231	0039	14422	686							
142		OBS	0079	-0166	34491	2778			14422	678							821
		STD	0100	-0167	3451	2779	0003090	0047	14425	605							
142		OBS	0105	-0167	34509	2780			14426	590							818
		STD	0125	-0163	3451	2780	0003057	0054	14431	540							
		STD	0150	-0149	3453	2781	0002935	0062	14442	509							
142		OBS	T0158	-0143	34532	2781			14446	506							816
		STD	0200	-0089	3457	2782	0002836	0076	14479	566							
142		OBS	0208	-0080	34577	2782			14485	572							813
		STD	0250	-0045	3461	2783	0002722	0090	14508	541							
		STD	0300	-0014	3463	2784	0002727	0104	14531	515							
142		OBS	T0311	-0009	34639	2784			14535	511							811
		STD	0400	0014	3466	2784	0002696	0131	14561	499							
142		OBS	0414	0016	34658	2784			14564	498							811
		STD	0500	0021	3467	2785	0002628	0158	14581	491							
142		OBS	T0516	0022	34671	2785			14584	490							810
		STD	0600	0020	3467	2785	0002616	0184	14597	495							
142		OBS	0618	0020	34671	2785			14600	496							810
		STD	0700	0020	3467	2785	0002606	0210	14614	397							
142		OBS	T0723	0019	34672	2785			14617	394							810
		STD	0800	0016	3467	2785	0002593	0236	14629	484							
142		OBS	0819	0015	34670	2785			14632	500							808
		STD	0900	0013	3467	2785	0002569	0262	14644	502							
		STD	1000	0011	3467	2785	0002552	0287	14660	505							
142		OBS	T1020	0011	34667	2785			14663	505							808

REFERENCE		SHIP CODE	LATITUDE 1°/10'	LONGITUDE 1°/10'	IBR INDIC	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					'0'	'1'	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT PER		SEA	TYPE		AMT	
318037	GL		675945	038001W		519	78	03	08	00	1968		049	4428	44	00	0	X		X1	6.7		0064
		WATER		WIND		BARO-METER		AIR TEMP. °C		VIS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE		TRANS. (m)		DIR. SPEED OR FORCE		DRY BULB		WET BULB													
		36		S10		934		-008		7		30											
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10 <sup>3</sup>	Σ Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg-at/l	TOTAL-P µg-at/l	NO <sub>2</sub> -N µg-at/l	NO <sub>3</sub> -N µg-at/l	SiO <sub>4</sub> -Si µg-at/l	pH	CHL						
		STD	0000	-0114	3381	2721	0008642	0000	14424	806													
073		OBS	0000	-0114	33809	2721			14424	806													
		STD	0010	-0116	3382	2722	0008585	0009	14424	818													
073		OBS	0010	-0116	33815	2722			14424	818													
		STD	0020	-0116	3381	2722	0008603	0017	14426	820													
073		OBS	0026	-0119	33810	2722			14426	821													
		STD	0030	-0127	3395	2733	0007506	0025	14424	794													
		STD	0050	-0153	3442	2772	0003815	0037	14422	695													
073		OBS	0052	-0154	34443	2774			14422	688													
		STD	0075	-0153	3446	2775	0003496	0046	14427	663													
073		OBS	0078	-0152	34466	2776			14428	659													
		STD	0100	-0141	3448	2777	0003368	0054	14437	629													
073		OBS	0103	-0139	34486	2777			14438	625													
		STD	0125	-0110	3451	2778	0003235	0063	14456	601													
		STD	0150	-0081	3454	2779	0003113	0070	14474	576													
073		OBS	T0155	-0076	34542	2779			14477	572													
		STD	0200	-0036	3459	2781	0002966	0086	14504	539													
073		OBS	0205	-0032	34590	2781			14507	536													
		STD	0250	0020	3461	2780	0003097	0101	14538	502													
		STD	0300	0053	3463	2780	0003157	0116	14562	479													
073		OBS	T0305	0055					14573	478													
		STD	0400	0041	3467	2783	0002791	0146	14573	484													
073		OBS	0406	0040	34667	2784			14574	484													
		STD	0500	0045	3468	2784	0002722	0174	14592	473													
073		OBS	T0511	0046	34680	2784			14594	472													
		STD	0600	0047	3468	2784	0002710	0201	14610	471													
073		OBS	0606	0047	34683	2784			14611	471													
		STD	0700	0043	3468	2784	0002711	0228	14624	472													
073		OBS	T0711	0042	34680	2785			14626	472													
073		OBS	T0799	0038	34678	2785			14639	487													
		STD	0800	0038	3468	2785	0002695	0255	14639	487													
		STD	0900	0036	3468	2785	0002688	0282	14654	474													
		STD	1000	0033	3468	2785	0002681	0309	14670	461													
024		OBS	T1004	0033					14679	480													
073		OBS	T1005	0033					14685	481													
024		OBS	1064	0029	34675	2785			14685	481													
		STD	1100	0028	3468	2785	0002650	0336	14700	485													
		STD	1200	0025	3468	2785	0002627	0362	14715	490													
		STD	1300	0021	3468	2785	0002587	0388	14725	494													
024		OBS	1366	0018	34676	2786			14730	498													
		STD	1400	0016	3468	2786	0002551	0414	14745	507													
		STD	1500	0011	3467	2786	0002520	0439	14770	518													
024		OBS	T1669	0003	34669	2786			14782	519													
		STD	1750	-0000	3467	2786	0002455	0501	14816	522													
024		OBS	1969	-0008	34663	2786			14821	523													
		STD	2000	-0009	3466	2786	0002405	0562	14864	532													
024		OBS	2269	-0015	34659	2786			14902	543													
		STD	2500	-0020	3466	2786	0002279	0679	14913	546													
024		OBS	T2569	-0021	34655	2786			14964	555													
024		OBS	2869	-0024	34659	2786			14986	557													
		STD	3000	-0027	3466	2786	0002148	0790	15014	559													
024		OBS	3169	-0029	34652	2786			15065	564													
040		OBS	T3460	-0031	34653	2786			15120	566													
040		OBS	3774	-0032	34650	2786			15159	567													
		STD	4000	-0034	3465	2786	0001975	0996	15172	568													
040		OBS	4075	-0035	34652	2786			15216	570													
040		OBS	4326	-0037	34652	2786			15225	571													
040		OBS	T4380	-0038	34650	2786			15228	568													
040		OBS	T4401	-0041	34649	2786																	

REFERENCE	SHIP CODE	LATITUDE	LONGITUDE	MO	DAY	HR. 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA			
318037	GL	67594S	038001W	519	78	03	090	1968	049	4352	20	00	0	X		03	0065

WATER			WIND			BARO-METER (mbs)	AIR TEMP. °C			NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (M)	DIR.	SPEED OR FORCE	DIR.	DRY BULB		WET BULB	VIS. CODE			
DT	SD	26	S05	938		-017	7	33			

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	$\Sigma \Delta D$ DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - dl/l	TOTAL-P µg - dl/l	NO <sub>2</sub> -N µg - dl/l	NO <sub>3</sub> -N µg - dl/l	SiO <sub>2</sub> -Si µg - dl/l	pH	S CC
082	STD		0000	-0117	3379	2720	0008809	0000	14422								
	OBS		0000	-0117	33786	2720			14422								
	STD		0010	-0117	3379	2720	0008804	0009	14424								
	OBS		0010	-0117	33786	2720			14424								
	STD		0020	-0116	3379	2720	0008802	0018	14426								
	OBS		0020	-0116	33786	2720			14426								
	OBS		0025	-0150	34276	2760			14417								
	STD		0030	-0154	3440	2770	0004014	0024	14418								
	OBS		0030	-0154	34395	2770			14418								
	OBS		0033	-0157	34417	2772			14417								
	STD		0050	-0151	3445	2774	0003622	0032	14423								
	OBS		0050	-0151	34446	2774			14423								
	OBS		0070	-0139	34471	2776			14433								
	OBS		0073	-0149	34466	2776			14428								
	STD		0075	-0137	3446	2775	0003538	0041	14434								
	OBS		0075	-0137	34461	2775			14434								
	STD		0100	-0124	3449	2777	0003340	0049	14445								
	OBS		0100	-0124	34491	2777			14445								
	STD		0125	-0115	3450	2777	0003316	0058	14453								
	OBS		0125	-0115	34497	2777			14453								
	STD		0150	-0057	3457	2780	0003020	0065	14486								
	OBS		0150	-0057	34566	2780			14486								
	STD		0200	-0002	3462	2782	0002869	0080	14520								
	OBS		0200	-0002	34621	2782			14520								
	STD		0250	0054	3467	2783	0002819	0094	14554								
	OBS		0250	0054	34671	2783			14554								
	STD		0300	0054	3467	2783	0002801	0108	14563								
	OBS		0300	0054	34674	2783			14563								
	STD		0400	0040	3467	2784	0002778	0136	14573								
	OBS		0400	0040	34666	2784			14573								
	STD		0500	0044	3467	2784	0002750	0164	14591								
	OBS		0500	0044	34674	2784			14591								
	STD		0600	0047	3468	2784	0002726	0191	14610								
	OBS		0600	0047	34681	2784			14610								
	STD		0700	0043	3469	2785	0002674	0218	14624								
	OBS		0700	0043	34685	2785			14624								
	STD		0800	0037	3468	2785	0002650	0245	14638								
	OBS		0800	0037	34683	2785			14638								
	STD		0900	0033	3468	2785	0002639	0271	14653								
	OBS		0900	0033	34681	2785			14653								
	STD		1000	0032	3469	2786	0002597	0298	14670								
	OBS		1000	0032	34686	2786			14670								
	STD		1100	0029	3469	2786	0002576	0323	14685								
	OBS		1100	0029	34686	2786			14685								
	STD		1200	0023	3469	2786	0002529	0349	14699								
	OBS		1200	0023	34686	2786			14699								
	STD		1300	0017	3469	2786	0002479	0374	14714								
	OBS		1300	0017	34686	2786			14714								
	STD		1400	0014	3468	2786	0002489	0399	14729								
	OBS		1400	0014	34681	2786			14729								
	STD		1500	0009	3468	2786	0002458	0424	14744								
	OBS		1500	0009	34679	2786			14744								
	OBS		1600	0006	34678	2786			14759								
	OBS		1700	0002	34677	2787			14775								
	STD		1750	-0001	3468	2787	0002372	0484	14782								
	OBS		1800	-0003	34676	2787			14789								
	OBS		1900	-0006	34676	2787			14805								
	STD		2000	-0008	3468	2787	0002298	0542	14821								
	OBS		2000	-0008	34676	2787			14821								

REFERENCE OBT. CODE	SHIP ID. NO.	LATITUDE 1/10	LONGITUDE 1/10	OBT. INDEX	MARDEN SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	NODC STATION NUMBER											
					10"	'	NO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA										
318037	GL	67392S	040018W	520	70	03	08	170	1968		050	4279	10	00	0		X1	57		0066											
					WIND		BARO-METER		AIR TEMP °C		VIS		SPECIAL OBSERVATIONS																		
					COLOR CODE	TRANS. M	DIR.	SPEED OF FORCE	(mb)	DRY BULB	WET BULB	CODE	NO. OBS. DEPTHS																		
								08	S11	920					-038 6 15																

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-15°	S.S.D. DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - 01/l	TOTAL-P µg - 01/l	NO <sub>3</sub> -N µg - 01/l	NO <sub>2</sub> -N µg - 01/l	SIO <sub>4</sub> -Si µg - 01/l	pH	SI	CI
		STD	0000	-0142	3411	2747	0006228	0000	14415	795								
166		OBS	0000	-0142	34113	2747			14415	795								
		STD	0010	-0142	3411	2747	0006230	0006	14416	802								
166		OBS	0010	-0142	34112	2747			14416	802								
		STD	0020	-0144	3411	2747	0006196	0012	14417	808								
166		OBS	0025	-0146	34117	2747			14417	811								
		STD	0030	-0151	3420	2754	0005518	0018	14417	776								
		STD	0040	-0167	3449	2778	0003231	0027	14417	681								
166		OBS	0050	-0167	34491	2778			14417	681								
		STD	0075	-0172	3452	2781	0002982	0035	14419	667								
166		OBS	0075	-0172	34500	28100			667									
		STD	0100	-0168	3454	2781	0002826	0042	14425	642								
166		OBS	0100	-0168	33510	26990			642									
		STD	0125	-0117	3456	2782	0002827	0049	14453	596								
		STD	0150	-0069	3453	2782	0002845	0056	14480	554								
166		OBS	0150	-0069	34582	2782			14480	554								
		STD	0200	0019	3452	2781	0002993	0071	14529	484								
166		OBS	T0200	0023					480									
		STD	0250	0022	3464	2782	0002856	0085	14539	482								
166		OBS	T0299	0020	34663	2784			14547	483								
		STD	0300	0020	3466	2784	0002674	0099	14547	483								
		STD	0400	0040	3468	2785	0002679	0126	14573	471								
166		OBS	0401	0040	34679	2785			14573	471								
		STD	0500	0040	3469	2785	0002633	0153	14590	468								
166		OBS	T0503	0040	34686	2785			14590	468								
		STD	0600	0038	3469	2785	0002617	0179	14606	466								
166		OBS	0601	0038	34687	2785			14606	466								
		STD	0700	0039	3469	2785	0002637	0205	14623	468								
166		OBS	T0700	0039	34686	2785			14623	468								
		STD	0800	0033	3468	2785	0002643	0232	14637	467								
166		OBS	0802	0033	34679	2785			14637	467								
		STD	0900	0028	3468	2785	0002615	0258	14651	472								
		STD	1000	0025	3468	2785	0002594	0284	14667	482								
166		OBS	T1000	0025	34679	2785			14667	482								

REFERENCE		SHIP CODE	LATITUDE °/10	LONGITUDE °/10	SOUNDING	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	SAMP. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES (TPT) (AMT)	NODC STATION NUMBER
C BY	ID. NO.					10"	1"	MO	DAY	HR.		10	CRUISE NO.			STATION NUMBER	DIR	HGT			
118037	GL	673155	044128W	520	74	03	09	030	1968	091		3713	10	00	0	X		47	7	8	0067
WATER		WIND		BARO-METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
COLDER CODE	TRANS (mm)	DIR.	SPEED (kts)	FORCE	MEAS (mb)	DRY BULB	WET BULB														
		04	518	850		-023	16				15										

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 <sup>3</sup>	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - ml/l	TOTAL-P μg - ml/l	NO <sub>2</sub> -N μg - ml/l	NO <sub>3</sub> -N μg - ml/l	SIO <sub>4</sub> -Si μg - ml/l	pH	S C C
		STD	0000	-0181													
040		OBS	0000	-0181													
040		OBS	0009		33899					747							
		STD	0010	-0181	3390	2731	0007765		14395	747							
		STD	0020	-0182	3390	2731	0007735		14396	746							
040		OBS	0024	-0182	33903	2731			14397	746							
		STD	0030	-0173	3406	2743	0006535		14404	724							
040		OBS	0044	-0158	34389	2770			14419	672							
		STD	0050	-0159	3439	2770	0004028		14419	671							
040		OBS	0073	-0168	34471	2777			14420	656							
		STD	0075	-0168	3447	2777	0003361		14420	656							
040		OBS	0097	-0168	34483	2778			14424	651							
		STD	0100	-0167	3449	2778	0003242		14425	649							
		STD	0125	-0149	3451	2779	0003100		14438	629							
040		OBS	0145	-0126	34529	2780			14452	606							
		STD	0150	-0115	3454	2781	0002978		14458	596							
040		OBS	T0194	-0038	34608	2783			14502	524							
		STD	0200	-0033	3461	2783	0002791		14506	521							
		STD	0250	-0001	3464	2784	0002727		14529	498							
040		OBS	0292	0016	34660	2784			14544	486							
		STD	0300	0017	3466	2784	0002675		14545	486							
040		OBS	T0390	0022	34666	2785			14563	486							
		STD	0400	0023	3467	2785	0002639		14565	484							
040		OBS	T0492	0032	34675	2785			14585	475							
		STD	0500	0032	3468	2785	0002663		14586	475							
040		OBS	T0588	0034	34680	2785			14602	478							
		STD	0600	0034	3468	2785	0002642		14604	477							
040		OBS	T0683	0032	34680	2785			14617	475							
		STD	0700	0031	3468	2785	0002624		14619	476							
040		OBS	T0796	0026	34676	2785			14633	483							
		STD	0800	0026	3468	2785	0002621		14633	483							
		STD	0900	0022	3467	2785	0002615		14648	485							
040		OBS	T0992	0019	34671	2785			14662	486							



REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DATE	STATION TIME			ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	MOC STATION NUMBER	
CTRY CODE	ID NO.					MO	DAY	HR	CRUISE NO.	STATION NUMBER			DIR	HIGHER	SEA				
31	037	6L	072005	147235N	520	03	09	240	1968	052	3839	38	00	0	X	X7	7	8	0069
WIND		BARO-METER		AIR TEMP		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS											
00		805		0002		4		30											

MESSAGE TIME	CAST NO.	CARD TYPE	DEPTH (M)	S	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-000	S Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - ml/l	TOTAL-P μg - ml/l	NO <sub>2</sub> -N μg - ml/l	NO <sub>3</sub> -N μg - ml/l	SIC <sub>4</sub> -S μg - ml/l	PH
		STD	0000	-0163	34617	2740	0006877	0000	14394	722						
232		OBS	0000	-0183	34615	2740			14394	722						796
		STD	0010	-0184	34611	2740	0006899	0007	14395	731						
232		OBS	0010	-0184	34611	2740			14395	731						796
		STD	0020	-0184	34612	2740	0006838	0014	14397	734						
241		OBS	0020	-0184	34621	2741			14398	736						797
		STD	0030	-0181	34618	2740	0006362	0020	14401	729						
		STD	0040	-0171	34628	2761	0004841	0032	14412	697						
232		OBS	0040	-0170	34622	2762			14412	695						795
		STD	0050	-0163	34477	2775	000334	0042	14422	651						
227		OBS	0050	-0162	34472	2777			14423	649						794
		STD	0100	-0142	34511	2779	0003135	0050	14437	611						
232		OBS	0100	-0140	34514	2779			14438	608						794
		STD	0125	-0097	34595	2781	0002980	0058	14463	576						
		STD	0150	-0057	34599	2782	0002537	0065	14486	545						
232		OBS	0150	-0053	34595	2753			14488	542						788
		STD	0150	-0002	34604	2784	0002748	0079	14522	493						
232		OBS	0200	0005	34604	2784			14524	491						785
		STD	0150	0016	34666	2784	0002672	0092	14537	491						
		STD	0300	0023	34672	2784	0002714	0108	14548	491						
232		OBS	T0100	0024	34675	2784			14550	491						784
		STD	0400	0027	34667	2785	0002670	0133	14567	487						
232		OBS	0400	0027	34669	2785			14568	487						782
		STD	0500	0024	34667	2784	0002710	0160	14587	477						
232		OBS	T0400	0034	34675	2785			14588	476						781
		STD	0500	0037	34666	2785	0002661	0187	14605	475						
232		OBS	0600	0037	34663	2785			14606	475						781
		STD	0700	0031	34668	2785	0002626	0213	14619	475						
232		OBS	T0700	0031	34680	2785			14619	475						781
		STD	0600	0029	34668	2785	0002607	0239	14635	490						
232		OBS	T0800	0029	34681	2755			14636	491						779
		STD	0900	0025	34668	2786	0002585	0265	14650	480						
174		OBS	T0910	0024	34676	2785			14651	479						784
		STD	1000	0021	34668	2786	0002565	0291	14665	484						
232		OBS	1100	0021	34679	2786			14666	484						780
179		OBS	1014	0021	34674	2785			14667	494						784
		STD	1100	0017	34667	2785	0002598	0317	14680	495						
		STD	1200	0013	34667	2785	0002566	0343	14695	497						
179		OBS	1200	0011	34666	2785			14705	499						782
		STD	1300	0010	34667	2785	0002568	0368	14710	501						
		STD	1400	0007	34667	2785	0002547	0394	14726	507						
		STD	1500	0004	34666	2785	0002525	0419	14741	513						
179		OBS	T1521	0003	34664	2785			14744	514						783
		STD	1750	-0008	34666	2786	0002410	0481	14778	526						
179		OBS	1628	-0011	34663	2786			14790	529						783
		STD	2000	-0012	34666	2786	0002353	0540	14819	534						
179		OBS	2134	-0014	34662	2786			14841	537						783
179		OBS	2442	-0022	34667	2786			14891	544						782
		STD	2500	-0022	34666	2786	0002250	0655	14901	545						
179		OBS	2747	-0025	34654	2786			14943	551						781
		STD	3000	-0028	34655	2786	0002165	0766	14985	557						
179		OBS	T3002	-0025	34651	2786			14995	558						780
179		OBS	3364	-0034	34646	2786			15046	564						780
179		OBS	T3670	-0043	34640	2786			15096	577						779
179		OBS	3751	-0052	34632	2785			15106	579						778
179		OBS	4074	-0058	34630	2786			15109	585						781
179		OBS	3802	-0063	34635	2786			15111	594						781
179		OBS	13808	-0065	34643	2787			15114	599						785



