INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH, MAGNETIC AND SUBBOTTOM PROFILER DATA

(ISSUED JANUARY 1981)

RAMA EXPEDITION

LEG 6

Padang, Sumatra (30 September 1980) to Singapore (26 October 1980)

R/V Thomas Washington

.

Co-Chief Scientists - G. Moore and G. Shor (SIO)

Resident Marine Techs - R. Wilson and R. Comer

Post-Cruise Processing and Report Preparation ______ by S.I.O. Geological Data Center

Data Collection Funded by NSF Grant Number OCE79-20482 Data Processing Funded by SIA, NSF and ONR

NOTE

This is an index of underway geophysical data edited and processed shortly after the completion of the cruise leg and is intended primarily for informal use within the institution. This document is not to be reproduced or distributed outside Scripps without prior approval of the chief scientist or the Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093.

GDC Cruise I.D.# - 181

INFORMAL REPORT AND INDEX OF NAVIGATION, DEPTH, MAGNETIC AND SUBBOTTOM PROFILER DATA

Contents:

Index Chart - gives track of cruise leg and boundaries of depth compilation plots (see below).

Track Charts - annotated with dates (day/month) and hour ticks. The scale is .3 in/degree longitude.

Profiles - depth and magnetic anomaly vs. distance. Dates (day/month) and positions of major course changes (greater than 30 degrees) are annotated. Sections of track having subbottom profiler (airgun) records have a solid black line along the bottom of the profile.

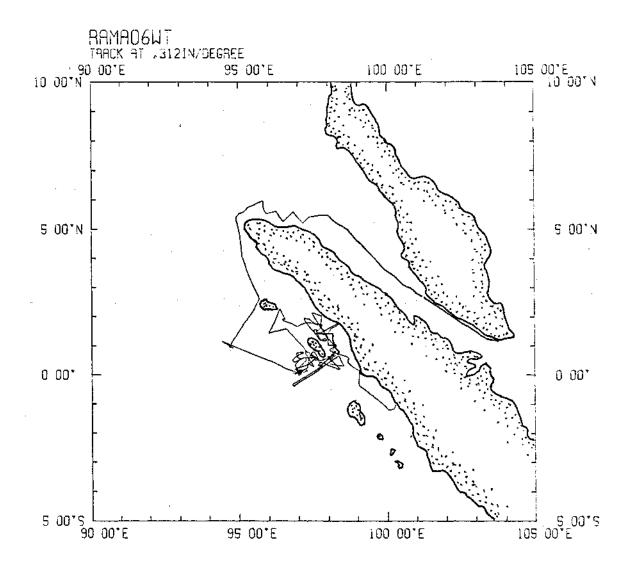
For information on the availability and reproduction costs of data in the following forms, contact S. M. Smith, Curator, Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093. Phone (714) 452-2752.

- Navigation listing of times and positions of course and speed changes, fixes and drift velocity.
- Depth compilation plots in fathoms (assumed sound velocity of 800 fm/sec) or meters (assumed sound velocity of 1500m/sec) at approximately 1 mile spacing, plotted at 4in/degree with standard U. S. Navy Oceanographic Office BC series boundaries (see index chart).
- 3. Plots of magnetic anomaly profiles along track map scale = 1.2inch/degree, anomaly scale between 15N and 15 S latitude = 500 gamma/inch, anomaly scale north of 15N and south of 15S = 1000 gamma/inch, from values retrieved at approximately 1 mile spacing and regional field removed using the 1975 IGRF.
- Card decks of navigation, depth and magnetics (for specific formats, contact S. M. Smith, Geological Data Center).
- S.I.O. Sample Index list of beginning and end times and positions of all underway records as well as all other samples (geology, biology, physical oceanography, etc.) collected on the cruise leg.
- Microfilm or Xerox copies of:
 a. Echosounder records 12 and 3.5 kHz frequency

b. Subbottom profiler records (airgun)

