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UNITED STATES COAST GUARD

OCEANOGRAPHIC REPORT No. 57

OCEANOGRAPHIC CONDITIONS IN NARES STRAIT

August–September 1970

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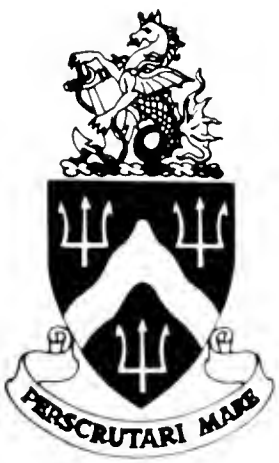
OCEANOGRAPHIC



UNITED STATES COAST GUARD OCEANOGRAPHIC UNIT

REPORT No. 57 CG 373-57

OCEANOGRAPHIC CONDITIONS IN NARES STRAIT

August–September 1970

Martin J. Moynihan

WASHINGTON, D.C. ⚓ AUGUST 1972

USCGC WESTWIND (WAGB 281)

ABSTRACT

Oceanographic observations from the CGC WESTWIND in the Nares Strait region during August and September 1970 are presented. Observed temperature-salinity characteristics are discussed in relation to the interchange of water between the Arctic Ocean and Baffin Bay and the formation of Baffin Bay Deep Water. An average northward transport of 0.48 x $10^6 m.^3$ sec. from Smith Sound into Kane Basin was computed and is compared with previous transport calculations. The relationship of tidal and wind conditions to the volume transport is also discussed.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

OCEANOGRAPHIC CONDITIONS IN NARES STRAIT AUGUST–SEPTEMBER 1970

Martin J. Moynihan [1]

INTRODUCTION

Nares Strait is the system of channels and basins between Ellesmere Island and Northwest Greenland, connecting Baffin Bay with the Lincoln Sea and Arctic Ocean (fig. 1). It includes (from south to north) Smith Sound, Kane Basin, Kennedy Channel, Hall Basin, and Robeson Channel. Since 1950, several Canadian oceanographers (Bailey, 1957; Collin, 1965; and Dunbar, 1951) have reported on cruises into Nares Strait to present their data and compare the results with the classical expeditions of the Danish GODTHAAB and CGC MARION in 1928.

Coast Guard vessels have also conducted several surveys into Northern Baffin Bay and Nares Strait to investigate the flow of Arctic Water through this channel. The results of surveys by CGC EVERGREEN and CGC EDISTO in 1963 and 1966 respectively have been reported by Franceschetti et al. (1964) and Palfrey and Day (1968). During August and September 1968, 1969, and 1970, the CGC WESTWIND conducted oceanographic surveys in northern Baffin Bay under the auspices of the Baffin Bay-North Water Project, coordinated by the Arctic Institute of North America and including groups from the University of Washington, U.S. Coast Guard, McGill University and Dartmouth College (Muench, 1971b). CGC EASTWIND and CGC SOUTHWIND completed oceanographic surveys in Kane Basin in September 1968 and 1969 respectively with field parties from the Coast Guard Oceanographic Unit and Naval Oceanographic Office on board (Moynihan, in press).

During August and September 1970, CGC WESTWIND conducted an oceanographic survey from Inglefield Bay on the western coast of Greenland, through the Smith Sound-Kane Basin region and into Kennedy Channel, Hall Basin, and Robeson Channel (figs. 2 and 3). This survey was a combination of two projects at the Coast Guard Oceanographic Unit: first, a continuation of an investigation of the iceberg producing glaciers on the western coast of Greenland and second, a continuation of the 1968 and 1969 surveys in the Nares Strait region to investigate the interchange of water between the Arctic Ocean and Baffin Bay.

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DATA ACQUISITION AND PROCESSING

Temperature data and water samples were collected by Nansen casts. The water samples were analyzed on board with inductive salinometers. The conductivity values obtained were converted to salinity by use of the *International Oceanographic Tables* published jointly by UNESCO and the National Institute of Oceanography of Great Britain (1966). Water samples were also collected and frozen for later determination of inorganic phosphate, nitrate, nitrite, and silicate at the Coast Guard Oceanographic Unit using the techniques described by Strickland and Parsons (1968).

The temperature data were processed at the Coast Guard Oceanographic Unit following the procedures specified in the U.S. Naval Ocean-

ographic Office Publication No. 607 (1968). Paired protected thermometers were used on each bottle with unprotected reversing thermometers added on the deeper bottles. Sampling depths were determined from L–Z curves based on thermometric depth and wire angle. All calculations were performed on a PDP–5 digital computer utilizing programs described by O'Hagan (1964). Volume transports were computed using the method of subdividing each oceanographic section into solenoids for computations as described by Kollmeyer (1967).

Data were also obtained on 10 stations using a Bissett-Berman Model 9060 self-contained salinity-temperature-depth (STD) recorder. The STD data were quality controlled by comparison with temperatures and salinities obtained from deep-sea reversing thermometers and water samples collected at the surface and just above the STD at the bottom of the cast. An average quality control correction for the STD stations was determined from the differences between the STD data and the associated quality control samples and was applied to the raw data from the recorder.

The data presented in the Tables of Oceanographic Data (app. A) are reproduced from computer listings from the National Oceanographic Data Center (NODC Cruise Numbers 31–8184 and 31–1705). Anomalies of dynamic height in the listings were computed by NODC, but all discussion of dynamic heights in this text is based on computations made at the Coast Guard Oceanographic Unit. Dynamic heights in water shallower than the reference level were computed in a manner similar to that of Helland-Hansen (1934), as described in detail by Kollmeyer (1967).

The survey and glaciological data from 27 glaciers will be published in a separate Coast Guard publication after the analysis is completed. Glacier fronts were charted, and benchmarks were established at survey stations wherever possible for reference during future surveys. Records were kept on ice movement and calving and on iceberg distribution around the glaciers and in the fjords and bays. Photographic overflights of the major glacier fronts were conducted by a Coast Guard HC–130 aircraft equipped with a T–11 aerial camera. Ship's helicopters were used to obtain oblique and vertical photographs of all glacier fronts.

DISCUSSION

The interchange of water between the Arctic Ocean and Baffin Bay takes place through Nares Strait, Jones Sound, and Lancaster Sound (fig. 1), but this flow is restricted due to limiting sill depths of 250, 175, and 180 meters respectively (Bailey, 1956). Nares Strait is the deepest and most direct path for this interchange and is of major importance in determining the water and heat budgets of the Arctic Ocean and Baffin Bay. The general bathymetry of Nares Strait consists of a narrow, deep channel running along the western side of the strait with a sill at 250 meters in central Kane Basin (fig. 4).

Previous investigators of the eastern Arctic have noted that waters at about 250 meters have characteristics (-0.3 C., $34.4‰$) similar to deep water found in Baffin Bay and have hypothesized that this water flows over the sill in Kane Basin and sinks to the bottom in Baffin Bay. Bailey (1957) and Collin (1965) concluded that this is not a continuous process but probably takes place as an intermittent pulsing. Muench (1971a) suggests that this method is less common than previously indicated, and he upholds the theory of Sverdrup, Johnson, and Fleming (1942) that Baffin Bay Deep Water is formed by a mixture of Labrador Sea Deep Water and Baffin Bay Surface Water whose salinity had been increased sufficiently by freezing to cause the water to sink.

Examination of the water characteristics observed in Nares Strait in 1970 (figs. 17 and 18) shows water with the proper temperature-salinity relationship (< -0.3 C., $>34.4‰$) at 200 meters at station 20 over the sill in Kane Basin and at 300 meters at station 19 just south of the sill. However, water of proper salinity for deep water formation was not present in the passage between Kane Basin and Smith Sound. The distribution of salinity and density through Nares Strait (figs. 18 and 19) suggests the presence of an isopycnal wave of denser water overflowing the sill in Kane

Basin. Collin (1965) and Palfrey and Day (1968) interpreted similar density distributions as supporting a pulsing flow of high salinity Arctic Water into Smith Sound.

High salinity water of Atlantic origin (>0° C., >34.7‰) was found below 300 meters in Hall Basin (figs. 17 and 18). This Arctic Intermediate Water is also effectively blocked from flowing southward into Baffin Bay by the shallow sill at 250 meters in Kane Basin.

Cold water of polar origin (<0° C., <34.0‰) was found in the upper 200 meters throughout Nares Strait (figs. 17 and 18). This water makes up the major drift southward into Baffin Bay. Water having a temperature less than −1.50 C. was present to a depth of 75 meters in Hall Basin and to between 25 and 50 meters further south in Kane Basin.

A section across the southern end of Nares Strait was occupied three times in rapid succession from 3–5 September 1970 in an attempt to monitor the volume transport between Kane Basin and Smith Sound (fig. 2). Each occupation consisted of 6 stations, and the three occupations were completed in approximately 38 hours. The reference level for geostrophic calculations was selected based upon the deepest usable set of observations on each occupation. The results of the volume transport calculations are presented in table I.

TABLE I. *Volume Transport From Smith Sound into Kane Basin.*

Stations	Date	Mean Temp. (° C.)	Net Transport (x10⁶m.³/sec.)
1 to 6	3–4 Sep 1970	−0.73	[1]0.574
7 to 12	4 Sep 1970	− .93	[2] .319
13 to 18	4–5 Sep 1970	− .76	.558
Average		− .81	.484

[1] Reference level 500 decibars.
[2] Reference level 300 decibars.

An average northeasterly transport of 0.48 x10⁶m.³/sec. between Smith Sound and Kane Basin was computed from the September 1970 observations. This average transport is biased due to the shallower sampling on the second occupation of the section that necessitated a shallower reference level for those calculations. Moynihan (in press) computed an average southward transport of 0.42 x10⁶m.³/sec. through this same section in July 1969.

These values agree with the results of the previous investigators in this region and further substantiate the variability of the flow through Nares Strait. Collin (1965) cited Kiilerick's calculations of a 0.42 x10⁶m.³/sec. southward flow in August 1928 as the earliest estimate of the exchange through Kane Basin. Bailey (1956) found an average northward transport of 0.42 x10⁶m.³/sec. based on four sections in Smith Sound during August 1954 and Collin (1965) estimated an average southward transport of 0.24 x10⁶m.³/sec. based on five September sections from 1962, 1963, and 1964.

The variability of these geostrophic flow calculations indicates that the exchange of water between Kane Basin and Smith Sound is affected by frictional effects of the wind and bottom and the effect of tidal oscillations, as well as by uncertainties of the geostrophic method in shallow water.

To examine the tidal effect on flow from Kane Basin into Smith Sound, profiles of sea surface dynamic height from CGC WESTWIND stations 1 through 18 were compared with the times and heights of high and low water at the Port Foulke (78°18′N., 72°45′W.) tide station (fig. 23). *The Oceanographic Atlas of the Polar Seas, Part II* (U.S. Naval hydrographic Office, 1958) shows cotidal lines progressing from Baffin Bay northward into Kane Basin indicating a northward tidal current on the rising tide. Although each occupation of the section between Kane Basin and Smith Sound occurred on a falling tide, a northeasterly geostrophic flow was calculated, suggesting either a lagging effect between the tidal phase and geostrophic flow or a reduced northeasterly flow due to the tidal current. Collin (1965) noted that ship drift records in 1962 indicated that in the center of the passage there was a southwesterly set of 0.5 to 2.0 knots during the falling tide and an equally strong northeasterly set with a rising tide.

Day (1968) reported that direct current measurements near 78°27′N. in Smith Sound in 1963 indicate a circulation dominated by semidiurnal tides with a net transport to the south. Muench (1971a) reported that current measurements from a fixed ice camp in Kane Basin indicate a general southward flow with occasional flow reversals coinciding with the diurnal tidal currents.

A progressive wind vector diagram (fig.

24), drawn from the surface wind observations of CGC WESTWIND at stations 1 through 18, was examined to study the effect of surface wind on the flow from Kane Basin into Smith Sound. A relatively steady wind (mean 10.0 kts. from 055° T.) with velocities varying from 1 to 15 knots was observed. This would induce a surface current transport to the southwest and would reduce the northeasterly flow into Kane Basin. However, based on all information available, it is felt that permanent and tidal current effects would predominate, particularly when the winds were at such a low velocity.

The results of these observations indicate that year-round direct current, tidal and meteorological measurements are required to completely describe the total water circulation in this Nares Strait region.

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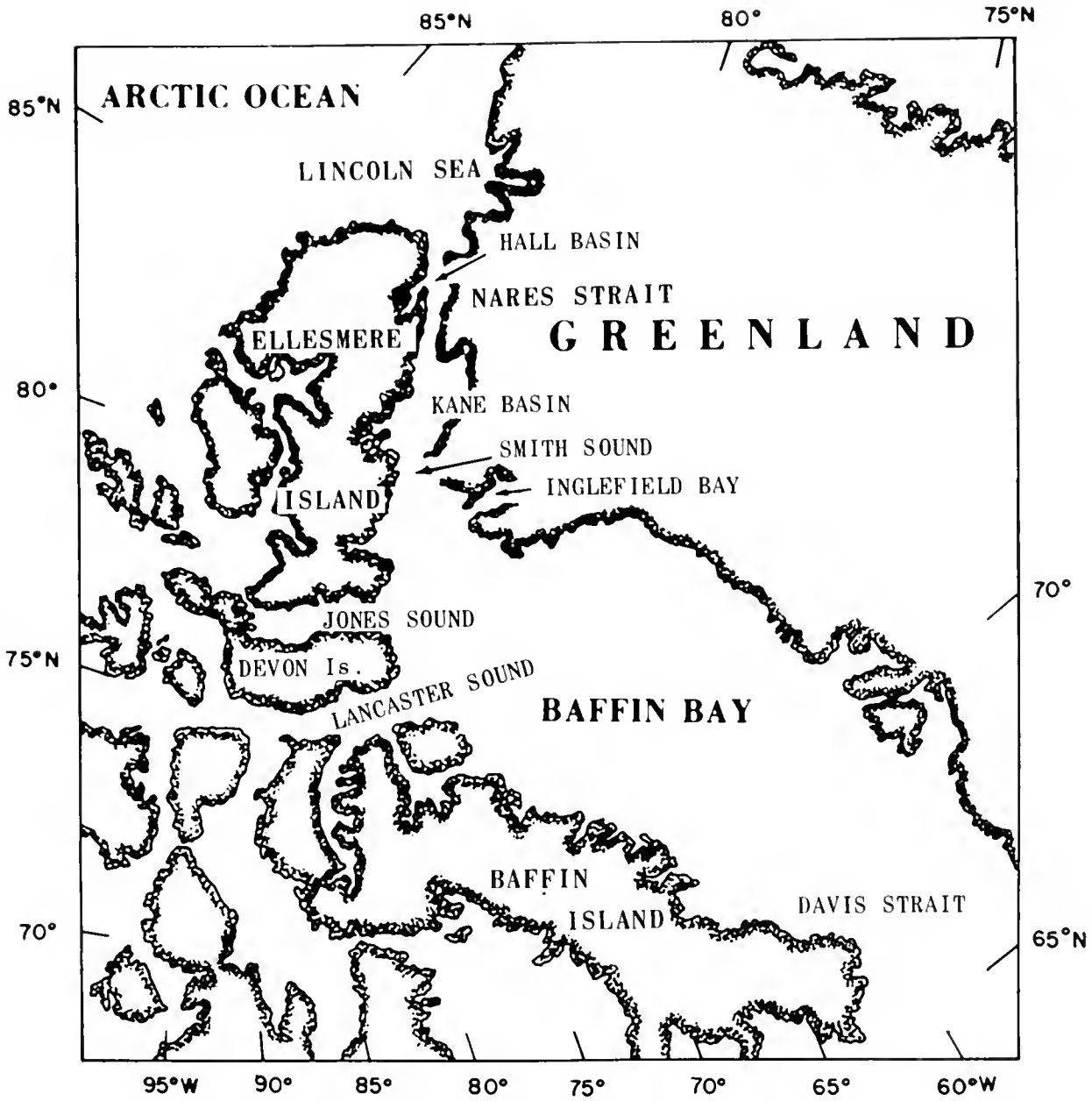

FIGURE 1. Geographic locations in the Nares Strait-Baffin Bay region.

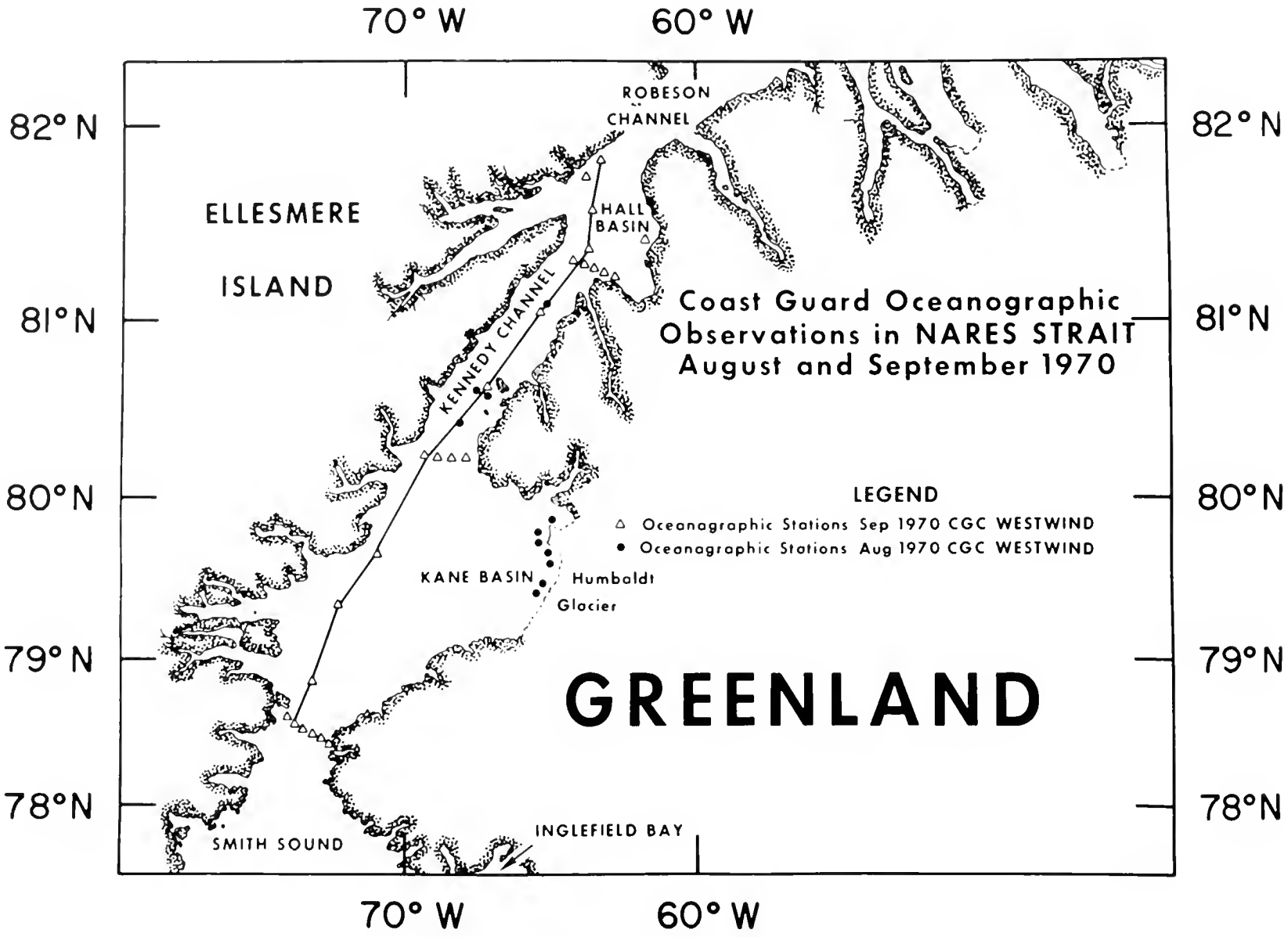

FIGURE 2. Positions of CGC WESTWIND oceanographic stations in Nares Strait during August and September 1970.

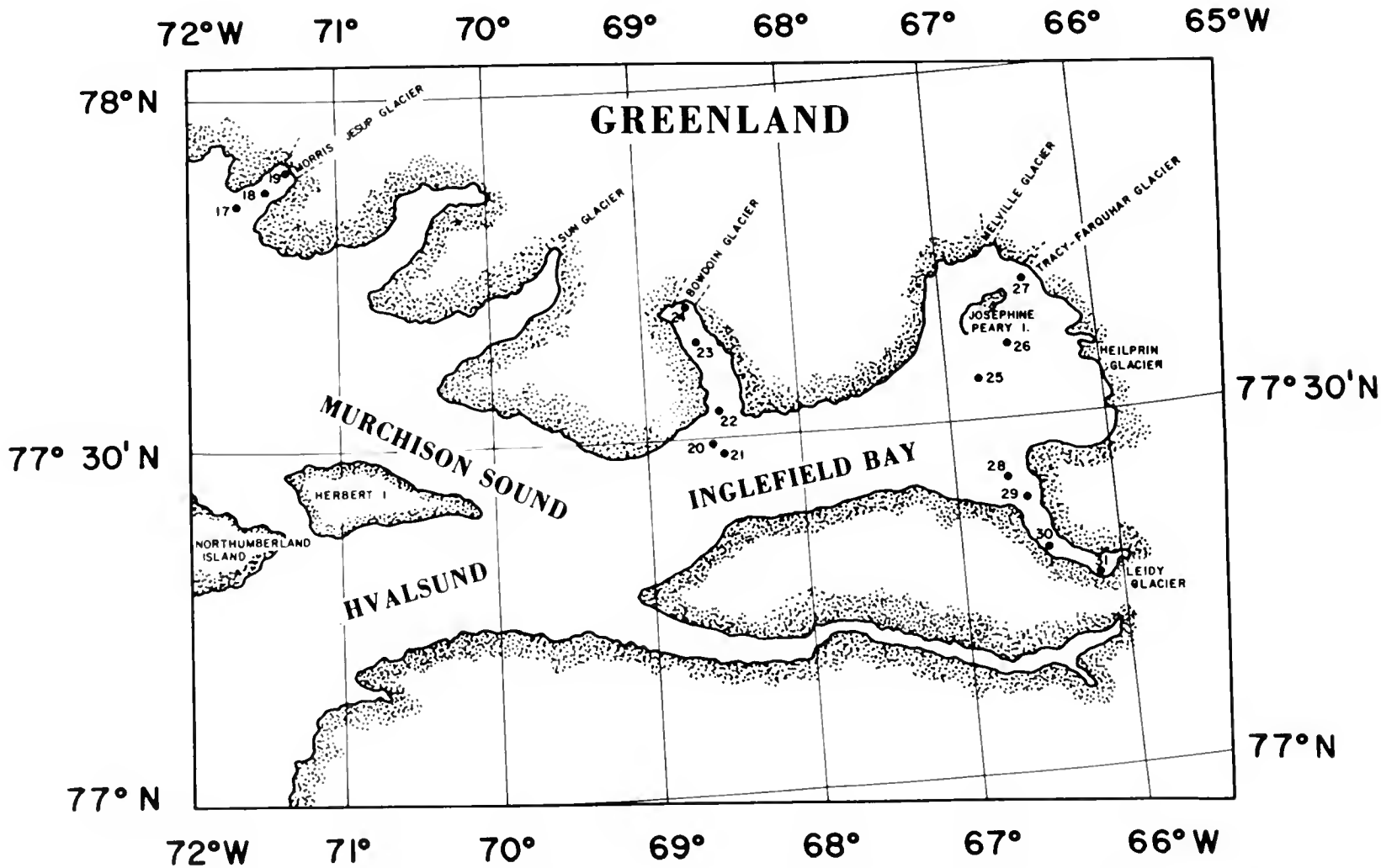

FIGURE 3. Positions of CGC WESTWIND oceanographic stations in northeastern Baffin Bay-Inglefield Bay region during August 1970.

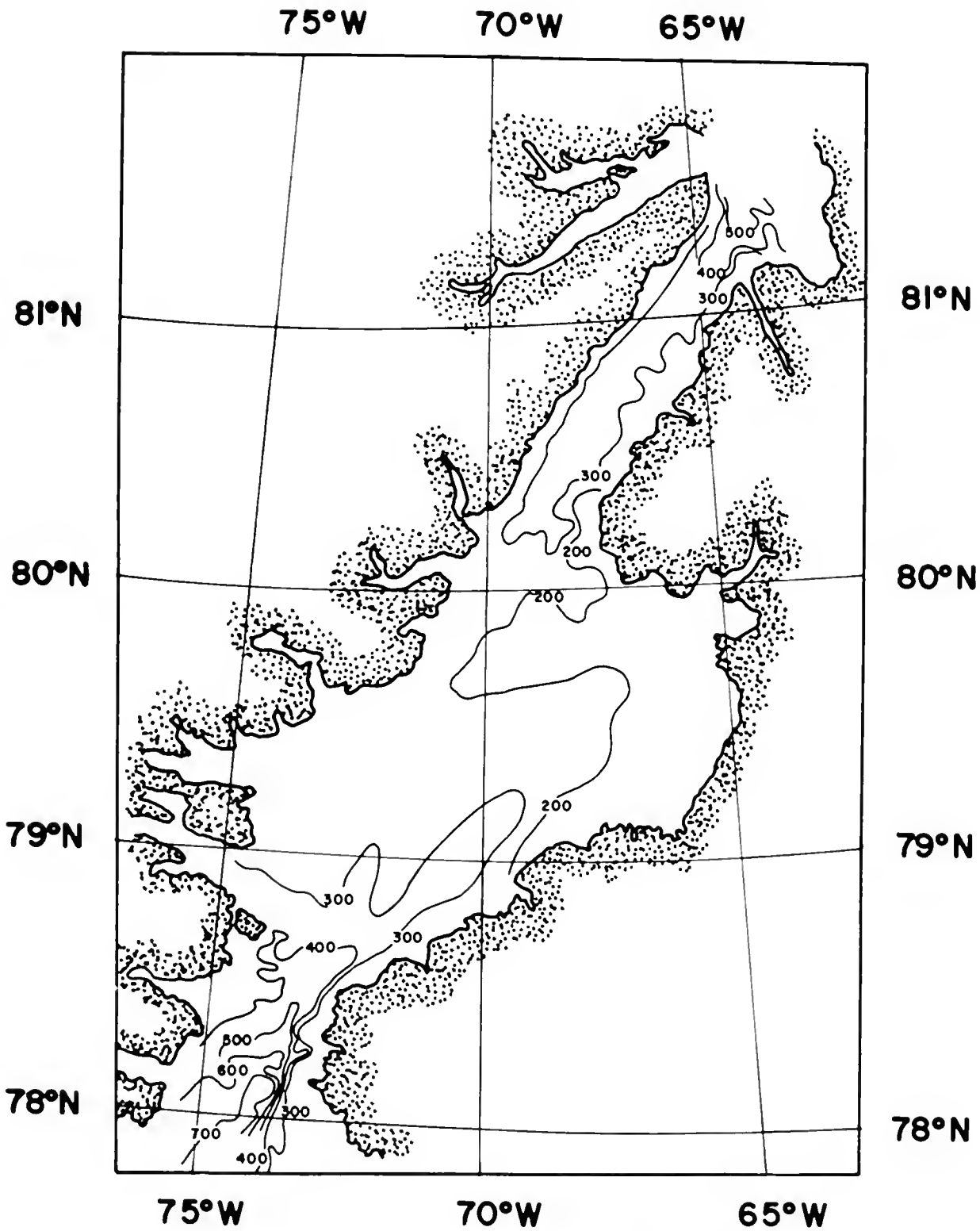

FIGURE 4. Bottom topography of Nares Strait.

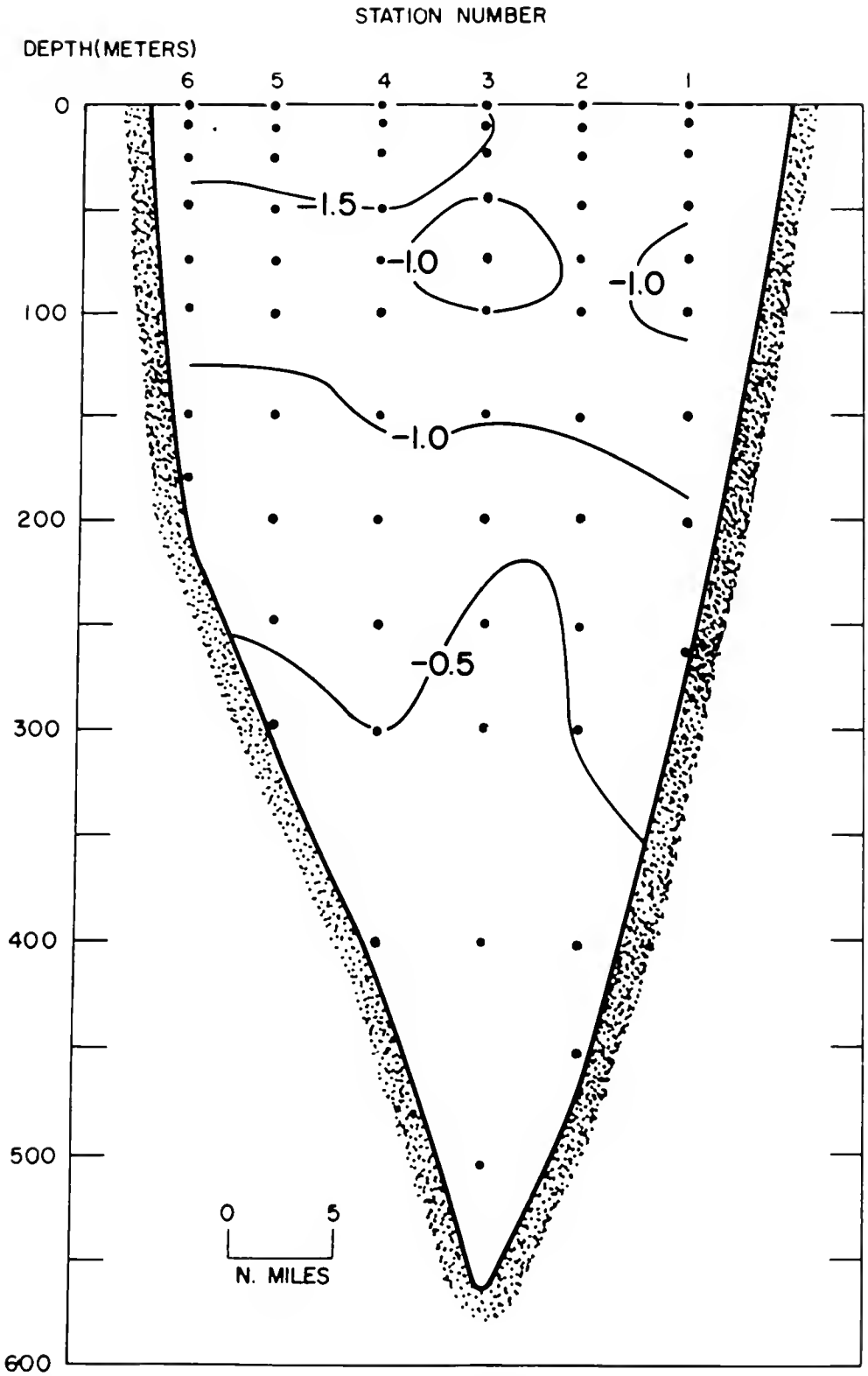

FIGURE 5. Vertical distribution of temperature (° C.). CGC WESTWIND stations 1 through 6, 3–4 September 1970.