REFERENCE CTRY CODE	NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	PROJ. INDEXT	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
						10"	1"	MO	DAY	HR:1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
318037		GL	67220S	047223W		520	77	03	10	060	1968		052	3768	10	00	0	X		X7	0	3	0070	
						WATER		WIND		BARO- METER		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (%)	DIR.	SPEED OR FORCE	METER (mbs)	DRY BULB	WET BULB	VIS CODE											
						01	SD	00	500	794		-0.34	5	20										

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Delta \rho / \rho$ DYN. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - 01/l	TOTAL-P µg - 01/l	NO <sub>3</sub> -N µg - 01/l	NO <sub>2</sub> -N µg - 01/l	SiO <sub>4</sub> -Si µg - 01/l	pH	S C
		STD	0000	-0185	3403	2741	0006796	0000	14393								
048		OBS	0000	-0185	34025	2741			14393								
		STD	0010	-0185	3403	2741	0006789	0007	14395								
		OBS	0010	-0185	34025	2741			14395								
		STD	0020	-0185	3403	2741	0006782	0014	14396								
		OBS	0020	-0185	34025	2741			14396								
		OBS	0025	-0183	34026	2741			14398								
		STD	0030	-0175	3408	2745	0006407	0020	14404								
		OBS	0030	-0175	34076	2745			14404								
		STD	0050	-0165	3447	2776	0003429	0030	14417								
		OBS	0050	-0165	34466	2776			14417								
		STD	0075	-0150	3450	2779	0003191	0038	14429								
		OBS	0075	-0150	34501	2779			14429								
		STD	0100	-0115	3454	2780	0003028	0046	14450								
		OBS	0100	-0115	34536	2780			14450								
		STD	0125	-0080	3457	2781	0002926	0053	14471								
		OBS	0125	-0080	34566	2781			14471								
		STD	0150	-0021	3463	2784	0002736	0061	14503								
		OBS	0150	-0021	34626	2784			14503								
		STD	0200	0016	3466	2784	0002710	0074	14529								
		OBS	0200	0016	34655	2784			14529								
		STD	0250	0019	3466	2784	0002720	0088	14538								
		OBS	0250	0019	34656	2784			14538								
		STD	0300	0025	3467	2784	0002688	0101	14549								
		OBS	0300	0025	34665	2784			14549								
		STD	0400	0030	3467	2785	0002676	0128	14568								
		OBS	0400	0030	34671	2785			14568								
		STD	0500	0034	3468	2785	0002638	0155	14587								
		OBS	0500	0034	34680	2785			14587								
		STD	0600	0034	3468	2785	0002634	0181	14604								
		OBS	0600	0034	34681	2785			14604								
		STD	0700	0031	3468	2785	0002617	0207	14619								
		OBS	0700	0031	34681	2785			14619								
		STD	0800	0028	3468	2785	0002598	0233	14634								
		OBS	0800	0028	34681	2785			14634								
		STD	0900	0024	3468	2786	0002577	0259	14649								
		OBS	0900	0024	34680	2786			14649								
		STD	1000	0020	3468	2786	0002548	0285	14664								
		OBS	1000	0020	34680	2786			14664								

REFERENCE		SHIP CODE	LATITUDE	LONGITUDE	DEPTH INDICATOR	MARS DEN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.					10"	1'	M/O	DAY	HR.1/10	CRUISE NO.		STATION NUMBER	DIR.			HGT	PER	SEA	TYPE		AMT		
318037	GL		67190S	048598W		520	78	03	10	180	1968		053	3585	10	00	0	X		X1	7	7	0071	
WATER		WIND		BAROMETER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS															
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																		
				789			-011	6	15															

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t$	S/D DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{lit}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{lit}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{lit}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{lit}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{lit}^{-1}$	pH	S/C
		STD	0000	-0177	3405	2742	0006645	0000	14397	723							
189		OBS	0000	-0177	34047	2742			14397	723							
		STD	0010	-0182	3405	2743	0006627	0007	14397	731							812
189		OBS	0010	-0182	34047	2743			14397	731							812
		STD	0020	-0172	3428	2761	0004855	0012	14406	685							
189		OBS	0026	-0168	34380	2769			14411	665							808
		STD	0030	-0167	3439	2770	0004016	0017	14412	661							
		STD	0050	-0164	3444	2774	0003630	0024	14417	642							
189		OBS	0052	-0164	34442	2774			14418	640							807
		STD	0075	-0161	3447	2776	0003433	0033	14423	655							
189		OBS	0078	-0161	34468	2776			14424	657							806
		STD	0100	-0164	3448	2777	0003298	0042	14426	643							
189		OBS	0104	-0164	34488	2778			14427	640							806
		STD	0125	-0152	3450	2779	0003167	0050	14436	632							
		STD	0150	-0127	3453	2780	0003010	0058	14452	612							
189		OBS	0155	-0120	34534	2780			14457	607							805
		STD	0200	-0031	3462	2784	0002725	0072	14507	531							
189		OBS	0207	-0021	34625	2783			14512	522							801
		STD	0250	0002	3465	2784	0002668	0085	14530	499							
		STD	0300	0022	3467	2785	0002632	0099	14548	482							
189		OBS	T0311	0026	34672	2785			14552	480							798
		STD	0400	0032	3467	2785	0002673	0125	14569	481							
189		OBS	0411		34673				481								798
		STD	0500	0036	3468	2785	0002651	0152	14568	479							
189		OBS	T0516	0037	34682	2785			14591	478							800
		STD	0600	0039	3469	2785	0002637	0178	14606	473							
189		OBS	0615	0039	34685	2785			14608	472							801
		STD	0700	0036	3469	2785	0002623	0204	14621	477							
189		OBS	0716	0035	34685	2785			14624	478							799
		STD	0800	0032	3469	2786	0002583	0230	14636	479							
189		OBS	T0818	0031	34687	2786			14639	480							799
		STD	0900	0027	3469	2786	0002563	0256	14651	484							
		STD	1000	0023	3468	2786	0002549	0282	14666	491							
189		OBS	T1014	0022	34683	2786			14668	492							798

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	WIND		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
STATION NO.	ID. NO.					10'	1"	M/O	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT PER		SEA	TYPE		AMT	
318037	GL	67135S	049577W	520	79	03	11	000	1968		054	3664	37	00	0	X		X1	7	7	0072		
				WATER		WIND		AIR TEMP. °C						SPECIAL OBSERVATIONS									
				COLOR	TRANS.	DIR.	SPEED OR FORCE	BARO- METER (mbars)	DRY BULB	WET BULB	VIS. CODG	NO. OBS. DEPTHS											
							15	509	805			-036	6	29									
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 <sup>3</sup>	Σ Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - 01/l	TOTAL-P µg - 01/l	NO <sub>2</sub> -N µg - 01/l	NO <sub>3</sub> -N µg - 01/l	SI O <sub>4</sub> -S µg - 01/l	pH	STATION NO.						
		STD	0000	-0181	3410	2747	0006198	0000	14396	690													
009		OBS	0000	-0181	34104	2747			14396	690							809						
		STD	0010	-0181	3410	2747	0006199	0006	14398	697													
009		OBS	0010	-0181	34103	2747			14398	697							808						
		STD	0020	-0176	3414	2750	0005920	0012	14402	683													
009		OBS	0026	-0172	34181	2753			14406	674							809						
		STD	0030	-0165	3423	2757	0005250	0018	14410	664													
		STD	0050	-0141	3445	2773	0003774	0027	14428	625													
009		OBS	0052	-0139	34439	2773			14429	622							806						
		STD	0075	-0131	3448	2776	0003412	0036	14437	602													
009		OBS	0077	-0130	34483	2776			14438	601							805						
		STD	0100	-0122	3450	2778	0003278	0044	14446	600													
009		OBS	0103	-0120	34505	2778			14448	599							802						
		STD	0125	-0089	3454	2780	0003088	0052	14466	572													
		STD	0150	-0055	3457	2781	0002999	0060	14487	544													
009		OBS	0155	-0048	34582	2781			14491	538							800						
		STD	0200	0010	3464	2783	0002791	0074	14526	489													
009		OBS	T0206	0016	34649	2784			14530	484							796						
		STD	0250	0023	3466	2784	0002713	0088	14540	480													
		STD	0300	0027	3466	2784	0002738	0102	14550	476													
009		OBS	0309	0028	34664	2784			14552	475							796						
		STD	0400	0027	3466	2784	0002725	0129	14567	475													
009		OBS	T0412	0027	34662	2784			14569	475							795						
		STD	0500	0036	3468	2785	0002674	0156	14588	466													
009		OBS	T0513	0037	34679	2785			14590	465							795						
		STD	0600	0039	3468	2785	0002675	0183	14606	470													
009		OBS	0614	0039	34682	2785			14608	471							795						
		STD	0700	0036	3468	2785	0002660	0209	14621	468													
009		OBS	0714	0035	34680	2785			14623	468							795						
		STD	0800	0029	3468	2785	0002613	0236	14635	471													
009		OBS	0814	0028	34679	2785			14637	472							795						
		STD	0900	0025	3468	2785	0002596	0262	14650	479													
036		OBS	0944Q	0039Q	3468Q	2785Q																	
		STD	1000	0022	3468	2785	0002581	0288	14665	486													
009		OBS	T1014	0022	34678	2786			14668	487							794						
036		OBS	1046	0026	34673	2785			14675	484							795						
		STD	1100	0024	3467	2785	0002633	0314	14683	489													
		STD	1200	0019	3467	2785	0002592	0340	14697	496													
		STD	1300	0015	3467	2785	0002558	0366	14713	501													
036		OBS	1350	0012	34673	2786			14720	502							795						
		STD	1400	0009	3467	2786	0002527	0391	14727	502													
		STD	1500	0003	3467	2786	0002471	0416	14741	501													
036		OBS	1554	-0000	34668	2786			14749	500							796						
		STD	1750	-0008	3466	2786	0002410	0477	14778	516													
036		OBS	T1856	-0011	34660	2786			14795	523							797						
		STD	2000	-0015	3466	2786	0002346	0536	14818	528													
036		OBS	2166	-0019	34655	2786			14845	534							797						
036		OBS	2472	-0025	34658	2786			14895	544							795						
		STD	2500	-0026	3466	2786	0002199	0650	14899	545													
036		OBS	2780	-0030	34656	2786			14946	551							795						
		STD	3000	-0032	3465	2786	0002132	0758	14983	556													
036		OBS	T3093	-0033	34649	2786			14999	558							792						
036		OBS	3390	-0037	34644	2786			15049	564							794						
036		OBS	3551	-0041	3469P	2790P				570							788						
036		OBS	T3596	-0052	34629	2785			15079	577							790						
036		OBS	T3623	-0059	34631	2786			15080	585							792						
036		OBS	T3659	-0066	34632	2786			15084	583							795						

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	1/2 DEGREE SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NOCC STATION NUMBER	
					10'	1'	M3	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE
318037	GL	671355	049577W	520	79	03	11	060	1968		054	3603	20	00	0	X	X1	0	3	0073	
					WATER		WIND		BARO-METER (mb)		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB	VIS CODE									
					DT	SD	14	506	811		-032	6	31								

MESSNGR TIME OF HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ D OYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - at/l	TOTAL-P μg - at/l	NO <sub>2</sub> -N μg - at/l	NO <sub>3</sub> -N μg - at/l	SiO <sub>4</sub> -Si μg - at/l	pH	S C C
067		STD	0000	-0182	3397	2736	0007233	0000	14394								
		OBS	0000	-0182	33969	2736			14394								
		OBS	0009	-0181	34058	2743			14397								
		STD	0010	-0179	3406	2743	0006549	0007	14398								
		OBS	0010	-0179	34058	2743			14398								
		STD	0020	-0170	3421	2756	0005374	0013	14406								
		OBS	0020	-0170	34213	2756			14406								
		OBS	0025	-0152	34407	2771			14418								
		STD	0030	-0147	3449	2777	0003321	0017	14423								
		OBS	0030	-0147	34488	2777			14423								
		STD	0050	-0125	3443	2772	0003802	0024	14435								
		OBS	0050	-0125	34433	2772			14435								
		STD	0075	-0108	3449	2776	0003438	0033	14448								
		OBS	0075	-0108	34487	2776			14448								
		STD	0100	-0067	3453	2778	0003240	0042	14472								
		OBS	0100	-0067	34533	2778			14472								
		STD	0125	-0033	3460	2782	0002893	0049	14493								
		OBS	0125	-0033	34598	2782			14493								
		STD	0150	-0005	3463	2783	0002803	0057	14510								
		OBS	0150	-0005	34628	2783			14510								
		STD	0200	0027	3465	2783	0002789	0070	14534								
		OBS	0200	0027	34653	2783			14534								
		STD	0250	0028	3466	2784	0002720	0084	14542								
		OBS	0250	0028	34663	2784			14542								
		STD	0300	0027	3466	2784	0002715	0098	14550								
		OBS	0300	0027	34663	2784			14550								
		STD	0400	0031	3467	2784	0002697	0125	14569								
		OBS	0400	0031	34669	2784			14569								
		STD	0500	0036	3467	2784	0002704	0152	14588								
		OBS	0500	0036	34673	2784			14588								
		STD	0600	0039	3468	2785	0002654	0179	14606								
		OBS	0600	0039	34683	2785			14606								
		STD	0700	0035	3468	2785	0002631	0205	14621								
		OBS	0700	0035	34683	2785			14621								
		STD	0800	0031	3468	2785	0002605	0231	14636								
		OBS	0800	0031	34683	2785			14636								
		STD	0900	0027	3468	2786	0002578	0257	14651								
		OBS	0900	0027	34683	2786			14651								
		STD	1000	0023	3468	2786	0002549	0283	14666								
		OBS	1000	0023	34683	2786			14666								
		STD	1100	0018	3468	2786	0002524	0308	14680								
		OBS	1100	0018	34681	2786			14680								
		STD	1200	0014	3468	2786	0002506	0333	14695								
		OBS	1200	0014	34679	2786			14695								
		STD	1300	0009	3468	2786	0002470	0358	14710								
		OBS	1300	0009	34678	2786			14710								
		STD	1400	0006	3468	2786	0002449	0383	14725								
		OBS	1400	0006	34677	2786			14725								
		STD	1500	0003	3467	2786	0002449	0407	14741								
		OBS	1500	0003	34673	2786			14741								
		OBS	1600	-0002	34673	2786			14756								
		OBS	1700	-0005	34673	2787			14771								
		STD	1750	-0006	3467	2787	0002355	0467	14779								
		OBS	1800	-0007	34672	2787			14787								
		OBS	1900	-0012	34671	2787			14802								
		STD	2000	-0014	3467	2787	0002275	0525	14819								
		OBS	2000	-0014	34671	2787			14819								

REFERENCE CITY CODE	SHIP NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH IN METERS	W/SSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS			APP TEMP CODE	C.O.D CODES		NORC STATION NUMBER
					10'	1"	M	DAY		HR.	MIN.			CRUISE NO.	STATION NUMBER	DIR		HGT	PER	

318037	GL	66330S	050040W	521	60	03	11	10	1968		055	3330	10	00	0	*		1	7	7	0074
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WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OF DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (%)	DIR	SPEED OR FORCE		DY BULB	WET BULB			
	13		507	792		-033	6	15	

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S . .	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	SOUND DYN. AM X 10 <sup>3</sup>	SOUND VELOCITY	ρ <sub>2</sub> ml	PO <sub>4</sub> -P μg - ml	TOTAL-P μg - ml	NO <sub>3</sub> -N μg - ml	NO <sub>2</sub> -N μg - ml	SiO <sub>4</sub> -Si μg - ml	PH
		STD	0000	-0180	3406	2744	0006523	0000	14396	695						
166		OBS	0000	-0180	34052	2744			14396	695						805
		STD	0010	-0184	3407	2744	0006461	0006	14396	704						
166		OBS	0010	-0184	34068	2744			14396	704						804
		STD	0020	-0181	3414	2750	0005908	0013	14400	701						
166		OBS	0026	-0178	34186	2754			14403	695						803
		STD	0030	-0173	3424	2758	0005151	0016	14407	683						
		STD	0050	-0153	3442	2772	0005815	0027	14424	636						
166		OBS	0052	-0152	34432	2773			14423	633						801
		STD	0075	-0148	3447	2776	0003434	0036	14429	616						
166		OBS	0078	-0146	34475	2776			14431	614						801
		STD	0100	-0124	3451	2778	0003195	0045	14445	606						
166		OBS	0104	-0119	34516	2779			14448	603						799
		STD	0125	-0073	3456	2781	0003002	0052	14474	565						
		STD	0150	-0030	3461	2783	0002813	0060	14499	529						
166		OBS	T0155	-0023	34613	2783			14503	523						797
		STD	0200	0017	3465	2784	0002754	0073	14519	489						
166		OBS	0206	0021	34655	2784			14532	486						795
		STD	0250	0028	3467	2785	0002667	0087	14543	481						
		STD	0300	0034	3467	2784	0002705	0100	14554	476						
166		OBS	T0307	0035	34675	2785			14555	475						796
		STD	0400	0038	3468	2785	0002665	0127	14572	473						
166		OBS	0410	0038	34679	2785			14574	473						792
		STD	0500	0042	3468	2785	0002688	0154	14590	469						
166		OBS	0512	0042	34685	2785			14593	468						790
		STD	0600	0043	3469	2785	0002643	0181	14608	468						
166		OBS	T0616	0043	34688	2785			14610	465						791
		STD	0700	0039	3469	2785	0002630	0207	14623	470						
166		OBS	0713	0038	34687	2785			14624	470						792
		STD	0800	0034	3469	2785	0002605	0233	14637	471						
166		OBS	T0814	0033	34686	2786			14639	471						790
		STD	0900	0029	3468	2786	0002586	0259	14652	476						
		STD	1000	0024	3468	2786	0002564	0285	14666	487						
166		OBS	T1014	0023	34682	2786			14668	489						790