c. Magnetometer records

d. Underway data log



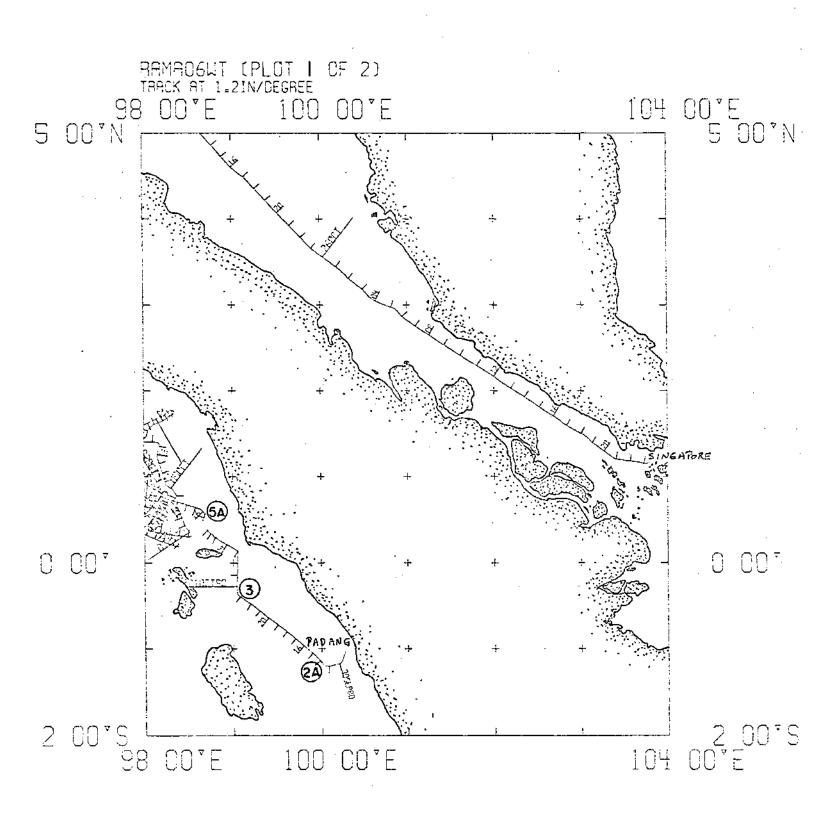
RAMA EXPEDITION LEG 6

CO-CHIEF SCIENTISTS: G. Shor and G. Moore (SIO) PORTS: Padang, Sumatra - Singapore DATES: 30 September - 26 October 1980 SHIP: R/V T. Washington

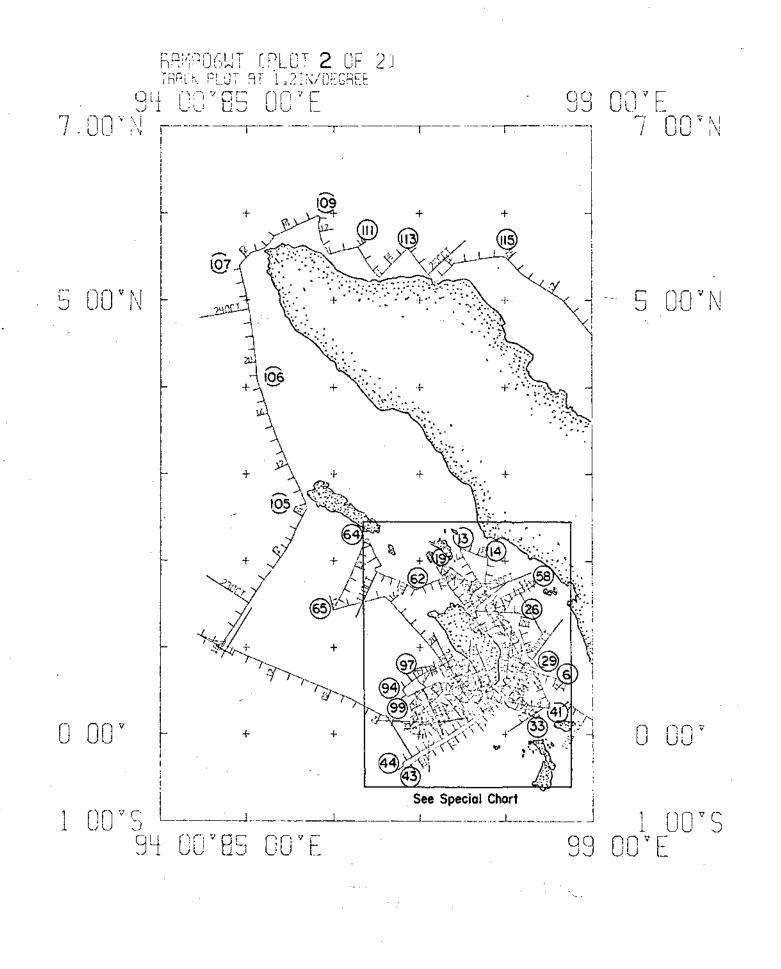
TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

- 1) Cruise 3790 miles
- Bathymetry 3480 miles
 Magnetics 2411 miles

- 4) Seismic Reflection 2635 miles
 5) Gravity 3790 miles (approximately)

