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REPORT No. 25 CG 373-25

OCEANOGRAPHIC OBSERVATIONS IN THE KARA AND EASTERN BARENTS SEAS



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WASHINGTON, D.C. 🕉





Abstract

In 1967 an effort was made by USCGC EASTWIND (WAGB 279), CAPT William M. Benkert, Commanding, in company with USCGC EDISTO (WAGB 284) to conduct scientific investigations while circumnavigating the Arctic Ocean. This cruise was aborted when heavy ice blocked passage to the north of Severnaya Zemlya and the Soviet Union refused innocent passage through the Vilkitskiiy Straits. As an alternative the 1967 survey of the Kara-Barents Seas, described in this paper, was conducted. A total of 125 hydrographic stations were occupied from 31 August to 22 September 1967. In addition to Nansen casts conducted at all stations, bottom samples were obtained at 27 stations and surface plankton tows at 11. Preliminiary results show extensive surface cooling taking place in the Barents Sea and a water mass structure unlike those previously reported in the Kara Sea.

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Oceanographic Observations in the Kara and Eastern Barents Seas

INTRODUCTION

The 1967 Eastwind Arctic Survey was conducted after an attempt to circumnavigate the Arctic Ocean had to be discontinued. Consolidated pack ice up to thirty feet in thickness in the area of latitude $81^{\circ}27'$ N. and longitude $77^{\circ}58'$ E. prevented passage to the north of Severnaya Zemlya. Consequently an alternative Survey of the Kara and eastern Barents Seas was performed.

The Eastwind Arctic Survey is the second survey conducted in the area of Kara and Barents Seas aboard a U.S. Coast Guard vessel. The first was aboard CGC NORTHWIND (WAGB 282) in 1965. This cruise was conducted by the Naval Oceanographic Office, the results of which appear in a report by D. Milligan (in press).

The survey was begun on 31 August and completed on 22 September 1967. Objectives of the survey were to gain a greater general knowledge of the physical, chemical and biological characteristics of the water masses of the Kara and eastern Barents Seas, and to conduct bathymetric and limited geological surveys of the area.

Data acquired includes Nansen casts and bathythermograph observations at 125 hydrogrhapic stations; 40 in the Kara Sea, 82 in the Barents Sea and 3 in the Norwegian Sea. Station Locations are shown in Figure 1. Also obtained were 27 bottom samples utilizing a Phleger corer with a three foot barrel and 11 horizontal surface plankton tows with a 0.5 meter, #20 mesh net. Continuous bathymetric profiling was conducted throughout the survey area. Five hundred thirty-two weather observations were taken at intervals of three hours and 266 at intervals of six hours. Seventy two successful radiosonde observations were taken to obtain information on the upper air. Continuous observations of carbon dioxide and ozone content were also made.

DATA ANALYSIS AND PRESENTATION

A portion of the data was processed with the aid of a Digital Equipment Corporation PDP-5 computer. This includes correction of the reversing thermometers, and interpolation of temperature and salinity at specified depths. The processed data were checked for accuracy, coded and forwarded to the National Oceanographic Data Center.

Presented herein are figures displaying the horizontal isopleths of temperature and salinity, Figures 2 to 11; the vertical distribution of temperature, salinity, and oxygen, Figures 12 to 59; and the temperature vs. salinity plots at selected stations, Figures 60 to 81.

PHYSICAL CHARACTERISTICS OF KARA AND EASTERN BARENTS SEA

The Kara Sea Basin is a relatively closed, shallow basin with a volume of approximately 1.04×10^3 km³. The Ob, Yenisy, Pechora and lesser rivers discharge approximately $1.10 \times$ 10^3 km³ of fresh water into the basin annually (Milligan, in press). Consequently a large proportion of the water mass in the Kara Sea is of low salinity.

Surface salinities of slightly less than 9‰ were observed in the proximity of the mouth of the Yenisy River. At only two stations in the Kara Sea did the value of surface salinity exceed 32‰. As might be expected, the extremely low salinity water is confined to the surface layers, that is, the upper 25m.

Vertical sections of salinity across the northern boundary of the Kara Sea from the tip of Novaya Zemlya to Oa Izestig Tsik indicate the region of mixing of the fresh water outflow from the rivers is confined to a relatively small area within the basin. This does not necessarily mean the mixing is rapid, however. The fresh water inflow into the Kara Sea, while relatively large, amounts to less than one-third of onepercent of the volume of the basin per day. Quantitatively this means approximately 3km³ per day must mix thoroughly with the surrounding water in order to maintain the average salinity in the area of mixing. As Sverdrup has noted the effect of the fresh water runoff is likely to be much more marked in summer than in winter (Sverdrup, 1950). The fresh water runoff when mixed with Arctic water with salinity of approximately 34.5% and temperature -1.7° to -1.8° C. probably forms the surface water found to the north of Novaya Zemlya between Franz Josef Land and the Russian Continent. The formed water mass is characterized by temperatures of approximately -1.0 to 0.5° C. and salinities of 25%. to 30% (Milligan, in press).

CHARACTERIZATION OF WATER MASS

Figures 60 through 81 are T-S diagrams at selected stations in the Kara and Barents Seas. These stations were selected with the intention that the great variability of water mass characteristics in these areas should be exemplified. That the water mass characteristics in the Kara Sea are extremely variable was noted by Nansen from data taken from cruises by Nansen and Nordenskiold, (Nansen, 1902).

Figures 73 through 81 show a progressive decrease in surface temperature from 6.75° C. to 1.15° C. from latitude $72^{\circ}00'$ N. to $77^{\circ}37'$ N. in the Barents Sea. The drop in temperature is probably due to surface cooling as the water flows northward.

Figures 73, 74, and 75 show at first glance what appear to be density inversions. However, for these approximate values of temperature and salinity, the lines of constant sigma-t are nearly vertical indicating the density is salinity controlled. Therefore, the sigma-t values actually increase with depth. These figures show evidence of lateral mixing with a different water mass. Figure 11 shows a core of relatively high salinity water entering through the eastern boundary of the survey area. The 34.95‰ isohaline was chosen as the boundary of the core. This water is probably Deep Polar Water described by Nansen (Sverdrup, 1950) and Zenkevitch (1963) which has broken from a gyre originating in a southward flow of Deep Polar Water to the east of Franz Josef Land. Figures 73, 74, and 75 also show a water type of unknown origin in association with the Deep Polar Water. This water type is characterized by temperatures of 0.0° C. to -0.6° C. and salinities of 34.75% to 34.90%.

The oxygen distribution of the Kara Sea was examined using Wust's core method (Wust, 1964), using the 9.0ml/l isopleth as the boundary. Figure 10 shows the isopleth to be closed on three sides and bounded on the fourth by Novaya Zemlya. This may indicate the flow of water masses with discreet characteristics into the Kara Sea basin.

A similar analysis was carried out for the eastern Barents Sea, using the 8.0ml/l isopleth as the boundary again as shown in Figure 10. There is a tongue extending northeastward adjacent to Novaya Zemlya.

Figures 68 and 69, drawn from data taken at stations 30 and 31 only 27.6 miles apart, illustrate the extreme spatial gradients in water properties which occur in the region.

CIRCULATION OF BARENTS AND KARA SEAS

Consideration was given to attempting a computation of dynamic topography in the Kara Sea from the data obtained aboard GCG EASTWIND. Preliminary investigations, however, indicated the area to be too shallow for satisfactory application of the usual technique of referencing each station to a level of no motion. No further effort was made to compute the dynamic topography.

Previous studies have shown current speeds in regions of the Kara and Barents Seas to be quite low. Nansen's drift measurements aboard the FRAM (Sverdrup, 1950) indicate that surface currents in the region of the southern entrance of the Barents Sea move at about 1.5 nautical miles per day. Milligan (in press) placed current meters in two locations in the vicinity of the Kara Sea. One of these was placed thirty miles west of Proliv Vilkitskogo at a depth of 80m. The average velocity recorded was approximately 0.15 knots in a westsouthwest direction. Sverdrup, et al, 1960 indicates that the circulation in the Barents Sea is predominantly counterclockwise and wind driven.

Perhaps one of the most detailed discussion of currents of this region is by Novitskiy (1961). Preobrozhenskiy and Novitskiy distinguish twenty-nine separate currents and their branches as occurring in the Barents Sea. Of particular interest to this study was a current which they labeled as the Pechora Current. This current originates in the Western Barents Sea and flows through the Pechora Sea where a portion of it enters the Kara Sea through Proliv Karaskiye Varota. This is shown in Figures 2 and 4 by a tongue of warm water protruding into the southern Kara Sea at about station 3.

It has generally been accepted that the predominant current scheme in the Kara Sea is cyclonic with water entering from the Barents Sea, flowing adjacent to the east coast of Novaya Zemlya, turning northward and exiting through the northeastern portion of the Kara Sea. Such a circulation is not evidenced in the data of this study (Figures 2, 4, 6, and 8). Rather, there seems to be a general northward flow through the Kara Sea. It is likely that there is some entrainment with the outflow from the Ob and Yenisey Rivers which would contribute to the general pattern of northward flow.

CONCLUDING REMARKS

The studies done by Nansen (1902), Sverdrup (1950), Zenkevitch (1963), Milligan (in press) and this author suggest that the circulation in the Kara Sea is not stationery and, in fact, is characterized by few permanent features. It is doubtful that such differing conditions could be observed without some transient phenomena being present.

Nansen (1902) observed the presence of "'dead water' waves" in the area and cited evidence of oscillations of the boundary between warm and cold currents. Neumann and Pierson (1966) state that conditions of strong density gradients similar to those found in the Kara Sea are very conducive to the formation of internal waves. It is indeed very probable that some of the (temporal) variation of the normally observed oceanographic parameters is due to internal oscillations in the Kara Sea. However, with the present data available, which do not include extensive time series observations, it is very difficult to determine the modes of the oscillations and hence the forces which govern them.

Future surveys in the area might consider the possibility of conducting continuous or close interval serial observations at several stations in order to determine the modes of these oscillations if, in fact, they do exist. Such oscillations would probably be easiest to detect and observe in the summer months when the ice has melted and the river outflow is greatest resulting in a maximum vertical salinity gradient.

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Table of Oceanographic Data

The following are the observed and interpolated data taken aboard the USCGC EDISTO (WAGB 284) and USCGC EASTWIND (WAGB 279) during the Barents-Kara Seas Survey. Presentation is from National Oceanographic Data Center Cruise Listing No. 31–1165.

Notes:

- Depth to bottom—uncorrected sounding depth in meters based on a speed of sound in sea water of 1463.0 m/sec.
- Depth (m)—postcript T indicates a depth determined by thermomometric calculation.
- Sound velocity—in meters per second to tenths according to Wilson's formula.



Figure 1. Chart of Positions of Stations Occupied by USCGC EASTWIND during 1967 Kara-Barents Seas Survey.



Figure 2. Contours of Surface Isotherms.



Figure 3. Contours of Surface Isohalines.



Figure 4. Contours of Isotherms at 10m Depth.



Figure 5. Contours of Isohalines at 10m Depth.



Figure 6. Contours of Isotherms at 25m Depth.



Figure 7. Contours of Isohalines at 25m Depth.



Figure 8. Contours of Isotherms at 50m Depth.



Figure 9. Contours of Isohalines at 50m Depth.



Figure 10. Contours of Isopleths of Oxygen at 8.0 ml/l and 9.0 ml/l in Barents and Kara Seas Respectively.



Figure 11. Contours of 34.95 Salinity and 34.50 Salinity Isohalines in Barents and Kara Seas Respectively.



Figure 12. Vertical Distribution of Temperature, Stations 1 through 6.



Figure 13. Vertical Distribution of Salinity, Stations 1 through 6.



Figure 14. Vertical Distribution of Oxygen, Stations 1 through 6.



Figure 15. Vertical Distribution of Temperature, Stations 7 through 13.



Figure 16. Vertical Distribution of Salinity, Stations 7 through 13.



Figure 17. Vertical Distribution of Oxygen, Stations 7 through 13.



Figure 18. Vertical Distribution of Temperature, Stations 14 through 20.



Figure 19. Vertical Distribution of Salinity, Stations 14 through 20.



Figure 20. Vertical Distribution of Oxygen, Stations 14 through 20.



Figure 21. Vertical Distribution of Temperature, Stations 21 through 26.



Figure 22. Vertical Distribution of Salinity, Stations 21 through 26.



Figure 23. Vertical Distribution of Oxygen, Stations 21 through 26.



Figure 24. Vertical Distribution of Temperature, Stations 27 through 32.



Figure 25. Vertical Distribution of Salinity, Stations 27 through 32.



Figure 26. Vertical Distribution of Oxygen, Stations 27 through 32.



Figure 27. Vertical Distribution of Temperature, Stations 33 through 39.



Figure 28. Vertical Distribution of Salinity, Stations 33 through 39.



Figure 29. Vertical Distribution of Oxygen, Stations 33 through 39.



Figure 30. Vertical Distribution of Temperature, Stations 42 through 46.



Figure 31. Vertical Distribution of Salinity, Stations 42 through 46.



Figure 32. Vertical Distribution of Oxygen, Stations 42 through 46.





Figure 33. Vertical Distribution of Temperature, Stations 49 through 51.

Figure 34. Vertical Distribution of Salinity, Stations 49 through 51.



Figure 35. Vertical Distribution of Oxygen, Stations 49 through 51.




Figure 36. Vertical Distribution of Temperature, Stations 55 through 58.

Figure 37. Vertical Distribution of Salinity, Stations 55 through 58.



Figure 38. Vertical Distribution of Oxygen, Stations 55 through 58.



Figure 39. Vertical Distribution of Temperature, Stations 62 through 68.



Figure 40. Vertical Distribution of Salinity, Stations 62 through 68.



Figure 41. Vertical Distribution of Oxygen, Stations 62 through 68.



Figure 42. Vertical Distribution of Temperature, Stations 69 through 75.



Figure 43. Vertical Distribution of Salinity, Stations 69 through 75.



Figure 44. Vertical Distribution of Oxygen, Stations 69 through 75.



Figure 45. Vertical Distribution of Temperature, Stations 76 through 82.



Figure 46. Vertical Distribution of Salinity, Stations 76 through 82.



Figure 47. Vertical Distribution of Oxygen, Stations 76 through 82.



Figure 48. Vertical Distribution of Temperature, Stations 83 through 89.



Figure 49. Vertical Distribution of Salinity, Stations 83 through 89.



Figure 50. Vertical Distribution of Oxygen, Stations 83 through 89.



Figure 51. Vertical Distribution of Temperature, Stations 90 through 96.



Figure 52. Vertical Distribution of Salinity, Stations 90 through 96.



Figure 53. Vertical Distribution of Oxygen, Stations 90 through 96.



Figure 54. Vertical Distribution of Temperature, Stations 97 through 103.



Figure 55. Vertical Distribution of Salinity, Stations 97 through 103.



Figure 56. Vertical Distribution of Oxygen. Stations 97 through 103.



Figure 57. Vertical Distribution of Temperature, Stations 104 through 110.



Figure 58. Vertical Distribution of Salinity, Stations 104 through 110.



Figure 59. Vertical Distribution of Oxygen, Stations 104 through 110.







Figure 61. T-S Plot, Station 7.







Figure 63. T-S Plot, Station 15.



Figure 64. T-S Plot, Station 18.







Figure 66. T-S Plot, Station 22.





Figure 67. T-S Plot, Station 25.



Figure 68. T-S Plot, Station 30.



Figure 69. T-S Plot, Station 31.







Figure 71. T-S Plot, Station 36B.



Figure 72. T-S Plot, Station 38.

SALINITY 0/00



Figure 73. T-S Plot, Station 42.

SALINITY 0/00

SALINITY 0/00



Figure 75. T-S Plot, Station 65.

Figure 76. T-S Plot, Station 71.



Figure 77. T-S Plot, Station 79.

Figure 78. T-S Plot, Station 86.



Figure 79. T-S Plot, Station 93.





Figure 81. T-S Plot, Station 104.

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			STO	0200	0	120	3498	28	304	000	0931	00	43	14	583	709							
	15	1	OBS	T0201	0	126	3498	3 28	304					14	583	709							
REFERENCI						05.0	STATION	TIME		1 0	RIGINAT	28'5			MAX	1	WAVE		CLOUD	1			
CTRY 10.	CODE	LATITU	DE LO	NGITUOE	sou	ARE	IGMI	1	YEAR	CRUISE	STA	TION		10 MOTIC	DEPTH	085	ERVATIONS	CODE	CODES		S	UMBER	
CODE NO	·		1/10	1 10	10*	+ <u>*</u> +	NO DAY	HR,1/10		+ NO.	NU7	V 8 C 8	+		S.W.P.L.	S DIN.	HGT PIN 3		TTPL AM	1			
3 1 1 1 6	551 ED]	7551	214 0	3033UE	1285	50	08 18	395	1967		JJ2	* 1	4	363	1 03	나 요즘!		45	X Q	ł	l	0002	
						COLC	TRANE DI	5410 01 1010	BAR(A+ETI 1 (mb)		RY V LB B	VET CO	IS. D ^{BOE} D	NO, OBS, EPTHS	SPE OBSERV	CIAL ATIONS							
						36	14 0	5	1 22	4 0	72	.61	4	10			_						-
	MESSENGI TIME HR 1:10	CAST NO.	CARÓ TYPE	DEPTH (m)	- T	٣	s •/	sig	MALT	STECIFIC ANOMA	VOLUME	₹ 0 YN 1 1	0 M. 0 ³	SOU VELC	IND DCHTT	02 ml/l	PO 4-P +9 - 01/1	TOTAL-P vg - st/l	NO2-N µg - of/l	NO3-N #9 = ot/l	51 O.45/ µg = ot/1	pH	100
		1		1						ł		1					1	1	1		1	1	1

TIME OF NO.	CARO	DEPTH (m)	5.1	s *4.	SIG M A −T	ANOMALY-1107	ΟΥΝ Μ. Ε 10 ³	VELOCITY	0.2 ml/t	PO4-P +9 - 01/1	1014L-P vg - st/l	NO2-N yg - et/l	NO3-N #8 - ot/l	\$1 O 45/ µg - ot/l	pH	ć
			•												-	Γ
	STD	5000	L587	3485	2748	0000122	0000	14744	715							
395	055	0000	J507	3400-	2748			14744	715							
0.95	085	5605	158 -	34-95	2751			14744	717							
	STÙ	0510	0542	5440	2152	0005800	0006	14744	714							
095	085	00:U	マケラビ	348+7	2752			14744	712							
	STP	3020	0525	3445	2744	0064875	0011	14723	7 Ç 🖬							
	STD	0030	04/3	35-0	2773	0003859	0015	14704	596							
395	085	0.34	0454	35016	2775			14697	693							
	STD	0050	038.	35 +	2785	0002567	0022	14669	708							
	OBS	3058	∪ 35€	35045	2789			14660	713							
	STO	0075	به به فرن	3500	2791	0002137	0~28	14658	714							
095	U#5	じしきょ	-338	35000	21 -2			14557	714							
	STD	6160	0315	3505	2794	0001-73	0033	14655	7.0							
395	OHS	0107	0300	35055	2774			14648	709							
	STD	0125	0241	3506	2795	3331727	UU 37	14640	708							
	STD	0150	0278	3506	2797	0001582	0041	14642	707							
395	OBS	0:55	3274	35655	2797			14541	707							
	5 T D	5200	0231	35.5	2801	0001238	0045	14630	704							
395	CBS	0205	0223	35050	2801			14627	704							
	STD	0250	0114	3501	2807	0000657	2053	14585	734							
095	CBS	T0282	3331	34971	2810			14540	704							

REFERENCE CTRY ID. CODE NO.	SHIP	LATITUD	E L	ONGITUDE 1/10	SOU	SOEN ARE	STAT	GMT	TIME HR.1/10	YEAR	CRUISE NO.		ATOR'S	N R	OEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'	O8	WAV SERVA	E TIONS PER SEA	WEA- THER CODE	CLOUD CODES	T		NODC STATION NUMBER	
311165	ED	76540	N C	45550E	284	65	08	19	0 <u>49</u>	1967			13 MP. C		0272	02	99	1		47	X 9			000	3
						COLDR	TRANS. (m)	D1R.	SPEED OR FORC	E EAR	D- ER 1) E	DRY	WET BULI	COD	OBS. DEPTHS	SPE DBSERV	ATIONS								
						05	21	00	500) 99	5	522	32	20	10]							
	MESSENGR TIME C	CAST ND.	C A R D TYPE	DEPTH In	1 1	ť	5	•/	SIG	MA-1	SPECIFI	C VOLU	M E 0 ?	₹ △ D OYN, M X 10 ³	. SO	UND DCITY	02 ml/	I PO	4-P - at/i	101AL-P µg - a1/i	NO2-N #9 - 01/1	NO3=N µg - al/l	S1 D.4- µg - o	Si pH	
				-							-														
	t	1 1	ST	່ວວວ		0172	33	66	21	594	00	1122	24	0000	5 14	552	798	5							
	0.40)	OBS	0000	5 6	172	33	659	2	594					14	552	798	3							
	Û4.	3	OBS	000	5 (0171	33	665	5 21	995					14	552	795	5							
	040)	OBS	000	ə ()156	33	718	3 2	700					14	547	801								
			STE	0010		156	33	74	2	702	00	1050) 4	0011	1 14	548	804								
			STO	0020) (158	34	UΟ	2	722	00	0854	+ 7	0020) 14	554	802	,							
	040)	OBS	0024	+ 0	159	34	10:	> 2	731					14	556	814	-							
			ST	0030		0034	34	27	2	752	00	0574	+ D	0028	3 14	503	789	·							
	040)	085	004	7 -0	164	34	628	3 2	789					14	419	752								
			STE	0 0050	- (0141	34	6ь	2	791	00	0201	L L	0035	5 14	431	755)							
	040)	08 S	007	l -(0049	34	83	3 2	B C 2					14	480	769	¥							
			STI	007	5 - (0060	34	84	2	903	00	0093	32	0034	a 14	476	768	3							
	Ũ4()	OBS	009	5 – (094	34	85	7 2	505					14	+463	762	-							
			ST	D 010,) -(086	34	86	2	805	00	0056	54	004	1 14	468	760)							
			ST	012	5 -(0058	34	90	2	807	00	0041	75	004.	2 14	+486	752	2							
	040)	085	014	+ -(050	34	917	2 2	808					14	+493	749	9							
			516	015) — I	0058	34	91	2	808	00	0031	71	004	3 14	+490	75.)							
	04(0	085	019	1	0076	34	921	3 2	810					14	+489	75t)							
			ST	020) - (0071	34	94	2	811	00	0009	36	004	5 14	+493	744	÷ 							
	040	5	085	1021	5 -1	1057	- 34	96	72	813					14	+502	715	>							

PEFERENCE	SHIP	LATITUD	e L	.ONGITUDE	M A R	ARE	A 12	TION IG MT	TIME	Y	EAR	CRUIS		ATO	2'S	DE	PTH TO	MAX, DEPTH	OBS	WAVE ERVAT	ONS	WEA- THER	CLD	U D DES		1	NODC	
CODE NO.	CODE	·	1/10	· '1/10	10*	11.	MO	OAY	HR,1/1	0		NO.	1.	NUM	BER	BOT	TOM	S'MPL'S	ĎIR.	HGTPE	R SE	A CODE	TYPE	A M T			NUMBER	
31116	ED	7721	5N C	5948¢E	283	79	08	19	197	1	967		00)4		02	88	02	99	Ż		10	X	Q			0004	1
						WA	TER	1	WIND		BARC)- L	AIR TE	MP. *	C	N	0.	SPEC	LIAL									
						COLOR	TRAN!	RIO -	. SPE FO	ED IR RCE	METE (mbs	R 1	DRY BULB	8U	ET COD	DEP	BS. PTHS	OBSERV	A TION S									
						05	10	00) si	0	03	7	017	0	17 4	1	Ū	,										
	MESSENGE TIME	CAST	CARD TYPE	DEPTH (m)	т	°C	S	•/,,	5	IGM	\ −T	ANO	IC VOLL	107 107	∑ ∆ C DYN A x 10 ³	A	SOU VELO	ND CITY	0 2 mi/i	90 a	-9 a1/3	101AL-P µg - at/1	NO2- Pg • 0	-N 1/1	NO3~N 9g - o1/l	SiO4− 99 • al	51 pH	500
			STI	0000	C)154	33	819	1	265	8	00	1466	54	000	Û	14	537	801									
	19	7	OBS	0000	C	154	33	319	0	265	8						14	537	801									
	19	7	UBS	0005	C	154	33	319	0	265	8						14	538	803									
			STI	0010	C	5151	33	320		265	9	00	145	70	001	5	14	538	815									
	19	7	OBS	0010	C	0151	- 33	3201	о ;	265	9						14	538	815									
			STI	0 020	- C	020	34	09	į	274	0	00	0640	+6	002	5	144	474	853									
	19	7	OBS	0024	-0	069	34	133	9	276	3						144	456	850									
			ST	0030	-0	104	34	42	ŝ	277	0	00	0398	32	003	1	14	442	828									
	19	7	OBS	0048	-0	141	34	61	6 7	278	8						144	430	760									
			STI	0050	- C	128	⁄ د	163	į	278	8	00	0221	34	003	7	144	437	755									
	19	7	OBS	0073	- C	028	34	176	2	279	5						14	489	720									
			STO	0075	- C	0025	31	177	į	279	5	00	016.	27	004	2	144	49]	720									
	19	7	085	0098	- ú	0011	30	81	7 2	279	8						14	562	717									
			ST	0100	- 0	0017	34	82	1	279	9	00	0128	33	004	6	14	499	718									
			STI	0125	- C	072	34	+8 Z	é	2 8 C	2	00	010.	22	004	8	144	478	728									
	19	7	OBS	0140	- 0	098	34	84	3	280	4						14	470	730									
			ST	0150	- C	097	34	+85	ė	280	5	0.0	0068	3 2	005	1	14	471	728									
	19	7	035	0194	-0	084	34	+92	9	281	1						14	485	716									
			STO	0 0200	-0	083	34	•94	i	281	2	00	2004	+2	005	2	14	487	718									
	19	7	OBS	T0247	- (0073	34	+95	1 .	281	2						14	500	732									

REFERENCE	SHIP	LATITUD	E	LONGITUDE	0CT	MARS	DEN	ST.A	TIDN IG M	TIME	Y	(EAR	CRUISE		ATOR	'S DN	DEPTH 10	DEPTI	0	WA SSERV/	VE A TIONS		NEA-	CLOU	D S		NODC]
CODE NO.	CODE	•	1/10	1/10	Ξ	10*	1.	MO	DAY	HR. 1/	10		ND,	١	UMB	ER	BOTTON	S'MPL	S DIR.	HGT	PER S	EA	001	TYPE A	w1		NUMBER	
311165	ED	77276	N	07528GE		2.81	75	0.8	20	12	3 1	967		50	5		0227	02		0			10	x			0005	
1 2 4 1 4 2 9 2							WA	TER	Ť	WIND			<u> </u>	AIR TE	A.P. X	: 1	NO.			1					, , , , , , , , , , , , , , , , , , ,	,	0000	
							COLOR	TRAN Imi	s DI	R. 5P F0	ELD DR IIC E	METE	R 3 8	DRY	W E BUI	T COD	DEPTH	OBSER	VATIONS									
							Ü6	11	3 0	c s	00	07	5 0	17	0	17 6	04			1								
	MESSENGE	CAST NO.	C ARD TYPE	DEPTH	(m i	1	r		s •4.		iig m A	A-1	SPECIFI	C VOLU	M E 0'	₹ △ D DYN. N x 10 ³	SC VEL	UND DCITY	0 2 ml		04-P 9 - 91/1	101	4.L.—₽ 01/l	NO2-1 29 - 01/	NO3-N 1 µg + at/1	SI 04-	51 р.н. э1/1	500
	HR 1, 30	+				+		+				-			+					-+-		+				+	-	+
	1	r I	c T	2 200	0	0	0 4 1	1	1.20	Ţ	261	7	0.0	.805		2010/	<u></u>		87	7		1		l.	1	l.	I	
	1 7	,	0.00	0 000		-0	001	2	120	2	251	7	004	.000	-	5000	1	4434	87	,								
	12	4 6	005	000	5	-0	001	ر ه	129	-	251 251	7					1.	4404	88.	,								
	+ 4	+	503	D (U)		-0	094	ر ٭	142	0	262	7	<u>а</u> с.	27.16	5	0021	4 1	4401	88.	,								
	12	<i>.</i>	086	0 001	ū	- 0	0.44	4	141	5	252	7	001			0.01	1	4401	88.	- -								
		*	SI	D 302	0	ŭ	145	3	365	-	270	9	001	975	8	004	5 Ī.	4410	82	3								
	12	4	055	002	5	- Ū	164	3.	441	7	277	2					ī.	4413	80.	2								
			ST	0 003	0	- ċ	164	. و	447		277	16	000	. 341	1	005	، 1	4414	19	5								
			ST	D DJ5	0	- C	165	و	464		279	₽ L	000	209	4	005	8 1	4420	78	4								
	12	4	OBS	005	1	- C	165	و	464	>	279	1					1.	4420	78.	3								
			ST	D 007	75	- C	164	3	472		279	16	000	0151	0	006	3 1	4425	78	1								
	12	4	OBS	001	16	- C	164	3	471	8	279	7.7					1	4425	78	1								
			ST	D 010	00	-0	155	3.	475		27.4	ψų	00	0125	2	005	5 1	4434	77	8								
	12	4	08s	010	1	- C	155	3.	475	ć	274	19					1	4434	77	в								
			ST	0 012	2.5	-0	152	3.	478		280)1	00	.104	U	046	9 1	4440	774	4								
			SI	D 015	0	-0	147	3	481		280	13	0.00	0093	1	007	1 1	4447	75	9								
	12	4	085	015	3	- (140	3	48.)	4	280	; 3					1	448	76	5								
			ST	D 020	00	-0	135	3	485		280	15	0.01	0651	7	007	5 1	4452	75.	و								
	12	4	085	1020	4	- C	134	Э.	485	5	280	7					1	4453	75	1								

REFERENCE CTRY ID. CODI NO.	SHIP	LATITU	DE 1, 15	LONG	HTUDE 11.10	De.FT	MAR'SQU	DEN ARE	ST A	IGMT	TH MAE 	YEAR		ORIGIN SE	ATOR STATIC NUMB	'S) N E P	-	DEPTH TO NOTICH	MAX DEPTH OF S'MPL	D8	WAVE SERVATI [HGT] PE	ONS E SEA	WEA- THEP CODE	CLOUD CODES	t	S N	NODC TATION UMBER	
31116	ED	7813	ISN	085	2235		280	85	зв	21	583	1967		00	5			UCat	01	0.0	2			62			0006	
								N A	TER	T	WIND		0.	A /R TE	MP 1			NO.	c e e									
								COLOR CODE	* 8.4 %	S. DR	SPEE	0 A+ET	E1	DRY RULB	W E II U I	τ. 8.	000	DBS. DEPTHS	OBSER	ATIONS								
								05	1	2 3	2 5	5 14	Ũ	.22		11	6	00]						_	_
	MESSENGI TIME HIR 1 10	CAST NO.	САН Ттр	e E	DEPTH	(m)	Ţ	τ		s ·	510	- A − T	SPEC ANI	INC VOLU	5'	S . DYN	2 D 10	SOI VELO	UND DCITY	0 2 ml/	1 PO 1	= P 1	FOTAL-₽ +g = 01/1	NDy=N µg= at, t	NO3+N µş + ot/l	SIDa—Si µg-αt/l	рН	500
	,			1			+		-																			
			s	to .	000	00	-0	165	ં ક	193	2	510		22447	7 5	J	55	14	376	463								
	38	4	ЗB	5	500) ၂	- 0	168	3	1 +21	5 2	570						14	372	923								
	0.8	4	ОB	5	000) 5	- C	173	3	254	2	620						14	379	928								
			S	CT	001		-0	174	3	624	2	521	Ú.	1.022	2.1	00	i e 4	1 44	379	930								
	0.8	4	್ರ ತ	5	001	<i>~</i>	- 0	174	3	254	. 2	620						14	374	930)							
			5	10	002	: Q	- 0	175	- 3	294	2	543	0 (0156.	10	Û ()	3.8	14	592 C	879	,							
	0.8	4	08	5	002	2.2		175	4	3 - 7	z 2	642						14	389	855	1							
			5	10	0.51	Ú	- 3	171	3	14.	2	640	Ĵ.	116:	ا هه ال	00	51	14	395	824								
			- 5	τD	001	5		169	3	430	2	1621	0	00472	2.2	Ű.	67	14	413	745	,							
	8	**	ЭB	S	004		- 、	143	- 3	429	2	761						14	413	74								
			Ś	10	00	15	-0	154	3	442	Z	774	С.	3- 27.	• 1	20	7 H	14	414	743								
	ି 9	4	08	S	001	7 =		164	3	446	2 2	773						14	414	74:	;							

REFERENCE CTRY ID. CODE NO.	SHIP COOE	LATITU	OE	LON	GITUDE	DRIFT	MAR SOL	SDEN LARE	STAT	GMT	IME (R.1/10	YEAR	CRUISE NO.	ORIGINAT STA NU	OR*S TION MBER		OEPTH TO BOTTOM	MAX OEPTH OF SIMPL	DIR.	W A SSERV	VE ATION	S SE A	WEA- THER CODE	CLC CO TYPE	DUD DES			NODC STATION NUMBER	
31116	5 ED	7749	8N	J 8	7100	E	280	77	0.8 IER	23	036 VINO	1967		007	. °C		0132 NO.	01	1_00	210				5	6			0007	
								COLOR	TRANS.	DIR.	SPEED OR FORCE	(mbi	ER B	ORY IULB	W E T B U L B	CODE	OBS. DEPTHS	OBSER	A TION !										
								05	09	30	505	17	0 0	000 -	006	8	60												
	MESSENGR TIME HR 1/10	CAST NO.	C AR TYP	O E	DEPTY	i (m.)	,	°C	s	•/••	sig	MA-T	SPECIFIC	C VOLUM	¥ D	∆ 0 YN, M X 10 ³	. SOL VELC	UNO DCITY	0 2 ml		PO4-P g - a#/l	T (01AL-P vg - at/l	NO 2-	- N 01/1	NO3-N yg - p!/l	SIO4-1 µg - 01	5• /I рн	900
	0.3	4	S 08	TD	00	00	- (0166	31	66 660	25	49	002	25030	0	0000	14	369	910 917										
	03	6	08	5 5 тЮ	00	05	-(0172	32	213 28	25	947 194	00,	20220	a	023	14	375	92	2									
	03	6	0B S	S TD	00	10 20	- (- (0172 0171	32 32	282 36	25	99	00	19635	C	043	14 14	376 379	92 91	þ þ									
	03	6	08 S	S T D	00	25 30	- (- (0171 0163	32 32	395 91	26 26	08 50	00	15392	C	060	14 14	381 393	91 85	9									
	03	6	S 08	TD S	00	50 50	- (- (0141 0141	34 34	27 271	27	60 60	000	04993	C	080	14	426	71	3									
	03	6	08	TD S TD	00	75 00	-(0141 0141	34 34 34	35 346 39	27	66	00.	14406 14069	0	1103	: 14 14 : 14	431	71	1 7 4									
	03	6	0B 5	S TD	T01	00 00 25	- (- (0142	34	368 44	27	69 73	000	03652	c)112	, 14 14 14	435	70	9 8 4									
	03	6	08	s	T01	36	- (0146	34	460	27	75					14	440	72	1									

PEFER	NCE	61410			_	r a	MAR	SDEN	ST A	TION 1	IME			ORIGIN	ATOR	's		OEPTH	MAX.		WA	VE		WEA-	CLC	ouo			NODC	
CTRY	ID.	CODE	LATITU	OE	LONGITUOE	NDC	sou	ARE		IGMT		YEAR	CRUIS	E	STATIC)N	B	TO MOTTOI	OF	0	SERV.		15	CODE	60	DES		1	NUMBER	
0000	NU.			3,/10	.1/10	, -	10*	1.	MO	OAY	4R.1/10		NO		NOM	-C.K	+		SMPL	S DIK	ны	PER	SEA		1116	AMT				i i
31	1165	ΞD	7702	ON	0812808		280	71	08	24	153	1967		00	8		C	0042	20	00	0				5	18			0008	i -
								WA	TER	T	WIND	BAR	o. L	AIR TE	MP. 1	<u> </u>		NO.	SPE	CIAL	ł									
								COLOR	TRAN Im3	DIR.	SPEED OR FORC	E (mbr	ER 1	DRY BULS	BUI	T CO .8	DE	OBS. DEPTHS	OBSERV	A TION S										
								06	10	33	508	3 22	5	022	0	11 7	1	09												
		MESSENG TIME	CAST NO.	C A S	D OEPTH	lm i	T	r		•/	sig	M A - T	SPECI	HC VOLU	J M E 10 ⁷	₹ △ OYN. x 10	0 M. 3	SOL	UNO DCITY	0 2 mi/	ין רי וע	04-P	т. Т.,	DTAL—P rg = ol/l	NO2	~N 01/l	NO3~N ¥9 - at/l	51 O4-5 yg - 61/	і і рн	100
																														T
		1		S	TD 000	00)141	29	932	2	359	00	4314	40 °	000	00	' 14	348	889	? '									
		15	3	OB	s 000	υC	C	141	2 9	9316	23	359						14	348	889	9									
		15	3	08	s 000)5	-0	151	29	835	24	401						14	351	884	F.									
				S	TD 001	10	- û	158	30)54	24	458	00	3366	52	003	8	14	359	856	>									
		15	3	ОB	S 00	10	- C	158	3(540	24	458						14	359	856	>									
		15	3	OB	S 00.	15	- C	160	3 :	179	2 5	510						14	367	851	L									
				S	TO 001	20	- 0	0159	3.	277	2.6	539	00	1648	35	006	ۇ ر	14	391	790	3									
		15	53	ОB	s 00.	20	- C)159	32	2770	26	539						14	391	798	3									
		15	53	08	\$ 00.	25	- û	0157	3.	1203	20	574						14	399	760)									
				S	TD OU:	ЗŨ	-0	0150	3	341	20	690	00	1150	50	007	77	14	406	74	3									
		1 5	53	ОB	S 00	30	-0)150	3.	3413	20	ь90						14	406	74	3									
		1 5	53	08	S 00	35	-0)150	3	3428	20	692						14	407	744	2									
		15	3	08	s 004	40	- 0	0150	3	3436	20	692						14	408	74	5									

REFERENCE	CHIP		T	-	MAR	SDEN	STAT	ION T	IME		T	OR	GINAT	DR*S		DEPTH	MAX		w,	A VE		EA-	CLOUD			NODC	1
CIRY ID.	CODE	LATITUO	E	LONGITUDE		ARE		GMT		YEAR	c	RUISE	STA	TION		TO NOTTOM	01	0	BSERV	ATIONS		HER	CODES			STATION	
NO.	+		/10	1/10	10.	+ + +	MOIO		(R.1/10		-+		NUT	0.00	-+		SWIL	S DIR.	HG	T PER S	1A -		TYPL AM				
3 11 165	ED	78400	N	071180E	281	81	08	25	085	196	7	_ 1	009			0484	05	00	<u></u> 2Ι٥		1	70	6 8			0009	
						WA		<u> </u>	VINO	BA	RO-	AIR	E TEMP.	τ.	VIS	NO.	571	CIAL									
						COLOR	TRANS. (m)	DIR,	0	, ME	TER baj	BUL	Y V .6 6	ULB	CODE	OEPTHS	OBSER	A TIDN S	1								
						36	11	27	<1/	1 3	01	-	+		7	12			1								
					-1	00	+++	1 4 1	1311		<u> </u>	<u> </u>		12	<u> </u>	1	I		1		1					-	
	HR 1/10	NO.	CARD	DEPTH (m)	1	°C	s	•/	sig	MA-T	1	ANOMAL	/OLUME .Y-1107	or x	∆ D N, M. (10 ³	SO VEL	UND OCITY	02 ml/	a	PO4-P +9 - 01/1	101A 99 -	L-F 07/1	NO2-N 49 - 01/l	NO3-N 49 - 01/l	SI O4! vg • al.	ы /1 рН	C C
							1		+		+			1		1			-†		1	-				+	+
	1		< T	0000		บลอ	 	67		54.9	1	0025	04.8	' o	000	14	386	204	. 1		I			1	1	1	1
	0.86		089	00000	-(1130	31	667	2	549		4022	040	u	000	14	386	664	5								
	0.86	,)	08	0005	- (152	31	807	2	560						14	378	89	7								
			ST	D 0010	-(148	33	05	2	561		0014	344	0	020	14	399	969	7								
	086	,	085	0010	- (148	33	053	2	561						14	399	969	9								
			ST	D 0020	- (164	33	72	2	716		0009	174	0	U31	14	402	869	9								
	086	•	085	0024	- (165	33	924	2	732						14	403	839	9								
			ST	D 0030	- (172	34	10	2	747		0006	230	0	039	14	405	817	7								
	086)	085	0049	-9	0178	34	478	2	777				-		14	411	774	2								
			51	0 0050	-9	178	34	48	2	778		0003	287	0	049	14	411	774	2								
	0.86	•	085	0074	- 9	174	- 34	569	2	185		A	6.05	~		14	418	760	2								
	0.87		000	0 0075		1112	34	21	2	185		0002	545	Ų	~ 50	14	419	766	2								
	000	•	065	0044	-1	142	34	042	~ ~	790		2003		0		14	439	764	-								
			 	0 0100		1101	34	27	2	790		0002	74.2	0	062	14	440	704	<u>-</u>								
			ST	0 0150	-0	0071	34	77	2	797		0001	441	0	071	14	482	764									
	0.86	,	089	0150	-0	0.71	34	765	2	797				0	* 1 4	14	482	764									
	086	>	085	0199					-							-	401	743	9								
			ST	D 0200	- 0	082	34	80	2	508		0001	113	õ	077	14	486	74	3								
			ST	D 0250	- (090	34	d 4	21	504		0000	750	ō	082	14	491	740	2								
	086		085	0290	- (0094	34	067	2	зüь						14	497	741	1								
			ST	D 0300	- (0.94	34	87	2	306		0000	515	0	Ú 8 5	14	4 78	74	1								
			51	D 0400	- (034	34	93	23	311		0000	025	0	088	14	515	746	5								
	086	,	085	T0402	- <	094	34	930	2	811						14	515	740	>								
	086		085	0472		1.3	34	962	2	814						14	523	73	7								