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARS DEN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODE		NODC STATION NUMBER
CTRY CODE	IG. NO.					10'	1'	M2	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TRP	MAX	
318037	GL	662015	050529W	521	60	03	12	000	1968	056			3107	10	00	0	2		X1	7	7		0075	
WATER		WIND		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS																
COLOR CODE	TRANS. (m)	DIP	SPEED OF FORCE	BARO. METER (mbs)	DRY BULB	WET BULB	W. CO2																	
		10	515	852		-016	6	15																

MESSAGE TIME of HR 1/10	CASI NO.	CARD TYPE	DEPTH (m)	T °C	S	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	S/D (N. M. x 10 <sup>3</sup> )	SOUND VELOCITY	O <sub>2</sub> ml	PO <sub>4</sub> -P μg - ml	TOTAL-P μg - ml	NO <sub>2</sub> -N μg - ml	NO <sub>3</sub> -N μg - ml	SiO <sub>4</sub> -Si μg - ml	pH	S/C
		STD	0000	-0182	3404	2742	0006703	0000	14345	679							
007		OBS	0000	-0182	3403R	2742			14395	679							807
		STD	0010	-0184	3403	2741	0006733	0007	14395	691							
007		OBS	0010	-0184	3403R	2741			14395	691							808
		STD	0020	-0184	3403	2741	0006738	0013	14297	712							
007		OBS	0026	-0184	3403R	2741			14398	714							805
		STD	0030	-0182	3411	2748	0006136	0020	14401	697							
		STD	0050	-0169	3440	2771	0003924	0030	14414	638							
007		OBS	0052	-0167	34414	2772			14416	635							800
		STD	0075	-0143	3447	2776	0003450	0039	14432	654							
007		OBS	0078	-0139	34474	2776			14434	631							799
		STD	0100	-0095	3455	2779	0003146	0047	14459	582							
007		OBS	0104	-0087	34534	2779			14464	574							798
		STD	0125	-0046	3458	2781	0002969	0055	14487	544							
		STD	0150	-0010	3462	2783	0002638	0062	14505	517							
007		OBS	0156	-0003	34630	2783			14512	512							794
		STD	0200	0019	3465	2783	0002765	0076	14530	496							
007		OBS	T0208	0022	34655	2783			14533	494							793
		STD	0250	0027	3466	2784	0002737	0090	14542	484							
		STD	0300	0032	3467	2784	0002708	0104	14553	476							
007		OBS	0311	0033	34670	2784			14555	475							787
		STD	0400	0036	3467	2784	0002712	0131	14571	475							
015		OBS	0412	0036	34671	2784			14573	475							790
		STD	0500	0039	3468	2785	0002669	0158	14589	464							
015		OBS	0515	0039	34681	2785			14592	463							790
		STD	0600	0040	3468	2785	0002660	0164	14606	465							
015		OBS	0617	0040	34683	2785			14609	466							788
		STD	0700	0036	3468	2785	0002638	0211	14621	475							
015		OBS	T0718	0035	34684	2785			14624	476							786
		STD	0800	0029	3468	2785	0002605	0237	14635	478							
015		OBS	T0813	0028	34681	2785			14637	478							786
		STD	0900	0023	3468	2785	0002577	0263	14649	482							
		STD	1000	0019	3468	2785	0002540	0288	14664	490							
015		OBS	T1014	0019	34675	2785			14666	491							789

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'G	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		MDDC STATION NUMBER
							CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
318037	GL	662015	050529W	5 21 60 23	12 060	1968	056		3109	30	00	0	X	X1	013		0076

WATER		WIND		BAPO- METER (mbst)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS % DIR	DIR	SPEED OF DIRCT		DRY BULB	WET BULB			
DT	SD	14	S10	898	-020	b	40		

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY- $\sigma_t$	$\Delta \rho$ DYN. H. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg · dl <sup>-1</sup>	TOTAL-P µg · dl <sup>-1</sup>	NO <sub>3</sub> -N µg · dl <sup>-1</sup>	NO <sub>2</sub> -N µg · dl <sup>-1</sup>	SiO <sub>2</sub> -Si µg · dl <sup>-1</sup>	pH	CHLOR
	068	STD	0000	-0183	3397	2735	0007238	0000	14393								
		OBS	0000	-0183	3398	2736			14393								
		STD	0010	-0163	3420	2754	0005513	0006	14408								
		OBS	0010	-0163	34198	2754			14408								
		STD	0020	-0163	3441	2771	0003895	0011	14412								
		OBS	0020	-0163	34408	2771			14412								
		OBS	0025	-0161	34428	2773			14414								
		STD	0030	-0159	3445	2774	0003602	0015	14416								
		OBS	0030	-0159	34447	2774			14416								
		STD	0050	-0120	3452	2779	0003168	0022	14439								
		OBS	0050	-0120	34518	2779			14439								
		STD	0075	-0064	3458	2782	0002877	0029	14470								
		OBS	0075	-0064	34583	2782			14470								
		STD	0100	-0020	3462	2783	0002807	0036	14495								
		OBS	0100	-0020	34618	2783			14495								
		STD	0125	0003	3463	2783	0002808	0043	14510								
		OBS	0125	0003	34633	2783			14510								
		STD	0150	0017	3464	2783	0002808	0050	14521								
		OBS	0150	0017	34643	2783			14521								
		STD	0200	0025	3465	2783	0002777	0064	14533								
		OBS	0200	0025	34653	2783			14533								
		STD	0250	0032	3466	2784	0002744	0078	14544								
		OBS	0250	0032	34663	2784			14544								
		STD	0300	0033	3467	2784	0002721	0092	14553								
		OBS	0300	0033	34667	2784			14553								
		STD	0400	0038	3468	2784	0002697	0119	14572								
		OBS	0400	0038	34675	2784			14572								
		STD	0500	0041	3467	2784	0002738	0146	14590								
		OBS	0500	0041	34673	2784			14590								
		STD	0600	0036	3468	2785	0002633	0173	14605								
		OBS	0600	0036	34683	2785			14605								
		STD	0700	0033	3468	2785	0002616	0199	14620								
		OBS	0700	0033	34683	2785			14620								
		STD	0800	0028	3468	2786	0002583	0225	14634								
		OBS	0800	0028	34683	2786			14634								
		STD	0900	0024	3468	2785	0002585	0251	14649								
		OBS	0900	0024	34679	2785			14649								
		STD	1000	0017	3468	2786	0002532	0277	14663								
		OBS	1000	0017	34679	2786			14663								
		STD	1100	0013	3468	2786	0002507	0302	14678								
		OBS	1100	0013	34678	2786			14678								
		STD	1200	0008	3468	2786	0002472	0327	14692								
		OBS	1200	0008	34677	2786			14692								
		STD	1300	0004	3468	2786	0002436	0351	14708								
		OBS	1300	0004	34677	2786			14708								
		STD	1400	0000	3468	2786	0002412	0375	14723								
		OBS	1400	0000	34675	2786			14723								
		STD	1500	-0004	3467	2786	0002387	0399	14738								
		OBS	1500	-0004	34673	2786			14738								
		OBS	1600	-0008	34671	2787			14753								
		OBS	1700	-0012	34670	2787			14768								
		STD	1750	-0013	3467	2787	0002312	0458	14776								
		OBS	1800	-0014	34669	2787			14784								
		OBS	1900	-0017	34669	2787			14800								
		STD	2000	-0021	3467	2787	0002221	0515	14815								
		OBS	2000	-0021	34669	2787			14815								
		OBS	2100	-0023	34668	2787			14832								
		OBS	2200	-0025	34668	2787			14848								
		OBS	2300	-0027	34668	2787			14864								
		OBS	2400	-0029	34668	2787			14881								
		STD	2500	-0031	3467	2787	0002071	0622	14897								
		OBS	2500	-0031	34668	2787			14897								
		OBS	2600	-0033	34668	2788			14913								
		OBS	2700	-0034	34667	2787			14930								
		OBS	2800	-0037	34663	2787			14946								
		OBS	2900	-0042	34658	2787			14961								
		STD	3000	-0051	3465	2787	0001884	0721	14975								
		OBS	3000	-0051	34653	2787			14975								

REFERENCE OBSY CODE	SHIP ID. NO.	LATITUDE ° ' 1/10	LONGITUDE ° ' 1/10	DEPTH IN METERS	MPP50EN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NOOC STATION NUMBER	
					10'	1'	M	DAY	HR		1/10	CRUISE NO.			STATION NUMBER	DIR	HGT				PER
318037	GL	65481S	050505W	521	50	03	12	180	1968		057	3210	09	00	0	X		X1	7	7	0077

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DPY BULB	WET BULB			
		14	509	930		-034	6	15	

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 <sup>3</sup>	Σ Δ σ DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	1 C C C
		STD	0000	-0179	3398	2737	0007186	0000	14395	699							
179		OBS	0000	-0179	33976	2737			14395	699							810
179		OBS	0008	-0184	33975	2737			14394	699							810
		STD	0010	-0184	3397	2737	0007184	0007	14395	699							
		STD	0020	-0182	3397	2736	0007211	0014	14397	697							
179		OBS	0021	-0182	33970	2736			14397	697							810
		STD	0030	-0176	3397	2737	0007188	0022	14402	697							
179		OBS	0044	-0168	33981	2737			14408	696							809
		STD	0050	-0166	3412	2748	0006080	0035	14412	674							
179		OBS	0065	-0161	34357	2767			14420	634							805
		STD	0075	-0157	3439	2770	0004020	0047	14424	627							
179		OBS	0087	-0149	34430	2773			14430	619							803
		STD	0100	-0130	3445	2774	0003633	0057	14442	616							
		STD	0125	-0094	3449	2776	0003450	0066	14463	600							
179		OBS	0131	-0085	34503	2776			14469	594							802
		STD	0150	-0056	3455	2779	0003147	0074	14486	563							
179		OBS	0175	-0024	34602	2782			14505	530							798
		STD	0200	-0006	3463	2783	0002779	0089	14518	512							
		STD	0250	0020	3466	2784	0002695	0103	14539	488							
179		OBS	0263	0025	34665	2784			14543	484							798
		STD	0300	0029	3467	2784	0002674	0116	14551	485							
179		OBS	0350	0034	34675	2785			14562	487							797
		STD	0400	0037	3468	2785	0002653	0143	14572	478							
179		OBS	T0445	0038	34684	2785			14578	473							797
		STD	0500	0039	3469	2785	0002632	0169	14589	469							
179		OBS	T0523	0039	34686	2785			14593	468							797
		STD	0600	0038	3469	2785	0002625	0195	14606	471							
179		OBS	T0631	0037	34686	2785			14610	473							796
		STD	0700	0034	3469	2785	0002608	0222	14620	478							
179		OBS	T0730	0033	34685	2785			14625	480							796
		STD	0800	0030	3468	2786	0002590	0248	14635	484							
		STD	0900	0026	3468	2786	0002570	0273	14650	488							
179		OBS	T0929	0025	34682	2786			14655	489							796



REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ORBIT NUMBER	M/R SQDEN SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES TYPE (AMT)	NODC STATION NUMBER							
CTRY CODE	IO. NO.					10'	1'	M'	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	NGT PER	SEA										
318037	GL		65142S	050475W		521	50	03	13	000	1968	058		3219	13	00	0	X	X1	7	17	0078						
		WATER		WIND		BARO-METER		AIR TEMP. °C				SPECIAL OBSERVATIONS																
		COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		METER (mb)		AIR TEMP. °C		NO. OBS. DEPTHS														
												DRY BULB		WET BULB		VIS CODE												
																7		18										

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND MALT-2107	S Δ D OTH. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - 01/l	TOTAL-P μg - 01/l	NO <sub>2</sub> -N μg - 01/l	NO <sub>3</sub> -N μg - 01/l	SiO <sub>4</sub> -Si μg - 01/l	pH	S C C
		STD	0000	-0190	3334	2685	0012053	0000	14381	816							
014		OBS	0000	-0190	33340	2685			14381	816							818
		STD	0010	-0180	3333	2684	0012135	0012	14387	836							
014		OBS	0010	-0180	33331	2684			14387	836							819
		STD	0020	-0175	3371	2715	0009225	0023	14397	780							
014		OBS	0026	-0172	33897	2730			14402	751							809
		STD	0030	-0171	3401	2739	0006925	0031	14405	737							
		STD	0050	-0164	3441	2772	0003862	0042	14417	679							
014		OBS	0052	-0163	34438	2774			14418	674							805
		STD	0075	-0138	3449	2777	0003312	0051	14434	632							
014		OBS	0077	-0135	34497	2778			14436	628							802
		STD	0100	-0087	3455	2780	0003027	0059	14463	577							
014		OBS	0103	-0081	34556	2781			14467	571							797
		STD	0125	-0045	3459	2782	0002897	0066	14487	544							
		STD	0150	-0015	3462	2783	0002812	0073	14506	518							
014		OBS	0155	-0010	34630	2783			14509	514							796
		STD	0200	0014	3465	2784	0002737	0087	14528	486							
014		OBS	T0206	0016	34657	2784			14530	484							794
		STD	0250	0019	3466	2784	0002674	0100	14538	485							
		STD	0300	0023	3467	2785	0002661	0114	14549	487							
014		OBS	0308	0024	34668	2785			14550	487							794
		STD	0400	0036	3468	2785	0002646	0140	14571	472							
019		OBS	0410	0037	34683	2785			14573	471							792
		STD	0500	0039	3469	2785	0002617	0167	14589	467							
019		OBS	T0509	0039	34687	2785			14591	466							791
		STD	0600	0039	3469	2785	0002624	0193	14606	468							
019		OBS	0611	0039	34687	2785			14608	468							792
		STD	0700	0037	3469	2785	0002623	0219	14622	468							
019		OBS	T0716	0036	34686	2785			14624	468							791
		STD	0800	0032	3469	2786	0002590	0245	14636	472							
019		OBS	0813	0031	34686	2786			14638	473							791
		STD	0900	0023	3469	2786	0002532	0271	14649	486							
071		OBS	0919	0022	34685	2786			14652	488							793
		STD	1000	0019	3468	2786	0002552	0296	14664	491							
019		OBS	T1014	0018	34677	2786			14666	491							792
071		OBS	T1018	0015	34678	2786			14665	500							792
		STD	1100	0012	3468	2786	0002499	0321	14677	504							
		STD	1200	0008	3468	2786	0002475	0346	14693	508							
		STD	1300	0005	3468	2786	0002442	0371	14708	512							
071		OBS	T1321	0004	34677	2786			14711	513							792

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	OBS. MO. CODE	MARS DEN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	ID. NO.					10'	1'	MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER	DIR.			HGT PER	SEA	TYPE		AMT		

318037	GL	64360S	050350W		521	40	03	13	180	1968		059		3146	10	00	0	X		X1	7	7	0079
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WATER		WIND		BARO-METER		AIR TEMP. °C			SPECIAL OBSERVATIONS
COND. CODE	TRANS. (M)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS		

			20	S14	077		-059	7	15
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MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	S Δ D. DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SI O <sub>4</sub> -S μg - dl/l	pH	S C C
		STD	0000	-0178	3369	2714	0009379	0000	14392	756							
179		OBS	0000	-0178	33691	2714			14392	756							815
		STD	0010	-0181	3368	2713	0009419	0009	14392	763							
179		OBS	0010	-0181	33684	2713			14392	763							816
		STD	0020	-0178	3373	2717	0009065	0019	14396	706							
179		OBS	0025	-0176	33788	2721			14398	684							815
		STD	0030	-0174	3396	2735	0007301	0027	14402	674							
		STD	0050	-0165	3442	2772	0003780	0038	14416	645							
179		OBS	0051	-0165	34434	2774			14417	644							809
		STD	0075	-0167	3447	2777	0003379	0047	14420	629							
179		OBS	0076	-0167	34476	2777			14421	628							808
		STD	0100	-0158	3450	2779	0003177	0055	14429	624							
179		OBS	0102	-0157	34500	2779			14430	623							807
		STD	0125	-0121	3453	2780	0003042	0063	14451	597							
		STD	0150	-0088	3456	2781	0002932	0070	14471	573							
179		OBS	0153	-0084	34568	2782			14474	571							805
		STD	0200	-0038	3461	2783	0002766	0085	14503	545							
179		OBS	T0206	-0033	34612	2783			14507	542							805
		STD	0250	-0016	3463	2783	0002744	0098	14522	528							
		STD	0300	-0001	3465	2784	0002686	0112	14537	515							
179		OBS	0306	0000	34647	2784			14539	514							804
		STD	0400	0015	3466	2784	0002665	0139	14561	501							
179		OBS	0407	0016	34662	2785			14563	500							802
		STD	0500	0022	3467	2785	0002666	0165	14581	492							
179		OBS	0508	0023	34666	2784			14583	491							802
		STD	0600	0027	3467	2785	0002667	0192	14600	490							
179		OBS	T0606	0027	34673	2785			14601	490							801
		STD	0700	0026	3467	2785	0002634	0218	14617	490							
179		OBS	0712	0026	34674	2785			14619	490							801
		STD	0800	0023	3467	2785	0002629	0245	14632	497							
179		OBS	T0814	0022	34672	2785			14634	498							800
		STD	0900	0018	3467	2785	0002607	0271	14646	502							
		STD	1000	0014	3467	2785	0002576	0297	14661	504							
179		OBS	T1013	0013	34670	2785			14663	504							799

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MOON INDIC.	% R SCEN SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10"	1"	M/D	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
318037	GL	6349 S	05036 W		52	30	03	14	060	1968	060	2487	21	00	0	X		X7	6	8	0080		
					WAVE		WIND		BARO-		AIR TEMP. °C		NO. OBS.		SPECIAL								
					COLOR		SPEED		METER		DRY		VIS.		OBS.		OBSERVATIONS						
					CODE		OR		(mb)		BULB		CODE		DEPTHS								
							19		S15		105		-090		6		21						

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	Σ Δ σ DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>3</sub> -N μg - dl/l	NO <sub>2</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	S CC
		STD	0000	-0182	3363	2709	0009839	0000	14389	754							
		OBS	0000	-0182	33630	2709			14389	754							808
		STD	0010	-0182	3363	2708	0009870	0010	14391	768							
051		OBS	0010	-0182	33625	2708			14391	768							806
		STD	0020	-0182	3368	2713	0009440	0020	14393	757							
051		OBS	0026	-0182	33751	2719			14395	745							807
		STD	0030	-0180	3389	2730	0007824	0028	14399	723							
		STD	0050	-0169	3438	2769	0004079	0040	14414	648							
051		OBS	0051	-0168	34393	2770			14415	646							806
		STD	0075	-0167	3445	2775	0003532	0050	14420	639							
051		OBS	0077	-0167	34455	2775			14421	638							803
		STD	0100	-0161	3449	2778	0003260	0058	14428	621							
051		OBS	T0102	-0160	34489	2778			14428	619							801
		STD	0125	-0143	3451	2779	0003120	0066	14441	597							
		STD	0150	-0120	3453	2780	0003036	0074	14456	576							
051		OBS	0153	-0117	34537	2780			14458	574							799
		STD	0200	-0055	3459	2782	0002836	0088	14495	548							
051		OBS	0204	-0051	34598	2783			14498	546							799
		STD	0250	-0023	3462	2783	0002759	0102	14519	527							
		STD	0300	-0001	3464	2784	0002724	0116	14537	513							
051		OBS	0305	0001	34646	2784			14539	512							797
		STD	0400	0015	3466	2784	0002687	0143	14561	504							
051		OBS	0406	0016	34658	2784			14563	503							794
		STD	0500	0023	3467	2785	0002643	0170	14582	492							
051		OBS	T0507	0024	34674	2785			14583	491							796
		STD	0600	0027	3468	2785	0002592	0196	14600	487							
051		OBS	T0607	0027	34680	2785			14602	487							797
		STD	0700	0023	3468	2786	0002569	0222	14615	487							
051		OBS	0708		34680				14615	487							796
		STD	0800	0019	3468	2786	0002542	0247	14630	495							
051		OBS	T0808	0019	34675	2785			14632	496							796
		STD	0900	0016	3468	2786	0002543	0273	14645	502							
149		OBS	T0914	0015	34676	2786			14647	503							791
		STD	1000	0015	3468	2786	0002546	0298	14662	504							
051		OBS	T1008	0013	34675	2786			14662	504							795
149		OBS	1016	0011	34672	2786			14663	507							790
		STD	1100	0007	3467	2786	0002519	0324	14675	510							
		STD	1200	0003	3467	2786	0002483	0349	14690	515							
149		OBS	T1269	0000	34665	2786			14700	518							791
		STD	1300	-0002	3467	2786	0002475	0373	14705	520							
		STD	1400	-0006	3466	2786	0002450	0398	14720	525							
		STD	1500	-0011	3466	2786	0002408	0422	14734	530							
149		OBS	1527	-0012	34661	2786			14738	531							791
		STD	1750	-0019	3466	2786	0002330	0481	14773	540							
149		OBS	1838	-0023	34658	2786			14786	544							789
		STD	2000	-0030	3466	2786	0002228	0538	14811	551							
149		OBS	T2149	-0038	34654	2787			14833	558							792