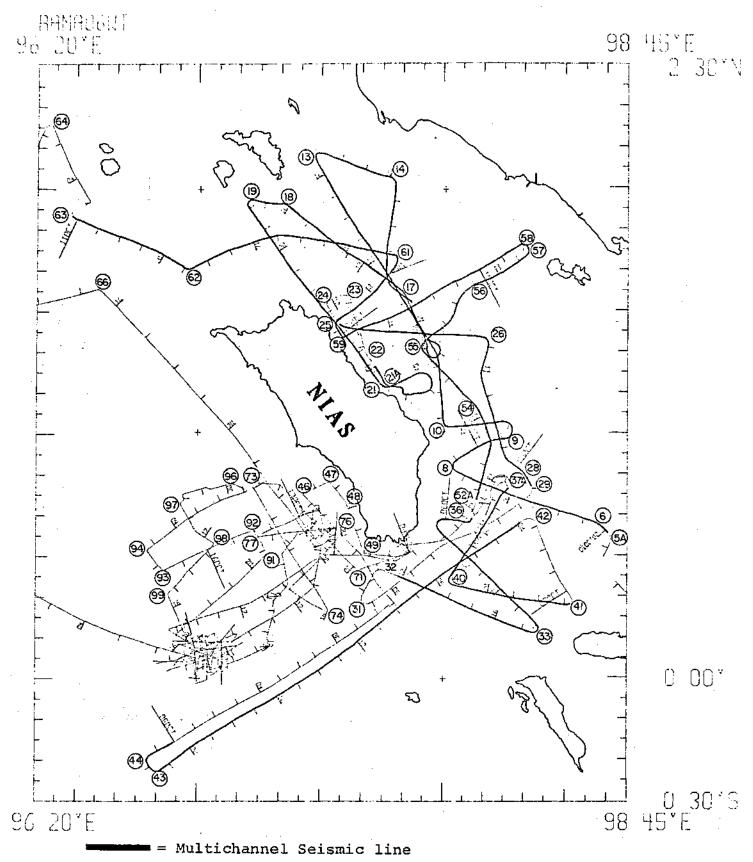


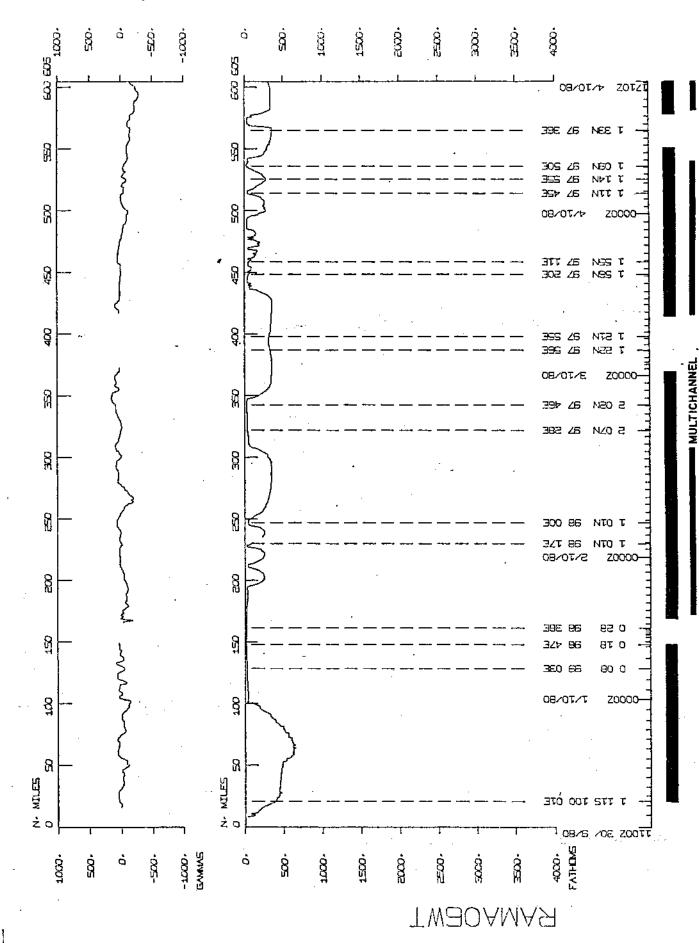
>= Selected Designated Turning Points
(See Sample Index for complete list.)