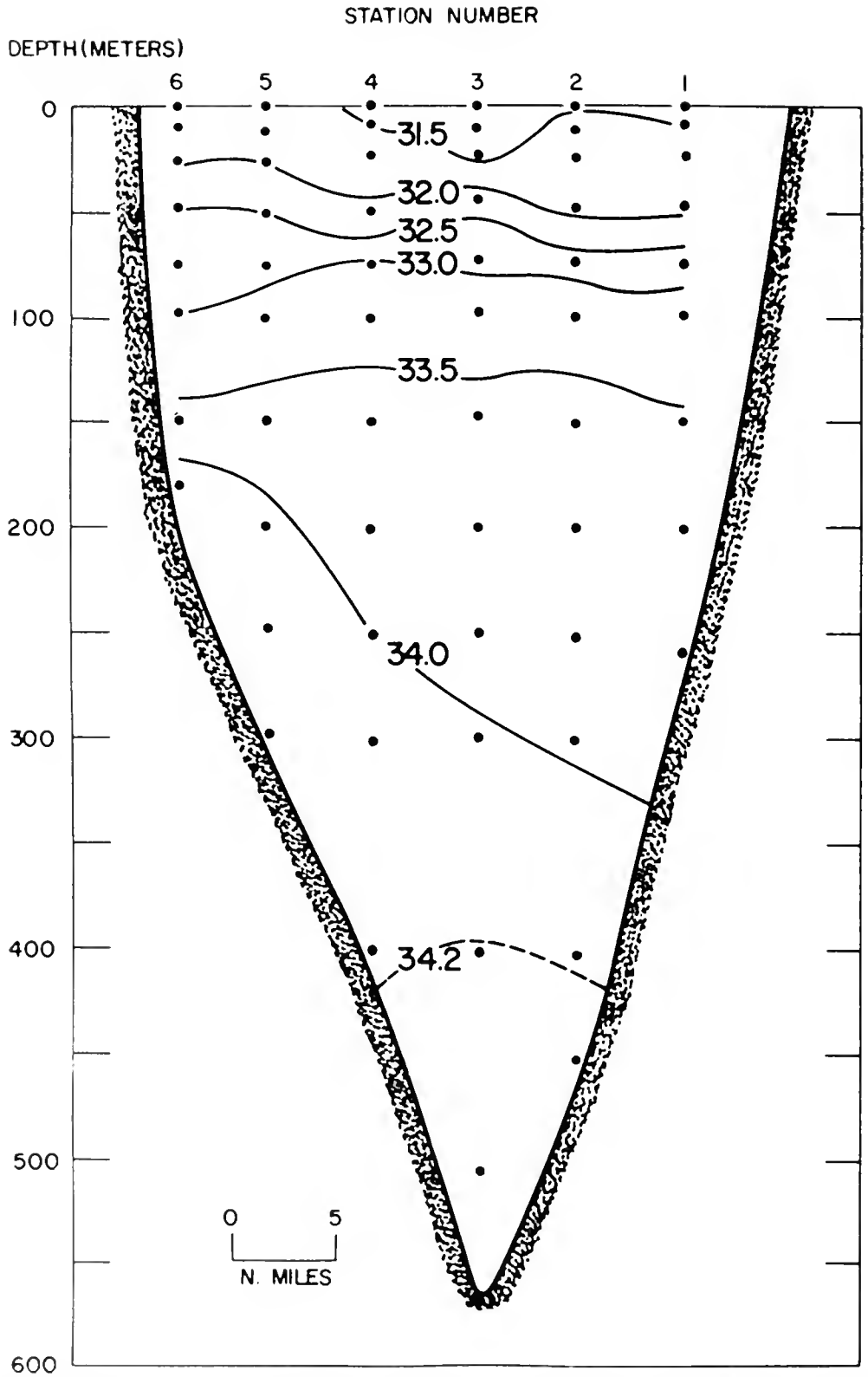

FIGURE 6. Vertical distribution of salinity (‰). CGC WESTWIND stations 1 through 6, 3–4 September 1970.

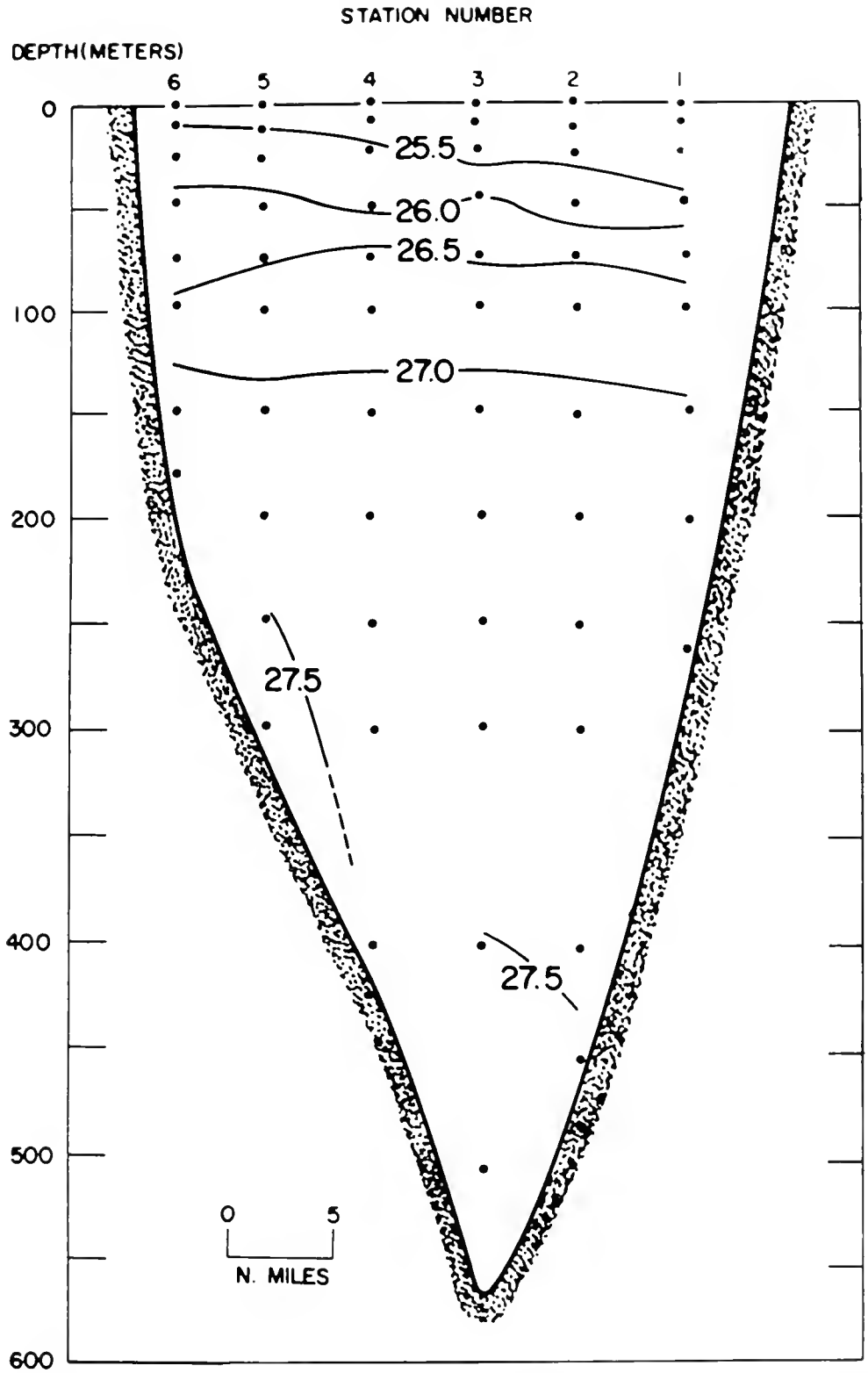

FIGURE 7. Vertical distribution of density (σ_t). CGC WESTWIND stations 1 through 6, 3–4 September 1970.

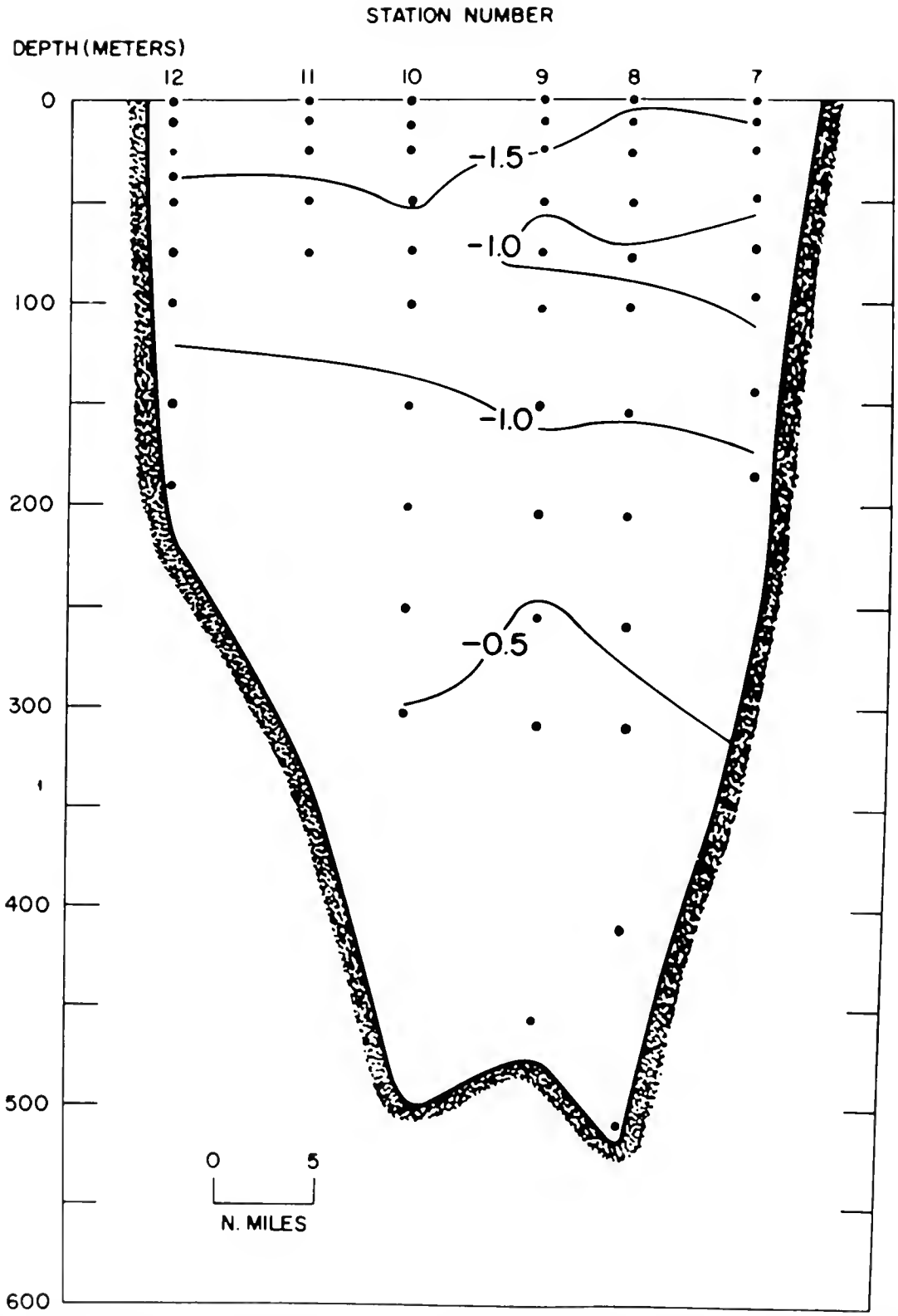

FIGURE 8. Vertical distribution of temperature (° C.). CGC WESTWIND stations 7 through 12, 4 September 1970.

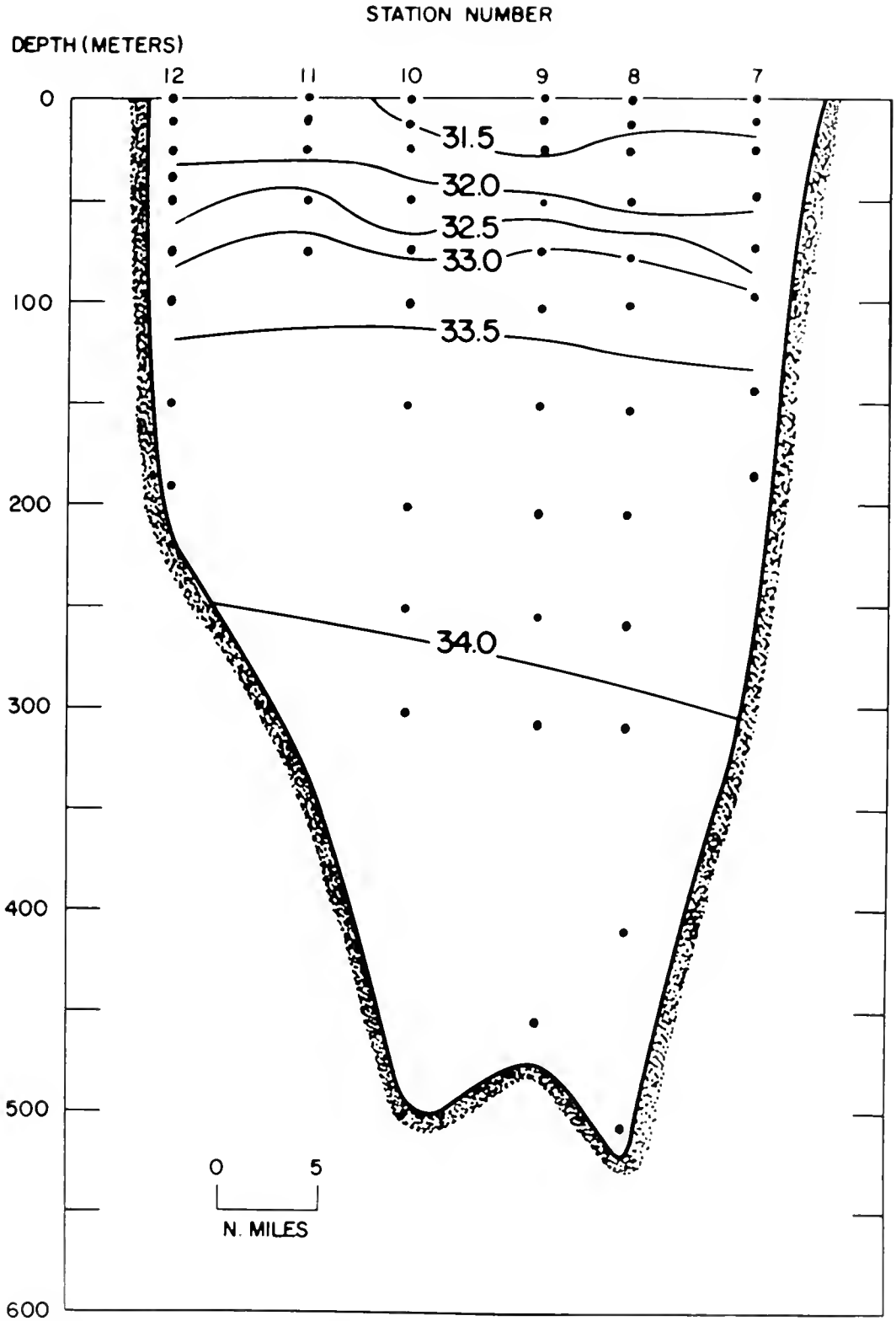

FIGURE 9. Vertical distribution of salinity (‰), CGC WESTWIND stations 7 through 12, 4 September 1970.

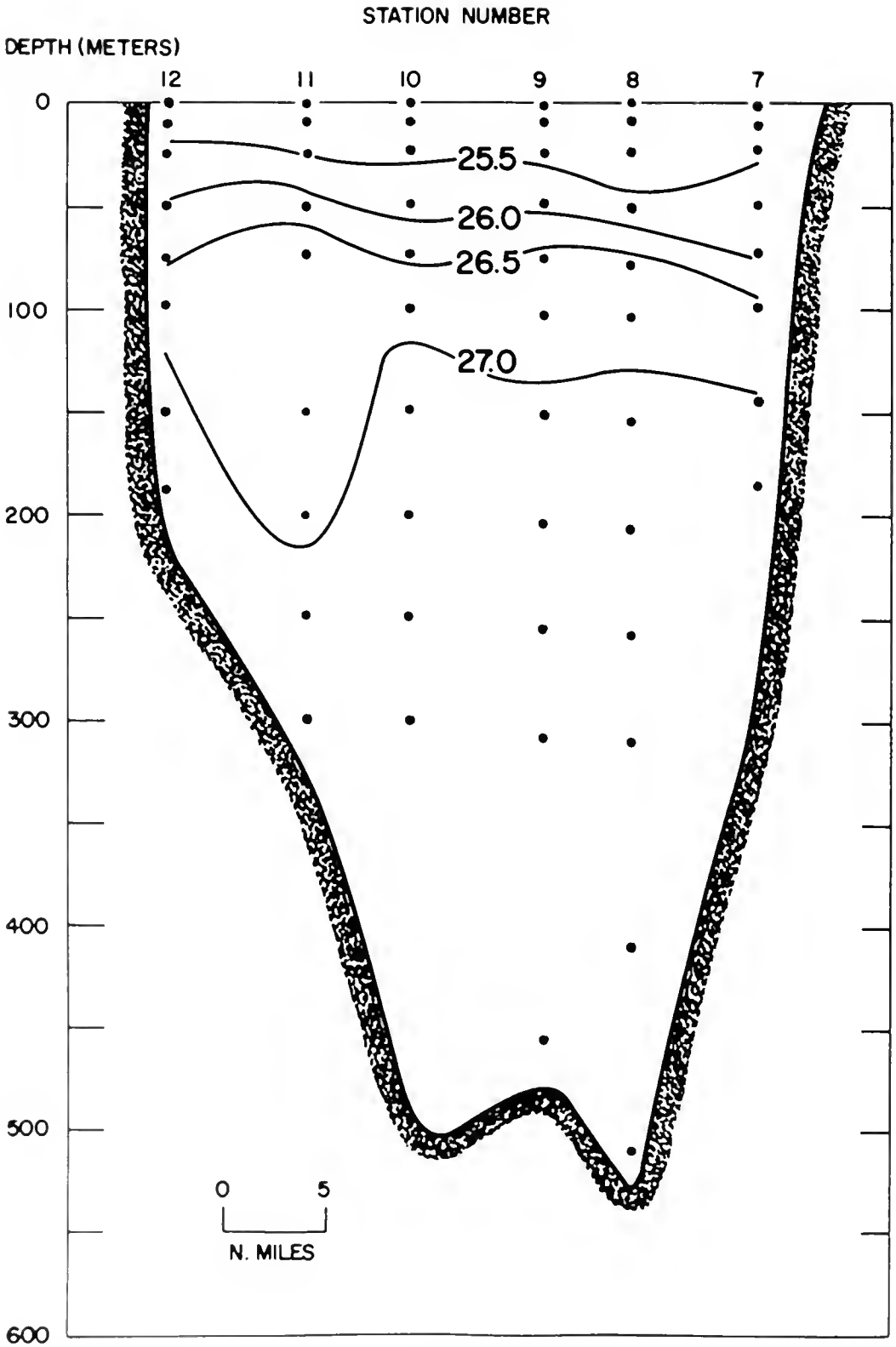

FIGURE 10. Vertical distribution of density (σ_t). CGC WESTWIND stations 7 through 12, 4 September 1970.

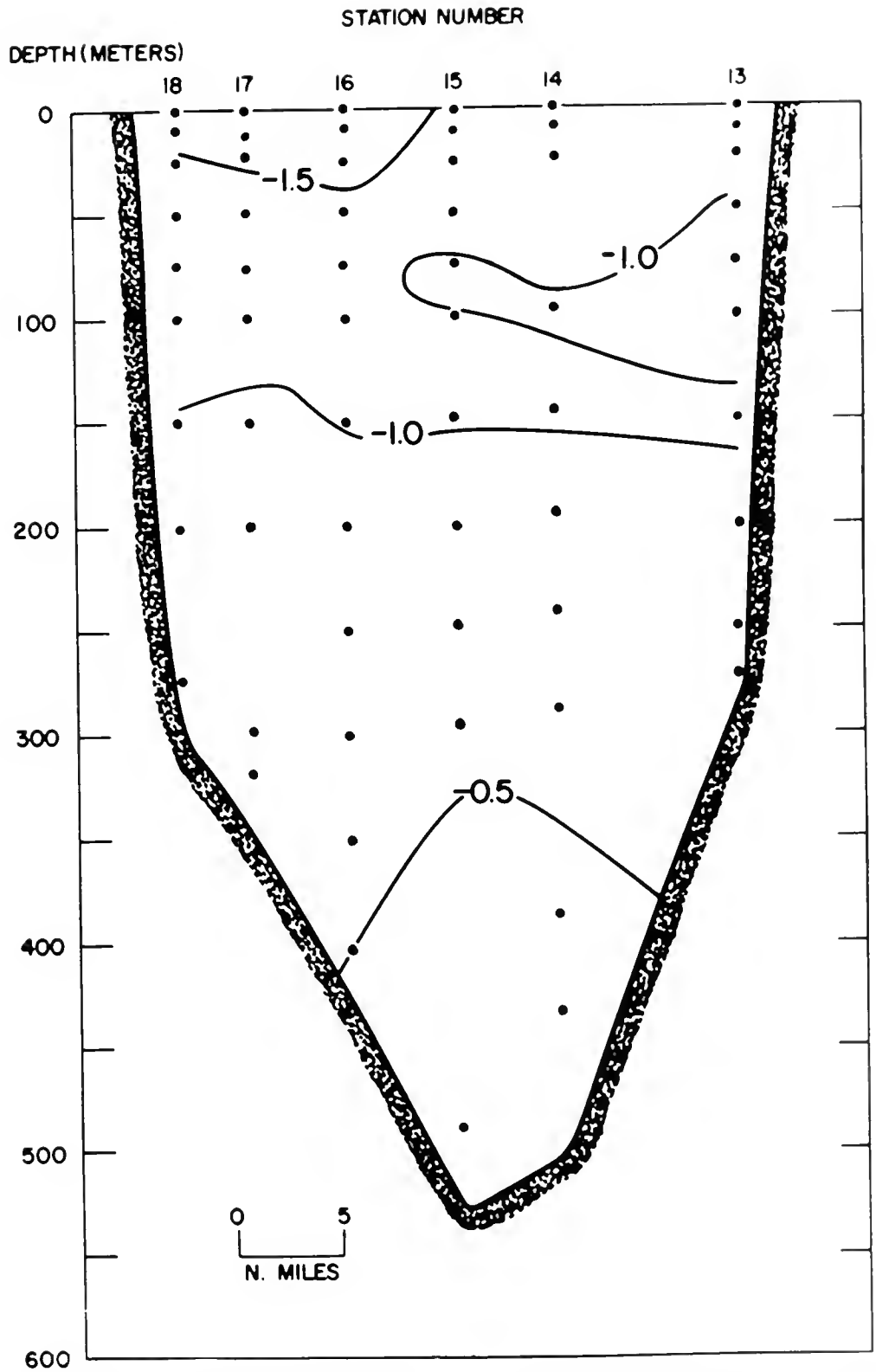

FIGURE 11. Vertical distribution of temperature (° C.). CGC WESTWIND stations 13 through 18, 4–5 September 1970.

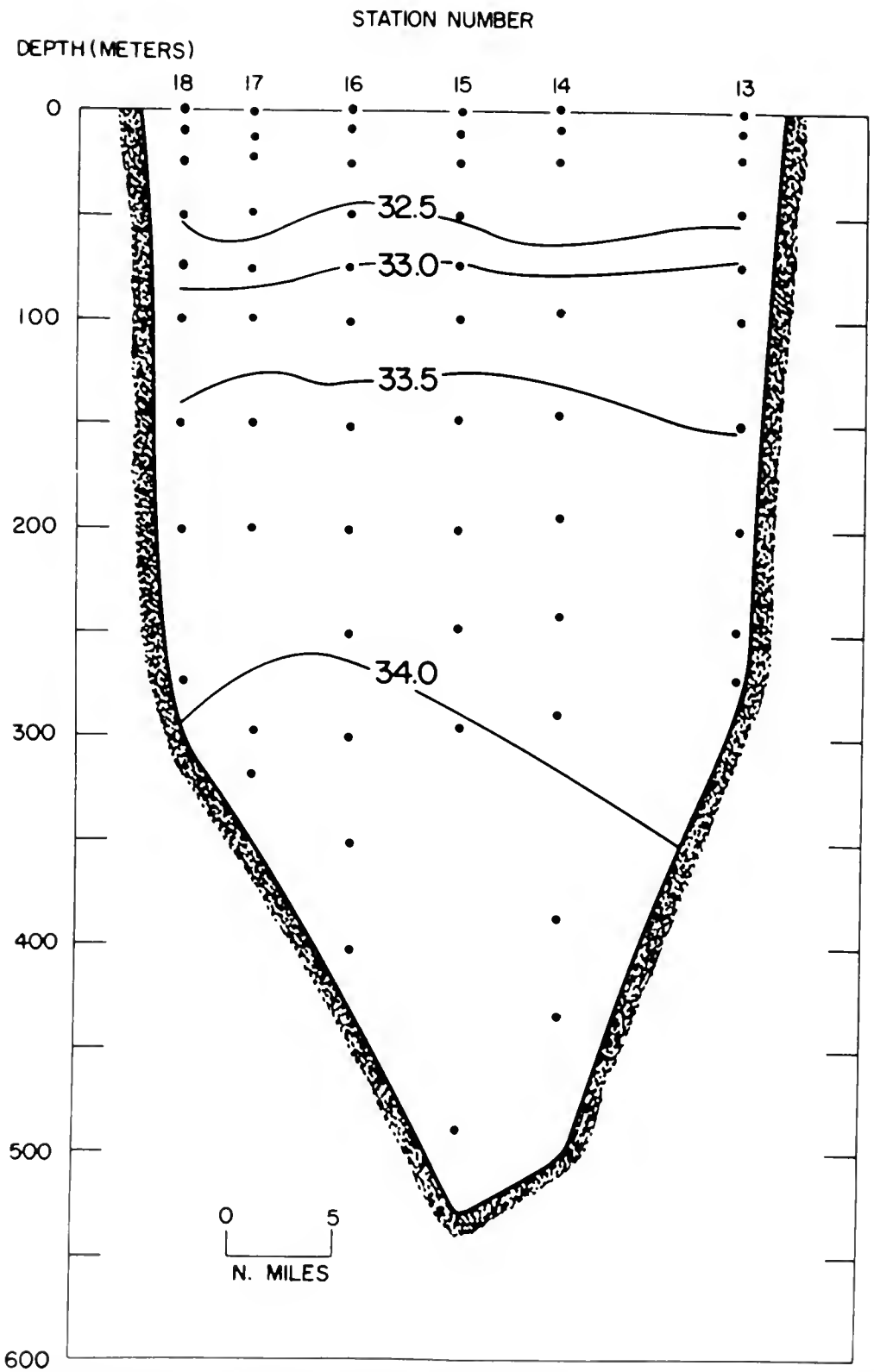

FIGURE 12. Vertical distribution of salinity (‰). CGC WESTWIND stations 13 through 18, 4–5 September 1970.

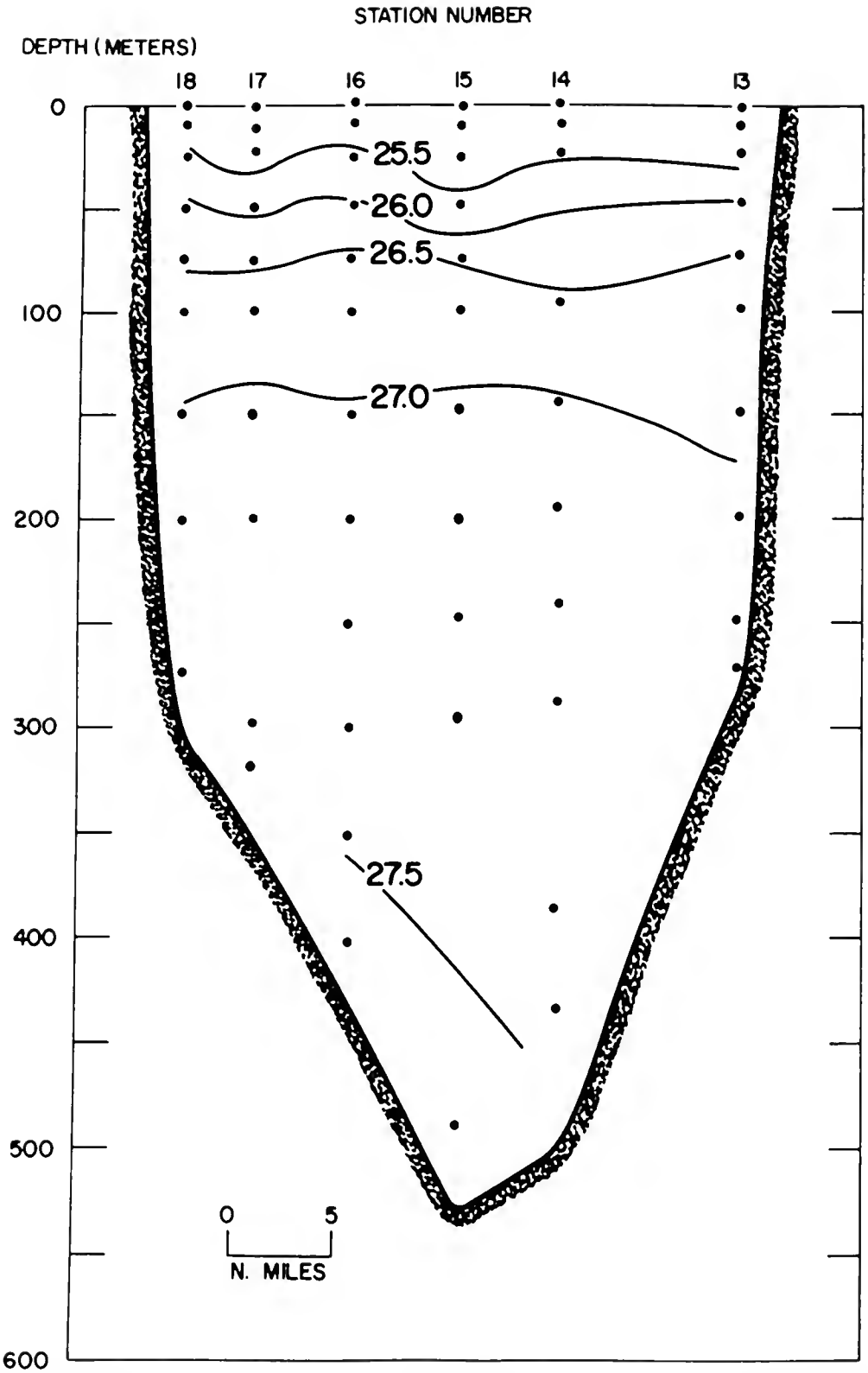

FIGURE 13. Vertical distribution of density (σ_t). CGC WESTWIND stations 13 through 18, 4–5 September 1970.