REFE	ID.	SHIP COOE	LATITUDE	LONGITUOE	Deut t	MARS SQUA	DEN	517	IGM	TIME	YEAR		DRIGINATOR'S STATION NUMBER	OEPTH TO BOTTOM	MAI, OEPTH OF	08		TIONS	WEA- THEP CODE	CLOU	D ES	NODC STATION NUMBER
31	1165	ED	6025UN	07219UE		424	U2	00	26	065	1967		010	0556	05	00	H GT	PLP SLA	05	9	8	 0010
							4.W COLO#	TER TRAN	L Dis	WIND SPEL CIP	BARC D METE (mbs) #)	AIR TEMP "C V DRY WET CO ULB BULB	NO. DE OBS. DEPTHS	SPEC	TAL TIONS						

UO 11 JU SŨŬ 2U7 UO6 UU0 5 12 MESSINGE CAST CAPD THE 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S OD DYN	$ \begin{array}{c c} NO_{3}-N & SIO_{4}-SI \\ \mu g + at/I & \mu g + at/I \\ \end{array} \\ 0H \\ \end{array} $
MESSINGE CAST CAPD THE 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NHE 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NHE 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S △ O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S O NH 0° NO. TYPE DEPTH (m) T ℃ S * SIGMA-T SHCORC VOLUME S O NH 0° NO. TYPE S O	NO ₃ -N SIO ₄ -Si yg + at/l yg + at/l 9H
	, , ,
STD 0006 -0164 3107 2501 00.9548 0000 1436. 931	
366 OBS 3000 -0164 31674 2531 14362 931	
366 OBS 3005 -0176 32555 2621 14377 927	
STD 0010 -0176 3258 2623 0017919 0024 14379 924	
066 OBS 0010 -0176 32580 2623 14379 924	
STO 0020 -0175 3264 2628 00.7489 0041 14381 931	
066 OBS 0025 -0175 32663 2630 14383 934	
STD 0030 -0176 3301 2658 0014595 0057 14388 915	
STD 0050 -0181 3400 2739 0000548 0075 14403 852	
066 088 0050 -0181 34002 2739 14403 852	
STD 0075 -0185 3436 2768 0004205 0093 14410 797	
366 OBS 0075 -0185 34356 2768 14410 797	
STO 0100 -0174 3451 2780 0003016 0102 14422 776	
Ú66 005 0100 -0174 34513 2780 14422 776	
STD 0125 -0122 3460 2766 0002504 0109 14452 763	
STD 0150 -0076 3467 2795 0002059 3115 14469 750	
066 085 0151 -0045 34675 2791 14470 749	
STD 0200 —0119 3475 2798 0001341 0123 14468 768	
066 OBS T0203 -0120 34753 2798 14468 769	
STO 0250 -0118 3479 2601 0001021 0129 14477 764	
STD 0300 -0113 3463 2004 0000726 0133 14488 758	
066 085 0300 -0113 34829 2804 14488 758	
STD 0400 -0094 3492 2815 0000105 0138 14515 742	
066 085 T0400 -0094 34918 2810 14515 742	
STO 0500 -0100 3496 2814 -0000267 0137 14529 742	
066 OBS T0539 -0109 34966 2615 14532 742	

REFERENCE COB SHIP ID LATITUDE CODE LONGITUDE EST SOLARS SOLARS SOLARS JATIDN ID DOETH CRUISE DEFTH STATION NO. DEFTH NO. DEFTH OFFH DEFTH DEFTH OFFH	THER CODES	NODC STATION NUMBER
311165 ED 81265N 078170E 929 18 08 27 039 1967 U11 0165 02 00 0	71 X 9	0011
CODE int) DIR. Or intervention of the source		
$\begin{array}{c cccc} \mbox{McSSENGR} & cast & card & depth (m) \\ \mbox{Inve or ND} & Type & Depth (m) \\ \mbox{He} \ 1/10 & Type & card & $	g = ot/8 µg = ot/1	NO3-N 5104-51 pH
STD 0000 -0174 3340 2690 0011663 0000 14389 860		
040 0BS 0000 -0174 33395 2690 14389 860		
040 OBS 0005 -0172 33869 2728 14398 852		
STO 0010 -0183 3388 2729 0007931 0010 14394 852		
040 OBS 0010 -0183 33877 2729 14394 852		
STD 0020 -0182 3388 2729 0007902 0018 14396 852		
040 OBS 0026 -0182 33882 2729 14397 852		
STD 0030 -0178 3405 2743 0006600 0025 14402 814		
SID 0050 -0159 3463 2789 0002188 0034 14422 699		
STD 0100 -0121 3480 2802 0000988 0041 14451 734		
040 OBS 0103 -0121 34805 2802 14452 732		
STD 0125 -0119 3481 2803 0000909 0043 14456 750		
040 OBS T0128 -0119 34812 2803 14457 751		
STD 0150 -0119 3481 2803 0000878 0045 14460 750		
040 OBS T0165 -0119 34813 2803 14463 739		

REF	ERENCE ID.	SHIP	LATITUDE	LDNGITUDE	PRIST CTR	M ARSI SQU A	DEN RE	STA	IGMT	TIME I	YEAR		STATION	DEPTH TD	MAX. DEPTH DF	085	WAVI ERVAT	IDNS	WEA- THER	CLC CO	DUD 1015	NODC	
COD	E ND.	0001	1/10	1/10	_ ŧ[10*	1.	MD	DAY	HR.1/10		ND.	NUMBER	aonom	S'MPL'S	DIR.	H GT PI	R SEA	1000	TYPE	AMT	 (TO MOLA	
3	11165	Ew	72243N	056307E		283	26	08	31	150	1967		001	0300	03	0.8	2			6	7	001	2

				WAT	ξK	W	IND	BARO	AIK IE	mr.	6	100	NÔ.	50	FCIAL							
				CDLOR	TRANS. Imi	DIR.	SPEEO OR FORCE	(mbs	R DRY) BULB	B	VET C	CODE	OBS. DEPTHS	OBSER	VA TION S							
				06	14	00	S00	25	8 039		206	7	10									_
MESSENGE CAST TIME OF ND. HR 1/10	C ARD TYPE	DEPTH (m)	T	'n	s	•4.	SIGM	A-T	SPECIFIC VOL ANOMALY-X	UME 10 ⁷	₹ Z DYN X	Ър 1. м. 10 ³	SD VEL	UNO DCITY	O2 ml/i	PO4-P 20 - 01/1	TDTAL-P #9 = ot/l	NO2-N 9 - al/l	ND3-N 48 - at/l	SID₄—Si µg - ot∕t	pН	s c c
	STD	0000	0	282	- 31	61	250	2	00275	83	00	00	14	572	807							
150	OBS	0000	(282	31	607	252	2					14	572	807							
150	085	0005	0	0171	32	046	256	5					14	530	858							
	STO	0010	C	010	32	91	264	4	00160	11	00	22	14	470	872							
150	OBS	0010	(010	32	908	264	4					14	470	874							
	STD	0020	- 0	119	33	89	272	28	00079	96	00	134	14	426	853							
150	OBS	0025	- (0163	34	221	275	6					14	410	843							
	STD	0030	-0	168	34	25	275	9	00050	89	00	40	14	409	829							
	STD	0050	-0	179	34	37	276	9	00041	28	00	150	14	409	785							
150	OBS	0050	-0	179	34	370	276	9					14	409	785							
	STD	0075	-0	175	34	47	277	77	00033	42	00	159	14	417	760							
150	OBS	0075	- (0175	34	472	277	77					14	417	760							
	STD	0100	- (0170	34	53	278	31	00028	97	00	67	14	424	749							
150	OBS	0100	-(170	34	530	278	31					14	424	749							
	STD	0125	- (0170	34	57	278	35	00025	77	00	74	14	+429	746							
	STD	0150	- (0170	34	61	278	88	00022	57	00	080	14	433	736							
150	OBS	0152	- (0170	34	615	278	38					14	434	735							
	STD	0200	- ()166	34	67	279	93	00017	83	00	90	14	444	693							
150	OBS	10203	- (166	34	673	279	93					14	+445	696							
	STD	0250	- (0166	34	71	279	96	00014	53	00	98	14	+453	674							
160	080	TO 2 0 1	- (1140	21	720	270	20					11	4.67	667							

																											-
REFERENC	E SHIP	LATITUDE	LD	NGITUDE	DCT	MARS	DEN	STA T	ION G A 1	TIME 1	YEAR	CRUISE	ORIGIN A	TOR'S		DEP1H TO	DEPT	X. H 08	W A ISERV	ATIONS	WE. THE	1- C 8 1	CODES	Γ		NODC	
CDDE NO		• 1/	10	1/10	۲¥۲	10*	111	MO	YAC	HR,1/10		NO.	N N	UMBER		BOTTON	S'MP	L'S DIR.	HG	PER S	LA COL	11 11	FPE AMI			NUMBER	
31110	55 EW	72090	N 05	7527E		283	27	08	31	185	1967		00	2		0245	0	2 09	2				6 8			0013	
							WA	IER		WINO	BAR	. L.	A IR TEM	P. °C	_	NO.		RC IA I									
							COLOR	TRANS.	DIR.	SPEED OR FDIICE	M ETE (mba	R	ORY ULB	WET BULB	CDD	OBS. OEPTHS	OPSE	EVATIONS									
									03	505	25	6 L	39	022	7	09]								
	MESSENGE	CAST NO.	CARD TYPE	DEPTH	(m)	T	٣	s	•/	sign	v - 1	SPECIFIC	C VOLUA	,ŧ 0	Δ0 17N, M x 10 ³	so Vel	OCITY	0 2 ml/	4	PO 4P g - 01/1	TOTAL-	0 Ni 1 PB	02-N 1-01/1	NO3-N 49 - at/l	51 O.4- 98 - 0	-Si pH	5
	MR 1/10	1						+						-+-					-			+					+
		· · · ·	STO	1 000	0	0	594			1	1			1		1		749	2		I	•			1	1	
	1.0	-	0.80	000	0	0	594											740	2								
	10	5	003	0000	5	0	575	31	0.27	. 24	1.7					1.	4490	77)	1								
	10	5	003	000	á	0	640	21	543	2 24						1.	4463	887	7								
	10	2	510	000	0	0	407	21	75	2 2 4	21	00	766	0		1	4636	891	í								
			510	001	0	-0	000	33	48	26	2 I 0 0	001	1150	7 5		1	4074	825	7								
	1.0	6	000	002	5	-0	1143	34	പം	2 27	266	00				1.	6618	802	à								
	10	2	610	002	6	_0	153	34	14	27		0.07	1597	a		1.	4415	a 0.4	<u> </u>								
			510	005	0	-0	178	34	33	27	14 F	000	1443	8		1	4409	785	5								
	18	5	085	005	ĩ	-0	179	34	330	3 27	66	000		0		- ī.	4409	784	4								
		·	STO	007	5	-0	175	34	42	27	73	0.04	1374	0		1.	4410	750	5								
	18	5	085	007	6	-0	175	34	428	3 27	73			-		1.	4416	749	,								
			510	010	ŭ	-0	170	34	52	27	80	0.03	300	3		1.	4424	741	7								
	18	5	085	010	1	- C	170	34	520	27	81					1.	4424	746	5								
	• •	-	STO	012	5	- C	169	34	56	21	84	00.	265	6		1 4	4429	721	1								
			STD	015	0	- C	168	34	51	27	88	000	1225	3		14	4434	671	1								
	18	5	085	015	3	-0	168	34	61	1 27	88					1	4435	663	3								
		-	STD	0.20	0	-0	166	34	69	27	94	000	0163	1		1.	4445										
	18	5	085	1022	44	- C	165	34	72.	27	97					1	4450										

REFERENCE CTRV ID. CODE NO.	SHIP CODE		DE 1/10	LONGITUD	E 10	501 501	SOEN JARE	STA MO	TION T IGMTI DAY H	IME (8,1-10	YEAR	CRUISE NO.	O#IGIN S	ATOP TATIC	S IN EP	DEPTH TO BDTTO	DEPTH OF S'MPL	0 5 D18	WA ESERVA		i t A	WEA- THEP CODE	CLOU CODE	D S 47		NOOC STATION NUMBER	
31116	5 EW	7156	ON I	J5919	ΣE:	1283	3 19 MA	6.0	31	2171 MIND	1967	1	L U O	3	- 1- 1	013	1 01	1_08	511		I		518	3	1	0014	
							CODE	*RANI Imi	L DIR.	37110 0.0 1.01CI	BARG METE (mbi	0- ER 1	DRY	W E BUL	T CODI	DEPTH	SPE OBSERV	CIAL (ATION!	s								
								1	02	SU7	25	3 (046	0.	1 7	07								_			
	MESSENGE TIME HR 1, 10	CAST	C A R Typ	D DEP	the lime		r ' C	5	÷L.	sigi	MA-T	SHCIP	C VDLU FALT-EI	mt 0'	₹ ∆ 0 01N, M x 10 ³	. VE	DUND OCITY	03 mi	/L P	0 P	10	TA 1 - P	NO2-N 49 - 01/	NO3~N 28 - 01/1	SI O µg - at	ir 17 pH	500
								1													1			T			T
	,		S	10 0	000		0717	2 9	984	23	3.7	00	4524	2	0000		4730	71	5								
	21	7	0B	s o	υOŬ	1	0717	- 29	2842	23	37					1	4730	71	5								
	21	7	08	s 0	005		1716	- 25	1042	23	37					1.	4730	71	5								
			S	10 0	010		0721	20	95	23	45	00	4448	ь	0045	> 1 -	4734	72	0								
	21	7	05	5 0	616		5721	6	4951	23	45					1	4734	72	0								
			S	TD 0	ΰ2U		283	3.	286	25	i.	00	1011	3	0076	1	4593	78	С								
	21	7	ОЬ	s o	025		0126	3.	3854	21	13					1	4530	80	1								
			S	τü 0	630	1	0000	30	394	21	26	00	054		0009	9 1	4522	80	7								
			S	10 O	050	-	0035	34	+20	27	50	0.0	0591	7	0104	. 1	4474	82	2								
	21	7	08	s c	v50	-	0035	ه و	+232	21	50					1	4474	82	2								
			S	TD 0	075	-	8000	34	- 55	27	165	00	و 44 44 ن	1	0117	7 1	4451	01	9								
	21	7	08	5 0	J75	-	0098	34	354	27	65					1	4451	81	G								
			S	tD o	100	-	J11J	34	40	27	7.4	JÛ	0362	8	0121	7 1	4451	80	c								
			S	υ στ	125	-	0122	3.	•53	27	180	00	4 ن د ر	J	0135	5 1	4451	78	4								
	21	7	08	S 0	100	-	0124	34	4540	27	191					1	4451	77	в								

REFERENCE	SHIP	LATITU	DE	LONGITUDE	1.0	MARS SQUA	DEN NRE	STAT	ION T	IME	YEAR	OF CRUISE	GINATO	0.8°5		DEPTH TO	DEPT	- H 085	WAVE ERVATIONS	WEA-	CLOUD			NODC	1
CODE NO.	CODE	•	1 10	1 1/1	o ^o ž	10*	1*	NO.	DAY	R. 1710		NO.	NUN	BER		801104	S'MPL	S DIE	HGTPERS	A CODE	TTPL AM	7		NUMBER	
311165	Ew	7140	ON	0603878		282	iu wa	0 9 rea	¥1 [014 1 VIND	957		004 P. TEMP	2		د7ن ND	<u> </u> _0:	Lau		1	6 6			0015	
						[COLOP	18ANS (m)	DIR.	SPELD OB FORCE	METE Imbe	1 DR	IV V	VET ULB	CODE	OBS, DEPTHS	OBZER	VATIONS							
									21	502	27	1 04	7 3	28	7	05									
	MESSENGE TIME	CAST	C AR TYPI	D DEPTH	(m)	1	٣	s	•/.,	SIG M	A-T	SHECIFIC	VOLUME	S L DYN X	4 D 10 ³	SO VEL	UND	0 2 m l/t	PO4-P	1014L=+ +0 - 01/1	NO2-N 99 - 01/1	NO3-N 98 - at/l	51 O 4 - 51 49 - 61/	рн	soc
																				1					Τ
	·		S	rD 00	ΟÚ	0	634	29	59	228	38	0045	1933	00	000	14	687	729							
	01	4	06	s 00	00	0	634	29	086	228	38					14	687	729							
	0 1	4	03	5 00	05	0	689	29	647	232	25					14	717	724							
			S	TD 00	10	Ģ	673	30	21	231	71	0041	1975	0.	140	14	719	720							
	01	4	08:	5 00	10	J	673	30	209	23	71					14	719	726							
			S	TD 00	20	0	072	32	67	262	21	001:	5133	00	576	14	497	004							
	01	4	00:	5 Ov	25	- U	153	د د	622	270	57					14	407	863							
			S	10 OO	30	- Ū	153	30	72	27.	16	$\cup \cup \cup \cup$	174	U u	ن 9 د	14	409	826							
			5	TD 00	50	-0	151	34	13	274	+8	0006	052	01	105	14	419	613							
	01	4	OB	s 00	65	-0	150	34	493	27	73					14	426	8Q3							

REFERENCE CTRY ID. CODE NO. 31116	SHIP CODE EW	128	DE 1/10 5N	LONGITUDE 1/1 0.6.2.2.2.21	DALET O	M ARS SQU 10* 2 8 2	I COLOR CODE U9	STAT MO 09 TER TRANS Im1	DAY I	1ALE 1R,1/10 04.8 WIND SPEED OR FORCI S.0.2	YEAR 1967 BAR(METI (mb)	CRUISI NO.	ORIGINAT STA NU UO5 AIR TEMP DRY SULB JO1	OR'S TION MBER . *C WET BULB	V15. CODE	DEPTH TO BOTTOM 0140 NO, OBS, DEPTHS	MAX DEPTH OF S'MPL* U 1 SPE OBSERV	Dir.	WA SERV	VE A TION	S IE A	WEA- THER CODE	CLOL COD TYPE A	ES MT		P	NODC TATION NUMBER	
	MESSENGR TIME H.R. 1/10	CAST NO.	САБ	D DEPTH	{m }	T	τ	s	•4	SIG	MA-T	SPECIFI	C VOLUMI 4ALY-X10 ⁷	S D¥i X	△ D N. M 10 ³	SOL	DAID	0 2 ml/	(i)	PO 4- P 9 - 01/l	ro vu	TAL-P] = 01/1	NO2- µg - a1	и и ц I)	NO3-N 19 - 01/1	SIO ₄ —S yg - o1/	pH	
	04	 8 8	5 08 08	10 00 S 00 S 00	00 00 05	00000	1630 1630 1620	26	32 318 847	20	71 71 13	00	70713	00	000	14 14 14	 649 649 653	751 751 760			Į							1
	04 04	8 8	OB S OB	TD 00 S 00 S 00	10 20 25	0 00 0-	1270 1270 1040 1145	29 29 32 32	575 02 909	23	61 74 49	00	42907 22591	0.	090 097	14 14 14	541 541 436 400	850 850 890	> - -									
	04	8	S 0 8 5	TD 00 TD 00 S 00 TO 00	30 50 50 75	-0 -0 -0 -0)155)177)177)166	33 33 33 34	18 97 968 24	26 27 21 21	72 36 36 58	00	13337 J7219 D5168	0	108 128 144	14 14 14 14	400 404 404 418	870 810 818 792	3 3									
	04	8	OB S	S 00 TD 01 S 01	75 00	-0 -0 -0)166)147)147	34 34 34	237 39 390	27	758 769 769	0.0	04037	0	155	14 14 14	418 433 433	794 755 755	ź									
	04	8	S OB	TD 01 S 01	25 25	-0 -0	162 162	34 34	53 526	27	781 781	CO	02937	0	164	14 14	432 432	720 720	0									

REFERENCE MARSOEN STATION TIME	ORIGINATOR'S	DEPTH MAX.	WAVE WEA	. CLOUD	NODC
CTRY ID. CODE LATITUDE LONGITUDE SOUARE (GMT) YEAR	CRUISE STATION	TO OF OF	BSERVATIONS THER	CODES	STATION NUMBER
1/10 1/10 - 10 1 MO DAY HR,1/10	NO, NOMBER	S'MPL'S DIR.	HGT PER SEA	TYPE AMT	
311165 EW 71090N 063240E 282 13 09 01 078 196	1 006 C	0146 01 00		6 6	0017
WATER WIND .	On AIR TEMP. C	NO. COLOULI			

			CODE	(m)	DIR.	FORCE	(mbs	BULS	8	ULB	C 100	PTHS	OBJER	TA HOILS							
			10	10	10	S05	2.8	4 044	0	036	8	00									
MESSENGR CAST SIME OF NO. HR 1/10	CARD TYPE	DEPTH (m)	T °C	5.	·/	SIGM	A -1	SPECIFIC VOLL	10'	₹ ∠ DYN X	2 D. . M.	SO VEL	UND OCITY	02 ml/1	PO4~P yg - 01/1	10TAL-₽ µg - o1/1	NO2=N µg - at/(NO3-N NG - 01/1	SLO4—Si µg = of/l	рН	S C C
	STD	0000	0597	266	7	210	12	005759	24	00	0.0	14	640	750					{		l
077	085	0000	0597	266	73	210	32	00070	-	00	00	14	+640	756							
077	085	0005	0536	279	930	220)7					14	632	773							
	STD	0010	0515	281	0	222	23	005610)3	00	62	14	+626	879							
077	OBS	0010	0515	281	02	222	23					14	+626	879							
	STD	0020	0011	315	0	253	30	002673	72	01	03	14	+453	875							
077	OBS	0025	-0156	326	97	263	33					14	+392	870							
	STD	0030	-0162	336	12	265	59	001454	+9	01	24	14	+395	651							
077	OBS	0049	-0176	338	357	272	27					14	+403	813							
	STO	0050	-0176	338	86	272	27	000809	51	01	47	14	4403	816							
077	OBS	0074	-0174	340)39	274	+2					14	411	845							
	STO	0075	-0174	340	15	274	43	000658	32	01	65	14	+411	844							
077	OBS	0099	-0165	342	299	276	53					14	+423	773							
	STD	0100	-0165	343	31	276	53	000459	97	01	79	14	423	771							
	STO	0125	-0163	344	+ 7	277	76	000330	55	01	89	14	+431	731							
077	OBS	T0141	-0161	345	531	278	31					14	435	721							

REFERENCE CTAY ID. CODE NO. 311165	SHIP CODE E W	1411100 7143	5E 1/10 O N	LONGITUOE '1/10 066290E	MAR51 SOUA 10* 2.8.2	VEN VRE 16 WATE COLOR CODE	STATION IGA 10 DA 19 U J R IRANS. C	N TIM MTI Y HR, L 1 WII DIR, D 8	1/10 3.5 1 ND SHEED OR FORCE SU 3	967 BARC METE Imbs 29		IGINATO STA NUA 007 R TEMP. Y B B H2 ()	TION ABER VET CO ULB	DEPTH TO BOTTO/ 0110 NO. OBS. OEPTH 07	MAX DEPTI OF S'MPL 9 01 SPT SPT	O DIR CIAL VATIONS	WAVE ERVATIONS HIGT PER SE	WEA- THÊR CODE	CLOUD CODES TYPE AM 5 8	1	r 51 r4	IOOC ATION UMBER 0018	
	MESSENG TIME HR 1/11	P CAST	C A RI T y PI	D DEPTH (m)	τ	۰	5 - 4	•••	SIGM	A - T	SPECIFIC	VOLUME .Y-X107	\$ _ DYN, x 10	D SC M. VEI	LOCITY	02 mi/l	PO4-P μg = α1/1	TOTAL=P μg - αt/l	NO2-N yg - at/l	NO3-N #9 - at/1	51 O.4-5i µg = 01/1	pH 0	\$ C C
	13	15	51 081	0000 G1 0000 G1	0	522 522	272	55 6	215	00	0064	562	000		4617 4617	754 754 753							1
	13	15	08 08	TD 0000 5 0010 5 0010 5 0020	0. 0.	444 444 015	276	1 1 19	219		0054	1179	006		4590 4590 4590	767							
	13	15	08: S	5 0025 TD 0030 TD 0050	-0 -0 +0	129 134 138	325	42 6 0	261	7 7 7	0016	615 897	012	- 1- 7 1- 5 1-	44U3 44U4 4410	884 846 743							
	13	35	089	5 0050 TD 0075	-0 -0	136	335 341	02 5	269	9	0006	640	017	6 1.	4416	743 728 728							
	13	8	OB: OB:	70 0100 5 0110	-0 -0	113 132	343 343	3 96	276 276	17 13 19	0094	641	018	9 1	4443 4442	691 670							

F	REFERENCE	SHIP	LATITUDE	LON	GITUDE	E MA	JARE	STA	TION (G.M.	TIME	YEAR	CRUIS	ORIGIN	ATO	R'S	DEPTH TO	DEPTH	0	WA SERV	VE A TIQNS	WEA-	CL0	DES			NOOC	
d	001 NO.	CODE	• 1/	10	* 1/10	Z 10"	1.	MO	DAY	HR, 1/10	5	NO.		NUM	BER	BOTTON	S'MPL	S DIR	HGT	PER SI	A CODE	TYPE	A M 1			NUMBER	
٢	31116	SEW	720131	4 06	5055E	28.	2 25	0.9	01	167	1967	,	0.0	A		0161	0.1	0.4	1			5	A			001	_
	211110	1	. 20 2 51))))(120.	WA	TER	Ť	WIND	1.70		AIR TE	MP	2	NO.		1 00	1		•		0		'	001	,
							COLOR	TRAN	5 DI	L 01	D MET		DRY BULB	80 80	ET COD	OBS. DEPTHS	OBSER	VATIONS									
									1	1 51	3 28	38	040	Ū	23 8	Ûб											
		MESSENGI TIME HR 1/10	CAST NO.	GARD TYPE	DEPTH Im	1	1 °C		s •4.	51	GMA-1	SPECU	MALY-1	JME 107	₹ ∆ D DYN. M x 10 ³	SO VEL	UND OCITY	0 2 ml/	1 P	04-P 9 • 01/1	101AL-P 29 • 01/1	NO2- 9-64	- N 51/1	NO3~N 48 - a1/1	51 Oa- 49 - 9	-Si 1/1 pH	100
				STD	0000		0470	2	728	- 2	162	00	6193	34	0000) 14	+578	760									
		16	7	Obs	0000	F	0476	2	728	2 2	162					14	+598	760									
		16	7	OBS	0005		0474	- 2	727	4 2	162					14	597	760									
				STD	0010	F	Ú481	- 2	730	2	163	00	6184	4 4 4	0054	2 l 4	46U2	774									
		16	7	OBS	0010	l.	0481	- 2	730	G 2	163					14	+5UZ	774									
				STD	0020	l .	0044	3	100	2	489	0.0	507.	59	0108	5 14	+401	900									
		16	7	085	0025		0105	3	228	8 2	598					14	4411	- 933									
				STD	0030	- (0126	3	254	2	619	0.0	1032	25	010.	3 14	4405	890									
		16	7	OBS	0049		0175	3	330	7 2	682					14	4395	- b04									
				STD	0050		0169	3	333	2	684	00	1210	3.7	016.	3 14	4399	504									
		16	7	085	0074	-	0147	- 3	366	7 2	727					14	4421	772									
				STD	0075		0145	3	389	۷	729	00	0168	3.7	0191	5 14	4423	760									
		16	7	ЭНS	0098		0114	٤	430	9 2	762					14	4447	657									
				STD	0100		0115	3	431	2	762	00	0412	26	0204		4447	650									
				STD	0125	. –	0125	3	437	2	767	00	0423	00	021	5 14	4447	639									
		16	7	08s	T014	-	0134	3	442	4 2	11.					14	4447	025									

REFERENCI	SHIP CODE	LATITUD	E L	ONGITUDE	No Sc	APSDEN DUARE	STA*	ON TI GATI	ME	YEAR	CRUISE	ORIGINAT	DR'S TION	DEPTH TO BOTTOM	DEPTH OF		W.A DISERV	ATION	is	WEA- THER CODE	CLOU	ŝ		NODC STATION NUMBER	
31110	SI EW	72150	1/30) N C	03450E	28	32 23		н уд 1 . У	201	1967	0.	DO 9	10 VIC	1) 7 3 NO.	STAT PL-		5 2		SLA		51		1	0020	I
						COLON	TRANS.	DIR. 13	5410 +0+ci	AMETI I IMBI	FR	087 1 018 8	ULB COC ULB Jol 7	095. рертно О С	OBSERV	ATION	s								
	MESSENG TIME MR 1710	CAST T NO.	CARD	DEPTH IA	1	1 10	s	•	sig	₩ A =1	SPECIPH ANON	T AOLOWS	₹ △ 0 0 YN, A 1 10 ³	SO VEL	UND OCITY	02 m	1/1	10J	1	014L-P	NO2-N #9 - 01/	NO3-N 49 - 01/1	51 Oa- 49 - 01	<u>51</u> рн	SCC
			STO) - 5501) X	1488	20	44	20	,95	500	. 659	1	1 14	1542	75	0					t	1	t	1
	20 20	1	OBS OBS	000	5	0488 0488	20	443 441 01	20)95 295	0.0.	. 7 - 2 .	2	14	5 + 2	76	0								
	20	1	065	0010	, , ,	0478 0031	27	41 456 35	24	211 211 517	00: 00:	26606	008 010	5 14 5 14	600 605 400	77	ر د د								
	2.	1	085	0029) - , -	-0123 -0130	32	573 7d	28	34	С. С.С.	0450	312	14 8 14	408	94	د ۲								
	20	1	065 STC	005	, .	-0171 -0171	33 34	म। 497 20)	26	0 10 0 78 738			019 C17	5 14 14 5 14	401	78 75	0 4 5								
	20	1	Jus	1048	7 -	-014	34	. : 6	L 1	7 1. 4				14	426	74	5								

REF	EREN	CE	SHIP			 MARS	DEN	ST.	TION	TIME		0	RIGINATORS	DEPTH	MAX, DEPTH			VE	5	WEA-	CLC		NODC
CODE		D. 10.	1000	1/10 VI	104GH05E	 10*	1.	NO	DAY	Н. р. 1710		CPUISE NO.	NUMBER	BOTTOM	OF STUPLIS	DW	HGT	P1.0	SEA	CODE	1121	A 44 1	NUMBER
3	11	165	Εw	72314N	062177E	282	22	09	01	219	1967		Ŭ1ŭ	0071	01	15	2				6	8	0021

A ATE WIND BARO- AIR TEMP T VIL NO. SPECIAL COLOP FRANS DIR SPEC COCE WILD DIR DIR OF WET CODE DEFINS OBSERVATIONS

				24	511 2	77 046	134 7	06							
MESSENCE L CAST TIME OF ND. HR 1, 10	C ARD TYPE	DEPTH (m)	3' 1	s •4.	SIG MA-T	SPECIFIC VOLUME ANOMALT-1107	\$ \(D) DYN. M. x 10 ³	SDUND VELOCITY	0.2 m1/1	PO4-P µg = 01/1	1014 L-P + g = 01/1	NO2-N 49 - 01/1	NO3-N V9 - at/1	SEO∉—Si ⊮g = œl∕1	рH
	STD	0000	0546	2811	1000	0055416	 - ភិសាហិ -	14556	753						1 1
220	DES	00000	0545	26114	2221	0000014	0000	14636	753						
229	085	0000	0555	28616	2259			14649	757						
	STO	0015	0611	2981	2347	0044254	0450	14668	743						
229	065	0010	0511	29809	2347			14568	743						
	STD	0020	004U	3243	2604	0019799	0082	14479	ووو						
229	OBS	0025	-0151	33347	2685			14404	984						
	STD	0030	-0155	3352	2699	0010725	0098	14405	930						
	STD	0050	-0162	3403	2741	0000781	0115	14412	807						
229	085	0050	-0162	34030	2741			14412	807						
	STD	2075	-0156	3427	2760	0004974	J130	14423	702						
229	085	3075	-0150	34266	2760			14423	76∠						

REFERENCE CTAY ID. CODE NO. 31116	SHIP CODE 5 EW	14111L	IDE 1/10 7.8 N	LON O D I	GITUDE * 1/10 0545E	DRIFT	MARS SOU 10* 282	DEN ARE 1" 20 WAT COLOR CODE	STAT T 09 ER TRANS. IME	DAY HE DAY HE D 2 C W DIR 24	ME 8,1/30 15 IND SPEED OR FORCE S11	YEAR 1967 8ARC METE (mbs 27	CRUISI NO.	ORIGINA EST NI UII AIR TEM DRY BULB	NET BULE	S R VIS, CODE 8	DEPTH TO BOTTOM 0143 NO, OBS, DEPTHS 07	MAX DEPTH OF S'MPL U 1 SPE OBSER	I OBS	WAVE ERVATIO	N S SE A	WEA- THER CODE	CLOUI CODE		S	NODC TATION IUMBER	
	MESSENGR TIME HR 1/10	CAST NO.	C AR Tip	iO IE	DEPTH	(m i	т	°C	5	•4.	SIGA	^A-T	SPECIFI	IC VOLUN	E	₹∆0 01N. M x 10 ³	. SOI VELO	O A U D C ITY	0 2 ml/i	PO4- 98 - 01	Р т /1	101AL-P µg + u1/1	NO2=N µg = at/	NO3-N µg = at/1	SLO ₄ =Si µg=at'l	ρН	100
	010	6 6	5 08 08 5 08 5 08 5 08	TD S TO S TD S TD S TD		20 20 20 20 20 20 20 20) 0000 -0 -0 -0	562 563 307 307 1017 1144 1142	30 30 31 31 33 33 33 33	41 414 747 82 822 20 784 89	24 24 25 25 25 25 26 27 27	00 26 37 37 68 20 29	00 00 00	3916 2615 1365 0792	7	0000 0033 0053) 14 14 14 14 14 14 14	675 675 610 588 588 463 4413	736 736 724 734 734 810 841 841								
	01	6 6	S OB OB S S OB	TD S TD S TD TD S	000 000 000 000 000 010 010	50 51 75 37 37 00 25 39	-0 -0 -0 -0 -0 -0	132 0131 0134 0135 0136 0136 0139 0139	34 34 34 34 34 34 34 34 34	28 293 45 506 53 56 584	27 27 27 27 27 27 27 27	60 61 74 78 80 83 85		0495) 0363 0303 0272	2 7	0076 0087 0095 0102	14 14 14 14 14 14 14	430 431 436 438 4440 4443 4445	843 843 816 804 792 772 752								

REFERE	NCE IO,	SHIP	LATITUDE		MARSDEN	STATION	TIME DYEA		DRIGINATOR'S	TO TO BOTTOM	MAX. DEPTH OF	WAVE	WEA- THER CODE	CLONO	NODC STATION NUMBER
311	NO.	Εw	73030N	059272E	283 39	09 Ú2	HR.1/10	67	012	0364	03 1	E HOT FER SEA		7 8	 0023
					COLO	TER TRANS	WIND SPEED	BARO-	AIR TEMP, "C VIS. DRY WET COD	NO. 085.	SPECIAL	N 5			

			CODE	(m) OIR.	OR FORCE	(mbs)	BULB	80	1.8	D	EPTHS								
			ÛЬ	24 14	S10	268	055	0	38 8		11								
MESSENGE CAST TIME OF NO. HR 1/10	C A PD TYPE	OEPTH (m)	т ° С	s •4.	SIGMA	х_т !	SPECIFIC VOLUA	ле 17	₹ △ C DYN. A x 10 ³) A.	SOUND VELOCITY	Og mi/i	PO4-P 29 - 01/1	total=P yg+ot/t	NO2-N µg - di/l	NO3-N µg = at/k	SIO4-Sr µg - ot/1	рН	S C C
	STD	0000	0416	3166	251	4	002836	1	000	0	14630	766							
049	085	0000	0416	31655	251	4					14630	766							
049	OBS	0005	0218	32639	260	9					14559	867							
	STD	0010	-0032	3364	270	4	001024	9	001	9	14461	906							
049	OBS	0010	-0032	33638	270	4					14461	908							
	STD	0020	-0128	3392	273	1	000773	В	002	8	14422	865							
049	085	0025	-0161	34Ū30	274	1					14409	880							
	STD	0030	-0169	3408	274	5	000639	1	003	5	14400	901							
	STD	0050	-0185	3423	275	7	000519	6	004	7	14404	925							
049	OBS	0050	-0185	34229	275	7					14404	925							
	SID	0075	-0173	3434	٢6 د	ь	000436	7	005	9	14416	810							
049	085	0075	-0173	34339	276	6					14416	818							
	STD	0100	-0178	3444	277	4	000357	2	006	9	14419	794							
049	0 B S	0106	-0176	34439	277	4					14419	794							
	STD	0125	-0176	3452	278	1	000294	2	007	7	14425	770							
	STD	0150	-0175	3459	278	ь	000241	0	00ъ	4	14431	762							
149	OBS	0150	-0175	34588	278	ь					14431	762							
	STD	0200	-0174	3466	279	2	000180	5	009	4	14441	728							
049	OBS	10200	-0174	34664	279	2					14441	728							
	STD	0250	-0174	3471	279	6	000142	ы	610	2	14450	716							
049	OBS	10299	-0173	34750	279	9					14459	681							
	STD	0300	-0173	3475	279	9	000109	1	010	9	14459	680							
049	OBS	T0348	-0167	34779	280	2					14470	624							

Internet Control Contro Control Control <t< th=""><th>REFER CTRY CODE</th><th>IO.</th><th>SHIP</th><th>LATITUO</th><th>ŧ</th><th>LONGITUDE</th><th></th><th>SOEN</th><th>STA</th><th>TION IGM</th><th>TIME</th><th>۲</th><th>ÉAR</th><th>CRUISE</th><th>ORIGIN</th><th>ATOR</th><th>'S N</th><th>80</th><th>DEPTH TO OTTOM</th><th>MAX. DEPTH OF</th><th>OBS</th><th>W A ERV</th><th>VE A TIONS</th><th></th><th>WEA-</th><th>CLO</th><th></th><th></th><th></th><th>NOOC STATION NUMBER</th><th>ĺ</th></t<>	REFER CTRY CODE	IO.	SHIP	LATITUO	ŧ	LONGITUDE		SOEN	STA	TION IGM	TIME	۲	ÉAR	CRUISE	ORIGIN	ATOR	'S N	80	DEPTH TO OTTOM	MAX. DEPTH OF	OBS	W A ERV	VE A TIONS		WEA-	CLO				NOOC STATION NUMBER	ĺ
1 311169 EW 73170N 058000E1 763 18 09 02 080 1967 103 102291 03 1221 1 1 1721 1 1781 100241 WATES Wind Links On Mitting Matter On Mitting Not. One Mitting Out on Mitting Out on Mitting Out one Mitting Out Out one Mitting Out		NO.		72.57	1/10	1/10	10.		M0	DAY	HR.1/1	0	0.0	no.			E K	+		S.Wht.2	DIR	HG	T PER SE	A		TYPI	A.M.1				ł –
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Coord Coord <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>01.08</th><th>1</th><th><u> </u></th><th>SPE</th><th>٤D</th><th>BARC</th><th>;</th><th></th><th>w.r. C</th><th>- vi</th><th>s.</th><th>NO. OBS,</th><th>SPEC</th><th>IAL</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>								01.08	1	<u> </u>	SPE	٤D	BARC	;		w.r. C	- vi	s.	NO. OBS,	SPEC	IAL										
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REFE	RENCE				. :	MARS	DEN	517	TION	TIME			ORIGINATOR'S	DEPTH	MAT		WA	٧f		WEA-	CLO	000	NODC
CTRY	ID, NO,	CODE	LATITUDE	LONGITUDE	1911	500	LRE 1°	20	IG M	т) Т <u>ня 1710</u>	YEAR	CRUISE NO.	STATION NUMBER	TO BOTTOM	OF	08	ISER V	A TION	45 58A	THER	CO	DES	STATION NUMBER
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CARO TYPE	DEPTH	1 2	s •	SIGMA-T	SMCIFIC VOLUME ANOMALY-110 ¹	ΣΔD DtN, M x 10 ³	SOUND VELOCITY	02 m1/1	PO4=P 29 = 01/1	TOTAL=P µg + o1/1	NO2-N 29 - 01/1	NO3-N vg - at/l	51 O 4 - 51 99 - 01/1	рH	s c c
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0BS	0605	0130	3181c	2544			14504	815							
STU	2010	-0107	3374	2719	000982.	0017	14427	900							
005	UUIU	-0104	33181	.114			14427	960							
STU	0020	-0152	3405	2744	00.0442	0025	14413	803							
QBS	0025	-0167	34183	2153			14408	620							
310	0036	-01t-1	3400	2150	0005317	0031	14447	815							
STO	0.50	-0174	3435	2767	0654310	0040	14411	780							
085	0050	- 3174	34348	2767			14411	785							
310	0075	-1118	344.	277.	00 3164	0000	14410	774							
260	007E	-0178	34414	2773			14415	773							
STÜ	5100	-0176	3447	2777	- 35.3334	JJ59	14420	769							
005	0101	-0176	34475	2777			14421	769							
STO	0125	-0174	3452	2781	0002447	0007	14420	759							
STD	0150	-0172	7455	2780	0002480	2074	14422	744							
06S	0153	-017.	34581	2786			14423	746							
STU	02.0	-u155	3467	2746	0501020	Ú∪85	14450	697							
005	10205	-0154	34052	.793			14451	694							
510	U25U	-0157	3473	2757	0001010	0093	14450	547							
OBS	TU25U	-0157	34732	2797			14455	647							
	(***) 1*** 2** 2** 2** 2** 2** 2** 3*0 3*0 3*0 3*0 3*0 3*0 3*0 3	C++0 Int DEPTH STJ 0000 087 0000 085 0000 085 0000 085 0000 085 0000 085 0000 085 0000 000 0000 000 0000 000 0000 000 0000 000 0000 000 0000 000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 00000 00000	CARD DEFINICAL UO STU GUUU UI U DBF GUUU UI UI DBS GUUU UI UI GBS GUUU UI UI GBS OUUU UI UI GBS OISU UI UI GBS OISU UI UI GBS UI UI UI GBS UI UI UI GBS UI UI UI GUUU	CARD DEPTH I V I I I V I<	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