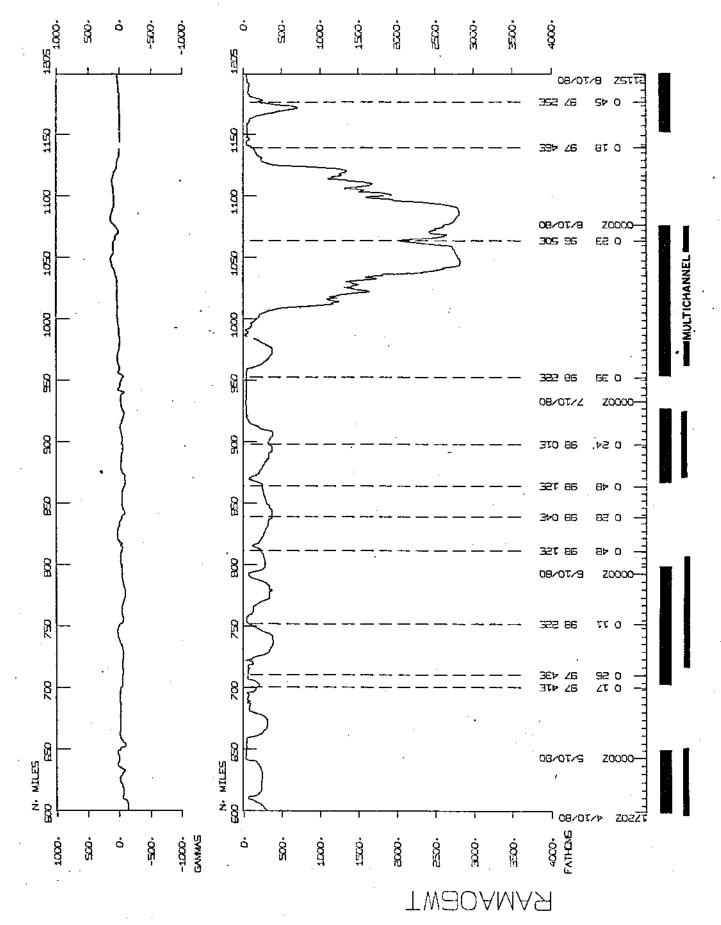


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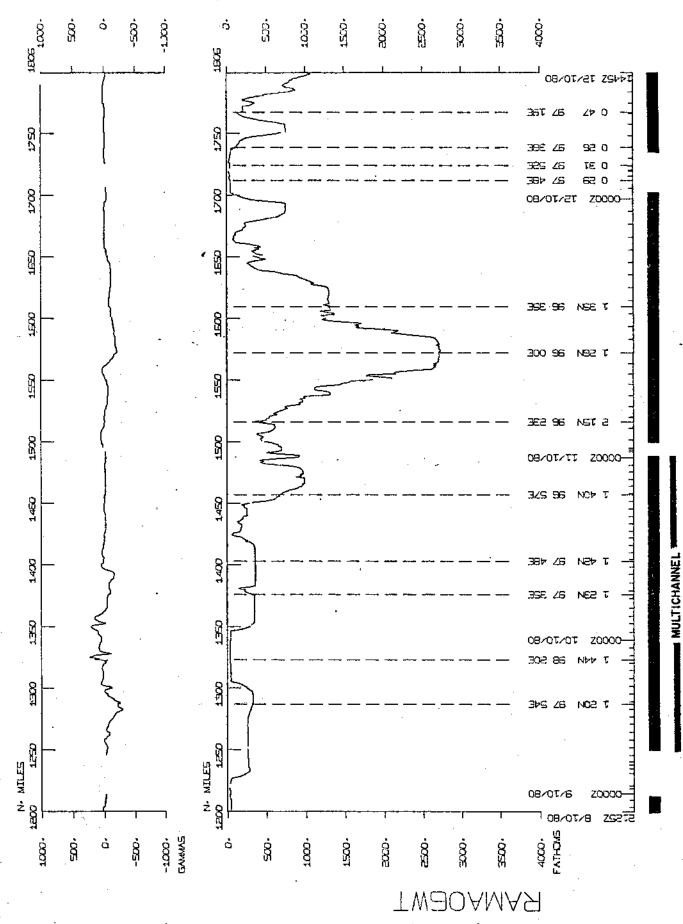
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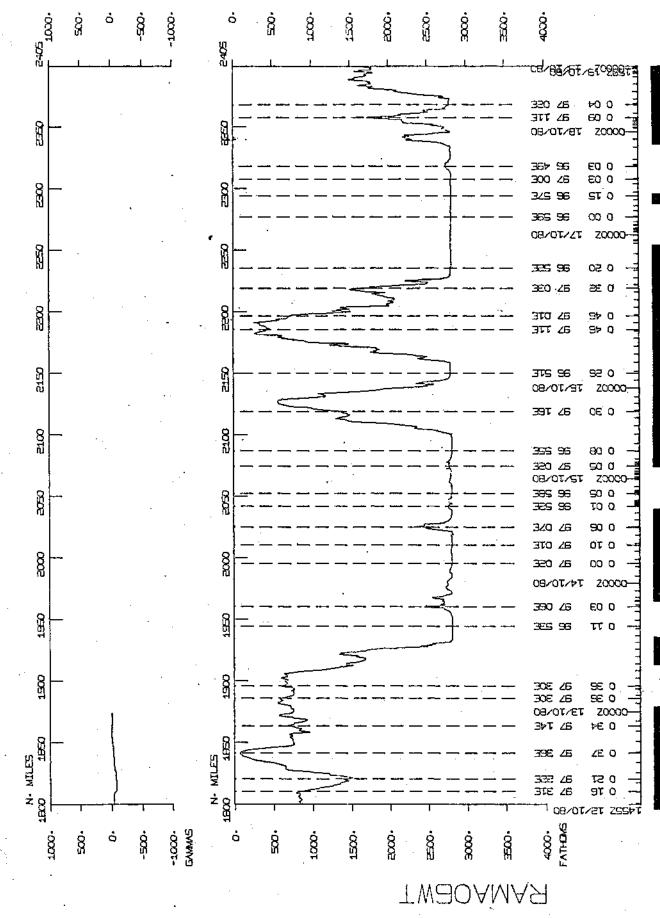


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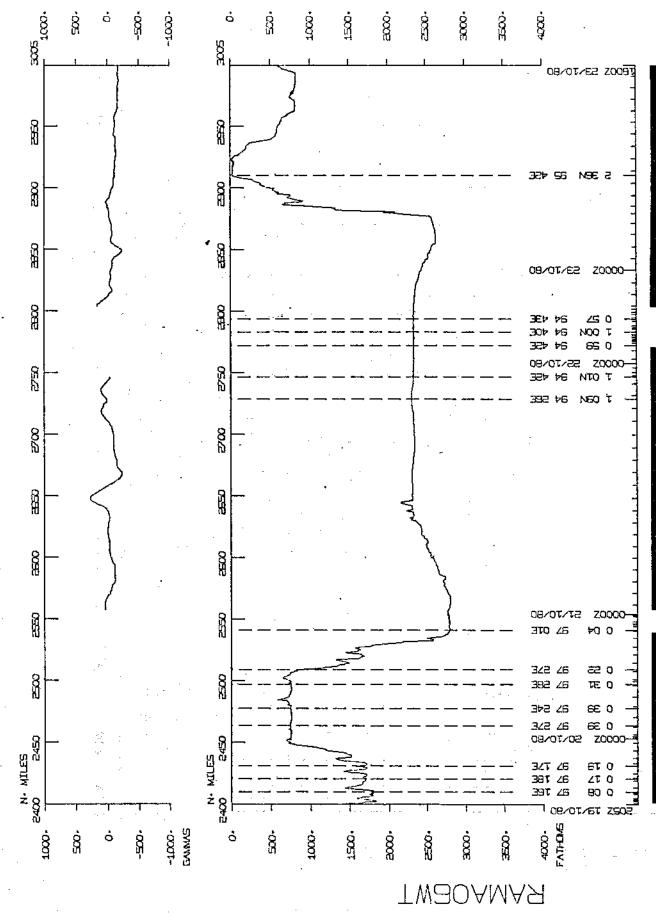