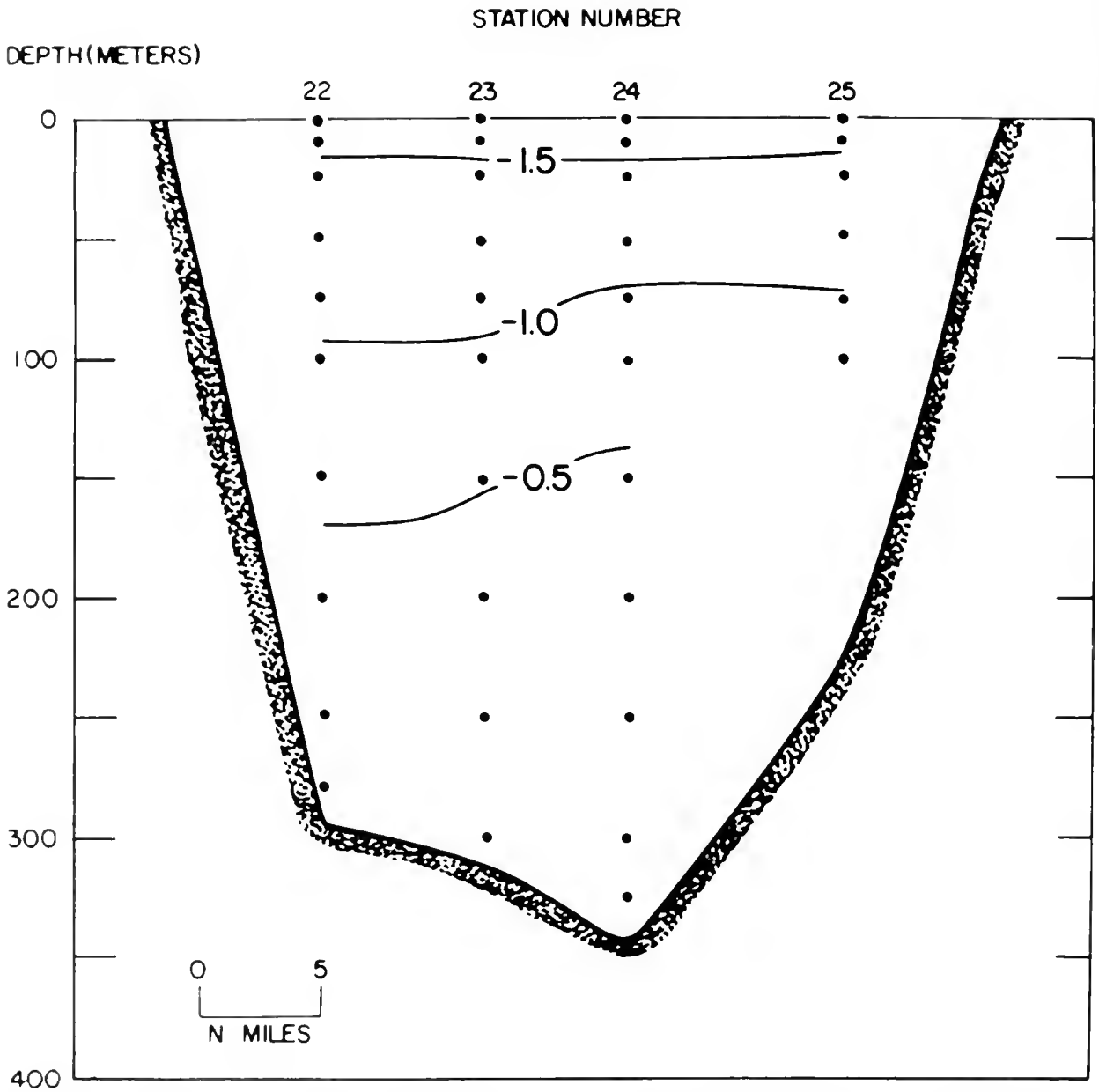

FIGURE 14. Vertical distribution of temperature (° C.). CGC WESTWIND stations 22 through 25, 5–6 September 1970.

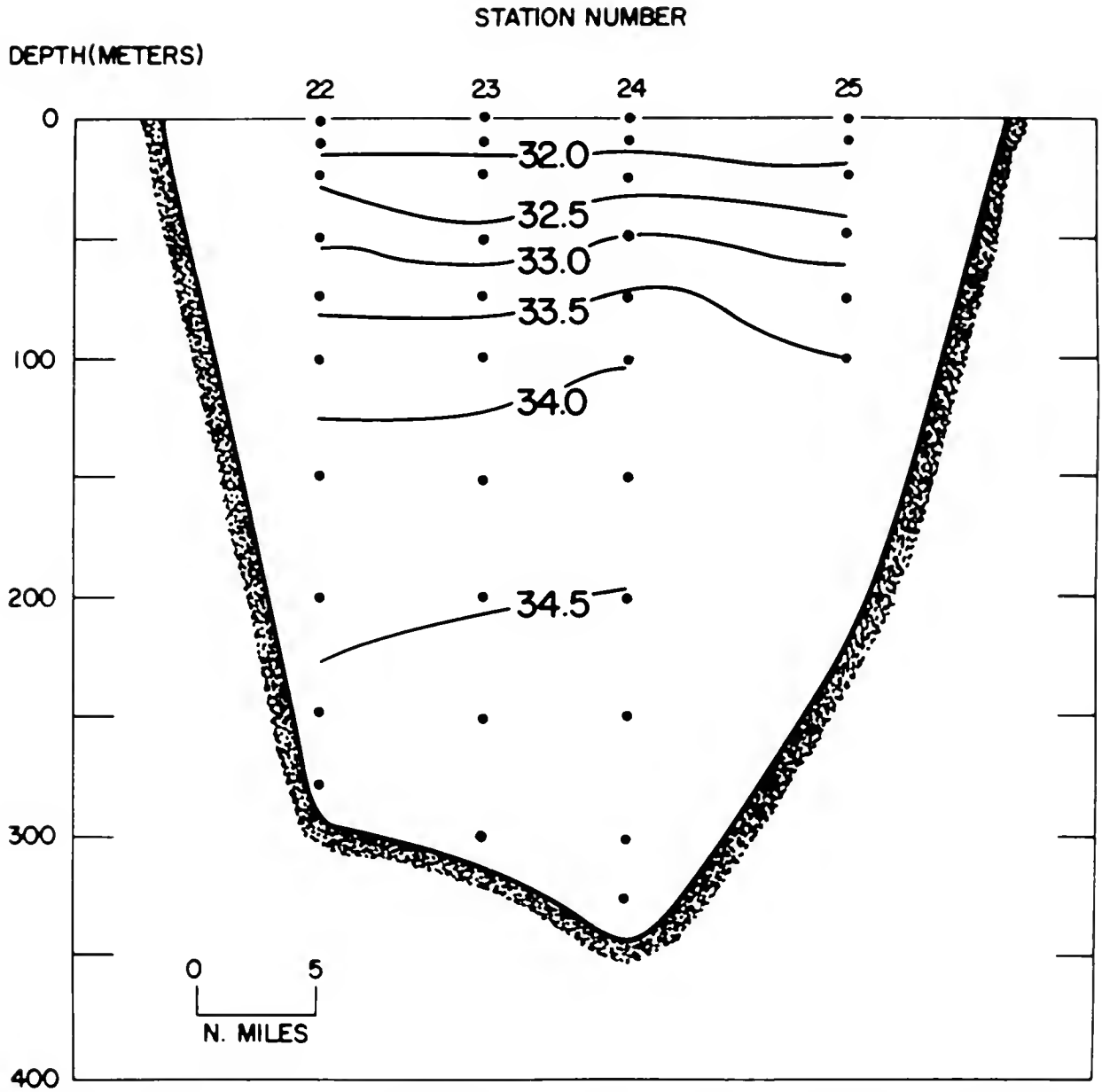

FIGURE 15. Vertical distribution of salinity (‰). CGC WESTWIND stations 22 through 25, 5–6 September 1970.

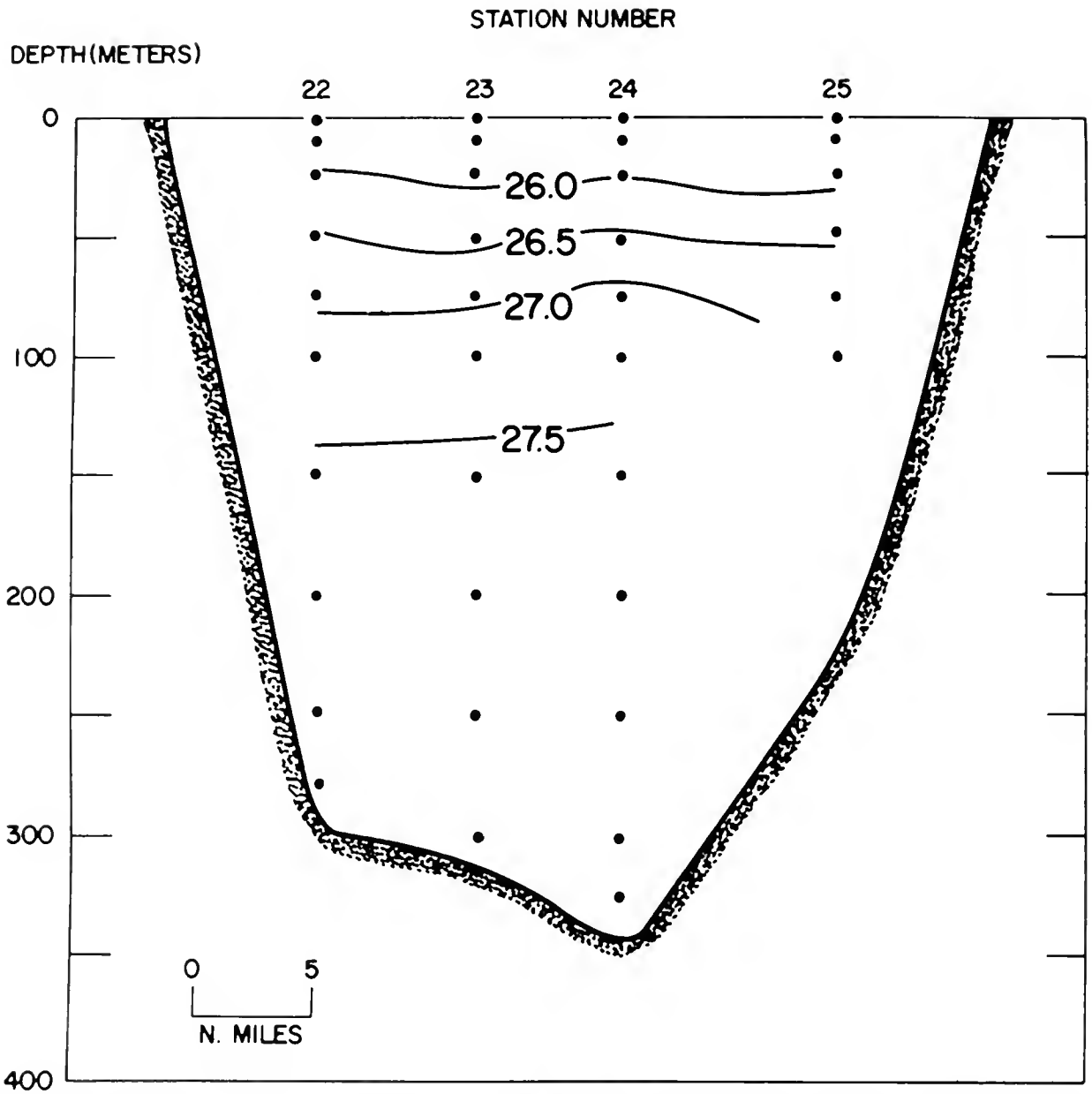

FIGURE 16. Vertical distribution of density (σ_t). CGC WESTWIND stations 22 through 25, 5–6 September 1970.

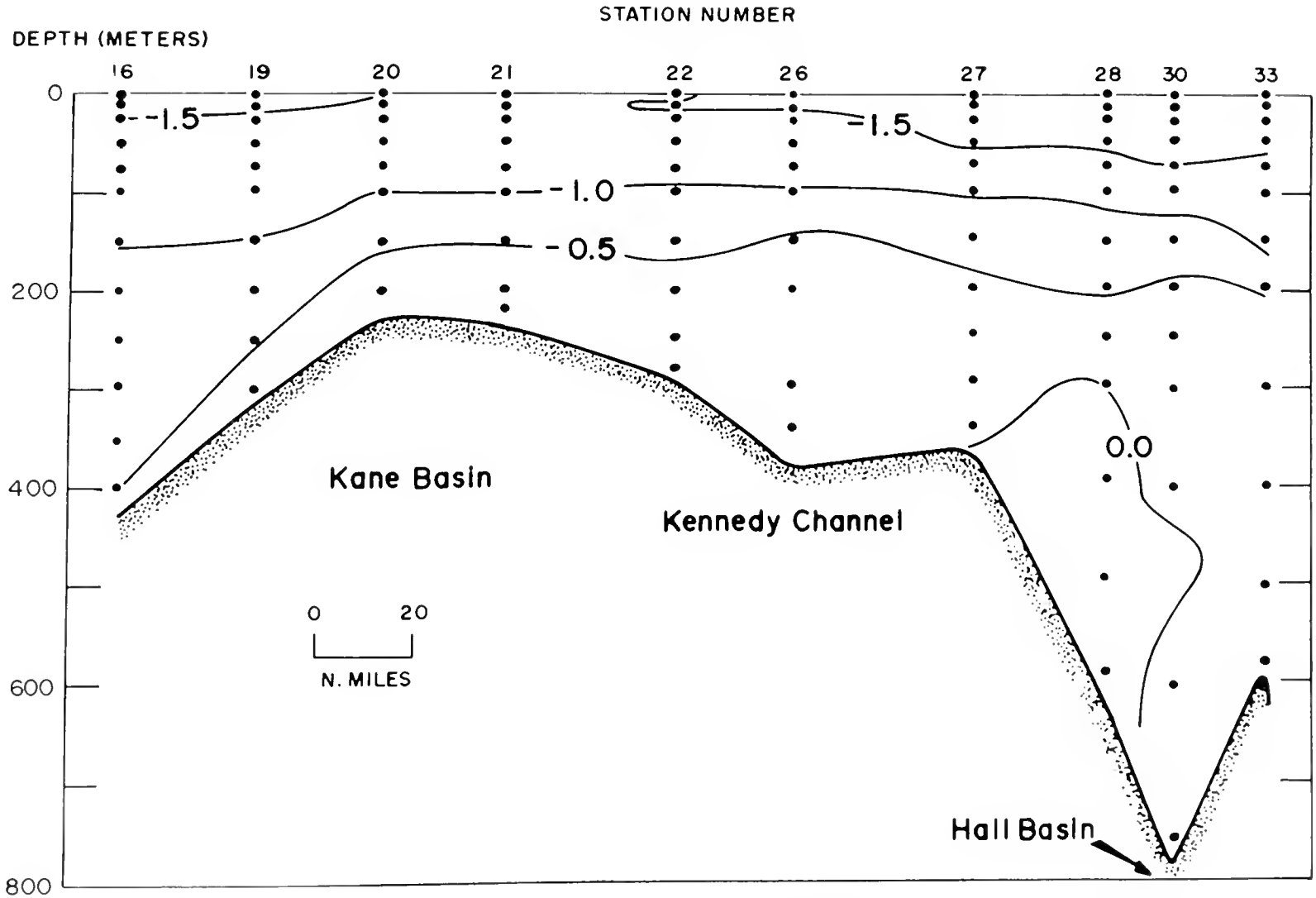

FIGURE 17. Vertical distribution of temperature (° C.) along a longitudinal section through Nares Strait, CGC WESTWIND survey, 5–9 September 1970.

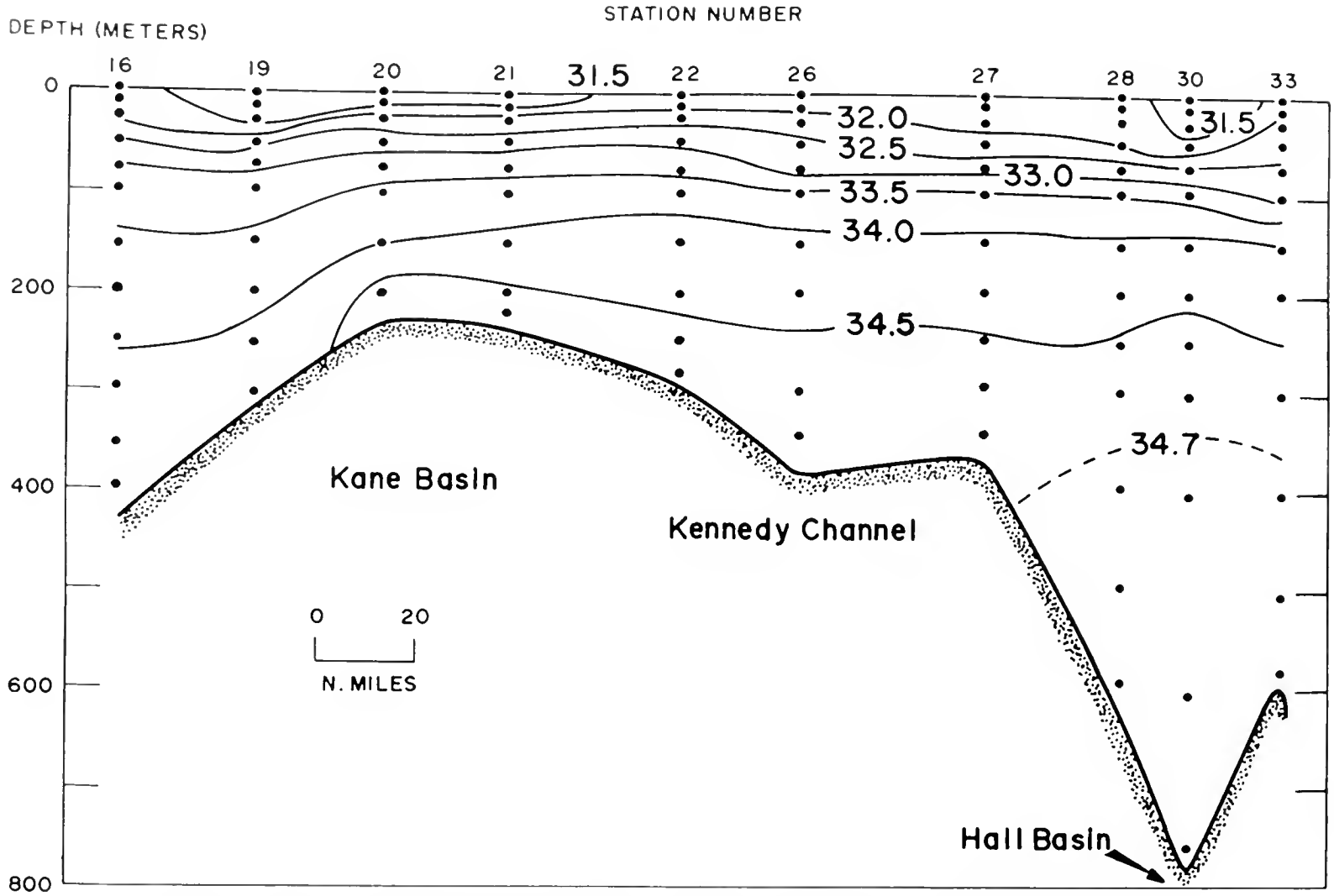

FIGURE 18. Vertical distribution of salinity (‰) along a longitudinal section through Nares Strait, CGC WESTWIND survey, 5–9 September 1970.

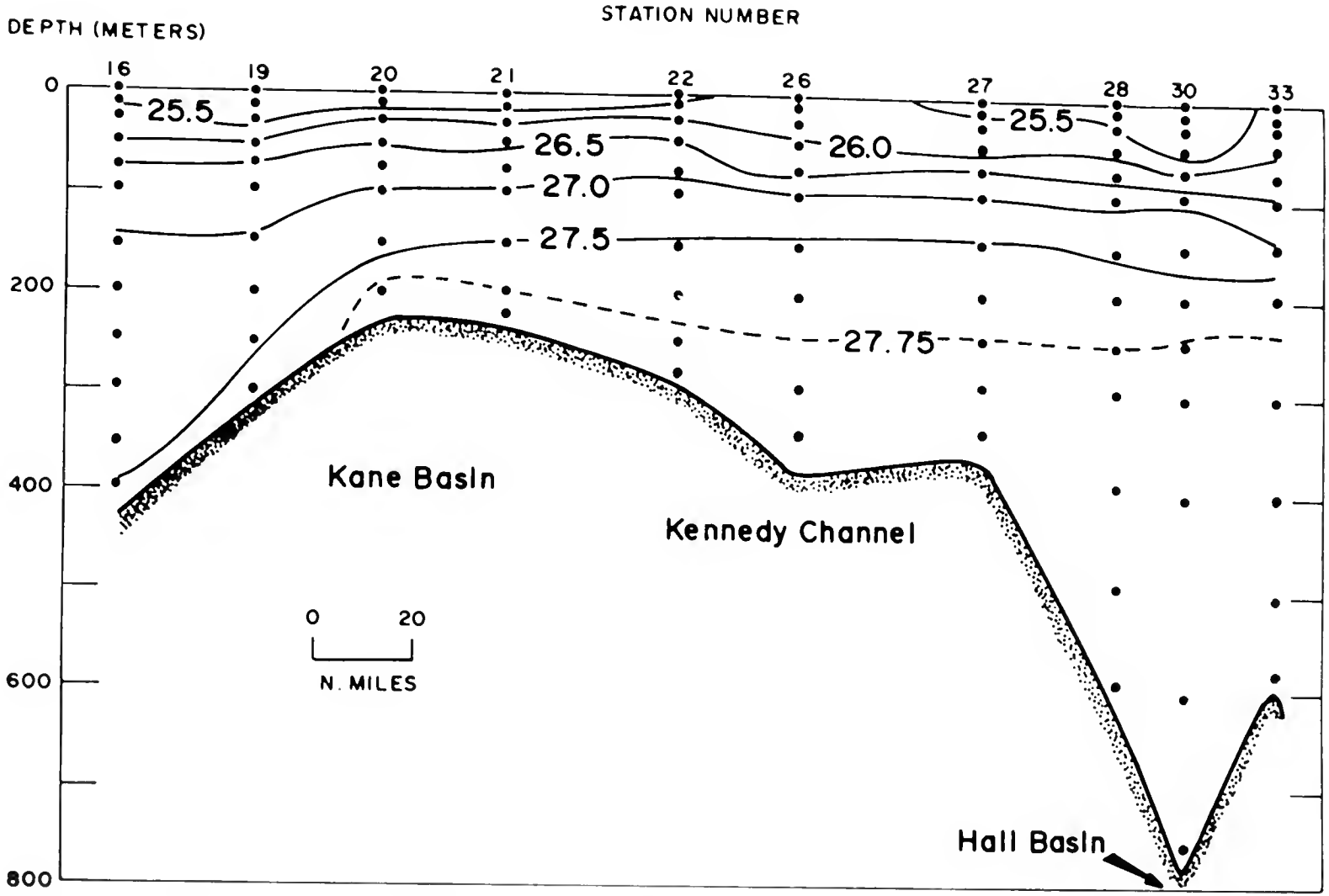

FIGURE 19. Vertical distribution of density (σ_t) along a longitudinal section through Nares Strait, CGC WESTWIND survey, 5–9 September 1970.

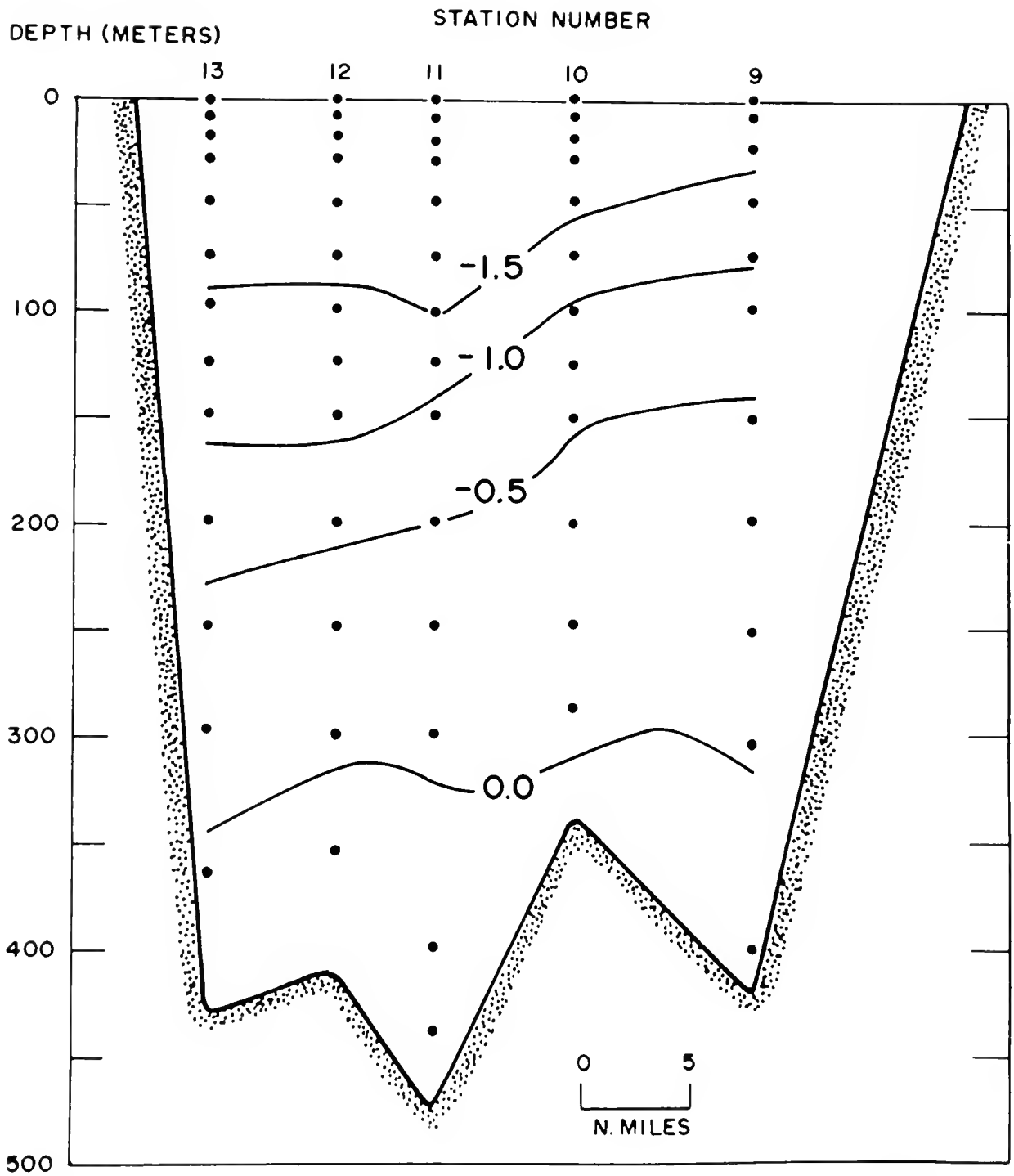

FIGURE 20. Vertical distribution of temperature (C.). CGC WESTWIND stations 9 through 13, 19–20 August 1970.