REFERENCE CTRY ID. CODE NO.	SHIP CODE	LATITUC	E LC		2 MARS SQU	DEN ARE	STAT	ION TI GMT)	ME P,1/10	YEAR	CRUISE NO.	STA NU	DR'S TION ABER		DEPTH TO BOTTOM	MAX. DEPTH OF S*MPL*	OBS DIR	WAVE ERVATION HGT FER	S SEA	WEA- THER CODE	CLOUD CODES	r		NODC TATION NUMBER	
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	MESSENGR TIME HR 1/10	CAST NO.	C ARD TYPE	DEPTH Im	т	°C	5	•4.	SIG N	NA-T	SPECIFIC	VOLUME		10 ³	. SOL	UND DCITY	0 2 ml/l	PO4-P	101 94	AL-P - at/1	NO2~N µg - al/l	NO3⊷N µg-al/l	51 O4 – 5 Jug + ol	₽Н	- 2.4
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	15	6	085	0025	-0	150	33	958	27	3.5					14	413	941								
			510	0030	-0	158	34	01	27	39	000	16957	00	152	14	411	910								
			STU	0050	-0	179	34	21	27	56	000	12320	00	105	> 14	407	821								
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REFERENC CTRY IC CODE NI 3 11 1	65 EW	LATIT 733	UDE 1/10 9.1 N	LONG	100E	MAR SQU 10* 2.82	SDEN ARE 32 WAT COLOR CODE	STAT MO I U9 ER TRANS	DAY HE	ME 2,1/10 .83 IND SPEED OR FOPCE 513	YEAR 1967 BARC METE (mbs 22	CRUISE NO. R C I B	ORIGINA1 ST4 NU OI6 AIR TEMP DRY ULB	OR'S TION MBER . 'C WET SULB	VIS. CODE	DEPTH TO 80TTOM 0 1 1 7 NO, 085, DEPTHS 0 7	MAX. DEPTH OF S'M.PL" 01 SPE	DIR DIR 17 CIAL ATIONS	WA SERVA	VE TIONS PER SE		A- CL R C IE ITP	OUD DDES		S N	NODC FATION UMBER	
	HR 1,	IGR CAST	C A TY	R D PE	DEPTH (m)	Ţ	°C	s	• '	SIGM	1-A	SPECIFIC	VOLUM	¥0))	△ D N. M.	SOL VELO	DOITY	0; m1/1	۹ ۲4	D₄⊷P - a1/1	101AL- ⊧g - 01	P NO	2-N at l	NO3-N µg - at I	SI О 4—5; Ид • от 1	рН	S C C
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				\$	5TD 00	3U	- 4	J170	3	377		272	20	00	00876	59	ΟU	81	14	402	84									
		21	1	Οć	is ou	46	- (0175	3	418	7	27	54						14	408	801									
				5	STD 00	150	- (0174	3	420		275	55	00	0543	38	υU	95	14	409	798	3								
				0	5TD 00	175	- (0167	3	429		276	52	00	00478	35	01	υь	14	41d	776	•								
		21	1	Út	3S 00	94	- (0161	3	435	3	276	57						14	425	760)								

REFEREN	CE		111106	101	CITUDE	1	MAR	SDEN ARF	51	ATION	a TIM STE	£	YFAR		ORIGIN	10741	15		DEPTH	DEPTH	0	W BSER		NS	WEA-	CLOU	0 FK			NODC	
CODE N	D. CODE	1	1/10	LON	1./10	502	10"	E P	M0	DAY	HR.	1/10		CRUI NO	E	NUM	D N BER	1	BOTTOM	OF S'MPL"	S DIR	н	G # PEP]	SEA	CODE	TYPE	MT			NUMBER	
3111	65 EW	7 3	068N	05	526UE		282	35	09	02	4	39]	967		01	6			0119	01	15		5		-	1	2			0025]
								WA	TER	+ T	WI	ND D			A IR TE	MP	c	-1	NO.			7								002/	
								COLOR	A.a.t	ns D	IR.	SPEED OR FORCE	METE	R	ORY BULB	W BU	ET C	ODE	OBS. DEPTHS	OBSERV	ATIONS	s									
									1	2	10	\$12	25	4	045	Ŭ	99	7	07												
	MESSEN TIM	101 CA	O. TY	R D PE	DEPTH 6	n ł	r	°C		٢, ٢		SIGM	A = T	SPECI	HC VOU	UME 10'	₹ ∆ 01N. X I	D	SOL VELO	DAL VIDC	0 2 m l	'	PO4-	р т с)	OTAL—P µg - of 'l	NO2=1 20 - 01.	NO3-	N 5	51 O 4 5 vg - q1 '	і рн	
		1							• …																						
			2	JU	500	5	J	40E		86.		224		υu	5425	10	001	υu	14	500	780	6									
	L.	39	Ot	51,	550	5	U	4 16	ź	521	1	224	4.						14	58J	786	6									
	2	39	Оe	<	000	5	Ű	321	Z	933	3h	23	3.8						14	554	82.										
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	i.	39	00	55	001	J	U	200	ź	275	5	23	10						14	537	84	i									
			-	ŝŤu	ÛU⊾	J		NODE	2	217	7	251	8.7	UU	213	71	30	79	14	429	824	4									
	-	39	U 0	35	してご	5	- ü	163	- 3	3300	1.5	201	54						1 ++	394	810	6									
			-	STU	ÚU3		- C	151	2	321		26	74	ιú	191	16	JU	47	14	403	٥Ū٩	4									
				s⊺∟	JU 5	0	- U	132	-	381		27.	64	ÛC	0851	5 4	01	13	14	463	77	7									
	2	39	08	ı' د	ししち	0	- 0	. 32	-	330.	15	27.	22						14	423	77	7									
			-	STU	001	-	- 0	1112	1	342.2	4	21	57	JU	152	13	υı	35	14	412	791	0									
	2	39	OB	36	1007	5	- U	H / L		34+ 4	-1	27	5 T						14	415	191	0									
			(ST D	010	U.	- C	105	-	5431		2.74	5.	00	147	11	01	48	14	463	77	ĥ									
	2	20	Ut	5		~	- Ú	165		514 6 15	25	27	56						14	420	11	9									
REFERIN	CE L KNIP						MAR	SCP4	5	TA TUCK					0115	VATO			GERTH	N A K	T		VAVE.		. WEA	. CLOU	D			NODC	-
C181	0 20DI	L.A	TITL DE	L (5	GITUDE	ŝ,	5.41	ARE		IG A	A11		YEAR	CRUI	Sŧ	STAT	04		10 80110 M	OF		18261	IVA 110	NS	THER	COD	8			STATION: NUMBER	

1 C.A. 7,47	· U61	ちちょうと	- de - LO MAT		190 , 196 :	OF AIR TENP	<u>- L.</u>	NO: SPE		1 1		1-011	1	
			, DE	NRD DR.	THE WET	ER DRY W	EN LLDE	DBS. DEPTHS OBSERV	A TION S					
				19 18	50 - 2	8 51 0	њ4 H	0.5						
- M(S1) N H ASY - 104) - 27 - 85 - 142 - 11 - 1	. t t f . Y D .	т (Р°н. "т	7 % <u>0</u>	5 *	S GMAILT	1000000,000,000	≦ ∴ D C 1N N ± 10 ³	SOUND VELOCITY	0 2 m' 1	PO4=P	7074L-P +g = of/1	NO3~N 49 - d1/1	NO3-N V9 - at 1	$\frac{S_1 \odot a = S_2}{\mu g + \alpha I I}$
	· • .			5	195	. <u>ب</u> جمر `	No.	1455	7 4 4					
		0.0.0				U. 72	0000	14551	7.8.4					
					1 - 1 - 1 - 1			1425	701					
<i>c</i>	Ť			7.	1.4.0.0	Sec. 14.4.2	1	1.14 2.5	199					
7.74			0.200	2101		00 1001	00.00	1.46.6	6.5					
s. /		~ *		1 44	261	LI ZHI		144.5	- 20 - 20					
. 7	5 m f	· · · ·	-0.15	327.00	6287	302707.	V * 1 -	1 44 64	900					
	T.T.		-0133	26.14	. 1.	1	1.4.5	1.44.4.7	н7.					
	Т			4.44.7	.7.	DI 757		1444	74.9					
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An addin An ^{am} an an an an An againtí	, A - 1 -			NAPITIN LAP	nan tsun se Sector Lina Est	1 + 5 A Z	vistan vistan ter tere	ers	CPTH DEPTY	CES	WAVE REATIONS	A EA - 7419 14 1011	CU' D TINE		۱ ،	ALDO ATIN UMPER
11.11 ⊃ a		•	ың ¹		1977 - 19 1977 - 19 1977 - 19	4 - 194 - 1 - 194 - 1 - 194	De la constante de	ст <u>с</u> б, 19	DD II DBT DEP DEPTHS	i . d e al vationas	2.1		0			0031 ¹
					17.12		. 56	5 L. B.	55							~
	, 5 ¹¹	жа Стр	1 (1 v m)		5.1	1. G 12 A = 1	HERE AN ALL ALL		SOUND VELCOITY	02 ~ 1	PO 4=P 2 p = 21	7014 L-P	NDg=N Fk - of	403-4 x8-0 ⁻¹	$SI \odot_{4} = S$ $_{2}g + a^{2}$	g 14
	+			•	·		· ·		••		•	+ · ·				
		-		1	1.1.4	251	76.13		エッちょり	74.						
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	14 P			`~	ر بن بن	1.00				791						
		Ţ			-10	5 5 ° 4	5 I 194	10 14	14-17	819						
	4.0			- 1-1	15 M.C.	<u> </u>			-4517	80.4						
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	14 -	- •			11111	2° 1 (1444	55.4						
		-			1.5	- ← [19 	- intel		1. 44 (a. 14) 1. a. 1. a. 1.	eo-						
				· · · · ·		- · · ·		. 1 . 0	14411	~ Č L						
									1 4 4 5 1	504						

REFE	RENCE	SHIP	LATITUDE	LONGITUDE	DRIFT	MARS SQU	DEN	ST/	IGMT	11.42	YEAR	CRUISE	STATION	DEPTH TO	MAX. DEPTH OF	08	₩A SEPV	A TIO	ns.	WEA- THER	CLC CO	DUD	NODC	ן
CODE	NO.		1/10	* '1/10	- 4	10*	1*	MO	DAY	HR, 1/10		NO.	NUMBER	BOTTOM	S'MPL'S	OIR.	HG	PER	SEA	CODE	TYPE	A M T	NUMBEP	
31	1165	C W	73337N	069120E		282	35	09	03	699	1967		021	0018	00	18	3				0	2	003.	2

			12	04 18	512	232	063	c	048	8	04									
MESSENGE CAST TIME OF NO. HE 1/10	CARD TYPE	DEPTH (m)	2" T	s •4.	SIG M	A -T	SPECIFIC VOLU	1 M E 10'			SOL VELC	UND DCITY	0.2 m1/1	PO4-P pg = 01/1	TOTAL-P yg + ot/i	NO2-N µg - a1.1	NO3-N 49 + 01 'l	\$1 D.4—\$1 µg = o1/1	pН	s c c
																				П
	STD	0000	0492	932	074	43 È	019978	30	00	00	14	373	838							
099	OBS	0000	Ũ492	09322	0.74	+3					14	373	830							
်ခ်စ်	OBS	0005	0350	14333	114	+6					14	375	773							
	STD	0∪1U	-0092	2607	209	6	006825	58	0.1	34	14	3∠8	706							
739	0 > S	0010	-0092	26071	. 201	96					14	328	706							
Ĵġð	CBS	0013	-008c	26323	211	15					14	338	661							

REFEI	ENCE	SHIP				MARS	DEN	STAT	TION	TIME			DRIGIN	ATOR'S		DEPTH	MAX.		w	AVE		WEA-	CLO	auc	NODC
CTRY CODE	10. NO.	CODE	LATITUDE 1/10	LONGITUDE	D D D D	\$007 10*	LRE 1"	MO	GMT	HR,1/10	YEAR	CRUISE NO.	5	TATION		TD BOTTOM	OF S'MPL'S	DIR	B SERV	7 A TIC 51 7 89	SEA SEA	CODE	CO IY/E	DES	STATION NUMBER
51	1155	Ē.	735JCN	06752UE		ice	37	29	53	127	1967		υz	2		0042	00	2	1 2				3	2	0033
						[WA	TER	_	WIND	8480	<u>, </u>	AIR TEA	AP. "C		NO.	1050		7						
							COLOR CODE	TRANS Im)	OIR,	SPEEL OR FORC	e Imba	R 1 1 8	DRY ULB	WET BULB	CODI	OBS. DEPTHS	OBSERV	ATION	s						

			11	10 24	513 21	32 063 0	48 8	07								
MESSENGE CAS TIME OF ND. HR 1, 10	CARD TYPE	DEPTH Imi	י ד	s •/	SIGMA-T	SPECIFIC VOLUME ANOMALT-X10 ⁷	₹ ∆ D DYN. M. x 10 ³	SOUND VELDCITY	0.2 ml/1	PO4-P µg = 01/1	ТОТА L = P µg = 01,1	NÖ2-N 29 - 01	NO3-N vg - ol I	SI 04-51 µg = at 1	рH	5 0 0
		1														
1 .	STO	0000	0389	2145	1709	0105661	0000	14434	824	,						
127	065	0000	0359	21445	1705			14484	822							
127	OES	0005	U236	26938	2153			14490	832							
	STD	0010	0152	2882	2308	0048003	0077	14483	835							
127	065	3010	0162	28817	2308			14483	835							
127	CeS	0015	U 1 7 7	29557	2380			14457	858							
	STD	0020	-3127	3248	2614	0018829	0110	14402	903							
127	0 = 5	0020	-J127	32475	2014			14402	609							
1 - 7	CBS	05	-0156	32993	2657			14396	844							
	STP	CC 3 0	-0155	3026	2578	J012753	0126	14401	764							
127	065	0030	-0155	3325c	2678			14401	764							

REF	EREN	CE	CHIP				MARS	DEN	STA	TION	TIME		(RIGINATOR'S	DEPTH	MAX.		WAY	/8	V	VEA-	CLC	auc		NODC
C187 COD		D. 10.	CODE	LATITUDE 1/10	LONGITUDE	BIND OF	10*	ARE 1°	MO	DAY) HR,1/30	YEAR	CRUISE NO.	STATION NUMBER	BOTTON	OF S'MPL'S	DIR.	ERVA]∺G1]	PER 1	S T SEA C	H ER O D E	CO TYPE	AMT	Į	STATION NUMBER
3	11	165	Ξw	7+095h	066220E		282	40	09	÷3	156	1967		023	0115	01	22	2				4	2		0034
							-	COLOR	TER TRAN	5. D IR	WIND SPEE	BARC METE)- / R []	IR TEMP. C	VIS. NO. ODE DEPTHS	SPEC OBSERV	ATIONS								

				18	S10 2	35 045 0	40 8	07								
MESSENGE CAST TIME OF NO. HR 17/10	CAPD TYPE	DEPTH (m)	ז יכ	s •/	SIGMA-T	SPECIFIC VOLUME	₹ △ D DYN, M x 10 ³	SOUND	0 2 m1/1	РО4-Р µg - qt/1	TOTAL-P µg = 61/1	NO5-N 49-01/1	NO3~N 48 - 01	SiOa—Si yg-ail	рH	500
k .	STD	0000	0197	2782	2226	0055849	0000	14403	827	,						
156	Qes	0000	0197	27815	2226			14483	827							
156	OBS	0005	0152	28886	2314			14479	846							
	STD	0016	0037	3051	2450	0034460	0045	14449	878							
	STD	2020	-0128	3285	2644	0015924	0070	14407	910							
156	OBS	5520	-0128	32053	2644			14407	910							
	SID	0030	-0149	3311	2666	0013889	0085	144JĈ	304							
156	JBS	0045	159	33474	2696			14405	795							
	STD	0050	-0148	3356	2702	J010424	0110	14412	767							
156	08S	0070	-0120	33989	2736			14435	690							
	STD	ŨU 75	-0120	3411	2740	0006280	0130	14437	697							
156	JBS	ひじみら	-0127	34671	2742			14445	703							
	STD	0100	-C13J													
156	СьS	2117	-0145													

REFERENCE	SHIP	LATITU	DE	LONGITUDE	DRIFT	MAR SQU	SDEN ARE	STATION IGM	TIME TI	YEAR		ORIG1N	ATOR'	5 N	DEPT TO	H DE	AX. PTH DF	085	WAVE ERVATION	WEA THEF	- CLOUD		s	NODC
CODE NO.			1/10	1/1	0 *	10'	1.	MO DAY	HR,1/1		NO.	+	NUMBR	•	80110	^{~~} 5'M	19215	DIR.	HGT PER	EA COU	TYPE A W	7		UMBER
311165	C.A.	7424	+5N	064530	El	282	44	20702	182	1964	1		4		014	0	011	21	3	I	0	1		00351
							COLOR	TRANS OF	576	D MET	0 ER	DRY	WEI	COD	OBS.		SPECIA ERVATI	L IONS						
							CODE	1 (m)	100	cł (mb	1)	BULB	BUL	8	DEPTH	IS		_						
		·····	Υ					1	8 31	2 22	0	U4¢	0.5	3 1	07				,			· · · · · · · · · · · · · · · · · · ·		
	MESSENGE TIME HR 1/10	CAST NO.	CAPE TYPE	DEPTH	(m)	ı	*C	s *•.	\$1	GMA-T	SPECIFI	IC VOLU	U M E 10 ⁻²	₹ ∆ D DYN, M x 10 ³	, s vi	OUND	r 01	2 ml/l	PO4-P 29 - 01/1	107AL-1 107-01/	NO2-N 49 - al/1	NO3~N 99 - 01'l	SLO4-Si VQ + of I	pН
		1																		1				
			5 T	0 00	Ûυ	J	162	2936	Ļ	35.	Οu	4303	o 7	ύνοι) <u>1</u>	448	4 E	824						
	18	3	OHS	UU	03	U	162	29.40	1 2	351					1	448	9 8	822						
	18	3	000	0.0	05	U	1160	5939	4 2	353					1	448	9 6	833						
	,		ວ.ໄ 	0 00	1	9	159	2001	2	410	00	382	7.4	[بد ب ن	1 1	449	9 8	331						
	15	2	055		10	0	124	2004	- 4	410 6.00	ā			N. 7	1	449	9 E	531						
	1.8	۶.	i a s	00				111	2 .4	247	00	~ ~ ~ ~ ~	51	0070	1	446	0 0	579 447						
	10	-	ST	् ज	30	-0	1	11.0	· · ·	580	30	1250	- н	OU HO	7 1	4401	а с 5 в	45.5						
			51	ວ ເບັ	50	-0	151	3385		122	0.0	0514	45 45	0100	7 1	441	5 7	770						
	١J	2	065		50	-0	151	3200	0 2	126		••••		0.0	1	441	5 7	770						
			ST	5 0J	75	- j	124	24.0		7	00	USh	÷			44.3	. 7	714						
	18	3	UBS	Ú U	7.5	~	1.29	3418	+ 2	762					1	443	4 7	714						
	18	٦	003	700	3.3	- U	124	1420	+ 2	764					1	443	9 7	708						
4011te	ĒA	7443		003210	Ε.		4.3 *** C 3LC* C 3LC*	TER TRANS D	WIND SPE	- 907 BAP - 41ET - 1mb	0- EP 1)	AIR TE DRY BULE	MP 15 WE1 1 BUU		074 NO. 085 00511	, O#5	U L SPECIA SERVATI	ic i	2					0036
	MISSENSA TIMA	LAS*	⊢ ≜ ₽;	DEPTH	le l		÷		, , ,	GMA-T	seco	ic	UNE	₹.5 D	5	OUND	0	2 11 1	PO4~P	10**1-	NO2-N	NO3-N	5104-5	6H
	HE 1 10	I .	17PE								A NO	· · · · ·	°	1 10 ³		LOCITI	•	_	29-013	×0.0,	ug - st l	µg ∘ at I	µg - ai i	
			5 T	0 50	úυ		1.34	1	6	41.	- ð.	100	0	005.	. 1	440	h c	100						
	21		U _				134	1.1.	: 2	94.L.C.					1	** ** 15	5 b	521						
			. 2 :		05	- 0	1216	2161	۰	5.45					1	44].	é.	1.54						
			_ T	J . U	4		1 20	3 "		0.45	5.2	- D / •	• <u>*</u>	jυ,	с <u>н</u>	44.4	7	122						
	- 1				÷ 1			3		545					1	442	7	122						
					4a -	- ·		2.25.4	2	1.1	Ŷ	. 9 H	/ 4	1.14.	. 4	4 4 4	14 I	4 G. 7 . 3 3						
	۰.				4. 1 . 	-	* , · ·	2.2.4.4	-	1.1.4		51		- -	4 - 1	· • • •	· ·	414. 7						
				5			1.4		4.	140			4 4. F 14	1.140		444	. ,	5 # / N . 5						
	÷.,						115	14.14	н.		<i></i>			~ `	Ĩ			7.64						
										-					•			, 0.4						
																	4.1					1		
FFFEE, NCE	5 to 1 P	LATIT.	21	IONG/FUEL	12	- 10 A 81 3 Q 1	ARE	STA11TN IGH	, *1 * + E	TEAR		(2월53) 20	4610P3	<u>.</u> .	DEPT	" re	214	Jele	WANE EPATIONS	V-EA 1 H EP	- CLOUD		1 5	NODC
11 40	(ret j			•	, 7	10*	· . *	WATOAY	HIR 1		NC		1-A10 1-0-85	2	ant*C	ں 1914ء ^{- 1}		nie	HST. M. S	TA 1 COD	F	-	. É	UNBEP
	· · ·	4. 5	·	- 1	*	t į	· ·		•	1	P	1				. – –		. 1	.11			1		
VITION		1.4		e fa di anta n		1.114		17		1.4.57	- 1	A 12 **	10 T		1000		<u>v 2 </u>	<u> </u>	611	45	1 4 9			00371
							C.31.3#	TRANS IN	59	D MET	ER	DPT	WET	- 2.5 COC	OBS.		SPECIA ERVIATI	L ONS						
							1001			, Imb	1)	BULE .	BUL	8	DEFTE	9								

			0.01		40917 Ima	597 BOLE BU	ire i								
				21		10 .21 .	1.10	11							
MERSINGE CAST THE UNC HE LT	TARD TYPE	DEPTH -	r m	5.1.	SIGMAHT	SPIC C VOLUME	2 1 0 D f N N E 10 ³	SOUND VELOCITE	0.2 m 1	- PO4=P 29 1 11	TGTAL-P	NO3=N -# - 551	120) – N 20 - 01 [−]	SLO4—Si ug = oF I	pĦ
			•			•	•	•		+	†				
	ST-		Jide	3 14	2474	5000000	ΰU J	14-22	61.						
1.3.4	287		85	3 - 1	24 4			LHOLL	812						
2.2%	131	2000	0.5	3	4 A 14 A			14514	825						
	- 7 -			Sein	15.	CCIPHIC	00.4	- H H D N							
631	. 53	Stat.	- J *	12	25.15			14473	1440						
	1 Y		÷'	3.35.4	L 1	00.0500	JUJM	14417	001						
6.2.2	J C S	21 A		22762	a (1. 54			144 "	351						
	- •	۰.,	164	14112	2176	1117676	. 247	144 -	1 2 3						
	ST.		1c -	3412	67-1	 Indum 	JUF -	a en la Cal	775						
2.2.5		- 0	54	14627	2751			- 1+ 14 - C	775						
	515	2.75		54 1 -	277.	0. 1-53	0072	14415	77						
- 1 -	U 13 5	. 57*	, / *	34323	2175			14410	175						
	5 [™] J	CLUU.	-0100	2.99.19.1	2176	01.3:75	1600	1444	760						
2.25	003	2100	^ 'p 'p	2446万	2775			14424	76Ű						
	STU	U 1 L ^C	168	3452	2781	してリオヲもち	2044	14424	753						
	212	04144	-0157	3457	278n	000072	0000	بهاق به ۱۰۰ ل	745						
22.4	l e s	.1 * .	-110/	34171	27:5			14434	745						
	510		1:44	3455	27+2	20.26.6	57	14452	729						
239	3 1	TLEJS	-0150	ビッロたく	27 ++			14451	7.5						
	570	0250	-0165	3 🕶 7 🗧	21.5	0011542	1.10	14455	701						
	STD	1300	160	2474	2793	0001207	0123	14402	600						
635	- B S	10301	-0100	34737	2754			14402	66Ŭ						
239	1.5	11.042	04	3-+ 15H				14470	615						

REFERENCE	SHIP	LATITUOE	LON	NGITUDE		RSDEN UARE		ON TH	ME ,	YEAR	OR CRUISE NO.	IGINATO STA NUA	DR'S NON ABER	e	DEPTH TO SOTIOM	MAX. DEPTH OF S'MPL"	OB!	WA SERVA	VE A TIONS	WEA- THER CODE	CLOU CODE	0 5 01		NODC STATION NUMBER	
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	MESSENGE CAST TIME OF NO. TYP MR 1/10		ARD TYPE	DEPTH W	nj	л °с	5	•/	sigm.	A-T	SPECIFIC N ANOMAL	OLUME Y~x10?	₹∆ 01N. x1	03 D.M.	SOU VELC	ND CITY	02 mi/((P	104-P a • 01/1	TOTAL⇒P µg = ot≓l	NO2-N #g - ol/	NO3~N 99 - al/	SiOa— jų - al	Si pH	100
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		185 199		195 195	.U 018	-0415 -0116		≺ual Sit-	ا نې ا د د	3				14 14	100	820 690							
REFERENCE	T -T		1			REDEN		4.6				ATOPS			MA	x	14/ 4 1/5			1			
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CTay ID.	SHIP	LATITU	DE LO	ONGITUDE	200 201	UARE	IGMT	~~	YEAR	CRUISE	siloni	TATIO	N	TO		H OB	SERVATIONS	THER	CODES	1	s	NODC TATION	
CODE NO,	2001	•	1/10	1/10	2 10°	1.	MO DAY H	1/10		NO,	۲	NUMBE	R	BOTTO	M S'MP	L'S DIR.	HGT PER S	EA CODE	TYPE ANT	1	N	UMBER	
311169	Ew	7348	0.1 0	79580E	2.8	1 39	09 05 0	38	1967		03	3		003	7 0	0 23	11		41			0044	
						WA	TER W	IN D	BARO		AIR TE	M.P. °C		NO.	5	PECIAL							
						COLOR	IRANS. OR.	OR	M ET EI	R 1 B	DRY UL8	W ET BULB	COD	DEPTH	OBSE	RVATIONS							
						1.2	04 23	\$1.2	25	- I	4.5	0.3	u e	104	+								
	[1		•	104125	1012	1-1	<u> </u>		<u> </u>	5 0 0	100		1							T.
	TIME (LCAST 약 NO.	CARD TYPE	DEPTH I	m)	T ℃	s •/	SIG	MA-T	ANOM	ALY-XI	67 I	DYN. N	A. VE	LOCITY	0 2 ml/	PO4-P	TOTAL-P	NO2-N ua - al 1	NO ₃ -N	SIO4Si 	pН	0
	HR 1/10						+	İ					X 10 ²	-+		-							-
		I I	STO	000	ŭ I	0.275	0.871	ا 1 م 7	01	0.21	407			<u> </u>	4.267	-	I						l
	0.48	9	085	, 000 000	U U	0273	08713	07	01	020		-4	0000	1	4267	888							
	0.38	3	OBS	000	5	0273	08673	0.6	98					1	4267	893							
			SID	001	U	026Ŭ	0922	07	41	019	996	1	U∠V.	2 1	4269	889							
	0.31	3	OBS	001	0	0260	09217	07	41					1	4269	889							
	11.58	3	OBS	001	5 <u>-</u>	0108	22880	18	39	0.04	511	1	0.140		4277	833							
	038	9	055	002	0 -	0146	27762	22	33	00.		1	0,000	1	4327	831							
	2.38	3	08 S	002	5 -	0155	31954	2.5	72					1	4382	680							
			SID) nea	0 -	0149	3321	26	74	001	311	4	0364	4 1	4404	544							
	380	3	085	003	· -	0149	33211	20	74					1	4404	544							
	136	5	085	003	+ -	0150	33201	20	0.18					1	4404	542							
REFERENCE	C 1410				_ : MA	RSDEN	STATION TH	V E			RIGIN	A TOR'S		DEPT	H MA	X.	WAVE	WEA-	CLOUD			NODC	
CTRY ID. CODE NO	CODE	LATITUD	DE 10	ONGITUDE		UARE	IGMT	1.10	YEAR	CRUISE	5		N P	BOTTO	M	08	LERVATIONS	CODE	CODES		5 N	UMBER	
222245		3. 50		7.01.0.55	10	1	MO DAT H	. 12 10					R.		SINT	LS DIR	HUTPER 3		11PE A 551				
1 310105	N ⊂W I	1405	N I U	184405	28	1 481 WA	09 05 0	54 IND	1967		U 3	4 UP 10	-	002	81.0	Q122	111 1	Ĭ	1 7 8	I	}	00451	
						COLOR	TRANS DIR	SPEED	METER	R I	DRY	WET	- VIS COD	B OBS.	0856	RVATIONS							
						CODE		FORCE	(mbs)	I B	ULB	8018	<u> </u>	DEPTH	5								
						1.2	04 22	511	24	9 0	53	0.4	4 7	00								7	-
1	MESSENGR	CAST	CARD	DEPTH 1	m)	t °C	5 .4.	SIGA	T-AN	SPECIFIC	VOLU	ME	₹ ∆ D	s	OUND	O 2 mill	PO 4-P	FOTA L-P	N07-N	NO3~N	SI O 4-Si	AH	S
	HR 1/10	Ϊ NO.	TYPE			-				ANDM	ALY-XI	°′ .	X 10 ³	· VE	LOCITY		µg = 01/l	µg r ot∕l	µg - α1/1	78 - 804	1 Io - DU		c
								I														-	
			STD	000	U	0184	1246	10	01	017	448	4	000	່ 1	4274	888							
)64	4	0 B S	000	0	0184	12457	10	01					1	4274	888							
	0 to 4	+	- 38S	000	5	0081	13936	11	20	016	0.0.0		01-	7 1	4246	869							
	264	4	210	001	0	0044	14242	11	44	010	044		010	í 1	4233	874							
	64	4	OBS	001	5 -	0114	23975	19	27					1	4287	844							
			SID	0.02	· -	0137	2789	22	43	005	411	4	0279	5 1	4333	791							
	064	•	OBS	002	0 -	0137	27892	22	43					1	4333	791							
	0.06	+	CDS	002	> -	0191	32011	20	4 /					1	4391	235							
REFERENCE	SHIP			an current	= MA	RSDEN	STATION TH	A E		(RIGIN	ATOR'S		DEPTI	I MA	H OB		WEA-	CLOUD			NODC	
CODE NO.	CODE	•	1/10	UNGITUDE	8 2 30		MO DAY HE	1/10	TEAR	CRUISE ND,	5	TATION	R	BOTTO	M SIMP		THOT PALS	CODE	TYPE ANT		N	UMBER	
2121.5	e	24.24	7.1	7716.00		1.7	- 0	0.2	1017		0.0	r									-		
1.211110.	4 ⊂.v I	1424	(NH U	(1150E)	148	1 4 / WA	<u>59 05 0</u> TER W	93 1ND	1967		US	2 W.P. °C		LUUD NO	41 0	01 44	111 1	1 45	1 919	1	1	0046	
						COLOR	TRANS. DIR.	SPEED	METER		DRY	WET	COD	OBS.	< 08581	RVATIONS							
						CODE	(m)	FORCE	(mbs)		ULB	8018		-	<u> </u>								
		· · •		-		12	05 00	500	23	8 0	36	03	4 Ŭ)7	1	,			r				-r
	MESSENGR TIME O	CAST	CARD	DEPTH 0	m 1	t °c	s •/	SIGA	T-AN		VOLU	ME D	Σ∆D DYN, M	s. Si	OUND	0.2 m1/l	PO 4-P	TOTAL-P	NO ₂ -N	NO3-N	SLO 4++SI	рН	0
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	+1	•	OBS	001	5 <u>-</u>	0125	24272	19	51					1	4289	800							
			STD	nu2-	Ū -	J151	2962	23	93	004	075	ō	0 ~) •	+ 1	+351	730							
	94	•	065	002	U -	0151	2:25	٦.	315							730							
	.42	•	- UBS - STA	0.02	 a -	0128	9237U 9293	- 20 - 26	เขาม สาวนี้	0.0.1	990	+	1244	1 1	4280 4388	257 574							
	<u>0</u> 94	+	085	003	ũ -	0155	32325	- 26	02	001		-		1	4388	574							

REFERENCE CTBY ID. CODE NO.	SHIP CODE	LATITUE	DE LO	NGITUDE	ANDCTR ANDCTR	MARSDEN SQUARE	STATIO IG MD DA	N TIME ATI Y [HR,1/1]	YEAR	C RUIS ND.	DRIGIN	ATDR'S STATION NUMBER	+	DEPTH TO BOTTOM	MAX. DEPTH OF S"MPL"S	OB: Die	WAVE SERVATION	WEA THER CODI	CLOUD CDDES	2	5	NODC TATION NUMBER	
31116	0 24	7-+4+4	5 N J	75475E	2	81 45		123	1967	<u> </u>	03	6		0020	00	22	3		0	1		0047	
						COLO	DR TRANS	VEIN D	D MET	R	DPY	WET	- vis.	DBS.	SPEC OBSERV	CIAL A BONS							
						COD	E (m)	1 5 1 C 1	ct (mb)	-	BOEB	BUEB		0.7									
	MESSENGE	6.44						17121	4 21	5	6.05		• <u>Γ</u>						1				T
	TIANE HR 1'10	NO.	TYPE	DEPTH (m)	⊺ °C	۶.	SI	GMA-T	ANO	MALT-R	(), (X 10 ³	· VELO	DCITY	0 2 m1/1	PG4-P	101AL→ µg = 01/I	ug - of/1	40 - 01/1 20 - 01/1	N0 + 01/	pH	0
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	· 		STU	000	U.	0089	e tes	5 1	444	01	3113	82 1	0000	14	345	837							
	12	4	095		0 5	0284	₹ 1804 ₹ 1804	53 1 46 1	445					14	395 300	837							
			STU	001	Ú.	0152	213	7 1	714	01	0509	0	DITE	14	375	- 900 - 836							
	12	2	045	001	C	015.	213	72 1	714					14	378	838							
	12	*	042	301	5	Uišl	7 . 57	1 - 1	404					14	357	- 8 O T							
	1.7	2	1.10	1.0 e 5 0 f	0 D	- 149	4 253 5 334	. 2	217	ψU	5242	6	014+	14	333	795							
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			STD	0.13		-0161	3.7	7 2	475	0.0	+140	01 0	1150	14	31,4	748							
	12	3.	.85	U GEZ	U.	-016ł	307	55 2	475					14	364	748							
*EFEPENCE C'HI ID. CODI NO. 31116	SHIP CODE TEN	LATITUS • 7533	νέ LD 1. 10 ΓΝ. U	NGITUDE 13 10 7日3日 王	CALAT IN DC 18	VARSDEN SQUARE	STATIO IGJ ATO DA ATO DA ATER TRANS E imi	N TIME ATI Y HIR UTH J Z Z Z WIND OIR OI POR	VEAR 1967 METI CE (mb)	CRUIS NO.	DRIGIN E AIR TE DRY BULB	ATOP'S STATION NUMBET IC A NEP TO WET BULB	VIL	0047 0047 0047 005 005	MAX DEPTH GF S'MPL'S QQ SPEC ORSERV		WAVE EERVATION	S WEA THER CODI	- CLDUD CODES THR AM 5 6	7	5	NODC ITATION IUMRER 0048	
							4	21 51	1 15	4	049	1.4.	2 7	00					,				1
	MESSENGE TOME HIR 1110	CAST NO.	C ARD TTPE	DEP*H (m)	1 **	5 •		GNIA-T	ANO	C VOL MALY-B	<u>.</u>	E A D SYN: 9 1 10 ³	501 1 - ELC	OND YTIOC	0 2 mili -	PO4-P 29-0120	10TAL=F >g - 01	NO2-N vg - of F	NO3-N NO3-N	SIDa-S Pg - of	рН	200
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	1.7		- T) - H C		0	11 26	 	1 1 6 1	492	ΟU	1821	144 () U U U U	1 14	364	857							
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			. 1.2	0.11	Q.	-05.24	277	+ 2	J. R.C.	00	55.58	1.	ju i	1.4	350	HHZ							
		-	ji Hilî		C .	- 31-24	7.7	37 2	23					14	360	882							
			S T L P	1 U.	-		ZRA	2	1.16	ΟÛ	4러)"	' н	1.19	/ 14	444	9.1							
	· · ·	•	- T			-0151 	C 2 44	n 1 2 4 1	4 1	0.0	34.1			14	348	787							
	1.7	3	0.63		0	-015-	4.51	1 2	5.24	J .		-	- *	1.4	4 14	667							
PEFERINCE 111 ID. 101 NO -4 3 1/1 2 6	SHIP CCCE TW	143000	E .c	HGITUDE 		Sauare 10° 1° 1° 21 1° 1° COLO CODI	STA*:01 IG MC DA 3 2 A*E8 E **********************************	V TIVE (1) (1) (1) (1) (1) (1) (1) (1)	1467 1467 BARC 1 (mbs		CRIGIN E1 AIR TE DRY BULB	ATORIS STATION NUMBER GCI WET BULB	vis cobi	DEPTH TO LOTTOM DU4-6 NO, DES, DEPTHS	MAT DEPTH C3 S'MIPL'S V 2 SPEC OBSERVI	OBS DIA SLZ TAL	WAVE ERVATIONS HGT HE S	WEA THEP TA CODE 14 7	CLOUD CORES TITE ANT		S P	NODC TATION JUMBER 0049	
		Г Г		T	-	1	· · · · · · · ·						1	192			1	1				1	Τ,
	1411221 H D #	L C AST I	CARD							SPECIFI	C YON	MI - 3	ΞD	501	IND		PD + # P	1014	10	ND N	510115		
	101 101 HE 1 10	LCAST 2 NO	CARD. 11PE	DEF4H	m I	1.12	5 *	- SP	SMA-T	SPECIFI ANOP	ALP-E	21 B	E <u>C</u> D YN, M X 10 ³	SOL	IND DCRTY	02 **	PD 4 = P	10*4 . = P ug = ut "	1402-14 28 - 61/1	ND3-N Vg - 01/1	51 O4~5 19 = 61	рн	ĊC

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		SΤ	- .	0114	2364	18-26	- 3765H	0000	14380	А7.
~	4	28.5	26	0114	22544	1335			14385	875
2.0	4	185	10.5	6111	13654	1 # 3 6			14384	855
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		STD	2.22	~ 12	2000	6 1 5	0040205	0147	14352	H29
20	4	. 53)024	-0161	3.206	2431			14355	797
		τD	0.10	-0159	1 444	2531	002010+	0185	14374	754
1.1	4	140	1. 35	-0157	12462	26116			1	7 . 1

REFERE	NCE	CHIR				-	#	MARS	DEN	STA	TION	TIME			1	ORIGI	4410	R*S		DEPTH	MAX		WAV	E		WEA-	¢ιο	υD			NODC	
CTRY	10.	CODE	LATIT	101	LON	GITUDE	2	SQUA	38		IGMS	ł	Y	EAR	CRU	ISE	STAT	ÓN		TO	OF.	1 01	SERVA	TIONS		THER	co	DES		5	TATION	
CODE	NO.			1/10		1/10	-	10*	۱.	MO	DAY	HR,1/10	2		NC).	NUM	BER			S'MPL	S DIR.	HGT	PERS	EA I	000	TYPE	A /// T		1	OMBER	
31	165	EW	750	3.0 N	07	4190E		281	54	09	06	017	1	967		03	37			0042	00	21	5			47	7	8			0050	1
								ſ	WA	TER	1	WIND		HAR	. 1	A IR TE	MAP.	6		NO.			1									
									COLDR CODE	TRAN (m)	S. DIR.	SPE OI FOR	D C E	METE	8	DRY BULB	BL	ET I	CODE	OBS. DEPTHS	OB2ER	VATIONS										
									12	0	22	52	5	07	9	064	0	58	0	05												
		MESSENG TIME	CAST	C A TY	R D PE	DEPTH (m		r	Ċ		•4.	SI	GMA	∖ _1	SPEC	IFIC VOLI	UME 10 ⁷	Z / DYN X	10 ³	SQ VEL	UND DCITY	0 2 ml	n PC PG	04-0P + 01/1	to پر	†A L→P p = 01/l	NO2- 29 - 64	-N 171	N03—N 99 + at/l	SiOą⊷S µg = al,	рН	
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					s ⊤ D İ	0000		0	384	1	÷05	1	1.2	3	0	16254	45	00	00	14	386	838	5									
		01	8	OE	S	0000		0	384	1.	+051	3 1	12	3						14	386	831	5									
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				9	TD	0010		0	175	- 2	94	1	75	8	0.	1008	18	01	32	14	396	798	3									
		01	8	05	35	0010		0	175	2	935	5 1	75	8						14	396	791	3									
		01	8	OB	35	0015		-0	053	2	561	1 2	14	0						14	355	791	3									
				5	CTC	0020		-0	143	2	375	2	31	3	- 00	0474	30	04	:06	14	342	776	>									
		01	8	06	35	0020		-0	143	2	3750	2	31	3						14	1342	776	>									