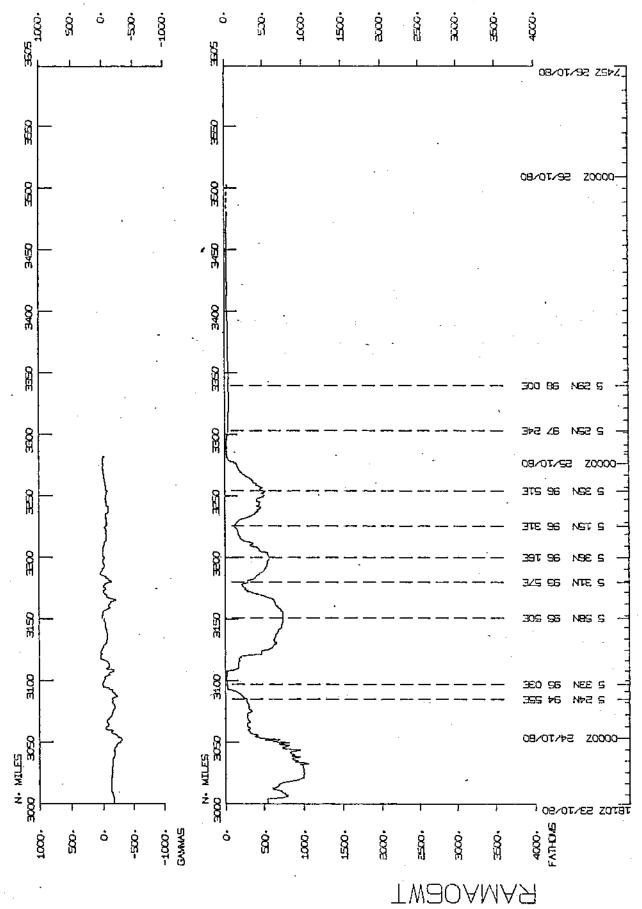
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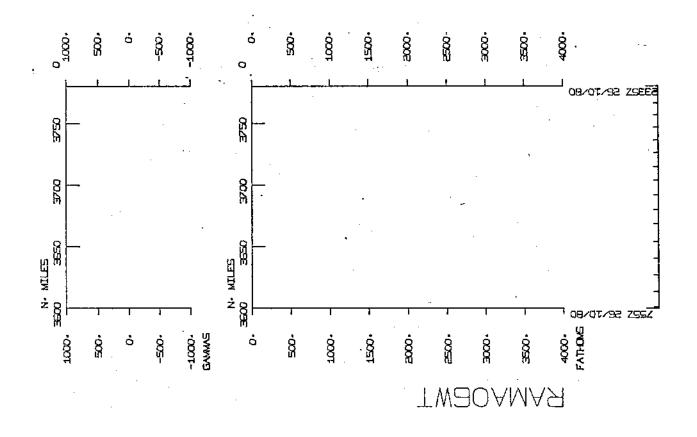
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S.I.O. Sample Index

(Issued January 1981)

RAMA EXPEDITION LEG 5

Padang, Sumatra (30 September 1980) to Singpore (26 October 1980)

R/V T. Washington

Co-Chief Scientists - G.Shor and G. Moore

Resident Marine Techs - R. Wilson and R. Comer

Post-Cruise Processing and Report Preparation by S.I.O. Geological Data Center

Index Encoding Funded by NSF Grant Number OCE77-23258 Index Processing and Report Preparation funded in part by SIA

The Sample Index is a first level interdisciplinary listing of time, position, sample identification and disposition of all samples, records and measurements collected on this cruise leg. The index data are encoded at sea by the resident technician and processed on shore by the S.I.O. Geological Data Center shortly after the completion of the cruise leg.

Positions are interpolated on the basis of sample time by comparison to a single, edited navigation file. Samples beginning at one time and position and ending at another are entered on two consecutive cards. Disposition and sample type are represented by three and four character codes to permit future computer searches on these parameters. (Listings defining these codes are available from the Geological Data Center.) S.I.O. SAMPLE INDEX

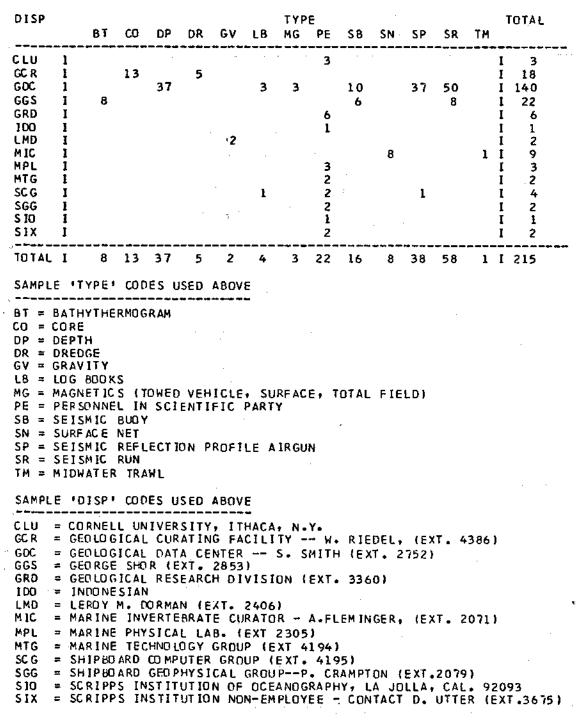
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(RAMA06WT) ***