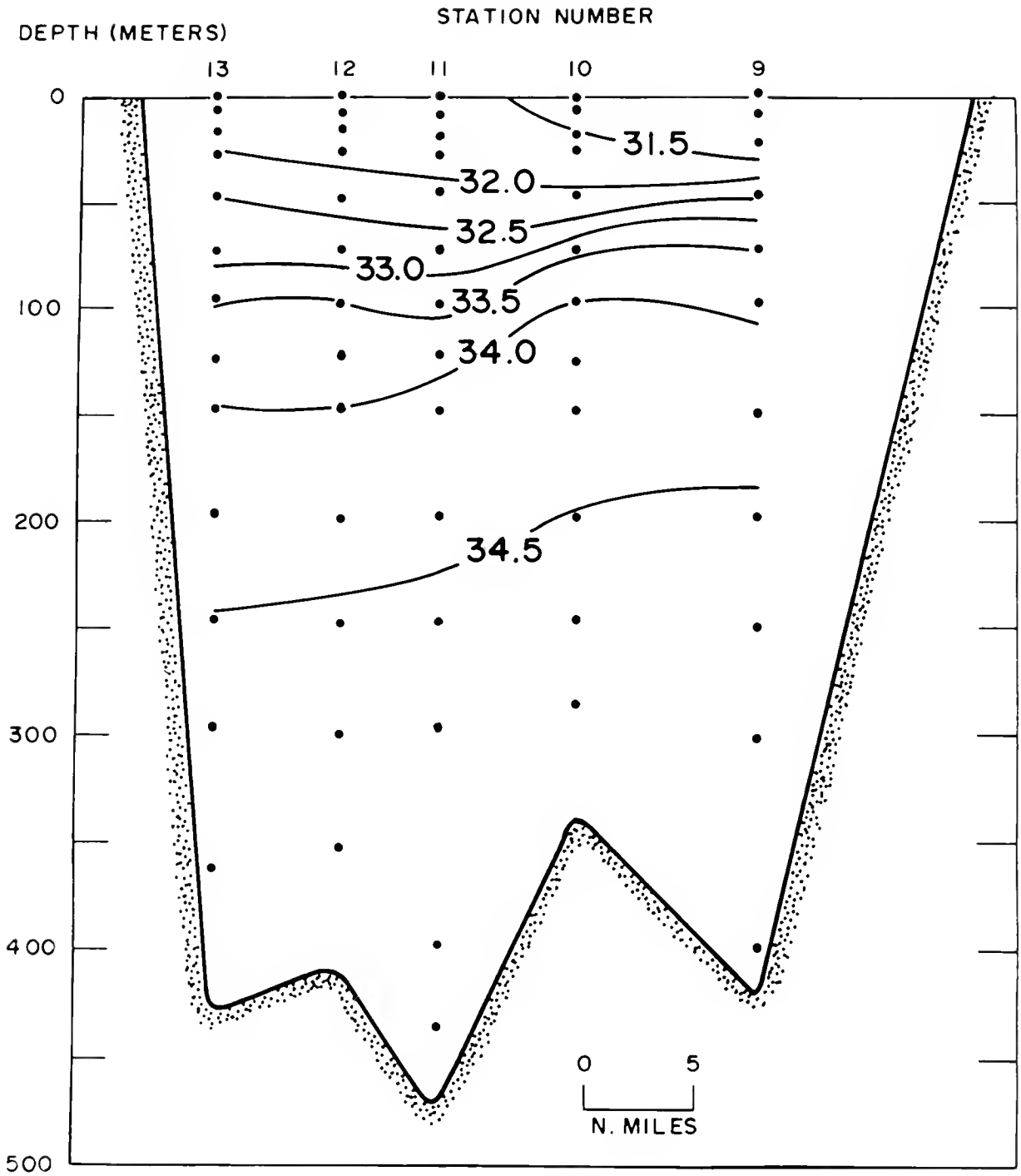

FIGURE 21. Vertical distribution of salinity (‰). CGC WESTWIND stations 9 through 13, 19–20 August 1970.

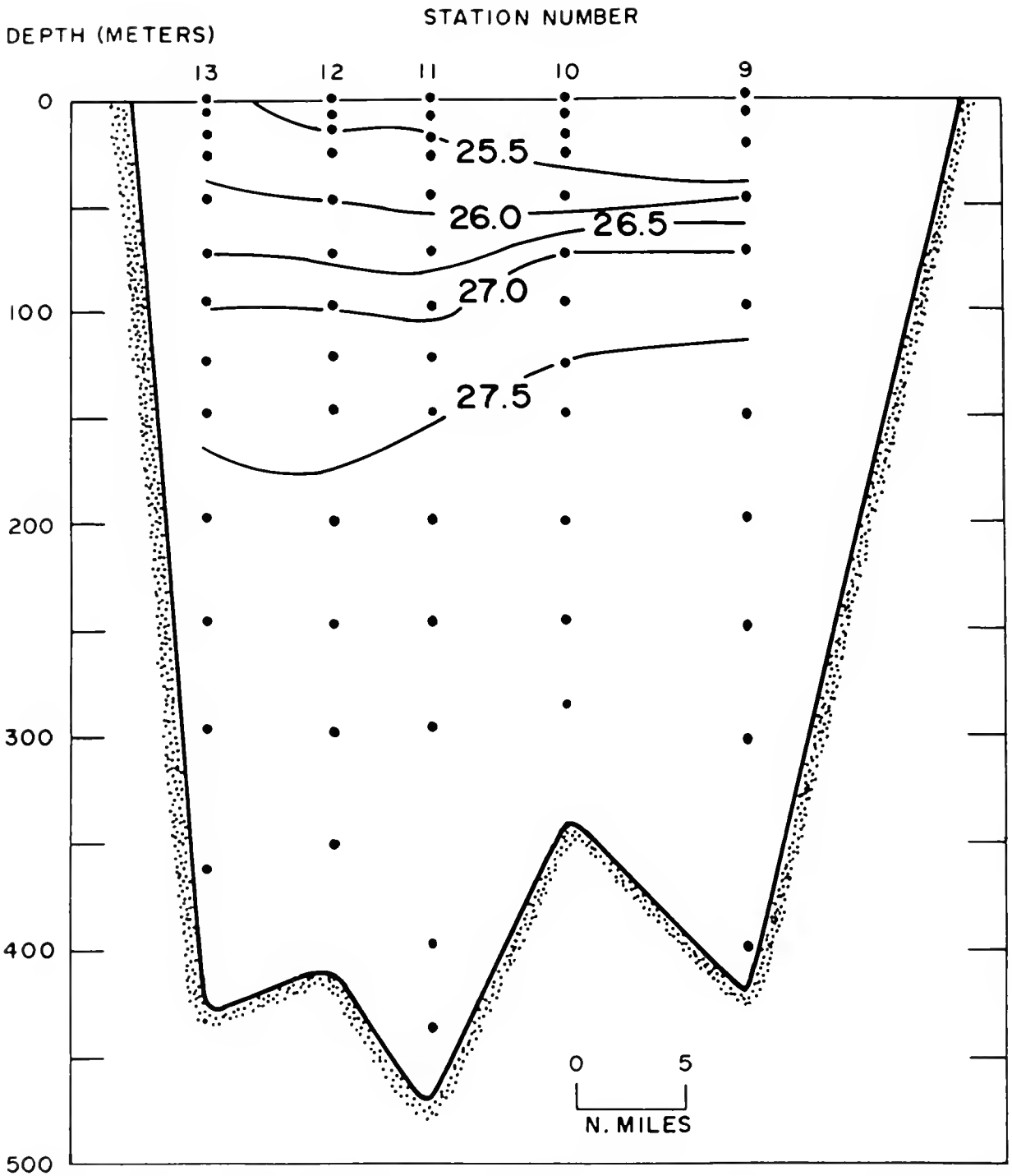

FIGURE 22. Vertical distribution of density (σ_t) CGC WESTWIND stations 9 through 13, 19–20 August 1970.

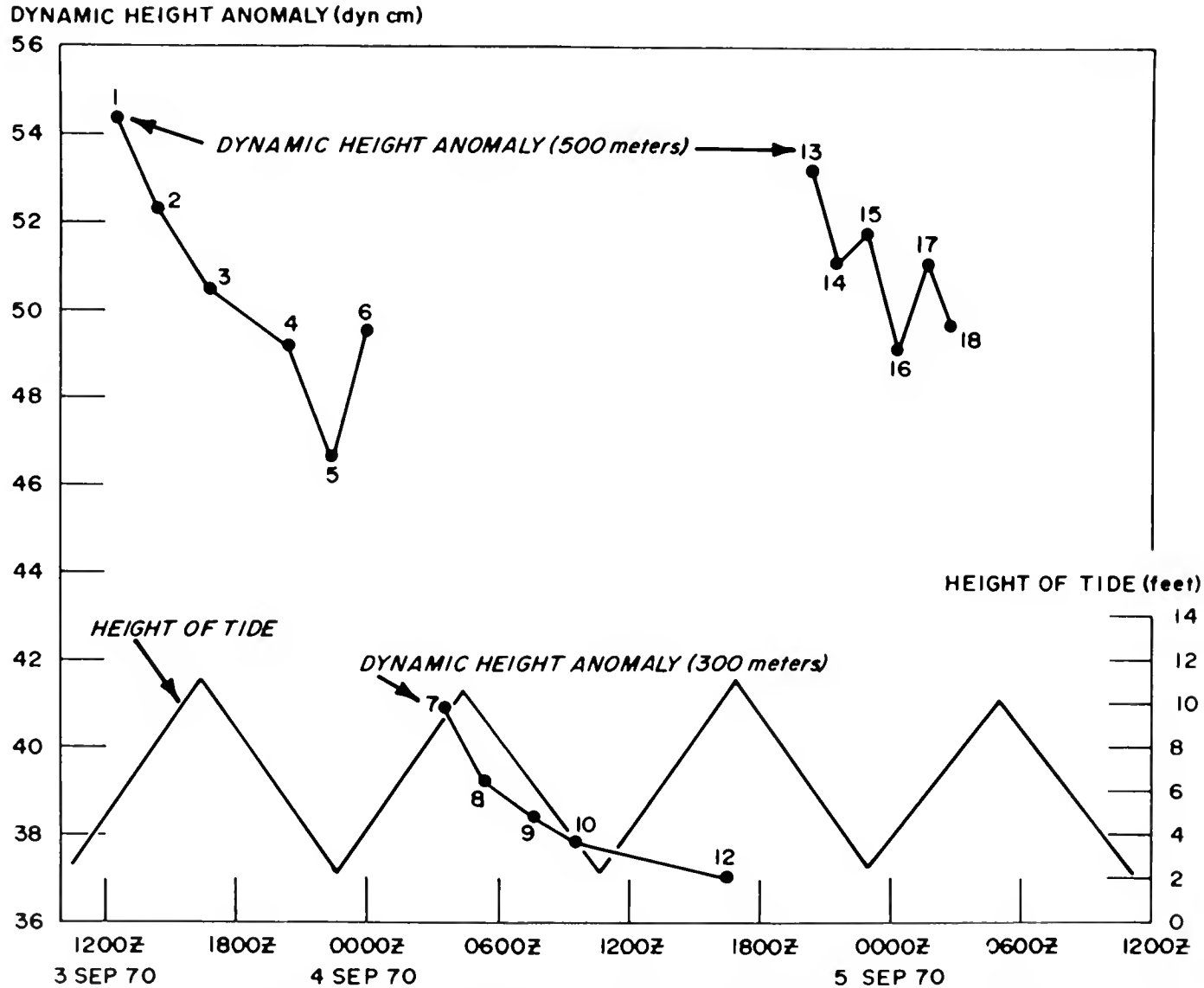

FIGURE 23. Anomaly of sea-surface dynamic height of CGC WESTWIND stations 1 through 18 and the height of tide at Port Foulke, Greenland tide station, 3–5 September 1970.

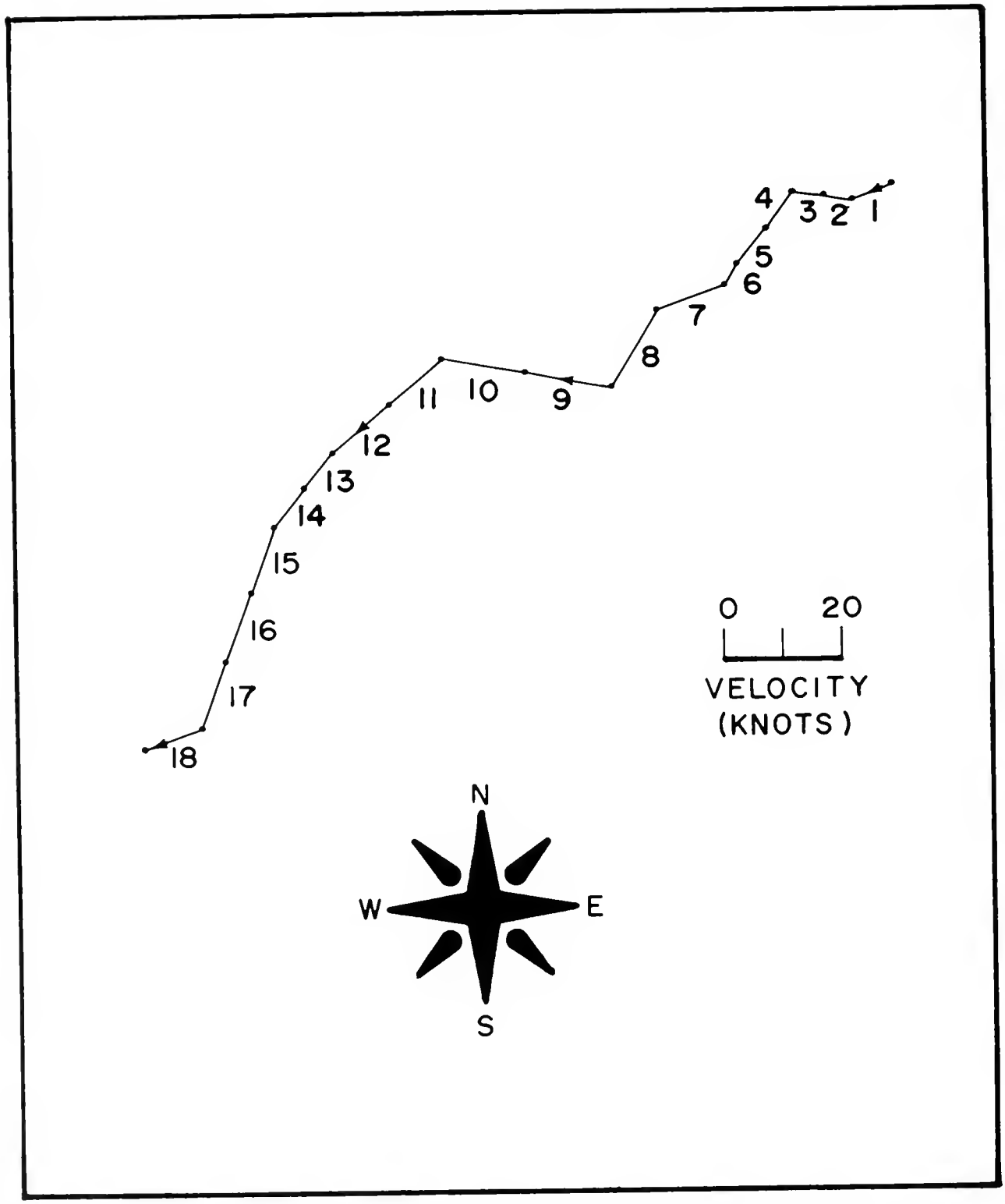

FIGURE 24. Progressive vector diagram of surface wind velocity at CGC WESTWIND stations 1 through 18, 3–5 September 1970.

APPENDIX A

OCEANOGRAPHIC DATA

CRUISES LISTED

CODES UTILIZED

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 (if 2 digit code) or DNP (if 1 digit code)	Depth of deepest sample in hundreds of meters to nearest hundred-meter interval. For internal use only.
Wave observations:	
DIR	Rounded to nearest multiple of 10 degrees.
HGT	Increments of ½ m. Sum of 5 meters plus increments of ½ m if 50 is added to direction.
PER	If numerals 2 through 9 are entered, period in seconds is twice the numeric entry of 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 eighths. 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 10 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 Celsius.
Vis. Code	Visibility according to WMO Code 4300.
No. obs. depths	Number of observed levels associated with the station.

GPO—Jacket No 471-902 Print Order 9734 6034

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; Z 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 Celsius.
S ‰	Salinity in parts-per-thousand.
SIGMA–T	Entered to hundredths.
Specific-volume	Multiply entry by 10^{-7} to obtain specific-volume anomaly in cubic centimeters per gram.
$\Sigma\Delta$D Dyn. M. $\times 10^3$	Multiply entry by 10^{-3} to obtain anomaly of dynamic depth in dynamic meters referenced to the sea surface.
Sound Velocity	Sound velocity according to Wilson's formula to tenths of a meter per second.
O_2 ml./l.	Dissolved oxygen in milliliters per liter entered to hundredths.
PO_4-P μg-at/l.	Inorganic phosphate in microgram-atoms per liter entered to hundredths.
Total-P μg-at/l.	Total phosphorus in microgram-atoms per liter entered to hundredths.
NO_2-N μg-at/l.	Nitrite-nitrogen in microgram-atoms per liter entered to hundredths.
NO_3-N μg-at/l.	Nitrate-nitrogen in microgram-atoms per liter entered to tenths.
SiO_4-Si μg-at/l.	Silicate-silicon in microgram-atoms per liter entered to whole units.
pH	Entered to hundredths.

TABLE I.—Observed and interpolated oceanographic data from stations occupied by USCGC WESTWIND, 16–24 August 1970, prepared from NODC Listing No. 31–8184.

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT CORRECTION	MARSDEN SQUARE	STATION (GMT) MONTH	DAY	HR	TIME	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	8184	WE	7920 N	06539 W		259	08	16	0307		1970	WGS	001	0091	2	00	0	X	X2	6	8	0001

DT WATER COLOR	SD TRANS (m)	WIND DIR	WIND SPEED OR BEAUFORT	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		18	508	964	-010	-022	7	07	

CAST and DURATION or RECORD TIME	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY × 10⁷	B&D DYN m × 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT	PO_4 P	TOTAL P	NO_2 N	NO_3 N	MEASURED SOUND VELOCITY	SiO_3 Si	pH
		STD	0000	-0016	0573	0456	0228210	0000	14091									
007		OBS	0000	-0016	05734	0456			14091			016			000		006	
		STD	0010	-0119	3157	2541	0025806	0127	14391									
007		OBS	0010	-0119	31571	2541			14391			054			023		013	
		STD	0020	-0142	3236	2605	0019662	0149	14393									
007		OBS	0025	-0149	32658	2629			14395			081			068		015	
		STD	0030	-0144	3277	2638	0016495	0167	14398									
		STD	0050	-0144	3313	2668	0013723	0198	14409									
007		OBS	0050	-0145	33133	2666			14409			068			056		015	
		STD	0075	-0134	3338	2687	0011827	0230	14421									
007		OBS	0075	-0134	33381	2687			14421			083			075		017	
007		OBS	0085	-0121	33512	2698			14430			082			072		017	
007		OBS	0087	-0121														

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT CORRECTION	MARSDEN SQUARE	STATION (GMT) MONTH	DAY	HR	TIME	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	8194	WE	7926 N	05522 W		259	08	16	0359		1970	WGS	002	0210	2	00	0	X	X2	6	8	0002

DT WATER COLOR	SD TRANS (m)	WIND DIR	WIND SPEED OR BEAUFORT	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		22	516	976	-003	-009	7	07	

CAST and DURATION or RECORD TIME	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY × 10⁷	B&D DYN m × 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT	PO_4 P	TOTAL P	NO_2 N	NO_3 N	MEASURED SOUND VELOCITY	SiO_3 Si	pH
		STD	0000	-0005	25121	2037	0068037	0000	14367									
039		OBS	0000	-0005	25121	2037			14367			074			000		013	
		STD	0010	-0113	3199	2574	0022515	0045	14400									
039		OBS	0010	-0113	31988	2574			14400			081			052		017	
		STD	0020	-0115	3243	2610	0019184	0066	14406									
039		OBS	0025	-0121	32615	2625			14408			082			064		017	
		STD	0030	-0124	3275	2635	0016750	0084	14407									
		STD	0050	-0134	3314	2668	0013655	0114	14409									
039		OBS	0050	-0134	33136	2668			14409			084			068		015	
		STD	0075	-0135	3353	2683	0011210	0147	14418									
039		OBS	0075	-0135	33527	2683			14418			084			070		017	
		STD	0100	-0126	3350	2697	0010941	0176	14431									
039		OBS	0100	-0126	33494	2697			14431			069			079		016	
		STD	0125	-0105	3366	2709	0009752	0201	14446									
039		OBS	0125	-0105	33660	2709			14446			065			083		043	

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAU SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	SEA SWELL	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318184	WE	7932 N	06504 W	259	08	15	1760	1970	WGS	003	0226	2	00	0	X		X2	6	8	0003

WATER COLOR	*DT TRANS (%)	*S D	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		19	503	005	008	000	7	10		

CAST	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY ×10⁻⁸	B&D DYN m ×10⁻¹	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT PO_4-P µg at/l	AMBIENT LIGHT TOTAL P µg at/l	AMBIENT LIGHT NO_3-N µg at/l	AMBIENT LIGHT NO_2-N µg at/l	MEASURED SOUND VELOCITY $S'O_2$-S µg at/l	MEASURED SOUND VELOCITY pH
	STD	0000	-0002	0466	0369	0236770	0000	14083							
176	OBS	0000	-0002	04661	0359			14083		016			000	001	
	STD	0010	-0127	3185	2563	0023676	0130	14392							
176	OBS	0010	-0127	31846	2563			14392		032			037	013	
	STD	0020	-0119	3242	2609	0019283	0151	14405							
176	OBS	0025	-0118	32646	2627			14409		050			038	018	
	STD	0030	-0126	3278	2638	0016506	0169	14408							
	STD	0050	-0143	3317	2671	0013425	0199	14409							
176	OBS	0050	-0143	33171	2671			14409		048			047	021	
	STD	0075	-0127	3337	2686	0011957	0231	14424							
176	OBS	0075	-0127	33366	2686			14424		064			092	026	
	STD	0100	-0112	3357	2702	0010394	0259	14438							
176	OBS	0100	-0112	33575	2702			14438		046			053	014	
	STD	0125	-0095	3370	2712	0009476	0284	14452							
	STD	0150	-0081	3380	2719	0008776	0306	14464							
176	OBS	T0150	-0081	33798	2719			14464		065			095	029	
	STD	0200	-0065	3390	2727	0008063	0348	14481							
176	OBS	0200	-0065	33898	2727			14481		072			122	034	
176	OBS	T0207	-0064	33914	2728			14483		065			100	025	
176	OBS	0204	-0062												

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAU SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	SEA SWELL	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318184	WE	7941 N	06508 W	259	08	16	2104	1970	WGS	004	0293	2	00	0	X		X1	6	8	0004

WATER COLOR	*DT TRANS (%)	*S D	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP °C DRY BULB	AIR TEMP °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		15	502	010	006	000	7	09		

CAST	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY ×10⁻⁸	B&D DYN m ×10⁻¹	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT PO_4-P µg at/l	AMBIENT LIGHT TOTAL P µg at/l	AMBIENT LIGHT NO_3-N µg at/l	AMBIENT LIGHT NO_2-N µg at/l	MEASURED SOUND VELOCITY $S'O_2$-S µg at/l	MEASURED SOUND VELOCITY pH
	STD	0000	0064	20272	1664	0107924	0000	14327							
210	OBS	0000	0064	20721	1664			14327		016			000	020	
	STD	0010	-0045	2703	2172	0050747	0085	14353							
	STD	0020	-0120	3140	2527	0027085	0129	14390							
210	OBS	0024	-0140	32613	2625			14398		058			056	026	
	STD	0030	-0141	3278	2633	0016475	0151	14401							
210	OBS	0044	-0142	33173	2671			14410		056			064	029	
	STD	0050	-0141	3318	2671	0013344	0161	14410							
210	OBS	0074	-0133	34032	2693			14421		047			058	040	
	STD	0075	-0132	3342	2693	0011567	0212	14422							
	STD	0100	-0111	3359	2703	0010233	0239	14438							
210	OBS	T0124	-0097	34035	2712			14450		063			100	024	
	STD	0125	-0097	3371	2713	0009421	0264	1445							
	STD	0150	-0081	3379	2715	0008052	0287	14465							
210	OBS	T0176	-0081	34016	2720			14467		049			065	040	
	STD	0200	-0071	3388	2726	0006122	0330	14478							
210	OBS	0224	-0068	35 34	2730			14486		046			064	018	
	STD	0250	-0065	3395	2733	0004651	0364	14495							
210	OBS	0268	-0063	35 40	2734			14500		060			106	020	
210	OBS	T0276	-0063	35 43	2735			14502		060			095	020	

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318184	WE	79489N	065130W	259	05	08	17	1970	WGS	005	0256	2	00	0	X	X2	7	8	0005

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		07	S39	014	000	-006	7	10	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY	DYN M	COMPUTED SOUND VELOCITY M SEC	O2 ml/l	PO4 P	TOTAL P	NO3 N	NO2 N	SiO3 Si	pH
	STD	0000	-0002	2380	1671	0109223	0000	14297							
019	OBS	0000	-0002	20302	1671			14297		020			000	015	
	STD	0010	-0128	3193	2570	0022987	0066	14392							
019	OBS	0010	-0128	31335	2570			14392		051			005	016	
	STD	0020	-0136	3244	2612	0014047	0087	14397							
019	OBS	0025	-0134	32648	2628			14400		053			065	021	
	STD	0030	-0139	3277	2638	0016514	0104	14402							
	STD	0050	-0134	3316	2670	0023499	0134	14411							
019	OBS	0050	-0133	33163	2670			14411		061			069	022	
	STD	0075	-0131	3341	2690	0011585	0166	14422							
019	OBS	0075	-0131	33413	2690			14422		057			085	021	
	STD	0100	-0120	3357	2702	0010391	0193	14434							
019	OBS	0100	-0120	33572	2702			14434		040			075	021	
	STD	0125	-0115	3368	2710	0009544	0218	14447							
	STD	0150	-0092	3376	2716	0008051	0242	14458							
019	OBS	T0150	-0092	33757	2716			14458					152	030	
	STD	0201	-0073	3386	2724	0008345	0285	14476							
019	OBS	T0200	-0073	33857	2724			14476		069			119	037	
019	OBS	0240	-0061	33915	2728			14489		073			140	026	
019	OBS	0242	-0057												

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318194	WE	7950 N	06520 W	259	05	08	17	042	1970	WGS	006	0139	2	00	0	X	X2	7	8	0006

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		07	S39	014	000	-006	7	08	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY	DYN M	COMPUTED SOUND VELOCITY M SEC	O2 ml/l	PO4 P	TOTAL P	NO3 N	NO2 N	SiO3 Si	pH
	STD	0000	-0021	2437	1558	0081513	0000	14337							
042	OBS	0000	-0021	24372	1558			14337		021			005	017	
	STD	0010	-0117	3143	2569	0023069	0052	14397							
042	OBS	0010	-0117	31428	2569			14397		044			000	024	
	STD	0020	-0135	3234	2633	0013869	0073	14396							
042	OBS	0025	-0141	32512	2617			14397		054			061	024	
	STD	0030	-0141	3266	2639	0013694	0092	14400							
	STD	0050	-0141	3313	2667	0013757	0123	14410							
042	OBS	0050	-0141	33125	2667			14410		075			114	034	
	STD	0075	-0144	3341	2690	0011574	0155	14416							
042	OBS	0075	-0144	33410	2690			14416		066			123	029	
	STD	0100	-0133	3351	2698	0010794	0183	14427							
042	OBS	0100	-0133	33514	2698			14427		070			076	024	
042	OBS	T0120	-0131	33586	2704			14437		059			071	020	
042	OBS	0122	-0119												

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318194	WE	7952 N	05450 W	259	04	08	17	152	1970	WGS	007	0100	2	00	0	X	X1	3	7	0007

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		17	S06	018	010	001	7	07	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY	DYN M	COMPUTED SOUND VELOCITY M SEC	O2 ml/l	PO4 P	TOTAL P	NO3 N	NO2 N	SiO3 Si	pH
	STD	0000	-0011	1428	1147	0160228	0000	14205							
152	OBS	0000	-0011	14283	1147			14205		007			003	020	
	STD	0010	-0136	3194	2571	0022905	0091	14389							
152	OBS	0010	-0136	31943	2571			14389		057			024	028	
	STD	0020	-0141	3240	2608	0013345	0112	14394							
152	OBS	0025	-0144	32594	2624			14396		057			039	027	
	STD	0030	-0144	3272	2635	0013565	0130	14397							
	STD	0050	-0157	3313	2668	0013676	0161	14402							
152	OBS	0050	-0157	33134	2668			14402		079			071	027	
	STD	0075	-0141	3340	2689	0011620	0193	14418							
152	OBS	0075	-0141	33405	2689			14418		074			081	026	
152	OBS	T0095	-0141	33450	2696			14420		073			087	048	
152	OBS	0097	-0141												

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31184	WE	8039 N	06712 W	907 07	08	15	130	1970	WGS	008	0356	2	00	0	X	X7	0	9	0008

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
01	50	27	502	088	000	-003	6	13	

CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY	DYN cm	COMPUTED SOUND VELOCITY m/sec	O2 ml/l	PO4-P µg-at/l	TOTAL P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO2-Si µg-at/l	pH
	STD	0000	-0149	3122	2513	0028455	0000	14371							
130	OBS	0000	-0148	3122	2513			14371		056			025	018	
	STD	0010	-0176	3153	2538	0026013	0027	14364							
	OBS	0010	-0176	3153	2538			14364							
	STD	0020	-0177	3155	2540	0025843	0053	14365							
001	OBS	0020	-0177	3155	2540			14365							
	STD	0030	-0174	3166	2565	0023445	0077	14370							
	OBS	0030	-0174	3166	2565			14370							
	STD	0050	-0161	3245	2653	0015076	0116	14398							
	OBS	0050	-0161	3245	2653			14398							
	STD	0075	-0149	3317	2671	0013397	0151	14411							
	OBS	0075	-0149	3317	2671			14411							
	STD	0100	-0142	3337	2687	0011674	0183	14421							
	OBS	0100	-0142	3337	2687			14421							
	STD	0125	-0116	3375	2717	0008754	0209	14443							
	OBS	0125	-0116	3375	2717			14443							
	STD	0150	-0096	3413	2746	0006269	0228	14465							
	OBS	0150	-0096	3413	2746			14466							
	STD	0200	-0061	3430	2759	0005024	0256	14488							
	OBS	0200	-0061	3430	2759			14488							
	STD	0250	-0029	3452	2775	0003457	0277	14514							
	OBS	0250	-0029	3452	2775			14514							
	STD	0300	-0012	3460	2781	0002955	0294	14532							
	OBS	0300	-0012	3460	2781			14532							
	OBS	0315	-0008	3462	2782			14536		044			015	039	

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31184	WE	8115 N	06233 W	907 12	08	19	180	1970	WGS	009	0420	2	00	0	X	X1	7	6	0009