TO LONGITUDE EVENUE SULARE GAME	3515 EULER CODES /
CTRY FD. CODE CHINDER CONTROL CONTROL OF CONTROL OF	CODE NUMBER
CODE ND. 1, 10 1 10 2 10 1 MO DAY HR.1/10 ND. NUMBER BUTTOM SMPL'S OIR HGT PER	SEA COOL TYPE AMT
311165 SW 7525CN 073300E 281 52 04 06 052 1967 038 0040 00 21 5	45 9 9 0051
WATER WIND BARD, AIR TEMP, C VIC NO. SPECIAL	
COLOR IRANS DIR. OF METER DRY WET COOF OFFINS DESERVATIONS	
11 00 22 528 964 055 052 1 06	
MESSENCE CAST CARD DEPTH IMI T C S %. SIGMA-T SPECIFIC VOLUME SAD SOUND OF MILE OF ANOMALY-STIP TO VELOCITY OF MILE OF ANOMALY-STIP TO VELOCITY OF MILE OF ANOMALY-STIP TO VELOCITY OF MILE OF ANOMALY-STIP TO VELOCITY	-P TOTAL-P ND2-N ND3-N SID4-Si μg = or/l μg = or/l μg = or/l μg = or/l μg = or/l
STD 0000 0354 1560 1247 0150446 0000 14392 831	
052 OBS 0000 0354 15594 1247 14392 831	
0.52 OBS 1005 0348 15591 1246 14390 833	
STD 0010 0347 1561 1248 0150296 0150 14391 827	
052 OBS 0010 0347 15612 1248 14391 827	
052 OBS 0015 0330 16338 1306 14393 825	
STD 0020 0239 1731 1387 0136713 0294 14366 823	
052 OBS 0020 0239 17313 1387 14366 823	
14349 776 UBS 0017 23703 1904 14349 776	

REFER	ID	SHIP	LATITU	DE	LÓN	GITUDE	PLET DCTR	MARS SQU/	DEN	st.	TION (G.M.1	TIN LI	AE 1	EAR	CRUIT		ATOR	'S)N		DEPTH	DEPT	с Н с	W A BSERV	VE A TION	45	WEA- THER	CLOUD		5	NODC	ĺ
CODE	ND.	CDDE	•	1,10		1./10	٥z	10"	1.	MO	OAY	HR.	1/10		ND	- i	NU MB	ER		BOTTOM	S'MPL	S DIR.	HGT	PER	SEA	CODE	TYPE AM	T	1	N U M B ÉR	
31	1165	Ēw	7555	CN.	373	3310E		281	53	0.9	U.6	0	89 1	967		03	9			0000	0	1 2	я в				3 2			0052	ĺ.
								í í	WAT	(R		WI	ND	BARC		AIR TE	M.P. Y	: 1		NØ.			רי							00-3	
									COLOR CODE	TRAN (m)	5 D18	2,	SPEED OR FORCE	AA ETE (mbs	R	DRY BULB	W E BUL	T (CODE	DBS. DEPTHS	OB258	VATION	s								
								ſ			2	5	522	77	0	039	0(1	8	0.6			1								
		MESSENGR TIME C HR 1/10	CAST NO.	C A F T t F	iD 'E	DEPTH	m (1	°C		s •4.		SIGM	A - T	SPECI	FIC VOLU	ME 0'	E Z DYN X	∆ 0 4, M 10 ³	SDU VELC	DND YTIOC	02 m	73 J	() z = F g = 01)		OTAL⊸P µg•al/1	NO2-N µg - at/l	NO3-N NO3-N	SIO₄⊸Si µg-ol/	рН	
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				S	TD '	000	U	0	051	2	884		231	5	0.0	4729	۷.	00	00	14	431	83	в [′]								
		0 B C	9	0.6	5	000	U	Ũ	051	2	884	L _e	231	5						14	431	83	ð								
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		÷.	3	ЭB	-	001	ζI	0	042	2	41]	۰.	202	9						14	431	84	2								
				S	тÐ	352	0	-0	110	3	218		259	60	0.0	2112	1	00	980	14	403	82	0								
		1.8.0	2	08	S	0.05	4	-0	158	3	303	5	266	0						14	396	81	6								
				S	TD	003	U	- 0	157	3	367		266	3	0.0	1417	0	0 U	98	14	398	83	7								
		131	9	03	S	204	9	→ 0	155	3	317	4	267	1						14	د 40	84	3								
				S	T D	005	U	-0	154	3	320		267	7	00	1278	7	01	125	14	400	83	9								
		. 84	9	QВ	5	007	3	→ 0	135	3	492	7	281	3						14	442	71	4								

REFERENCE CTRY ID. CODE NO.	SHIP CODE		E 1/10			SDEN IARE		TIME TE	YEAR	CRUISE NO,	ORIĜIN E S	ATOR'S	R I	DEPTH TO BOTTO	MAX DEPTH OF S"MPL	OBS	WAVE ERVATIO	NS SEA	WEA- THER CODE	CLOUD CODES	T	S	NODC TATION NUMBER	
311165	Ŀ₩	77370	4	1042 302	202	COLOR COLOR	04 U7 TER 184NS: DI	U43 WIND R. SHI		7 10.4 1ER 25.1 E	U4 AIR TE/ DRY BULB	2 WP. TO WET BULE	VIS CODI	0440 NO. 085. DEPTHS) Q4 SPI 085ER	20 ECIAL VATIONS	7			3 5			0053	I
							21/2	8 51	5 1	. 7 . 7	15	50		111										
	MESSENGR 11ME o HR 1/10	CAST NO.	C ARD TYPE	DEPTH (m)	T	° °C	s *,	. sı	GMA-T	SPECIAL	C VOLU	M! 0'	₹ Δ 0 5 N. M ¥ 10 ³	SC	UND OCITY	02 m1/1	PO4- +9 - 01	P 1	IOTAL⊸P µg = ul/l	NO ₂ -N Pg - et l	NO3-N 28 - 01/1	\$1 0.4-\$1 µg = 01/6	pH	3000
																								1
			οĪ	5		115	3350	2	685	UU.	1209	۷	υνυσ	1.	+524	800								
	144		705	3000	Ċ	0116	3344	6 2	605					1.	+524	806								
	44		пыs	1005	L.	115	3340	5 2	684					14	4545	805								
			51	0 - 001 c	(115	3349	2	685	υC	1 £ 1 Ü	4	0012	14	4720	605								
	144		040	0.01H	C	112	3344	4 L	685					14	4526	805								
			ST	0 0.50	, L	1114	3300	2	591	0 C	1157	1	Ů J 2 4	• 1•	4526	80 b								
	46		283	.026	C.	1037	3305	- 2	044					14	4518	806								
			ST	0 0.30	C C	0027	3.584	2	718	001	9.8.97	4	0034	+ 1+	4494	798								
			S T	3 123	- (15	3449	2	778	26	J 125	+4	0046	5 10	4420	765								
	24 Z4		091	1052	- (1.68	3453	e 2	786					1.	4417	103								
			1.1	J)··75	-	111	340-	ć	784	0.5	1218		005;	3 1.	4444	749								
	÷ 44		-) G 5	0.77		1135	3466	- 1	7.9.1					1.	4452	748								
			21	0 0100 	- (2547	2415	2	7.45	υψι	0104		0008	5 1.	4482	732								
	1.1.4.6		- U D D - U T		-	304	3477	V 2	7.5 6		11.24	. 1		. 1	4404	7.4								
			- C T	0 0.42	- (2470		2.40		0115	- 1 . In	1065	. 1	4470	747								
			1.0	5 0120		1 40		<u>د</u>	GUU R.	0.91	C. 1. 1. 1		300.	, <u>,</u>		761								
	1.64.14		- C C 7			1147	44.4.4		HILT		1014	. 7	0.00.5	J 17	447U	760								
	44		14	1 118		1 47	1455	7	8.18		0043		000.	í i.	4.481	754								
				1.1.1			3.4.8		H 7			1	00.71		44.4	757								
			+			UTHE.	34.6-	. 1			1.64				45 0	754								
			3.61	у н. Т. 14. ж	_	4.7	340-		H I		J		0016	- I.		75.4								
	59.7.a		- U D D 		-		34.5					4	7.5	a 1.	4521	764								
	14.14		1 C 2 H L	s jani	-	- G.L. 2.15	1.44.14		5					1		755								
			000											•										

REFERENCE SHIP		UNGITUDE	MARSDEN SQUARE	STATIC IG	N THE MTI	YEAR	CRUISE NG	IRGINATORS STATION NUMBER		DEPTH TO MOTTOM	MAX DEPTH OF S'UPL'S		WEA- THEP CODE	CLOUD CODES	S N	NODC TATION AUMBER
311165 Ew 7	91768	-081705	2 82 85 WA COLOR CODE	*ER *BANS Imi	7 071 WIND DIR. 34	1967 848 10 MET 10 IND		U43 IR TEMP TO IV WET JUB BULB	415 000	U 4 3 U NO. DBS DEPTHS	SPEC OBSERVA	LY 5		78		0054
				•	14 31	15 11	18 0	25 01	4 7	11						

HESSENGE CAST	CARO TTPE	OEPTH VISI	1.5	s •:	SIG ₩ A = T	SPECIFIC VOLUME	¥ 701 8 № № 101	SDUND VELOCITY	O2 mFI	PO4=P	10141-P og of 1	NO2-N ug sahi	NO ₃ —N µg + at-1	51.0.4—51 .pg = 0111	рН
				-									[1
	5*0	2226	0.25	3236	2500	1 2 JAG	5J00	14468	833						
277	Det.	1000	V .0	4235H	2544			14468	833						
2.7.7	205	هه ای د	0.21	42.45%	1544			14404	13 4 4						
777	0.95	*	V. 20	32145	2544			14470	834						
	5 E.C.	. 1 .	0	3234	25 .	0.20 41	1021	14470	843						
	37.1		1.1.2	3284	2637	1010618	0038	14472	871						
7.7	195	 ∠ * 	2. 2.4	+2 +73	2644			14470	874						
	370		-0.04	3350	254	Cu.1176	0052	14448	841						
7.7	85	0148	- 111	34 324	. 7 7			14415	78:						
	_ 1 _	-	7 >	- La 4a	277.	0003-1:	0067	14416	7 H 5						
7.7	280	2 7 .	-0,17	34525	2751			14410	769						
	T D	5 P L	-0173	54 - 10	2786	. 102825	JU TE	14419	760						
7 7	065	20147	-0157	3450-	278.			1444.	761						
	isτ.	2100	- 5	3402	278	000235.	JJ82	14440	751						
	- T	0165	-0 41	3474	2724	1	0087	14480	734						
77	055	1.45	-00	34804	2747			14510	734						
	STJ	1170	-001.	340 .	27 +8	ていてまるすい	0041	14510	730						
277	0.52	- 144	-0.14	34625	2744			14516	754						
		0.00	-0.14	3482	2.8	0001191	JL +8	14515	150						
	STU	124		3484	241.3	1000084.	01-13	14504	760						
77	285	10,65	4×	34650	2825			14500	767						
	STI		-1 87	3486	28.5	0000615	017	14601	700						
	ST0	·	-0:99	344.	2811	0000067	0110	14512	734						
7 7	045	T 1425	-0100	34927	2811			14513	731						

REFER	ID.	SHIP	LATITUO	E	LONGITUDE	DRIFT	MAR SQU	SDEN ARE		STATIC (G	M TI	ME	YEAR	c	DRIG	NATO STATI	r's On		DEPTH TO BOLLOM	DEPTH OF	ОВ	W. SER	A VE VA TID	NS	WEA- THER	CLOU	5		NDDC STATION	
CODE	NO.		•	1, 10	1/10	1	10*	11	M	0 01	AY HI	R,1/10		+	NO.	NUM	BER	-	borrow.	S"M PL"S	OIR.	но	ST PER	SE A		TYPE AF	47			-
31	1165	EW	78290	DN N	6655ÚE		282	86	0	9 0	7]]	Ū8	196	7	U	44			0390	.0.3	21	3				6 8		[0055	,
								WA	TER		W	IN D	BAR	10-	AIR 1	EMP.	τ.	V.I.	NO.	SPE	-141									
								COLOR	TR	ANS. Im)	Ö1R.	SPEED OR FORCI	M E1 (mb	1 E R	ORY BULS	6U	ET C	006	OBS. DEPTHS	DBSERV	ATIONS									
								05		16	17	\$15	0	73	U25	0	14	8	11											
		MESSENGR TIME HR 1/10	CAST ND.	C ARD TYPE	DEPTH	tm ł	T	'n		5.	4.	\$1G	MA-T	5	ANOMALT-	UME 107	₹∆ DYN XI	0 . M 10 ³	SOL VELC	DOUL DOULL	02 m]/	1	PO 4-	P 1	tota L⇔P µg = ai/l	NO2~N µg • 01/	NO3-N yg - ot/l	51 O4- 99 - 0	-5i 1/1 pH	S
									Τ					T														1		
		1		ST	D' 000).)	- (108		317	7	25	57		00242	78	οu	00	14	398	864	۰.								
		10	8	OBS	000	00	- (108		317	74	25	57						14	398	864									
		10.	8	085	000)4	- (0110		317	85	21	58						14	398	873	3								
		10	3	085	000	9	- 0	0108		318	12	25	60						14	400	874	÷								
				ST	D 001	0	- ($011 \cup$		320	1	25	76		00224	54	00	23	14	402	883	3								
				ST	D 002	20	-0	0133		335	7	27	703		00164	08	00	4 Ü	14	415	940)								
		10	9	065	002	23		0139		339	00	27	130						14	417	945	>								
				ST	D 003	30	- 0	153		34 L	13	27	40		00068	17	00	48	14	413	883	3								
		10	3	085	004	•6	- (0173		342	87	27	162						14	410	789	9								
				5 T	D 005	50	- (0173		343	85	27	767		00042	97	00	ь0	14	412	784	•								
		10	8	08s	006	58	-(0174		345	28	27	81						14	417	768	3								
				ST	D 001	75	- (169		345	3	27	781		00029	36	00	69	14	420	767	7								
		10	q	035	009	91	- (158		345	525	2	781						14	428	762	2								
				ST	D 010	00	- (0117		345	57	21	183		00027	61	00	76	, 14	449	754	2								
				ST	D 012	25	- (025		346	9	27	681		00022	31	00	82	14	498	731	l								
		10	8	065	011	36	(0006		347	730	2	791						14	515	725	2								
				ST	D 015	50	(031		347	878	21	193		00018	40	00	87	14	529	721	L								
		10	8	085	1018	31	(0067		345	152	2	797						14	551	716	2								
				ST	J 020	00	(1059		342	5	2	147		00014	80	00	95	1 4	551	120)								
				ST	D 025	0	(0037		348	55	2	/98		00013	14	01	02	14	549	131	1								
		10	н	035	T 0 2 1	12	(1028		348	347	2	199						14	549	730	2								

REFER	ENCE	1410				2 MA	SDEN	STAT	ION TI	ME			ORIGIN	ATOR'S		01	EPTH	MAX	0.00	WAVE		WEA-	CLOUD	-		NODC	
CTRY	ID.	CODE	LATITUC	DE L	ONGITUDE	50	JARE		GMI		YEAR	CRU	ISE	STATIO	4	803	TOM	OF	0851	A VA HO	141.5	- CODE	CODES	1	2	NUMBER	
CODE	NO.			1/10	'1/10	- 10*	1.	MO	DAYH	R.1/10			0	NUMBE	к 			SWPL	DIR.	HGTPER	5£A		TYPE A M	1			
31	1165	Ew	7855	on l c	65360E	28	2 85	09	07	15Ú	1967		ŪΔ	5		03	301	03	19	2		63	7 8			0056	
							WA	TER	V	IND	BAR	0-	A IR TE	MP. C		N	NO.	5 8 8 1									
							COLOR	TRANS	DIR.	SPEED	MET	ER	ORY	WET	COD	DE	DBS. PTHS	OBSERV	ATIONS								
							CODE	smi		FORCE	(mb			501	-	+											
					-				17	517	91	8	012	00	6 7		11										
		MESSENGR TIME C HR 1/10	CAST	CARD TYPE	DEP1H (m))	t °c	s	•4.	SIG A	1 – A M	SPEC	INC VOLU	JME 10'	₹ △ D DYN, A X 10 ³	Å.	SOU VELO	ND	0 2 ml/l	PO 4-	.p 121	fOTAL—Р µg • st/1	NO3-N 99 - at/1	NO3-N 99 - 01/1	SI Daws vg + ot/	рн	S C C
												ł													1		
				ST	ວ່ ວບວວ	· _	0163	32	94	26	52	Ú	01520	00	000	θĹ	14	388	923								
		150)	055	0000	-	0163	32	938	26	52						14	388	923								
		150)	UBS	0004	-	0164	32	431	26	56						14	388	92Ŭ								
		150	5	035	0009	-	0164	32	931	26	52						14	389	915								
				STU	0010	-	0164	32	43	26	54	Û	01524	+4	001	5	14	389	917								
				STI	0020	~	0163	32	94	26	52	Ð	01520	7 כ	0031	0	14	391	928								
		15	1	OÊS	0022	-	0163	32	339	26	52						14	392	930								
				ST	0030	-	0170	33	62	27	60	Ũ	00993	21	004	3	14	400	852								
		15.	-	085	0045	-	0180	34	432	27	74						14	409	760								
				STI	0050	~	0181	34	45	27	75	0	00350) a	005	6	14	405	759								
		15.)	OBS	0067	-	0185	34	503	27	80						14	411	755								
				STÍ	0075	-	0167	34	53	27	91	0	0029	19	006	4	14	421	752								
		15		085	0089	-	0133	34	580	27	84						14	440	747								
				ST.	0100	-	00.36	34	50	27	86	0	ÚU24	57	007	1	14	460	745								
				ST	0125	-	0023	34	71	27	00	0	0020	30	0 U 7	7	14	499	738								
		150	5	085	0134	-	0001	- 34	735	27	91						14	511	734								
				STI	0150		0032	34	78	27	93	0	0010	52	008.	2	14	529	721								
		15	0	085	0180		0077	34	840	27	95						14	556	704								
				STI	0200		0076	34	85	27	96	0	00159	94	009	0	14	558	707								
				ST	0250		0072	34	87	27	98	Ū	0014	30	009	8	14	565	711								
		150	0	OBS	T∪271		0071	34	877	27	94						14	568	712								
				ST	0300		0074	34	89	27	49	0	00124	98	010	5	14	575	711								
		15	1	ОЫS	T0321		0077	- 34	902	28	0.0						14	580	710								

REFERENCE CTEX ID.	SHIP	LATITUDE	LOP		M A R	SDEN ARE	STATIO	N TU ATI	9 W	YEAR	CPUI	ORIGIE	ATOP STATE	e's ON	DEPTH TO BOITO		АХ. 17 Н 1 F	OBSE	VAVE RVATIO	NS	WEA- THER CODE	CLOUD			NODC STATION NUMBER	
CODE NO.		1.1	0	'1 10	10*	1.	MO DA	Y HR	2,1/10		NO	·	NUM	858		S'M	PL'S	DIR. H	GT PER	SEA		TYPE AN	1			L
31110	5 EW	79194N	06	41608	282	94	09 0	7 1	81	1467	ļ.,,	Ú4	6		031	1 0	3	19	3		44	1 1 8			0057	1
						WA	rer	W	IN D	BAR	, L	AIR TE	MP. 1		NO.		PECIA									
						COLOR	TRANS. Iml	21R.	SPEED OB FORCE	MET (mbi	R	DRY BULB	BU	LE COD	DEPTH	S OBS	RVAT	IONS								
								40	518	85	5	312	5	060	10											
	MESSENGR TIME H.R. 1/10	CAST C	CRA TYPE	DEPTH (m)	T	٢	5.		SIG	4 A - T	SPEC AN	FIC VOLU	J 44 E 10 ⁷	≨ ∆ D DYN Y ¥ 10 ³	S ∨E	LOCITY	0	j mli l	PO.4- 29 - 0	P 1	07AL=P -9-01/1	NO7-N V9 - 01/1	N∩g=N yg + at+'	51 O 4 49 - 91	Si pH	100
					1				T																	Ì
			STO	0000		150	360	5	20	45	24	1205	20	000.) <u> </u>	438	÷ 1	814								
	18	1 2) U S	0000	- (155	320	55	24	45					1	4389	1 1	879								
	18	1	185	2065	- 1,	159	328	57	26	45					1	434.) (872								
			STP.	JULC		1.5 ざ	360	5	20	4.5	11		• U	- 0 U L 6	, <u>1</u>	434.	1 1	573								
	18	1 0	065	0529		124	328	55	26	4 5					1	439	18	873								
			31.2	1120		172	334	4	2.6	43	Ű.	113.	11	0025	- 1	4 3 9 1		88Ú								
	18	1	55	ڪ جان آن		174	110	83	- ? !	13					1	4398	38	884								
			STD	1041	- 0	114	550	8	21	29	00	074	1 :	003	1	44.1	i ł	852								
			510	0.50		174	4 Ka eo		21	71	Ų.	1134	1.5	0.051	L I	4441.	•	765								
	18	1 0) 번 등	0.57	:	1.74	344	28.	- 44	74	~			<u>.</u>		441.	3	760								
	4		31.1	0075	- L	1151	5.64.94	<u>.</u>	21	15		11135.	15	UU NI		441)	÷	140								
	15	1 · ·	125.	0.1		100	3 ** **	<u> </u>		1.				2.2		4420)	141								
			51.	51.0	-	1149	2.64	· ·	21	25.8		1012.51	- 1	ા હા	5 1	443		140								
	15	1	105	21.73		145	346	16	21	<u>н</u> .					1	443	ſ .	746								
			ΞŢ₽	12"		14.10	547			- H. 14	00	الدلا	4.4	007	4 1	4444	5	141								
			21.0	3150		415	146	í.	21		. U.	91 I F	140	20.0	4 L	445	y .	145								
	18		19.			115	346	7.4		14.6					±	440	Ļ	145								
			112	0.200	-	0.24	347	0	21	9.6	1.		ته و	LI Û H	7 1	449	۳.,	133								
	18	•	192	THUE		11 14 1	3.+1	6.	6 1	46		,			. 1	4 7 -	•	136								
			. T -	250		*	3.45	1	21	- સ	Ų	1 2 (5 '	2031	<u> </u>	4521	2	124								
	1.9	-	140	1.297	C	de e	4+a H	*	2 r						1	454		720								

REFERENCE DOOL NO. 3 11 10	SHIP CODE	LATITUDE 10 78586%	LON SITU	DE 100	MARSDE SQLARE TETT	STA 110 IG • 440 10 W A*84 • 78 18452	AY MR. I	YEAR 1 400 1 4	12 115 N 5 N 5 N 5 N 5 N 5 N 5 N 5 N 5 N 5 N	CHGINATO		01000000000000000000000000000000000000		WASE SERVATIONS NOT REAS CONTRACTORS	WEA- THER CODE	CLOUD CODE THE AM		5	NODC STATION NUMBER	
							24 51	2	- 1-		U4 1	1.5					_			
		ATT CA NO TH	20 DE	PTH Im	1 12	5	· 3	5 IP A =*	SRC 1 AND	C FOLLME	\$ <u>C</u> D DYN M, F 0 ³	SOUND	Do mili	104-1 1911	1014L=P +3+0f	۲۰۰۵-۳۰۱ ۱۰۲۵ - ۵۱	ND3-N 29 - 01 1	SI Dawsi 49 - 01	рн	
			*		•	-					•				ſ					Ī
		c	,τ.,		- 14	-1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	y * .	276).	2277 N	1000	14385	00-							
	11.14	. C 12			- 14	4	(5 m)	<u>م</u> '.				14381	HOL							
	104			. •	÷4	e 21.	(5 i - 2	2 14				14255	러는 ~							
	2.10	.) r	5) → [} 4	e de la	- 6	157 m				- 4387	중요~							
		5	۲	L 17	4	56-	÷	(h =		1.4) - L	14787	イガン							
			· • ·	É		14 - Suri	8 2	27.4			2.0.4.44	14341	557							
	· · ·	36		- · ·	-01-	i	1.7.4 6	(B. K.)		-		14345	587							
				- 11	- 245	61 - 2002 Sistematica	3 il 4 1 3 m	1208.2		1 A 1 4 1	0.001	14400	7 4 4 7 -							
	. *		÷					176.0				144.3	75.4							
				- ' - F 14		а - 294- С - 4ш					0 /	14472	752							
			- -	7.6	- 4			· • •]		4. M	List	144.	745							
				14 M				1				14437	730							
			÷		1 .	0 340	5 (11.2			1041	14445	125							
			τ.		-011		b	7.5.4		: *14	2011	14458	713							
		. 1	9	1.7	- J 1 1	3.41	164 /	1.14				14454	71.							
			T.J.	11.	- 111		et i	194 - 14		. 7 :	5115	14414	714							
	U . P	10	'a '	1. A.	- 1.1		4 m. w	28.1				14407	710							

REFERENCE CTRY ID. CODE NO.	SHIP CODE		1/10 LOI		MARSDEN SQUARE	STATION TIA IGMTI	4E YEAR	ORIGINAT	OR'S TION MBER	DEPTH TD BDT10M	MAX. DEPTH OF S'MPL'S	OBSEL	VAVE RVATIONS	WEA- THER CDDE	CLOUD CODES			NODC STATION NUMBER	
310165	EW	7841	ON DE	0200E	282 8V	09 08 0	37 1967	050		0177	01	2.4	4		68			0059	
					WA COLOR	TER W	ND BAR	D- AIR TEMP	VIS.	NO. 085.	SPEC							0011	
					CODE	imi DiR.	FORCE (mb	BULB	BULB	DEPTHS	DRZEKA	A HON'S							
					J6	25 29	S12 94	7 -004 -	005 8	08									
	MESSENGA TIME C	CAST	CARD	DEPTH (m)	T °C	s ·	SIGMA-T	SPECIFIC VOLUMI	₹ ∆ D DYN, M	SO SO	UND	0.2 mi/i	PO a-P	TOTAL-P	NO2-N	NO3-N	SI 0 4	SI pH	S
	HR 1/10	[1176	ļ					¥ 103	Yeu			9 • 01 · 1	10 - 01/1	рд = 01/1	98 - 01/1	2g - 01		C
		1	670	0000	0113	10.	7560	0024069	1 00.04	 14	4.00	267]			1			1
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226	OBS	0005	0218	34177	2732			14580	774
	STD	0610	V219	3418	2732	0007649	8600	14581	775
226	DBS	0010	0219	34176	2732			14581	775
	STÜ	0020	0220	3418	2732	0007652	0015	14583	776
226	DBS	0025	0220	34177	2732			14584	776
	STD	0630	0137	3431	2749	0006055	0022	14550	789
	STD	0050	-0074	3470	2792	0001986	0030	14463	809
226	085	0050	-0074	34695	2792			14463	809
	STD	0075	-0062	3483	2802	0001023	0034	14475	763
226	QBS	0075	-0062	34827	2802			14475	763
	STD	0100	-0063	3486	2804	0000785	0036	14479	751
225	OBS	0100	-0063	34857	2804			14479	751
	STD	0125	-0084	3489	2808	0000437	0038	14473	745
2.26	085	10147	-0119	34912	2811			14461	744

REFE	RENCE						MAR	SDEN	ST A	TION I	IME		1	ORIGIN	ATO	R*S	T	DEPTH	MAX	:1	WAV	E	WEA	CLO	JD		,	vopc
CTRY	10.	CODE	LATITU	56	LONGITUDE	40 C	sau	ARE		(G M 1)		YEAR	CR	UISE	STAT	IO N		10	01	1 085	ERVA	tions	THER	COL	DES		S1 N	ATION
CODE	NO.			1/10	1/10	=	10*	j.	MO	DAY	HR,1/10		\downarrow	NO.	NUN	BER	_ <u>+</u> `		S'MPL	S DIR.	HGTP	ER SE	A	TYPE /	<u>M1</u>			
31	1165	Ex	7701	ON	0555008		283	75	09	11	023	1961	7	06	6			0155	01	32	4		1	8	71			0067
								WA	TER	I	WIND	BAR	0.	A IR TE	MP.	°C	VIE	NÔ,	59	CIAL								
								COLOR	t TRAN	S DIR.	SPEED OR FORC	E (mb	ER s I	DRY BULB	W BL	ET O	3008	OBS. DEPTHS	OBSER	VATIONS								
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		MESSENG TIME	CAST	CAP TYPI	D DEPTH	lm l	T	•c		; •	sig	M A - 1	5 P (ECIFIC VOLI	JME 107	₹ Z DYN X	10 ³	SOI VELI	UND DOITY	02 m1/1	PO ×9	4—P 01/1	101AL-P µg - 011	NO2- 19-01	N 21	NO3+N µg - ot/l	SIO ₄ —Si µg - at i	ρH
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		5.2	3	08	s ou(0.0	6	0 24 0	3	4121	2	726						14	588	751								
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				5	TD 005	5 Gr	- 9	149	- 31	469	2	740	ſ	DC_21.	5	00	133	14	474	775								
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				S	TD 00	15	- (1020	3	482	2	139	(UUULZ	71	00	131	14	444	760								
		0.2	3	QB;	5 00	77	~(0015	3.	4825	21	130				~		14	495	754								
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			3	0£.	s 21:	14	(0016	3	4565	5 24	503						14	501	761								
			_	S	το cl.	25	- 1	1043		487	21	504	ł,	1000 M	21	UC	142	14	496	154								6
			2	ាចៈ	S 013	38	- (10.45	-	4870	. 21	106						14	481	163								0.

REFER	IO,	SHIP	LATITUDE	LON	GITUDE		RSOEN WARE	57	A TIO	N TU MT}	ме	YEAR	CRU	ORIGI	NATO	R'S ON	-	DEPTH TO	MAX, DEPTH OF	OBS	WA\ ERVA	TIONS	WEA- THER	CLOU	s		NODC	
31	NO.	ĒN	77180N	0 05	1/10 3580F	= 10*	1 73	M0	DA 1	у ни 1 С	1/10	1967	N	0. Ū	NUM	968		0.440	S'MPL"	DH.	HGT	PER SE		1177E A.	AT		0.04.9	
						,	WA	TER	+T	W	INO	1.0	tΤ	A IR T	EMP.	c	-1	NO 1	1_05					. 0.2			0000	
							COLOR	TRA	N S. (DIR	SPEED OR FORCE	METI Imbi	R	DP7 BULB	W SU	EF C	VIS	OBS DEPTHS	SPE Observ	ATIONS								
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		MESSENGA TIME H.R. 1/10	CAST C	ARD TYPE	DEPTH	mi	τ °c		۶.		SIGA	1 A - T	SPEC	OMAL7-	UME 8107	₹ DYN x 1	D	SOL	DOLITY	0.2 m1/i	P(24	0 4- 2 1 al 1	TOTAL-P µg · ot/i	NO2=N 49 + aM	NO3-N 28 - at/1	51 O4- 99 - 01	S) (1) pH	500
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REFEREN 15 CTAT (D CODE NO	CODE	.ATITUDE	гнотире	14.11 14.11 14.11	NARSDEN SG ARE	STATION TI IGATI	ME YEAR 8,1 10	CRUISE STAT	DP'S FICIN FBEP	DEPTH TO TO S MOTICE	MAX DEPTH OF MPL*S	WAVE OBSERVATION	5 THER 114 COD	CLOUD CODES	1	¢.	NODC STATION NUMBER	
311164	h En	77461N	. 010	- #-	ChL III	114]]] 184NS CIR.	HQ 111A IND ANE INE ANE ICA E (M)	- 04 80- All 15/49 88 D&r 6 80- BJUB B		1 1 NO. 9 085. 0 FPTHS 0	SPFCIAL BSERVATIO	20		5 8			0069	
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REFERENCE CITY ID. CODE NO. 311165	SHIP CODE E w	LATITUDE 1/10 77525N	LONG 050	1710 1710	2 8 2	SDEN JARE 1* 3 70 WA COLOR CODE	STAT MO O Q TER TRANS Im1 36	DAY		YEAR 196 ⁻ BAR MET CE (mb	CR P 7 ER 111 7 2	ORIGINUISE	AATOR STATIC NUMB	"S DN JER C T COD LB 27 B	0225 NO, 085. DEPTHS	MAX, DEPTH OF S'MPL' O 2 SPE OBSERV	OB 5 DIR 36 CIAL ATIONS	WAY SERVA	VE TIONS	W EA- THER CODE	CLOUD CODES TYPE AM	ī	S N	NODC TATION UMBER	
	MESSENG# TIME 0 HR 1/10	CAST CAST CAST CAST	KRD YPE	ОЕРТН (л	+ 1	1 *0	s	•%.	sic	SMA-T	SPE	CIFIC VOLI NOMAEY-X	J M E 107	₹ △ D DYN, M X 10 ³	SOL VELO	UND DCITY	02 mł/	P(04-P	TOTAE-P ug = o1/I	NO2-N µg - of/l	NO3-N 99 - 01/1	\$1 O4—\$1 µg = σ1/1	рH	S C C
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	120	0	BS	10191	. –	0075	34	93	2 2	811					14	489	710								

REFERENCE	SHIP	LATITUDE 1/10		LONGITUDE	DRIFT	MAR SQU	DEN ARE	ST.	IG M		,	ÉAR		ORIGIN		I'S DN NER	80 [.]	TO TO	MAX DEPTH OF	085	W A SERV	VE A TIONS	WEA THER CODE	CLO CO	DES			NODC STATION NUMBER	
31,16	SEA	781.	- 1710 N	048080	Ξ	284	88	09	11	14	7 1	967		00	2		0 1	320	03	36	3	- CR - 30	_	5	8			0071	
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		~		10 00 n ac	10	- L	100	3	245	0	268	5	00.	1213	5 <i>2</i>	201	2	14	519	811									
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		-9 C		TD 01	25	-0	135	3	484		2.60	3	00	5087	7.5	004	8	14	451	754									
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			S	tū 02	50	-0	157	3	494		281	3	-00	0001	76	005	2	14	484	735									
	14	, Q	03	s TO2	97	-0	112	3	498	Ú	281	6						14	490	716									

REFERENCE	SHIP CODE	LATITUDE	LC		MAR SQU	SDEN ARE	STAT	GMT	IME	YEAR	CRUISE NO.	ORIGINA STA	OR'S		DEPTH TO BOTTOM	MAX. DEPTH OF	08	WA SERV.				CODIS			NODC STATION NUMBER	
31116	S En	772431		461505	184	76 WA COLOR CODE	LER TRANS	DIR.		1967 BAR	0+ ER 1 B	U 7 5 AIR TEMP	W FT BULB		0 _ 0 0 NO. 085. DEPTHS	SPEC	35	2				5 8		-	0072	1
								34	515	11	4 -	10F -	01	7 4	0.8											
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REFERENCE.	Ť	T MARSON STATING THE	T	OFFIN WA	VE A EA-	CLOUD	NODC
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			1.08	PANE C.F.	UPT: UPT: UPT: UPT: UPT: UPT: UPT: UPT:	De De A		OID. CASER DIS. DASER EPTHS DASER	ECTAL VATIONS							
			** ** **		- 1	14 1 -	17 1	1.								
elgi N. H., rikst N. J. N.	, +40 	> P*+4	1.10	5 1 4	5 G M A = 1	$\label{eq:product} \begin{split} & \mathbf{P} \mathbf{P} \big\{ \begin{array}{c} \mathbf{r} \left(\mathbf{r} \right) \mathbf{r} \left(\mathbf{r} \right) \mathbf{r} \mathbf$	∑	SOUND - ELL CITY	02 mili	P⊖ 4=P	" "DTA _ = 4	403-11 29-01	NO1-N NO1-N	51 O 4 + 51 99 + 01 1	p #4	100
				+ -			+	•		1		1				T
	÷.,			5 4 4 4		Sa ana		1 4 . 4 7	7 . •							
1.44				11.2	. · .			14267	142							
2 ³ 4				4.1.2.4				14541	71244							
	· · ·		. 1 . 1	1221		S Pert		14-4"	296							
, ÷u	2	1	1.1.1.1	2.27%				1 ++ 5 ++ 7	7 5 5							
	1 . T		1.1	4 - p	4	· * * *	-	2412.	т., т.,							
1 <u>1 4</u>	21	6	011	يتعتر				1455	· · .							
	τ	1.2	, , ,	33 -	2722	5.	1	4 4 ¹⁰ , 11	1 = .							
			- 19	34-2	27	33227 +	L 14	1443	726							
. ·			-	345	2751			14.25	۰.,							
	. •	-	- 21.1	5.4 1.4	11.1	4.14	5	14444	754							
-4				2., 16.2				14444	745							
	Τc	1.		1494	23 I		ت ا ب ال	144601	745							
1 m			- J 1 1	3454	per 1			上端公共社	2 is 7							
	T	4 m. ¹¹		349-	23 4			14557	776							
		. 11	C 1 4	344	28.1		U U H L	14561	7 t. c.							
_ 1 M		×	J 1.	34	2507			エッシュ	~ <u>.</u>							
	÷.,			Sales -	23	1	U	14214	7							
1 va				2.97	27.11			14520	747							
6.24		1.2.4.4	-0 50	3494 -	2-1:			14504	7 J e							

REFERENCE					L E N	ARSOEN	STAT	ION T	IME		01	RIGINATO	08'5		OFPTH	MAX		WAVE		WEA.	Стопр			NODC
CTRY ID.	COOE	LATITU	05 1	ONGITUOE	NDC Dell	SQUARE		GMT)		YEAR	CRUISE	STA	NON		TO	OF	H DBS	ERVATIO	NS	THER	CODES			STATION
COUL NO.			1/10	1/10	- 1	0* 1*	MO	DAY	R,1/10		NO.	NUA	ABER		001101	S' M PL	S DIP	HGT PER	SE A	CODE	TYPE A M			NUMBER
3 1 1 1 6	5 Ew	7645	4N 0	49480E	2	84 64	99	12	023	1967		073		_	0284	0.	3 36	2			1 5 8			0074
						WA	TER	v	VIND	BARC	- AI	R TEMP.	"С	VIS.	NO.	SP	ECIAL							
						COLOR	TRANS. Imt	DiR	OR	(mbs	R DR	18 B	VET ULB	CODI	OEPTHS	OBSER	VATIONS							
							-	0.	COL	1					1.0									
							4	101	1506	1 1 3	4 - 00	.6 <u> </u> =($\frac{1}{1}$	18	110				-					
	HR 1 10	R CAST	C ARD TYPE	OEPTH I	ml	1 ℃	s	•/	SIGN	A-T	SPECIFIC ANOMA	VOLUME LY+x107	0	∆ D YN, M K 10 ³	SOI VELO	O N D D C ITY	0 2 m1/l	PD4- +p-or	Р т 21 - 1	OTAL→P µg + α!/l	NO2-N µg•ofi	NO3~N µg = of 1	SLO-4—1 µg = a1	Si pH
			· · · · ·				-											1						-
	1		ST2	ວ່ ດວດ	c '	0129	33	55	25	8.8	0011	761	'n	0.00	14	531	HOZ	4						,
	02	4	085	000	Ū.	0129	33	551	26	88			Ŭ	000	14	531	802							
	02	4	08 S	000	5	0128	33	551	26	89					14	532	806							
			STI	001	Ċ	0127	- 33	55	26	89	0011	1750	Û	012	14	532	801							
	02	4	085	001	Ũ.	0127	33	551	26	89					14	532	801							
			STO	002	U	01∠H	33	55	26	88	0011	1763	0	024	r 14	534	803							
	02	4	085	002	5	0125	33	550	26	88					14	535	804							
			5 T (003	Ū	00+2	33	87	27	19	3005	9829	0	034	14	501	800							
	3.2	4	OBS	004	9	-0169	34	65 i	27	92					14	418	78∠							
			STE	005	0	-0169	34	66	27	9.2	0001	1930	0	040	5 14	418	780							
	ੇ ਵੱ	4	OBS	057	4	+0167	34	705	27	°6					14	424	753							
			STO	007	5	-0166	34	71	27	96	0001	1542	0	049	14	464	753							
	0.2	4	085	009	9	-0137	34	775	28	00					14	443	759							
			STU	010	0	-0134	34	78	28	01	0001	095	0	052	14	444	759							
			STG	012	5	-0075	34	84	28	03	0000	1057	0	055	14	477	760							
	J 2	4	OBS	014	9	-0037	34	895	28	06					14	499	76l							
			STD	015	0	-0035	34	90	28	96	0000	1575	C	しっと) <u>1</u> 4	500	751							
			STE	020	Ú.	-0018	34	96	28	10	0000)123	Ũ	058	14	517	738							
	02	4	OBS	1020	U	-0018	34	958	28	10					14	517	733							
			STI	0 025	0	-0049	34	97	28	12	-0600	015	Ũ	055) 14	511	719							
	0 Z	4	OBS	T 0 2 5	6	-0058	34	°68	28	13					14	509	715							

REFERENC CTRY ID. CODE NO	E SHIP CODE		LC	DNGITUOE	DRIFT IN DCTR	MARS SQU	DEN ARE	STA	TION (GMT OAY	13ME 1) HŘ, 1710	YEAR	CRUISI NO.	ORIGINAT E STA NU	OR'S TION MBER	_	DEPTH TO BOTTOM	MAX, DEPTH OF S'MPL'S	OBSE DIR.	WAVE PVATIONS	WEA- THER CODE	CLOUD CDDES	T	S N	NODC FATION UMBER
31110	55 EW	762955	1 0	51350E		283	61 WA	0.9 TER	12	U58 WIND	1967	1		'n		0329	03		2		0 0			0075
							COLOR	TRAN (m)	5. OIR	SI'EE OR FOR	D MEN	D-	DRY BULB	WET BULB	VIS. CODE	OBS. DEPTHS	SPEC OBSERV	ATIONS						
							06	27	7 0	4 S0	7 13	2 -	004 -	014	8	10								
	MESSENG TIME HR 1/11	CAST (C A R D T Y PE	DEPTH	(m.)	T	°C		s •4.	\$10	SMA-T	SPECIFI	C VOLUME	₹ DY X	∆о N, м. 10 ³	SOU VELC	JND CITY	0.2 ml/(PO4-P PQ - of 'I	tota ⊾⊸P µg - at/t	NO2=N µg - at/i	NO3-N 199 - at/1	\$1 O 4-5) µg + 61/1	PH C