*** RAMAO6WT SAMPLE INDEX

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PRODUCED BY GEOLOGICAL DATA CENTER, SCRIPPS INSTITUTION OF DCEANOGRAPHY, LA JOLLA, CALIFORNIA 92093



NUMBER OF SAMPLES OF CLASS 'TYPE' GOING TO DESTINATION 'DISP'

GMT D /M /Y LOC LOC TIME DATE TIME TZ	CODE SAMPLE IDEN SAMP	DISP	29JANB1 PAGE LAT. LONG.		•
*** PORTS ***	RAMAOGWT SAMPLE II			RAMAO6WT	
1047 30/ 9/80 0800 27/10/80	LGPT 8 PADANG: SU LGPT E SINGAPORE	MATRA	01 00. S 100 22. E 01 17. N 103 51. E	F RAMAOGWT F Ramaogwt	
0114 8/10/80 0408 08/10/80	LGSS B TELUK DALA LGSS E TELUK DALA	M, NIAS	01 18. 5 97 36. E	F RAMAO6WT	
0223 12/10/80 0544 12/10/80	LGSS B TELUK DALA LGSS E TELUK DALA	M, NIAS M, NIAS	01 18. S 97 36. E 01 18. S 97 36. E	F RAMAO6WT F Ramao6WT	-
0105 25/10/80 0158 25/10/80	LGSS & LOK SEUMAW LGSS E LOK SEUMAW	E, SUMATRA E, SUMATRA	05 12. N 97 11. E 05 12. N 97 11. E	F RAMAD6WT F Ramao6wt '	
PERSONNEL *** NAME *** ***	TITLE ***	*** A	FFILIATION ***		
5 MOD RE, J.M. 6 ELSTON, M.O. 7 COMER, R.L. 8 WILSON, R.C. 9 CRAMPTON, P.J. 10 HUBENKA, F. 11 EMMEL, F.T. 12 BENSON, M.D. 13 SHOR, E.N. 14 MCGOWAN, D.D. 15 BEAUDRY, D. 16 LIU, CHAR-SHINE 17 HAECK, G. 18 BRAY, C. 19 BENARON, N. 20 DRIYO UTOMO 21 HARDI PRHESTYD 22 WAHYO HANTORO	RESIDENT TECH RESIDENT TECH DEV ENGR ELECT TECH SPECIALIST DEV ENGR SPECIALIST STAFF RES ASSDC GRAD STUDENT GRAD STUDENT STUDENT STUDENT STUDENT MAJOR IDD NAVY GEOLOGIST	SCRIPPS INSTITU SCRIPPS INSTITU CORNELL UNIVERS SCRIPPS INSTITU SCRIPPS INSTITU	TION OF OCEANOGRAP TION OF OCEANOGRAP TION OF OCEANOGRAP ITY, ITHACA, N.Y. TION OF OCEANOGRAP TION OF OCEANOGRAP	HY, LA JOLLA HY, LA JOLLA	CAL. 92093 CAL. 92093
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NOTES AN 'X' IN THE (B)EGIN/(E)ND COLUMN FOLLOWING THE SAMPLE CODE INDICATES NO SAMPLE OR DATA RECOVERED . A 'C' INDICATES CONTINUATION OF DATA COLLECTION FROM BEFORE THE BEGINNING OR AFTER THE END OF THIS LEG. (MODRED BOTTOM INSTRUMENTS, FOR EXAMPLE). THE NUMBER APPEARING IN THE COLUMNS BETWEEN THE SAMPLE IDENTIFIER AND THE DISPOSITION CODE, FOR MANY SAMPLE ENTRIES, IS THE WATER DEPTH IN CORRECTED METERS.