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	OBS. INDEX	1/4° GRID SQUARE			STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	ID. NO.					10'	1'	N°	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT	
318037		GL	6349 S	05036 W		521	30	03	14	090	1968	060	2487	25	00	0	X		X1	0	3	0081

WAVE		WIND		AIR TEMP. °C			NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (M)	DIR.	SPEED OR FORCE	BARO-METER (mb)	DRY BULB	WET BULB		
DT	SD	20	514	111	-101	6		

MESSNGR TIME & HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\frac{\Delta \sigma}{\Delta DYN. M. \times 10^3}$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} - \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} - \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} - \text{at/l}$	pH	S.C.C.
		STD	0000	-0178													
079		OBS	0000	-0178													
		STD	0010	-0183													
		OBS	0010	-0183													
		STD	0020	-0168													
		OBS	0020	-0168													
		OBS	0025	-0163													
		STD	0030	-0163	3360	2706	0010107		14402								
		OBS	0030	-0163	33598	2706			14402								
		STD	0050	-0166	3389	2729	0007860		14408								
		OBS	0050	-0166	33888	2729			14408								
		STD	0075	-0165	3417	2752	0005699		14417								
		OBS	0075	-0165	34168	2752			14417								
		STD	0100	-0148	3450	2779	0003169		14434								
		OBS	0100	-0148	34503	2779			14434								
		STD	0125	-0120	3454	2781	0002985		14452								
		OBS	0125	-0120	34536	2781			14452								
		STD	0150	-0094	3456	2781	0002930		14468								
		OBS	0150	-0094	34557	2781			14468								
		STD	0200	-0031	3462	2783	0002740		14507								
		OBS	0200	-0031	34618	2783			14507								
		STD	0250	-0007	3463	2783	0002747		14526								
		OBS	0250	-0007	34633	2783			14526								
		STD	0300	0004	3464	2783	0002760		14539								
		OBS	0300	0004	34639	2783			14539								
		STD	0400	0021	3460	2784	0002740		14564								
		OBS	0400	0021	34655	2784			14564								
		STD	0500	0024	3466	2784	0002692		14582								
		OBS	0500	0024	34664	2784			14582								
		STD	0600	0027	3467	2784	0002684		14600								
		OBS	0600	0027	34668	2784			14600								
		STD	0700	0023	3467	2785	0002657		14615								
		OBS	0700	0023	34668	2785			14615								
		STD	0800	0021	3467	2785	0002644		14631								
		OBS	0800	0021	34668	2785			14631								
		STD	0900	0016	3467	2785	0002607		14645								
		OBS	0900	0016	34668	2785			14645								
		STD	1000	0012	3467	2785	0002575		14660								
		OBS	1000	0012	34668	2785			14660								
		STD	1100	0007	3467	2786	0002534		14675								
		OBS	1100	0007	34668	2786			14675								
		STD	1200	0004	3467	2786	0002506		14690								
		OBS	1200	0004	34668	2786			14690								
		STD	1300	0001	3467	2786	0002477		14706								
		OBS	1300	0001	34668	2786			14706								
		STD	1400	-0002	3467	2786	0002447		14722								
		OBS	1400	-0002	34668	2786			14722								
		STD	1500	-0005	3467	2786	0002416		14737								
		OBS	1500	-0005	34668	2786			14737								
		OBS	1600	-0006	34668	2786			14754								
		OBS	1700	-0010	34668	2786			14769								
		STD	1750	-0012	3467	2786	0002336		14777								
		OBS	1800	-0015	34668	2787			14784								
		OBS	1900	-0023	34660	2787			14797								
		STD	2000	-0031	3467	2787	0002138		14811								
		OBS	2000	-0031	34667	2787			14811								
		OBS	2100	-0046	34665	2788			14821								
		OBS	2200	-0059	34663	2788			14832								
		OBS	2300	-0076	34663	2789			14842								
		OBS	2400	-0086	34665	2790			14854								
		STD	2500	-0102	3466	2790	0001399		14864								
		OBS	2500	-0102	34658	2790			14864								

Table II. Observed and interpolated oceanographic data from stations taken by USCGC GLACIER during the 1969 International Weddell Sea Oceanographic Expedition, 24 February to 20 March 1969, prepared from NODC listing No. 31-8085.

REFERENCE STATION ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	OBS. NO.	SDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINA OR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATION			WEA- THER CODE	CLOUD CODES	NOO- P. STA- TION NUMBER																														
					10'	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA																													
318085	GL	74316S	030189W	555	40	02	24	115	1969		001	0515	05	24	1	8		X4	2-6	0001																														
<table border="1"> <thead> <tr> <th colspan="4">WATER</th> <th colspan="2">WIND</th> <th colspan="3">AIR TEMP °C</th> <th rowspan="2">VIS CODE</th> <th rowspan="2">NO. OBS. DEPTH</th> <th rowspan="2">SPECIAL OBSERVATIONS</th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. M</th> <th>DIR.</th> <th>SPEED OF FORCE</th> <th>BARO- METER (mb)</th> <th>DRY BULB</th> <th>WET BULB</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>22</td> <td>503</td> <td>928</td> <td>-071</td> <td>-073</td> <td>7</td> <td>11</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																				WATER				WIND		AIR TEMP °C			VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. M	DIR.	SPEED OF FORCE	BARO- METER (mb)	DRY BULB	WET BULB			22	503	928	-071	-073	7	11			
WATER				WIND		AIR TEMP °C			VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS																																							
COLOR CODE	TRANS. M	DIR.	SPEED OF FORCE	BARO- METER (mb)	DRY BULB	WET BULB																																												
		22	503	928	-071	-073	7	11																																										
MESSAGE TIME HR. 1-10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> ?	S.S.D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> (ml)	PO <sub>2</sub> -P (μg-at)	TOTAL-P μg-at	NO <sub>3</sub> -N μg-at	NO <sub>2</sub> -N μg-at	SILICA-Si μg-at	PH	STATION																																	
		STD	0000	-0113	3398	2735	0007365	0000	14426	805																																								
130		OBS	0000	-0113	33976	2735			14426	805	144		012	222	057	783																																		
		STD	0010	-0114	3397	2734	0007403	0007	14428	808																																								
130		OBS	0010	-0114	33970	2734			14428	808	150		013	227	056	792																																		
		STD	0020	-0121	3398	2735	0007300	0015	14426	811																																								
130		OBS	0026	-0125	33986	2736			14425	812	143		014	230	055	792																																		
		STD	0030	-0128	3405	2741	0006736	0022	14425	810																																								
		STD	0050	-0147	3427	2760	0004982	0033	14423	799																																								
130		OBS	0052	-0149	34289	2761			14423	798	161		018	280	064	790																																		
		STD	0075	-0177	3436	2768	0004195	0045	14414	741																																								
130		OBS	0078	-0179	34361	2768			14414	735	180		026	283	068	788																																		
		STD	0100	-0185	3438	2770	0004006	0055	14415	731																																								
130		OBS	0104	-0186	34384	2770			14415	741	191		012	294	070	784																																		
		STD	0125	-0185	3438	2770	0003967	0065	14419	727																																								
		STD	0150	-0184	3438	2770	0003963	0075	14424	724																																								
130		OBS	0156		34382					723	180		014	316	069	784																																		
		STD	0200	-0181	3438	2770	0003932	0095	14433	721																																								
130		OBS	0208	-0181	34383	2770			14435	720	181		007	304	070	788																																		
		STD	0250	-0180	3439	2770	0003867	0114	14442	714																																								
		STD	0300	-0179	3440	2771	0003787	0133	14451	706																																								
130		OBS	0311	-0179	34396	2771			14453	704	176		027	321	072	788																																		
		STD	0400	-0102	3446	2774	0003548	0170	14505	643																																								
130		OBS	T0415	-0088	34479	2775			14514	611	219		044	311	085	781																																		
		STD	0500	0001	3460	2780	0003028	0203	14571	523																																								
130		OBS	T0512	0015	34626	2782			14580	505	000		016	346	101	780																																		

REFERENCE	SHIP	LATITUDE	LONGITUDE	SQUADRON	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	NO. OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
					MO	DAY	HR	MIN		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	

318085	GL	753145	030080W	555	50	02	25	056	1969	002	002	0421	04	00	10	X	X4	0	3	0002
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WATER		WIND		BARO. METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			

DT	SD	00	S00	951	-078	-082	8	25	
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MESSNGR TIME OF HR	CASID NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30	S Δ D DYN M. X 10 <sup>3</sup>	SOUND VELOCITY	C <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl	TOTAL-P μg - dl	NO <sub>3</sub> -N μg - dl	NO <sub>2</sub> -N μg - dl	SIC <sub>4</sub> -Si μg - dl	pH	SIC			
065		STD	0000	-0180	3418	2754	0005593	0000	14398											
		OBS	0000	-0180	34183	2754			14398											
000		STD	0010	-0178	3419	2754	0005576	0000	14400											
		OBS	0010	-0178	34185	2754			14400											
		STD	0020	-0177	3423	2757	0005242	0011	14403											
		OBS	0020	-0177	34228	2757			14403											
		OBS	0025	-0174	34258	2759			14406											
		STD	0030	-0175	3427	2760	0004941	0016	14406											
		OBS	0030	-0175	34257	2760			14406											
		STD	0050	-0175	3429	2762	0004768	0026	14410											
		OBS	0050	-0175	34288	2762			14410											
		STD	0075	-0176	3431	2764	0004604	0038	14414											
		OBS	0075	-0176	34307	2764			14414											
		STD	0100	-0175	3432	2764	0004500	0049	14419											
		OBS	0100	-0175	34319	2764			14419											
		STD	0125	-0177	3433	2765	0004418	0060	14422											
		OBS	0125	-0177	34327	2765			14422											
		OBS	0136	-0177	34330	2765			14424											
		STD	0150	-0175	3434	2766	0004332	0071	14427											
		OBS	0150	-0175	34337	2766			14427											
		STD	0200	-0174	3436	2767	0004160	0092	14436											
		OBS	0200	-0174	34356	2767			14436											
OBS	0220	-0170	34362	2768			14442													
STD	0250	-0169	3439	2770	0003880	0112	14447													
OBS	0250	-0169	34391	2770			14447													
OBS	0260	-0170	34396	2771			14449													
STD	0300	-0128	3445	2774	0003537	0131	14476													
OBS	0300	-0128	34452	2774			14476													
OBS	0312	-0136	34440	2773			14474													
OBS	0328	-0100	34462	2774			14494													
OBS	0350	-0140	34520	2780			14479													
OBS	0369	-0087	34519	2778			14507													
OBS	0372	-0088	34560	2781			14508													
OBS	0376	-0075	3448P	2774P																
OBS	0384	-0107	3460P	2785P																
OBS	0392	-0067	34553	2780			14521													
STD	0400	-0098	3454	2780	0002967	0163	14508													
OBS	0400	-0098	34539	2780			14508													

REFERENCE CRUISE NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	SDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER
					'0'	'1'	MO	DAY	HR		10	CRUISE NO.			STATION NUMBER	DIR	HGT			
318085	GL	75314S	030080W	555	50	02	25	085	1969		002	0421	03	00	0	X	X4	0	3	0003
					WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS IM	DIP	SPEED OR FORCE	METER	DRY BULB	WET BULB	VIS CODE								
					DT	SD	00	500	951	-145	-147	1	10							

MESSAGE TIME OF HR 1/10	CAUT NO.	CORD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $t_{10}$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg-at/l	TOTAL-P µg-at/l	NO <sub>3</sub> -N µg-at/l	NO <sub>2</sub> -N µg-at/l	SIO <sub>4</sub> -S µg-at/l	pH	S CC
		STD	0000	-0196	3394	2734	0007426	0000	14387							
080		OBS	0000	-0196	33940	2734			14387							
		OBS	0008	-0179	34185	2754			14400							
		STD	0010	-0179	3425	2759	0005074	0006	14401							
000		OBS	0010	-0179	34250	2759			14401							
		STD	0020	-0180	3431	2764	0004605	0011	14403							
		OBS	0020	-0180	34310	2764			14403							
		OBS	0025	-0180	34304	2763			14404							
		STD	0030	-0180	3430	2763	0004791	0015	14404							
		OBS	0030	-0180	34298	2763			14404							
		STD	0050	-0175	3430	2763	0004676	0025	14410							
		OBS	0050	-0175	34300	2763			14410							
		STD	0075	-0170	3431	2764	0004582	0037	14417							
		OBS	0075	-0170	34311	2764			14417							
		STD	0100	-0170	3432	2765	0004491	0048	14421							
		OBS	0100	-0170	34322	2765			14421							
		STD	0125	-0173	3433	2765	0004406	0059	14424							
		OBS	0125	-0173	34330	2765			14424							
		STD	0150	-0169	3434	2766	0004334	0070	14430							
		OBS	0150	-0169	34339	2766			14430							
		STD	0200	-0162	3436	2767	0004167	0091	14442							
		OBS	0200	-0162	34360	2767			14442							
		STD	0250	-0155	3438	2769	0003995	0112	14454							
		OBS	0250	-0155	34382	2769			14454							
		OBS	0264	-0148	34402	2770			14460							
		OBS	0277	-0102	34440	2772			14484							
		STD	0300	-0088	3445	2773	0003679	0131	14495							
		OBS	0300	-0088	34453	2773			14495							
		OBS	0306	-0105	3439P	2768P										
		OBS	0319	-0066P	34450	2770P										
		OBS	0332	-0073	34460	2772			14507							
		OBS	0335	-0098	34450	2773			14496							

REFERENCE CRUISE NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	SDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER
					'0'	'1'	MO	DAY	HR		10	CRUISE NO.			STATION NUMBER	DIR	HGT			
318085	GL	75317S	030089W	555	50	02	25	115	1969		002	0421	04	00	0	X	X4	7	6	6004
					WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS IM	DIP	SPEED OR FORCE	METER	DRY BULB	WET BULB	VIS CODE								
					DT	SD	00	500	951	-117	-118	2	10							

MESSAGE TIME OF HR 1/10	CAUT NO.	CORD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $t_{10}$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg-at/l	TOTAL-P µg-at/l	NO <sub>3</sub> -N µg-at/l	NO <sub>2</sub> -N µg-at/l	SIO <sub>4</sub> -S µg-at/l	pH	S CC
		STD	0000	-0180	3423	2757	0005255	0000	14398	764						
109		OBS	0000	-0180	34227	2757			14398	764	196		016	273	065	752
		STD	0010	-0180	3423	2758	0005210	0005	14400	769						
109		OBS	0010	-0180	34232	2758			14400	769	198		007	273	065	781
		STD	0020	-0180	3424	2758	0005142	0010	14402	766						
109		OBS	0026	-0180	34251	2759			14403	764	195		008	280	066	789
		STD	0030	-0180	3427	2761	0004905	0015	14404	761						
		STD	0050	-0181	3432	2766	0004507	0025	14408	748						
109		OBS	0052	-0181	34322	2765			14408	747	204		008	288	067	785
		STD	0075	-0179	3433	2765	0004419	0036	14413	764						
109		OBS	0079	-0179	34336	2766			14413	765	204		009	296	062	785
		STD	0100	-0181	3434	2766	0004322	0047	14416	753						
109		OBS	0105	-0182	34342	2767			14416	751	212		003	292	069	788
		STD	0125	-0181	3435	2767	0004230	0056	14420	748						
		STD	0150	-0180	3435	2767	0004218	0068	14425	744						
109		OBS	0157	-0180	34353	2767			14426	742	199		050	310	069	788
		STD	0200	-0179	3436	2768	0004115	0089	14434	728						
109		OBS	T0209	-0178	34365	2768			14436	725	180		005	293	070	789
		STD	0250	-0164	3438	2769	0003980	0109	14450	710						
		STD	0300	-0138	3442	2772	0003742	0129	14471	680						
109		OBS	T0307	-0134	34429	2772			14474	675	210		006	306	078	785
109		OBS	T0390	-0066	34530	2778			14521	592	206		008	321	089	783

REFERENCE CRUISE ID. NO.	SHIP CODE	LATITUDE 1:10	LONGITUDE 1:10	ORBIT NUMBER	SDSN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
					10'	1'	MO	DAY	HR.	10'		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA
					10'	1'	MO	DAY	HR.	10'												
318085	GL	76281S	031484W		555	01	02	26	055	1969		003	0436	04	00	0	X	X2	7	8	0005	
					WATER		WIND		BARO-		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (ml)	DIR.	SPEED OR FORCE	BARO-METER (mb)	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS									
						00	S00	928	-051	-056	8	12										

MESSAGE TIME HR. 1:10	CA. T NO.	CR. ID TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY (10 <sup>3</sup> )	S Δ D DYN. M. X 10 <sup>2</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	S C C
		STD	0000	-0172	3402	2740	0006879	0000	14399	794							
056		OBS	0000	-0172	34018	2740			14399	794	179		017	268	062	750	
		STD	0010	-0173	3403	2741	0006786	0007	14401	794							
056		OBS	0018	-0174	34038	2742			14402	794	176		009	263	063	781	
		STD	0020	-0175	3407	2744	0006460	0013	14402	788							
		STD	0030	-0179	3420	2755	0005446	0019	14403	762							
056		OBS	0043	-0182	34306	2764			14406	739	205		005	289	065	781	
		STD	0050	-0182	3431	2764	0004581	0029	14407	735							
056		OBS	0068	-0183	34316	2764			14409	732	201		010	269	066	782	
		STD	0075	-0183	3432	2765	0004510	0041	14411	735							
056		OBS	0094	-0183	34318	2765			14414	743	204		001	291	066	782	
		STD	0100	-0183	3432	2765	0004471	0052	14415	743							
		STD	0125	-0182	3432	2765	0004457	0063	14419	741							
056		OBS	0144	-0182	34329	2765			14423	742Q	202		000	295	068	782	
		STD	0150	-0182	3433	2766	0004366	0074	14424	739							
056		OBS	0195	-0183	34344	2767			14431	735	197		025	314	070	780	
		STD	0200	-0183	3435	2767	0004180	0096	14432	735							
		STD	0250	-0181	3437	2769	0004001	0116	14441	732							
056		OBS	T0295	-0180	34384	2770			14450	726	201		008	280	071	780	
		STD	0300	-0181	3439	2770	0003820	0136	14450	724							
056		OBS	0345	-0183	34406	2772			14457	716	208		000	300	071	782	
056		OBS	0370	-0179	34424	2773			14463	719	207		002	300	072	781	
056		OBS	T0395	-0187	34438	2774			14464	726	213		000	270	071	781	
		STD	0400	-0188	3445	2775	0003279	0171	14464	725							
056		OBS	0429	-0191	34514	2781			14469	703	211		000	303	076	782	