HR 1/10						ANOMALI-AV	X 10 ³	VELOCITY		NB - 01,1	µg • at∕t	µg = at/i	49 - at/1	µg = e1/1	<u> </u>	C
																Τ
	STD	0000	0180	3365	2693	0011378	0000	14555	785							
059	055	0000	0186	33646	2693			14555	783							
059	085	0005	0178	33650	2693			14555	790							
059	08S	0009	0179	33676	2695			14557	787							
	STD	0010	0179	3368	2695	0011139	0011	14557	787							
	STD	0020	0181	330 -	2090	0011076	0022	14559	787							
Ù59	OBS	0024	0181	33691	2090			14560	787							
	STD	0630	0063	3401	2724	0007078	0032	14513	750							
059	035	0049	-0168	34666	2792			14418	770							
	STD	0950	-0167	3467	2793	0001859	0042	14419	777							
059	QES	0073	-0149	34724	2797			14432	756							
	STD	0075	-ŭ148	3473	2797	0001443	0046	14433	757							
059	035	0098	-0136	34778	2401			14443	752							
	STD	0100	-0128	3474	2801	0001039	0049	14447	761							
	STD	0125	-0048	3486	2804	0000826	0051	14490	755							
359	065	0146	-0009	34405	2805			14512	754							
	STD	0150	-0009	3491	28 6	0000637	0053	14512	75:							
059	085	T0195	-0015	34925	2807			14517	751							
	SID	0200	-0016	3493	2808	0000468	0056	14518	750							
	SID	0250	-0033	3494	2810	0000261	0058	14519	735							
	STD	0300	-0061	3496	2812	-00000011	0058	14514	707							
051	085	T0302	-0062	34959	2812			14514	706							

REFERENCE CTAY ID.	FERENCE SHIP I.D. CODE LATITUOE			LONGITUDE	DRIFF 4 DC TB	MARS	IOEN ARE	STA	FION IGMT	TIME J	YEAR	CRU	ORIGI	NATC STAT)R"S 10N		DEPTH TO	MAX, DEPTH OF	0	W. BSERN	A VE VATION	s	WEA- THER	CLOU	D S		NOD	C ON
CODE NO.		•	1/10	1/10	=	10*	1.	MO	OAY	HR.1/30		N	D.	NUA	ABER		BOILOW	S'MPL'	S DIR.	нс	TPEP	SEA	COOF	TYPE A	11		NUM	JER
31116	E E A	7612	5N	05323UE		283	63	39	12	086 086	196	7	J	71			0115	01	e i	1 2					3		00	76
							WA	TER	_	WIND		o-	AIR T	EMP.	ۍ		NO.	5.84	CIAL	7								
							COLOR CODE	TRANS	DIR	. OF	D MET	ER AJ	DRY BULB	61 61	/ET C	001	OBS. DEPTHS	OBSERV	ATION!	s								
					-		35	31	3.	2 51	J 1.	25	023	ļ	508	8	07					_		_				
	MESSENG TIME HR 1/10	CAST ND.	C A S T Y P	10 16 OEPTH	(m)	T	۲	s	•4.	SI	GMA-T	SPEC	IFIC VOL DMALY-I	UME 110"		10 ³	SOU VELO	UNO DCITY	0 2 ml	л	PO4-P 49 - 01/	Te	0TAL-P	NO3-N 49 - 01/	NO3-N 49 - 01/	SI O . VG - G	- \$1 4.11	рн
						[]														I	T	
			S	TD 000	J.	C	289	- 34	29	2	735	0	0073	68	00	00	14	612	75	9								
	́ В	6	ОB	s 000	J	0	280	34	20	1 - 2	135						14	612	75	9								
	0.8	6	08	5 000	5	0	288	34	283	2 2	735						14	612	76.	2								
			S	10 001	J	J	286	34	2₿	2	735	03	0074	71	СU	U 7	14	elz.	76.	2								
	0.8	e	UB	5 001	U.	Ĵ	186	34	ZH4	• č	735						14	612	76.	۷								
			S	SUC GT	5	C	287	34	24	2	735	0	1074	74	00	15	14	614	75.	4								
	0.8	6	08	5 005	**	Ĵ	2.48	34	23	1 - 2	735						14	615	75	5								
			S	TD 003	U.	J	103	34	4∠	2	756	C (0053	99	ΟV	21	14	563	78	7								
	·'ð	6	0 0	S 004	9	- U	092	34	721	5 2	795						14	455	- 81	7								
			5	TD 005	\cup	- Ú	J = 6	34	73	2	795	0.0	0016	45	30	L 13	14	455	814	4								
	10	6	06	s 0∪7	4	- 0	630	- 34	35.	. 2	8 5						14	45 H	76	5								
			S	TO 007	5	-0	100	- 34	36	2	b.5	Ũ,	3635	15	20	31	1.4	457	7.6.	4								
	13	6	Сþ	s 000	7		140	34	93.	2	813						14	ال مد مة	14	4								

RE	FERENCE	SHIP	LATITUDE	LONGITUDE	MARSOEN SQUARE	51	ATION IG NT	TIME)	YEAR		STATION	DEPTH	DEPTH OF	0	W A SSER V	V E A. TIO	NS	WEA- Ther	CLO CO	DES	NODC	
	NO		1 10	1 10	10" 1"	MO	DAY	HR 1, 10		ND.	NUNBER	BOTTOM	S'MIPL'S	018	HGI	929	32.A	CODE	1491	A 147	 NUMBER	-
1	11105	E A	725724	0000000	202,50	54	1.	1.0	1957		070	0082	y L		121				5	5	007	7
								SPEC	BARD			5 NO. 085	SPEC	IA L								

			CODE	ITEANS DIR	OR (mb	0018	AULS CODE	IEPTHS OBSER	VATIONS							
				30 34	51. 1.	20 013	142 1	0.2								
MISSINUA CAST TIME OF NO. HR 1.10	CAPD TYPE	DEFTH (m)	י ד	5.5%	SIGMA-1	SPECIFIC VOLUM ANONALY-\$10	E ∑∆ 0 DYN, M. ¥ 10 ³	SOUND VELOCITY	0.2 ml/i	PO4=P 20 = 01/1	TOTAL-P	NO ₂ —N µg = ot/1	NO ₃ —N µg - of/l	SI O _A —Si µg = ot/1	pН	SC C
		Ī	-		+		_			1	1					11
	STU		6 L 4 \$	3421	2738		000	14570	784							
116	205	ψĥυ	01+5	34224	2748			14570	184							
115	0 B S	2015	-193	34220	2738			14570	790							
	2.2	0.10	3.93	24622	2734	.001684	. 0007	14571	8.12							
116	105	2.143	01.00	342.5	⊾73e			14571	わじゃ							
	STJ	CHE U	C 1 1 4	3-4-2 1	L7:5	000/000	5 0014	14573	7124							
lie	305	C (4) 5	U1 + 1	2466.	27:11			14574	794							
	STU	いしまし	011+	3461	674.	0000000	l Juzi	14568	103							
	510	1.5J	2032	3457	271.	00-3825	0032	1463+	1.29							
115	$\lor c$	10055	I G 1	3486 "	10 4			14425	77t							

CTRT CCDF	ID COD		J D E 1 10	LONGITUDE	SQ11		51A1	ION "I GMTI DAY H	ME	YEAR		STA NU	IDN PRER	DEPTH TO BOTTON	DEPTI OF S'MPL	4 DE 15 DI#	HGT	VE A TIDNS	WEA THE COD		5	-	NODC STATION NUMBEP	
31	1164 En	753	75N	U5631UE	123	561	09	12	1.43	947		U69		3166	02	01	121		5	ه اذ ا			0078	
						WAT	ΓE R	V	VIND	BAR	o- 🔺	IR TEMP	5 145	NO.	5.0	ECIAL								
						COLOS	TRANS (#1	D18.	01 FOICE	(mb1	ER [] 11 90	9 940 9 81U	LT COD	DEPTHS	OBSER	VATIONS	1							
						11	ΰź	36	012	10	5 5	14 3	145 5	08										
	MESSE TIM HR 1	TASE TASE	C A P T t P	D DEPTH IM	T	с.	s	•	\$1672	A _ T	SHEFIC	1010M	\$ \[D D7N, W F 10 ³	SO VEL	UND OCITI	0; = /	n Pi Filipi	0 4- #	1014 L- +2 + s1/	NO2-N µg = at/1	NO3-N Vg - at l	SiO4-5 µg - al.	рн	5000
				1									1											1
			5	10.00) .	142C	33	35	20.	• h	οċ.	5518	3000) 14	656	134	•							
	1	43	ŪВ.	S 0000	,	الم و ال	33	354	201	48				14	656	734	•							
	1	43	ОB.	s uvut	>	العاما فا	33	35.	26.	4.5				14	557	7.45	,							
			5	TD LINK	, ü	1423	33	35	2.04	ia č	. ċċ	5644	QUIN	5 44	1508	1:5	>							
	1	43	0 B :	s out.		1423	33	353	20-	• 8				14	n þö	735	2							
			S	TO OURC	. ŭ)4 J R	33	65	261	8 G	011	.165	205.	2 14	16 E U	74	3							
		45	Эu	S DÜLK	6	1380	34	455	27	. ~				14	わりと	7								
			Č.	TU DUR.	· .	324	54	a	27,	45	366	정글 4구	0030	9 14	630	755	1							
			S	10 0050	/ L	12004	54	しょ	27	76	020	24.14	0051	4	¢+ ¢	- e C 1								
	1	4÷	03.	S 000.		15 37	3 😽	048	27	7.₹				14	536	505								
			- S	TO 0075) - (ič hH	34	7ь	27	+5	200	100.	1000	24	435	754	•							
	1	45	96	S 0078	5 - L	1643	34	166	271	10				1.4	483	75 L	J.							
			<u>د</u>	ID sloc		わちと	34	1'+	27	18	υüυ	1327	0961	14	9981 1	7.4								
	1	4 5	08.	S 0104	· - ·	50	34	792	279	99				14	401	739	*							
			5	10 0125) -0	1.59	34	5-	28:	51	000	1674	0164	4 14	4 11 4	733	-							
			5	10 0.50		1001	34	60	280	Ĵ⊷	000	ن د - ن	2461	7 14	487	725	,							
	ĩ	. 44 <u>5</u>	- Q8:	S 1015)	-0	1001	34	635	28.	ے نے ت				14	498	728	5							

REFERENCE	SHIP				MARSDEN	STATION TIA	AE		DRIGI	ATDR'S		DEPTH	MAX. DEPTH	0.00	WAVE	WEA-	CLOUD			ODC	
CODE NO.	CODE	•	1/10	1/10 2 1	10" 1"	MO DAY HR	.1/10	AK C	ND.	STATION NUMBER		BOTTOM	OF S'MPL'S	DIR.	HGT PER SE	CODE	TYPE AMT		N	UMBER	
311165	EW	7451	UNI	154340E	283 44	09 12 1	95 19	67	0.8	3.2		0174	0.2	04	1		58			0079	
					w	TER W	ND SHEED	BARO-	A IR TE	M.P. °C	VIS.	ND.	SPE	CIAL	-		- 0				
					COD	Im1 DIR.	OR	(mbs)	BULB	8018	CODE	DEPTHS	OBSERV	ATIONS							
						32	S13	117	027	015	8	СЯ									
	MESSENGR	CAST	CARD	DEPTH Imi	1 'C	s •/	SIGMA-	-1 5	SPECIFIC VOL		∆ D	sou	JND	0 2 ml/l	PD 4-P	TOTAL-P	NO2-N	NO3-N	\$104-51	pН	S
	HR 1/10	NU.	TYPE		l			_	anomati-A	,	(10 ⁰	VELC	JCIIY		μg + 64/1	//io + g بر	μg + σ1/1	µg + o1/l	yg = ol/1		C
						2.221					0.0.0										
	19	5	- STI - 085	0000	0473	33943	2689	2	001170	04 0	000	14	685 685	720							
	19	5	OBS	0005	0472	33922	2687	7				14	685	732							
	10	6	ST	D 0010	0473	3393	2688	3	00118	01 0	012	14	000	736							
	19)	STI	D 0020	0456	3418	2710)	00097	71 0	U 2 3	14	684	743							
	19	5	OBS	0025	0432	34303	2722	2				14	677	746							
			ST	D 0030	0354	3446	2792	2	00019	64 U 65 O	U34 U39	. 14) 14	647 561	764							
	19	5	OBS	0051	0130	34863	2794	+				14	558	765							
	19	5	ST	D 0075 0075	E 8 0 0	3487	2797	? 7	00014	50 0	044	14	541	750 750							
		2	ST	D 0100	0022	3486	2800)	00011	85 0	047	14	518	732							
	19	5	OBS	0101	0019	34655	2800)	22200			14	515	731							
			ST	D 0125	-0047	3485	2804	+ 7	00008	30 0 66 0	049	14	490	761							
	19	5	OBS	T0158	-0149	34867	2808	3				14	448	774							
REFERENCE	SHIP	LATITU	DE		MARSDEN SDUARE	STATION TIA IGMTI	AE YE.	AR C	DRIG1	NATOR'S		DEPTH TO	DEPTH	OBSE	WAVE RVATIONS	WEA- THER	CLOUD		S	NODC ATION	
CODE NO.	CODE	•	1/10	* '1/10 ^{o z}	10" 1"	MO DAY HR	,1/10		NO.	NUMBER		BOTTOM	S'MPL'	DIR.	NGT PER SE	A CDDE	TYPE AM		N	UMBER	
311165	Ewl	7505	5NL	05255UE	283 52	09 12 2	29 19	67	0	81	_ [0103	02	المقا	2		5 8			0080	
					coud	R TRANS. DIR	SPEED	BARQ+ METER	DRY	WET	VIS.	ND. OBS.	SPE OBSERV	CIAL ATIONS							
					COD	Im) Dik.	FORCE	(mbs)	BULB	BULB		DEPTHS									
		-				30	\$15	099	9 027	015	8	07	L		1 1						
	TIME	P NO.	CARD TYPE	DEPTH (m)	т°с	s •4.	SIG MA-	-T 1	ANOMALY-	UME ≥ 107 D	∆ D YN. M ¥ 103	- SOI	UND DCITY	D 2 m1/l	PD4=P µg = 01/1	TOTAL=P µg ≠ al/l	ND2-N µg - al/l	ND3-N 49 • al/l	\$1 D4-51 yg - o1/1	pH	CC
	HR 1/10	+			1																+
]	l.	ST	0000	0291	3413	2722	2	00086	່ຮ່ວ	100)) 14	610 10	786	1			I		I	1.1
	22	9	OBS	0000	0291	34125	2722	2				14	610	786							
	22	9	OBS	0005 0 0010	0290	34120	2721	1	00385	51 0	0.09	14	611	781							
	22	9	OBS	0010	0290	34119	2721	1	00000	51 0	005	14	611	782							
			ST	D 0020	0181	3433	2747	7	00062	05 0	016	14	568	789							
			ST	D 0050	-0032	3475	2794	⊃ 	00042	47 U 65 U	021	, 14 14	483	808							
	22	9	OBS	0050	-0032	34748	2794	+				14	483	806							
	2.2	a	51	0075	-0081	3484	2803	3	00008	74 0	031	. 14	466	769							
	<u> </u>	,	ST	D 0100	-0161	3483	2806	5	00006	25 O	032	14	432	782							
	22	9	085	0101	-0163	34829	2808	2	000.44	. 7 . 0		14	432	782							
			ST	D 0150	-0165	3491	281.		-000004	31 O	034	+ 14	439	765							
	22	9	085	T0165	-0169	34959	2816	5				14	441	76Ŭ							
																,		T			I
REFERENCE	SHIP	LATIT	DE		MARSDEN SQUARE	STATION TH	M E YE	AR	ORIGI CRUISE	NATOR'S STATION		DEPTH TO	DEPTH	OBS	WAVE ERVATIONS	WEA- THER	CODES		s	NODC TATION	
CODE NO.	CDUE	•	1/10	• 1/10 ^O Z	10* 1*	MO DAY HE	1,1/10		NO,	NUMBER		BOTTON	S'MPL	S DIP.	H GT PER SE	CODE	TYPE A.M	1	N	UNABER	
311165	Ew	7520	5N	U51100E	283 51	09 13 4	18 19	967	01	8U 5448 m		0103	1 02	30	2	40	00			0081	
					COLO	R TRANS, DIR.	SPEED	BARD	DRY	WET	- vis Copi	OBS.	DESERV	CIAL ATIONS							
					COD	E (m)	FORCE	(mbs)	BULB	BULB		Derins									
								118	8 013	1 002	7	08	L								-
	TIME	NO.	CAPD	DEPTH (m)	тс	s */	SIG M A	-T	ANOMALY-	.UME D	YN, M X 10 ³	VEL	OCHTY	© 2 mi/l	PO4=P 20 + 01/1	fotAL⇒P µg + ol/i	ND2=N µg - al/l	ND3—N µg + at/1	SID:4—Si µg = at 'i	рH	Č,
	PIK 17 IG	-																		1	+
			้รา	0000	0322	3440	2740	Ū	00068	39 U	0000) 14	+627 [°]	767	1						,
	01	8	085	0000	0322	34395	2740	Ú O				14	+627	767							
	01	8	ST	D 0010	0322	34395	2740	ũ	00068	76 Û	007	7 14	+6∠8 +629	765							
	01	8	085	0010	0322	34391	274	Ū				14	+629	768							
	0.1	8	ST 0B5	0020	0324	5 34403	274	1	00068	35 C	014	+ 14	+633.	767							
			5T	D 0030	0300	3445	274	7	00062	5ż C	9020	14	+624	776							
	01	8	083	0049	0180) 34590 3460	2761	8	00040	56 0	1021	14	+576 +570	793							
	51	6	OBS	0673	-0065	34794	279	- 9	00040			14	+472	785							
	<i></i> •		ST	D 0075	-0065	3480	280	Ú a	00012	16 C	0037	7 14	+473	785							
	01	d	ST	D 0100	-007	34835 3484	200.	2	00068	71 0)V40	14 14	+474	770							
			ST	D 0125	-008	3467	2801	6	00005	94 (042	2 14	+474	767							
	1	8	ST DAG	D 0150	-0096	5 3489 1 34897	280	8	00003	81 0)043	3 14	+472	750							_
	~ 4		003		010		200	- -				1-		, , , ,						,	75

REFERENCE	SHIP	LATITU	DE	LONGITUDE	4DCTR	SQUA	PE PE	\$ŤA	ION IGMT	TIME	YEAR	CRU	ORIG	INATC STA1	R'S	_	DEPTH TO	MAX. DEPTH OF	085	WAVE	WEA	CLOU	D S		NDDC
CODE NO.			1/10	1, 10	= 1	0.	1*	MO	DAY	HR,1/10		NO).	NUN	ABER		BOHOM	S'MPL'	S DIR	HGT PER S	FA COD	TTPE AT	21		NUMBER
31116	5 to	7530	UN	0442605	2	84	59	39	13	644	196	7	C	79		I	0248	02	34						008.
						Ť	WAT	188	Ť	WIND			A IR 1	TEMP.	Ċ		NO.						, ·		0002
						c	OLOR	TRANS	DIR.	SPEE	D MET	ER	DRY	4	(ET)	VIS CODE	OBS.	SPE OBSERV	CIAL ATIONS						
						0	CODE	im i	-	1010	f (mb	5)	BULB	8	JLB		DEFIRS								
							Ũ5	30	34	151	1 1 1	15	ق⊥∪		100	đ	1.0								
	MESSENG	PCASE	CARD					T		1		SHE	INC VO	UM	٤.	40	501	IND		PO P	1014	NON	NON	10.0	
	11745	YND.	TYPE	DEPTH	m)	T	τ.	s	•••	\$10	- M A — T	ANO	DAPALY-	-1107	DYN	103	VELO	YTIOC	02 ml/l	¥9 + 01/1	yg - p1/	1 ug = o1/	ug - ot i	40 - 01	9H
	HR 121							+							<u>^</u>		+			+	<u> </u>	+		<u> </u>	
												ļ			1						1			1	1
			ST	000	Ú	U 44	• D 4	3 ч	67	2	149	00	1000	105	00	υυι	14	586	739						
) 4	9	OBS	000	U	Ú4	• 7 •	34	67.	2	74+						14	686	737						
	.) 4	9	005	000	5	J4	+52	34	674	• 2	741						14	681	750						
			ST	0 301	U	Ų ~4	• D 🖕	34	0 7	2	755	- C) (;) ;	153	00	106	5 14	687	744						
	<u> </u>	• 4	CBS	001	U	04	+51	34	080	; 2	70.						± 4	601	744						
			31	Ú ÚU∠	U	04	• D ~	34	05	4	750	0.0	2021	142	U C	112	14	0.04	740						
	. 4	Ģ.	Ο¤S	0-6	e	04	¢ ۲.	34	6/6	2	14-						14	041	746						
			ST	0 003	0	U 4	4 - 1, 44 − 	34	12	2	155	00	1001	92	Ú.	110) <u>1</u> 4	671	745						
			51	0 005	Ų	26	1 -	34	88	- ć	785	0.0	3022	73	00	225	∘ ∔4	594	739						
	1 4	9	085		£	U <u>1</u>	-96	34	24	+ 2	790						14	- 98	230						
			ः २ Т	001	2	00	1 1 1	34	0 -	2	1+6	3.	50.44	FC 3	0.	130	/ <u>144</u>	540	749						
	4	14	061	007	0	V .,	00	ંક્ય	0 **	• 2	134						14	544	100						
			Si	0 110	\cup	10	4.6	34	*	- 4	8	-	1.12	د نه	0.	100) <u>1</u>	530	[40						
	4	1.54	005	. 010	3	JU	12.5	34	1	΄ ε [']	934			_			14	5-1	7.47						
			5 T	ي لي ال منابع		0.	1.5	- 34	9.	۷.	8 ~	÷.	/	84	0.6	100) <u>1</u> **	510	750						
			ST	0 -15		-0.	124	34	4	2	d t	0	リレッモ	14	UC	1.1	14	500	150						
	14	5	085	015	5	- Ü U	J A U	34	40	• 2	816						14	5.14	154						
			ST	הזני ח	9	-05	20	34	41	÷,	문고		001	19	. Q -		/ 14	444	7 * *						
	4	-	085	1	0	-0.	100	34	161	• 6	517							4 23	133						
	6.		(3 M C	f 1	P	Aug. 1. 1. 1.	1.02.25		Sec. 4		ed.							4. 4	7.4						

ALFEPTNCE	CODE LAT	τυρε ι: Ι το <u>.</u>	ONGITUDE 50 11 10 まで ロイマムック	WARSDEN SQUARE 10" 1" - H4	STATION TI IGMTH ATO DAY HI UM IS U TER W	NE VEAR R.1 10 . D.2 1.96.7 .ND BAR SPELO MET	ORIGINATO CRUISE STAT NO. N.IN 		DEPTH TO BOTTOM U_4 H NO. OBS.	MAX DEPTH DF S'AFPL'S UZ SPEC DISERVA	085 010 	WAVE ERVATIONS HOT MP S	WEA THEP CODE	CLOUD CODES		5	NDDC STATION NUMBER	
				CODE 	++ 30 +	idini Imb	.) ULB 81	JL1 . J 7 - H	UEFTHS									
	NETSENUE LEASE	T CARD TYPE	пертн т	т <u>т</u>	s '	51G 14* A = 1	SPECIFIC VOLUME ANITMA, Y-X107	\$ _ D DYN, M ¥ 10 ¹	SOU VELO	ND CITY	02 m1)	PC 4= P	ТОТА _А —Р µg - оГ)	NÖ2+N ug - at l	NO3-N Və - ali l	SIDa-S yg - of	р.н.	S C C
	•		+ -	+	•	ł	Ť		•			· +	1					T
			しいし		3404	6725	JUL8134		14	519	11.							
	15 Z	UB-	1000	-26-	34 1-	27.5			4.44	79	712							
	- 8.2	055	U 1 1	V	وە يەبە	2725			± 14)	730	780							
		يل ي	J U I U		3401	2725	2000000	JULG	14	оd "	710							
	· D 2	JB1	0010		34-57	2725			141	υDι	110							
	ы	512			3415	2720	0004405	0411	1.45	<i>ب</i> د د	105							
	02	003		5217	24660	27.1			1.44	5 x V 	76 *							
		510		. 3.	1921	2141		1024	1.14	,	15							
	. 4.	134	6.252		* 4 11 **	22.6			1.4.1	-56	74 +							
		St.	107-	0071	44 -	25		U 2 M	. 141	- 44-	7.5							
	52	205	0678	2004	34415	2000			14;	5.24	15.							
		51.	1106	0004	3491	28 5	100000	0039	14	51.	764							
	4.2	Эъ	3104	-10.5	34911	2806			14	5U7	766							
		510	1125	-0024	3491	28.7	00.0551	0034	149	5.2	7 +. 4							
		STJ		-0.4.	3441	28 5	0006439	2041	£ 44 4	7	7tc							
	102	5	10	- U , 41	34124	20.8			1 4 4	• ±6	162							
		STU		- - 7 7	34-13	4 1 4 1	0010140	2442	£ 14 -	a + .	1.::							
	8.2	0 ¤ S	1-2-4	-003î	34+32	22.1			1.44	•84	7] 14							

REFERENCE CODE ND. 311165	ship code E.W	LATITUDE LONGITUDE 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/1						N TIME ATJ (HR.1/10 3 113	YEAR	OR CRUISE NO,	IGINATO STAT NUN	ION ABER	DEF T BOTT	ртн го том З в	MAX. DEPTH OF S'MPL'S	085 018. 35	WAVE ERVATION IN THE PERSON PE	ONS R SE	WEA THES COD	E TYPE	DES		2	NODC TATION IUMBEP
				WATER WIND BARD		0- A15 ER DR \$1 BUI	TEMP. Y W B BL	*C VI VET CO JLB	S. OE DE DEP	0, 85. PTHS	SPEC OBSERV	LIAL ATION S												
	MESSENGR TIME 0 HR 1/10	CAST CA	PE D	EPTH (m)	T	06 'c	20] (s ••	. <u>su</u>	0 09 3MA-T	SPECIFIC N ANOMAL	4 - C	14 8 ≥∆ DYN. x 10	D	SOUI VELO	ND CITY	D2 ml/l	PO 4	P a1/1	TOTAL-	NO2 49 -	-N 87/1	NO3-N 9g = atri	SID4-5 µg - at	рН
	114	- 01	STD 3S	0000	0000	267 267	340° 340°	7 2 71 2	720 720	0008	817	000	0	145	599 599	705 705						!		
	114	• 01	STD STD	0010	0	200 270 270	3400 3400	50 2 5 2 31 2	719 720 720	0008	772	000	9	146	500 502	765								
	114	01	BS BTD	0025	0000	211 280 192	3412 3412 3432	22 Z 2 Z	122 722 746	0006	365	001	5	146	507 510 575	761 764								
	114		35 57D	0050	-0 -0	037 043 042	348 348 3490	2 75 2 0 2	805 806	0000	586	003	2 4	144	+82 +80 +85	777								
	114	+ 00 + 01	STD SS	0100	-0 -0	043	3490 3490	2 = 2 = 2	807 807	0000	548	003 003	6	144	+85 +88 +89	770								
	114	+ Of	STD SS	0150	-0 -0	078	3491 3491 3490	2 2 2 5 2	809 809	0000	342	003	8	144	+84 +81 +81	779 78≓ 78∈								
	114 114	: 0f 0 f	5TD 35 T 35 T	0200 0204 0229	-0 -0 -0	089 092 118	3494 349: 3496	+ 2 39 2 57 2	812 812 8 1 5	0000	046	003	9	144 144 144	+84 +64 •76	750 744 697								

REFEREN	D. CODE	LATITUDE	LON	GITUDE	MAR SQL	SDEN	ATZ	TION IG MT	TIME	YEAR	CPUISE	DRIGINA ST	TOR'S		DEPTH TO BOTIOM	MAX, DEPTH OF	O 8 SI	WAVE RVATION		VEA- HER ODE	CLOUD CODES		2	NODC STATION NUMBER	
3111	65 EN	76205N	0 ن4 ت	4030E	284	64	мо 0.9	DAY 13	152	1967	NU.	076	I W BE		0208	5"MPL"	S DIR	2	SEA		5 B	T		0085	
						COLOR CODE	TER TRAN (m)	5. DIR	WIND SPEED OR FORC	BAR METI Imbi	ר	AIR TEM DRY ULB	P, C WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPE Observ	CIAL ATIONS								
						05	28	117	I SUT	05	2 0	05	ΰUί	8	09										_
	MESSENGR TIME H.R. 1/10	CAST C	ARD	DEPTH (m1	1	°C		•4.	SIG	MA-T	SPECIES ANOM	VOLUA ALT-X10	e i	E Δ D YN, M X 10 ³	SOL	UND DCITY	0 2 m1/1	PO 4=P Pg + 61/	101A 1 99 -	L—P at/i	NO₂−N µg - ot∕i	NO3-N 99 = 01/1	51 O 4 - 5 19 - 01/	і Ірн	
						-																	ĺ		
			STD	0000		0153	3.	354	26	86	001	202	2 1	0000	14	542	790								
	15	3 0	ыs	0000	(153	33	353	7 26	86					14	542	790								
	15	3 0	8S	0005	(0152	3:	3540	2.6	86					14	542	80Ū								
	15	3 0	BS	0009	(0152	3.	3539	₽ Z€	86					14	543	785								
			STD	0010	(0148	3.	355	26	87	001	169.	. (011	14	541	780								
			STD	0020	(0103	3.	375	2 '	06	001	1009) (JU 2 3	14	520	400								
	15	3 0	BS	0024	(080	3.	3858	5 21	16					14	517	811								
			STD	0030	(0004	- 34	•14	2	43	000	1657	7 (JU31	14	400	796								
	15	3 0	BS	0048	- (0122	30	+716	5 2	95					14	441	764								
			STD	0050	- (0119	34	•72	27	95	000	01629	5	2035	0 14	442	763								
	15	3 0	BS	0072	- (056	34	+825	5 28	101					14	477	747								
			STD	0075	- (0036	34	+35	28	1 G Z	000	096	3 (0043	14	487	743								
	15	3 0	85	0095	(059	30	+945	5 20	05					14	535	72+								
			STD	0100	(056	34	+95	28	105	ίΟι	1073	5 (0045	14	534	720								
			STD	0125	(0039	34	+94	28	0 b	000	сьр.	/ · ·	0047	14	531	736								
	15	3 0	85	0143	(022	34	4940	28	107					14	526	745								
			STD	0150	(0014	34	+94	28	107	000	053	• ()048	14	523	748								
	15	3 0	85	10199	- 1	035	34	+92	1 23	10.8					14	507	761								

REFERENCE CTRY ID. CODE NO.	INCE SHIP LATITUDE LOI NO. CODE 1/10 .165 EW 75291N 04			ONGITUDE	SOL SOL	SDEN JARE	STATI	DN TI GMTI	ME R.1/10	YEAR	O CRUISE NO.	RIGINA1 STA NU	OR'S TION MBER	OEPTH TO BOTTON	MAX. DEPTH OF S'MPL"	OB S DIR	WAVI SERVAT	10NS 19 SEA	WEA- THER CDDE		T		NOOC STATION NUMBER	
31116	5 EW	75291	N U	42258E	284	52	09	13	210	1967	L, l	089		0279	03	23	4		61	176			0086	
						WA	TER		IND	BARC	>- A	IR TEMP	vis	NO.	SPE	CIAL								
						COLOR	TRANS.	DIR.	OR	AN ETE (mbs	R D) BL	RY LB	WET COS	DEPTHS	OBSERV	ATIONS								
								11	313	96	γ U	38	U20 8				1							
	MESSENGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH G	n)	°C	s	•4.	SIG N	A-T	SPECIFIC	VOLU MI	₹ <u>∩</u> рум. 9 х 10 ³	SO VEL	UND OCITY	0.2 ml/	PO 49	~P a1/1	101AL-P µg = ot/l	NO2—N 49 - a1/l	NO3-N yg - at/l	51 O4-5 µg + 61/	51 рн. П	500
																								T
			STD	000	0 (311	34	2.0	27	26	000	8244	000	0 14	620	759								
	210	0	OBS	000	ມ 6	311	34	195	21	26				14	62U	759								
	21	0	085	000	5 3	0310	34	196	27	26				14	620	758								
			STC	001	JÚ	1160	يە د	ιũ	21	26	300	8220	000	8 14	1022	755								
	210	3	085	001	u i	1311	34,	20	27	26				14	62.	755								
			STU	002	J (1313	34.	20	27	26	000	8.14	061	6 <u>1</u> 4	+6∠4	755								
	21	0	OBS	002	5,	1314	34,	ZÚБ	27	26				14	625	755								
			STD) 303) (0183	34.	35	27	48	000	5104	205	4 14	573	767								
	21.		085	0 Ŭ 4	ы - (100	34	720	27	95				14	⊷5ì	791								
			SŤu) Ŭ ⊊ 5	-	0047	34	74	27	96	000	1005	و ڀ ن	1 14	433	707								
	21.	<i></i>	OBS	ÛŬ 7	3 -	1001	يه و	533	2.8	14				14	47z	760								
			STL	007	5 -	1064	341	84	28	J 3	000	J 715	003	4 14	474	767								
	21	2	085	003	(-:	1030	340	574	28	35				14	14 70 -	757								
			STL	010) - (1036	343	33	٤ ۵	5	000	1726	003	6 14	491	757								
	. 1	、 、	SIL	17		1033	3.45	4 U	2.5	.6	000	1261	103	8 <u>1</u> 4	497	154								
	<i>€</i> ⊥ .		005	0140	s — u	1030	34	408	28					14	502	760								
	1		510	2 015. Train) — (_	20134a 10.71	34	11	281		0000	1704	00 4	9 14	501	760								
	< 1 ·		005	15.17		1015	344	fac.	28	1 -				1.4	4 - 0	755								
			510	/ UZÇ. . o⊐≞		1.14	- 340	te.	28	1	00.0	1165	004	1 14	407	753								
	2 1		510	1025	J <u>-</u>	110	34	* 5	25	14	- 010101	0 *	104	1 14	401	717								
	21.		UB,	1026	o - (1150	34.	454	28	1.14				14	479	67.								

PEFFPENCE CTET ID. CODE NO.		UDF 10	NGITUDE	MARSDEN SQUARE	STATION THE GATE	VE	ORIGINAT CRUISE STA NO NU	0#*5 *10 N M BEP	DEPTH DEPT TO OF RDTTOM STAFL	H 085	WAVE ERVATIONS	WEA- THER CODE	CLOUD CODES			NDDC STATION NUMBER	
311165	EN 750	65N i U	44275	COLOR CODE	U 7 1 4 U ER W TRANS DIP.	13 196 IND 844 SHID NET OI WE FOICT WE	2 U85 0- AIR TEAP ER DRY 1 BULB		NO. SP OBS. OBSER	ECIAL VATIONS	ē	54	5 3			0087	,
	HE I TO	CARD TYPE	DEP*H Im		<u> </u>	SIGWA-T	35 JUS	8 ビビン C ム ネ D ゲーム C ひ キ い D	SOUND VELOCITE	0; #11	PO4=P	t⊖ta⊥_P ⊮9 - 0† ')	NÖ2=N vg = at. l	NOj≁N ⊮g∙al'l	SiDa—S vg - at	е į рн	500
		1									1						
		1.1.1	5000	0511	2400	∠ / + / > > = =	0007198		· • • /	1.0							
	14	005	0000		341 0	2737			14704	710							
	J 1 4	0.05	1000	0514	34004	4121	7 (14710	1.0							
		51.0	0010	0216	3460	2110	0101424	2000	1.44/1.	(10							
	17.1.44				34070	21:0		2	14711	118							
	- 1.4	214		0710	1450 44574	2730	0001. HH	0014	1 1471° 1477	7 1 **							
	014	510	0020		1402	2765	55.5935	30.01	1447.20	114							
		STU	3050	0.123	- 34471 - 34471 -	275.5		0021	144.5	714							
	14	565	0050	0.20	34 + +	2741		102	ے بند ،	714							
		ST.	0075	107	3491	27.4		00.1	14600	7							
] 44	0.05	0075	0107	34711	27:04	00110000	· · · ·		745							
		ST	21.0	00 L 4	3490	23 3	35 1971	00 11	145.7	7.5.3							
] 44	OBS	0100	0124	34075	2873			145.9	14.5							
		STU	0125	-0 L3	340 .	25.5	1156718	JUI	449.22	10-							
		STU	. 150	- ジィンマ	545 -	20.7	コレコレンねこ	104	14459	761							
	14	ОBS	5151	-0.60	34054	2			14484	78.							
		STD	1200	-0 24	1412	. * . *		0042	14401	757							
	1.44	Jec	T. 2. U	-0 -44	34014	2013			14401	767							
		STL	250	-0110	34 13	2012	-Juourat	0043	14451	7.0							
	14	OBS.	10271	-0116	3445	2814			14484	とうど							

REFERENCE CTRY IO. CODE NO.	SHIP LATITUDE CODE 1. 65 EW 74530		LON	1/10	SOL	SDEN JARE	STAT	ION IGMT	TIME) HR,1/10	YEAR	CRUISI NO.	ORIGINA ST N	TOR*S A TION J M BER	2	DEPTH TO BOTTOM	MAX. DEPTH OF S"MPL"	OB S DIR	WAV SERVA	IONS	EA C	WEA- THER CODE	CLOUD CODES	Ť	;	NDDC STATION NUMBER	
31116	5 EW	74530N	04	6180E	284	46	09	14	047	1967	1	08			0275	02	07	3			50	5 8]	0088	
						WAY	TER	<u> </u>	WIND	BAR	o. 🖵	AIR TEM	P. °C	- VIS.	NO.	SPE	CIAL									
						COLDR	TRANS.	OIR.	SPEE	D AAET	ER	ORY BULS	WET BULB	CODI	E OBS. DEPTHS	OBSERV	ATIONS									
									7 URC							<u> </u>										
						06	21	06	51	8 44	6 1	131	92.	3 7	110	1		L		-		r				
	MESSENG TIME HR 1/10	CAST C	ARO YPE	DEPTH Im	,	r °c	s	•/	SIC	MA-T	SPECIFI ANOA	C VOLUN	, E 2	E Δ D YN, M X 10 ³	SO VEL	UND OCITY	D 2 m1/	PC	04-P - a1/S	TOT/ 94	A L — P − α1/I	NO ₂ —N µg = at/l	NO3~N yg + o1/l	SI O 4—5 µg = o1/	рн	000
			-				1																			-
	Į	1	STD	6000		0537	3 4	74	2	745	່ບບ	1642	7' (ουυσ	5 14	722	710	1								
	04	7 0	85	0000	(0537	34	743	2	745					14	722	710									
	04	7 0	BS	0006	i i	537	34	746	5 2	745					14	723	714									
			STD	0010	(0537	34	74	2	745	000	1641	7 (0006	5 14	724	724									
	04	7 0	BS	0010	(0537	34	74.	+ 2	745					14	724	724									
			STD	0020	(0538	34	74	2	145	000	0644		0013	5 14	720	719									
	04	7 0	BS	0025	(538	34	742	2 2	745					14	726	710									
			STD	0030	(0537	34	74	2	745	000	0644) (0019) 14	727	719									
			STD	0050	(0531	34	75	2	746	000	16369) (JU 32	2 14	728	720									
	04	7 0	BS	0050	(0531	34	748	3 2	746					14	728	720									
			STD	0075	(228	34	86	2	786	000	2558	ŝι	0043	3 14	605	716									
	04	7 0	BS	0076)22U	- 34	868	3 2	787					14	602	710									
			STD	0100		0147	34	89	2	795	0.0	1175) (0049	9 14	574	729									
	04	7 0	BS	0101	(0144	34	895	5 2	795					14	573	729									
			STD	0125		0102	34	90	2	798	00	1137.	2 (0053	3 14	+558	731									
			STD	0150		0062	34	90	2	861	00	1112) (0∪5€	5 14	+545	734									
	0.4	7 0	BS	0152		059	34	905	2	802					14	+544	734									
			STD	0200	-	0004	34	91	2	806	00	1066	2 (0060) 14	+525	728									
	04	7 0	BS	T0246	- (2048	34	910	2	808					14	+510	714									

REFERENCE	ERENCE SHIP LATITUDE				- E MA	RSDEN	STAT	ION T	IME			DRIGIN	ATOR'S		DEPTH	MAX.		WAV	£	WEA	- CLOUD			NODC	
CTRY ID.	CODE	LATITU	DE	LONGITUDE	18 2 50	UARE	(GMI		YEAR	CRUISE	S	ATIO	V	10	OF	085	SERVA	TIONS	THE	COOE!			STATION	
CODE NO.			1/10	• '1/10	10.	1.	MO	AY	R.1/10		NO.	N	UMBE	R	BOHOM	S' M PL*	S DIR	HGT	PER SI	A COD	TYPE AN	7		NOMBER	
31116	5 EW	7439	ON	048000E	28	4 48	09	14	079	1967		08	5		0250	02	Ū4	3		85	0 7			0089	
						WA	TER	V	VIND	BAR		AIR TEA	чP. °С		NO.	5 D F	C141								
						COLDR	TRANS, Imi	OIR.	SPEED OR FORC	AMETE E (mbs	R I	DRY ULB	W E T BULE	CODI	OBS. DEPTHS	OBSER	ATIONS								
						05	27	01	S15	5 95	5 C	28	01	1 7	10										
	MESSENGA	CAST NO.	C ARC TYPE	DEPTH	(m)	T °C	s	•/	sig	M A -T	SPECIFIC	VOLU	и Е 1 ⁷	₹ Δ D DYN. M x 10 ³	- SOL VELC	ОND YTI ЭС	0 2 ml/l	PC P0	- 01/1	1014L- 20-01/	P NO2+N μg = σI/I	NO3-N µg - at/l	51 Q4- 49 - 01	51 / рН	S C C
		-						_																	
		, ,	ST	D 000	0	0515	34	68	21	742	000	665	7	0000) 14	712	710								
	07	9	OBS	000	0	0515	34	677	27	742					14	712	710								
	07	9	OBS	000	6	0502	34	672	2	743					14	708	742								
			ST	D 001	Ũ	0516	34	67	21	142	000	0671	1	0007	7 14	714	710								
	07	9	OBS	001	Ũ	0516	34	673	2	742					14	714	716								
			ST	D 002	Û	0517	34	бð	21	742	000	0667	7	0013	5 14	715	717								
	07	9	OBS	002	7	0517	34	682	2	742					14	717	718								
			ST	D 003	ũ	0512	34	68	2	743	000	1001	5	0v2û) 14	716	719								
			ST	D 005	Ŭ	0478	34	69	2	748	000	1620	U	0033	3 14	705	727								
	07	9	OBS	005	2	0475	34	693	2	748					14	704	728								
			ST	D 007	5	0103	34	87	2	796	000	159	3	0043	3 14	550	739								
	07	9	085	007	9	0066	34	879	2	799					14	535	746								
			ST	D 010	0	0054	34	86	2	198	000	139	9	0046	5 14	532	760								
	07	9	OBS	010	5	0051	34	850	21	798					14	532	5 76								
			ST	D 012	5	0037	34	88	28	301	000)111	9	0049	9 Ì4	529	757								
			ST	D 015	0	0618	34	91	28	364	ŨŬŲ)07в	4	0052	2 14	525	75û								
	07	9	OBS	015	8	0011	34	915	28	305					14	523	748								
			ST	D 020	- ú	0031	34	92	28	808	000)045	1	0455	5 14	511	740								
	07	Ģ	085	T021	2 -	0042	34	920	28	308					14	508	734								
	07	9	085	T023	6 -	0061	34	921	28	309					14	503	708								