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		13	503	069	001	-005	7	12	

CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY	DYN cm	COMPUTED SOUND VELOCITY m/sec	O2 ml/l	PO4-P µg-at/l	TOTAL P µg-at/l	NO2-N µg-at/l	NO3-N µg-at/l	SiO2-Si µg-at/l	pH
	STD	0000	-0160	3121	2513	0028482	0000	14365							
198	OBS	0000	-0160	31214	2513			14365		036			048	018	
	STD	0010	-0166	3127	2517	0028045	0028	14365							
188	OBS	0010	-0166	31268	2517			14365		052			089	020	
	STD	0020	-0162	3131	2520	0027745	0056	14369							
138	OBS	0025	-0159	31325	2521			14372		055			020	026	
	STD	0030	-0159	3163	2546	0025251	0082	14378							
	STD	0050	-0137	3269	2632	0017096	0125	14405							
148	OBS	0050	-0137	32695	2632			14405		055			080	023	
	STD	0075	-0102	3367	2710	0009714	0158	14440							
138	OBS	0075	-0102	33670	2710			14440		059			051	052	
	STD	0100	-0087	3394	2731	0007695	0180	14455							
188	OBS	0100	-0087	33940	2731			14455		056			063	031	
	STD	0125	-0063	3421	2752	0005729	0197	14473							
	STD	0150	-0044	3440	2767	0004334	0209	14487							
188	OBS	0151	-0043	34408	2767			14490		053			063		
	STD	0200	-0016	3456	2778	0003260	0228	14512							
188	OBS	0201	-0015	34562	2778			14513		045			082	030	
	STD	0250	-0008	3461	2781	0002445	0244	14525							
188	OBS	0252	-0008	34603	2782			14526		053			120	058	
	STD	0300	-0002	3467	2786	0002492	0257	14539							
188	OBS	0304	0003	34673	2787			14540		051			092	027	
	STD	0400	0004	3473	2790	0002119	0280	14560							
188	OBS	0402	0011	34728	2790			14561		041			067	036	
188	OBS	0404	0011												

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	QUALITY INDICATOR	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / DRY	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
31	8184	WE	81155N	063160W		907	08	19	21	1970	WGS	010	0338	2	00	0	X	X1	0	9	0010

*DT	*S$_0$ WATER COLOR	WIND TRANS (m)	DIR	SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	0T	SD	23	S05	075	-003	-004	6	12	

CAST TIME DURATION (HR)	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10^7	R&D DYN m x 10^7	COMPUTED SOUND VELOCITY m SEC	O_2 ml l^{-1}	AMBIENT LIGHT PO_4-P µg at l^{-1}	TOTAL P µg at l^{-1}	NO_2-N µg at l^{-1}	NO_3-N µg at l^{-1}	MEASURED SOUND VELOCITY m SEC SiO_2-Si µg at l^{-1}	pH
		STD	0000	-0092	3130	2518	0027965	0000	14399							
218		OBS	0000	-0092	3130	2518			14399		050			096	042	
		STD	0010	-0157	3143	2530	0026812	0027	14372							
		OBS	0010	-0157	3143	2530			14372							
		STD	0020	-0175	3155	2540	0025849	0053	14366							
001		OBS	0020	-0175	3155	2540			14366							
		STD	0030	-0173	3161	2545	0025376	0079	14370							
		OBS	0030	-0173	3161	2545			14370							
		STD	0050	-0163	3223	2595	0020593	0125	14384							
		OBS	0050	-0164	3223	2595			14384							
		STD	0075	-0114	3362	2706	0010055	0163	14433							
		OBS	0075	-0114	3362	2706			14433							
		STD	0100	-0093	3407	2742	0008674	0184	14454							
		OBS	0100	-0093	3407	2742			14454							
		STD	0125	-0089	3421	2752	0005691	0200	14471							
		OBS	0125	-0089	3421	2752			14471							
		STD	0150	-0053	3430	2759	0005068	0213	14484							
		OBS	0150	-0053	3430	2759			14484							
		STD	0200	-0045	3452	2775	0003515	0234	14508							
		OBS	0200	-0025	3452	2775			14508							
		STD	0250	-0007	3462	2782	0002847	0250	14526							
		OBS	0250	-0007	3462	2782			14526							
		OBS	0288	-0003	3467	2785			14535							

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	QUALITY INDICATOR	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / DRY	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
31	8184	WE	81171N	063490W		907	08	20	00	1970	WGS	011	0475	2	00	0	X	X1	0	9	0011

*DT	*S$_0$ WATER COLOR	WIND TRANS (m)	DIR	SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	0T	SD	24	S03	082	-003	-004	7	14	

CAST TIME DURATION (HR)	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10^7	R&D DYN m x 10^7	COMPUTED SOUND VELOCITY m SEC	O_2 ml l^{-1}	AMBIENT LIGHT PO_4-P µg at l^{-1}	TOTAL P µg at l^{-1}	NO_2-N µg at l^{-1}	NO_3-N µg at l^{-1}	MEASURED SOUND VELOCITY m SEC SiO_2-Si µg at l^{-1}	pH
		STD	0000	-0146	3160	2543	0025534	0000	14377							
002		OBS	0000	-0146	3160	2543			14377		056			024	030	
		STD	0010	-0157	3164	2547	0025148	0025	14374							
		OBS	0010	-0157	3164	2547			14374							
		STD	0020	-0168	3172	2554	0024553	0050	14372							
003		OBS	0020	-0168	3172	2554			14372							
		STD	0030	-0170	3183	2563	0023641	0074	14374							
		OBS	0030	-0170	3183	2563			14374							
		STD	0050	-0170	3221	2593	0020737	0118	14381							
		OBS	0050	-0170	3221	2593			14381							
		STD	0075	-0164	3272	2635	0016314	0165	14397							
		OBS	0075	-0164	3272	2635			14397							
		STD	0100	-0152	3343	2692	0011334	0201	14417							
		OBS	0100	-0152	3343	2692			14417							
		STD	0125	-0119	3374	2732	0009759	0224	14446							
		OBS	0125	-0119	3374	2732			14446							
		STD	0150	-0081	3417	2769	0008934	0241	14469							
		OBS	0150	-0081	3417	2769			14469							
		STD	0200	-0052	3442	2788	0004143	0265	14494							
		OBS	0200	-0052	3442	2788			14494							
		STD	0250	-0024	3460	2732	0002686	0284	14516							
		OBS	0250	-0026	3463	2792			14516							
		STD	0300	-0004	3468	2787	0002375	0297	14535							
		OBS	0300	-0004	3468	2787			14535							
		STD	0400	-0014	3475	2793	0001819	0318	14549							
		OBS	0400	-0014	3475	2793			14549		069			025	052	

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PRD	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
WE	81186N	064110W	907	14 08	20	019	1970	WGS	012	0411	2	00	0	X	X2	0	9	0012

DT S

WIND DIR	WIND SPEED	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
S0	19	S04	085	003	-001	7	14	

CAST DURATION	CAST NO.	CARD TYPE	DEPTH m	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY	DYN m	COMPUTED SOUND VELOCITY m/sec	O_2 ml/l	AMBIENT LIGHT NO_3-P µg-at/l	TOTAL P µg-at/l	NO_3-N µg-at/l	NO_2-N µg-at/l	MEASURED SOUND VELOCITY $S\,O_2$ S	pH
		STD	0000	-0144	3155	2539	0025924	0000	14378							
019		OBS	0000	-0144	3155	2539			14378		065			030	029	
		STD	0010	-0167	3161	2545	0025406	0025	14369							
		OBS	0010	-0167	3161	2545			14369							
		STD	0020	-0176	3188	2567	0023302	0050	14370							
001		OBS	0020	-0176	3188	2567			14370							
		STD	0030	-0176	3195	2572	0022757	0073	14373							
		OBS	0030	-0176	3195	2572			14373							
		STD	0050	-0171	3238	2607	0019434	0115	14385							
		OBS	0050	-0171	3238	2607			14385							
		STD	0075	-0160	3242	2651	0015292	0158	14402							
		OBS	0075	-0160	3242	2651			14402							
		STD	0100	-0138	3365	2709	0009736	0189	14427							
		OBS	0100	-0138	3365	2709			14427							
		STD	0125	-0118	3387	2726	0008106	0212	14443							
		OBS	0125	-0118	3387	2726			14443							
		STD	0150	-0110	3402	2738	0006971	0231	14453							
		OBS	0150	-0110	3402	2738			14453							
		STD	0200	-0065	3440	2767	0004239	0259	14468							
		OBS	0200	-0065	3440	2767			14468							
		STD	0250	-0022	3459	2781	0002998	0277	14519							
		OBS	0250	-0022	3459	2781			14519							
		STD	0300	-0003	3467	2786	0002488	0290	14537							
		OBS	0300	-0003	3467	2786			14537							
		OBS	0356	-0009	3473	2791			14544							
		OBS	0364	-0013	3474	2792			14554		037			063	023	

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PRD	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
WE	81190N	064390W	907	14 08	20	034	1970	WGS	013	0430	2	00	0	X	X2	0	9	0013

DT S

WIND DIR	WIND SPEED	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
S0	19	S04	085	006	005	7	14	

CAST DURATION	CAST NO.	CARD TYPE	DEPTH m	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY	DYN m	COMPUTED SOUND VELOCITY m/sec	O_2 ml/l	AMBIENT LIGHT NO_3-P µg-at/l	TOTAL P µg-at/l	NO_3-N µg-at/l	NO_2-N µg-at/l	MEASURED SOUND VELOCITY $S\,O_2$ S	pH
		STD	0000	-0165	3171	2553	0024654	0000	14370							
034		OBS	0000	-0165	3171	2553			14370		072			035	061	
		STD	0010	-0169	3186	2565	0023475	0024	14372							
		OBS	0010	-0169	3186	2565			14372							
		STD	0020	-0173	3199	2575	0022459	0047	14373							
001		OBS	0020	-0173	3199	2575			14373							
		STD	0030	-0175	3217	2590	0021064	0068	14377							
		OBS	0030	-0175	3217	2590			14377							
		STD	0050	-0173	3255	2622	0018050	0107	14386							
		OBS	0050	-0173	3256	2622			14386							
		STD	0075	-0154	3296	2654	0014485	0149	14403							
		OBS	0075	-0154	3296	2654			14403							
		STD	0100	-0144	3355	2701	0010484	0181	14422							
		OBS	0100	-0144	3355	2701			14422							
		STD	0125	-0125	3377	2719	0008364	0205	14439							
		OBS	0125	-0125	3377	2719			14439							
		STD	0150	-0111	3405	2742	0006664	0224	14453							
		OBS	0150	-0111	3405	2742			14453							
		STD	0200	-0056	3436	2764	0004534	0252	14466							
		OBS	0200	-0056	3436	2764			14466							
		STD	0250	-0045	3455	2778	0003232	0272	14512							
		OBS	0250	-0045	3455	2778			14512							
		STD	0300	-0038	3465	2786	0002567	0285	14534							
		OBS	0300	-0038	3465	2786			14534							
		OBS	0366	-0035	3468	2789			14550							
		OBS	0374	-0035	3468	2789			14557		047			075	030	

COUNTRY CODE	SHIP CODE	CRUISE NUMBER	LATITUDE	LONGITUDE	DRIFT OBSERVATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE / DBP	WAVE OBSERVATIONS DIR	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	8184	WE	81010N	068000W		907	16	08	20	1970	WGS	014	0365	2	00	0	X	X2	0	9	0014

*DT	*S	WIND			BAROMETER	AIR TEMPERATURE °C		VIS	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
WATER COLUMN	TRANS (m)	DIR	SPEED OR FORCE	(mbs)	DRY BULB	WET BULB	CODE			
DT	SD	22	S12	089	-011	-013	6		14	

CAST DURATION OR REVERSER NO.	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10⁷	R&D DYN m x 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml l⁻¹	AMBIENT LIGHT (lum cm⁻²) PO_4-P µg at l⁻¹	TOTAL P µg at l⁻¹	NO_2-N µg at l⁻¹	NO_3-N µg at l⁻¹	MEASURED SOUND VELOCITY m sec⁻¹ SiO_3-Si µg at l⁻¹	pH
		STD	0000	-0168	3159	2543	0025570	0000	14367							
075		OBS	0000	-0168	3159	2543			14367		078			029	032	
		STD	0010	-0166	3160	2544	0025488	0025	14369							
		OBS	0010	-0168	3160	2544			14369							
		STD	0020	-0175	3161	2545	0025386	0051	14367							
001		OBS	0020	-0175	3161	2545			14367							
		STD	0030	-0177	3166	2549	0024986	0076	14369							
		OBS	0030	-0177	3166	2549			14369							
		STD	0050	-0174	3199	2576	0022420	0123	14376							
		OBS	0050	-0179	3199	2576			14376							
		STD	0075	-0165	3277	2639	0016430	0172	14397							
		OBS	0075	-0165	3277	2639			14397							
		STD	0100	-0149	3350	2697	0010852	0236	14419							
		OBS	0100	-0149	3350	2697			14419							
		STD	0125	-0107	3401	2737	0007074	0228	14450							
		OBS	0125	-0107	3401	2737			14450							
		STD	0150	-0070	3425	2755	0005376	0244	14475							
		OBS	0150	-0070	3425	2755			14475							
		STD	0200	-0052	3442	2769	0004148	0268	14494							
		OBS	0200	-0052	3442	2768			14494							
		STD	0250	-0015	3461	2782	0002877	0285	14522							
		OBS	0250	-0015	3461	2782			14522							
		STD	0300	-0010	3462	2783	0002632	0299	14533							
		OBS	0300	-0010	3462	2783			14533							
		OBS	0334	-0007	3462	2782			14540							
		OBS	0348	-0008	3462.2	2783			14542		051			076	037	

COUNTRY CODE	SHIP CODE	CRUISE NUMBER	LATITUDE	LONGITUDE	DRIFT OBSERVATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE / DBP	WAVE OBSERVATIONS DIR	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	8184	WE	8039 N	05712 W		907	07	08	20	1955	1970	WGS	015	0430	2	00	0	X	X1	0	9	0015

*DT	*S	WIND			BAROMETER	AIR TEMPERATURE °C		VIS	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
WATER COLUMN	TRANS (m)	DIR	SPEED OR FORCE	(mbs)	DRY BULB	WET BULB	CODE			
DT	SD	25	S10	112	008	-003	7		14	

CAST DURATION OR REVERSER NO.	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10⁷	R&D DYN m x 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml l⁻¹	AMBIENT LIGHT (lum cm⁻²) PO_4-P µg at l⁻¹	TOTAL P µg at l⁻¹	NO_2-N µg at l⁻¹	NO_3-N µg at l⁻¹	MEASURED SOUND VELOCITY m sec⁻¹ SiO_3-Si µg at l⁻¹	pH
		STD	0010	-0161	3148	2534	0026422		14370							
165		OBS	0010	-0161	3148	2534			14370							
		STD	0023	-0170	3162	2546	0025314		14370							
		OBS	0020	-0170	3162	2546			14370							
		STD	0030	-0175	3211	2585	0021525		14378							
071		OBS	0031	-0175	3211	2585			14378							
		STD	0050	-0170	3265	2630	0017240		14389							
		OBS	0050	-0170	3265	2630			14389							
		STD	0075	-0142	3307	2703	0011355		14420							
		OBS	0075	-0142	3307	2703			14420							
		STD	0100	-0102	3400	2752	0007177		14445							
		OBS	0100	-0102	3400	2752			14445							
		OBS	0105	-0094	3401	2737			14451							
		OBS	0110	-0085	3401	2733			14452							
		STD	0125	-0071	3414	2755	0005456		14470							
		OBS	0125	-0071	3414	2755			14470							
		STD	0150	-0064	3417	2757	0005251		14478							
		OBS	0150	-0064	3417	2757			14478							
		STD	0200	-0047	3422	2766	0004156		14495							
		OBS	0200	-0047	3422	2766			14495							
		STD	0250	-0032	3455	2779	0003465		14513							
		OBS	0250	-0032	3455	2779			14513							
		STD	0350	-0017	3461	2782	0002382		14524							
		OBS	0300	-0017	3461	2782			14524							
		OBS	0354	-0017	3461	2783			14532		054			062	029	

Country / Cruise number	Ship code	Latitude	Longitude	Marsden square	Station time (GMT) month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Max samp	Wave obs. Dir	Hgt	Per	Weather code	Cloud type	Cloud amt	NODC station number
31 8184	WE	80165N	068520W	907 08	03	20	218	1970	WGS	016	0330	2	00	0	X	X1	0	9	0016

Water color	Trans (m)	Wind dir	Wind speed or force	Barometer (mbs)	Air temp. dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
0T	SD	16	S02	112	003	-003	7	13	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly	ΔD	Computed sound velocity	O_2	PO_4-P	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	-0158	3148	2534	0026432	0000	14370							
218	OBS	0000	-0156	3148	2534			14370		074			023	035	
	STD	0010	-0175	3155	2540	0025859	0026	14365							
	OBS	0010	-0175	3155	2540			14365							
	STD	0020	-0178	3168	2551	0024842	0051	14367							
002	OBS	0020	-0178	3168	2551			14367							
	STD	0030	-0175	3202	2578	0022214	0075	14375							
	OBS	0030	-0175	3202	2576			14375							
	STD	0050	-0153	3251	2617	0018476	0115	14395							
	OBS	0050	-0153	3251	2617			14395							
	STD	0075	-0134	3315	2669	0013599	0155	14417							
	OBS	0075	-0134	3315	2669			14417							
	STD	0100	-0123	3380	2721	0008631	0183	14436							
	OBS	0100	-0123	3380	2721			14436							
	STD	0125	-0101	3390	2728	0007932	0204	14452							
	OBS	0125	-0101	3390	2728			14452							
	STD	0150	-0073	3426	2757	0005265	0220	14472							
	OBS	0150	-0078	3426	2757			14472							
	STD	0200	-0045	3443	2769	0004107	0244	14497							
	OBS	0200	-0045	3443	2769			14497							
	STD	0250	-0027	3456	2779	0003201	0262	14516							
	OBS	0250	-0027	3456	2779			14516							
	OBS	0278	-0014	3458	2779			14527							
	STD	0300	-0007	3460	2781	0002977	0277	14534							
	OBS	0325	-0004	34634	2783			14540		046			062	035	

Country / Cruise number	Ship code	Latitude	Longitude	Marsden square	Station time (GMT) month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Max samp	Wave obs. Dir	Hgt	Per	Weather code	Cloud type	Cloud amt	NODC station number
31 9184	WE	7751 N	07139 W	260 71	08	22	113	1970	WGS	017	0146	2	00	0	X	X2	6	8	0017

Water color	Trans (m)	Wind dir	Wind speed or force	Barometer (mbs)	Air temp. dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
		17	S12	150	052	032	7	08	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly	ΔD	Computed sound velocity	O_2	PO_4-P	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	0239	3091	2470	0032541	0000	14544							
113	OBS	0000	0239	30912	2470			14544		006			001	029	
	STD	0010	0000	3173	2549	0024976	0028	14449							
113	OBS	0010	0000	31730	2549			14449		006			001	039	
	STD	0020	0080	3260	2615	0018752	0050	14499							
113	OBS	0025	0097	32512	2639			14512		010			001	048	
	STD	0030	0053	3302	2650	0015427	0067	14497							
	STD	0050	[illegible]	3335	2673	0012743	0095	14454							
113	OBS	0051	[illegible]	33311	2679			14453		040			029	039	
	STD	0075	-0073	3336	2684	0012175	0127	14447							
113	OBS	0076	[illegible]	33363	2684			14447		044			036	019	
	STD	0100	-0088	3339	2686	0011426	0157	14446							
113	OBS	0102	-0089	33440	2687			14445		049			042	046	
	STD	0125	-0106	3345	2692	0011366	0186	14443							
113	OBS	0125	-0106	33449	2692			14443		049			050	031	
113	OBS	T0127	-0106												

Country Code	Cruise Number	Ship Code	Latitude	Longitude	Marsden Square 10°	Marsden Square 1°	Month	Day	Hr	Year	Originator's Cruise Number	Originator's Station Number	Depth to Bottom	Max Sample Depth	Wave Dir	Wave Hgt	Wave Per	Weather Code	Cloud Type	Cloud Amt	NODC Station Number
31	8184	WE	77525N	07127 W	260	71	08	22	153	1970	WGS	018	0201	2	00	0	X	X6	5	8	0018

* NOTE: WHEN USING TEMPLATE FOR READING ELECTRONICALLY OBSERVED SERIAL DATA (STD) USE READINGS MARKED BY ASTERISKS, WHERE THEY APPEAR

*DT Water Color	*S Trans (m)	Wind Dir	Wind Speed or Force	Barometer (mbs)	Air Temp. Dry Bulb	Air Temp. Wet Bulb	Vis Code	Number Obs Levels	Special Observations
		14	S08	154	055	035	6	09	

Cast Time	Cast No	Card Type	Depth (m)	T °C	S ‰	Sigma-t	Specific Volume Anomaly × 10⁷	ΔD Dyn m × 10³	Computed Sound Velocity m/sec	O₂ ml/l	PO₄-P	Total P	NO₂-N	NO₃-N	SiO₄-Si	pH
		STD	0000	0255	3045	2433	0036057	0000	14545							
153		OBS	0000	0255	30454	2433			14545		015			000	038	
		STD	0010	0209	3151	2519	0027820	0031	14540							
153		OBS	0010	0209	31507	2519			14540		002			000	020	
		STD	0020	0101	3260	2614	0018834	0055	14509							
153		OBS	0025	0058	32983	2647			14496		007			002	016	
		STD	0030	0031	3306	2655	0014940	0072	14485							
		STD	0050	-0044	3328	2676	0012950	0100	14457							
153		OBS	0050	-0044	33276	2676			14457		036			027	016	
		STD	0075	-0066	3333	2681	0012422	0131	14452							
153		OBS	0075	-0066	33333	2681			14452		035			026	057	
		STD	0100	-0092	3340	2668	0011771	0162	14445							
153		OBS	0100	-0092	33404	2668			14445		047			042	047	
		STD	0125	-0098	3344	2691	0011495	0191	14446							
		STD	0150	-0110	3347	2693	0011205	0219	14445							
153		OBS	T0150	-0119	33466	2693			14445		052			054	022	
153		OBS	T0164	-0136	33503	2697			14439		044			046	039	
153		OBS	0186	-0136												

Country Code	Cruise Number	Ship Code	Latitude	Longitude	Marsden Square 10°	Marsden Square 1°	Month	Day	Hr	Year	Originator's Cruise Number	Originator's Station Number	Depth to Bottom	Max Sample Depth	Wave Dir	Wave Hgt	Wave Per	Weather Code	Cloud Type	Cloud Amt	NODC Station Number
31	8184	WE	7754 N	07113 W	260	71	08	22	192	1970	WGS	019	0206	2	00	0	X	X1	7	7	0019

* NOTE: WHEN USING TEMPLATE FOR READING ELECTRONICALLY OBSERVED SERIAL DATA (STD) USE READINGS MARKED BY ASTERISKS, WHERE THEY APPEAR

*DT Water Color	*S Trans (m)	Wind Dir	Wind Speed or Force	Barometer (mbs)	Air Temp. Dry Bulb	Air Temp. Wet Bulb	Vis Code	Number Obs Levels	Special Observations
		34	S14	145	052	034	7	09	

Cast Time	Cast No	Card Type	Depth (m)	T °C	S ‰	Sigma-t	Specific Volume Anomaly × 10⁷	ΔD Dyn m × 10³	Computed Sound Velocity m/sec	O₂ ml/l	PO₄-P	Total P	NO₂-N	NO₃-N	SiO₄-Si	pH
		STD	0000	0280	2982	2380	0041159	0000	14547							
192		OBS	0000	0280	29816	2380			14547		008			005	030	
		STD	0010	0220	3109	2485	0031088	0036	14540							
192		OBS	0010	0220	31086	2485			14540		001			004	048	
		STD	0020	0057	3252	2610	0019222	0061	14473							
192		OBS	0025	0013	33019	2652			14476		020			012	020	
		STD	0030	0003	3308	2658	0014690	0078	14472							
		STD	0050	-0039	3325	2673	0013187	0106	14459							
192		OBS	0050	-0039	33243	2673			14459		036			026	042	
		STD	0075	-0092	3333	2682	0012362	0138	14440							
192		OBS	0075	-0092	33329	2682			14440		049			044	034	
		STD	0100	-0090	3339	2687	0011887	0168	14445							
192		OBS	0100	-0090	33390	2687			14445		051			046	034	
		STD	0125	-0101	3342	2689	0011629	0197	14445							
		STD	0150	-0112	3344	2692	0011359	0226	14444							
192		OBS	T0150	-0112	33445	2692			14444		054			051	019	
192		OBS	T0163	-0127	33484	2695			14443		054			057	036	
192		OBS	0185	-0128												

Country code	Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Bal samp.	Wave dir	Hgt	Per	Weather code	Cloud type	Amt	NODC station number
31	8184	WE	77235N	060335W	259	78	08	23	066	1970	WGS	020	0933	2	00	0	X	X2	0	9	0020

Water color	Trans	Wind dir	Speed or force	Barometer	Air temp. dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
0T	S0	01	S10	199	038	028	7	14	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly	ΔD	Computed sound velocity	O_2	PO_4-P	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	0162	3013	2412	0038011	0000	14499							
066	OBS	0000	0162	30128	2412			14499		012			000	056	
	STD	0010	0157	3022	2420	0037317	0037	14500							
	OBS	0010	0157												
	STD	0020	00[illegible]	3030	2434	0035837	0074	14432							
002	OBS	0020	0003												
	STD	0030	-0023	303[illegible]	2442	003516[illegible]	0104	14423							
	OBS	0030	-0023												
	STD	0050	-0096	3057	2459	0033537	0178	14395							
	OBS	0050	-0096												
	STD	0075	-0131	3079	2477	0031746	0260	14386							
	OBS	0075	-0131												
	STD	0100	-0130	3101	2495	0030035	0337	14393							
	OBS	0100	-0130												
	STD	0125	-0125	3123	2513	0028327	0410	14401							
	OBS	0125	-0125												
	STD	0150	-0116	3145	2530	0026654	0479	14414							
	OBS	0150	-0116												
	STD	0200	-0070	3189	2564	0023404	0604	1445[illegible]							
	OBS	0200	-0070												
	STD	0250	-001[illegible]	3232	2595	0020263	0713	1447[illegible]							
	OBS	0250	-0015												
	STD	0300	-005[illegible]	3276	2635	00156[illegible]2	0805	14434							
	OBS	0300	-0059												
	STD	0400	-0101	3364	2707	000[illegible]772	0935	14494							
	OBS	0430	-0101												
	OBS	0[illegible]0	-0095	3[illegible]45	2764			14520		069			081	032	

Country code	Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Bal samp.	Wave dir	Hgt	Per	Weather code	Cloud type	Amt	NODC station number
31	8184	WE	7729 N	06530 W	259	76	08	23	085	1970	WGS	021	0730	2	00	0	X	X2	4	8	0021

Water color	Trans	Wind dir	Speed or force	Barometer	Air temp. dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
	14	S05		215	044	033	7	12	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly	ΔD	Computed sound velocity	O_2	PO_4-P	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	016[illegible]	2910	2330	0045856	0000	14456							
085	OBS	0000	0162	29101	2330			14486		007			000	057	
	STD	0010	0155	3178	2545	0025361	0035	14520							
085	OBS	0010	0155	31784	2545			14520		010			000	018	
	STD	0020	0010	327[illegible]	[illegible]	0017104	0056	14470							
085	OBS	[illegible]	-0041	33110	2662			14451		039			038	022	
	STD	0030	-0055	3318	26[illegible]	0013654	0072	14447							
	STD	0050	-00[illegible]2	[illegible]	2686	0011[illegible]	0097	14435							
085	OBS	0050	-00[illegible]	[illegible]	26[illegible]			14435		052			060	023	
	STD	0075	-010[illegible]	3345	2692	0011455	0127	14433							
085	OBS	0075	-010[illegible]	[illegible]	[illegible]			14433		064			086	045	
	STD	0100	-0110	3352	[illegible]	0010752	0154	14438							
085	OBS	0100	-0110	[illegible]	[illegible]			14438		054			079	026	
	STD	0125	-0106	[illegible]	2701	0010[illegible]	0181	14444							
	STD	0150	-0103	3360	2705	0010173	0207	14451							
085	OBS	015[illegible]	-[illegible]103	33605	2705			14451		065			084	048	
	STD	0200	-0067	3370	2710	000[illegible]643	0256	1448[illegible]							
085	OBS	[illegible]	-0057	[illegible]	2710			1448[illegible]		067			098	033	
	STD	[illegible]	[illegible]	[illegible]	2720	[illegible]	0302	14517							
085	OBS	[illegible]	[illegible]	[illegible]	2720			14517		076			102	033	
	STD	[illegible]	[illegible]	[illegible]	273[illegible]	[illegible]	034[illegible]	14560							
085	OBS	[illegible]	[illegible]	[illegible]	273[illegible]			14560		079			107	039	
	STD	0400	00[illegible]	3428	2745	[illegible]	0408	145[illegible]							
[illegible]	OBS	[illegible]	[illegible]	34279	27[illegible]			145[illegible]		07[illegible]			112	045	
	STD	0500	[illegible]	[illegible]	[illegible]	[illegible]	04[illegible]7	14507							
	STD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0523	14[illegible]24							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			14524		089			133	046	

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR WAPP	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
WE	7732 N	06830 W	259	03	23	121	1970	WGS	022	0512	2	00	0	X	X2	0	9	0022

WATER COLOUR	WIND DIR	WIND SPEED OR FORCE	BAROMETER	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
DT	S0	24	S02	230	044	029	7	15

CAST NO	CARD TYPE	DEPTH (m)	T °C	S	SIGMA T	SPECIFIC VOLUME ANOMALY	D&D DYN m	COMPUTED SOUND VELOCITY m SEC	O_2 ml l	AMBIENT LIGHT PO4 P	AMBIENT LIGHT TOTAL P	AMBIENT LIGHT NO3 N	AMBIENT LIGHT NO2 N	MEASURED SOUND VELOCITY SiO3 Si	MEASURED SOUND VELOCITY pH
	STD	0000	0172	26493	2121	0065869	0000	14454							
121	OBS	0000	0172	26497	2121			14454		005			000	025	
	STD	0010	0052	2665	2139	0064148	0065	14403							
	OBS	0010	0052												
	STD	0020	-0044	2681	2154	0062651	0128	14362							
001	OBS	0020	-0044												
	STD	0030	-0044	2645	2107	0061394	0190	14304							
	OBS	0030	-0044												
	STD	0040	-0114	2728	2194	0053802	0510	14341							
	OBS	0040	-0114												
	STD	0075	-0131	2758	2226	0055661	0453	14342							
	OBS	0075	-0131												
	STD	0100	-0123	2708	2259	0052565	0589	14356							
	OBS	0100	-0123												
	STD	0125	-0118	2948	2291	0049468	0715	14368							
	OBS	0125	-0118												
	STD	0150	-0116	2988	2323	0046374	0836	14378							
	OBS	0150	-0116												
	STD	0200	-0083	2987	2350	0040283	1053	14413							
	OBS	0200	-0083												
	STD	0250	-0007	3047	2448	0034425	1239	14468							
	OBS	0250	-0007												
	STD	0300	0052	3127	2513	0028615	1397	14514							
	OBS	0300	0052												
	STD	0400	0085	3286	2636	0016723	1624	14598							
	OBS	0400	0085												
	OBS	0470	0059												
	OBS	0493	0051	34342	2754			14607		077			112	034	