REFERENCE CRUISE ID. NO.	SHIP CODE	LATITUDE 1:10	LONGITUDE 1:10	ORBIT NUMBER	SDSN SQUARE			STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
					10'	1'	MO	DAY	HR.	10'		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA
					10'	1'	MO	DAY	HR.	10'												
318085	GL	77054S	035026W		555	75	02	26	205	1969		004	0805	08	00	0	X	X7	5	7	0006	
					WATER		WIND		BARO-		AIR TEMP. °C			NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (ml)	DIR.	SPEED OR FORCE	BARO-METER (mb)	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS									
						00	S00	915	-050	-054	8	13										

MESSAGE TIME HR. 1:10	CA. T NO.	CR. ID TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY (10 <sup>3</sup> )	S Δ D DYN. M. X 10 <sup>2</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SiO <sub>4</sub> -Si μg - dl/l	pH	S C C
		STD	0000	-0183	3426	2760	0004964	0000	14397	763							
195		OBS	0000	-0183	34264	2760			14397	763	180		009	280	067	731	
		STD	0010	-0183	3427	2760	0004935	0005	14399	765							
		STD	0020	-0182	3427	2761	0004914	0010	14401	768							
		STD	0030	-0182	3427	2761	0004886	0015	14403	770							
195		OBS	0031	-0182	34272	2761			14403	770	185		006	282	067	769	
		STD	0050	-0183	3430	2763	0004656	0024	14406	743							
195		OBS	0056	-0183	34309	2764			14407	740	193		002	294	068	779	
		STD	0075	-0182	3433	2766	0004412	0036	14411	754							
195		OBS	T0082	-0182	34331	2766			14412	757	206		004	292	069	782	
		STD	0100	-0182	3435	2767	0004244	0046	14416	745							
		STD	0125	-0182	3436	2768	0004152	0057	14420	733							
195		OBS	0133	-0182	34369	2769			14421	730	201		002	296	070	783	
		STD	0150	-0182	3438	2770	0003983	0067	14424	729							
195		OBS	0183	-0183	34392	2771			14430	728	208			299	070	781	
		STD	0200	-0183	3440	2771	0003797	0087	14433	728							
		STD	0250	-0185	3444	2775	0003455	0105	14441	726							
195		OBS	0284	-0186	34466	2777			14446	724	208		000	299	071	781	
		STD	0300	-0187	3449	2779	0003037	0121	14449	722							
195		OBS	T0384	-0191	34580	2786			14462	717	192		000	295	069	782	
		STD	0400	-0191	3459	2787	0002201	0147	14465	718							
195		OBS	T0484	-0192	34610	2789			14479	721	197		000	297	068	784	
		STD	0500	-0193	3461	2789	0001960	0168	14481	721							
195		OBS	T0587	-0197	34629	2790			14494	719	200		000	295	069	782	
		STD	0600	-0197	3463	2790	0001756	0187	14496	718							
195		OBS	0687	-0198	34660	2794			14513	711	212		001	302	071	782	
		STD	0700	-0198	3467	2794	0001391	0202	14513	711							
195		OBS	0765	-0198	34713	2797			14524	707	212		000	297	073	782	
		STD	0800	-0195	3472	2798	0000959	0214	14532	707							
195		OBS	T0800	-0195	34721	2798			14532	707	209		002	296	071	788	



REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	ORIG. INSTR.	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER		
CRUISE NO.	IO. NO.					CRUISE NO.	STATION NUMBER	MO	DAY		HR./10	MIN./10			DIR	HGT	PER				SEA	
318085	GL		771975	036413W		555	76	02	27	115	1969		005	1085	11	00	0	X	X7	5	8	0007

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR. (m)	SPEED OR FORCE		DRY BULB	WET BULB			
		06	505	926	-059	-061	5	16	

MESSAGE TIME & NO. HR /10	CA-T NO.	CYRD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	SCC
		STD	0000	-0181	3428	2761	0004853	0000	14399	839							
138		OBS	0000	-0181	34279	2761			14399	839	169		021	262	070	764	
		STD	0010	-0182	3428	2761	0004838	0005	14400	845							
138		OBS	0019	-0182	34282	2762			14401	836	170		007	252	068	792	
		STD	0020	-0182	3428	2762	0004815	0010	14402	852							
138		OBS	0024	-0182	34280	2761			14402	854	163		006	248	064	795	
		STD	0030	-0182	3430	2763	0004670	0014	14403	814							
		STD	0050	-0183	3436	2768	0004195	0023	14407	727							
138		OBS	0051	-0183	34365	2768			14407	725	210		007	287	069	788	
		STD	0075	-0184	3440	2771	0003869	0033	14411	725							
138		OBS	0076		34403				725	202			006	297	068	787	
		STD	0100	-0186	3442	2773	0003697	0043	14415	733							
138		OBS	0103	-0186	34424	2773			14415	734	209		005	293	069	784	
		STD	0125	-0187	3444	2775	0003524	0052	14419	727							
		STD	0150	-0189	3446	2776	0003352	0060	14422	723							
138		OBS	0155	-0189	34464	2777			14423	722	219		002	300	069	785	
		STD	0200	-0195	3450	2780	0002998	0076	14428	723							
138		OBS	T0208	-0196	34502	2780			14429	723	204		001	298	068	788	
		STD	0250	-0195	3453	2782	0002738	0091	14437	720							
		STD	0300	-0193	3456	2784	0002482	0104	14447	716							
138		OBS	0311	-0193	34561	2785			14449	715	192		000	293	068	788	
		STD	0400	-0190	3459	2787	0002203	0127	14465	721							
138		OBS	T0412	-0190	34591	2787			14467	722	198		000	295	068	788	
		STD	0500	-0191	3461	2788	0001991	0148	14482	719							
138		OBS	T0511	-0191	34616	2789			14484	719	205		000	295	067	788	
138		OBS	0583	-0194	34620	2789			14494	725	204		001	293	067	788	
		STD	0600	-0196	3462	2790	0001821	0167	14496	725							
		STD	0700	-0206	3464	2791	0001614	0184	14509	724							
138		OBS	T0758	-0208	34644	2792			14517	720	207		003	299	069	784	
		STD	0800	-0207	3465	2792	0001444	0200	14525	714							
138		OBS	T0883	-0204	34670	2794			14541	706	199		000	294	071	786	
		STD	0900	-0202	3468	2794	0001216	0213	14545	706							
138		OBS	T0989	-0194	34702	2796			14564	706	202		001	298	070	788	
		STD	1000	-0193	3471	2797	0000940	0224	14566	705							
138		OBS	T1083	-0191	34743	2799			14582	697	198		002	299	072	789	

REFERENCE	SHIP ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	SQUARED	OBTAIN TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
						MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318085	GL		771975	036413W	555	76	02	27	115	1969	005	1085	11	00	0	X	X7	0	3	0008		

WATER		WIND		BARO-METER		AIR TEMP. °C		NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS		
DT	SD	06	S05	926	-059	-061	6	23	

MESSAGE TIME OF HR 1/10	CA. 1 N.S.	CORD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta D$ DEN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	SIC
115		STD	0000	-0173	3423	2757	0005248	0000	14402								
		OBS	0000	-0173	34230	2757			14402								
		STD	0010	-0174	3424	2758	0005163	0005	14403								
		OBS	0010	-0174	34240	2758			14403								
001		STD	0020	-0174	3425	2759	0005103	0010	14405								
		OBS	0020	-0174	34247	2759			14405								
		OBS	0025	-0175	34262	2760			14405								
		STD	0030	-0175	3429	2762	0004780	0015	14407								
		OBS	0030	-0175	34288	2762			14407								
		STD	0050	-0177	3437	2769	0004133	0024	14410								
		OBS	0050	-0177	34370	2769			14410								
		STD	0075	-0178	3440	2771	0003886	0034	14414								
		OBS	0075	-0178	34400	2771			14414								
		STD	0100	-0180	3442	2773	0003728	0044	14418								
		OBS	0100	-0180	34418	2773			14418								
		STD	0125	-0182	3444	2774	0003539	0053	14421								
		OBS	0125	-0182	34440	2774			14421								
		STD	0150	-0183	3446	2776	0003368	0061	14425								
		OBS	0150	-0183	34460	2776			14425								
		STD	0200	-0185	3450	2779	0003026	0077	14433								
		OBS	0200	-0185	34500	2779			14433								
		STD	0250	-0186	3453	2782	0002779	0092	14441								
		OBS	0250	-0186	34528	2782			14441								
		STD	0300	-0188	3456	2784	0002537	0105	14449								
		OBS	0300	-0188	34555	2784			14449								
		STD	0400	-0188	3458	2786	0002288	0129	14466								
		OBS	0400	-0188	34580	2786			14466								
		STD	0500	-0185	3460	2788	0002058	0151	14485								
		OBS	0500	-0185	34604	2788			14485								
		STD	0600	-0185	3462	2789	0001918	0171	14501								
		OBS	0600	-0185	34615	2789			14501								
		STD	0700	-0196	3463	2790	0001686	0189	14513								
		OBS	0700	-0196	34632	2790			14513								
		OBS	0744	-0201	34640	2791			14518								
		STD	0800	-0200	3465	2792	0001459	0205	14528								
		OBS	0800	-0200	34652	2792			14528								
		OBS	0888	-0193	34680	2794			14547								
		STD	0900	-0196	3468	2795	0001177	0218	14548								
		OBS	0900	-0196	34684	2795			14548								
		STD	1000	-0186	3472	2797	0000901	0228	14570								
		OBS	1000	-0186	34720	2797			14570								
		OBS	1080	-0180	34750	2800			14586								

REFERENCE CRUISE NO.	SHIP ID. NO.	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	SDEN SQUARE		TATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLER	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES (TYPE & AMT)	NODC STATION NUMBER			
					'0	'1	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA		
318085	GL	765025	040554W		556	60	03	01	025	1969	006		0515	05	00	0	X		X1	7	1		0009
					WATER		WIND		AIR TEMP. °C		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	DRY BULB	WET BULB										
								15	516	947	-149	-153	8	11									
MESSAGE TIME HR 1/10	CA-T NO.	CRD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - at/l	TOTAL-P μg - at/l	NO <sub>2</sub> -N μg - at/l	NO <sub>3</sub> -N μg - at/l	SiO <sub>4</sub> -Si μg - at/l	pH	S C C						
		STD	0000	-0177	3439	2771	0003979	0000	14402	828													
031		OBS	0000	-0177	34394	2771			14402	828	185		011	255	060	770							
		STD	0010	-0180	3438	2769	0004089	0004	14402	814													
031		OBS	0013	-0181	34373	2769			14402	813	191		008	264	061	780							
		STD	0020	-0183	3439	2770	0003983	0008	14403	816													
031		OBS	0023	-0184	34392	2771			14403	817	189		007	264	061	783							
		STD	0030	-0183	3440	2771	0003931	0012	14404	817													
031		OBS	0048	-0181	34406	2772			14408	800	194		008	258	062	782							
		STD	0050	-0182	3441	2772	0003814	0020	14408	792													
031		OBS	0074		34469				729		221		005	268	064	778							
		STD	0075	-0187	3447	2777	0003326	0029	14411	729													
		STD	0100	-0190	3452	2781	0002944	0037	14414	731													
031		OBS	0100	-0190	34517	2781			14414	731	212		003	294	063	778							
		STD	0125	-0190	3454	2783	0002766	0044	14419	725													
		STD	0150	-0190	3456	2784	0002590	0050	14423	719													
031		OBS	T0151	-0190	34560	2784			14423	719	217		001	297	066	779							
		STD	0200	-0193	3459	2787	0002315	0063	14431	719													
031		OBS	T0204	-0193	34596	2787			14431	719	214		000	292	064	778							
		STD	0250	-0197					719														
		STD	0300	-0201					720														
031		OBS	0309	-0202					720		224		000	294	064	780							
		STD	0400	-0199					722														
031		OBS	T0412	-0198					722		230		000	296	064	779							
		STD	0500	-0194					715														
031		OBS	T0513	-0193					713		212		007	295	065	781							

REFERENCE CRUISE NO.	SHIP ID. NO.	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	SDEN SQUARE		TATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLER	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES (TYPE & AMT)	NODC STATION NUMBER			
					'0	'1	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA		
318085	GL	77160S	042383W		556	72	03	01	145	1969	007		0510	05	00	0	X		X4	5	7		0010
					WATER		WIND		AIR TEMP. °C		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	DRY BULB	WET BULB										
								13	530	937	-165	-167	6	11									
MESSAGE TIME HR 1/10	CA-T NO.	CRD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	S Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - at/l	TOTAL-P μg - at/l	NO <sub>2</sub> -N μg - at/l	NO <sub>3</sub> -N μg - at/l	SiO <sub>4</sub> -Si μg - at/l	pH	S C C						
		STD	0000	-0188						751													
		OBS	0000	-0188	34630	27900			751		209		010	287	065	761							
		STD	0010	-0188					751														
157		OBS	0015	-0188	34437	2774			14400	751	218		008	286	064	779							
		STD	0020	-0188	3444	2775	0003588		14401	750													
		STD	0030	-0187	3444	2775	0003553		14403	747													
157		OBS	0030	-0187	34444	2775			14403	747	201		008	297	065	782							
		STD	0050	-0189	3447	2777	0003337		14406	737													
157		OBS	0055	-0189	34473	2777			14407	735	223		007	291	065	780							
		STD	0075	-0188	3449	2779	0003169		14411	731													
157		OBS	0080	-0188	34494	2779			14412	730	222		006	297	065	780							
		STD	0100	-0191	3454	2783	0002763		14414	723													
157		OBS	T0105	-0192	34544	2783			14415	722	215		001	300	065	780							
		STD	0125	-0192	3455	2784	0002670		14418	724													
		STD	0150	-0191	3456	2784	0002580		14423	726													
157		OBS	0156	-0191	34562	2785			14424	727	244		000	298	066	781							
		STD	0200	-0190	3457	2785	0002476		14432	718													
157		OBS	0207	-0190	34578	2786			14433	717	208		000	300	067	783							
		STD	0250	-0193	3463	2790	0001977		14439	719													
		STD	0300	-0197	3467	2794	0001630		14446	721													
157		OBS	T0309	-0198	34681	2794			14448	721	208		000	298	065	781							
		STD	0400	-0198	3470	2796	0001362		14463	719													
157		OBS	T0412	-0198	34680	27940			719		213		000	298	067	783							
		STD	0500	-0190	3471	2797	0001203		14484	718													
157		OBS	T0504	-0189	34715	2797			14485	718	217		001	294	066	782							

REFERENCE CTRY CODE	SHIP ID. NO.	LATITUDE 1/10	LONGITUDE 1/10	RDSN INDICATOR	STATION TIME (GMT)					YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318085	GL	773855	042278W		556	72	03	02	085	1969	008	0585	06	00	0	X		X7	5	7	0011	
					WATER		WIND		BARO- METER (mb)			AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB											
								15	S19	931	-138	-140	5	12								
MESSNGR TIME HR 1/10	CAJ T NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>2</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	SiO <sub>2</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	3 C C					
		STD	0000	-0189						815												
076		OBS	0000	-0189	35620	28700				815	199		008	289	065	753						
		STD	0010	-0189						746												
076		OBS	0010	-0189	34430	27740				746	169		010	288	064	779						
		STD	0020	-0188						746												
		STD	0030	-0187	3440	2772	0003860		14402	746												
076		OBS	0030	-0187	34404	2772			14402	746	203		010	283	063	782						
		STD	0050	-0189	3441	2772	0003804		14405	746												
076		OBS	0056	-0190	34410	2772			14405	746	208		009	286	065	785						
		STD	0075	-0188	3441	2772	0003768		14410	745												
076		OBS	0081	-0187	34413	2772			14411	744	209		009	288	064	785						
		STD	0100	-0187	3446	2776	0003386		14415	733												
		STD	0125	-0188	3451	2780	0002986		14419	723												
076		OBS	0132	-0188	34517	2781			14421	721	216		003	291	065	784						
		STD	0150	-0190	3454	2783	0002736		14423	719												
076		OBS	0182	-0192	34566	2785			14428	717	207		000	294	065	788						
		STD	0200	-0192	3457	2785	0002470		14431	719												
		STD	0250	-0193	3459	2787	0002285		14439	723												
076		OBS	0283	-0193	34598	2788			14444	724	205		000	293	064	789						
		STD	0300	-0197	3461	2789	0002089		14446	723												
076		OBS	T0383	-0211	34635	2791			14453	721	212		000	295	066	789						
		STD	0400	-0211	3464	2791	0001754		14456	721												
076		OBS	T0483	-0213	34649	2792			14469	722	213		000	299	068	784						
		STD	0500	-0214	3465	2792	0001605		14472	720												
076		OBS	T0546	-0215	34659	2793			14479	719	219		001	297	068	782						
076		OBS	T0574	-0203	34683	2795			14489	721	246		002	294	067	783						

REFERENCE CTRY CODE	SHIP ID. NO.	LATITUDE 1/10	LONGITUDE 1/10	RDSN INDICATOR	STATION TIME (GMT)					YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318085	GL	775425	045133W		556	75	03	03	235	1969	009	0250	02	00	0	X		X7	5	8	0012	
					WATER		WIND		BARO- METER (mb)			AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB											
								00	S00	973	-106	-111	5	09								
MESSNGR TIME HR 1/10	CAJ T NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>2</sub> -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{at/l}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{at/l}$	SiO <sub>2</sub> -Si $\mu\text{g} \cdot \text{at/l}$	pH	3 C C					
		STD	0000	-0188	3450	2779	0003154	0000	14398	730												
231		OBS	0000	-0188	34498	2779			14398	730	211		007	294	065	760						
		STD	0010	-0188	3449	2779	0003210	0003	14400	729												
231		OBS	0016	-0188	34487	2778			14401	729	221		007	295	065	780						
		STD	0020	-0188	3449	2778	0003226	0006	14401	732												
		STD	0030	-0189	3449	2778	0003218	0010	14403	737												
231		OBS	0031	-0189	34487	2778			14403	738	223		013	291	064	785						
		STD	0050	-0189	3448	2778	0003229	0016	14406	744												
231		OBS	0056	-0189	34483	2778			14407	746	222		007	292	067	782						
		STD	0075	-0191	3449	2779	0003162	0024	14409	734												
231		OBS	0081	-0192	34497	2779			14410	733	217		008	293	065	781						
		STD	0100	-0191	3450	2779	0003095	0032	14414	739												
231		OBS	0106	-0190	34497	2779			14415	740	213		008	295	065	784						
		STD	0125	-0190	3450	2780	0003057	0040	14418	739												
		STD	0150	-0190	3450	2780	0003042	0047	14422	738												
231		OBS	T0155	-0190	34501	2780			14423	737	222		007	294	064	788						
		STD	0200	-0193	3450	2780	0002974	0062	14430	729												
231		OBS	T0207	-0193	34505	2780			14430	728	207		005	292	063	789						
231		OBS	0247	-0195	34512	2781			14436	721	219		007	297	064	789						