REFERENCE	CODE	LATITU	зđ	LON	GITUDE	NDC7P	MARSDEN	STAT	ION TH GMT	Mξ	YEAR		DRIGINA ST	TOR' A TLO	s N	DEPTH TO	DEPTH OF	- - - 085	WAVE SERVATION	IS WEA	CLOUD		s	NODC	
311165	Fω	7474	1/10 3 N	<u>64</u>	1/10 9373E		284 49	00		1.2	1967	NO.	CRE	JWB	E P	0144	" S'MPL	S DIR	HGT FER	SEA CODE	TYPE AM	r		0.000	
1 9111109	1 6 1 1	1963		04	, , , , , , , , , ,		WA	TER	w	IND	BAR	- <u> </u>	NIR TEM	P. °C		NO.			14	1	1 017	I	I	0090	н
							COLOR	TRANS, Imi	DIR.	SPEED OIL FORCI	E Imba	ER []	DRY ULB	W E' BUL	8	E OBS. DEPTHS	OBSER	VATIONS							
		,					ŰБ	20	03	\$15	97	5 U	19	00	16 7	08									
	MESSEN SR TIME H.R. 1710	CAST NO.	C A R TYP	PE PE	DEPTH W	ן וי	тъ	s	•	SIG	MA-T	SPECIFIC	VOLUM ALY-1107	*	₹ Д 0 ртн. м х 10 ³	- 50 VEL	OCITY OCITY	02 ml/1	PO4-P 48 - 01/	FOTAL=P µg = 01/1	NO ₂ -N µg - at/l	NO3-N vg + of/l	SI O 45 H9 - 01/	pн	S C C
				•0	0000			3.4		1	122	0.5			04.0										
	11	3	06	S	0000	J	0414 0414	34	399.	27	32	000	1010	>	0000	14	666	745							
	11	3	08:	5 † D	0006	5	0413	34	403. Wi	27	32	000	76.4.0		0005	14	667	742							
	11	3	08	s	0011	1	0414 0414	34	401	21	32	000	1001	·	0008	5 14 14	608	744							
	11	٩	0B	TD <	0020	5 7	0414	34	40 403	27	132	000	7673	•	0015	: 14 14	670	743							
	••		5	1D	0030	J	0345	34	44	21	42	000	6/13	,	0023	14	0 1 I 0 4 c	751							
	11	3	S OB	TD S	0050	3	-0003 -0035	34	66 6.8.8	21	185	000	15/1	,	0032	: 14 14	495	783							
			5	τu	0075	5	-0063	34	83	28	103	000	0.41.		0036	, 14	465	764							
	11	3	08. S	S TD	008	ر ن	-0095 -0158	34	849 85	28	105	000	0481		กบาง	ો મેં ર મિ	1460 444	762							
	11	3	05	S	0101	5	-0162	34	853	28	10.7	000	0.01		0000	14	433	767							
	11	3	08	S	10124	•	-0133	34	894	28	τU					14	451	740							
REFERENCE			- ·				4401514							108	e ī		MAX				Talais	1 -			3
CTRY ID.	SHIP	LATITU	DE	105	sit ide	범린다 하고도	SQUARE	5.41	GMTI		+{ A ₽	CRI ISE	51	ATO	N	TO ADTION	DEPTH	085	WAVE SERVATION	S THEP	CODES		S	NODC TATION	
331346	1	7	1 10		11-10. . 1 6		10* 1*	<u>NÓ Í D</u>	Ar NP	1/10		NC -	NU		(* ‡	-	S'MPL	S DIR	HGT PH	SIA CCUS	279E A.15	l		OV. BUR	d -
2 1 1 2 0 3	. C.A	741)]	, - J-		- 00 41	168	· · ·	43 <u>1</u> NC	- 46 /		UR TEMP	- 17	1	NO.		.10	151 1		5 0 1			06 /1	I
							1616# 2007	18,845	0+	580	WETE ,mbs	8 E	CRY U L II	16 F3 8 J 51		C EP*HS	Casea	ATIONS							
							5	÷ د ت	.15	:10	145	- 10	± 4	50	17	Jυ									
	MESSENCE	LIAST	1 A 2	, T	- 19**(.	1 5	5	hou a' colo	3.61		544 1017	17.14	ŧ	5 4 0	50	40	0.5 mil	PO4-P	FOTAL-F	40,-N	NO3-N	5104-5		5
	. e · · ·	· · · ·		'		-				+-		14.10	A.Y_F :	-	x 23	S EL			+4 + 21		ид = 01	µg - at +	v.g - at		č
				r .				4.0		7			N. A					7			1				
	14	3	10	5			0.344	يەتر يەتر	L L L 1 - 1	21	125	C.	2.3.4.4		0000	. 14 14	-622 -633	713							
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	34	9	- 14 14	10	iulu Vila	-	2344 2344						12 0		20.5	1 - 144 2 - 14	-635 -635	154							
	1.4	a		Turi. S	1	-	2.1	3.44. 2.0		27	- 14	J	о : к.		17	14	e 17	162							
	1.4		- L - J	Ť.e.		-	5 44. 	्रम 3.म	1 na -	27	- 4 - 4	20.	6555		5524	144 144	5 9 9 5 9 7	100							
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	14	ĥ	23	-	60/2	-	-0117	3.41	ÿ.	ь. ^т	1.8					14	449	7* •							
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C1H 10	SHIP LODE	LA 17.	CE	1.	าเอเ	- 2 - 2	SQUARE	5°A*) (/	04 14 541	.• f	I E A P	E RUSE	51			CEP*H *'J	DERTH	CBS	IS A VE ER VATION	S 24 EA-	0006]	5	NCOC FATION	1
53 31 5	• . +		<u>_</u>			•	·* · · ·	MO C	AY 118	<u>,</u>		ND +	- <u>-</u>		" →		12015	1.14	HGRIPIA	51A	1175 A.M.1			0.0.010	1
211103	- 6	, те <u>с</u>					672 C.64	1.0	14 A 	1 K. IN 5	D. 	- A	- <u>2</u> 1 • 15 51	1		-127 NO	1 0 1	L U.A.	4	1.0	<u>່</u> ວ່ຽ			00~.	
							CTCE	194.92	5 P	199940 107 107	A+ E+ 1 m ≥ 8	₽́D IR.)e∀ ¹ JLP	ik E* RULI	n litte	CLPTHS	÷SE₽.	ATIONS							
								••	34	520			1+		1 -	50									
	VELINCE TREE	. CAS1	CAR	0	DEPH In		ττ	S		554	T T VALT	second	VCL V	TT.	\$ 0	sou	JND	0.2 m1	PO1=P	TOTA+	NC2-N	NO ₃ -N	SEC 4-SI	H	E
	ei P _ 1 _ 1 _ 1 _ 1	ч н -	1 Y P	ł. 						1		14,000	· · · · · ·	+	¥ 163	VELO	DCITY .		29 1 atri	yg = atri	, ot و يو ي	2 9 - 01 i	49 - 01 I		C
				T.				4.4.1	7 5	26	1.1		10 1			. **	7 . /.	74.1							
	17	٩,	021		000		15 14	33	7 4 r	26	εi				.,	1.4	7 . 15	741							
	17	4	181 - Die		1 Juli 1 Juli	2	ر تر خ د بر بر	3:	1 16. 76.2	14	57					14	751	714							
				T	. U . U	,	6536	23.		2. F	- 2		1.3.		Č = ⊥ 4+	1 44 1 44	769	715							
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	17	4	ŪB.		0 C H 8		2372	34) 34	712	27	5					1 44 1 2	501	742							
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	17.	4	Ĵе		4		0.00	341	520	2 م	·. ·					14	5.4	01.							

REFERENCE CTRY ID.	SHIP	p	LATITU	DE	LONG	SITUDE	DRIFT KOCTR	MARSO	EN IE	STATION TI	ME	YEAR	ORIGINAT	OR'S	DEPTH TO	MAX. DEPTH OF	OBS	WAVE ERVATIONS	WEA- THER	CLOUD CODES		N ST	IODC ATION	
31115	5 E.u	-	· 7257	1/10 5 N	051	1/10 1370E	-	10"	1.	NO DAY HI	1710	1967	NO. NU	MBER	00.47	" S"M PL"	S DIR	HGT PER SE	A CODE	TYPE AM			0.0.0.2	
1 9 1/1 10	J C.								WAT	ER W	IND	BARC	AIR TEMP	. °C vis	NO.	SPE		171 1	1 15	1 710	1		00~01	
								C	OLOR	TRANS, DIR.	PORCE	(mbs	I BULS		DEPTHS	OBSERV	A TION S							
	· · · · ·						T			01	S21	97	9 010	<u>006</u> 6	00	L		1						T
	HR 1	NGR 16 of 10 T	CAST NO.	C A R TYP	PE	DEPTH D	m)	Ţ	'C	s •4.	SIGM	A -1	SPECIFIC VOLUME	DYN. M X 10 ³	SO VEL	OCITY	0 2 m1/1	PO 4 - P µg - at. I	FOTAL=P µg = ot/1	NO ₂ -N µg - nt/l	NO3-N µg• al/l	51 O4+5i 49 - 01/i	pН	C C
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	Ž	228		5 08	ID .	000	0 U	05 05	96 96	3380 33797	261	53 53	0014182	0000	14	4733 4733	702 705							
	Z	228		0B	S TO	000	0	05	94 34	33799	26	53	0014210	0017	14	+733	704							
	ā	228		05	S	001	1	05	90	33792	260	53	0014219	0014	14	+755	705							
	Z	228		08.	TD S	002	7	05 06	99 01	3435 34644	271	00 29	0010105	0026	14	+745 +751	703 703							
				S	TD TD	003	ΰ D	05	26 37	3469 3470	27	39 A U	0007020	0035	14	+721	727							
	Z	228		08	S	005	- 4 -	00	83	34709	27	84 	0000200		14	+536	823							
	ā	228		08	S	T007	э Э	-00	75	3479 34835	28	03	0001254	0050	14	+470 +470	716							
REFERENCE	SHIP	,	LATITU			301108	L E	MARSO	EN	STATION TH	W.E	YFAR	ORIGINAT	OR'S	DEPTH	MAX. DEPTH	085	WAVE ERVATIONS	WEA	CLDUD		N ST		
CODE NO.	COD	ε	•	1/10		1/10	δ¥.	10*	1. 1	NO DAY H	R. 1/10		NO, NU	MBER	BOTTON	A S'MPL"	S DIR.	HGT PER SE	A CODE	TYPE AM	T	N	JMBER	
31116	5[Ew		7311	ON	050	0080E		283	30 I WAT	09 15 C ER W	25] 1ND	1967	AIR TEMP	. *	0238	02	36	7		5 8			0094	
								C	OLOR	TRANS. DIR.	SPEED OR EORCE	METE (mbs	R DRY BULB	WET CODI BULB	OBS. DEPTHS	OBSERV	ATIONS							
								-		36	SZZ	99	6 014	000 8	09									
	A4ESSEI TIM	NGR	CAST NO.	CAR	RD	DEPTH (mi	Ţ	с	s •4.	SIGN	1-A	SPECIFIC VOLUME ANOMALY-3107	₹∆ 0 DYN, M	. SO	DOCITY	0.2 ml/ł	PO 4 - P	TOTAL-P	NO2-N ug - 01/1	NO3-N	SIO4-SI pg = 01./1	рН	SCC
	HR 1.	/10												× 10	-									H
	۱ م	176		S	TD	000	ບໍ່ ວ	06	68	3470	27	25	0008339	0000	14	4774	694							
	0	26		06	5	000	6	06	67	34694	27	24			14	+775	6892							
	Ċ)26		S — ОБ	TD S	001 001	1	06 06	69 69	3470 34696	27	24	0008377	0008		4776 4776	$691 \\ 691$							
				S	GT	002	Ū	06	69	3469	27	24	0008413	0017	14	+778	691							
	Ĺ	26		UB S	5 10	002	> 0	06	69 54	34692 3470	27.	24 27	0008200	0025	5 14	+778	691 691							
	c	126		S 08	2 1D	005	0 2	05	91 85	3472 34772	27	36 37	0007289	0041	. 14	4752 4750	689 689							
	-			S	TD .	007	5	03	19	3484	27	76	0000515	0054	14	+644	699							
	U	126		S	T D	010	ů Ú	02	79 79	3491 3491	27	35	0002648	0062	14	+630 +632	702							
	C	26		0B 5	S TD	010	4 5	02 02	74 21	34913 3491	271	86 91	0002152	0068	14	4631 4611	703 709							
				S	тD	015	0	01	67	3491	27	45	0001750	0073	3 14	+592	716							
		126		UB S	TD I	015	8 U	00	51 83	34912 3498	28	96 36	0000658	0079) 14	4586 4565	718							
	C	26	1	Gъ	S	T020	Ð	00	75	34998	23	8 C			14	4561	73-							
REFERENCE	-						- w)	MARSO	EN	STATION T	ME		ORIGINAT	08'5	OFETH	MAX		WAVE	WEA			1.	ione	
CTRY ID. CODE NO.	CDD	P E	LATITU	1/10	LON	GITUDE	DRIFT INDCT	SOUA	λΕ η •	(GMT)	1/10	¥E A R	CRUISE STA	TION	TO	DEPTH OF S'MPL	OBS	ERVATIONS	THER CODE	CODES	7	ST N	A TION U MBER	
31116	5 EW		7322	8N	Ü48	363E		284	38	09 15 0	158	1967	094		0205	5 02	35	9	18	0 6			0095	
								c	WAT OLOR	TRANS DIR	SPEED	BAR	D- AIR TEMP		NO. OBS.	OBSERV	CIAL							
									1006	(m) 0112	FORCE	(mbs	5 017	0.00 5	0.9	<u> </u>								
	MESSE	NGR	CAST	CAR	PD		-		r		1	1 0 1	SPECIFIC VOLUM	₹ ∆ D	50	DUND	D 2 m1/1	PO4-P	TOTAL-P	NO2-N	N03-N	\$1 D.4 - \$1	- 14	S
	HR 1	/10	NO.	TYF	PE	-			-		1.01		ANOMALY-XIO	x 10 ³	" VEL	00111		µg = at/i	48 - 01/l	yg - ot∕l	l/to-gu	vg - o1/l		c
				5	TD	000	0	60	10	3472	27	34	0007448	0000) 14	4751	703	1		1				[]
	с. С	169 169	2	08 08	S	000 000	U 5	06 06	10	34720 34719	27	34 34			14	4751 4752	70⊅ 716							
				S	1D	001	0	06	12	3472	27	34	0007457	0007	7 14	4754	714							
		04	,	S	TD	002	0	06	12	34724	27	34 34	0007463	0015	5 14	4755	701							
	Ċ	071		08	STD	002	4 0	06 05	12	34726 3476	27	34 49	0006106	0022	14	4756	697 697							
		. 71		Ов	is •	004	ŝ	03	22	34831	27	75	0000000	0000	14	4641	698							
	C	073	5	08 0	S	005	3	Ų∃ Ū2	64	34830 34870	27	76 84	0003513	0031	14	+039 4621	696							
		573	5	S OB	TD	007	5 0	02 02	63 41	3488 34925	27 27	84 90	0002719	0039	$\frac{1}{14}$	46∠⊥ 4615	697 704							
		-		S	TO	010	0	0.2	37	3493	27	90	0002178	0045	5 14	4614	704							
	-	573)	о 6	s	014	9	01	31	34921	27	98	0001111	0000	14	4576	712							
				S S	TD	015 020	G Ū	01	25	3492 3492	27 28	98 05	0001413	0054	+ 14 + 14	4575 4532	713 737						_	
		073	3	QB	S	T022	1	-00	34	34920	23	80		-	14	4513	747						8	51

REFERENCE CODE NO.	SHIP CODE		10	NGITUDE	SQU 2 10°	SDEN ARE		ON TH MTI	ME 8,1/10	YEAR	CRUISE NO,	RIGINATO STA NUP	DR'S IION ABER	8	0891H TO 0110M	MAX. DEPTH OF S'MPL*	085 _DIR.	WAVE SERVATION	NS SEA	WEA- THER CODE		D S		NOOC STATION NUMBER
311165	EW	733801	1 01	46580E	284	36	09 1	5 1	70 1	967		093		J	274	02	15	0			5	3		0096
						WAT	ER	Ŵ	IND	BAR	n. A	IR TEMP.	٣.		NO.	5.05						·		00.0
						COLOR	TRANS.	DIR.	SPEED OR FORCE	M ETE	ER C	IRY V JLB B	VET C	000	OBS, DEPTHS	OBSERV	A TION S							
								02	521	11	8 U	17 -0	001 1	5	10						_		_	
	MESSENGE TIME HP 1/10	CAST V NO.	C A R D TYPE	DEPTH G	nj T	٣	5	. .	SIGM	A-1	SPECIFIC	VOLUME	ΣΔ DYN. 1	D M 0	SOU	IN D DCITY	0.2 ml/1	PO4- #9 • 01	P 1	107AL-P #g = 01/l	NO 2=1 29 - 01/	NO3-N 1 NO3-N	51 O a - 5 µg - 61/	рн
															T									
			STD	0000) (j	585	347	5	274	0	000	6921	000	00	14	742	714							
	17	0 (DBS	0000) L	585	347	5↓	274	ŧŪ					14	742	714							
	17	0 1	วชร	000	i u	585	347	48	273	99					14	742	700							
	17	0 ()85	000) (585	347	49	273	37					14	743	705							
			STU	0010) (585	341	5	273	39	000	6443	000	7	14	743	705							
			STD	0020	با از	580	347	5	273	5 7	000	6972	υü	4	1 44	745	704							
	17) (Cos	0024	• C	500	347	47	273	39					14	746	700							
			STD	0030) (585	347	5	273	3.2	ÚQU	0405	QŬ,	21	14	140	703							
	17	ñ i	DBS	0048	s c	1582	- 347	43	273	39					1 4	748	703							
			STU	0050) (546	341	6	214	•5	000	5452	00	34	14	734	703							
	17	0	98S -	007.	2 C	202	343	29	272	53					1 4	5.1	703							
			STD	007	5 L	252	344	0	278	9	000	6649	ÚU	45	14	617	712							
	17	-	06S	0096	b L	185	34-	45	270	10					14	591	761							
			STO	0100	, L	168	34 .	4	279	7	000	1524	ΰU	5 U	14	584	760							
			STD	0125	5 0	076	344	3	280	2	000	0281	00	53	14	543	754							
	17	0	ЭЫS	0145	i i	1022	341	22	200	5					14	520	752							
			510	0150) (ELUI	345	2	200	15	000	C80_	00	55	14	523	754							
	17		JBS	10197	2 - 0	049	345	10	200	0					14	501	755							
			510	0200) – J	1.58	349	2	28	1.4	000	0348	ΰU	58	14	498	753							
	17	Ū	ЭЫS	10229		0.50	345	35	_ ± 1	1					14	490	739							

REFERENCE CODE NO.	SHIP CODE	LATITUDE	LO	INGITUDE		PSDEN UARE 1"	STATION TI (GATI	IME	TEAP	ORIG CRUISE NO	INATO STAT NUN	ION BEP	DEPTH TO BOTTOM	MAX DEPTH OF S'MPL	5 018	WAVE ERVAT		WEA- THER CODE	CLOUD CODES			NOOC STATION NUMBER	
311164	- F - 10	7.45.105			+ + 2 H	. 5	141.5		1.067				1.2.1.4	1	6.1			16	6 4			0007	
1 2 11 102	1	122700		•) L & - C	1 60				1,007	AIR 1	P 6.	v. 	0.520	1 03	1 01	101	1	1 75	1 2 6	*	1	00971	
						COLOR	Trease La	1410	BARC ALETE	0-	Ť.	VIS COD	OBS.	SPE	CIAL								
						CODE	Unit Dis.	104.1	(~b	1 8019	10	1.1	DEPTHS	OBSER	ATIONS								
							30	514	15	4 017	U	U7 B	10										
	MESSENG THE	CAST C	TTPE	DEPTH	- m 1	r °c	s •	SIGA	v a – t	SHEIFIC VO	LUME Alla'	ΣΔD D'N, 44 10 ³	SOL	UND DCITY	02 m1/1	PO.	-P 87:1	101AL-P -g - 01/1	NO2=N 2g - aHi	NO3-N 29 - al 1	SID µg - оі	Si pH	S C C
	-	•		1			+	1	-1							1	-					1	t
			STU	L i.u.s	U	0541	3473	27	44	50.065	36	3030	14	763	731)					l		1
	20	2 0	085	ມູມູນັ	5	0541	3473.	2.7	4.4				14	123	731								
	2.0	9 C	CH C	συu	5	1542	34735	+ 7	4 .4				14	725	714								
			STU	001	U	1544	2474	. 7	54.14	10005	34	0001	° 14	7.0	714								
	2	9 (85	001	U.	054c	34730	27	14.14				14	726	714								
			STU	00.		0543	3474	. 7	5. 0 4.0	00005	50	001-	1.4	168	709								
	20	. ډ	35	ĴUr	3	0543	34730	∠ 7	14.64				14	720	700								
			らてし	0 V 3	h	0455	3477	27	67	00048	26	0019	/ 14	673	744								
	20	9	065	004	6	0151	34030	2.7	8.3				14	566	805								
			STU	00 5	U	0,144	3404	27	***	06017	4.1	0025	14	544	801								
	2 -	9 0	05	7	· -	UU 7.	1407.	10	10				14	470	780								
			STU	007	5 -	0076	340	2 C	. 5	じいしいた	1 -	0 U Z B	5 I.4	454	782								
	5.	9 (005	- 20 H		00 - L	2400.	2 0	17				1 4	400	174								
			ST	.1.5		ULYS	3400	£ 10	7	ÚU HU⊶	65	Ú∪ 5	, 14	・むう	775								
	-		STO		5 +		34479	2 0	10	35203	94	0031	. 14	465	777								
	L -	4 6	182		4 -	uive.	 	20	0				14	460	770								
	-		STU	1.5	· -	<u>, , , , , , , , , , , , , , , , , , , </u>	3407	20	2.1	00003	44	3232	14	407	773								
	£ ~	9 (192	1144	-	011.	34915	20	4 m -	0			14	412	150								
			510	010		0113	1492	24	11	-1000	01	0033	5 1.44 / 1.4	415	- 742								
			21 - C 21 - C	- UZU T/M	ĭ		3443		1.4	-0.0000	20	0032	. 14	14 / L	1.44								
	- I	4	102	1026	-	0100	24411	28	- A - E				14	4/U	105								

REFERENCE	SHIP	LATITUOE	LD	NGITUDE	MAR SOU	SDEN ARE	STATIC (G	MTI MTI	ME	YEAR	CRUIS	ORIGIN	STATI	R'S ON	DEPTH TO BOTTO/	MAX OEPTH OF	0	W) BSERV	A VE / A TION	s	WEA- THER CODE	CLOU	s		NODC STATION NUMBER
CODE NO.		1/	10	1/10	- 10'	1.	MO DA	Y H	R.1/10		10.	-	NUM	DEN		S.Wh	S DR	HG	TPER	SEA		TYPE A	A11		
31116	5 Ew	74056N	U Ū 4	+3343E	284	43	09 1	6 1	010	1967	1.	J9	1		0335	9 03	0	1 5				518	1		0098
						WAT	TER	W	IND	BAR	o.	AIR TE	MP.	VIC.	NO.	SPE	CIAL								
						COLOR	TRANS. (m)	DIR.	SPEED OR FORCE	(mb	ER BJ	DRY BULB	9U	ET COD	DEPTH	OBSER	ATION	5							
								02	S12	17	2	016	0	U3 8	10			1							
	MESSENG TIME HR 1/10	CAST O	CARD TYPE	OEPTH In	а т	Ċ	۰ ک	<i>.</i> .	SIGA	* A – T	SPECIF	IC VOLL	J M E 10.7	₹ ∆ D DYN. W x 10 ³	. SC VE1	DUND OCITY	02 m	1/1	PO 4 - P	۲0 الر	TAL-P g + o//1	NO-2-N µg = at/	NO3-N 99 - ot/1	51 O 4	Hq I ^{2.}
					ł															l					
			STD	0000	0	441	346	4	27	48	00	0613	39	0000) 14	4681	78	7							
	01	0 0)BS	0000	; 0	441	346	40	27	48					1.	+681	78	/							
	01	0 0)BS	0006		441	346	37	27	48					1	4682	73	6							
	0.1		STU	0010) ()	441	340	4	27	47	00	0018	37	0006	1	4683	73	2							
	01	0 (105	0011	. 0	441	346	30	21	41	0.0	0.1		001	14	+683	73	4							
	0.1		SIU	0020	, 0	442	340	4	21	45	00	0010	00	0012	1	+662	73	-							
	01	0 0	CTD.	0021		376	340	9 4 0	27	40 58	0.0	0621	. 7	001	1	+000	74	5							
			STD	0050	, U	340 344	348	6	27	99	00	013.	15	- 0010	1	4619	7.8	9							
	0.1	0 0	BS	0054		ng i	348	75	28	ń3	00	0.200		001	1	4501	70	4							
	~ 1	0	STD	0079	-0	068	348	7	2.8	0.5	0.0		56	อนวา	, ī,	4472	77	5							
	0.1	0 0)BS	0082	-0	083	348	68	26	06				002	1.	4467	77	ž							
			STD	0100	- 0	099	346	7	2.8	07	00	0054	+3	0029	2 14	4462	77	2							
	01	0 0	085	0109	0	105	348	70	28	07					1	4461	76	5							
			STD	0125	-0	114	348	7	28	07	0.0	0048	35	0030) 14	+459	73	2							
			STD	0150	- 0	123	348	7	28	07	0.0	0045	8	0031	14	4459	6.9	7							
	01	0 0)BS	0165	- 0	124	348	64	28	07					1 4	4461	69	о							
			STO	0200	ن 🗕 (108	349	0	28	0.9	00	5024	+U	003:	3 1	4475	73	5							
	01	0 0)BS	T0221	. − Ū	105	349	23	28	11					14	4400	75	0							
			STD	0250	0 0	108	349	4	28	13	-00	2006	30	0033	3 1	4484	73	4							
			STD	0300	1 — C	132	3 - 9	6	28	15	-00	003-	÷ 9	0032	2 1	4481	70	Ċ,							
	01	0 0	DBS	T032'	0	158	349	66	28	16					1.	4474	69	C							

					-				~	-			-						· · · ·	7		
REFERENC	SHIP				MARS	DEN	STATION	TIME			RIGINA	TOR'S	DE	EPTH	MAX, DEPTH		WAVE	WEA	CLOUD			NODC
	CODE		OF	LONGITUDE	3007	ARE .	1G M		TEAR	CRUISE	ST	ATION	801	TTOM .	10	083		CODE	COURS	1	1	UMBER
	J.		1/10	1/10 -	10*	1.	MO DAY	HR,1/10				/ WOBER	+	-	S WPL'S	DIR	HGT PER	SEA	TYPE AN	1		
3111	65 E.	7+18	5N	Ū42∪8∪E	284	42	09 16	052	1967	'	0.90		0.2	48	0.2	30	5		67	1		0099
						WAT	ER	WIND	BAR	0- 1	IR TEM	P. *C	IS N	10.	SPEC							
					•	COLOR	1RANS. 0	IR, DR	D MET CE (mb	ER () 15) B1	ULB	WET CO BULB	DEF	PTHS	O BSER V	a tion s						
					[96	323	0 51	3 19)7 U	16	0 V Z 8	1	U			_					
	MESSENG TIME	CAST	C ARC TYPE	DEPTH (m)	т	°c	s •/.	- 51	GMA-T	SPECIFIC	VDLUM ALY-X10	E & A OYN, X 10	D M. 3	SOUN	ND CITY	0 2 mi/l	PO4-P 29 - 01/1	TDTAL=P μg = α!/l	ND2-N ug - ot/1	NO3-N µg + ai/l	S1 O.4=S µg = o1/	рH
										1		1										
			ST	່ວິວບົວ	C	379	3423	2	722	000	8615	000	o í	140	49	744						
	0 5	2	CBS	5 JUUÚ	0	379	3422	.9 Z	722					146	49	744						
	53	2	JBS	0005	0	381	3421	8 2	721					146	51	750						
			ST	0 0010	0	379	3423	3 2	722	000	8601	000	9	146	51	754						
	13	2	065	0010	Û.	379	3423	32 Z	722					146	51	754						
			ST	D 0020	0	380	3425) Z	723	000	8479	001	7	140	53	753						
	0 5	2	0BS	0026	с.	380	3426	0 2	724					146	54	754						
			ST	10 OUBÚ	0	282	3438	2	743	000	6625	002	25	146	15	763						
			ST	D 005J	-00	062	3473	2	799	ΟŪŲ	1310	003	33	144	+7Ŭ	792						
	0 5	2	OBS	5 0J52	-0.	JBB	3461	.4 2	802					144	+61	793						
			ST	D 0075	- Ü	145	3452	. Z	604	000	0763	003	35	144	+36	772						
	0 5	2	Cas	5 0077	- C	147	3482	26 Z	805					144	+35	770						
			ST	010ú	-0	116	3486	o 2	806	000	0578	003	37	144	+54	790						
	0 5	2	033	0103	-0	113	3486	0 2	806					144	+56	791						
			ST	D 0125	-0	110	3487	7 Z	807	000	0464	003	8	144	61	786						
			ST	D 0150	-0	105	3489	2	808	000	0351	003	39	144	+68	775						
	Ú 🗄	2	055	0154	-0	135	3489	a ce	809					144	+69	773						
			ST	0200	- 0	100	3492	2 2	811	000	0096	004	0	144	+76	741						
	0 5	2	0Bs	T0205	-0	109	3493	50 Z	812					144	76	731						
		5.5	085	T0240	-11	127	3495	64 2	614					144	.73	680						

REFERENCE			1		= MAS	SDEN	STA	TION	TIME	Т		(DRIGIN	ATOR'	s	DE	ртн	MAX.	ľ	WAVE		WEA-	CLOU		T	NODC	
CTRY ID.	CODE	LATITUDE		ONGITUDE	SQ SQL	JARE		(G M	TI	_ YI	EAR	CRUISE	S	TATIO	N	1 T	0	OF	08	ERVA TIOP	45	THER	CODE	s		STATION	
CODE NO.		1,	/10	'1/10	10"	1.	MO	DAY	HR,1/1	0		NO.	•	UMB	ER			S'MPL'S	Dil	HGT PER	SLA	0001	TYPE A.	47		NOMOCK	4
311165	ÊN	73186	n I C)+11+0E	284	31	09	16	111	1	967		10	3		θŝ	U 1	03	01	3			0 7			0100	
						WA	TER	_	WIND		BARO	· 🖵	AIR TE/	A.P. °C		N	o.	SPEC	IAI								
						COLOP	TRAN Im I	5 DI	L O FOI	ED R ICE	METE (mbs)	R (DRY ULB	W E' BUL	8	DEP	BS. PTHS	OBSERV	A TION S								
						06	21	3	1 51	3	20	5 0	44	Ú 2	વ કે	1	υ										
	MESSENGR TIME o H.9 3710	CAST NO.	C ARD TYPE	DEPTH IN	1	1 °C		s •4.	s	GMA	-1	ANOM	ALY-LI	me 0'	₹ ∆ C DYN, 1 x 10 ³) 4.	SOU VELD	ND	02 mi/i	PD4-1	1	OTAL-P	NO2=N 29 - 01/1	NO3-N vg - st/l	51 Du-1 49 - 01	Si pH	500
																											T
			STL	0000) i	0513	34	+58	č	7.3	5	000	737	3	000	Ũ	14	710	720								
	111		Ods	GUČI	l í	1510	34	•57	4 6	73	5						14	71Ü	720								
	111		05S	0004	• •	-515	34	+57	5 2	73	••						14	711	726								
	111		055	U V Ŭ -	• •	-514	34	+57.	2 2	73	4						14	712	720								
			SIL	2 3010	·	2514	10	+57	-	11	4	000	744	0	000	7	14	712	727								
			- C T C) UJES	, i	-515	31	20	4	73	ć.	üευ	144	44	001	5	14	714	720								
	111		UBS	002:	5	0515	3.	+57	t 2	13	64						14	715	710								
			ST.)),),),),),),),),),),),),),		1306	34 2.	+58	4	16	1	000	450	4	002	1	140	629	773								
	111		782	5 UU+1	-,	2047	34	+52	5 6	80	4	0.5		-	20.2		144	485	636								
	1.1.1		1 4	201		1042		+04 .57		10 U.	2	000	101	/	002	6	144	480	824								
			500.0 5 Tu) U 74		101	34	400. 1386	4 C	000 0413	6	0.0				R	144	4.50	774								
	111		Uns			1108		+ H F.	v 5	800	7	000	021	-	002	0	1	450	77								
		•	J.	1 0100		1111	34	487		60	2	00			003		141	456 	775								
			ST	01.4		5121	3,	• 8 7		80	÷	000	1.1.1.4	ŭ	003	1	140	456	779								
	113		Uds	0144		J122	3.	+ 8 T	1	8.	В	000			0.0.0	•	144	458	782								
			5 T.	0150	, <u> </u>	5117	31	459	_	5	4	000	029	7	003	2	144	462	774								
	111		Jas	TUL8'		1103	3.0	442	8 2	~)	۷					_	141	476	741								
			ъŤ	5 1200	-	11.13	3.4	494	-	вÌ		- 0 00	004	4	ÜÜ 3	2	1	478	733								
			51.			3122	34	+ + 7	6	61	5	-100	0000	7	ΰU3	1	14.	.78	704								
	111		UBS.	1128		1154	54	448	i .	81	đ						140	469	692								

REFERENCE	SHIP LA	TITUDE L	anstude 5	NI ARSCEN SOL ARE	STATION T IGART	Nº E YEAR	CRITINA*C CRUISE STA	ets Luin	DEPTH TO BOTTOM	DEPTH CF	0855	WAVE EVATIONS	WEA- THER CODE	CLOUD			NODC STATION	
21.10	A - 7 -	1 10 + - 2 1 14	1 (th.) 1 - C.	284 32	U DAY H	1.12			به و 3 ن	03		3 HG1 10 3	Į A	D B	1	-	0101	
				C S L S P C S L S P C S D E	TRANS DR	VIND VPTIC MET	DRY /	ET COS	NO. CHS. DEPTHS	SPECI OBSERVA	AL TIONS							
				- 1.	24 24		5 039 0	110	101		-							
		2* CARD	Dates in	• `	5 * 1.	SIG AF A -T	SHURC POINT	≦ <u>_</u> D D+5 ** 3 +c ³	SDUP - ELCU			PO4-P	IOTAL=P ug = atri	NO2=N ug = atri	NO3-N VQ - ofri	SI D 4 - 5 29 - 01	рн	
			+	·	+	-									-			1
				5407	3408	2135		. U.U.	146	1 1 1 1 1 1	120			I	ł	1	1	ľ
	141	363	nų,	Justi	24574	2748			1.45	.97	728							
	. ··· ·	ت ن		24.24	3455.	2740			147	751	73₽							
	14 =	. 8		C 14 M 1	34 85	_ / + #			1 ++ 7	' U 1	728							
		J. 1.	· •	0.14 2	590 202	2 7 × 2	. 000	0007	1 47	1	737							
		- 1.		2488	1 va * m	1.1.4	5.77		147	763	135							
	143	0 e 1	¹		1.47.514	4.17.25			147	7.4	72t							
		_ 7		. 5 *	じゅとら	. 7 - 2	2720144	20.	+ 4 5	543	743							
		7.			さゅとと	-0	0004 .	Juzt	****	• • 3	758							
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REFERENCE SHI	P E	LATITUDE	LO	NGITUDE	DAIFT INDCTR	MARS SOU	DEN ARE	STA MO	TION IGMT DAY	TIME } Hr.1/10	YEAR	C	RUISE NO.	DRIGIN S	ATOR TATIK	I'S ON BER	D BC	TO TO DITOM	MAX. DEPTH OF S*MPL*S	08	WAVE SERVATION HGT PER	NS SEA	WEA- THER CODE	CLOU	JD DES			NODC STATION NUMBER	
311105 EV	1 7	2502N	04	+28UE		284	24	00	16	178	196	7		10	1		0	306	Ú3	01	5			5	7			0102	
						1	WA	TER	1	WIND	BA	RO-	1	AIR TE	A.P. 1	c I		NO.	SPEC	141									
							COLOR CODE	TRANS (m)	DIR	SPEER OR FORC	0 MI	TER bs1	С В	ULB	W I BU		DED	OBS. EPTHS	OBSERV	A TION S									
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			C T D	- 15	_		6 7		- 3	2	7 2 4			7 3	, I	പറ		14		7 5 . 3									
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	178	0	55	001	0	U	574	34	692	2	736							14	738	708									
			SID	002	U	С	573	34	10	2	737		000	721	4	001	4	14	739	708									
	176	0	es -	002	7	υ	573	34	698	5 2	737							14	740	708									
			STD	003	J	J	522	34	72	2	744		000	656	5	ΰU2	1	14	725	767									
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	178	0	63	TUZQ	ō	- J	113	34	754	÷ 2	514			-				14	490	714									