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR WAPP	WAVE OBSERVATIONS DIR	WAVE OBSERVATIONS HGT	WAVE OBSERVATIONS PER	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
WE	77382N	06838 W	259	03	23	150	1970	WGS	023	0293	2	00	0	X	X2	6	8	0023

WATER COLOUR	WIND DIR	WIND SPEED OR FORCE	BAROMETER	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	22	S01	245	042	023	7	10	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S	SIGMA T	SPECIFIC VOLUME ANOMALY	D&D DYN m	COMPUTED SOUND VELOCITY m SEC	O_2 ml l	AMBIENT LIGHT PO4 P	AMBIENT LIGHT TOTAL P	AMBIENT LIGHT NO3 N	AMBIENT LIGHT NO2 N	MEASURED SOUND VELOCITY SiO3 Si	MEASURED SOUND VELOCITY pH
	STD	0000	0207	2697	2158	0062366	0000	14476							
150	OBS	0000	0207	26969	2158			14475		003			000	032	
	STD	0010	0025	3120	2505	0029167	0045	14453							
150	OBS	0015	-0040	32650	2625			14444		049			023	037	
	STD	0020	-0059	3283	2640	0016339	0063	14439							
	STD	0030	-0070	3313	2666	0013932	0083	14430							
150	OBS	0040	-0110	33334	2683			14425		053			075	035	
	STD	0050	-0114	3339	2687	0011830	0109	14426							
150	OBS	0065	-0115	33453	2693			14429		062			095	027	
	STD	0075	-0111	3347	2694	0011143	0138	14432							
150	OBS	0090	-0107	33501	2696			14437							
	STD	0100	-0106	3351	2697	0010401	0165	14440							
	STD	0125	-0104	3354	2700	0010436	0192	14445							
150	OBS	0141	-0103	33570	2702			14449		074			117	032	
	STD	0150	-0099	3359	2703	0010337	0218	14452							
150	OBS	0172	-0071	33573	2709			14473		072			113	030	
	STD	0200	-0053	3362	2709	0007744	0269	14483							
150	OBS	0243	-0011	33618	2718			14512		076			114	045	
	STD	0250	-0013	3365	2721	0006649	0315	14512							
150	OBS	0273	-0036	33684	2732			14507		064			097	036	
150	OBS	0275	-0033												

Country / Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr (GMT)	Year	Originator's cruise number	Originator's station number	Depth to bottom	Bal sample	Wave dir	Wave hgt	Wave per	Weather code	Cloud type	Cloud amt	NODC station number
313184	WE	77415N	06340 W	259	78	08	23	174	1970	WGS	024	0201	2	00	0	X	X7	6	8	0024

*DT	*S	Water color	Trans (m)	Wind dir	Wind speed or force	Barometer (mb)	Dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
				34	S06	257	045	027	6	09	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly ×10^5	ΔD dyn m ×10^3	Computed sound velocity m/sec	O_2 ml/l	PO_4-P µg-at/l	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	-0126	2576	2071	0070672	0000	14306							
174	OBS	0000	-0126	25759	2071			14306		000			000	028	
	STD	0010	-0060	3245	2610	0019175	0044	14432							
174	OBS	0010	-0060	32458	2610			14432		031			022	048	
	STD	0020	-0089	3296	2652	0015212	0062	14427							
174	OBS	0025	-0044	33143	2667			14425		059			072	044	
	STD	0030	-0102	3313	2671	0013397	0076	14425							
	STD	0050	-0110	3335	2684	0012183	0102	14427							
174	OBS	0050	-0110	33346	2684			14427		056			083	031	
	STD	0075	-0111	3344	2691	0011445	0131	14432							
174	OBS	0075	-0111	33440	2691			14432		103			056	039	
	STD	0100	-0107	3348	2695	0011099	0159	14439							
174	OBS	0100	-0107	33485	2695			14439		092			091	036	
	STD	0125	-0105	3353	2698	0010771	0187	14445							
	STD	0150	-0102	3355	2701	0010507	0213	14451							
174	OBS	0150	-0102	33562	2701			14451		054			074	048	
174	OBS	0178	-0099	33593	2703			14457		067			103	050	
174	OBS	0180	-00[illegible]												

Country / Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr (GMT)	Year	Originator's cruise number	Originator's station number	Depth to bottom	Bal sample	Wave dir	Wave hgt	Wave per	Weather code	Cloud type	Cloud amt	NODC station number
318184	WE	77331N	066465W	259	75	08	23	227	1970	WGS	025	0448	2	00	0	X	X2	7	8	0025

*DT	*S	Water color	Trans (m)	Wind dir	Wind speed or force	Barometer (mb)	Dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
				06	S06	269	039	028	7	11	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly ×10^5	ΔD dyn m ×10^3	Computed sound velocity m/sec	O_2 ml/l	PO_4-P µg-at/l	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	0196	3210	2557	0023258	0000	14541							
227	OBS	0000	0195	32096	2557			14541		002			002	028	
	STD	0010	0085	3211	2576	0022485	0022	14493							
227	OBS	0010		32109						000			003	041	
	STD	0020	0003	3271	2628	0017525	0042	14466							
227	OBS	0025	-0026	32930	2647			14456		011			016	031	
	STD	0030	-0034	3302	2655	0014440	0059	14455							
	STD	0050	-0061	3330	2674	0012678	0086	14444							
227	OBS	0050	-0061	33304	2674			14449		031			053	031	
	STD	0075	-0087	3344	2691	0011496	0116	14443							
227	OBS	0075	-0087	33444	2691			14443		030			059	033	
227	OBS	0099	-0096	33495	2695			14449		047			090	048	
	STD	0100	-00[illegible]	3350	2695	0011037	0145	14449							
	STD	0125	-0090	3354	2694	0010753	0172	14456							
227	OBS	0149	-0072	33537	2702			14465		043			068	037	
	STD	0150	-0072	3353	2702	[illegible]	0198	14465							
227	OBS	0194	-0045	33591	2709			14437		035			066	037	
	STD	0200	-0044	3369	2709	0009723	0249	14488							
227	OBS	0244	-0016	33823	2718			14515		065			105	036	
	STD	0250	-0002	3384	2719	0008828	0295	14517							
227	OBS	0298	0066	34104	2737			14560		039			075	037	
	STD	0300	0068	3411	2734	0007126	0335	14561							
227	OBS	0397	0088	34301	2751			14589		046			085	016	

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DATA CIRCULATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BOTTLE SAMPLE / DEP	WAVE OBSERVATIONS DIR	HGT	PER	SEA SWELL	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318	184	WE	77362N	066342W		259 76	08	24	004	1970	WGS	026	0512	2	00	0	X		X2	7	8	0026

*DT	*S	WATER COLOR	WIND TRANS (cm)	DIR	SPEED OF FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
			06	S06	269	039	028	7	13	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY x 10⁷	P&D DYN m x 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml l⁻¹	AMBIENT LIGHT PO₄ P µg at l⁻¹	TOTAL P µg at l⁻¹	NO₃ N µg at l⁻¹	NO₂ N µg at l⁻¹	MEASURED SOUND VELOCITY m sec⁻¹ Si µg at l⁻¹	O_2 µg at l⁻¹	pH
	STD	0000	0188	31186	2549	0024981	0000	14534								
004	OBS	0000	0188	31862	2549			14534								
	STD	0010	0149	3199	2562	0023747	0024	14520								
004	OBS	0010		31991												
	STD	0020	0105	3247	2603	0013831	0046	14509								
004	OBS	0025	0082	32669	2621			14502								
	STD	0030	0047	3281	2634	0010955	0064	14489								
	STD	0050	-0052	3322	2672	0013357	0094	14452								
004	OBS	0050	-0052	33220	2672			14452								
	STD	0075	-0067	3341	2686	0011749	0126	14443								
004	OBS	0075	-0067	33411	2686			14443								
	STD	0100	-0083	3346	2692	0011354	0155	14450								
004	OBS	0100	-0083	33462	2692			14450								
	STD	0125	-0076	3354	2698	0010781	0182	14456								
	STD	0150	-0069	3360	2703	0010323	0209	14466								
004	OBS	0150	-0068	33602	2703			14466								
	STD	0200	-0055	3368	2709	0009788	0259	14482								
004	OBS	T0201	-0055	33680	2709			14482								
	STD	0250	0005	3387	2721	0008644	0305	14521								
004	OBS	0257	0014	33899	2723			14527								
	STD	0300	0071	3415	2740	0006913	0344	14563								
004	OBS	0303	0074	34159	2741			14565								
	STD	0400	0088	3430	2752	0005834	0408	14589								
004	OBS	T0405	0089	34310	2752			14591								
004	OBS	0463	0086	34346	2755			14601								
004	OBS	0471	0087													

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DATA CIRCULATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BOTTLE SAMPLE / DEP	WAVE OBSERVATIONS DIR	HGT	PER	SEA SWELL	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318	184	WE	7742 N	06625 W		259 76	08	24	047	1970	WGS	027	0274	2	00	0	X		X2	6	8	0027

*DT	*S	WATER COLOR	WIND TRANS (cm)	DIR	SPEED OF FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
			03	S04	267	038	021	7	09	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY x 10⁷	P&D DYN m x 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml l⁻¹	AMBIENT LIGHT PO₄ P µg at l⁻¹	TOTAL P µg at l⁻¹	NO₃ N µg at l⁻¹	NO₂ N µg at l⁻¹	MEASURED SOUND VELOCITY m sec⁻¹ Si µg at l⁻¹	O_2 µg at l⁻¹	pH
	STD	0000	0000	3068	2465	0033013	0000	14433								
047	OBS	0000	0000	30691	2465			14433								
	STD	0010	0127	3149	2523	0027446	0030	14504								
047	OBS	0010	0127	31489	2523			14504								
	STD	0020	0047	3240	2601	0020063	0054	14482								
047	OBS	0025	0015	32733	2624			14472								
	STD	0030	-0004	3284	2633	0016463	0072	14466								
	STD	0050	-0060	3317	2658	0013651	0102	14448								
047	OBS	0050	-0060	33173	2658			14448								
	STD	0075	-0084	3336	2669	0012120	0134	14444								
047	OBS	0075	-0084	33364	2669			14444								
	STD	0100	-0082	3348	2683	0011251	0163	14450								
047	OBS	0100	-0082	33477	2683			14450								
	STD	0125	-0073	3350	2695	0011080	0191	14459								
	STD	0150	-0065	3354	2698	0010812	0219	14468								
047	OBS	T0152	-0064	33544	2698			14468								
	STD	0200	-0048	3366	2707	0009954	0271	14485								
047	OBS	T0204	-0048	33664	2707			14487								
	STD	0250	-0015	3378	2715	0009206	0318	14511								
047	OBS	0253	-0012	33795	2715			14512								

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR STAT / BBT	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318184	WE 7725 N	06540 W	259	76 08	24	075	1970	WGS	028	0201	2	00	0	X	X1	3	6	0028

WATER CIRCUL	TRANS	WIND DIR	WIND SPEED OR KNOTS	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		07	506	266	032	018	7	09	

CAST DURATION	CAST NO	CARD TYPE	DEPTH (m)	T °C	S	SIGMA T	SPECIFIC VOLUME ANOMALY	DYN	COMPUTED SOUND VELOCITY	O_2	PO_4 P	TOTAL P	NO_3 N	NO_2 N	SiO_3-Si	pH
		STD	0000	0177	3170	2537	0026169	0000	14527							
075		OBS	0000	0177	31696	2537			14527							
		STD	0010	0147	3204	2567	0023337	0024	14520							
075		OBS	0010	0147	32044	2567			14520							
		STD	0020	0024	3256	2614	0018780	0040	14475							
075		OBS	0025	-0014	32798	2632			14459							
		STD	0030	-0020	3282	2638	0016515	0063	14458							
		STD	0050	-0043	3309	2660	0014401	0094	14455							
075		OBS	0050	-0043	33083	2660			14455							
		STD	0075	-0065	3329	2677	0012783	0126	14451							
075		OBS	0075	-0065	33287	2677			14451							
		STD	0100	-0084	3342	2689	0011632	0154	14446							
075		OBS	0100	-0084	33417	2689			14446							
		STD	0125	-0098	3349	2695	0011074	0187	14451							
		STD	0150	-0082	3357	2701	0010511	0214	14455							
075		OBS	T0151	-0082	33568	2701			14455							
075		OBS	T0174	-0074	33639	2706			14466							
075		OBS	0181	-0076												

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR STAT / BBT	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
318184	WE 7723 N	06532 W	259	76 08	24	093	1970	WGS	029	0338	2	00	0	X	X1	3	6	0029

WATER CIRCUL	TRANS	WIND DIR	WIND SPEED OR KNOTS	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		07	506	266	032	018	7	11	

CAST DURATION	CAST NO	CARD TYPE	DEPTH (m)	T °C	S	SIGMA T	SPECIFIC VOLUME ANOMALY	DYN	COMPUTED SOUND VELOCITY	O_2	PO_4 P	TOTAL P	NO_3 N	NO_2 N	SiO_3-Si	pH
		STD	0000	0137	3182	2549	0025008	0000	14511							
093		OBS	0000	0137	31817	2549			14511		000		000	000		
		STD	0010	0123	3224	2584	0021671	0023	14512							
093		OBS	0010	0123	32244	2584			14512		007		005	000		
		STD	0020	0113	3241	2598	0020393	0044	14514							
093		OBS	0020	0104	32500	2605			14511		005		011	024		
		STD	0050	0025	3284	2634	0018442	0083	14497							
		STD	0050	-0036	3305	2657	0014706	0096	14458							
093		OBS	0050	-0036	33051	2657			14458		025		078	011		
		STD	0075	-0051	3322	2672	0013337	0131	14457							
093		OBS	0075	-0051	33221	2672			14457		030		102	013		
		STD	0100	-0048	3336	2684	0012133	0163	14443							
093		OBS	0101	-0048	33354	2685			14442		032		118	026		
		STD	0125	-0034	3347	2694	0011226	0192	14449							
		STD	0150	-0041	357	2701	0010475	0219	14456							
093		OBS	0152	-0041	33577	2702			14456		041		165	022		
		STD	0200	-0050	3372	2712	0009444	0269	14485							
093		OBS	0202	-0049	33724	2712			14486		056		193	024		
		STD	0251	-0051	3380	2717	0008005	0316	14509							
093		OBS	0253	-0051	33805	2717			14510		038		153	020		
		STD	0300	-0066	3386	2719	0007770	0360	14524							
093		OBS	T0302	-0065	33845	2720			14528		042		173	034		
093		OBS	0304	-0065												

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	SHIFT CORRECTION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BU SAMPLE / BBT	WAVE OBSERVATIONS DIR	HGT	PER	SEA ART	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
31	8184	WE	77188N	066260W		254	76	08	24	1970	WGS	030	0329	2	00	0	X		X1	6	2	0030

DT WATER COLOR	SD TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	02	S20	264	033	023	7	11		

CAST DURATION (hr)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY x 10⁷	DYN m x 10⁷	COMPUTED SOUND VELOCITY m SEC	O₂ ml l⁻¹	AMBIENT LIGHT PO₄ P µg-at l⁻¹	AMBIENT LIGHT TOTAL P µg-at l⁻¹	AMBIENT LIGHT NO₃ N µg-at l⁻¹	MEASURED SOUND VELOCITY NO₂ N µg-at l⁻¹	MEASURED SOUND VELOCITY SiO₂ Si µg-at l⁻¹	MEASURED SOUND VELOCITY pH
		STD	0000	0114	32111	2574	0022651	0000	14505							
111		OBS	0000	0114	32108	2574			14505		001		005		013	
		STD	0010	0104	32211	2582	0021852	0022	14503							
111		OBS	0010	0104	32206	2582			14503		000		004		020	
		STD	0020	0076	32388	2596	0020390	0043	14494							
111		OBS	0025	0061	32464	2605			14490		006		011		011	
		STD	0030	0043	32591	2616	0018620	0062	14484							
		STD	0050	-0017	32977	2650	0015378	0096	14465							
111		OBS	0050	-0017	32974	2650			14465		014		048		012	
		STD	0075	-0063	33261	2675	0013001	0132	14452							
111		OBS	0075	-0063	33254	2675			14452		021		098		014	
		STD	0100	-0121	33466	2693	0011248	0162	14432							
111		OBS	0100	-0121	33460	2693			14432		029		137		014	
		STD	0125	-0103	33541	2699	0010693	0190	14446							
		STD	0150	-0082	33611	2704	0010182	0216	14461							
111		OBS	0150	-0082	33614	2704			14461		038		175		017	
		STD	0200	-0032	33761	2714	0009252	0264	14474							
111		OBS	T0201	-0031	33764	2715			14495		019		108		020	
		STD	0250	-0013	33890	2717	0008009	0310	14512							
111		OBS	0251	-0013	33895	2717			14512		033		162		017	
		STD	0300	-0009	33962	2718	0008865	0355	14522							
111		OBS	T0310	-0009	33963	2718			14524		037		154		017	
111		OBS	0312	-0009												

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	SHIFT CORRECTION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BU SAMPLE / BBT	WAVE OBSERVATIONS DIR	HGT	PER	SEA ART	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
31	8184	WE	7716 N	06608 W		254	76	08	24	1339	1970	WGS	031	0229	2	00	0	X		X1	0	1	0031

DT WATER COLOR	SD TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	03	S03	251	024	015	7	09		

CAST DURATION (hr)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY x 10⁷	DYN m x 10⁷	COMPUTED SOUND VELOCITY m SEC	O₂ ml l⁻¹	AMBIENT LIGHT PO₄ P µg-at l⁻¹	AMBIENT LIGHT TOTAL P µg-at l⁻¹	AMBIENT LIGHT NO₃ N µg-at l⁻¹	MEASURED SOUND VELOCITY NO₂ N µg-at l⁻¹	MEASURED SOUND VELOCITY SiO₂ Si µg-at l⁻¹	MEASURED SOUND VELOCITY pH
		STD	0000	0120	32131	2575	0022560	0000	14508							
139		OBS	0000	0120	32125	2575			14508		003		005		012	
		STD	0010	0113	32131	2576	0022450	0022	14506							
139		OBS	0010	0113	32134	2576			14506		005		005		030	
		STD	0020	0077	32221	2583	0021741	0044	14503							
139		OBS	0026	0065	32282	2589			14499		003		006		013	
		STD	0039	0049	32411	2600	0020125	0085	14493							
		STD	0050	-0006	32656	2620	0018311	0122	14469							
139		OBS	0050	-0006	32656	2620			14469		011		040		015	
		STD	0075	-0044	33151	2661	0012450	0187	14437							
139		OBS	0075	-0046	33134	2661			14437		023		122		019	
		STD	0100	-0110	33350	2678	0010953	0167	14438							
139		OBS	0100	-0110	33352	2678			14438		026		130		019	
		STD	0125	-0085	33567	2703	0010354	0143	14455							
		STD	0150	-0055	33677	2708	0009907	0219	14469							
139		OBS	T0151	-0054	33692	2713			14470		078		269		028	
		STD	0200	-0032	33773	2722	0009049	0267	14492							
139		OBS	T0200	-0032	33734	2712			14442		087		263		028	
139		OBS	0202	-0032												

TABLE II.—Observed and interpolated oceanographic data from stations occupied by USCGC WESTWIND, 3–9 Sepember 1970, prepared from NODC Listing No. 31–1705.

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	78262N	073309 W	260 63	09	03	126	1970	KBS	001	0284	1	00	0	X	X1	4	3	0001

WATER COLOR	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP DRY BULB °C	AIR TEMP WET BULB °C	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	07	S07	128	-012	-021	7		09	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY x 10⁷	DYN m x 10¹	COMPUTED SOUND VELOCITY m/sec	O₂ ml/l	AMBIENT LIGHT	MEASURED SOUND VELOCITY m/sec
	STD	0000	-0136	31449	2530	0026777	0000	14380			
126	OBS	0000	-0136	31441	2530			14380			
	STD	0010	-0131	31521	2536	0026259	0026	14385			
126	OBS	0010	-0131	31509	2536			14385			
	STD	0020	-0137	31521	2537	0026123	0052	14384			
126	OBS	0025	-0137	31547	2539			14385			
	STD	0030	-0134	31553	2539	0025836	0078	14387			
	STD	0050	-0114	31483	2551	0023758	0128	14404			
126	OBS	0050	-0114	31490	2551			14404			
	STD	0075	-0070	32766	2635	0016303	0177	14442			
126	OBS	0075	-0070	32755	2635			14442			
	STD	0100	-0052	33133	2656	0013866	0217	14441			
126	OBS	0100	-0052	33130	2656			14441			
	STD	0125	-0038	33337	2667	0011625	0249	14441			
	STD	0150	-0014	33557	2702	0010333	0277	14445			
126	OBS	0151	-0014	33576	2703			14445			
	STD	0200	-0004	33703	2712	0008403	0326	14453			
126	OBS	0202	-0004	33703	2713			14454			
	STD	0250	-0002	33741	2720	0006861	0372	14460			
126	OBS	0263	-0007	33830	2722			14465			

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7828 N	073275 W	260 64	09	03	143	1970	KBS	002	0476	1	00	0	X	X1	4	3	0002

WATER COLOR	WATER TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP DRY BULB °C	AIR TEMP WET BULB °C	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	10	S05	120	035	-011	7		12	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY x 10⁷	DYN m x 10¹	COMPUTED SOUND VELOCITY m/sec	O₂ ml/l	AMBIENT LIGHT	MEASURED SOUND VELOCITY m/sec
	STD	0000	-0141	31491	2535	0026353	0000	14378			
144	OBS	0000	-0141	31494	2535			14378			
	STD	0010	-0139	31521	2537	0026187	0026	14382			
144	OBS	0010	-0138	31516	2537			14382			
	STD	0020	-0128	31597	2542	0025843	0052	14384			
144	OBS	0025	-0124	31627	2545			14392			
	STD	0030	-0123	31687	2544	0025000	0077	14395			
	STD	0050	-0115	31853	2553	0023616	0126	14404			
144	OBS	0053	-0115	31853	2553			14404			
	STD	0075	-0104	32355	2643	0016014	0175	14427			
144	OBS	0075	-0104	32346	2643			14427			
	STD	0100	-0106	33327	2682	0012363	0211	14437			
144	OBS	0100	-0106	33320	2682			14437			
	STD	0125	-0105	33503	2696	0010978	0240	14443			
	STD	0150	-0107	33583	2707	0009755	0266	14449			
144	OBS	0153	-0107	33641	2707			14449			
	STD	0200	-0084	33754	2716	0009103	0314	14468			
144	OBS	0200	-0084	33744	2715			14466			
	STD	0250	-0061	33843	2726	0008043	0357	14491			
144	OBS	0251	-0062	33847	2727			14491			
	STD	0300	-0051	33937	2732	0007340	0396	14505			
144	OBS	0301	-0051	33932	2732			14505			
	STD	0400	-0045	34017	2744	0006062	0464	14527			
144	OBS	0402	-0044	34051	2744			14527			
144	OBS	0403	-0044	34215	2751			14538			

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT CORRECTION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / BBT	WAVE OBSERVATIONS DIR	HGT	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	7829 N	07345 W		260	83	09	03	1969	1970	K8S 003		0567	1	00	0	X	X1	4	3	0003

* DT'S WATER COLOR | TRANS (m) | WIND DIR | WIND SPEED OR FORCE | BAROMETER (mbs) | AIR TEMPERATURE °C DRY BULB | AIR TEMPERATURE °C WET BULB | VIS CODE | NUMBER OBS LEVELS | SPECIAL OBSERVATIONS

		10	S05	120	005	-011	7	12	

CAST and DURATION or MESSAGE TIME	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	B&D DYN m x 10⁻¹	COMPUTED SOUND VELOCITY m/sec	O_2 ml/l	AMBIENT LIGHT (um) PO_4-P µg-at/l	AMBIENT LIGHT (um) TOTAL P µg-at/l	AMBIENT LIGHT (um) NO_2-N µg-at/l	AMBIENT LIGHT (um) NO_3-N µg-at/l	MEASURED SOUND VELOCITY m/sec SiO_3-Si µg-at/l	MEASURED SOUND VELOCITY m/sec pH
		STD	0000	-0148	3132	2521	0027684	0000	14373							
169		OBS	0000	-0148	31320	2521			14373							
		STD	0010	-0151	3133	2522	0027619	0027	14373							
169		OBS	0010	-0151	31327	2522			14373							
		STD	0020	-0149	3137	2525	0027283	0055	14376							
169		OBS	0025	-0145	31371	2527			14378							
		STD	0030	-0134	3165	2548	0025072	0081	14389							
		STD	0050	-0095	3248	2613	0015876	0125	14422							
169		OBS	0050	-0095	32475	2613			14422							
		STD	0075	-0085	3292	2649	0015480	0168	14437							
169		OBS	0075	-0085	32924	2649			14437							
		STD	0100	-0100	3329	2678	0012697	0203	14439							
169		OBS	0100	-0100	33279	2678			14439							
		STD	0125	-0102	3349	2695	0011042	0233	14445							
		STD	0150	-0105	3366	2709	0009721	0259	14451							
169		OBS	0150	-0105	33653	2709			14451							
		STD	0200	-0097	3357	2724	0008302	0304	14484							
169		OBS	0200	-0097	33872	2724			14454							
		STD	0250	-0039	3395	2730	0007803	0344	14502							
169		OBS	0250	-0039	33946	2730			14502							
		STD	0300	-0041	3402	2735	0007240	0382	14510							
169		OBS	T0300	-0041	34017	2735			14510							
		STD	0400	-0043	3421	2751	0005769	0447	14528							
169		OBS	T0402	-0043	34209	2751			14529							
		STD	0500	-0042	3424	2753	0005496	0503	14546							
169		OBS	T0505	-0042	34242	2754			14547							

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT CORRECTION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / BBT	WAVE OBSERVATIONS DIR	HGT	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	78308N	07403 W		260	84	09	03	204	1970	K8S 004		0420	1	00	0	X	X1	0	2	0004

* DT'S WATER COLOR | TRANS (m) | WIND DIR | WIND SPEED OR FORCE | BAROMETER (mbs) | AIR TEMPERATURE °C DRY BULB | AIR TEMPERATURE °C WET BULB | VIS CODE | NUMBER OBS LEVELS | SPECIAL OBSERVATIONS

		04	S08	117	-019	-026	7	11	

CAST and DURATION or MESSAGE TIME	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	B&D DYN m x 10⁻¹	COMPUTED SOUND VELOCITY m/sec	O_2 ml/l	AMBIENT LIGHT (um) PO_4-P µg-at/l	AMBIENT LIGHT (um) TOTAL P µg-at/l	AMBIENT LIGHT (um) NO_2-N µg-at/l	AMBIENT LIGHT (um) NO_3-N µg-at/l	MEASURED SOUND VELOCITY m/sec SiO_3-Si µg-at/l	MEASURED SOUND VELOCITY m/sec pH
		STD	0000	-0154	3149	2535	0026387	0000	14372							
204		OBS	0000	-0154	31487	2535			14372							
		STD	0010	-0155	3148	2534	0026449	0026	14373							
204		OBS	0010	-0155	31477	2534			14373							
		STD	0020	-0157	3158	2550	0024871	0052	14377							
204		OBS	0025	-0157	31771	2538			14374							
		STD	0030	-0156	3173	2559	0024037	0076	14380							
		STD	0050	-0151	3211	2585	0021573	0122	14390							
204		OBS	0050	-0151	32108	2585			14390							
		STD	0075	-0103	3307	2661	0014233	0167	14431							
204		OBS	0075	-0103	33071	2661			14431							
		STD	0100	-0109	3336	2685	0012010	0199	14436							
204		OBS	0100	-0109	33365	2685			14436							
		STD	0125	-0108	3351	2697	0010868	0228	14442							
		STD	0150	-0110	3364	2707	0009844	0254	14448							
204		OBS	0150	-0110	33637	2707			14448							
		STD	0200	-0090	3382	2721	0008603	0300	14473							
204		OBS	0200	-0090	33814	2721			14473							
		STD	0250	-0063	3400	2735	0007300	0340	14491							
204		OBS	0254	-0063	34000	2735			14492							
		STD	0300	-0051	3413	2745	0006333	0374	14507							
204		OBS	T0304	-0051	34134	2745			14507							
		STD	0400	-0044	3419	2749	0005852	0435	14527							
204		OBS	T0402	-0044	34190	2750			14527							

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATORS CRUISE NUMBER	ORIGINATORS STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
311705	AE	7832 N	07+22 W	260 84	09	03	224	1970	KBS	005	0310	1	00	0	X		X1	0	3	0005

*DT WATER COLUM	*S TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	04	S08	117	-019	-026	7		10	

CAST TIME DURATION (MINUTES)	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	BAD DYN m x 10¹	COMPUTED SOUND VELOCITY m SEC	O_2 ml l⁻¹	AMBIENT LIGHT PO4-P µg at l⁻¹	AMBIENT LIGHT TOTAL P µg at l⁻¹	AMBIENT LIGHT NO2-N µg at l⁻¹	AMBIENT LIGHT NO3-N µg at l⁻¹	MEASURED SOUND VELOCITY SiO2-Si µg at l⁻¹	MEASURED SOUND VELOCITY pH
		STD	0000	-0165	3165	2549	0025108	0000	14369							
224		OBS	0000	-0166	31651	2548			14369							
		STD	0010	-0165	3165	2548	0025107	0025	14371							
224		OBS	0010	-0165	31644	2548			14371							
		STD	0020	-0157	3180	2560	0023473	0049	14378							
224		OBS	0025	-0155	31443	2557			14381							
		STD	0030	-0146	3220	2576	0020415	0072	14384							
		STD	0050	-0148	3243	2611	0014055	0114	14396							
224		OBS	0050	-0148	32432	2611			14396							
		STD	0075	-0138	3260	2629	0010555	0157	14412							
224		OBS	0075	-0134	32600	2629			14412							
		STD	0100	-0130	3310	2665	0013703	0194	14423							
224		OBS	0100	-0129	33102	2665			14423							
		STD	0125	-0114	3350	2696	0010737	0225	14437							
		STD	0150	-0083	3379	2719	0008821	0250	14463							
224		OBS	T0150	-0084	33772	2719			14463							
224		OBS	T0199	-0063	34065	2734			14542							
		STD	0200	-0060	3407	2734	0007423	0290	14540							
224		OBS	T0249	-0054	34198	2750			14500							
		STD	0250	-0051	3420	2751	0006417	0323	14500							
224		OBS	T0298	-0047	34222	2752			14510							