REFERENCE CITY NO.	SHIP ID. NO.	LATITUDE 1:10	LONGITUDE 1:10	MO 10	DAY 03	HR 06	YEAR 1969	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES	NODC STATION NUMBER			
								CRUISE NO.	STATION NUMBER								
318085	GL	77189S	037423W	555	77	03	06	205	013	1024	10	00	01X	X4	5	8	0019
				WATER		WIND		BARO-METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS			
				COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	BARO-METER (mb)	DRY BULB	WET BULB	VIS. CODE						
				18	S13		869	-157	-159	8	14						

MESSAGE TIME HR 1:10	CA-T NO.	CARD TYPE	DEPTH (m)	T °C	S. . .	SIGMA-T	SPECIFIC VOLUME ANOMALY-10	SOUND VEL. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - dl	TOTAL-P µg - dl	NO <sub>3</sub> -N µg - dl	NO <sub>2</sub> -N µg - dl	SiO <sub>4</sub> -Si µg - dl	pH	S C
		STD	0000	-0187	3440	2771	0003902	0000	14398	780							
194		OBS	0000	-0187	34401	2771			14398	780	184		007	267	063	779	
		STD	0010	-0186	3434	2767	0004336	0004	14399	792							
194		OBS	0010	-0186	34344	2767			14399	792	183		006	266	063	789	
		STD	0020	-0185	3434	2767	0004347	0008	14401	785							
194		OBS	0020	-0185	34342	2767			14401	785	186		007	268	063	790	
		STD	0030	-0191	3434	2767	0004343	0013	14400	765							
194		OBS	0031	-0191	34338	2766			14400	764	191		007	269	063	790	
		STD	0050	-0185	3434	2766	0004351	0022	14406	786							
194		OBS	T0056	-0184	34319	2766			14407	789	194		007	274	062	790	
		STD	0075	-0190	344.	2773	0003702	0032	14409	755							
		STD	0100	-0195	3450	2780	0003060	0040	14412	727							
194		OBS	0110	-0196	34525	2782			14413	720	210		002	295	066	788	
		STD	0125	-0196	3453	2782	0002812	0047	14416	724							
		STD	0150	-0196	3455	2784	0002643	0054	14420	729							
194		OBS	T0163	-0196	34553	2784			14422	731	202		001	293	066	771	
		STD	0200	-0194	3457	2785	0002464	0067	14430	729							
		STD	0250	-0192	3458	2786	0002364	0079	14439	727							
194		OBS	0268	-0191	34586	2787			14443	726	209		001	293	066	785	
		STD	0300	-0191	3453	2787	0002260	0091	14448	723							
194		OBS	T0374	-0192	34599	2788			14460	720	204		001	293	065	788	
		STD	0400	-0195	3460	2788	0001111	0112	14463	722							
194		OBS	0478	-0199	34612	2789			14474	724	205		001	291	064	787	
		STD	0500	-0196	3462	2789	0001934	0133	14474	723							
194		OBS	0582	-0191	34625	2790			14496	718	212		000	292	065	786	
		STD	0630	-0194	3463	2790	0001768	0151	14497	718							
		STD	0700	-0205	3463	2790	0001664	0168	14509	716							
194		OBS	T0780	-0210	34644	2792			14520	714	215		001	295	068	786	
		STD	0800	-0210	3465	2792	0001439	0184	14524	714							
		STD	0900	-0206	3468	2794	0001189	0197	14542	711							
194		OBS	T0996	-0206	34700	2796			14559	709	213		001	299	070	789	
		STD	1000	-0206	3471	2797	0000674	0207	14560	710							
194		OBS	T1016	-0207	34760	2801			14563	716	209		000	301	072	790	

REFERENCE CITY NO.	SHIP ID. NO.	LATITUDE 1:10	LONGITUDE 1:10	MO 10	DAY 07	HR 08	YEAR 1969	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES	NODC STATION NUMBER			
								CRUISE NO.	STATION NUMBER								
318085	GL	77502S	035329W	555	75	03	07	085	013	0347	03	00	01X	X1	7	2	0016
				WATER		WIND		BARO-METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS			
				COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	BARO-METER (mb)	DRY BULB	WET BULB	VIS. CODE						
				18	S10		791	-208	-211.8	11							

MESSAGE TIME HR 1:10	CA-T NO.	CARD TYPE	DEPTH (m)	T °C	S. . .	SIGMA-T	SPECIFIC VOLUME ANOMALY-10	SOUND VEL. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - dl	TOTAL-P µg - dl	NO <sub>3</sub> -N µg - dl	NO <sub>2</sub> -N µg - dl	SiO <sub>4</sub> -Si µg - dl	pH	S C
		STD	0000	-0187	3457	2785	0002588	0000	14400	738							
075		OBS	0000	-0187	34572	2785			14400	738	208		009	289	067	780	
		OBS	0006	-0186	34420	2773			14399	736	205		006	288	066	791	
		STD	0010	-0185	3440	2771	0003908	0003	14400	745							
075		OBS	0014	-0184	34386	2770			14401	751	209		007	287	066	795	
		STD	0020	-0185	3438	2770	0004055	0007	14401	749							
		STD	0030	-0186	3437	2769	0004124	0011	14403	745							
075		OBS	0040	-0187	34365	2768			14404	742	211		007	283	067	751	
		STD	0050	-0187	3437	2769	0004140	0020	14406	737							
075		OBS	0066	-0186	34367	2769			14408	735	214		005	290	067	793	
		STD	0075	-0186	3437	2769	0004127	0030	14410	739							
075		OBS	0092	-0185	34365	2768			14413	744	214		007	290	067	753	
		STD	0100	-0185	3437	2768	0004121	0040	14415	742							
		STD	0125	-0184	3437	2768	0004107	0051	14419	738							
075		OBS	T0143	-0184	34365	2768			14422	736	214		006	291	067	792	
		STD	0150	-0184	3436	2768	0004100	0061	14423	736							
		OBS	0194	-0184	34360	2768			14431	736	209		006	288	066	795	
		STD	0200	-0184	3436	2768	0004100	0081	14431	736							
		STD	0250	-0185	3436	2768	0004053	0102	14440	733							
		STD	0300	-0185	3436	2768	0004005	0122	14448	731							
075		OBS	T0300	-0185	34364	2768			14448	731	208		005	288	066	794	
075		OBS	T0322	-0183	34360	2768			14452	738	213		006	289	067	781	
075		OBS	T0343	-0184	34377	2769			14456	724	217		010	291	067	792	

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ID. NO.	OCEAN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CRUISE NO.	ID. NO.					10'	1'	MO	DAY		HR	CRUISE NO.			STATION NUMBER	DIP	HGT			
318085	GL	77502S	035329W	555	75	03	07	085	1969		013	0347	03	00	0	X		X1	013	0017
WATER		WIND		BARO-METER		AIR TEMP. °C		SPECIAL OBSERVATIONS												
COLOR CODE		TRANS. (m)		DIR.		SPEED OF FORCE		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS						
DT		SD		18		S10		791		-208		-211		8		14				

MESSNGR TIME OF HR 1/10	CA. I. N. J.	CORD TYPE	DEPTH (m)	T °C	S. ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-1000	S. Δ D DYN. M x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>2</sub> -N μg-at/l	NO <sub>3</sub> -N μg-at/l	SiO <sub>4</sub> -S μg-at/l	pH	S. C. C.
		STD	0000	-0188	3427	2761	0004899	0000	14395								
065		OBS	0000	-0188	34271	2761			14395								
		STD	0010	-0188	3428	2762	0004823	0005	14397								
		OBS	0010	-0188	34280	2762			14397								
		STD	0020	-0187	3429	2762	0004750	0010	14399								
000		OBS	0020	-0187	34289	2762			14399								
		OBS	0025	-0187	34289	2762			14400								
		STD	0030	-0187	3429	2762	0004743	0014	14401								
		OBS	0030	-0187	34289	2762			14401								
		STD	0050	-0187	3429	2762	0004723	0024	14404								
		OBS	0050	-0187	34290	2762			14404								
		STD	0075	-0187	3429	2762	0004707	0036	14408								
		OBS	0075	-0187	34290	2762			14408								
		STD	0100	-0187	3429	2762	0004683	0047	14413								
		OBS	0100	-0187	34291	2762			14413								
		STD	0125	-0187	3429	2763	0004660	0059	14417								
		OBS	0125	-0187	34292	2763			14417								
		STD	0150	-0187	3429	2763	0004636	0071	14421								
		OBS	0150	-0187	34293	2763			14421								
		STD	0200	-0186	3429	2763	0004607	0094	14430								
		OBS	0200	-0186	34293	2763			14430								
		STD	0250	-0186	3430	2763	0004560	0117	14438								
		OBS	0250	-0186	34295	2763			14438								
		STD	0300	-0186	3430	2763	0004491	0139	14446								
		OBS	0300	-0186	34300	2763			14446								
		OBS	0320	-0186	34309	2764			14450								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ID. NO.	OCEAN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CRUISE NO.	ID. NO.					10'	1'	MO	DAY		HR	CRUISE NO.			STATION NUMBER	DIP	HGT			
318085	GL	77220S	034292W	555	74	03	07	140	1969		014	0370	04	00	0	X		X7	718	0018
WATER		WIND		BARO-METER		AIR TEMP. °C		SPECIAL OBSERVATIONS												
COLOR CODE		TRANS. (m)		DIR.		SPEED OF FORCE		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS						
21		S04		754		-115		-116		7		10								

MESSNGR TIME OF HR 1/10	CA. I. N. J.	CORD TYPE	DEPTH (m)	T °C	S. ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-1000	S. Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg-at/l	TOTAL-P μg-at/l	NO <sub>2</sub> -N μg-at/l	NO <sub>3</sub> -N μg-at/l	SiO <sub>4</sub> -S μg-at/l	pH	S. C. C.
		STD	0000	-0183	3421	2756	0005363	0000	14397	772							
		OBS	0000	-0183	34212	2756			14397	772	190			012	267	061	788
		STD	0010	-0183	3421	2756	0005357	0005	14398	774							
140		OBS	0010	-0183	34212	2756			14398	774	189			011	270	062	791
		STD	0020	-0185	3425	2759	0005055	0011	14400	759							
		STD	0030	-0186	3428	2762	0004814	0016	14401	749							
		OBS	0036	-0187	34286	2762			14402	746	213			011	284	065	758
		STD	0050	-0186	3428	2762	0004770	0025	14404	753							
140		OBS	0061	-0186	34283	2762			14406	754	206			011	284	067	789
		STD	0075	-0186	3429	2762	0004709	0037	14409	744							
		OBS	0087	-0186	34299	2763			14411	738	206			011	288	066	790
		STD	0100	-0186	3430	2763	0004610	0049	14413	739							
		STD	0125	-0185	3431	2754	0004557	0060	14418	741							
140		OBS	10136	-0185	34308	2764			14420	742	211			010	287	066	790
		STD	0150	-0185	3431	2764	0004526	0071	14422	740							
140		OBS	10191	-0186	34307	2764			14428	736	207			008	288	066	789
		STD	0200	-0186	3431	2764	0004500	0094	14430	736							
		STD	0250	-0187	3431	2764	0004452	0116	14438	735							
140		OBS	0291	-0187	34310	2764			14445	732	209			009	291	066	790
		STD	0300	-0185	3431	2764	0004387	0138	14447	731							
140		OBS	10339	-0183	34332	2766			14455	725	207			012	296	067	790
140		OBS	0366	-0187	34372	2769			14458	722	206			005	294	068	790

REFERENCE Cruise ID	SHIP CODE	LATITUDE N/S	LONGITUDE E/W	DEPTH METER	WIND SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER																																
					10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TP		AMT																															
318085	GL	76529S	032497W	555	62	03	08	055	1969		015		0375	04	00	0	X		X7	X9	0019																																
<table border="1"> <thead> <tr> <th colspan="2">WATER</th> <th colspan="3">WIND</th> <th rowspan="2">BARO- METER (mb)</th> <th colspan="3">AIR TEMP. °C</th> <th rowspan="2">VIS. CODE</th> <th rowspan="2">NO. OBS. DEPTHS</th> <th rowspan="2">SPECIAL OBSERVATIONS</th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. (%)</th> <th>DIR</th> <th>SPEED OF FORCE</th> <th>DRY BULB</th> <th>WET BULB</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>22</td> <td>S18</td> <td>733</td> <td>-161</td> <td>-162</td> <td>4</td> <td>05</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																						WATER		WIND			BARO- METER (mb)	AIR TEMP. °C			VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (%)	DIR	SPEED OF FORCE	DRY BULB	WET BULB					22	S18	733	-161	-162	4	05			
WATER		WIND			BARO- METER (mb)	AIR TEMP. °C			VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																										
COLOR CODE	TRANS. (%)	DIR	SPEED OF FORCE	DRY BULB		WET BULB																																															
		22	S18	733	-161	-162	4	05																																													
MESSAGE TIME HR. 1-10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	S. C. D. DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - at/l	TOTAL-P µg - at/l	NO <sub>2</sub> -N µg - at/l	NO <sub>3</sub> -N µg - at/l	SIO <sub>4</sub> -Si µg - at/l	pH	S C C																																				
		STD	0000	-0177	3399	2738	0007113	0000	14396	806																																											
053		OBS	0000	-0177	33986	2738			14396	808	165		017	236	054	799																																					
		STD	0010	-0176	3397	2737	0007201	0007	14398	811																																											
		OBS	0010	-0176	33974	2737			14398	811	170		018	238	054	799																																					
		STD	0020	-0175	3403	2741	0006766	0014	14401	806																																											
		STD	0030	-0175	3408	2745	0006378	0021	14404	801																																											
		STD	0050	-0173	3413	2753	0005601	0033	14409	791																																											
062		OBS	0051	-0173	34184	2753			14410	790	192		014	263	058	797																																					
063		OBS	0346	-0180	34377	2769			14455	731	219		003	290	069	790																																					
063		OBS	0372	-0184	34369	2770			14461	727	210		004	293	069	789																																					

REFERENCE Cruise ID	SHIP CODE	LATITUDE N/S	LONGITUDE E/W	DEPTH METER	WIND SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER																																
					10'	1'	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TP		AMT																															
318085	GL	76529S	032497W	555	62	03	08	055	1969		015		0375	04	00	0	X		X7	03	0020																																
<table border="1"> <thead> <tr> <th colspan="2">WATER</th> <th colspan="3">WIND</th> <th rowspan="2">BARO- METER (mb)</th> <th colspan="3">AIR TEMP. °C</th> <th rowspan="2">VIS. CODE</th> <th rowspan="2">NO. OBS. DEPTHS</th> <th rowspan="2">SPECIAL OBSERVATIONS</th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. (%)</th> <th>DIR</th> <th>SPEED OF FORCE</th> <th>DRY BULB</th> <th>WET BULB</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>01</td> <td>S0</td> <td>22</td> <td>S18</td> <td>733</td> <td>-161</td> <td>-162</td> <td>4</td> <td>15</td> <td></td> </tr> </tbody> </table>																						WATER		WIND			BARO- METER (mb)	AIR TEMP. °C			VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (%)	DIR	SPEED OF FORCE	DRY BULB	WET BULB					01	S0	22	S18	733	-161	-162	4	15	
WATER		WIND			BARO- METER (mb)	AIR TEMP. °C			VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																										
COLOR CODE	TRANS. (%)	DIR	SPEED OF FORCE	DRY BULB		WET BULB																																															
		01	S0	22	S18	733	-161	-162	4	15																																											
MESSAGE TIME HR. 1-10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	S. C. D. DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - at/l	TOTAL-P µg - at/l	NO <sub>2</sub> -N µg - at/l	NO <sub>3</sub> -N µg - at/l	SIO <sub>4</sub> -Si µg - at/l	pH	S C C																																				
		STD	0000	-0178	3393	2733	0007542	0000	14395																																												
050		OBS	0000	-0178	33930	2733			14395																																												
		STD	0010	-0178	3393	2733	0007535	0008	14397																																												
		OBS	0010	-0178	33930	2733			14397																																												
		STD	0020	-0181	3400	2739	0006983	0015	14398																																												
000		OBS	0020	-0181	34000	2739			14398																																												
		OBS	0025	-0180	34071	2744			14400																																												
		STD	0030	-0178	3410	2747	0006216	0021	14402																																												
		OBS	0030	-0178	34100	2747			14402																																												
		STD	0050	-0171	3422	2756	0005338	0033	14411																																												
		OBS	0050	-0171	34215	2756			14411																																												
		STD	0075	-0182	3427	2761	0004888	0046	14410																																												
		OBS	0075	-0182	34268	2761			14410																																												
		STD	0100	-0185	3428	2761	0004788	0058	14415																																												
		OBS	0100	-0185	34278	2761			14413																																												
		STD	0125	-0186	3429	2762	0004670	0070	14417																																												
		OBS	0125	-0186	34291	2762			14417																																												
		STD	0150	-0186	3430	2763	0004570	0081	14421																																												
		OBS	0150	-0186	34302	2763			14421																																												
		OBS	0176	-0183	34310	2764			14427																																												
		STD	0200	-0187	3431	2765	0004398	0104	14430																																												
		OBS	0200	-0187	34320	2765			14430																																												
		STD	0250	-0187	3433	2766	0004282	0125	14438																																												
		OBS	0250	-0187	34330	2766			14438																																												
		STD	0300	-0187	3434	2767	0004167	0146	14446																																												
		OBS	0300	-0187	34342	2767			14446																																												
		OBS	0352	-0187	34348	2767			14455																																												



REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METERS	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES	NODC STATION NUMBER	
CRUISE NO.	ID. NO.					MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER							
318085	GL	74400S	031041W	555	41	03	09	056	1969	016	0534	05	00	0	X	X1	63	0021
WATER		WIND		BARO-METER (mbs)	AIR TEMP °C		VIS COOL	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
			21	S11	886	-175	-181	8	12									
MESSAGE TIME OF HR 1/10	CA-T NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	S <sub>0</sub> - D <sub>0</sub> DYN. Δ (x 10 <sup>3</sup> )	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - 0.1 l	TOTAL-P μg - 0.1 l	NO <sub>3</sub> -N μg - 0.1 l	NO <sub>2</sub> -N μg - 0.1 l	SIO <sub>4</sub> -Si μg - 0.1 l	PH	STATION	
		STD	0000	-0170	3409	2746	0006339	0000	14401	795								
056		OBS	0000	-0170	34089	2746			14401	795	167		015	241	055	801		
		STD	0010	-0168	3408	2745	0006376	0006	14404	793								
056		OBS	0010	-0168	34084	2745			14404	793	173		014	243	054	798		
		STD	0020	-0168	3409	2745	0006361	0013	14405	794								
056		OBS	0025		34085				795	168		015	243	054	796			
		STD	0030	-0169	3412	2748	0006086	0019	14407	787								
		STD	0050	-0169	3422	2756	0005305	0030	14412	758								
056		OBS	0051	-0169	34223	2757			14412	757	193		012	285	060	792		
		STD	0075	-0175	3428	2761	0004798	0043	14414	743								
		STD	0100	-0182	3434	2767	0004299	0054	14416	728								
056		OBS	T0102	-0182	34348	2767			14416	727	206		008	293	065	790		
		STD	0125	-0182	3435	2767	0004230	0065	14420	734								
035		OBS	0146	-0181	34361	2768			14424	740	211		002		066	788		
		STD	0150	-0181	3436	2768	0004109	0075	14425	727								
056		OBS	0152	-0181	34366	2768			14425	722	200		000	296	067	786		
035		OBS	0194	-0178	34368	2769			14433	722	205		002	294	068	786		
		STD	0200	-0174	3437	2769	0004053	0096	14436	720								
		STD	0250	-0140	3438	2768	0004064	0216	14461	707								
035		OBS	0292		34405				695	203		000	295	076	786			
		STD	0300	-0108	3442	2771	0003863	0136	14485	683								
035		OBS	T0390	-0050	34540	2778			14528	575	240		001	308	089	780		
		STD	0400	-0019	3457	2779	0003143	0171	14545	540								
035		OBS	T0494	0014	34663	2785			14577	502	231		002	312	103	779		
		STD	0500	0000	3466	2785	0002568	0200	14571	516								
035		OBS	T0509	-0024	34645	2785			14562	542	229		002	309	099	780		