REFER	ID.	SHIP	LATITUDE	LC	INGITUDE	MAR SOL	SDEN	STATION IG M1	TIME	YEAR	ORIC	INATO	i's DN	DEPTH TO	DEPTH OF	OB	WAVE SERVATIO	NS	WEA- THER	CLOUD CODES			NODC	
CODE	NO,		· 1/	10	1/10	10*	1.	MO DAY	HR,1/10		NO.	NUM	BER	BOLLOW	S'MPL'S	DIR,	HGT PER	SEA	CODE	TYPE AM			NOWBER	
	116.	T A	12.16.2	9 Ū4	452 4418	2.84	25	09 16	.12	1967		au		0291		01	2		51	57			0103	
				• •		120	WAT	TER	WIND	1		TEMP.	c l	NO	1		1 - 1 - 1						0105	
							COLOR	TRANS. DIS	SPEED	MET	ER DRY	w	T COD	OBS.	SPEC OBSERV	A TION 5								
							CODE	(m1	FORC	E lmb:	s) BULB	80	LB	DEPTHS										
								3	0 503	2 19	3 03e) Ū	27 8	10										
		MESSEHG TIME	CAST NO.	C ARD TYPE	DEPTH 0	n} 1	r °c	5 */	SIG	MA-T	SPECIFIC VO	-X107	≨ ∆ D DYN. M X 10 ³	SO VEL	DAU TIDC	O 2 m1/1	PO 4-	P T /1	OTAL—P pg·at/i	NO2-N ¥g = oM1	NO3-N 99 - 01'l	SI O4-S 29 - 01/	рн	500
			·															+						
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		_ l	£	DES	υÜ7•	- i	0277	3494	1 2	307				14	628	733								
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				STU	0104	. ر	0189	3494	2	795	00010	83	0048	14	594	735								
				STU	012	2	2.15	3492	28	30 L	00010	14C	0051	14	547	761								
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REFERENCE	SHIP	LATITU	DE	LONGITUDE	DCTR	M ARSDEN SQU ARE	STATION TI IGMTI	ME YEA	RCI	ORIGI	STAT	R'S	DEPTH TO	DEPTH OF	08	WAVE SERVATIONS	WEA- THER	CODES		s	NODC	
CODE NO.	CODE	•	1/10	• • • • • • • • • • • • • • • • • • • •	'10 [⊔] ≚	10" 1"	MO DAY H	R.1/10	_	NO.	NUM	8ER	BOTTOM	S'MPL"	S DIR_	HGT PER 3	EA CODE	11PE A 44			UMBER	
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						COLOR	TRANS	SPEED N	ARO-	DRY	w		NO. OBS.	SPE								
						CODE	1mi Dik.	FOICE C	mbsl	BULB	- SL	JLB	DEPTHS									
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	1.	7	υ¤S	i to.	117	0152	34 - , .	2715					14	596	644							
REFERENCE	-I SHIP				i a E	MARSDEN SOLLARS	STATION TI	ME VEA		08161	INATO	R*5	DEPTH	MAX. CEPTH	08		WEA	CLOUD			NODC	
CODE NO.	CODE	LATITU +	1 10	1	10 2	10* 1***	NO DAY H	21101	0	A USE NO I	STAT NU M	ION REF	IDT'ON	OF S'MPL*	S D III	HGT PLAT 3	CODE	7791 4 4		N	UNBER	
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						6 A	TER V	IND I	A80-	AIET	TENP	21. 3	NO.	SPE	CIAL							
						CODE	I RANS DIR	04 10101	< E ₹ E # (m b # i	DPT BULB	8	ET COD	DEPTHS	OBSERV	ATIONS							
						10	27 2E	564	274	. 35	1 -	-0 8	57									
	MISTEN SI	LCAST	3.4.2."				< 1	0.044-	, 5	PECIFIC VO	LU M E	S A D	so	UND		PO4=P	1014 L-P	N02+N	NO3=N	51 O 4 = 51		
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			че - Ст			0579	34431. 3443.	- 4 (3P - 111			ь.		14	742	7.5							
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CODE NO	- CODE	•	3.10		10 - 2	101 11	NO DAY H	R 1 10		40	Nº N	1ER	80710N	S'AVEL	5 0.4	H GT PER S	CCSE	TIPE AN	1	N	UNBER	
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REFERENCE	6140 B			a a a a a a a a a a a a a a a a a a a	MAR	SOEN	ST	ATION T	ME		1	ORIGIN	ATOR			OEPTH	MAX.		WAVE	WEA-	CLOUD			NODC	
CTRY ID. CODE NO.	CODE	LATITUD	E LO 1/10	NGITUDE	50U	A RE	MO	GMTI DAY H	R. 1/10	YEAR	CRL	JISE 10.	STATIO NUMB	N R	6	no N OTTO	OF S'MPL'S	DIR.	HGT PER SE	THER CODE	CODES TYPE AMI	-	S N	UMBER	
311105	εw	70435	N 05	11SDE	283	01	09	17	126	1967		11	0		Ū	101	01	30	2	40	7 8	1		0107	
						WA	TER	V		- 8AR	0-	A IR TE	MP C	- VI	s	NO.	SPEC	IAL							
						COLOR	TRA	NS. DIR.	DR	E (mb	ER 61	DRY BULS	BUL	CO	DE	DEPTHS	OBSERV	ATIONS							
						06	1	7 26	51	3 15	1	053	04	b 5		00									
	MESSENGE	CAST	CARD	DEPTH (m)	т	•c		s ·	sic	- M A - T	SPE	CIFIC VOL	JME	≨ ∆ (DYN, /	D M	sou	ND	0 2 ml/l	PO 4 - P	TOTAL-P	N03-N	NO3-N	SI O 4-5	рм	s c
	HR 1,10	NU.	TTPE						-		-	100000		x 10 ⁻	3	VELO			µg = ot/1	yg - 61 1	µg = al-l	µg ∘ al l	1 10 - DV		C
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	12	4	STO	0010	L.	1509	3	463	2	727	Ú	00810	7	JÜÜ	5	14	751	690							
	16	0	STD	0620	U U	1649	3	463	2	727	υ	00811	4	0U 1	6	14	753	694							
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	12	6	085	0050	c	107J	3	4675	2	783	0	0020-	• •	000		14	529	691							
	1.0		STO	0075	C	050	3	471	2	786	0	00248	32	003	9	14	524	677							
	14	6	UBS	0035	C	1042	و	4721	2	180						14:	522	566							
	_	_															84.0.Y	1							
CTRY L ID.	SHIP	LATITUO	ε LC	INGITUDE	SQL	SDEN	51	GMTI	IME	YEAR	CRI	UISE	STATIO	N	-	TO	DEPTH	085	ERVATIONS	W EA THER	CODES		S	NOOC TATION	
CODE NO.	000	•	1/10	* '1/10 ⁵ Z	10*	1.	мо	DAY	(R,1/10		1 N	10.	NUM8	R	6	OTTUM	S'MPL"	DIR	MGT PER SI	A CODE	TYPE A M	1	- + -	UMBER	
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						COLOR	184	NS. DIR.	SPEE	D MET	O.≁ ER	DRY	WE	 co	IS.	OBS.	SPE OBSERV	CIAL ATIONS							
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	TIME	NO.	CARD	DEPIH (m)	1	°C	}	s •⁄	\$10	SMA-T	SPE A?	NDMALY-1	107	DYN. X 10	M.	VELC		02 m1/1	PD4-P yg - otrit	Hg = c1/l	ug = a1/1	vg + ol/l	yg = at.'	рн	Ċ
	HK 1210			-			+				1														T
	1	1 1	STĐ	0000	' c	641	3	467	2	726	Ū	00822	28	JŲŪ	νü	14	763	690							
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	15	5	085	0020	0	1639	-	9407 34673	2	726	U	10002	10	001	. C	14	765	682							
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	1.5	E	STD	0050	0	199	3	8474	2	779	0	، ے ق ں آ (47	003	\$4	14	587 593	750							
	10	2	STD	0075	0	0114	-	5475	2	786	J	0025	76	ū04	-1	14	554	689							
	15	5	OBS	0.76	9	0111	11	84750	2	780						14	552	687							
	10	5	282	0097		10.20	-	34731	2	188						14	221	041							
Constant Not	1 1									T	-	ONCH	NATOR		-		MAX	T							
CTRY ID.	SHIP	LATITUD	E LC	INGITUDE	SQU	JARE	S.	(GMT)	IM E	YEAR	CR	UISE	STATIC	N	١.	TO	OEPTH	OBS	ERVATIONS	THER	CODES		5	TATION	
CODE NO.		•	1/10	• '1.10 [™] Ξ	10.	1.	MO	DAY	1R_1/1		1	NO.	NUMB	2	-	- I I U M	S'MPL"	DIR.	HGTPERS	EA COD	TYPE A AS	т			
311165	L ¥	71070	DN Ú	+0286E]	284	10 WA	109 Ater	17	185 WIND	11967		1 (AIR TI	JB EMP. 10		10)146 NO 1	01	1 31	0	I	1 515	1		0109	
						COLOP	RTRA	NS. DIR.	SPEE	D MEI	ER	ORY	WE		IS. DE	OBS.	SPE OBSERV	CIAL ATIONS							
						1000		3.2	5 2	CE (mb () 1 1	57	018	0.2	α Ω	1	0.0									

MESSENGR (TIME OF HR 1/10	CAST CAR NO. TYP	Ö E	DEPTH (m)	т ° С	s •/	SIG M A - T	SPECIFIC VOLUME ANDMALY-2107	SQUND VELOCITY	02 ml/l	PO4+P PG + 01/1	TOTAL-P pg + of 'l	NO ₂ —N µg = at/l	NQ ₃ —N µg = at/l	\$I O.4—51 yg = ot. 1	рH
		-													
	S	G	0000	0660					679						
185	OBS	5	0000	0660	3475u	27300			679						
185	000	6	0000	0659	34642	2725		14771	687						
	5.	Ð	0010	0659	3464	2725	0008299	14772	635						
105	OB;	ŝ	0011	0659	34687	2725		14772	605						
	S	T D	0020	ŨББŬ	3469	2725	0004336	14774	664						
185	OBS	S	0028	0660	34688	2725		14775	683						
	5	GT	0030	0620	3469	2730	0007838	14760	691						
	S	GT	0050	0281	3469	2768	0004290	14622	740						
185	003	S	0055	0214	34693	2774		14594	743						
	S	ТD	0075	J179	3473	2779	0003186	14582	706						
105	US:	s	0083		34730				694						
	S	τÐ	0100	0136	3475	2784	0002724	14567	004						
185	5В;	S	0110		34760				668						
	S	τū	0125	0074	3476	2788	ÚUU207Ĵ	14552	639						
185	05:	5	0131	ĴŪ¢∠	34752	2765		14548	044						

PEFERENCE	CODE	ATITUD	E	LONGI	TUDE HID	MARSD SQUA	EN RE	STATION T.	*E	TEAR	CRUISE	ORIGINA ST	TOP'S ATION		DEPTH TO BOTTOM	MAY, DEPTH OF	OBS	WAVE ERVATIONS	WEA- THEP CODE	CLOUD		S. N		
CODE NO.		7	1.10		1 10 =	10.	1.7	NO DAT HP	1.10			- NL				S'MPL	DIR	HGT MR SI	A	TTPE AM				
2111103		11220	1 1	0470	10061	1284	WAT	IEP W	1 5] IND	140 J		AIR TEMI	P. 70	T. T	NO.	1 01	<u> </u>	171 1		1 515	1	1	0110	
						C	OLOR CODE	TRANS DIR	SPELO	AVET Lmb	ER -	DRY BULR	WET BULB	CODE	OB S . DEPTHS	OBSERV	ATIONS							
						F		. 33	\$15	09	7 0		J 3 -	à	C 7									
	MESSENCE										Lanc au			EAD	1 .01									T,
	TINE H# 1 10	NC	TYPE		DEPTH IMI		*C	s '	SIG	54 A - T	ANON	A_7-1107	· [Y 10 ³	VEL	OCITY	0 ; ml/l	4g = 01/1	49 - 01/1	µg − at	49 × 01/1	yg = αt/l	ρН	¢
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			ST	υİ	0000		Ξc	3465	27	<u>.</u> (Ùu.	17524	ι,	0000	<u>i</u> 4	700	004							
	2 l • l	3	0.83	5	- 300	05	9 G1	34548 34747	27	17					14	783	604							
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	~ 1	3	. : !		J L L	<u>ب</u> ال	14.15	14040	47	1 7					1-	700	004							
	.21	a.	- 1 - 1		5015	U 5 U 5	93	3467	2.7	1 1 m	ω.	4634		1018	14	797	568 568							
			51	L.	10:0		с ń	340%	27	24	υJ.	70 -		06	14	755	673							
			51	Γu	. 050	53	51	3418	2.7	5 d	UU.	4620	, (10 10	14	たちう	665							
	<i>c</i> 1	3	10.05) 	したい	03	21	34787	·	68					14	650	665							
		a		~	. 74		· •	34562		H2	2			/0 4 /	1.4	602	007							
			5.1			- 1	5 -	3484	2.1	5 4	- 5 C .	220") J 🤉 4	÷ 4+	553	674							
	. 1	2			~ 1	<	t, c	14547	. 7	64 g					14	5d4	663							
PFFER, N TE	- SHIP	117		25101		N 4250 50 A	1 ha 8 E	STATION TH	e E	15.4.2	ļ.	RIG IS A	* L R*S		DEPTH TO	DEPTH	1.85	WAVE EFLATIONS	IN EA-	CODES			NODE	
110 I. I.	C CE				·	1.1.1	. *	UNT DAYTHE			L ND	ST- *4	194812 194812		acitro v	STAFILT	5 0 4	माज संस ा	CODE	TEPE A G	1		UMBER	
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NCE	SHIP	LATITU	DE	LONGITUDE	DRIFF +DCTR	MARSDEN SQUARE	51A	TION 1 (GMT)	IME	YEAR	CRUISE	DRIGINAT STA	DR*S TION	-	DEPTH TO	MAX. DEPTH OF	OB	WA \	TIONS	W TH	EA.	CLOUD		5	NODC
NO.		•	1/10	• • • • • • • • • • • • • • • • • • •		10* 1*	MO	DAY	IR, 1, 10		NO.	NU	MBER		BOLIOW	S'MPL"	S DIR.	HGT	PER 5	EA CO	JUE	TYPE A ANT	1		4 U /V 8 E P
105	Éw	7200	ON V	042330E		-84 22	190	18	116	1907		104			3274	02	36	7				6 3			0113
						WAT	ER	T	WIND	BAR		ATR TEANP.	÷2		NO.										0.0.0
						COLOR	TRANS Iml	DIR.	SPEED DR FORC	METE (mbs	R (	ULB E	N ET ULB	CDDI	OBS. DEPTHS	OBSERV	ATIONS								
						07	17	36	520	1 13	5 U	32 1	025	7	09										
	MESSENGR CAL TIME OF NC HR 1.10		C ARD TYPE	DEPTH	(m )	T °C	s	•4.	\$1G	MA-T	SPECIFIC	C VOLUME	S DYI X	△ D N, M 10 ³	SOF	UND DCITY	0.2 ml/1	P( Pg	Di <b>4—P</b> Franti	TOTAL pg - o	- P 1 4	NO ₂ -N vg - al. i	NO3-N 49 - 01/1	SLO4—Si vg = al/	рН
	ł		51	006 G	υI	0675	34	ъз	21	23	000	8467	Ŭ.	,00	14	777	693								1
	116	6	CBS	207	Ų	U675	34	693	21	23					14	777	693								
	11:	6	CDS	300	4	0674	34	585	27	23					14	777	672								
	110	6	QBS	000	9	0574	34	694	27	24					14	778	690								
			STI	D 001	0	0074	54	70	21	24	ÛŲU	0434	ΟL	108	14	778	690								
			ST	2 002	2	0675	34	69	2	23	000	8510	0.	117	14	7 d 🔾	642								
	110	6	ОBS	002	2	0675	34	689	2	23					14	780	692								
			STI	D 003	U	0527	34	73	2	45	000	10433	30	124	. 14	723	694								
	110	6	035	004	5	0345	34	801	2	71					14	650	691								
			ST	0 019	U	0339	34	δĽ	2	73	ŲЦЈ	13830	0 U	- 35	14	649	694								
	110	0	282	. 007	U	0316	34	887	27	30					14	643	695								
			ST	0 007	5	0311	24	ij	23	6 L	000	2990	ЭÇ	) 43	14	044	697								
	110	6	065	009	4	0268	34	948	21	88					1 +	636	706								
			51	0 010	6	0279	34	95	21	83	000	12304	UC	15 Ū	14	632	708								
			51	0 012	2	0233	34	94	21	92	000	-032	00	155	14	617	717								
			ST	0 010	0	6174	- 34	94	<u> </u>	90	000	1014	UC	79U	14	595	124								
			ST	0 020	0	0016	4 ز	93	28	56	000	10 5 4 5	Û.	156	14	532	730								
	110	0	ŲЬS	T ü 2 1	4	- シリゴち	34	924	20	Q 5					14	51ŭ	730								

RE	FERE	ID.	SHIP	LATITUDE	LONGITUDE	DRIFT	MARS SQUA	DEN	ST.	IGM'	TIME D	YEAR	CRU+SE	STATION	DEPTH TO	MAX. DEPTH OF	OB	WA SERVA	V E A TIO	NS	WEA- THER	CLON	D ES	s	NODC
cot	DE	NO.	0000	1/10	* '1/10	- 2	10'	1*	мo	DAY	HR,1/10		NO.	NUMBER	BOLLOW	S'MPL'S	DIR.	HGT	PER	SE A	CODE	TYPE /	M T	N	1 O W BER
3	11	165	ĒN	71310N	026540E		235	10	09	19	118	1967		111	0335	03	05	0				6	3		0114
							[	W A	TER		WIND	BARC	)- /	VIR TEMP. C	NO.	5960	141	]							

			COLOR	TRANS. Im !	DIR,	SPEED OF FORCE	METE	R DRY	W Bl	V£T UL8	CODE	OBS. DEPTHS	OBSER	VATIONS							
			07	16	υ7	502	23	5 056	Ű	41	8	ìυ									
ATESSENGE C. TIME OF N HP 1/10	AST CARD NO. TYPE	DEPTH (m)	т °с	s	•/	SIG M	A — T	SPECIFIC VOLU ANÓMALY-X3	м E 0 ⁷	E A DYN X	Ар .м. 10 ³	SO VEL	UND OCITY	02 m1/1	PO4-P 1/9 - 01/1	TOTAL=P µg + of 1	NO2=N vg = ot, l	NO3-N yg - ot	SIC4—Si vg = ot 1	рH	.00
												1					l				
	212	0000	0368	34	16	265	20	001508	1	04	υQ	14	844	679							
118	JBS	0000	0868	34	164	265	د ر					14	844	679							
118	UBS	GUUS	0866	34	164	265	4		_			14	d44	030							
	STD	0510	0873	34	18	265	) ⁽ 4	001503	5	JU	15	14	840	663							
115	OBS	0010	0873	34	176	265	/ -+					14	840	683							
	STO	0020	0894	34.	38	265	0	001390	Ž	Οŭ	30	14	86Ŭ	66 Ŭ							
118	065	0025	0904	34	464	267	11					14	800	651							
	STÙ	0030	U549	34	52	268	54	001221	4	ΰL	43	14	847	647							
	STO	0050	0688	34	71	272	6.5	000858	ā	00	63	14	790	041							
118	GBS	0001	U683	34	717	272	9					14	789	641							
	STÐ	0075	0626	34	36	274	+ 3	000571	0	00	63	14	772	648							
118	OBS	0570	0624	34.	669	274	+4					14	771	645							
	STD	0100	0597	34	98	279	56	000548	9	00	98	14	760	642							
110	OBS	010z	U594	34	752	275	7					14	765	64⊥							
	STD	0125	0526	35	00	276	7	000452	1	01	10	14	741	647							
	STD	0150	0471	35	51	277	14	001365	1	Û	21	14	723	554							
118	OBS	0152	0468	35	112	277	14					14	722	655							
	STD	0200	0427	35	01	277	19	060341	ç.	0.4	39	14	713	666							
118	OBS	T0203	0425	35	511	277	9			-	-	14	713	609							
	STD	0250	0394	35	J1	278	3.2	000311	3	U I	55	14	707	667							
	STD	0300	0370	35	JĪ	278	35	000290	4	01	70	14	706	665							
lle	065	T 0 3 2 4	0362	35	13	278	ó					14	706	664							

REFER	ID.	SHIP	LATITU	DE	LONGITU	De 10	MAR	SDEN	STA 1	ION T	IME	YEAR	CRU	ORIG	INATO STAT	R"S ION	_	DEPTH TO	DEPTH	0	W A SSERV	VE A TIONS	W E A THEF	. CL	DES			NODC	
CODE	NO.	0001	•	1/10	· ·	1./10	10.	11.	MO	DAY	R.3/10		N	10.	NUM	86P		BOITOM	S'MPL	S DIR.	HG	PER SI	A COD	1796	A 441	1		NUMBER	
31	105	Ēĸ	7157	DN	42027	υε	280	16	09	19	149	1967		1	12			0269	03	07	2			6	8			0115	
								WA	TER	V	VIND	5 A R	0.	AIR 1	EMP.	°C		NO.	100	-	٦								
								COLOR	TRANS (m)	DIR.	SPEED OIL FOILC	M ET (mb	ER #1	DRY BULB	W BL	ET C	CODE	OBS. Depths	OBSER	A TIONS									
								00	15	10	\$02	23	15	053	Ŭ	39	8	10			1								
		MESSENGP TIME HR 1:10	CAST NO.	C A P T Y P		PTH (mi	Т	۰c	5	×.,	SIG	N A − T	SPE	CINC VO	100'	ž Ž Dyn T	10 ³	SOI VELO	UND DCITY	Og ml		PO4-P g = a1/1	10TAL-I	NO:	←N a1-1	NO3-N NO3-N	SI O	in 1 pH	
				S	10 U	000		839	34	00	26	97	0	0109	87	00	00	14	840	666									1
		14	4	06.	5 0	000		460	34	658	26	97						14	84Ŭ	60.									
		14	9	Οø	s û	005		837	- 34	660	26	97						14	840	600									
				5	rð u	ULU	U.	535	34	66	20	97	U	0109	61	ЭU	11	14	841	657	1								
		14.	2	JÞ	s ú	510	ų	436	34	06∠	26	47						14	841	657	7								
				S	rD J	リュレ	Ŭ,	838	34	65	25	44	Ũ	J10d	46	JU	24	14	643	665	,								
		14	9	393	, )	ULO	Ų	824	34	707	27	50						14	839	661									
				S	L CI	ÚΨU	Ű	791	34	75	27	11	Ū	0095	67	SŪ	12	14	8 z A	661									
				S	Γu Ű	こちじ	~	603	34	7 I.	27	43	0	0000	<b>њ</b> с	JJ	48	14	779	660	>								
		141	9	00	; J	050	, ,	530	34	9 L Ú	27	46						14	713	600									
				5	υ j	U 7 5	Ũ	545	34	4.64	21	ちし	Û	0051	27	Ĵυ	63	14	740	674	•								
		141	4	ال ن	5 0	079	9	532	34	944	27	5 x						14	730	675	)								
				5	D U	100	J	480	34	95	27	68	U	0.43	57	00	75	14	718	666	<b>)</b>								
		14	4	00.		105	U	471	34	944	27	5-						14	715	605	)								
				5	10 U	142	Ç	457	34	49	27	7	0	0.40	6.4	υU	85	14	717	665									
		÷.,		5	U U -	100		455	35	· · ·		15	Ú	0.31	5.		45	<u> </u>	716	600	;								
		1 4	-4	00	s / ∙∼.	101	Ļ	- <del>64</del> - 1	27	¥ 7 5		16						14	710	660	>								
		1.4		2	. ,	2		410	32	×		0 -	Û	0032	40	υĻ	13	14	100	661									
		14	4	00	د آند د ا	161		1404 	35	- + 2	4 /	0.		~ ~				1 4	105	660	,								
					ч J	256	Ļ	1386	25	с.,	21	83	0	いいはい	42	UI	28	14	704	051	í *								
		a **		CD:	> ~	- C +	_	003	12	204	<u> </u>	6.5						14	7∪8	05/	í .								

ID CODE LATIT		igitupe 55	A* ##\$OEN 5.31, ##E	STATION TO IG VITI	YEAR	OPIGINATO	10%	DEPTH D	OF	WAVE BSERVATK	DNS	WEA-	CLOUD			NODC	
NO DE L	1 10	1 1 1 EP	10* 11	NO DAY H	2 1 10	NO. NUN	BEP	10110W 2	MPL*S DIR	HGT FE	SEA	CODE	1991 A 4	τ		NUNBER	1
10- LA 12-	1.5	1 E. 44	135 15		8+ 1467	1 .13		1600	J	• 2			5 8			0116	
				TEA 😽	INC L BAR	A IR TENIP	2	NO.	care	T I							
			C7. *	TRANS CIR	VEC VET	ER DRY A	ET CI	OBS. OF	SPECIAL BSERVATION	s							
			5 x 1 x 1 x 2	+,+	12476		.7			1							
				~ ~ <u>* </u>	<u>otr (*</u> 5	· [ · 23 ] · 6	21 8			<u>لې ا</u>				T			-
- MESTIN - F _ (T ASY -   - T ME - T _ N (T ASY - HS - T Y	CARC 11PE	DEF.H IM		\$ *	51 G AA A = *	ANC MALVERS	2 1 D DYN N X 103	SOLINE + ELOCI	0 0 0 ml	1 PD4-	-# 'ro	ا اه پر	NO2+N 29 - al	NO3+N VG - of 1	51 O 4 - 5 HQ + 01	рн	5000
- *	•		•		-		•		Î	-				•		-	1
	τ.	200	Jīma	348.	211	11. 4. 5		145		5							,
100	0.7	1000	.785	3-61-	2711			1482	a 600	5							
Lar	22 a	0005	J 788	3-4514	2717			1492	3 660	5							
	. T -		078-	140.	- 7 k	1.144.14	UU +	1484	4 00	7							
130	- 3 -	5626	J74+	348.7	27.1 '			1442	4 66	7							
	<b>⊺</b> ∠	2.44	J74.	348-	.118	1.07030	JU 19	1450	0 500	5							
166		<u>-</u> 44	-795	3-453-4	2718			1484	1 000	c							
	5 T	J	2742	3430	21.1	J -20104	JU 27	148	10 60.	L.							
INA	100 - 5	، و ت	~50B	34434	277			1471	73 650	5							
	ίtυ		2627	3444	474E	00.6215	JUHI	147	10 650	J							
+ 3 C	101	3613	0 to 1 1	35 35	2184			1476	00 04	5							
	stu	7 .	5500	.t >+	2754	00.2.54	0050	± 47 €	57 641	>							
18F	01 -		୍ର୍ୟ ଥିବା	ి ్ ల 5 క	2761			1476	0 650	5							
	_ T ~	- A - V	JE77	3* 7	276-	104501	ししちき	147:	57 h5.								
	5 T 🖂	1.5	ं हें प्रथम	きちした	276+	0014654	JU 79	147:	ວປ 65	7							
186	100	1 -+ U	VOLI	うつしもい	277z			1470	+4 66								
	⊃⊺ ⊂	U	4510	31-6	2772	JUJ46.1	0-59	1474	.5 664	-							
156	- 5 -	1.1.1.1	- 4 D L	ほししょ	1775			147:	50 05	7							
	, T _	200	2475	3760	£775	-CCC3684	0105	1473	30 60	,							
. de	. n	1.241	ن دي ده	15.55	278.			1472	0 650	<b>0</b>							

REFERENCE	E SHIP		T		15 MA	RSDEN	STAT	ION TH	ME			DRIGIN	ATOR"	s	DEPTH	MAX. DEPTH		W	AVE	W E	. CLOU	οT		NODC	٦
CTRY ID, CODE NO.	CODE	LATINUDE	10	NGRUDE		T		GMI		YEAR	CRUISE	S'	TATIO	N	TO BOTTON	OF	08	SERV	VATIONS		COD	S		STATION	
		17.11	-	1710	10	1-	MOI	DAY HI	R,1/10		NO.		UMBI	к		S'MAPL'S	OIP	MG	ST PER SE	A 000	TYPE A	47	-		_
311116	5 EW	72540%	02	5150E	28	6 25	0.9	19 2	213 1	967		114	4		0414	04	1.7	2		1	5	3		011	7
						W A	TER	- W	IND	BAR	⊳  ′	AIR TEN	(P. ℃	- VIS.	NO,	SPEC	TAL								
						COLOR	TRANS. (m)	DIR.	DR EDRCE	Imbs	R	DRY ULB	W E1 Bij Li	000	DEPTHS	OBSERV	A TION S								
								17	SU5	22	6 3	54	0.3	9 8	11										
	MESSENGR TIME HR 1/10	ENGE CAST C ME OF NO. T 1/10		DEPTH D	n)	T °C	2	×	SIGM	A - T	SPECIFIC	VOLUA ALY-X10	A E 17	₹ ∆ D DYN, M x 10 ³	- SO	UND DCITY	0 2 ml /	η,	PO4=P 29 - 01/1	101AL- μg = οł/	P NO2=N I µg + of	NO3=1 yg = ol/	SI 04- 99 - 0	-S) 9    pH	
										-													-		
			STD	0000	Ċ	0768	34	81	271	9	000	868	1	0000	14	814	540				1				
	21:	0	35	000	C	U768	34	8.15	271	9					14	814	590	)							
	21.	3 0	8 S	000	5	0767	34	805	271	9					14	815	597	7							
			STD	001	0	0769	34	81	271	9	000	889	н	0009	14	817	591								
	21:	3 0	83	0010	J	0769	34	807	271	9					14	817	591								
			STO	0020	Э	0756	34	81	272	2.1	000	874	2	0018	14	813	594								
	21:	3 0	BS	002	5	0748	34	805	273	2.2					14	811	593	3							
			STD	0031	2	0732	34	84	272	27	000	1817	7	0026	14	806	588	8							
			STD	005	0	0684	34	97	274	4	000	659	9	0041	14	792	574								
	213	3 O	85	005	1	0682	34	475	274	f 64					14	792	573								
			STD	007	5	0665	35	15	276	ə 1	000	504	в	0056	14	791	563	)							
	213	3 0	BS_	0070	5	0664	35	154	276	1					14	791	563	3							
			STD	0100	2	0620	35	17	27t	s ri	000	435	9	0461	14	778	571								
	210	з с	BS.	010.	2	0517	35	171	276	9					14	777	572								
			STD	012	5	0582	35	10	277	!∠	900	399	7	0078	14	766	577	7							
	_		STD	0150	)	0549	35	15	277	6	Ú Q C	1370	2	2081	14	757	583								
	21	9 O	8S	015.	2	0547	35	147	27	16					14	750	583								
	2.1.4		STD	0200	)	0503	35	13	278	3.0	000	1336	2	0105	14	740	589	)							
	4 L 1	' U	6S	1020	3	0500	35	131	278	3.0					ો ન	745	589	)							
			ST-2	0250	0	0438	35	10	278	35	000	292	ь	0121	14	727	594	•							
			STU	0300	-	0367	35	U7	279	2	000	244	Б	0134	- 14	705	599	,							
	213	n 0	05	1 1203	>	0360	35	067	270	10					14	703	60Ú	1							
			STD	- <u>5</u> 40(		0213	35	34	280	2	000	125	1	0153	14	655	609	2							
	21	· D.	85	T_J → Q (	1	J213	35	044	280	) <u>[</u>					14	655	604	2							

REFE	ID,	SHIP	LATITUDE	LONGITUOE	DRIFT	MARS SOU	DEN ARE	STA	IGMI	TIME	YEAR	CRUISE	ORIGINATO	DR*S TION	DEPTH	DEPT OF	H OBSI	WAVE ERVATIONS	WEA- THER	CLOUD		N ST	ATION
CODE	NO.		1/10	1/10	-	10"	1.	MO	DAY	HR,1/10		NO.	NU/	ABER	BOILON	S'MPL	S DIP.	HGT PER SI	A CODE	TYPE AM	1	I N	JMBER
31	1165	EW	73225N	024370E		286	34	04	20	011	1967		115		0400	o i	4 17	2		5 8			0118
						[	WA	TER		WIND	BARC		AIR TEMP.	°C	NO.	1							01.0
							COLOR	TRAN (m)	S. DIR,	SPEED OR FORCI	METE E Imbs	R [	DRY V ULS B	VET COL	DEPTHS	OBSER	VATIONS						
						[			18	508	3 21	7 0	)52 (	38 8	11								
		MESSENC	CAST CA	RD DEPTH I	(m)	T	°C		s •/	StG	MA-T	SPECIFIC	VOLUME	₹∆ I DYN, /	so	UND	0 2 ml/l	PO 4-P	TOTAL-P	NO2-N	NO3+N	51 O4-51	

· · · · · · · · · · · · · · · · · · ·				118	200 61	1 002 0	28 8	141							
MESSENGE CAST TIME OF NO. HR 1'10	C ARD TYPE	DEPTH (m)	1 °C	s •/	SIGMA-T	SPECIFIC VOLUME ANOMALY-X107	≦ ∆ D DYN. M. X 10 ³	SOUND VELOCITY	Oʻ2 ml/l	PO4-P yg = o1/1	TOTAL=P µg = at/1	NO ₂ —N yg + ot,'l	NO3+N yg - at l	51 O ₄ -5) µg • o1 1	p∺
	STD	0000	0656	3491	2743	0006619	0000	14772	683				1		
011	085	0000	0656	34908	2743			14772	683						
011	OBS	0005	0656	34905	2742			14773	690						
	STD	0010	0657	3490	2742	0006677	0007	14774	689						
011	OBS	0010	0557	34904	2742			14774	689						
	STD	0020	0656	3441	2743	0006661	0013	14775	684						
111	OES	0025	0655	34907	2743			14776	681						
	STD	0030	0630	3496	2750	0005947	0020	14767	676						
	STD	0050	0546	3508	277:	0004059	0030	14738	662						
011	085	0050	∪546	35080	2770			14738	604						
	STD	0075	0480	3508	2778	0003339	0039	14715	661						
11	065	0076	0478	35080	2779			14715	661						
	SID	0100	0453	3508	2782	0003058	0047	14708	669						
. 11	Qês	0101	0452	35082	278∠			14708	669						
	STD	0125	C431	3507	2783	0002940	0054	14703	673						
	SID	0150	0407	3506	2785	0002789	0062	14697	677						
011	085	0151	0406	35057	2785			14697	677						
	STD	0200	0356	3505	2789	0002394	0074	14684	601						
. 1 1	OBS	T0202	0354	35046	2789			14683	691						
	STD	025Ü	0292	3504	2795	0001903	0085	14664	653						
	STD	0300	0232	3503	2799	0001449	0094	14647	614						
J11	Obs	T0302	0230	35032	2799			14646	614						
011	OBS	T0392	0133	35012	2805			14618	702						
								0 = 0	–						

REFERENCE CTRY ID. CODE NO.	SHIP CODE	LATITUI	DE 1/10	LONGITUDE	2 MAR SQU 10'	SDEN ARE	STATIC IG MOD		ME 1.770	YEAR	C CRUISE NO.	RIGINA ST N	TOR'S ATION J MBER		DEPTH TO BOTTON	MAX DEPTH OF S'MPL		WAVE ERVATION	NS SEA	WEA- THER CODE	CLOUD CODES	1		NODC STATION NUMBER	
311165	EN	7351	ON	U24000E	286	34	09/2	0 0	44 1	967	1	116	, ,		0450	04	1 17	2			5 8			0116	
						WAT	ER	W	IND	BAR	n- A	IR TEM	Р. °С		NO.		C141				- 0			0112	
						COLOR	TRANS.	OIR.	SPEED OR FORCE	ANETE	R D	RY JLB	WE1 BULB	CODE	OBS. DEPTHS	OBSER	ATIONS								
								16	506	20	5 0	51	0 3 0	8	12										
	MESSENGE TIALE O HR 1 10	CAST NO.	САР	D DEPTH UNI	т	Ċ	5 ,	·	SIGM	A - T	SPECIFIC	VOLUA	ji D	Δ0 YN, M x 10 ³	SO VEL	UND OCITY	0.2 ml/ł	PO 4-1 29 - 01		0TA L - P 2 9 - 01/1	NO2-N 9g - al/i	NO3-N 28 - 01/1	SIO4-3	ы .i	500
															1										
			SI	D 0000	L.	628	349	2	274	7	000	621.	3 (	0000	14	761	680								
	Ĵ46		083	5 0000 S	6	1528	349	15	274	• 7					14	761	680								
	<u>)</u> 46		085	\$ 0005	C	1633	344	11	274	0					14	764	693								
			ST	D 0010	6	16-0	349	1	274	7	000	0-11	. 0	0000	14	1762	680								
	146		083	5 0010	ũ	625	349	13	274	7					14	762	688								
			S	ro	Ģ	627	349	-1	274	7	000	0104	• 0	012	14	764	691								
	140		083	5 25	Ú.	1627	34 -	ц, ч	274	• 7					14	765	693								
			Ş 1	10 0030	C	594	349	1.5	275	5 <b>4</b>	000	5570	b ú	0018	14	•753	685								
			51	0050	C.	1497	350	6	27	5	000	365		0028	14	•718	663								
	45		025	5 0050		14 1 1	350		27	5					14	+718	663								
			5	0 0075		424	350	5	278	5 i .	000	369.	÷ .	10 30	14	+705	66-								
	1 (4 <b>f</b> )				<u> </u>	1452	300	115	218	5 I	0.0				14	+734	66+								
			اد میں			1421	3.0	0	278	3 •4 ,	000	200	2 (	043	14	695	614								
	4.0		00:	) calle (1 0126	-	1942U	35.	24	2.0						1.4	692	0/+								
			2	012		1354	200		210	9 ( 4 15	000	220	- L	1050	1.	1002	002								
	4.6			0150		1357	- 220 - 65	5.5	2.1-	, U , N	0.010	CEN	• 0	0.00	1.	570	042								
				, 200 , 200		ia iu	- 361	5	270		0.0.	107	-	1067	14	1010	700								
	64 P-		/ н.	<ul> <li>τ 200</li> </ul>		137	35	L .	27.		0.50	1.461		0.11	1.	- 50-	7.00								
				10 1000 10 1000	-	277	350	5	270	7	000	168		0.7+	1.	100J	706								
			-	ru 300	-	2.57	45.		270	4	000	143		/~ /0 )./. <b>4</b> 4	1.	10.20 164.9	71.								
	14 P.		024	с. т.ч. к		2 14	3.	29	261	15				, , , , , ,	14	648	71.								
				10		131	350	1	28	5	000	084		0.44	14	614	647								
	145		083	5 T04-12		124	570	38	280	5					14	618	640								

CLAY ID SHIP	LATHUDE LC	INGITI DE	MAZSDEN SQUARE	STATION THE	YE YEAR	ORIGINATO	DR'S TION HIBER	DEPTH D TO BOTTOM ST	A K. EPTH OF MP_TS DIE	WAVE ISERVATION	S THER	CLOUD CODES	1		NODC STATION NUMBER	
311105 EA	14,1 % U	13100EL .	ZHOLU AA CCUCP CCDE	TEP W FRANE DIP	100 441 3PEID MET 3FEID MET 9CH2E (mt	7 117 10- AIR TEMP 18R DRY V 16 BULI B	VET COD	ÚZDI NO. OBS. DEPTHS OF	02 34 SPECIAL SERVATIONS			0 8			0120	
			. 5	1	500 24	64 45 3	032 h	10		1						
M4519430	CASI CARD NC TRE	Этьзні н	1 8	5 1	SIG MA-T	SPECIFIC VOLUME	\$ _ D DYN _ M _ x _ 10 ³	SOUND	0 2 ml	PO == P + + + + + +	10TAL=# +g + 01/1	NO3-N 29 - 01, 1	NO3-H 48 - 01/1	уд – аг. 51 О4 – 5	I .I р <del>Н</del>	500
		-+	+	+	•	•	Ť								1	T
	STD	2000	0343	3399	2703	0010363	0000	1463	10 764	2						
287	255	, 0170	0343	32454	2733			1463	30 704	4						
- <del>6</del> 7	205	200-	0343	33475	27.7			1463	1 76-	•						
	STU		03.+5	3344	2716	0010137	JU.,	1403	3 700	,						
- *	4 S	_ ~ .	334-	30180	2705			1463	13 750	)						
	572		J 44 44 6	545.	2721	1.0124	0010	1400	10 742	<u> </u>						
н [–]	De S	. 35	0408	R KA KA LA	2729			1469	4 734	•						
	STD	2000	044+	14t .	2745	1006440	1027	7 1460	18 724	•						
	STU	1050	U373	3504	2787	0002499	0031	1465	0 701	į						
4.7	145		0375	35240	2788			1460	5 703	5						
	STU	2071	332.	35.4	279%	0002029	3042	1464	a 705	5						
	. H.C	2076	0320	35.4.	274.			1464	8 705	>						
	27.2	1 a .	1604	37.4	6745	0001712	ŪŪ4+1	1463	10 768	5						
7	285		5283	356 +7	2745			1482	6 70c	5						
	570	5.25	1201	3503	2797	5001596	0051	145:	5. 70e	>						
	⇒T Q	0.00	J_37	3563	2700	0001416	0054	1460	4 704	•						
19.7	OBS	0152	0235	35.27	27:29			1462	3 704	•						
	S*D	12 1	0191	35 2	6002	0001145	0051	1461	12 700	J						
47	ú <del>b</del> s	7 22 0 4	6186	35016	2402			1451	0 700	,						
- 47	065	TOLES	51.34	35 100	28.4			1459	3 70:	5						

REFERENCE	SHIP	LATITU	DE	LON	GITUDE LING	MAR	SDEN	STATIO IG/	N TIME WT	Y	EAR	CRUIS	ORIGIN	ATOR'S	-	DE	ертн 10	MAX. DEPTH OF	085	WAVE	S THE	CLOUE		s	NODC	
31116F		7 (	1/10		1/10 =	10"	1.	MO DA	Y HR,1/1		G ( 7	NO.	+	NUMBER		001		S'MPL*S	DIR	HIGT PER	SEA COL	TYPE AN	T		0.000	
. 51110.		/44		021	140001	400	WA	rer l	WIND	211	BARC	-	AIR TE	MP. C	VIS	N	177	SPEC	1 24 1	01 1	1	1 0.8		1	0121	
							COLOR	TRANS. C	DIR, 0	R R C E	(mbs	R	BULB	BULB	COD	DET	PTHS	OBSERV	ATIONS							
		1				1	5	18	13 5.	)2	19	8	026	021	8	0	6			r			1			_
	MESSENGR	LCAST	CAR TYP	D E	DEPTH Im1	Т	•c	s • /		1G M A	х-т	ANO	IC VOLU	ME D	Ц D YN, М Y 10 ³		SOU VELO	ND CITY	0.2 m1/1	PO 4-P	10TAL-	NO ₂ -N	NO3-N	SIO₄—Si µg•ati	pН	200
	HK 1/10			-		-										-						-				t
			S	TD .	0000	9	0094	330	8	265	3	00	1517	2 0	000	)	14	509	827							
	110	5 8	08:	S S	0000 0005	C	094	330	79	265 265	3						14	509	827 827							
	111	9	5 0 B 0	TD S	0010	C	8800 088	330	9.	265 265	4	00	1500	0 0	0019	5	14	508 508	828 828							
	111	- -	5	TD	0020	Ģ	014	337	5	271	1	00	0960	01 0	002	7	14	485	819							
	11	-	S.	5 T D	0020	-0	019	340	30	274	1	00	0677	7 0	036	5	14	401	802							
	18/	9	S' OB'	TD S	0050 0050	-0	)146 )146	343	5 i 46 i	276 276	6	00	0440	) 3 C	04	7	14	424	761							
		-	5	ŢŪ	0075	- 0	150	345	0	277	8	0.0	0319	07 0	)Ū56	5	14	429	720							
	11	-	OBS	5	0084	- (	152	3451	Jć .	211	4						14	429	708							
REFERENCE					, ë	MAR	SDEN	STATIO	N TIME				DRIGIN	ATOR'S		DE	EPTH	MAX,	_	WAVE	W E/	. CLOUD			NDDC	
CTRY ID. CODF NO.	CODE	LATITU •	DE 1-10	LON		5QU 10*	ARE	IG/	411 Y THR.171	Y Y	'E AR	CRUIS	E	STATION NUMBER		BDT	TO TTOM	QF S'MPL'S	Dia	ERVATION HGT PER	S THE SFA CDE	E CODE		S N	NOITATION UMBER	
311155	EW	7515	ON	021	2000E	285	52	ç 9 20	146		967		111	9		00	155	.00	ارز	1		0 5			0122	
							COLOP	TRANS.	WIND SPI	10	BARC	R -	AIR TE DRY	MP. C	- vis.	N D	10. 185.	SPEC OBSERV	AL							
							CODE		10 10	RCE	(mbs	<u>}</u>	BULB	BULB	+	DEF	PTHS									
	MESSENGR	~ A 5 T	CAR				0.0		20130		18	<u>.</u>		1 0 2 8 M 5 2	10	1	500	ND		102	1014		NOL	90. <b>5</b>		5
	HR 1.110	NO.	TYPE	Ĕ	DEPTH (m)			5.	· · ·	IG M/	·-1	ANO	V 417-3	0" D	YN, M X 10 ³	·.	VELO	CITY	02 ml/l	PB - 01 1	µg • o! ·	- 01	ug = ah l	ug = o)	рH	c
					0000	1	1	220						)												I
	140	£	0B9	S	0000	Ū	221	336	57	270	6	00	1007	0 (	0000		14	576 576	763							
	140	5	083	S TŬ	0005	0	222	الەدۇ 338	ь5 1 7 1	270 270	7 7	00	1001	0 0	)ü1.	-	14	578 578	764							
	140	5	083	S TO	0010	Ū	221	336	55 i	270	7	0.0		6			14	578	759							
	140	£	OB	S	0025	C	221	338	75	270	8	00	0.240	50 0	1020	1	14	581	757							
			S'	TD TD	0030 0050	0	221 219	358 338'	9	270 276	8	-00 -00	0485 9441	4 0	)030 )050	2	$\frac{14}{14}$	581 584	750 754							
	14	5	053	5	0050	Ċ	219	338	71 .	270	3						14	584	754							
REFERENCE	1					MAR		STATIO	u TIME	1			DRIGIN	NTOR'S				MAY.		4 1/F		CLOUR				
CTEY ID. CODE ND.	CODE	LATITU	D£	LONG		SQU	ARE		AT)	Y	E A P	CPUIS ND.	e 1			801	TO ITOM	DEPTH OF STAPLIS	OBSE	ER' ATION	S THE	CODES	-	S N	ATION UNDER	
311165	L. M	7543	54	0.1	11505	296	51	09 20	174	1	967		12	0		ũũ	137	Ch	26	2		5 8			3123	
							WA1	ER	WIND SPE	ED	BARO		AIR TE	W.P. °C	VIS	N	10.	SPEC	IAL			- 0			UICJ.	
							CODE	(m) D	FOI	RCE	(mbs)		BULB	BULB	000	DEP	PTHS	OBZERA	a nons							
						-			27 51	Ú	17	3	041	024	8		35				1	1				T,
	TIME A	LCAS" NO.	C A RE TYPE		DEPTH (m)	T	°C	5.4	- s	IGMA	-1	ANOP	ALY-XI	ME D	YN, M Y 10 ³	•	VELO	CITY	Opimbli	FO 4-P	101AL- 59 * 01	P NO2=N 20 - 01	NO3-N 49 - 01	90 - 01 I 99 - 01 I	рЧ	si c
		1							-																	Ť
	174	_	51 089	r D	0000	0	275	34.1	+ 2 3n 2	271	6	00	0914	7 C	UÚC	)	14	60z 60.	754 754							
	17	5	Obs		0005	č	275	340.	26	271	5						146	503	764							
	175	-	085	5	0010	U U	274	340	: 2 76 2	$\frac{2}{2}$	0 0 4	00	0919	U C	000	ł	14(	503	759 759							
	17:	5	51 059	TD S	0020 0020	0	273	340.	3 2 31 -	271	6	00	0918	0 C	018	3	146	605 605	759 755							
	1.77		500	τb	0010	Ö	275	340.		71	6	00	0917	ъũ	028	s	140	000	760							
	1.7.8	1	11:55	2	0.0 4 5		215	541	n 1 - 2	111	6						144	5 I I 7	160							