11ME	D /M /Y DATE	TIME 12	SAMP	SAMPLE IDENT.	CODE DISP	LAT.	NB1 PAGE LONG.	LEG-SHIP
		UND	ERWAY DA	TA CURATOR - STUART SM	ITH (E)	(T.2752)		
*** (DG BOOKS	** *						
1150 1400	30/ 9/80 6/10/80		LBUW B Lbuw e	UNDERWAY WATCH LOG 1 Underway watch log 1	GDC 01 GDC 01	L 09.95 D 47.4N		5 RAMAO6W1 5 RAMAO6W1
1410 1600	6/10/80 18/10/80		LBUW 8 LBUW E	UNDERWAY WATCH LOG 2 Underway watch log 2	GDC OF GDC OF	0 46.4N 0 01.9N	98 15.8E 97 03.4E 97	S RAMAOGWI S RAMAOGWI
1605 2330	18/10/80 25/10/80		LBUW B	UNDERWAY WATCH LOG 3 UNDERWAY WATCH LOG 3	GDC 0 GDC 0	0 02.1N 3 36.2N	97 03.9E 3 99 58.3E 3	S RAMAOGWI S RAMAOGWI
1334 0038	30/ 9/80 25/10/80		L8SC B L8SC E	DIGIT.SEIS. TAPE LOG DIGIT.SEIS. TAPE LOG	SCG O SCG O	1 10.75 5 13.6N	100 00.9E 3 97 10.1E	S RAMAOGWI S RAMAOGWI
***	ATHO GRAMS	S ***						
-1144 1511	30/ 9/80 1/10/80		DPR3 8 DPR3 8	UGR 3.5KHZ R-01 UGR 3.5KHZ R-01	GDC 0 GDC 0	1 09.05 0 32.4N	100 13.8E 98 40.8E	S RAMAOGW S RAMAOGW
1520 0144	1/10/80 2/10/80		DPR3 E DPR3 E	N UGR 3.5KHZ R−02 E UGR 3.5KHZ R−02	GDC 0 GDC 0	0 33.1N 1 00.9N	98 41.1E 98 17.2E	S RAMAOGW S RAMAOGW
0242 2100	2/10/80 2/10/80		DPR3 P DPR3 F	UGR 3.5KHZ R-03 UGR 3.5KHZ R-03	GDC O GDC O	1 02.4N 1 56.9N	98 12.2E 97 47.3E	S RAMAO6W S Ramao6W
2110 1648	2/10/80 3/10/80	· .	DPR3 E DPR3 E	3 UGR 3.5KHZ R-04 2 UGR 3.5KHZ R-04	GDC 0 GDC 0	1 55.9N 1 56.2N	97 47.1E 97 17.2E	S RAMAOGW S Ramaogw
1709 1215	3/10/80 4/10/80		DPR3 8 DPR3 8	UGR 3.5KHZ R-05 UGR 3.5KHZ R-05	GDC 0 GDC 0	1 56.6N 1 32.0N	97 15.0E 97 31.3E	S RAMAO6W S RAMAO6W
1224	4/10/80 5/10/80	· • •		3 UGR 3.5KHZ R~06 5 UGR 3.5KHZ R-06				
0026 2341			DPR3 E DPR3 E	3 UGR 3.5KHZ R-07 5 UGR 3.5KHZ R-07		0 49.7N 0 19.8N		
2345 0818				3 UGR 3.5KHZ R-08 5 UGR 3.5KHZ R-08		0 20.2N 0 22.9N		
0849 1109				3 UGR 3.5KHZ R-09 5 UGR 3.5KHZ R-09		0 21.1N 0 18.2N	97 54.3E 97 47.0E	
	8/10/80			3 UGR 3.5KHZ R-10 E UGR 3.5KHZ R-10				

0408 0001 0021 0214	9/10/80 10/10/80 10/10/80 10/10/80 11/10/80							 						
0021 0214	10/10/80		DPR3	8 F	UGR	3.5KHZ								
0214														
1300			DPR3 DPR3	B E	UGR UGR	3.5KHZ 3.5KHZ	R-12 R-12							RAMAO6WT Ramao6WT
)223	11/10/80 12/10/80		OPR3 OPR3	8 E	UGR UGR	3.5KHZ 3.5KHZ	R-13 R-13	GDC GDC	01 00	56.7N 33.2N	96 97	33.2E 49.8E	s s	RAMA06WT Rama06WT
)603)438	12/10/80 13/10/80		DPR3 DPR3	B E	UGR UGR	3.5KHZ 3.5KHZ	R-14 R-14	GDC GDC	00 00	31.3N 35.6N	97 97	52.3E 29.4E	s s	RAMAO6WT Ramao6WT
														RAMAO6WT Ramao6WT
	14/10/80													
	15/10/80													RAMAO6WT
1133 0015	15/10/80 17/10/80	1	DPR3 DPR3	B E	UGR UGR	3.5KHZ 3.5KHZ	R-17 R-17	GDC GDC	00 00	05.5N 05.7N	97 96	03.0E 59.5E	s s	RAMAO6WT RAMAO6WT
0019	17/10/80		DPR3	8	UGR	3 . 5K HZ	R-18	GDC	00	05.5N	96	59.6E	5	RAMADOWT
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1439 2010	18/10/80 18/10/80	J -	DPR3 DPR3	8 8	UGR UGR	3.5KHZ 3.5KHZ	R-19 R-19	GDC GDC	00 00	03.5N 07.6N	97 97	02.6E 17.3E	S 5	RAMAO6WT RAMAO6WT
	18/10/80 19/10/80	J .	DPR3 DPR3	អ E	UGR UGR	3.5KHZ 3.5KHZ	R-20 R-20	GDC GDC	00 00	08.0N 35.6N	97 97	17.1E 24.3E	s s	RAMAD6WT Ramad6WT
2345 2345	19/10/80 20/10/80	ł	DPR3 DPR3	B E	UGR UGR	3.5KHZ 3.5KHZ	R-21 R-21	GDC GDC	00 00	35.6N 05.3N	97 97	24.3E 02.4E	. S 5	RAMAO6WT Ramad6WT
2355	20/10/80 22/10/80	, 2	DPR3	8	UGR	3.5KHZ	R-22 ₽-22	GDC						RAMAO6WT RAMAO6WT
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TIME	D /M /Y DATE	TIME IZ	SAMP	SAMPLE IDENT.	29J/ CODE LAT. DISP	N81 PAGE LONG.	4 LEG-SHII CRUISE
0758 1206	25/10/80 25/10/80		DPR3 B DPR3 E	EPC 3.5KHZ FAST R-01 EPC 3.5KHZ FAST R-01	GDC 05 28.3N GDC 05 04.3N	98 02.1E S 98 33.2E S	RAMAO6W RAMAO6W
	25/10/80 26/10/80		DPR3 B DPR3 E	EPC 3.5KHZ FAST R-02 EPC 3.5KHZ FAST R-02	GDC 05 03.2N GDC 01 10.7N	98 34.86 S 103 34.2E S	RAMAQ6W RAMAQ6W
0117 1022	15/10/80 25/10/80		DPRT B DPRT E	12KHZ ROLLS 1-8 12KHZ ROLLS 1-8	GDC 00 06.6N GDC 05 13.0N	97 02.9E S 98 18.9E S	RAMAO6W Ramao6W
0200 1230	08/10/80 08/10/80		DPRT B DPRT E	12KHŽ ROLL 1 12KHZ ROLL 1	GDC 00 09.55 GDC 00 18. N	97 04.6E S 97 48. E F	RAMAO6W Ramao6W
0200 2225	1/10/80 2/10/80		DPRT B DPRT E	12KHZ ROLL 1 SAMUDRA 12KHZ ROLL 1 SAMUDRA	GDC 00 00.35 GDC 01 48.1N	99 03.2E S 97 45.8E S	RAMAO6W Ramao6W
0100 0355	3/10/80 3/10/80		DPRT B DPRT E	12KHZ ROLL 2 SAMUDRA 12KHZ ROLL 2 SAMUDRA	GDC 01 34.4N GDC 01 27.5N	97 48.5E S 97 52.8E S	RAMAO64 RAMAO64
0436 1035			DPRT 8 DPRT E	12KHZ ROLL 3 SAMUDRA 12KHZ ROLL 3 SAMUDRA	GDC 01 24.6N GDC 01 36.8N	97 54.6E S 97 47.1E S	
0000 0131	4/10/80 6/10/80		DPRT B DPRT E	12KHZ ROLL 4 SAMUDRA 12KHZ ROLL 4 SAMUDRA	GDC 01 24.6N GDC 00 39.3N	97 35.18 S 98 07.3E S	RAMAO61 RAMAO61
1305				12KHZ ROLL 5 SAMUDRA 12KHZ ROLL 5 SAMUDRA			
				12KHZ ROLL 6 SAMUDRA 12KHZ ROLL 6 SAMUDRA	GDC 00 18.6N GDC 00 18.1N	98 26.7E S 97 47.5E S	6 RAMA061 6 RAMA061
***	SEISMIC R	EF LECT IO	N PROFILE	S ***			
1322 0513	30/ 9/80 - 1/10/80	·	SPRF E Sprf e	AIRGUN (2SEC) R-01 AIRGUN (2SEC) R-01	GDC 01 11.85 GDC 00 18.7N	100 01.9E 98 46.8E 9	S RAMAO61 5 RAMAO61
1525 2351	1/10/80 2/10/80			AIRGUN (2SEC) R-02 AIRGUN (2SEC) R-02	GDC 00 33.5N GDC 01 39.5N		
2359 0830				AIRGUN (2SEC) R-03 AIRGUN (2SEC) R-03	GDC 01 38.7N GDC 01 18.9N		
1301 0101				AIRGUN (2SEC) R-04 AIRGUN (2SEC) R-04	GDC 01 27.6N GDC 00 46.6N		
0950 0050				AIRGUN (2SEC) R-05 AIRGUN (2SEC) R-05	GDC 00 20.2N GDC 00 38.0N		
1356 2320				AIRGUN (2SEC) R-06 AIRGUN (2SEC) R-06	GDC 00 47.8N GDC 01 42.4N		