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METERS	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES	NODC STATION NUMBER	
CRUISE NO.	ID. NO.					MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER							
318085	GL	74400S	031041W	555	41	03	09	030	1969	016	0534	05	00	0	X	X7	03	0022
WATER		WIND		BARO-METER (mbs)	AIR TEMP °C		VIS COOL	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
			21	S11	871	-182	-183	16										

MESSAGE TIME OF HR 1/10	CA-T NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ <sub>t</sub>	S <sub>0</sub> - D <sub>0</sub> DYN. Δ (x 10 <sup>3</sup> )	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P μg - 0.1 l	TOTAL-P μg - 0.1 l	NO <sub>3</sub> -N μg - 0.1 l	NO <sub>2</sub> -N μg - 0.1 l	SIO <sub>4</sub> -Si μg - 0.1 l	PH	STATION	
		STD	0000	-0186	3402	2741	0006824	0000	14393									
030		OBS	0000	-0186	34021	2741			14393									
		OBS	0008	-0182	34062	2744			14396									
		STD	0010	-0184	3406	2744	0006492	0007	14396									
000		OBS	0010	-0184	34064	2744			14396									
		STD	0020	-0187	3421	2756	0005341	0013	14398									
		OBS	0020	-0187	34212	2756			14398									
		OBS	0025	-0186	34260	2760			14400									
		STD	0030	-0178	3428	2761	0004841	0018	14405									
		OBS	0030	-0178	34279	2761			14405									
		STD	0050	-0185	3432	2765	0004497	0027	14406									
		OBS	0050	-0185	34320	2765			14406									
		STD	0075	-0187	3434	2766	0004323	0038	14409									
		OBS	0075	-0187	34340	2766			14409									
		STD	0100	-0188	3435	2767	0004220	0049	14413									
		OBS	0100	-0188	34351	2767			14413									
		STD	0125	-0188	3436	2768	0004128	0059	14417									
		OBS	0125	-0188	34361	2768			14417									
		STD	0150	-0188	3437	2769	0004059	0069	14421									
		OBS	0150	-0188	34368	2769			14421									
		STD	0200	-0188	3438	2770	0003913	0089	14430									
		OBS	0200	-0188	34383	2770			14430									
		STD	0250	-0184	3440	2771	0003756	0108	14440									
		OBS	0250	-0184	34401	2771			14440									
		STD	0300	-0157	3446	2775	0003367	0126	14462									
		OBS	0300	-0157	34460	2775			14462									
		STD	0400	-0054	3461	2784	0002632	0156	14529									
		OBS	0400	-0054	34612	2784			14529									
		OBS	0488	-0013	34644	2785			14563									



REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	SQUID INDEX	SDEN SQUARE			TATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						'0'	'1'	MO	DAY	HR.	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	1/10	
318085	GL		74063S	032362W		555	42	03	11	205	1969	019		1500	15	00	0	X	X1	4	5	0025	
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR	TRANS	DIR.	SPEED	DRY	WET	WIS											
						CODE	(M)		OF	BULB	BULB	CODE											
									FORCE														
									(mbx)	-163	-167	8	16										
										19	S07	896											
MESSAGE TIME HR 1/10	CA.T NO.	CRD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C C						
		STD	0000	-0177	3411	2748	0006145	0000	14398	807													
191		OBS	0000	-0177	34112	2748			14398	807	155		024	243	055	800							
		STD	0010	-0182	3411	2748	0006158	0006	14397	808			015	245	055	798							
191		OBS	0010	-0182	34108	2748			14397	808	165												
		STD	0020	-0184	3411	2748	0006132	0012	14398	814													
191		OBS	0026	-0185	34121	2749			14399	817	158		013	246	054	799							
		STD	0030	-0184	3416	2752	0005740	0018	14400	802													
		STD	0050	-0181	3430	2763	0004660	0029	14407	748													
191		OBS	0052	-0181	34313	2764			14408	745	200		014	289	065	791							
		STD	0075	-0184	3433	2766	0004408	0040	14410	735													
191		OBS	0077	-0184	34332	2766			14411	734	200		009	287	066	791							
		STD	0100	-0184	3434	2766	0004315	0051	14415	733													
		STD	0125	-0184	3434	2766	0004300	0062	14419	731													
191		OBS	0129	-0184	34343	2767			14420	731	204		003	293	066	789							
		STD	0150	-0184	3434	2767	0004255	0072	14423	728													
191		OBS	0181	-0183	34345	2767			14429	725	205		000	294	067	789							
		STD	0200	-0183	3435	2767	0004180	0093	14432	724													
		STD	0250	-0183	3436	2768	0004073	0114	14440	721													
191		OBS	T0282	-0184	34362	2768			14445		204		001	297	068	789							
		STD	0300	-0185	3437	2768	0003999	0134	14448	718													
191		OBS	0388	-0188	34382	2770			14461	712	196		000	298	068	785							
		STD	0400	-0173	3439	2770	0003789	0173	14470	699													
191		OBS	0491	-0080	34465	2773			14530	609	217		000	308	080	782							
		STD	0500	-0073	3448	2774	0003508	0210	14535	601													
191		OBS	T0593	-0011	34578	2779			14581	535	226		000	311	093	779							
		STD	0600	-0010	3458	2779	0003104	0243	14582	534													
		STD	0700	0011	3463	2782	0002859	0273	14609	513													
		STD	0800	0031	3466	2784	0002780	0301	14636	492													
		STD	0900	0052	3468	2784	0002794	0329	14662	471													
191		OBS	T0906	0053	34682	2784			14663	470	227		000	313	110	780							
		STD	1000	0049	3468	2784	0002779	0356	14677	473													
		STD	1100	0044	3468	2784	0002745	0384	14692	476													
191		OBS	1113	0043	34678	2784			14694	476	229		012	318	120	779							
		STD	1200	0035	3468	2785	0002689	0411	14705	500													
		STD	1300	0026	3468	2785	0002608	0438	14718	527													
191		OBS	T1368	0022	3449P	2770P			546	203			003	300	077	781							
		STD	1400	0019	3468	2786	0002548	0464	14731	529													
191		OBS	1466	0017	34679	2786			14742	497	237		001	321	121	780							
191		OBS	T1492	0017	34681	2786			14746	485	226		000	320	122	779							

REFERENCE CITY CODE	IO. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	WIND SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		MOOC STATION NUMBER
						10'	1"	MO	DAY	HR.		1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE	
318085	GL		734945	031409W		555	31	03	12	115	1969		020	2360	24	00	0	X		X1	8	2	0026
						WATER		WIND		BARO- METER		AIR TEMP. °C			NO. OBS. DEPTH'S		SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE											
									16	S05	903	-147	-150	8	25								

MESSAGE TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D DYN. M. x 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - at/l	TOTAL-P µg - at/l	NO <sub>3</sub> -N µg - at/l	NO <sub>2</sub> -N µg - at/l	SiO <sub>4</sub> -Si µg - at/l	pH	S CODE
		STD	0000	-0239	3405	2744	0006530	0000	14368	805							
117		OBS	0000	-0239	34047	2744			14368	805	160		014	234	053	792	
		STD	0010	-0170	3404	2742	0006678	0007	14402	809							
117		OBS	0010	-0170	34044	2742			14402	809	151		012	237	043	796	
		STD	0020	-0169	3405	2742	0006659	0013	14404	808							
117		OBS	0026	-0168	34047	2742			14406	808	156		012	236	052	798	
		STD	0030	-0171	3411	2747	0006156	0020	14406	792							
		STD	0050	-0181	3432	2765	0004507	0030	14408	737							
117		OBS	0052	-0182	34334	2766			14408	734	206		017	288	065	790	
		STD	0075	-0184	3434	2766	0004331	0041	14411	731							
117		OBS	0078	-0184	34342	2767			14411	730	202		003	292	066	789	
		STD	0100	-0183	3436	2768	0004194	0052	14415	732							
117		OBS	0104	-0183	34358	2768			14416	732	213		002	293	067	788	
		STD	0125	-0183	3436	2768	0004165	0062	14420	730							
		STD	0150	-0182	3436	2768	0004144	0073	14424	727							
117		OBS	0156	-0182	34359	2769			14425	726	199		000	301	067	789	
		STD	0200	-0182	3437	2769	0004029	0093	14433	720							
117		OBS	T0208	-0182	34373	2769			14434	719	205		000	295	068	789	
		STD	0250	-0180	3438	2769	0003959	0113	14442	718							
		STD	0300	-0178	3438	2770	0003905	0133	14451	717							
117		OBS	T0306	-0178	34380	2769			14452	717	208		000	294	068	789	
		STD	0400	-0145	3440	2770	0003819	0172	14484	673							
117		OBS	T0405	-0142	34407	2771			14486	670	210		000	293	073	788	
		STD	0500	-0051	3452	2776	0003325	0207	14546	579							
117		OBS	0510	-0043	34529	2777			14551	571	223		000	312	088	779	
		STD	0600	0009	3461	2781	0002999	0239	14591	520							
117		OBS	0610	0014	34616	2781			14595	515	224		000	315	097	780	
		STD	0700	0037	3465	2783	0002878	0268	14621	491							
		STD	0800	0054	3469	2785	0002712	0296	14646	464							
117		OBS	0810		34696				14658	461	222		000	321	106	779	
150		OBS	T0858	0059	34692	2785			14658	468	221		000	322	119	786	
		STD	0900	0059	3469	2785	0002751	0324	14665	468							
		STD	1000	0058	3470	2785	0002727	0351	14682	468							
117		OBS	T1006	0058	34697	2785			14683	468	216		000	325	115	779	
150		OBS	T1059	0052	34694	2785			14689	513	221		000	322	115	781	
		STD	1100	0048	3469	2785	0002682	0378	14694	505							
		STD	1200	0041	3469	2785	0002659	0405	14708	487							
117		OBS	T1256	0038	34687	2785			14716	476	217		000	322	118	780	
		STD	1300	0036	3469	2786	0002617	0431	14722	502							
150		OBS	1312	0036	34693	2786			14724	508	232		000	322	119	781	
		STD	1400	0029	3469	2786	0002562	0457	14736	513							
		STD	1500	0022	3469	2786	0002531	0482	14750	519							
150		OBS	1566	0018	34682	2786			14759	522	233		000	325	122	780	
		STD	1750	0012	3468	2786	0002474	0545	14788	529							
150		OBS	1872	0008	34676	2786			14807	533	233		000	322	122	780	
		STD	2000	0004	3468	2786	0002425	0606	14827	516							
150		OBS	T2068	0002	34675	2786			14838	515	222		000	322	122	782	
150		OBS	T2172	-0001	34674	2786			14854	524	227		000	322	120	782	
150		OBS	2281	-0004	34678	2787			14872	524	236		000	324	122	781	
150		OBS	T2332	-0008	34668	2786			14878	524	213		000	322	124	781	
150		OBS	T2358	-0010	34694	2788			14882	520	219		000	322	126	783	

REFERENCE CITE CODE	SHIP CODE	LATITUDE ° / 10'	LONGITUDE ° / 10'	W M S E	WRS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER
					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER			
318085	GL	73290S	030241W		555	30	03	14	055	1969	022	3109	31	31	0	2	X2	7	8	0027

WATER		WIND			AIR TEMP °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS- M	DIR.	SPEED OR FORCE	BARO- METER PRES.	DRY BULB	WET BULB			
		31	S10	893	-050	-058	8	24	

MESSAGE TIME HR. / 10'	CAST NO.	CARD TYPE	DEPTH (M)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-K10?	S & D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P µg - dl/l	TO <sub>TAL</sub> -P µg - dl/l	NO <sub>2</sub> -N µg - dl/l	NO <sub>3</sub> -N µg - dl/l	SIO <sub>4</sub> -Si µg - dl/l	pH	TS °C
		STO	0000	-0151	3405	2742	0006725	0000	14410	799							
056	OBS	0000		-0151	34045	2742			14410	799	137		013	219	052	797	
	STO	0010		-0150	3404	2741	0006783	0007	14412	804							
056	OBS	0010		-0150	34037	2741			14412	804	145		013	216	051	800	
	STO	0020		-0141	3405	2742	0006703	0013	14418	813							
056	OBS	0025		-0136	34057	2742			14421	815	147		013	218	052	801	
	STO	0030		-0128	3407	2743	0006583	0020	14426	815							
	STO	0050		-0112	3414	2748	0006066	0033	14437	805							
056	OBS	0050		-0112	34143	2748			14437	805	203		010	241	054	800	
	STO	0075		-0154	3428	2761	0004872	0046	14424	756							
	STO	0100		-0179	3436	2768	0004183	0058	14417	726							
056	OBS	0100		-0179	34359	2768			14417	726	199		025	294	067	790	
	STO	0125		-0179	3437	2769	0004083	0068	14422	724							
	STO	0150		-0180	3437	2769	0004058	0078	14425	722							
056	OBS	0150		-0180	34371	2769			14425	722	201		000	298	068	789	
	STO	0200		-0183	3438	2769	0003989	0098	14432	716							
056	OBS	T0203		-0183	34375	2769			14433	716	201		000	293	067	790	
	STO	0250		-0182	3438	2770	0003923	0118	14441	715							
	STO	0300		-0181	3439	2770	0003858	0138	14450	714							
056	OBS	0300		-0181	34385	2770			14450	714	204		000	300	068	789	
056	OBS	T0399		-0164	34403	2771			14475	686	201		000	298	070	789	
	STO	0400		-0163	3440	2771	0003719	0176	14475	685							
056	OBS	T0499		-0109	34470	2775			14518	622	207		000	304	078	788	
	STO	0500		-0108	3447	2775	0003400	0211	14519	621							
	STO	0600		-0017	3454	2777	0003329	0245	14579	545							
	STO	0700		0043	3462	2779	0003192	0277	14624	492							
056	OBS	T0797		0070	34687	2782			14653	463	204		000	307	104	782	
	STO	0800		0070	3469	2784	0002852	0308	14653	463							
	STO	0900		0063	3469	2784	0002809	0336	14667	458							
087	OBS	T0920		0062	34692	2784			14670	457	222		000	320	110	782	
	STO	1000		0060	3470	2785	0002750	0364	14683	461							
056	OBS	1000		0060	34696	2785			14683	461	230		000	319	111	780	
	STO	1100		0053	3469	2785	0002739	0391	14696	466							
087	OBS	T1111		0052	34690	2785			14698	466	221		000	321	116	781	
	STO	1200		0045	3469	2785	0002686	0418	14709	469							
056	OBS	T1250		0042	34690	2785			14717	470	230		000	321	117	781	
	STO	1300		0039	3469	2785	0002677	0445	14724	467							
087	OBS	1310		0038	34684	2785			14725	466	221		000	321	116	781	
	STO	1400		0033	3468	2785	0002639	0472	14738	473							
	STO	1500		0027	3468	2785	0002602	0498	14752	480							
087	OBS	1510		0026	34681	2786			14753	481	223		000	323	121	783	
	STO	1750		0025	3468	2786	0002599	0563	14794	496							
087	OBS	1811		0022	34678	2786			14803	499	224		000	320	122	786	
	STO	2000		0005	3467	2786	0002472	0626	14827	506							
087	OBS	T2013		0004	34669	2786			14829	507	227		000	321	123	782	
087	OBS	T2216		-0001	34663	2786			14862	519	226		000	321	120	783	
	STO	2500		-0008	3466	2786	0002353	0747	14907	527							
087	OBS	2524		-0009	34664	2786			14911	528	224		000	321	119	788	
087	OBS	2837		-00140	34661	27860			523	219			001	313	118	789	
	STO	3000		-0009	3466	2786	0002338	0864	14994	537							
087	OBS	T3056		-0017	34658	2786			15000	536	222		000	319	121	788	
087	OBS	T3093		-0023	34650	27860				538							

REFERENCE	SHIP CODE	LATITUDE	LONGITUDE	DATE	W. RESDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			PEAK-THER CODE	CLOUD CODES	NODC STATION NUMBER	
					10'	1'	MO	DAY		HR.	1/10			CRUISE NO.	STATION NUMBER	DIR				HGT
318085	GL	72475S	030283W	555	20	03	15	025	1969	023		3658	35	00	0	X	X8	7	8	0028
				WATER		WIND		BARO-METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS CODE										
					05	S13	846	-036	-047	7	27									
MESSAGE TIME	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g - liter/l}$	TOTAL-P $\mu\text{g - liter/l}$	NO <sub>2</sub> -N $\mu\text{g - liter/l}$	NO <sub>3</sub> -N $\mu\text{g - liter/l}$	SiO <sub>4</sub> -Si $\mu\text{g - liter/l}$	pH	S/C			
		STD	0000	-0161	3388	2729	0007966	0000	14402	829										
003		OBS	0000	-0161	33880	2729			14402	829	113			013	200	050	799			
003		OBS	0008	-0164	33879	2729			14402	828	141			013	196	050	802			
		STD	0010	-0160	3388	2728	0007962	0008	14405	828										
		STD	0020	-0142	3389	2729	0007927	0016	14415	825										
003		OBS	0021	-0140	33898	2729			14416	825	127			013	202	050	801			
		STD	0030	-0116	3399	2735	0007234	0023	14430	809										
003		OBS	0042	-0100	34102	2745			14441	788	167			013	247	057	799			
		STD	0050	-0120	3417	2751	0005833	0037	14434	773										
		STD	0075	-0166	3433	2765	0004455	0049	14419	738										
003		OBS	0084	-0176	34361	2768			14416	729	213			022	282	067	789			
		STD	0100	-0177	3437	2769	0004103	0060	14418	722										
		STD	0125	-0179	3438	2769	0004029	0070	14422	715										
003		OBS	0125	-0179	34377	2769			14422	715	201			021	296	069	789			
		STD	0150	-0180	3438	2770	0003988	0080	14425	715										
003		OBS	T0167	-0181	34384	2770			14428	715	201			004	299	070	789			
		STD	0200	-0179	3439	2770	0003884	0100	14434	704										
003		OBS	0244	-0177	34404	2771			14443	686	214			002	301	074	789			
		STD	0250	-0176	3441	2772	0003735	0119	14444	686										
		STD	0300	-0154	3443	2773	0003591	0137	14453	667										
003		OBS	T0323	-0133	34443	2773			14477	648	205			002	300	079	786			
		STD	0400	-0012	3456	2778	0003259	0172	14548	533										
003		OBS	0405	-0006	34569	2778			14551	532	214			001	297	095	781			
		STD	0500	0036	3463	2781	0003028	0203	14567	495										
		STD	0600	0063	3468	2783	0002849	0232	14617	469										
003		OBS	T0663	0072	34695	2784			14632	458	220			001	297	111	779			
		STD	0700	0069	3470	2784	0002793	0261	14636	457										
		STD	0800	0062	3470	2785	0002752	0288	14650	455										
003		OBS	T0843	0060	34695	2785			14656	454	220			000	299	116	779			
035		OBS	T0880	0059	34701	2785			14662	461	214			000	310	115	779			
		STD	0900	0055	3470	2785	0002659	0315	14664	463										
		STD	1000	0043	3470	2786	0002581	0342	14675	469										
003		OBS	T1079	0042	34697	2786			14688	472	226			000	318	117	779			
		STD	1100	0043	3470	2786	0002617	0365	14692	473										
035		OBS	T1120	0044	34695	2786			14696	473	215			000	316	120	778			
		STD	1200	0039	3469	2786	0002612	0394	14707	476										
		STD	1300	0033	3469	2786	0002580	0420	14721	481										
035		OBS	1360	0029	34690	2786			14729	484	215			000	313	127	779			
		STD	1400	0027	3469	2786	0002537	0445	14735	488										
		STD	1500	0021	3469	2787	0002485	0471	14749	496										
035		OBS	1650	0014	34688	2787			14772	503	216			000	314	124	778			
		STD	1750	0011	3468	2786	0002464	0532	14787	504										
035		OBS	1864	0007	34676	2786			14805	505	217			000	312	124	779			
		STD	2000	0001	3468	2787	0002380	0593	14826	512										
035		OBS	2040	0000	34677	2787			14832	514	216			000	315	122	779			
035		OBS	T2334	-0009	34675	2737			14878	526	216			000	316	124	775			
		STD	2500	-0012	3467	2787	0002244	0709	14906	532										
035		OBS	T2636	-0014	34671	2787			14928	535	215			000	315	125	779			
035		OBS	2834	-0017	34670	2787			14961	538	216			000	311	121	779			
		STD	3000	-0018	3467	2787	0002159	0819	14990	541										
035		OBS	3036	-0018	34668	2787			14996	542	213			000	314	122	779			
035		OBS	3238	-0023	34643	2785			15029	548	215			000	315	123	779			
035		OBS	3441	-0023	34666	2787			15065	555	214			000	314	122	779			
035		OBS	T3475	-0024	34664	2787			15071	553	213			001	311	123	779			
035		OBS	T3500	-0023	34665	2787			15076	546	211			000	314	121	780			