REFERENCE	SHIP	LATITUO	E	LONGITUDE	DRIFT 4 DC Te	VARS SQU/	DEN ARE	STA	TION IGMI	TIME }	YEAR	CRUISE	ORIGINAT	DR'S	D	EPTH TO	MAX, DEPTH OF	0	W A ISERV	VE A TION	s	WEA-	CLC	DUD			NODC	
CODI NO.			1/10	1/10	-	10*	1.	MO	DAY	HR,1/10		NO.	NU	ABER			S'MPL'S	DIR	HGI	PER	SEA		1165	AMT	1	- 1	NUMBER	1
31116	SEW	76096	5N	020340E	1 2	86	60	09	20	203	1967		121		101	190	02	2+	2	1				0			0124	
						ſ	WA	TER	T	WIND	BAD		AIR TEMP	۲		NO.			ו'ר					0			0124	·
							COLDR	TRANS imi	DIR	SPEED OR FORCE	AA ET	ER IJ E	DRY V		DIDE	DBS. Epths	OBSERV	A TION S										
									20	517	15	3 (	028	222 E	1 0	00										_		
	MESSENGR TIME C H.R. 1/10	CAST NO.	CARC	DEPTH	lm I	т	°C	5	•/	SIG	MA-1	SPECIFI	C VOLUME	₹ ∆ DYN. X 10	D M. 3	SOU VELO	IND	Og mi	1 <b>1</b>	°04≁P 9 = 01.1	10	17A L — P g = ot/l	NO2-	-N 08/F	NO3-N 49 - at/1	SIO <b>∦⊶</b> ⊮g•al	Si pH	
														1														Τ
	1	. ,	ST	D 000	0	ũ	290	33	79	26	95	00	11123	່ວບເ	00	14	6U5	77	. '		,							
	201	4	085	000	Ū.	ō	290	33	79	1 2e	95					14	605	77										
	203	3	085	000	5	Ū.	289	3 4	74.	) 20	96					14	606	775	5									
			ST	0 001	0	С	291	33	81	26	46	00	11016	00	1	14	608	77.	5									
	200	4	085	001	4	U	294	33	85.	1 25	98					14	613	770	)									
			ST	002	U	Ū	302	53	на	27	01	00.	10564	002	22	14	615	76	7									
			ST	· ) ) ) )	0	0	330	34	25	27	28	000	00026	003	31	14	6 34	73	7									
	2 1	3	065	004	44	Э	344	34	54	1 21	54					14	647	708										
			ST	D 005	U	Э	337	54	£4	27	158	000	05167	004	4	14	645	70	5									
	2.15	4	08s	006	н	Э	325	44	75	3 27	71					14	636	69	5									
			ST	007	5	0	2 н.	<u>,5</u> 44	74	27	16	000	13561	005	5	14	628	681	,									
	2 3	3	055	004	5	C	238	34	662	27	36					14	613	678	5									
			ST	0 010	0	0	238	5.4	н ?	21	86	00.	2601	00 -	6	141	614	678	5									
			ST	D 012	£,	Ū	2.58	5.44	10	27	ਤੇ ਦ	00.	5. 393	200	9	140	619	67	7									
	25	ş.	055	014	e.	Ū	235	n 4a	+1	4 27	44					14	621	671	7									
			ST	L 015	U	0	2.15	34	91	27	60	000	2274	001	5	140	622	675	,									
	2 3		085	T017	1	U	2.5	3.44	414	27	90					14	623	600	/									

REFERENC	E SHIP		LONGITUDE	NO.74	AL ARSDEN SQUARE	STATION 1 (GMT)	TIME YEAR	ORIGINATO	NR*S	DEPTH TO BOTTOM	DEPTH OF	085	WAVE ERVATION	IS THER CODI	CLOUD			NODC STATION NUMBER	
3111	65 E.N	76277%	0200an	*	280 01		227 196	O- AIR TEAP	2 vis	01130 NO.	D Z SPE	CIAL	2		5 2	1	1	0125	
					COLC	TEANS DIR	OR (mb	EN DRY V	ULE COOL	DEPTHS	OBSERV	A TION S							
						32	310 10	.3 027 3	18 H	09									
	MESSENUA TIME HR 1-30	LCAST CA	PE DEPT	H (m)	1 12	s •	SIG M A =1	SPECIFIC VOLUME ANOWALY-EID*	∑ ∴ 0 DYN. M x 10 ³	SOU VELO	ND	0 2 ml l	10P	107AL-P	NO2~N 40 - 61	NO3-N 29 - al 1	SiOa≁S vg • al	јі 1 рн	
		+- +			+	+	+		•				+					-	1
	1		π	a to	0127	3447	2674	013132	່ວບວະ	14	528	8.11				1			
	22	н із	15 00	AQ C	5.27	3336 -	2674			14	520	80.							
	22	9 D:	is ju	1.0	0120	1110	2574			1.4	520	800							
			ST2 - 04		0125	+ 3 + 7	2014	6014120	0013	5 14	564	れじつ							
	221	9	15 I.	1. ~	-125	30-60	2614			14	564	80>							
			Te la	66	01.74	4.16.4	27.2	0010450	2025	14	517	813							
	22	8 da	is i.	. ⁶ 1	しじちら	11037	271e			<u>k</u> 44	506	817							
			STU .	λų.	0053	544 J	2/31	0007745	0014	e 14	504	ຮູບວ							
			ST. Ox	(*) U	ÚL H	1458	2777	11113392	0045	5 14	514	753							
	2.2	8 Dt	15 UU	υU	ن ر ده .	34 ⁵ 83	2771			<u>*</u> 4	514	753							
	22	5 Ot	15 OU	174	0255	344 ⁽ 2 ] 7	2788			14	518	660							
			510 De	7.41	0256	* 4 # c	6700	35.2358	2452	2 14	618	688							
	22	8 Or	s uu	1914	UZOL	34468	2742			14	h20	684							
			ata ca	υU	0252	5+4 <i>F</i> 7	27+2	0004171	UV 58	5 441	640	006							
		-	10	• ?	0272	344 13	279.	0012145	10+3	5 14	625	583							
	2.21	8 5:	is 21	4 25	0204	34432	2793			14	БŮ7	684							
			str of	200	0147	514 83	2724	000-04.	0008	5 14	5.15	684							
	2.21	8 25	is to	77	0112	34882	2796			14	67C	679							

REFERENCE	E SHIP	LATI		LONGITUDE	A SO	RSDEN			ME	YEAR	C PUISE NO.	DRIGINA ST.	TION MBER		DEPTH TO BOTTON	DEPTH OF		WAVE ERVATION	WEA THER CODE	CLOUD		S	NODC TATION SUMBER	
31116	55 EW	761	00N	017000E	28	7 67	0 9 2 TER	1 0	J37 ]	1967 BARG	)-	123 IR TEM	. °c	- vis	0293	O 3	CIAL	2		5 5			0126	
						COLOR	TRANS, iml	DIR.	OR FORCE	(mbs	R C	ULB	WET BULB	COOL	DEPTHS	OBSERV	ATIONS							
	MESSEN TIMI HR 1/	GR CAST	CAR TYP	D DEPTH	m)	1 ℃	s	31 4.	S15 SIGM	14 A-T	5 0 SPECIFIC ANOM	22 VOLUM	016	В Дол. До с 10 ³	1 Ú SO VEL	UND OCITY	0 ; ml/1	PO4-P µg - o1/l	TOTAL=P µg = ot/l	NO2-N µg = at/1	NO3-N #9 - ot/1	51 O ₄ 51 µg - at/1	рH	S
		37	S	TD 000	0	0133	332	1	260	51	001	4348	0	000	14	528	800							
		37	08	s 000	5	0132		14	260	51					14	5.20	800							
	0	37	08	s 000	Q.	0130	342	20	267	52					14	529	804							
		5,	S	TD 001	0	0160	303	iñ.	260	56	0.01	3670	0	Ŭ14	14	543	796							
			ŝ	TD 002	Ū	0397	340	ē.	27	04	001	0303	ŏ	026	14	658	750							
	0	37	08	s 002	3	0446	342	0.6	27	13					14	681	738							
			5	FD 003	U	0487	344	9	27	31	000	7786	U	035	14	703	715							
	J	37	08	S 004	6	0490	348	88	276	56					14	712	691							
			S	TD 005	.)	0439	346	7	270	56	000	4444	0	047	14	691	701							
	Ĵ	37	08	S 006	9	0270	348	04	27	78					14	622	729							
			S	TD 007	5	0259	348	1	27	79	000	3214	0	057	14	618	728							
	J	57	08.	5 009 70 010	é .	0230	346	12	270	54	0.0.0		~		14	606	120							
			5	FD 010	U E	0211	345	1	211	34	000	2805	0	065	14	1001 500	720							
	0	37	08	10 012 5 013	D R	0145	340	25	270	57 3 J	000	2465	0	071	. 14	589	710							
	0	51	50.	3 019 70 015	0 0	0100	345	6	271	9 O	000	2350	0		14	200	700							
	0	37	- 08	s 1019	3	0216	340	27	270	57 52	000	2370	0	011	14	605								
	~	- ,	Š	TÐ 020	0	0197	34-	1	27	42	000	2013	a	0.8.H	14	ютэ нь13	691							
			S	TD 025	Ū.	0019	348		280	10	000	1158	ŏ	196	14	541	690							
	0	37	0B	S T026	2 -	0050	348	50	280	3	200			- 70	14	511	690							

REFER	RENCE						MARSDEN	4	STAT	ION T	IME .			ORIGIN	ATOR"		OEPTH	MA	X.	WAVE		WEA-	CLOUD			NODC
C12Y CODE	10. NO.	CODE	LATITU	DE 1/10	LONGITUDE '1/10		SQUARE	· +,	100	GMT	1/10	YEAR	CRUISE NO.		STATIO NUMBE	N R	TO BOTTO	M	08	SERVATIC	NS SEA	CODE	CODES	-	S	TATION LUMBEP
31	1165	εw	7542	5 N	017470F	2	87 5	7	19	21	068	1967	,	12	4		019	4 0	2 31	2			6 5			0137
								WAT	R	1	NIND	BAR	0.	AIR TE	MP. C		NO.			. 2 .			. 0 )			0127
							coi co	LOR DE	trans. mi	OIR.	SPEED OR FORC	M ET	ER s1 E	DRY BULB	W ET BULE	COD	DEPTH	5 OB2EF	VATION S							
							Ŭ	5	09	21	515	14	•5 U	)40	02	8 8	09									
		MESSENGR TIME HR 1/10	CAST NO.	C ARD TYPE	DEPTH (	ת)	t °C		5	•/	SIG	MA-I	SPECIFI	C VOLU	1.0.7	₹ ∆ 0 DYN. N X 10 ³	\. \	DUND	0 2 m 1/1	PO 4-	.р т 1/1	OTAL—₽ µg - 01/1	NO2-N ¥g = o1/1	NØ3≁N µg∙ at/l	SID4→Si 1/10 + وµ	pН
		1		51	ooo o	ວ່	039	2	34	07	27	708	000	0991	4	0000	่า	4653	750	1	,					
		00	8	OBS	000	С	039	2	34	073	27	708					1	4653	750							
		76	8	065	000	5	039	2	34	074	27	108					1	4654	752							
				51	001	C	039	1	34	υ7	27	708	000	0991	3	0010	) 1	4654	751							
		0.6	8	065	001	Э	039	1	34	073	27	708					1	4654	751							
				ST	0 002	٦	020	11	34	0.8	27	709	0.00	1986	.1	0.0.20	1	4656	750							

	210	0020	0 7 7 1	2400	2102	0009001	0020	140,00	150
068	OBS	0025	0391	34085	2709			14657	750
	STD	0030	0433	3434	2725	0008341	0029	14679	720
	STŪ	0050	0536	3502	2767	0004406	0042	14733	67∠
0.68	OBS	0050	0536	35016	2767			14733	672
	510	0075	0517	3510	2775	0003643	0052	14731	674
168	OBS	0075	Ú517	35095	2775			14731	674
	STD	0100	0468	3508	2780	0003205	0460	14715	678
068	OBS	0100	0468	35084	278)			14715	678
	STD	0125	0358	3502	2787	0002572	0067	14672	683
068	OBS	0149	0302	34989	2790			14651	685
	STD	0150	0301	3499	2790	0002287	0074	14651	685
068	OBS	T0173	0296	34979	2789			14653	683

CTRY ID. CODE NO.	SHIP CODE	LATITU	DE 1/10	LONGITUDE	NDC18 NDC18 NDC18 NDC18	NSDEN UARE	STAT	ION T GMTI DAY [H	IME IR, 1/10	YEAR	ORI CRUISE NO.	GINAT STA NU	DR'S TION MBER	-	DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL	OB S DIR	WAVE SERVATIONS [HGT PER] S	WEA THER CODE	CLOUD CODES	T	SN	NODC TATION IUMBER	
311165	ĒW	7514	5N	0183105	28	7 58	09	21	101	1967		125			0046	00	31	2		67			0128	
						WA	TER	T v	VIND	8 4 80	AIR	TEMP.	°C		NO.					,			0120	
						COLOR	TRANS. Im:	DIR.	SPEED OR FORCE	METE (mb1	ER ORY BUL	в	VET CO ULB	IS IS	OBS, DEPTHS	OBSER/	ATIONS							
						06	15	30	\$15	15	8 03	4	024 b	5	05									
	MESSENGE TIME H.R. 1/10	CAST NO.	C A R TYP	р совртн	(m)	τ°C	5	•⁄	SIGN	4.AT	SPECIFIC V ANOMALI	OLUME 	₹ △ 0 YN. x 10	0 M 3	SOL VELC	IND DCITY	0 ⊋ ml/	PO4-P yg - ot/l	TOTAL-P µg + of/i	NO2+N ug - ot/l	NO3~N µg = ot/1	SIO ₄ —Si µg - at/l	рН	5000
																								T
			S	TD 000	00	0225	33	78	27	00	0010	712	000	)U	14	577	779							
	10	1	08	5 000	0	0225	33	777	27	00					14	577	779							
	10	1	08	5 000	)5	0225	33	781	27	00					14	578	780							
			Ş	TO 001	.0	0223	- 33	78	27	60	0010	708	001	11	14	578	779							
	10	1	OB:	5 001	0	0223	33	776	27	00					14	578	779							
			S	rD 002	20	0223	33	79	27	01	0010	605	002	21	14	579	780							
	10	1	OB.	5 002	5	0223	33	791	27	01					14	580	780							
			S	FD 003	0	0223	33	80	27	θZ	0010	535	003	32	14	581	781							
	1.1	1	ОB	S 004	•5	0223	33	810	27	0 z					14	584	780							

ED. CODE	LATITU	DE 1/10	LONGITUC		SQU 10°	SDEN ARE		ON TI GM11	ME y R.1/10	EAR	CPUISE NO.	STA NU	DR'S NON MBER	DEPTH TO BOTTON	MAX DEPTH OF S'MPL	OBS S DIR	WAVE ERVATIONS	WEA- THER CODE	CLOUO COOES	T	S	NODC TATION IUNBER	
1165 EW	7447	ON	01914	οε	287	49 WAT	U92 ER	21	142 1 IND SHEED	967 BARC	R 0	126 IR TEMP.	*C VIS	0100 NO. OBS.			1.1	ł	5 8			0129	
						CODE	(6)	27	FORCE	(mbs	1 BL	7.8 B	018	OEPTHS									
ARESSEN TIARE	CAST	С АР Тур	O OEP	TH (m)	T	°C	s	•	SIGMA	-1	SPECIFIC	VOLUME	₹ Δ D OYN. M x 10 ³	SO VEL	UND OCITY	02 ml/l	PO4-P 22 - 01/1	101AL-P	NO2-N 99 - 01	NO3=N 99 - 51/1	SI O4+Si µg + bH/I	p14	SCC
	Į	5	0 CT	000	, c	152	330	5.3	269		001	1302	0000	) 14	•543	801			4				
1	42	08	5 0	000	Û	152	330	531	269	3				14	543	801							
1	42	0 8	s o	005	Ŭ	153	3 31	5 Z 7	200	3				14	544	804							
		5	15 0	010	C	151	331	53	209	_	001	1583	0011	. 14	544	801							
1	42	0.91	5 0	010	0	151	331	135	269	3				14	544	801							
,	( )		1.U 0	020	- L	148	331	5	269	5	001	1135	0023	3 14	544	800							
1	42	08	5 0	022	0	141	- 336	564	2.59		0.53		0.0.0.5	14	542	799							
				050	0	0.61	- <u>-</u>	12	270	2	001	0424	0033	5 14 	532	746							
1	4.2	- 0Ē	י <b>כו</b> ג ג	650		0.61	220	20 47 H	271	ч С	000	0012	0053	14	111	780							
1		50.	υ το ο	0.75		0.58	34.	1	273	7	000	1700	0473	14	151H 151H	775							
1	42	OB:	5 0	0.85	Ĵ	057	34.	0.940	273	5	0.00		001,	14	520	771							
														_	_				_				

 
 OLEFTH TO DOT
 MAL OETH OBSERVATIONS
 WAVE WEA-THER
 COUL CODES

 10 TOM
 SIMPL'S
 DR. HIGT HES SLA
 CODE
 THER

 10 TOM
 SIMPL'S
 DR. HIGT HES SLA
 CODE
 THER
 CODE

 10 TOM
 SIMPL'S
 DR. HIGT HES SLA
 CODE
 THER
 CODE

 10 TOM
 SPECIAL
 5 M
 5 M
 5 M
 5 M

 EFFERENCE CUT
 SHIP CODE
 LATITUDE 1, 10
 LONGITUDE 1, 10
 T MARSOEN SQUARE
 STATION TIME (GMT)
 VEAR CAUISE
 ORIGINATOR'S STATION NUMBER

 311164
 LW
 74175N
 2195H0E
 297
 44
 0421
 181
 1977
 127

 AATER
 WIND
 BARD AIR TEMP TO
 297
 44
 0421
 181
 1977
 127
 NODC STATION NUMBER 0130

	+		BARO-			LIG NO.	SPECIAL	
COLOR TRANS	DIR.	01	METER	DRY	W ET	COOL OBS.	OBSERVATIONS	
CODE		I OICI	Imbat	BUCE	NOUN	- Contraction		

				25	S11 14	• A [ 2 H ] 0	22 4	10							
HESSENGE CAST	C A P D TYPE	DEPTH imi	т "С	s •4.	SIGMA-T	SPECIFIC VOLUME ANE MALT-110*	∑ 2. D DYN 44. K 10 ³	SOUND PELOCIER	02 mi/i	PO4~P	101A1 = F #2+011	NO2+N #g - ob	NO3=N 20 = 01/1	51 Oa – Si 29 - 61/1	₽Н
· · · ·				r .	,	1		1							
	STD	500C	016	3354	264-	0011642	0460	14540	797						
181	OHS	06.00	0:5-	+ 35 9 9	254.			14546	797						
181	195	0005	U160	33584	2009			14540	HÚ4						
	STD	00.0	0104	2354	1049	0011293	0011	14550	715						
181	C B S	JU.U	J164	101142	2043			14550	793						
	STD	. 0. 0	0159	1300	2497	0016481	10023	14550	790						
181	260	20.4	0151	33721	2044			14547	767						
	570	0030	0124	3375	27:4	.216253	2033	14539	768						
	5 T D	. 50	2240	3392	2723	3 0465	0052	145.8	783						
151	L th S	0.50	0 Ç 4 B	3146.	272:			14508	783						
	STD	ت "	- 0 . 3 4	3417	2743	0006148	0076	14470	176						
181	0.85	2685	-90689	14276	2757			14465	767						

REFERENCE THE ID. 201 N.2	CODE		LONGIUDE 1 15		ISDEN JARE	STATION TO GAT.	NYE YE R. TIC	A P	ORIGIN CRU-SE NO	STATIO NUMB	S N R	DEPTH TO 6 TTOM	DEPTH CF S'NFL'	96 1 2 1	WAVE SERVATIONS	WEA- THEP CODE	CLOUD CODES		5	NODC TATION NUMBER				
31116	ca 73	61 N	UZL ALUS	2.96		21412214 168	22,14 VND VHD 08 TETOL	6 7 BARO METER	A R TE	( 5 MF 5 W E1 B G G		0450 NO, 015 0EPTHS	044 598 08589 y	51 CIAL ATIONS	211		58			0131				
						24	510		050 L	ΰz	5 6	12												
	MESSINGA CAS TIME OF NO MR 1 10	ST CAR D. TYP	D DEPTH I		21	s •4.	SIG M A -	-T	SPECIFIC VO	51 1	\$ ∆ 0 D'N ¥ 1 10 ³	SOU VELO	ND CITE	02 m	PO4+P	FOTA P + g + o'	NO2-H ug + of 1	NO3+N 29 - 01	51 O 4 - 5 99 - 61	PH I				
																				İ				
			TD : 200	C (	535	3450	2733		150775	D 4.	0000	<b>.</b> 4	717	750										
	122 C	D8:	s op	. (	0535	34561	2731					± 4	719	75Ú										
	222	0 E.	5 000	5	535	34-62	2731					14	120	720										
		Ş	TD JC1	Q A	0534	1455	2731		006778	8.3	000	3 14	720	720										
	222	고 문	S 001	0 1	4 و شل	34557	2731					14	720	720										
		S	tŷ J⊍∠	) .	102-	3471	2738		00070	7.7	û.) 15	5 14	759	7.54										
	222	Úđ.	S ÚVŽ	њ I	0634	34802	L741					14	767	69.										
		S	70 003	φ	0581	3493	6754	•	0000000	59	0022	2 <b>1</b> 4	141	687										
	222	0 B	S0.4	4	3463	35666	277	4				14	704	666										
		2	10	-	J 46 Z	3527	2779	1	00C42.	5 (	2030	, 14	794	668										
	222	08	S 357	2 1	0420	353	2783					14	692	674										
		5	10 007	، ڊ	0421	3517	2784	•	000250	)4	0038	3 140	691	675										
	222	03	S UUG	5	1971	35053	2744	-				14	673	691										
		S	TD 110	0	0364	3506	278.	•	00064	<u>,</u> 4	0044	+ 14	613	694										
		S	TD 012	÷	Č34∠	ゴラニマ	274.			5.4	ΰU÷.	2 14	502	720										
	444	ੇ ਤੋ	š _14	7	0341	ほきしらり	2793					14	50Û	739										
		3	705	Ĵ	0914	35,5	2793	3	00014	24	0055	5 14	56Û	737										
	i i i	0.6	S 1019	÷.	Ç, 05	35044	274	>				14	N 3 3	710										
		S	±⊅ 120	Ũ.	02a3	3564	279		00017	76	0005	5 14	552	717										
		5	TD 025	U (	0252	3504	2776	ł	000153	3.3	0013	3 14	647	721										
	222	ОB	S 1029	9 (	0217	35,134	2000					14	640	726										
		S	560 CT	U	0216	35.24	28¢1		000124	51	3080	141	64Ŭ	724										
	222	0 8	S TOPP	9	0130	35017	2804	-				14	518	712										
		S	τ)Cτ	U I	0129	35.2	28:4	>	000076	53	0090	14	610	712										
	222	05	S T045	J	VÜBL	34998	250					14	6.4	710										
REFERENCE CTBY ID. CODE NO. 31110	SHIP CODE	LATITUDE 1/10 73278N	LONGIT	1/10 1/10	10"	DEN ARE 1" 31 WAT COLOR CODE	STATIO IG MD DA 0.9 2 ER TRANS. 1	N TIME MT) Y HR.1 2 0 2 WIN DIR F	E Y 20 1 10 5FEED 0R 50FCE	GAR 967 BARO METEI (mbs	CRUISE NO. R C H BL	I 2 9 IR TEM	TOR'S ATION JMSEP P. *C WET BULB	VIS. CODE	DEPTH TO BOTTOM 0.4.7.1 NO. OBS. DEPTHS	MAX. DEPTH OF S'MPL" OF S'MPL" SPE	OBSI DIR 2.7 CIAL ATIONS	WAVE ERVATION	THE COL	R CLOUD R CODES TYPE AM 5 8	τ	S	NDDC IATION UMBEP	
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	MESSENGP TIME 0 HR 1/10	CAST CA NO. TY	RD (	DEPTH (m)	r	°c	5 •		SIGMA	A - T	SPECIFIC	VOLUM ALY-X10	1 N	∆ D YN, M X 10 ³	SOL	IND CITY	0 2 m1/l	PO4=P 29 - ot/l	TOTAL- pg = ol/	ν ν ν ν ο ο Ιν ο ν ο	NO3-N µg = at/1	SED.4—S) 99 = 01/1	рН	500
	020	) OE	STD SS SS STD	0000 0000 0005 0010	000000000000000000000000000000000000000	554 554 553 554	344 344 344 344	8 80 83 9	272 272 272 272 272	2	000	8575	 7 0 9 0	0009	14 14 14 14	725 725 726 727	744 744 745 750							
	020	0 06 0 06	BS BTD BS BTD	0010 0020 0024 0030	0 0 0	554 565 570 571	344 345 345 347	90 1 36 0	272 272 272 273	3 3 5 7	000 000	8518 7171	5 0 . 0	017	14 14 14	727 734 737 740	750 744 740 7∠1							
	020		STD STD STD TD	0049 0050 0074 0075	000000	575 574 542 540	350 350 350 351	53 6 97 0 84	276 276 277 277 277	5237	000 000	4541 3895	. 0 0	037	14 14 14 14	750 749 741 740 725	684 684 689 689							
	020	0 08	STD STD SS STD	0100 0125 0147 0150	000000000000000000000000000000000000000	496 458 422 415	350 350 350 350	сч н 8 67 6	277 278 278 278	6 1 4	000	3548 3156 28 <b>7</b> 3		056	14 14 14 14	726 715 703 700	696 696 703 708 709							
	020		STD STD STD SS 1	0199 0200 0250 0250	00000	325 324 279 240	350 350 350 350	25 3 3 29	279 279 279 279	0	000	2270 1873		085	14 14 14 14	670 670 659 649	721 721 730 738							
	020		510 35 1 510	0300 10397 0400	00000	238 159 156	350 350 350	3 17 2	279 280 280	8	000 000	1524 0983		104	14 14 14	649 631 630	738 735 735							
	0 6 6	, Q1	1 2	10400	0	0 7 4	550		200						14	014	134							

CTRY I	ID. CODE LATITUDI		LATITUDE	LONGITUDE	URIET 4DCTB	MARS SQU	DEN ARE	ST/	GM1	TIME	YEAR	CRUISE	ORIGINATOR'S STATION	DEPTH TO	MAX. DEPTH OF	OBSE	NAVE RVATIONS	W EA TH ER	CLOU	ES	NODC
CODE	0.		1/10	* 1.10		10*	1*	MO	DAY	HR.1/10		NO.	NUMBER	BOLIOW	5"MPL"S	DIR, 1	GT PER S	EA CODE	TYPE A	A1 T	NUMBER
3 1 1 1	65	Εw	72550N	021560E		280	21	09	22	062	1967		130	0430	_04	26	2		6	8	0133
						[	COLOF	TER TRAN	IS. DIR	WIND SPEEL OR EOR	BARG METE	D- R I) E	AIR TEMP. "C ORY WET COL BULB BULB	NO. 085. DEPTHS	SPEC OBSERV	TIONS					0100

				1	TOPOL											
			06	14 27	S03 1	00 065 0	52 8	11								
MESSENGP CAST TIME OF NO. HR 1/10	CARD TYPE	OEPTH Im)	T °C	s •4.	SIGMA-T	SPECIFIC VOLUME ANOMALY-1107	₹ △ D DYN. M. x 10 ³	SOUND VELOCITY	D2 m1/1	PO4-P ug-01/1	TOTA L=P µg + at/!	NO₂−N µg = at/i	NO3-N vg + at/1	SLO4Si NG - GY	ρH	500
							1									
	STD	0000	0743	3475	2718	0008931	0000	14804	706	1						
062	OBS	0000	0743	34752	2718			14804	706							
0.6.2	OBS	0005	0735	34742	2718			14803	714							
	STD	0010	0739	3474	2718	0008975	0009	14804	714							
: 62	OBS	0010	0739	34741	2710			14804	712							
	STD	0020	0736	3474	2713	0008992	0Ū18	14805	712							
62	Ods	0025	0735	34733	2718			14805	710							
	STD	0030	0698	3479	2728	0008092	0026	14792	702							
	STD	0050	060 8	3497	2754	0005628	0040	14702	680							
062	05s	0051	0606	34983	2755			14761	679							
	STD	0075	0630	3517	2767	0004448	0053	14777	674							
062	OBS	0076	0631	35173	2767			14778	674							
	STD	0100	0584	3514	2770	0004135	0064	14763	670							
	085	0102	0580	35138	2771			14761	678							
	STD	0125	0546	3513	2774	0003785	0073	14751	686							
	STD	0150	0507	3512	2778	0003436	0082	14739	694							
062	OBS	0152	0504	35117	2778			14738	695							
	STD	0200	0426	3507	2784	0002944	0098	14713	709							
Ú62	OBS	T0203	0421	35070	2784			14712	710							
	STD	0250	0339	3505	2791	0002270	0111	14685	726							
	STD	0300	0264	3504	2797	0001674	0121	14661	736							
062	OBS	Т0306	0256	35038	2798			14658	737							
	STD	0400	0150	3502	2805	0000905	0134	14627	735							
262	085	10427	0127	35011	2806			14621	730							

REFERENCE CTUY ID. CODE ND.	SHIP CODE	LATITUDE	(10			SDEN	STAT	ON TH	ME	YEAR		ST/	OR'S		DEPTH TO BOTTOM	MAX. OEPTH OF	OB	WAVE SERVATIONS		VEA- HER ODE	CLOUD			NOOC STATION NUMBER	
22224	<u>+</u> +	7227	7.10		10		MOL	AT HI			1.0.			-		SMPL		HGT PER S	1 A		TYPE AM	1	-+		
1 3 11 10:		1221	NI	022320E1	∠86	VA WA	TER	2 2 1 W	UL I IND	967		131 UR TEMP	. °C	- <b>-</b> ¹	0333	1_03	1. 29	121 1			1 3 8	1		0134	
						COLOR	TRANS. Imi	OIR,	SPEID OF FORCE	METE (mbs	) B	DRY ULB	WET BULB	CODI	OBS. DEPTHS	SPE OBSERV	CIAL								
						06	16	27	3	09	8 0	73	061	7	10										
	MESSENGA RIME H.R. 1/10	CAST NO.	CARD	DEPTH In	n) 1	ۍ ا	2	•4.	SIGM	A - T	SPECIFIC	ALT-RIO?	10	A D N. M X 10 ³	SOU		0.2 ml/l	PO4-P	101A #8*	L — P at/l	NO2-N 29 - 01/1	NO3-N 99 - al/l	SiO4-S µg + ab	51 /3 рН	5000
													1												T
			57	D 0000	0 0	821	34	79	21	10	000	9715	(	0000	14	หรร่	690								
	10	1	085	0000	) (	1580	34	794	27	0					14	835	690								
	10	1	085	000	5 (	) <del>8</del> 2 J	34	791	27	Э					14	835	643								
			ŞT	0 0010 C	) (	918	34	79	27	LC	0.00	9698	(	)U10	14	835	693								
	10	1	085	0010	) (	0818	34	793	27	10					14	835	693								
			ST	0.0050	) (	0817	34	79	27	11	000	9701		019	14	836	703								
	1	1	053	0025	5 (	0814	24	793	27	11					14	836	704								
			ST	D 0030	) (	0813	34	31	27:	13	0.00	9536	(	10.2.4	14	837	697								
			ST	0 0050	) (	0775	34	54	27.	25	000	H428		047	14	820	677								
	1	1	OBS	1050	) ;	0775	34	901	273	2.5					14	826	677								
			ST	0 007-		)547	351	3.4	274	53	00	5724	0	0.55	14	782	674								
	1.1	1	08 <u>5</u>	D0-74	n g	647	75.	158	271	3					14	782	674								
			ST	D 0104		0617	35	2	279	9	000	5194	(	078	14	775	674								
	1	1	045	0101	1 C	0617	35	53	275	514					14	775	674								
			ST	D 0125	> (	556	35	78	276	9	000	4278	Ç	0000	14	755	677								
			ST	D 0150	) (	0510	351	10	27	16	000	1680	0	10¢	14	740	682								
	1	•	085	1150	) (	51	35.	- 14 2	27	15					14	740	682								
			ST	0 0200	) (	465	351	. *	278	41	000	3229	Ć	0117	14	730	646								
	10	1	JES	10204	4	0.461	350	142	278	÷.					1++	769	697								
			ST	ມ ປະຈະ		0413	151	8	278	6	000	2005	6	1735	14	716	700								
			51	D , F (	, C	3-5	351	1.47	279	30	000	2300	0	)145	14	100	703								
	10	1	085	T0310	) (	13493	35	51	27:	9 <u>1</u>					14	696	704								

EFERENCE ID. DF NO.	SHIP CODE	LATITUI	DE 10		VARSDEN SQUARE		44E YEAR 9 1. 10	ORGINATI	OF'S TICIN NIBER	DEPTH TO BOTTOM	DEPTH OF S'MPL'S	OBSER	AVE VATIONS	WEA- THER CODE	CLOUD CODES	1	3	NODC TATION NUMBER	
311165	EN	7]6,	en le	2011 5	COLOR COLOR CODE	TRANS DIR	SPEED MET	0- AIR TEMP ER ORY 4 1 BULD B	NIL VIL COD	NO, OBS. DEPTHS	SPECIA DØSERVATI	25 1 ions		1	9 8			0135	
		, ,				24	3 7 6	14 . 44	2 4 2 7	1+1									
	MESSENDA TIME : [HR 1 10	NO.	C.A.9.D. **PE	DEFTH (m)	t to	s •	S G M A =T	5PEC+F C = a C ++ M € #16 O M # + T = 810°	₹ ∆ D D'N, 9 1 10 ³	SOUN NELOC	ND 0;		90 <b>4-9</b> 24-07-1	101A5=P 221671	NO2=N ug = atri	N 03-N 28 - 01	SLO∎=S ₽8 + 8L	рH	
					•		•			-								1	
			STD		5 4 4 5	3457	254.	1112474	20	144	ing in	. 9.4							
	14	3	OBS	3.00	5496	34572	2641			148	(c.) +	2.4							
	14	3	OBS	1000	UH47	34578	2××.			1 -+ H	1-1 -	R 45							
			STP	< <b>↓</b> U	Uhłi	1451	2882	0011351	0012	140	101 c	683							
	14	3	245	0.10	64.44	うねうとう	1101			14 1	ent e	23							
			: * °	2	را به ام ر	241.2	25.95	Sec. 79	J. 4	5 <u>l</u> uk	(1)4 ÷	# ¥							
	] +	3	025	m	JH47	34143	2* ===			14 A	14 m - 6	9							
			⇒T.	÷	<u>Сн</u> р7	340-	2 D M +	1.11.66	103	7	1.5 6	28 <b>*</b> -							
			×Τ.	- )	. H + 2	R•∎ 1,	27	001-055	2.1	~ <u>1</u> 44H	lief <u>é</u>	らちた							
	14	9	-9 <b>≃</b> 2	1 - T	. + t.:	2 <b>4</b> 10 - 2 1	27.1			<u>]</u> 4 H	40 6	555							
			STD	· · · · ·	0733	4 da 19 1	27.14	22077 - 4	JJH,	141	(* 1) h	-6-							
	14.	3	055	0.075	0733	34927	2724			14H	1.5 E	-61							
			SID	710 P	. 5×8	1 d.	2745	リリーをとる府	010	. 149	Jr €	57							
	14	3	0 # 5	1.0	٦ ² 2 ²	45 - 26	2765			149	UD 6	557							
			ST	165	5677	15 4	< 7 t	1.4105	6416	ام مه ۲	1 d d	: 6 L							
			STU	11-0	C651	10 1	2755	しし いううてん	5×2.	. 147	47 6	se 7							
		-	STU	. 201	2 한 번 번	15 2	2764	00 4130	6156	5 147	195 - 6	;77							
	14	4	085	0200	0544	35 2	276-			1 - 7	1~) e	<b>7</b> 7							
		-	510	·· 2 fi '	95,0	45 7	2774	0004751	017.	147		244							
	14	્ય	OBS	1-1291	0435	ariin	51.0			147	131. 6	93							

REFERENCE	ID. CODE				E M		T	STATION TIME				ORIGIN	ATOP	8,2	OFPT	н	MAX.		WA	VE		WEA		un				7	
CTRY ID.	CODE	LATITUDE	LONG	ITUDE		UARE		(G	MTI		YEAR	CRUISI	1	TATI	ON	TO		DEPTH OF	OB	SERV	ATION	s	THER	cor	DES			STATION	+
	+ +	1/10		1/10	- 10	1.	M	O DA	Y HR	2,1/10		NO.	1	IUM	BER	80110	M	S'MPL'	S DR.	HGT	PER	SEA	CODE	TYPE	A 14 T			NUMBE	R
31116	5 Ew	71202N	024	058E	28	6 14	0	9 2	2 1	99	1967		13	3		031	8	0.2	26	12				5	8			013	
						W	ATE	2	w	IN D	BAR	)- L	AIR TE	A.P. 1	C VI	NO.	. T	( PC	CIA1					. ,	0.			015	CI
						COLO	R T	RANS. (m)	DIR.	SPEED OR FORCE	(mbs	R	DRY ULB	W I B U	T COD	DEPTH	is (	OBSERV	ATIONS										
									28	S08	06	2 0	947	0	84 8	10		_											
	MESSENGR TIME HR 1/10	CAST CA	RD PE	OEPTH 10	n }	o" 1		s •,	<b></b>	SIGA	4 <b>-</b> T	SPECIFIC	VOLU ALY-X1	ME	₹ △ C DYN, A x 10 ³	A. VI	ELOC	ND CITY	02 ml/	P	104-P	to vg	TAL~P g = a1/1	NO2- 19-01	N VI	NO3-ri 1/10 - gu	51 O 4 - 49 - 0	-\$i μ/Ι ρΗ	
																	_					1			-+				-+
		9	STD	0000	C	0934		340	7	26	35	001	680	7	000	oʻ i	48	368	684			'						1	
	190	<b>o</b> 05	35	0000	)	0934		340	66	26	35					1	48	868	684										
	199	9 05	3 S	0004	+	0935		340	66	26	35					1	48	169	686										
	199	9 05	35	0000	3	0934		340	70	26	36					1	48	369	684										
		4	STD	0010	)	0932		341	3	26	41	001	632	1	001	7 1	48	369	684										
		( )	STD	0020	C	0925		343	5	20	59	001	460	3	003.	2 1	48	371	681										
	199	9 OE	S.	0020	)	0925		343	50	26	59					1	48	371	681										
		5	STD	0030	)	0919		344	4	26	67	001	300	4	0040	- <u>1</u>	48	372	677										
	199	e of	S_	0040	)	0913		345	)4	26	73					1	48	372	672										
		5	TD	0050	)	0836		345.	3	26	87	001	198	6	0072	2 1	4 ರ	45	664										
	199	0 08	S	0059	9	0786		345	83	26	99					1	48	328	659										
	1.0	5	TD .	0075	, ,	0747		347	4	27	17	000	92Q	2	0099	- 1	48	18	653										
	195	06	S	0075	,	0739		347	72	27	20					1	48	16	652										
		S	TD	0100	)	0720		349	7	27	39	000	716	4	0119	) 1	48	14	658										
	199	08	S	0114	•	0704		350(	51	27	48					1	48	12	661										
		Ş	TD	0125		0687		3509	3	27	52	000	594	С	0135	5 1	48	07	663										
	199	08	S	T0145	>	0555		3513	14	27	59					1	47	99	565										
		S	TD	0150	)	0652		3512	2	27	50	000	525	7	0149	i = 1	47	98	555										
		S	TD	0200	)	0595		351.	3	27	58	000	448	8	0174	1	47	83	568										
	199	08	S	T 0 2 4 3	3	0558		3514	+3	27	74		2			1	47	76	669										

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