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATORS CRUISE NUMBER	ORIGINATORS STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE DEP	WAVE OBSERVATIONS DIR	HGT	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	INSTR CLOUD AMT	NODC STATION NUMBER
311705	AE	7833 N	074385W	260 84	09	04	000	1970	KBS	006	0201	1	00	0	X		X1	0	3	0006

*DT WATER COLUM	*S TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	03	S04	125	-017	-028	7		08	

CAST TIME DURATION (MINUTES)	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	BAD DYN m x 10¹	COMPUTED SOUND VELOCITY m SEC	O_2 ml l⁻¹	AMBIENT LIGHT PO4-P µg at l⁻¹	AMBIENT LIGHT TOTAL P µg at l⁻¹	AMBIENT LIGHT NO2-N µg at l⁻¹	AMBIENT LIGHT NO3-N µg at l⁻¹	MEASURED SOUND VELOCITY SiO2-Si µg at l⁻¹	MEASURED SOUND VELOCITY pH
		STD	0000	-0165	3162	2545	0025371	0000	14369							
000		OBS	0000	-0165	31616	2545			14369							
		STD	0010	-0163	3165	2548	0025080	0025	14372							
000		OBS	0010	-0163	31653	2548			14372							
		STD	0020	-0157	3185	2564	0023557	0049	14379							
000		OBS	0025	-0155	31853	2572			14382							
		STD	0030	-0153	3204	2583	0021745	0072	14386							
		STD	0050	-0146	3248	2615	0016741	0112	14398							
000		OBS	0050	-0146	32476	2615			14398							
		STD	0075	-0139	3264	2627	0013520	0158	14408							
000		OBS	0075	-0139	32636	2627			14408							
		STD	0100	-0125	3314	2668	0013575	0197	14426							
000		OBS	0100	-0125	33141	2669			14426							
		STD	0125	-0095	3351	2703	0010314	0227	14443							
000		OBS	T0124	-0097	33494	2726			14466							
		STD	0150	-0078	3383	2727	0008056	0250	14466							
000		OBS	T0178	-0075	33761	2740			14473							

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	PER	HT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7826 N	07304 W	260	03	09	04	035	1970	KBS	007	0274	1	00	0	X	X1	4	3	0007

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP DRY BULB °C	AIR TEMP WET BULB °C	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	07	S	12	119	-033	-039	7	09	

CAST and DURATION	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁷	DYN cm x 10⁷	COMPUTED SOUND VELOCITY m/sec	O₂ ml/l	AMBIENT LIGHT	MEASURED SOUND VELOCITY m/sec
		STD	0000	-0154	31140	2528	0027040	0000	14371			
035		OBS	0000	-0154	31403	2528			14371			
		STD	0010	-0156	3139	2527	0027084	0027	14371			
035		OBS	0010	-0155	31395	2527			14371			
		STD	0020	-0134	3150	2535	0026323	0053	14385			
035		OBS	0025	-0125	31561	2540			14391			
		STD	0030	-0121	3166	2547	0025136	0079	14395			
035		OBS	0046	-0107	31972	2573			14409			
		STD	0050	-0106	3197	2573	0022721	0127	14410			
035		OBS	0073	-0086	32277	2597			14427			
		STD	0075	-0085	3237	2604	0019757	0160	14429			
035		OBS	0097	-0084	33148	2667			14444			
		STD	0100	-0085	3319	2670	0013434	0221	14445			
		STD	0125	-0094	3348	2694	0011179	0252	14447			
035		OBS	T0143	-0108	33611	2705			14447			
		STD	0150	-0112	3362	2706	0010061	0279	14447			
035		OBS	T0186	-0096	33635	2702			14549			
		STD	0200		3374							
035		OBS	0224		33854							

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	PER	HT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	78275N	07332 W	260	03	09	04	054	1970	KBS	008	0521	1	00	0	X	X1	4	5	0008

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP DRY BULB °C	AIR TEMP WET BULB °C	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	03	S	15	126	-034	-044	7	12	

CAST and DURATION	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁷	DYN cm x 10⁷	COMPUTED SOUND VELOCITY m/sec	O₂ ml/l	AMBIENT LIGHT	MEASURED SOUND VELOCITY m/sec
		STD	0000	-0155	3144	2530	0026777	0000	14371			
054		OBS	0000	-0155	31436	2530			14371			
		STD	0010	-0138	3144	2530	0026767	0026	14381			
054		OBS	0010	-0135	31441	2530			14381			
		STD	0020	-0134	3150	2535	0025350	0053	14388			
054		OBS	0026	-0134	31538	2539			14391			
		STD	0030	-0135	3159	2541	0025254	0079	14392			
		STD	0050	-0129	3177	2557	0024234	0129	14396			
054		OBS	0052	-0124	31787	2558			14397			
		STD	0075	-0095	3245	2602	0015171	0178	14433			
054		OBS	0076	-0094	32456	2600			14435			
		STD	0100	-0107	3229	2643	0012213	0212	14437			
054		OBS	0104	-0103	32351	2647			14437			
		STD	0125	-0107	3253	2644	0010751	0241	14444			
		STD	0150	-0104	357	2705	0007534	0267	14451			
054		OBS	0155	-0101	33633	2711			14453			
		STD	0200	-0094	3361	2720	0005701	0313	14478			
054		OBS	0207	-0094	33642	2721			14481			
		STD	0250	-0095	3394	2730	0003783	0354	14494			
054		OBS	0254	-0094	33955	2731			14495			
		STD	0300	-0094	3401	2735	0002943	0391	14507			
054		OBS	0310	-0094	34027	2741			14509			
		STD	0400	-0096	3418	2744	0002330	0456	14527			
054		OBS	0411	-0096	34137	2744			14524			
		STD	0500	-0093	34162	2752	0001579	0510	14545			
054		OBS	T0513	-0092	34161	2751			14547			

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT INDICATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / PRT	WAVE OBSERVATIONS DIR	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	78299N	073440W		260 83	09	04	075	1970	KBS	009	0475	1	00	0	X	X1	4	4	0009

* DT * S‰ WATER COLOR | TRANS (m) | WIND DIR | WIND SPEED OR FORCE | BAROMETER (mbar) | AIR TEMPERATURE °C DRY BULB | AIR TEMPERATURE °C WET BULB | VIS CODE | NUMBER OBS LEVELS | SPECIAL OBSERVATIONS

		10	S15	139	-033	-043	7	12

CAST DURATION (HR)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	DYN M x 10⁻¹	COMPUTED SOUND VELOCITY m/sec	O₂ ml/l	AMBIENT LIGHT PO₄-P µg-at/l	TOTAL P µg-at/l	NO₃-N µg-at/l	NO₂-N µg-at/l	MEASURED SOUND VELOCITY m/sec S ‰	O₂ S ‰	pH
		STD	0000	-0155	3140	2528	0027022	0000	14370								
075		OBS	0000	-0156	31404	2528			14370								
		STD	0010	-0156	3140	2528	0027002	0027	14372								
075		OBS	0010	-0155	31405	2528			14372								
		STD	0020	-0155	3141	2528	0026992	0054	14374								
075		OBS	0025	-0152	31406	2528			14376								
		STD	0030	-0134	3155	2539	0025905	0080	14385								
		STD	0050	-0104	3217	2584	0021213	0127	14413								
075		OBS	0051	-0103	32202	2591			14415								
		STD	0075	-0094	3305	2660	0014466	0172	14435								
075		OBS	0076	-0094	33277	2662			14435								
		STD	0100	-0108	3340	2683	0011767	0205	14437								
075		OBS	0103	-0107	33428	2690			14438								
		STD	0125	-0110	3352	2698	0010832	0233	14442								
		STD	0150	-0111	3362	2706	0010034	0259	14447								
075		OBS	0152	-0111	33627	2707			14448								
		STD	0200	-0069	3383	2721	0008602	0305	14475								
075		OBS	0204	-0065	33837	2722			14481								
		STD	0250	-0044	3394	2730	0007731	0346	14499								
075		OBS	0256	-0043	33957	2731			14501								
		STD	0300	-0043	3404	2737	0007086	0384	14509								
075		OBS	T0308	-0043	34050	2738			14511								
		STD	0400	-0044	3419	2749	0005833	0449	14528								
075		OBS	0412		34195												
075		OBS	T0457	-0045	34205	2751			14537								

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT INDICATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / PRT	WAVE OBSERVATIONS DIR	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	78292N	07410 W		260 84	09	04	096	1970	KBS	010	0503	1	00	0	X	X1	4	4	0010

* DT * S‰ WATER COLOR | TRANS (m) | WIND DIR | WIND SPEED OR FORCE | BAROMETER (mbar) | AIR TEMPERATURE °C DRY BULB | AIR TEMPERATURE °C WET BULB | VIS CODE | NUMBER OBS LEVELS | SPECIAL OBSERVATIONS

		10	S15	139	-033	-043	7	10

CAST DURATION (HR)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	DYN M x 10⁻¹	COMPUTED SOUND VELOCITY m/sec	O₂ ml/l	AMBIENT LIGHT PO₄-P µg-at/l	TOTAL P µg-at/l	NO₃-N µg-at/l	NO₂-N µg-at/l	MEASURED SOUND VELOCITY m/sec S ‰	O₂ S ‰	pH
		STD	0000	-0163	3141	2529	0026958	0000	14367								
096		OBS	0000	-0163	31411	2529			14367								
		STD	0010	-0165	3141	2528	0026966	0027	14367								
096		OBS	0010	-0165	31408	2528			14367								
		STD	0020	-0158	3155	2539	0025913	0053	14374								
096		OBS	0025	-0156	31620	2545			14377								
		STD	0030	-0156	3164	2550	0024852	0078	14379								
		STD	0050	-0157	3206	2581	0021964	0125	14387								
096		OBS	0050	-0157	32058	2581			14387								
		STD	0075	-0107	3282	2641	0015217	0173	14425								
096		OBS	0075	-0107	32814	2641			14425								
		STD	0100	-0111	3343	2671	0011495	0207	14436								
096		OBS	0100	-0111	33431	2671			14436								
		STD	0125	-0105	3380	2704	0010212	0235	14446								
		STD	0150	-0094	3373	2714	0009275	0259	14457								
096		OBS	0150	-0094	33737	2714			14457								
		STD	0200	-0073	3384	2722	0008472	0303	14476								
096		OBS	0201	-0073	33843	2723			14476								
		STD	0250	-0060	3398	2733	0007438	0343	14492								
096		OBS	0251	-0059	33984	2733			14493								
		STD	0300	0047	3410	2738	0007072	0377	14551								
096		OBS	T0302	0047	34104	2738			14555								

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7832 N	07424 W	260	04	09	04	1970	KBS	011	0329	1	00	0	X	X1	0	5	0011

WATER COLOR	DIR	SPEED OR KNOTS	BAROMETER	DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
05	S12	138		-018	-028	7	05	

CAST NO	CARD TYPE	DEPTH (m)	T °C	S	SIGMA t	SPECIFIC VOLUME ANOMALY	R&D DYN m	COMPUTED SOUND VELOCITY m SEC
	STD	0000	-0163	3157	2541	0025733	0000	14369
151	OBS	0000	-0163	31570	2541			14369
	STD	0010	-0165	3156	2541	0025778	0025	14370
151	OBS	0010	-0165	31562	2541			14370
	STD	0020	-0165	3159	2543	0025550	0051	14372
151	OBS	0025	-0165	31605	2544			14373
	STD	0030	-0159	3170	2546	0023194	0075	14381
	STD	0050	-0139	3275	2636	0016680	0115	14405
151	OBS	0050	-0139	32749	2636			14405
	STD	0075	-0128	3310	2665	0013962	0154	14419
151	OBS	0075	-0128	33104	2665			14419

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7836 N	074415W	260	04	09	04	164	1970	KBS	012	0210	1	00	0	X	X1	0	5	0012

WATER COLOR	DIR	SPEED OR KNOTS	BAROMETER	DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
05	S12	133	-018	-026	7	36		

CAST NO	CARD TYPE	DEPTH (m)	T °C	S	SIGMA t	SPECIFIC VOLUME ANOMALY	R&D DYN m	COMPUTED SOUND VELOCITY m SEC
	STD	0000	-0166	3153	2536	0026360	0000	14367
164	OBS	0000	-0166	31527	2538			14367
	STD	0010	-0166	3156	2541	0025767	0025	14369
164	OBS	0010	-0166	31561	2541			14369
	STD	0020	-0159	3172	2554	0024544	0051	14377
164	OBS	0022	-0165	31612	2551			14380
	STD	0030	-0153	3163	2570	0022941	0074	14384
	STD	0050	-0140	3234	2603	0017791	0117	14397
164	OBS	0052	-0140	32341	2603			14397
	STD	0075	-0136	3270	2632	0013063	0163	14410
164	OBS	0075	-0136	32696	2632			14410
	STD	0101	-0110	3335	2684	0008154	0220	14435
164	OBS	0100	-0110	33345	2684			14435
	STD	0126	-0087	3354	2703	0010332	0228	14443
	STD	0151	-0067	3375	2718	0010498	0252	14451
164	OBS	10150	-0067	33753	2715			14450
164	OBS	0145	-0072	33854	2714			14474

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S COURSE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BOTTLE SAMPLE / BBT	WAVE OBSERVATIONS DIR	HGT	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7823 N	07326 W	260	03	04	202	1970	KBS	013	0274	1	00	0	X		X1	3	5	0013

* DT'S

WATER CLOCK	TRANS	WIND DIR	WIND SPEED OF FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		04	S06	136	-017	-025	7	10	

CAST NO	CARD TYPE	DEPTH m	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY × 10⁷	R&D DYN m × 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT PO₄-P mg-at/l	AMBIENT LIGHT TOTAL P mg-at/l	AMBIENT LIGHT NO₂-N mg-at/l	AMBIENT LIGHT NO₃-N mg-at/l	MEASURED SOUND VELOCITY S ‰	MEASURED SOUND VELOCITY O_2 ml/l	MEASURED SOUND VELOCITY pH
	STD	0000	-0143	3139	2526	0027185	0000	14376								
202	OBS	0000	-0145	31366	2526			14376								
	STD	0010	-0143	3138	2526	0027184	0027	14378								
202	OBS	0010	-0143	31365	2526			14378								
	STD	0020	-0139	3140	2527	0027084	0054	14381								
202	OBS	0025	-0135	31470	2533			14385								
	STD	0030	-0142	3171	2552	0024719	0080	14395								
	STD	0050	-0085	3248	2613	0018859	0123	14425								
202	OBS	0050	-0085	32483	2613			14425								
	STD	0075	-0092	3303	2656	0014643	0165	14435								
202	OBS	0075	-0092	33030	2658			14435								
	STD	0100	-0090	3325	2665	0011998	0139	14445								
202	OBS	0100	-0090	33275	2665			14445								
	STD	0125	-0101	3344	2691	0011467	0228	14445								
	STD	0150	-0105	3350	2676	0010983	0255	14449								
202	OBS	0150	-0105	33443	2676			14448								
	STD	0200	-0078	3361	2704	0010165	0309	14466								
202	OBS	0200	-0084	33603	2704			14466								
	STD	0250	-0079	3380	2715	0009731	0356	14483								
202	OBS	0250	-0079	33803	2715			14483								
202	OBS	0250	-0084	33820	2721			14491								

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S COURSE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BOTTLE SAMPLE / BBT	WAVE OBSERVATIONS DIR	HGT	PER	SEA ABT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7828 N	07328 W	260	03	04	215	1970	KBS	014	0503	1	00	0	X		X1	3	6	0014

* DT'S

WATER CLOCK	TRANS	WIND DIR	WIND SPEED OF FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		04	S08	136	-014	-025	7	11	

CAST NO	CARD TYPE	DEPTH m	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY × 10⁷	R&D DYN m × 10³	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT PO₄-P mg-at/l	AMBIENT LIGHT TOTAL P mg-at/l	AMBIENT LIGHT NO₂-N mg-at/l	AMBIENT LIGHT NO₃-N mg-at/l	MEASURED SOUND VELOCITY S ‰	MEASURED SOUND VELOCITY O_2 ml/l	MEASURED SOUND VELOCITY pH
	STD	0000	-0137	3147	2533	0026577	0000	14380								
215	OBS	0000	-0147	31467	2533			14380								
	STD	0010	-0137	3146	2532	0026586	0026	14381								
215	OBS	0010	-0137	31465	2532			14381								
	STD	0020	-0141	3157	2540	0025809	0052	14387								
215	OBS	0024	-0125	31561	2545			14390								
	STD	0050	-0125	3142	2551	0023449	0077	14396								
	STD	0100	-0112	3241	2603	0019380	0120	14413								
215	OBS	0075		32420												
	STD	0075	-0106	3245	2652	0015187	0164	14430								
15	OBS	0077	-0104	32478	2676			14440								
	STD	0100	-0095	3330	2650	0012537	0198	14440								
	STD	0125	-0106	3348	2695	0011115	0226	14445								
15	OBS	0125	-0104	33604	2705			14449								
	STD	0150	-0102	3362	2706	0011000	0254	14451								
215	OBS	0154	-0097	33787	2718			14473								
	STD	0200	-0075	3381	2720	0010724	0301	14476								
15	OBS	0201	-0081	33803	2727			14490								
	STD	0250	-0076	3381	2728	0009954	0343	14491								
215	OBS	0251	-0067	33809	2731			14500								
	STD	0300	-0055	3389	2734	0007481	0381	14503								
15	OBS	0305	-0065	34175	2749			14525								
	STD	0400	-0046	3418	2765	0005965	0448	14547								
1	OBS	0404	-0046	34194	2766			14548								

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT REGION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	78293N	07346 W		260	83	09	04	22 1970	KBS	015	0530	1	00	0	X	X1	0	6	0015

DT S WATER COLOR	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	02	S12	146	-028	-034	7	12	

CAST DURATION	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁷	B&D DYN m x 10¹	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT	PO_4 P µg at/l	TOTAL P µg at/l	NO_3 N µg at/l	NO_2 N µg at/l	MEASURED SOUND VELOCITY	$S^{\cdot}O_3$ S µg at/l	pH
		STD	0000	-0148	3143	2530	0026849	0000	14374									
229		OBS	0000	-0148	31429	2530			14374									
		STD	0010	-0146	3145	2531	0026703	0026	14377									
229		OBS	0010	-0146	31447	2531			14377									
		STD	0020	-0138	3145	2531	0026685	0053	14383									
229		OBS	0025	-0137	31472	2533			14384									
		STD	0030	-0131	3154	2536	0025985	0079	14379									
		STD	0050	-0105	3177	2540	0023953	0129	14379									
229		OBS	0050	-0105	31794	2540			14379									
		STD	0075	-0084	3199	2654	0014933	0178	14438									
229		OBS	0075	-0084	32038	2654			14438									
		STD	0100	-0102	3228	2678	0012689	0213	14438									
229		OBS	0100	-0102	32275	2678			14438									
		STD	0125	-0102	3250	2696	0010961	0242	14445									
		STD	0150	-0103	3267	2710	0009677	0268	14452									
229		OBS	0150	-0103	32659	2710			14452									
229		OBS	0199	-0088	32820	2721			14478									
		STD	0200	-0088	3292	2721	0008638	0314	14478									
229		OBS	0248	-0052	33005	2727			14495									
		STD	0250	-0052	3301	2727	0006001	0355	14495									
229		OBS	T0297	-0051	33050	2736			14505									
		STD	0300	-0051	3305	2739	0006906	0393	14506									
229		OBS	0395		33176													
		STD	0400	-0047	3318	2747	0005925	0457	14526									
229		OBS	T0488	-0043	33235	2753			14544									

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT REGION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE / DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	78303N	07408 W		260	84	09	05	002 1970	KBS	016	0430	1	00	0	X	X1	0	5	0016

DT S WATER COLOR	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	02	S12	146	-028	-034	7	12	

CAST DURATION	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁷	B&D DYN m x 10¹	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT	PO_4 P µg at/l	TOTAL P µg at/l	NO_3 N µg at/l	NO_2 N µg at/l	MEASURED SOUND VELOCITY	$S^{\cdot}O_3$ S µg at/l	pH
		STD	0000	-0163	3154	2539	0025978	0000	14369									
002		OBS	0000	-0163	31538	2539			14369									
		STD	0010	-0163	3153	2539	0025996	0026	14370									
002		OBS	0010	-0162	31535	2539			14370									
		STD	0020	-0160	3172	2544	0025635	0051	14376									
002		OBS	0029	-0156	31735	2545			14379									
		STD	0030	-0156	3180	2547	0025245	0074	14383									
		STD	0050	-0148	3205	2562	0018190	0115	14400									
002		OBS	0052	-0144	32041	2562			14400									
		STD	0075	-0124	3230	2580	0014403	0156	14426									
002		OBS	0075	-0124	32307	2580			14426									
		STD	0100	-0112	3254	2598	0011360	0191	14442									
002		OBS	0100	-0112	32514	2598			14442									
		STD	0125	-0104	3269	2612	0011340	0222	14451									
		STD	0150	-0104	3283	2623	0008704	0248	14461									
002		OBS	0152	-0104	32855	2624			14461									
		STD	0200	-0090	3302	2641	0008555	0294	14473									
002		OBS	0200	-0090	33025	2641			14473									
		STD	0250	-0076	3318	2655	0007415	0334	14490									
002		OBS	T0251	-0076	33183	2655			14490									
		STD	0300	-0059	3333	2669	0006412	0370	14503									
002		OBS	T0351	-0059	33344	2670			14503									
002		OBS	0352	-0059	33347	2670			14503									
		STD	0400	-0059	3335	2671	0005757	0433	14525									
002		OBS	T0452	-0059	33404	2671			14525									

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	7832 N	07423 W	260	09	05	01a	1970	K8S	017	0347	1	00	0	X	x1	4	5	0017

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
02	S12	145	-028	-034	7	10			

CAST and DUPLICATE	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY	B&D DYN m	COMPUTED SOUND VELOCITY m/sec	O_2 ml/l	AMBIENT LIGHT	MEASURED SOUND VELOCITY m/sec
	STD	0000	-0156	3134	2523	0027493	0000	14369			
016	OBS	0000	-0156	31343	2523			14369			
	STD	0010	-0156	3135	2523	0027447	0027	14371			
016	OBS	0010	-0156	31348	2523			14371			
	STD	0020	-0155	3144	2531	0026720	0054	14374			
016	OBS	0025	-0155	31514	2537			14376			
	STD	0030	-0151	3163	2546	0025273	0080	14380			
	STD	0050	-0137	3214	2557	0021365	0127	14397			
016	OBS	0050	-0137	32136	2557			14397			
	STD	0075	-0131	3288	2567	0015660	0173	14415			
016	OBS	0075	-0131	32882	2567			14415			
	ST	0100	-0117	3323	2575	0010010	0209	14431			
016	OBS	0100	-0117	33231	2575			14431			
	STD	0125	-0101	3355	2730	0010601	0238	14447			
	STD	0150	-0056	3375	2718	0006881	0263	14460			
016	OBS	0150	-0036	33781	2718			14460			
016	OBS	T0194	-0070	33959	2733			14479			
	STD	0200	-0070	3397	2733	0007532	0304	14479			
	STD	0250	-0062	3401	2736	0007153	0340	14491			
016	OBS	T0294	-0058	34039	2743			14503			
	STD	0300	-0058	3410	2743	0006515	0375	14503			
016	OBS	T0314	-0056	34147	2747			14506			

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	78332N	07433 W	260	09	05	027	1970	K8S	018	0236	1	00	0	X	x1	3	6	0018

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
07	S10	161	-017	-022	7	09			

CAST and DUPLICATE	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY	B&D DYN m	COMPUTED SOUND VELOCITY m/sec	O_2 ml/l	AMBIENT LIGHT	MEASURED SOUND VELOCITY m/sec
	STD	0000	-0168	3137	2525	0027257	0000	14364			
027	OBS	0000	-0168	31371	2525			14364			
	STD	0010	-0165	3141	2529	0026921	0027	14367			
027	OBS	0010	-0165	31414	2529			14367			
	STD	0025	-0151	3162	2551	0023638	0052	14382			
027	OBS	0025	-0146	31479	2574			14387			
	STD	0050	-0146	3207	2581	0014167	0075	14389			
	STD	0075	-0147	3241	2587	0014269	0116	14397			
027	OBS	0075	-0147	32403	2587			14397			
	STD	0075	-0132	3244	2643	0014033	0150	14414			
027	OBS	0075	-0132	32417	2643			14414			
	STD	0100	-0132	3245	2665	0013804	0197	14427			
027	OBS	0100	-0132	32421	2665			14427			
	STD	0125	-0130	3241	2665	0011571	0229	14441			
	STD	0150	-0070	3362	2705	0010956	0256	14454			
027	OBS	0150	-0070	33620	2705			14454			
	STD	0200	-0067	3366	2724	0009788	0301	14478			
027	OBS	0200	-0067	33617	2724			14478			
	STD	0250	-0070	3365	2732	0008565	0340	14487			
027	OBS	T0279	-0070	33661	2732			14492			

Country code	Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Max sample depth	Wave dir	Hgt	Per	Weather code	Cloud type	Cloud amt	NODC station number
31	1705	WE	7855 N	07310 W	260	83	09	05	070	1970	KBS	019	0320	1	00	0	X	X1	0	4	0019

* Note: When using template for reading electronically derived serial data (DTS) use readings marked by asterisks where they appear.

°DT water color	°S trans (m)	Wind dir	Speed or force	Barometer (mbs)	Air temp dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
		04	S12	171	-045	-052	7	10	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly × 10⁵	ΣΔD dyn m × 10³	Computed sound velocity m/sec
	STD	0000	-0157	3126	2517	0028092	0000	14368
070	OBS	0000	-0157	31265	2517			14368
	STD	0010	-0157	3128	2517	0028000	0028	14369
070	OBS	0010	-0157	31276	2517			14369
	STD	0020	-0137	3139	2526	0027166	0055	14382
070	OBS	0025	-0131	31450	2533			14357
	STD	0030	-0133	3165	2549	0025117	0081	14389
	STD	0050	-0137	3230	2600	0020118	0127	14400
070	OBS	0050	-0137	32301	2600			14400
	STD	0075	-0137	3300	2656	0014755	0170	14414
070	OBS	0075	-0137	32998	2656			14414
	STD	0100	-0136	3317	2671	0013383	0205	14421
070	OBS	0100	-0136	33175	2671			14421
	STD	0125	-0112	3345	2692	0011346	0236	14440
	STD	0150	-0094	3365	2708	0009861	0263	14455
070	OBS	0150	-0094	33650	2708			14455
	STD	0200	-0078	3383	2722	0008505	0309	14474
070	OBS	0201	-0078	33837	2722			14474
	STD	0250	-0052	3411	2743	0005517	0346	14498
070	OBS	T0251	-0052	34113	2744			14498
	STD	0300	-0031	3440	2765	0004394	0373	14520
070	OBS	T0302	-0030	34411	2767			14521

Country code	Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Max sample depth	Wave dir	Hgt	Per	Weather code	Cloud type	Cloud amt	NODC station number
31	1705	WE	7919 2N	07223 8W	260	92	09	05	138	1970	KBS	020	0228	1	00	0	X	X1	0	3	0020

* Note: When using template for reading electronically derived serial data (DTS) use readings marked by asterisks where they appear.