REFERENCE CITY CODE	ID. NO.	SHIP CODE	LATITUDE 1-10	LONGITUDE 1-10	OBS. MONTH	STATION SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DIRECTION	WAVE PERIOD	WAVE HEIGHT	SEA STATE	WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER																													
						1-10	1-10	MO	DAY		HR	1-10									NO.	STATION NUMBER																											
318085	GL	713615	030361W	555	10	03	16	025	1965	024	3846	35	00	01X1	21	77			0029																														
<table border="1"> <thead> <tr> <th colspan="2">WATER</th> <th colspan="2">WIND</th> <th colspan="2">BARO.</th> <th colspan="2">AIR TEMP.</th> <th colspan="2">SPECIAL</th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. m</th> <th>DIR.</th> <th>SPEED</th> <th>TEMP.</th> <th>METER</th> <th>DRY BULB</th> <th>WET BULB</th> <th>W. BULB</th> <th>SPECIAL OBSERVATIONS</th> </tr> </thead> <tbody> <tr> <td>09</td> <td>504</td> <td>877</td> <td>333</td> <td>045</td> <td>18</td> <td>24</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																				WATER		WIND		BARO.		AIR TEMP.		SPECIAL		COLOR CODE	TRANS. m	DIR.	SPEED	TEMP.	METER	DRY BULB	WET BULB	W. BULB	SPECIAL OBSERVATIONS	09	504	877	333	045	18	24			
WATER		WIND		BARO.		AIR TEMP.		SPECIAL																																									
COLOR CODE	TRANS. m	DIR.	SPEED	TEMP.	METER	DRY BULB	WET BULB	W. BULB	SPECIAL OBSERVATIONS																																								
09	504	877	333	045	18	24																																											

MESSAGE TIME OF HR 1/10	CAST NO.	CYRD TYPE	DEPTH m	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME σ <sub>t</sub> (kg/m <sup>3</sup> )	SOUND DYN. AM μV	SOUND VELOCITY m/s	PO4-P μg/l	TOTAL P μg/l	NO2-N μg/l	NO3-N μg/l	SIO4-S μg/l	pH	σ <sub>c</sub>
		STD	0000	-0185	3406	2744	0006527	0000	14394	820						
014		OBS	0000	-0185	34060	2744			14394	820	194		008	234	066	794
		STD	0010	-0185	3406	2744	0006535	0007	14395	831						
014		OBS	0010	-0185	34058	2744			14395	831	147		009	235	065	800
		STD	0020	-0186	3405	2743	0006555	0013	14397	829						
014		OBS	0026	-0186	34052	2743			14397	828	155		009	236	065	800
		STD	0030	-0185	3412	2749	0006047	0019	14400	800						
		STD	0050	-0177	3440	2771	0003902	0029	14410	693						
014		OBS	0051	-0177	34410	2772			14411	689	199		009	285	077	789
		STD	0075	-0178	3442	2775	0003731	0039	14414	687						
		STD	0100	-0180	3443	2774	0003636	0048	14418	685						
014		OBS	0102	-0180	34433	2774			14418	685	108		002	292	078	785
		STD	0125	-0170	3444	2774	0003572	0057	14427	668						
		STD	0150	-0154	3445	2775	0003531	0066	14435	648						
014		OBS	0152	-0152	34456	2775			14440	646	210		000	000	081	786
		STD	0200	-0103	3450	2777	0003311	0082	14472	598						
014		OBS	T0204	-0099	34504	2777			14474	594	213		000	300	068	783
		STD	0250	-0034	3457	2787	0003082	0099	14513	540						
		STD	0300	0019	3463	2782	0002917	0114	14546	498						
014		OBS	T0306	0024	34633	2782			14550	494	218		000	304	099	780
		STD	0400	0066	3469	2784	0002408	0143	14585	464						
014		OBS	T0410	0069	34690	2784			14583	462	218		000	313	106	779
		STD	0500	0071	3470	2784	0002756	0170	14604	458						
014		OBS	T0514	0071	34699	2784			14606	457	215		000	312	111	780
		STD	0600	0065	3470	2785	0002721	0198	14618	458						
		STD	0700	0058	3470	2785	0002683	0225	14631	459						
		STD	0800	0051	3470	2785	0002651	0252	14645	460						
014		OBS	T0812	0050	34697	2785			14647	460	215		002	310	118	780
		STD	0900	0044	3469	2785	0002657	0278	14659	467						
		STD	1000	0036	3469	2786	0002615	0305	14673	474						
014		OBS	T0200	0037	34689	2786			14676	475	233		002	317	120	780
		STD	1100	0033	3469	2786	0002592	0331	14687	478						
		STD	1200	0027	3469	2786	0002564	0358	14701	482						
038		OBS	T204	0027	34686	2786			14702	482	219		000	312	121	779
014		OBS	T1280	0025	34686	2786			14714	484	229		000	315	123	780
		STD	1300	0024	3469	2786	0002539	0382	14717	486						
		STD	1400	0016	3469	2786	0002487	0407	14731	495						
038		OBS	T1441	0016	34686	2786			14737	496	240		000	322	120	781
		STD	1500	0014	3468	2786	0002466	0432	14746	503						
015		OBS	T1546	0012	34683	2786			14753	506	229		003	310	125	775
038		OBS	T1746	-0007	34682	2787			14778	508	240		000	321	120	780
		STD	1750	-0007	3468	2787	0002294	0491	14779	508						
038		OBS	T1946	-0005	34669	2786			14813	519	223		000	318	121	784
		STD	2000	-0006	3467	2786	0002369	0550	14822	524						
038		OBS	T2247	-0012	34667	2786			14862	536	218		000	318	119	782
038		OBS	T2449	-0017	34667	2787			14895	535	224		000	311	120	782
		STD	2500	-0018	3467	2787	0002221	0664	14903	536						
038		OBS	T2651	-0021	34667	2787			14928	544	217		000	314	121	785
038		OBS	T2954	-0022	34669	2787			14980	550	219		000	316	120	782
		STD	3000	-0023	3467	2787	0002113	0773	14988	550						
038		OBS	T3175	-0025	34665	2787			15017	550	215		000	311	120	782
038		OBS	T3464	-0027	34667	2787			15067	554	217		000	311	120	782

REFERENCE CROSS CODE	SHIP ID. NO.	LATITUDE T/10	LONGITUDE W/10	OBS. INDIC.	STATION TIME			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL.	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TH	AMT	
318085	GL	703885	032323		55	03	17	056	1969	025	4297	34	00	01	X	X	9		0030

WATER		WIND		BARO- METER		AIR TEMP °C		VIS. CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. M	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB			
		17	506	878	-056	-067	4	1		

MESSNGR TIME HR./10	CAS# N.O.	FLD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 <sup>3</sup>	S Δ D DYN. M. X 10 <sup>3</sup>	SOUND VELOCITY	O <sub>2</sub> ml/l	PCO <sub>2</sub> -P μg - dl/l	TOTAL-P μg - dl/l	NO <sub>2</sub> -N μg - dl/l	NO <sub>3</sub> -N μg - dl/l	SIO <sub>4</sub> -S μg - dl/l	pH	COND. 3
		STD	0000	-0183	3430	2739	0006992	0006	14394	812							
068		OBS	0000	-0183	34000	2739			14394	812	148		009	257	066	800	
		STD	0010	-0183	3399	2738	0007032	0007	14395	813							
068		OBS	0010	-0183	33994	2738			14395	813	160		010	252	066	799	
		STD	0020	-0184	3399	2738	0007022	0014	14396	813							
066		OBS	0027	-0185	33994	2738			14397	813	157		009	258	066	799	
		STD	0030	-0184	3400	2745	0006586	0021	14399	796							
		STD	0050	-0177	3437	2769	0004133	0022	14410	704							
068		OBS	0053	-0176	34405	2771			14412	694	195		005	287	076	790	
		STD	0075	-0178	3442	2773	0003733	0041	14415	686							
		STD	0100	-0180	3443	2774	0003637	0051	14418	676							
068		OBS	0106	-0180	34432	2774			14419	674	203		004	290	078	790	
		STD	0125	-0174	3443	2774	0003621	0060	14425	667							
		STD	0150	-0167	3443	2773	0003621	0069	14432	657							
068		OBS	0159	-0164	34433	2773			14435	654	194		000	296	079	789	
		STD	0200	-0078	3452	2778	0003264	0086	14483	580							
068		OBS	0212	-0057	34536	2778			14495	562	214		000	321	090	784	
		STD	0250	-0008	3459	2780	0003068	0102	14525	522							
		STD	0300	0038	3465	2782	0002381	0117	14555	484							
068		OBS	T0317	0050	34659	2782			14564	475	223		000	311	101	780	
		STD	0400	0070	3469	2784	0002798	0145	14587	461							
068		OBS	0421	0072	34692	2784			14591	459	219		000	314	107	781	
		STD	0500	0069	3470	2784	0002759	0173	14603	460							
068		OBS	T0531	0068	34698	2784			14606	460	223		000	322	112	780	
		STD	0600	0064	3470	2785	0002728	0200	14617	461							
		STD	0700	0057	3470	2785	0002703	0227	14631	461							
		STD	0800	0051	3469	2785	0002681	0254	14645	462							
068		OBS	T0835	0049	34692	2785			14650	462	227		000	326	117	781	
		STD	0900	0045	3469	2785	0002665	0281	14659	465							
		STD	1000	0038	3469	2786	0002615	0307	14673	470							
068		OBS	T1042	0036	34684	2785			14679	472	228		000	327	119	781	
		STD	1100	0053	3468	2785	0002654	0334	14667	473							
		STD	1200	0028	3468	2785	0002615	0360	14702	476							
		STD	1300	0023	3468	2786	0002575	0386	14716	480							
045		OBS	T1321	0022	34679	2786			14719	481	227		000	319	116	781	
		STD	1400	0018	3468	2786	0002554	0412	14731	487							
		STD	1500	0014	3468	2786	0002533	0437	14746	494							
045		OBS	T1561	0011	34674	2786			14755	498	227		000	324	117	781	
		STD	1750	0003	3467	2786	0002462	0500	14784	503							
045		OBS	1877	-0002	34665	2786			14803	508	224		000	311	123	780	
		STD	2000	-0007	3466	2786	0002403	0560	14822	515							
045		OBS	2080	-0009	34662	2786			14834	519	228		000	314	124	779	
045		OBS	2284	-0013	34671	2787			14868	526	221		000	314	123	779	
		STD	2500	-0017	3467	2787	0002210	0676	14903	530							
045		OBS	2589	-0019	34668	2787			14918	533	225		000	313	121	782	
045		OBS	T2778	-0022	34661	2786			14949	541	225		000	313	123	780	
		STD	3000	-0025	3466	2787	0002137	0784	14987	553							
045		OBS	3097	-0026	34661	2787			15003	555	227		004	309	122	779	
045		OBS	T3402	-0028	34659	2787			15056	552	224		000	311	120	781	



REFERENCE CITY CODE	SHIP NO.	SHIP CODE	LATITUDE °	LONGITUDE °	ORIG. INDIC.	MAX. ROSEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER
						10'	1"	MO	DAY	HR./1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER			
318085	GL	683685	032036W	519	82	03	18	055	1969	026	4483	11	00	0	X	X2	7	8	0031		
		WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		DRY BULB		WET BULB		VIS. CODE							
						10		506		842		-023		-039		7		13			

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_{\theta}$	$\frac{\Delta \sigma}{\Delta T}$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C
		STD	0000	-0165	3387	2728	0008041	0000	14400	801							
062		OBS	0000	-0165	33869	2728			14400	801	159		014	253	072	797	
062		OBS	0008	-0165	33862	2727			14402	804	170		013	256	071	795	
		STD	0010	-0165	3386	2727	0008103	0008	14402	805							
		STD	0020	-0165	3386	2727	0008097	0016	14404	807							
062		OBS	0022	-0165	33857	2727			14404	808	153		014	252	071	798	
		STD	0030	-0164	3387	2727	0008047	0024	14406	808							
062		OBS	0044	-0162	33883	2729			14409	795	170		009	250	072	796	
		STD	0050	-0162	3399	2737	0007088	0039	14412	771							
		STD	0075	-0161	3432	2764	0004545	0054	14421	682							
062		OBS	0087	-0161	34428	2773			14425	647	215		006	295	083	791	
		STD	0100	-0162	3446	2776	0003457	0064	14427	616							
		STD	0125	-0163	3451	2780	0003057	0072	14431	567							
062		OBS	0129	-0163	34520	2780			14432	560	223		000	302	091	785	
		STD	0150	-0079	3456	2781	0002969	0080	14475	528							
062		OBS	T0171	-0009	34593	2780			14512	509	227		000	313	100	782	
		STD	0200	0014	3463	2782	0002919	0094	14527	525							
		STD	0250	0046	3468	2785	0002678	0108	14551	552							
062		OBS	0256		34690					555	233		000	311	110	780	
		STD	0300	0066	3470	2785	0002682	0122	14568	484							
062		OBS	T0339	0074	34703	2784			14579	446	227		000	320	112	779	
		STD	0400	0070	3470	2785	0002715	0149	14587	445							
062		OBS	T0425	0068	34700	2785			14590	444	230		000	316	115	781	
		STD	0500	0063	3470	2785	0002686	0176	14600	445							
		STD	0600	0057	3470	2785	0002655	0202	14614	447							
062		OBS	0682	0052	34693	2785			14626	448	234		000	322	120	778	
		STD	0700	0051	3469	2785	0002695	0229	14628	449							
		STD	0800	0046	3469	2785	0002666	0256	14643	453							
062		OBS	T0852	0043	34689	2785			14650	456	231		000	318	124	782	
		STD	0900	0040	3469	2785	0002641	0282	14657	458							
		STD	1000	0034	3469	2786	0002606	0309	14671	464							
062		OBS	T1072	0030	34686	2786			14681	468	234		000	327	125	781	

REFERENCE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	WATER AREA					YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOQ STATION NUMBER
					10'	1'	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318085	GL	64506S	041247W		520	41	03	20	145	1969	027	4572	22	26	0	5	X9	6	5	0032		
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS. (M)	DIR.	SPEED OF FORCE	(mb)	DRY BULB	WET BULB											
							26	505	925	-009	-012	8	14									
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t$	$\Sigma \Delta \sigma_t$ DYN. M. $\times 10^3$	SOUND VELOCITY	O <sub>2</sub> ml/l	PO <sub>4</sub> -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>2</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO <sub>3</sub> -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO <sub>4</sub> -S $\mu\text{g} \cdot \text{dl}^{-1}$	pH	CHLOROPHYLL					
		STD	0000	-0021	3393	2727	0008091	0000	14468	774												
138		OBS	0000	-0021	33927	2727			14468	774	140		007	197	075	793						
		STD	0010	-0024	3392	2727	0008121	0008	14469	774												
138		OBS	0010	-0024	33921	2727			14469	774	142		005	192	075	799						
		STD	0020	-0072	3407	2741	0006781	0016	14450	734												
		STD	0030	-0111	3419	2752	0005718	0022	14435	702												
		STD	0050	-0167	3437	2768	0004190	0032	14415	658												
138		OBS	0050	-0167	34366	2768			14415	658	211		009	277	085	778						
		STD	0075	-0171	3438	2769	0004058	0042	14417	663												
156		OBS	0096	-0174	34428	2773			14420	667	190		007	296	086	774						
		STD	0100	-0165	3444	2774	0003608	0052	14425	645												
138		OBS	0100	-0165	34439	2774			14425	645	212		008	289	086	774						
		STD	0125	-0108	3446	2774	0003625	0061	14456	600												
		STD	0150	-0064	3449	2775	0003568	0070	14481	562												
156		OBS	0197	-0022	34591	2781			14510	504	206		003	313	103	768						
		STD	0200	-0021	3460	2781	0002935	0086	14511	501												
138		OBS	0200	-0021	34599	2781			14511	501	225		007	325	104	768						
		STD	0250	0024	3467	2785	0002643	0100	14541	465												
156		OBS	0298	0055	34692	2785			14563	430	224		001	331	118	764						
		STD	0300	0055	3469	2785	0002671	0113	14563	501												
138		OBS	0300		34692				501	242			005	327	115	768						
		STD	0400	0052	3470	2786	0002600	0139	14579	465												
156		OBS	0499	0048	34701	2786			14593	442	230		001	331	124	764						
		STD	0500	0048	3470	2786	0002574	0165	14594	442												
		STD	0600	0043	3470	2786	0002584	0191	14608	437												
		STD	0700	0038	3469	2786	0002593	0217	14622	432												
156		OBS	0701	0038	34691	2786			14622	432	216		019	333	124	768						
		STD	0800	0033	3469	2786	0002576	0243	14637	433												
		STD	0900	0028	3469	2786	0002549	0269	14651	433												
		STD	1000	0023	3469	2786	0002528	0294	14666	434												
		STD	1100	0018	3468	2786	0002504	0319	14680	434												
		STD	1200	0013	3468	2786	0002478	0344	14695	435												
156		OBS	T1205	0013	34682	2786			14696	435	217		001	322	126	771						
		STD	1300	0009	3469	2787	0002418	0368	14710	454												
		STD	1400	0006	3469	2787	0002368	0392	14726	471												
		STD	1500	0002	3469	2788	0002307	0416	14741	486												
156		OBS	T1712	-0005	34698	2789			14774	509	225		000	320	124	770						
		STD	1750	-0006	3470	2788	0002185	0472	14780	510												
		STD	2000	-0014	3469	2788	0002172	0526	14819	515												
156		OBS	T2222	-0020	34675	2787			14854	519	229		006	320	125	770						

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