°DT water color	°S trans (m)	Wind dir	Speed or force	Barometer (mbs)	Air temp dry bulb	Wet bulb	Vis code	Number obs levels	Special observations
		02	S10	176	-023	-034	7	08	

Cast time	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly × 10⁵	ΣΔD dyn m × 10³	Computed sound velocity m/sec
	STD	0000	-0150	3122	2513	0028419	0000	14370
138	OBS	0000	-0150	31224	2513			14370
	STD	0010	-0143	3140	2527	0027084	0027	14378
138	OBS	0010	-0143	31398	2527			14378
	STD	0020	-0140	3202	2576	0022271	0052	14390
138	OBS	0025	-0133	32272	2598			14395
	STD	0030	-0137	3241	2609	0019302	0073	14396
	STD	0050	-0132	3285	2645	0015822	0108	14410
138	OBS	0050	-0132	32803	2645			14410
	STD	0075	-0127	3321	2673	0013140	0144	14421
138	OBS	0075	-0127	33212	2673			14421
	STD	0100	-0098	3365	2708	0009839	0173	14445
138	OBS	0100	-0098	33654	2708			14445
	STD	0125	-0085	3390	2720	0008768	0196	14459
	STD	0150	-0083	3400	2735	0007325	0216	14475
138	OBS	T0150	-0083	33999	2735			14475
	STD	0200	-0008	3455	2773	0003800	0243	14516
138	OBS	T0200	-0005	34560	2776			14516

Country code	Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Max sample	Wave dir	Hgt	Per	Weather code	Cloud type	Amt	NODC station number
31	1705	WE	79402N	071175W	260	91	09	05	175	1970	K8S	021	0238	1	00	0	X	X1	0	1	0021

* NOTE: WHEN USING TEMPLATE FOR READING ELECTRONICALLY OBSERVED SERIAL DATA (STD) ON READINGS MARKED BY ASTERISKS, WHEN THEY APPEAR

*DT Water color	*S Trans (m)	Wind dir	Wind speed or force	Barometer (mbs)	Air temp dry bulb	Air temp wet bulb	Vis code	Number obs levels	Special observations
		07	S08	180	-033	-039	7	09	

Cast time / duration	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly × 10^5	Δ D dyn m × 10^3	Computed sound velocity m/sec	O_2 ml/l	PO_4-P	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	-0140	3113	2509	0028791	0000	14374							
175	OBS	0000	-0140	31178	2509			14374							
	STD	0010	-0148	3122	2512	0028472	0028	14373							
175	OBS	0010	-0148	31216	2512			14373							
	STD	0020	-0146	3187	2565	0023458	0054	14384							
175	OBS	0025	-0145	32129	2586			14389							
	STD	0030	-0144	3227	2598	0020342	0076	14393							
	STD	0050	-0138	3230	2641	0016273	0113	14406							
175	OBS	0050	-0138	32802	2641			14406							
	STD	0075	-0122	3337	2636	0011949	0148	14425							
175	OBS	0075	-0122	33370	2636			14425							
	STD	0100	-0101	3365	2705	0009820	0175	14444							
175	OBS	0100	-0101	33655	2708			14444							
	STD	0125	-0077	3396	2732	0007630	0197	14464							
	STD	0150	-0054	3421	2751	0005770	0214	14482							
175	OBS	T0150	-0054	34207	2751			14482							
	STD	0200	-0013	3454	2776	0003459	0237	14514							
175	OBS	T0200	-0013	34536	2776			14514							
175	OBS	T0220	-0016	34534	2776			14516							

Country code	Cruise number	Ship code	Latitude	Longitude	Marsden square 10°	1°	Month	Day	Hr	Year	Originator's cruise number	Station number	Depth to bottom	Max sample	Wave dir	Hgt	Per	Weather code	Cloud type	Amt	NODC station number
31	1705	WE	8021 N	06942 W	907	09	09	05	215	1970	K8S	022	0293	1	00	0	X	X1	0	3	0022

* NOTE: WHEN USING TEMPLATE FOR READING ELECTRONICALLY OBSERVED SERIAL DATA (STD) ON READINGS MARKED BY ASTERISKS, WHEN THEY APPEAR

*DT Water color	*S Trans (m)	Wind dir	Wind speed or force	Barometer (mbs)	Air temp dry bulb	Air temp wet bulb	Vis code	Number obs levels	Special observations
		09	S10	176	-043	-050	7	10	

Cast time / duration	Card type	Depth (m)	T °C	S ‰	Sigma-t	Specific volume anomaly × 10^5	Δ D dyn m × 10^3	Computed sound velocity m/sec	O_2 ml/l	PO_4-P	Total P	NO_2-N	NO_3-N	SiO_3-Si	pH
	STD	0000	-0148	3180	2560	0023483	0000	14379							
215	OBS	0000	-0148	31301	2560			14379							
	STD	0010	-0152	3179	2559	0024019	0024	14379							
215	OBS	0010	-0152	31794	2559			14379							
	STD	0020	-0149	3122	2574	0020721	0046	14388							
215	OBS	[illegible]	-0147	[illegible]	[illegible]			14392							
	STD	0030	-0147	3242	2616	[illegible]	0065	[illegible]							
	STD	0050	-0140	[illegible]	2633	[illegible]	0099	[illegible]							
215	OBS	0050	-0140	[illegible]	[illegible]			[illegible]							
	STD	0075	-0120	3342	[illegible]	0011543	0132	[illegible]							
215	OBS	0075	-0120	33423	[illegible]			[illegible]							
	STD	0100	[illegible]	[illegible]	2721	0008622	157	14450							
215	OBS	0100	[illegible]	[illegible]	2721			14450							
	STD	0125	[illegible]	3405	[illegible]	[illegible]	0177	14465							
	STD	0150	[illegible]	[illegible]	2753	[illegible]	0192	14479							
215	OBS	[illegible]	[illegible]	[illegible]	2753			14479							
	STD	0200	[illegible]	3444	[illegible]	[illegible]	0217	[illegible]							
215	OBS	[illegible]	[illegible]	[illegible]	[illegible]			14502							
	STD	[illegible]	[illegible]	[illegible]	2778	[illegible]	0235	14523							
215	OBS	[illegible]	-0012	[illegible]	[illegible]			[illegible]							
215	OBS	[illegible]	[illegible]	[illegible]	[illegible]			14528							

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DATE CORRECTION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	8011 N	06910 W		907	09	05	2301	1970	KBS	023	0311	1	00	0	X	X1	6	2	0023

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP DRY BULB °C	AIR TEMP WET BULB °C	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	16	S	18	173	-050	-054	7	10	

CAST TIME DURATION (HR) BETWEEN 100 M	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY × 10⁵	0 AD DYN M × 10²	COMPUTED SOUND VELOCITY M SEC	O₂ ml l⁻¹	AMBIENT LIGHT (cm cm⁻¹) PO₄ P µg at l⁻¹	TOTAL P µg at l⁻¹	NO₃ N µg at l⁻¹	NO₂ N µg at l⁻¹	MEASURED SOUND VELOCITY M SEC H₂S µg at l⁻¹	pH
		STD	0000	-0159	3185	2564	0023593	0000	14375							
230		OBS	0000	-0159	31849	2564			14375							
		STD	0010	-0158	3185	2564	0023557	0023	14377							
230		OBS	0010	-0158	31853	2564			14377							
		STD	0020	-0147	3212	2585	0021545	0046	14388							
230		OBS	0025	-0143	32236	2595			14392							
		STD	0030	-0142	3231	2601	0020016	0066	14394							
		STD	0050	-0134	3273	2635	0015816	0103	14405							
230		OBS	0050	-0139	32741	2635			14405							
		STD	0075	-0110	3348	2695	0011148	0138	14433							
230		OBS	0075	-0110	33474	2696			14433							
		STD	0100	-0095	3385	2724	0008815	0163	14450							
230		OBS	0100	-0095	33855	2724			14450							
		STD	0125	-0076	3411	2744	0006446	0181	14458							
		STD	0150	-0053	3430	2758	0005050	0195	14484							
230		OBS	T0150	-0054	34302	2759			14484							
		STD	0200	-0026	3450	2773	0003655	0217	14508							
230		OBS	T0200	-0026	34497	2773			14508							
		STD	0250	-0012	3457	2779	0003135	0234	14523							
230		OBS	T0250	-0012	34572	2779			14523							
		STD	0300	-0010	3459	2780	0003038	0250	14532							
230		OBS	T0300	-0010	34592	2780			14532							

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DATE CORRECTION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	8011 N	06842 W		907	08	04	06	003	1970	KBS	024	0347	1	00	0	X	X1	6	2	0024

WATER COLOR	TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMP DRY BULB °C	AIR TEMP WET BULB °C	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	16	S	18	173	-050	-054	7	11	

CAST TIME DURATION (HR) BETWEEN 100 M	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY × 10⁵	0 AD DYN M × 10²	COMPUTED SOUND VELOCITY M SEC	O₂ ml l⁻¹	AMBIENT LIGHT (cm cm⁻¹) PO₄ P µg at l⁻¹	TOTAL P µg at l⁻¹	NO₃ N µg at l⁻¹	NO₂ N µg at l⁻¹	MEASURED SOUND VELOCITY M SEC H₂S µg at l⁻¹	pH
		STD	0000	-0160	3184	2563	0023648	0000	14374							
003		OBS	0000	-0160	31842	2563			14374							
		STD	0010	-0159	3184	2563	0023666	0023	14376							
003		OBS	0010	-0159	31838	2563			14376							
		STD	0020	-0147	3213	2585	0021564	0046	14388							
003		OBS	0025	-0146	32272	2595			14393							
		STD	0030	-0134	3242	2620	0019143	0066	14397							
		STD	0050	-0122	3301	2667	0014722	0100	14417							
003		OBS	0050	-0122	33014	2667			14417							
		STD	0075	-0095	3371	2715	0009409	0130	14443							
003		OBS	0075	-0095	33715	2715			14443							
		STD	100	-0074	3384	2734	0007378	0151	14454							
003		OBS	0100	-0074	33846	2734			14454							
		STD	0125	-0060	3443	2780	0005859	0168	14475							
		STD	0150	-0046	3448	2782	0004721	0181	14488							
003		OBS	0150	-0046	34481	2782			14488							
		STD	0200	-0020	3452	2785	0003572	0202	14510							
003		OBS	T0200	-0020	34517	2785			14510							
		STD	0250	-0011	3457	2789	0003150	0218	14523							
003		OBS	T0250	-0011	34575	2789			14523							
		STD	0300	-0010	3459	2790	0003054	0233	14532							
003		OBS	0300	-0009	34597	2790			14532							
003		OBS	T0320	-0011	34593	2790			14542							

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	PER	HT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
WE	8011 N	06759 W	907 07	09	06	017	1970	KBS	025	0128	1	00	0	X	X1	6	4	0025

*DT WATER COLOR	*S TRANS (m)	WIND DIR	WIND SPEED OF FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	20	S11	191	-038	-045	7	06		

CAST — TIME DURATION OR DELIVERED (m)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY × 10⁵	B&D DYN m × 10⁷	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT PO₄-P µg-at/l	TOTAL P µg-at/l	NO₃-N µg-at/l	NO₂-N µg-at/l	MEASURED SOUND VELOCITY m SEC $S^{\circ}/_{oo}$	O_2 ml/l	pH
		STD	0000	-0158	31.75	25.56	0024337	0000	14374								
017		OBS	0000	-0158	31.753	25.56			14374								
		STD	0010	-0155	31.76	25.56	0024309	0024	14377								
017		OBS	0010	-0155	31.756	25.56			14377								
		STD	0020	-0144	32.05	25.80	0022089	0047	14388								
017		OBS	0025	-0140	32.180	25.90			14393								
		STD	0030	-0138	32.29	25.99	0020135	0068	14396								
		STD	0050	-0125	32.74	26.36	0016754	0105	14412								
017		OBS	0050	-0125	32.744	26.36			14412								
		STD	0075	-0095	33.31	26.80	0012506	0142	14437								
017		OBS	0075	-0096	33.308	26.80			14437								
		STD	0100	-0094	33.54	26.99	0010751	0171	14446								
017		OBS	0100	-0094	33.536	26.99			14446								

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	PER	HT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
WE	8030 N	06815 W	907 08	09	06	034	1970	KBS	026	0384	1	00	0	X	X1	6	4	0026

*DT WATER COLOR	*S TRANS (m)	WIND DIR	WIND SPEED OF FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	20	S20	191	-038	-045	7	10		

CAST — TIME DURATION OR DELIVERED (m)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY × 10⁵	B&D DYN m × 10⁷	COMPUTED SOUND VELOCITY m SEC	O_2 ml/l	AMBIENT LIGHT PO₄-P µg-at/l	TOTAL P µg-at/l	NO₃-N µg-at/l	NO₂-N µg-at/l	MEASURED SOUND VELOCITY m SEC $S^{\circ}/_{oo}$	O_2 ml/l	pH
		STD	0000	-0142	31.84	25.57	0023285	0000	14374								
034		OBS	0000	-0142	31.898	25.67			14374								
		STD	0010	-0137	31.91	25.69	0023076	0023	14378								
034		OBS	0010	-0137	31.915	25.69			14378								
		STD	0040	-0145	32.05	25.80	0020071	0045	14385								
034		OBS	0025	-0140	32.128	25.87			14392								
		STD	0030	-0137	32.25	25.97	0018424	0067	14396								
		STD	0050	-0127	32.68	26.32	0017360	0104	14410								
034		OBS	0050	-0127	32.664	26.32			14410								
		STD	0075	-0124	32.94	26.54	0016009	0140	14418								
034		OBS	0075	-0124	32.94	26.54			14418								
		STD	0100	-0094	33.53	26.99	0013079	0171	14447								
034		OBS	0100	-0094	33.525	26.99			14447								
		STD	0150	-0045	34.00	27.35	0007363	0200	14469								
034		OBS	0150	-0046	34.063	27.45			14486								
		STD	0200	-0036	34.47	27.71	0003922	0240	14507								
034		OBS	0201	-0036	34.470	27.71			14507								
		STD	0250	-0017	34.64	27.78	0003415	0258	14520								
		STD	0300	-0007	34.80	27.91	0003021	0274	14533								
034		OBS	0302	-0006	34.834	27.93			14534								
034		OBS	0348	-0011	34.863	27.95			14545								

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT OBSERVATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	SEA ART	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	9100 N	06600 W		907 16	09	06	090	1970	KBS	027	0365	1	00	0	X		X1	6	2	0027

* NOTE WHEN USING TEMPLATE FOR ENTERING ELECTRONICALLY DIGITIZED SURFACE DATA (DTS) OR REVERSE CARDED BY ASTERISKS WHERE THEY APPEAR

*DT WATER COLOR	*SD TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		22	S18	186	-031	-038	7	11	

CAST and DURATION or RETURNED (hr)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY E-7	3 AD DYN M E-3	COMPUTED SOUND VELOCITY M SEC	O_2 ml/l	AMBIENT LIGHT from cm⁻¹	PO_4-P µg-at/l	TOTAL P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	MEASURED SOUND VELOCITY + M/SEC	$S^{=}$ µg-at/l	O_2 µg-at/l	pH
		STD	0000	-0168	3154	2539	0025951	0000	14366										
090		OBS	0000	-0168	31541	2539			14366										
		STD	0010	-0167	3154	2539	0025941	0025	14368										
090		OBS	0010	-0167	31541	2539			14368										
		STD	0020	-0163	3175	2556	0024363	0051	14375										
090		OBS	0025	-0161	31833	2563			14378										
		STD	0030	-0160	3188	2566	0023348	0075	14380										
		STD	0050	-0157	3220	2592	0020839	0119	14389										
090		OBS	0050	-0157	32201	2592			14389										
		STD	0075	-0122	3296	2655	0014885	0163	14421										
090		OBS	0075	-0122	32946	2655			14421										
		STD	0100	-0102	3358	2703	0010379	0195	14443										
090		OBS	0100	-0102	33581	2703			14443										
		STD	0125	-0081	3396	2732	0007561	0217	14462										
090		OBS	0149	-0066	34212	2752			14477										
		STD	0150	-0065	3422	2752	0005658	0234	14477										
090		OBS	0149	-0042	34299	2766			14498										
		STD	0200	-0041	3441	2767	0004307	0259	14499										
090		OBS	T0247	-0017	34540	2776			14520										
		STD	0250	-0016	3455	2777	0003333	0278	14521										
090		OBS	T0295	-0002	34629	2783			14536										
		STD	0300	-0001	3463	2783	0002767	0293	14537										
090		OBS	T0344	-0001	34653	2784			14545										

COUNTRY CODE	CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	DRIFT OBSERVATION	MARSDEN SQUARE	STATION TIME (GMT) MONTH	DAY	HR	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	SEA ART	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	81205N	06358 W		907 13	09	06	171	1970	KBS	028	0622	1	00	0	X		X1	0	3	0028

* NOTE WHEN USING TEMPLATE FOR ENTERING ELECTRONICALLY DIGITIZED SURFACE DATA (DTS) OR REVERSE CARDED BY ASTERISKS WHERE THEY APPEAR

*DT WATER COLOR	*SD TRANS (m)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbar)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		25	S14	179	-022	-033	7	13	

CAST and DURATION or RETURNED (hr)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY E-7	3 AD DYN M E-3	COMPUTED SOUND VELOCITY M SEC	O_2 ml/l	AMBIENT LIGHT from cm⁻¹	PO_4-P µg-at/l	TOTAL P µg-at/l	NO_2-N µg-at/l	NO_3-N µg-at/l	MEASURED SOUND VELOCITY + M/SEC	$S^{=}$ µg-at/l	O_2 µg-at/l	pH
		STD	0000	-0161	3161	2544	0025443	0000	14370										
171		OBS	0000	-0161	31608	2544			14370										
		STD	0010	-0167	3163	2546	0025243	0025	14370										
171		OBS	0010	-0167	31632	2546			14370										
		STD	0020	-0164	3167	2549	0024943	0050	14373										
171		OBS	0025	-0162	31713	2555			14376										
		STD	0030	-0161	3174	2557	0023791	0074	14378										
		STD	0050	-0154	3214	2590	0021030	0119	14390										
171		OBS	0050	-0154	32174	2590			14390										
		STD	0075	-0143	3240	2611	0018218	0166	14408										
171		OBS	0075	-0143	32405	2611			14408										
		STD	0100	-0117	3345	2693	0011304	0200	14434										
171		OBS	0100	-0117	33454	2693			14434										
		STD	0125	-0095	3382	2721	0008601	0225	14453										
		STD	0150	-0077	3404	2743	0006559	0244	14470										
171		OBS	0150	-0077	34047	2743			14470										
		STD	0200	-0056	3434	2769	0004586	0272	14491										
171		OBS	T0200	-0055	34350	2769			14491										
		STD	0250	-0033	3451	2785	0003520	0293	14512										
171		OBS	T0250	-0033	34513	2785			14512										
171		OBS	T0296	0000	34653	2795			14538										
		STD	0300	0000	3465	2795	0002625	0308	14538										
171		OBS	T0347	0011	34725	2799			14560										
		STD	0400	0011	3473	2799	0002148	0332	14561										
171		OBS	0496	0016	34700	2798													
		STD	0500	0015	3474	2800	0002097	0353	14580										
171		OBS	0532	0015	34745	2801			14596										

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION (GMT) MONTH	DAY	TIME	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	AMT	NODC STATION NUMBER
311705 WE	8129 N	06129 W	707 21	09	06	196	1970	KBS	029	0434	1	00	0	X	X1	0	6	0029

DT	S	WIND WATER CURR	TRANS	DIR	SPEED OR FORCE	BAROMETER (MB)	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	24	S22		174		-014	-027	7		11	

CAST, TIME DURATION OR REVERSE M.	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	R&D DYN m x 10⁻¹	COMPUTED SOUND VELOCITY m SEC	O₂ ml l⁻¹	AMBIENT LIGHT PO₄-P µg at l⁻¹	TOTAL P µg at l⁻¹	NO₃-N µg at l⁻¹	NO₂-N µg at l⁻¹	SiO₃-Si µg at l⁻¹	MEASURED SOUND VELOCITY m SEC	pH
		STD	0000	-0167	3094	2491	0030570	0000	14358								
196		OBS	0000	-0167	30942	2491			14358								
		STD	0010	-0165	3094	2491	0030550	0030	14361								
196		OBS	0010	-0165	30943	2491			14361								
		STD	0020	-0163	3121	2512	0028507	0060	14367								
196		OBS	0025	-0162	31433	2522			14370								
		ST	0030	-0162	3[illegible]	2526	0027145	0087	14372								
		STD	0050	-0161	3191	2566	0023113	0138	14388								
196		OBS	0055	-0161	31997	2568			14388								
		ST	0075	-0116	3[illegible]4	2686	0012555	0162	14428								
196		OBS	0075	-0116	33293	2690			14428								
		STD	0100	-0054	3381	2720	0006695	0209	14451								
196		OBS	0100	-0051	33805	2720			14451								
		STD	0125	-0074	3404	2742	0005597	0228	14464								
		STL	0150	-0067	3429	2758	0005107	0243	14477								
196		OBS	0150	-0067	34187	2758			14477								
		STD	0200	-0062	3445	2771	0003610	0265	14489								
196		OBS	0201	-0062	34460	2771			14489								
		STD	0250	-0023	3491	2774	0003562	0284	14517								
196		OBS	10252	-0022													
		STD	0300	-0010	3457	2778	0003235	0301	14532								
196		OBS	10352	-0010													
		STL	0400	-0005	3467	2787	0002443	0329	14552								
196		OBS	10404	-0005	34678	2787			14553								

SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION (GMT) MONTH	DAY	TIME	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAT SAMPLE	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	AMT	NODC STATION NUMBER
311705 WE	813454	06339 W	707 13	09	08	127	1970	KBS	030	0786	1	00	0	X	X1	6	5	0030

DT	S	WIND WATER CURR	TRANS	DIR	SPEED OR FORCE	BAROMETER (MB)	AIR TEMPERATURE °C DRY BULB	WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
	21	S20		170		-036	-042	7		13	

CAST, TIME DURATION OR REVERSE M.	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY x 10⁻⁵	R&D DYN m x 10⁻¹	COMPUTED SOUND VELOCITY m SEC	O₂ ml l⁻¹	AMBIENT LIGHT PO₄-P µg at l⁻¹	TOTAL P µg at l⁻¹	NO₃-N µg at l⁻¹	NO₂-N µg at l⁻¹	SiO₃-Si µg at l⁻¹	MEASURED SOUND VELOCITY m SEC	pH
		STD	0000	-0171	3134	2525	0027276	0000	14362								
129		OBS	0000	-0171	31369	2525			14362		071				017		
		STD	0010	-0170	3133	2522	0027528	0027	14364								
129		OBS	0010	-0170	31334	2522			14364		087				016		
		STD	0020	-0169	3134	2523	0027434	0054	14366								
129		OBS	0025	-0166	31347	2525			14368		072				047		
		ST	0030	-0166	3140	2526	0027017	0082	14369								
		ST	0050	-0167	3160	2544	0025429	0134	14376								
129		OBS	0050	-0167	31604	2544			14376		085				023		
		STL	0075	-0147	3223	2607	0017503	0188	14404								
129		OBS	0075	-0147	32235	2607			14404		115				024		
		STD	0100	-0118	3244	2691	0011421	0224	14433								
129		OBS	0100	-0118	32436	2691			14433		104				024		
		STD	0125	-0087	3317	2750	0008285	0248	14452								
		STL	0150	-0077	3414	2750	0005875	0266	14470								
129		OBS	0150	-0077	34178	2750			14470		075				024		
		STL	0200	-0067	3443	2764	0004109	0291	14484								
129		OBS	0201	-0067	34437	2764			14500		085				018		
		STD	0250	-0033	3460	2781	0002950	0309	14523								
129		OBS	0251	-0033	34604	2781			14523		083				019		
		STL	0300	-0030	3467	2787	0002491	0322	14537								
129		OBS	10302	-0030	34677	2787			14538		085				017		
		STL	0400	-0026	3475	2793	0001813	0344	14549								
129		OBS	10403	-0026	34750	2793			14549		082				016		
		STD	0450	-0023	3477	2795	0001627	0351	14564								
		STL	0500	-0022	3478	2796	0001527	0377	14540								
129		OBS	10507	-0022	34778	2796			14541		083				019		
		STL	0600	-0022	3478	2796	0001515	0342	14542								
129		OBS	10754	-0022	34778	2796			14606		080				043		

COUNTRY (CD)	CRUISE NUMBER	SHIP CODE	LATITUDE ° ' | 10	LONGITUDE ° ' | 10	DRIFT DURATION	MARSDEN SQUARE 10° 1°	STATION TIME (GMT) MONTH	DAY	HR | 10	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BOTTLE SAMPLE / DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	8146 N	06403 W		907	14	09	08	171	1970	K&S	031		0457	1	00	0	X	X1	0	2	0031

* DT * S D — WATER COLOR | TRANS (m) | WIND DIR | WIND SPEED OR FORCE | BAROMETER (mbs) | AIR TEMPERATURE °C DRY BULB | AIR TEMPERATURE °C WET BULB | VIS CODE | NUMBER OBS LEVELS | SPECIAL OBSERVATIONS

					24	S08	157	-025	-032	7	11	

CAST DURATION (DELIVERY TIME HR. | 10)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY - 8 10⁷	REL DYN M 8 10³	COMPUTED SOUND VELOCITY M SEC	O₂ ml l⁻¹	AMBIENT LIGHT PO₄ P µg at l⁻¹	AMBIENT LIGHT TOTAL P µg at l⁻¹	AMBIENT LIGHT NO₂ N µg at l⁻¹	AMBIENT LIGHT NO₃ N µg at l⁻¹	MEASURED SOUND VELOCITY Si O₃ Si µg at l⁻¹	MEASURED SOUND VELOCITY pH
		STD	0000	-0167	31783	2563	0023693	0000	14371							
171		OBS	0000	-0167	31834	2563			14371		106				024	
		STD	0010	-0167	31837	2566	0023402	0023	14373							
171		OBS	0010	-0167	31870	2566			14373		107				023	
		STD	0020	-0164	31941	2569	0022978	0046	14376							
171		OBS	0025	-0163	31952	2572			14378		102				022	
		STD	0030	-0164	32011	2577	0022306	0069	14380							
		STD	0050	-0157	32433	2603	0019871	0111	14391							
171		OBS	0050	-0157	32327	2603			14391		106				028	
		STD	0075	-0142	32857	2648	0015547	0155	14410							
171		OBS	0075	-0142	32873	2648			14410		127				030	
		STD	0100	-0133	33241	2676	0012906	0191	14423							
171		OBS	0100	-0133	33239	2676			14423		114				030	
		STD	0125	-0122	33541	2700	0010543	0220	14437							
		STD	0150	-0107	33811	2722	0008549	0244	14452							
171		OBS	0150	-0107	33815	2722			14452		118				028	
		STD	0200	-0091	34126	2750	0005330	0279	14469							
171		OBS	0200	-0091	34159	2750			14468		097				023	
		STD	0250	-0043	34491	2768	0004214	0303	14506							
171		OBS	T0250	-0043	34415	2768			14505		091				025	
		STD	0300	-0014	34681	2781	0002943	0321	14533							
171		OBS	T0301	-0004	34609	2782			14533		082				021	
		STD	0400	-0011	34869	2788	0002311	0347	14550							
171		OBS	T0432	-0012	34711	2790			14555		072				023	

COUNTRY (CD)	CRUISE NUMBER	SHIP CODE	LATITUDE ° ' | 10	LONGITUDE ° ' | 10	DRIFT DURATION	MARSDEN SQUARE 10° 1°	STATION TIME (GMT) MONTH	DAY	HR | 10	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BOTTLE SAMPLE / DEP	WAVE OBSERVATIONS DIR	HGT	PER	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
31	1705	WE	8153N	06304 W		907	13	04	09	009	1970	K&S	032		0626	1	00	0	X	X1	6	2	0032

* DT * S D — WATER COLOR | TRANS (m) | WIND DIR | WIND SPEED OR FORCE | BAROMETER (mbs) | AIR TEMPERATURE °C DRY BULB | AIR TEMPERATURE °C WET BULB | VIS CODE | NUMBER OBS LEVELS | SPECIAL OBSERVATIONS

					10	S04	159	-047	-054	7	12	

CAST DURATION (DELIVERY TIME HR. | 10)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA T	SPECIFIC VOLUME ANOMALY - 8 10⁷	REL DYN M 8 10³	COMPUTED SOUND VELOCITY M SEC	O₂ ml l⁻¹	AMBIENT LIGHT PO₄ P µg at l⁻¹	AMBIENT LIGHT TOTAL P µg at l⁻¹	AMBIENT LIGHT NO₂ N µg at l⁻¹	AMBIENT LIGHT NO₃ N µg at l⁻¹	MEASURED SOUND VELOCITY Si O₃ Si µg at l⁻¹	MEASURED SOUND VELOCITY pH
		STD	0000	-0165	31781	2569	0023140	0000	14373							
009		OBS	0000	-0165	31906	2569			14373							
		STD	0010	-0168	31840	2568	0023176	0023	14373							
009		OBS	0010	-0168	31900	2568			14373							
		STD	0020	-0162	32004	2574	0022134	0045	14379							
009		OBS	0025	-0161	32047	2574			14381							
		STD	0040	-0160	32134	2584	0021300	0067	14383							
		STD	0050	-0157	32341	2602	0019859	0108	14391							
009		OBS	0050	-0155	32417	2603			14395							
		STD	0075	-0144	32860	2641	0016226	0153	14408							
009		OBS	0075	-0144	32804	2641			14408							
		STD	0100	-0133	33224	2675	0013647	0190	14423							
009		OBS	0100	-0133	33234	2675			14423							
		STD	0125	-0127	33603	2705	0011047	0219	14435							
		STD	0150	-0113	33854	2726	0009351	0241	14445							
009		OBS	0150	-0113	33841	2726			14450							
		STD	0200	-0092	34264	2757	0006194	0274	14467							
009		OBS	0200	-0092	34277	2757			14467							
		STD	0250	-0075	34497	2773	0003857	0297	14514							
		STD	0300	-0061	34651	2781	0002036	0314	14534							
009		OBS	T0300	-0061	34658	2781			14534							
		STD	0400	-0018	34870	2793	0001217	0339	14549							
009		OBS	T0400	-0018	34847	2794			14544							
		STD	0500	-0017	34878	2794	0001001	0360	14564							
009		OBS	0511	-0017	34835	2792			14564							
		STD	0600	-0016	34874	2793	0001035	0379	14580							
009		OBS	T0600	-0016	34840	2793			14580							

CRUISE NUMBER	SHIP CODE	LATITUDE	LONGITUDE	MARSDEN SQUARE	STATION (GMT) MONTH	DAY	HR	TIME SIG	YEAR	ORIGINATOR'S CRUISE NUMBER	ORIGINATOR'S STATION NUMBER	DEPTH TO BOTTOM	BAR SWPU / ABP	WAVE OBSERVATIONS DIR	PER	HT	WEATHER CODE	INSTR CLOUD TYPE	CLOUD AMT	NODC STATION NUMBER
311705	WE	81525N	06304 W	907	09	09	045	1	1970	KBS	033	0594	1	00	0	X	X1	0	4	0033

DT WATER CODE	S TRANS (%)	WIND DIR	WIND SPEED OR FORCE	BAROMETER (mbs)	AIR TEMPERATURE °C DRY BULB	AIR TEMPERATURE °C WET BULB	VIS CODE	NUMBER OBS LEVELS	SPECIAL OBSERVATIONS
		21	504	155	-052	-057	7	12	

CAST — TIME DURATION — (HR)	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA t	SPECIFIC VOLUME ANOMALY (10⁻⁵)	DYN m (10¹)	COMPUTED SOUND VELOCITY — M/SEC	O₂ ml/l	AMBIENT LIGHT PO₄-P µg-at/l	TOTAL P µg-at/l	NO₃—N µg-at/l	NO₂—N µg-at/l	MEASURED SOUND VELOCITY m/sec S ‰	pH
		STD	0000	-0161	31887	2565	0023443	0000	14374							
045		OBS	0000	-0161	31867	2565			14374							
		STD	0010	-0167	3182	2562	0023810	0023	14372							
045		OBS	0010	-0167	31818	2562			14372							
		STD	0020	-0164	3201	2577	0022315	0046	14378							
045		OBS	0025	-0155	32086	2583			14380							
		STD	0030	-0163	3209	2584	0021671	0068	14381							
		STD	0050	-0162	3225	2596	0020477	0110	14387							
045		OBS	0050	-0162	32247	2596			14387							
		STD	0075	-0146	3270	2633	0016976	0157	14405							
045		OBS	0075	-0146	32705	2633			14405							
		STD	0100	-0141	3300	2657	0014727	0197	14416							
045		OBS	0100	-0141	32995	2657			14416							
		STD	0125	-0124	3361	2705	0010105	0226	14436							
		STD	0150	-0104	3404	2740	0005855	0249	14456							
045		OBS	0150	-0104	34033	2740			14456							
		STD	0200	-0051	3453	2785	0004497	0277	14494							
045		OBS	0200	-0051	34573	2785			14494							
		STD	0250	-0023	3482	2779	0003510	0297	14517							
		STD	0300	-0006	3482	2783	0002817	0313	14535							
045		OBS	0302	-0006	34823	2783			14535							
		STD	0400	-0009	3470	2784	0003224	0337	14551							
045		OBS	0404	-0009	34702	2784			14552							
		STD	0500	-0015	3474	2793	0001842	0359	14566							
045		OBS	0504	-0015	34745	2793			14567							
045		OBS	0586	-0014	34738	2792			14577