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GMT TIME	D /M /Y DATE	LOC LOC TIME TZ	CODE SAMP	SAMPLE	IDENT.		CODE DISP	LAT.	LONG	• 		LEG-SHIP CRUISE
0837 0 015	9/10/60 11/10/80		SPRF 8 SPRF E	A I RGUN A I RGUN	(2SEC) (2SEC)	R-07 R-07	GDC 0 GDC 0	0 43.9N 1 53.2N	98 0 96 2	8.3E	s s	RAMAO6WT Ramao6wt
0325 0044	11/10/80 12/10/80		SPRF 8 SPRF E	AIRGUN AIRGUN	(2SEC) (2SEC)	R+08 R-08	GDC O GDC O	1 58.2N 0 30.4N	96 3 97 4	2.2E 0.5E	Տ Տ	RAMAO6WT Ramao6wT
0627 0040	12/10/80 13/10/80		SPRF B SPRF E	A I RGUN A I RGUN	(25EC) (25EC)	R-09 R-09						RAMAO6WT Rama 06WT
0646 0936	13/10/80 14/10/80		SPRF B SPRF E	A I RGUN A I RGUN	(2SEC) (2SEC)	R-10 R-10	GDC O GDC O	0 36.5N 0 01.9N	973 965	0.1E 3.8E	s s	RAMAO6WT Ramao6wt
1746	15/10/80 16/10/80		SPRF 8 SPRF E	AIRGUN AIRGUN	(2SEC) (2SEC)	R-11 R-11	GDC (0 GDC 0	0 11.5N 0 03.1N	96 5 96 5	6.1E 9.9E	s 5	RAMAD6WT Ramad6WT
0932 1600	17/10/80 20/10/80		SPRF B SPRF E	A I RGUN A I RGUN	(2SEC) (2SEC)	R-12 R-12	GDC O GDC O	0 01.2N 0 04.0N	96 5 97 0	9.7E	S S	RAMAD6WT Rama06WT
0022 0213	21/10/80 22/10/80		SPRF B SPRF E	A I RGUN A I R GUN	(2SEC) (2SEC)	R-13 R-13						RAMAO6WT Ramao6WT
2058 1046	22/10/80 24/10/80		SPRF B SPRF E	A I RGUN A I RGUN	(2SEC) (2SEC)	R-14 R-14	GDC C GDC O	1 06.5N 5 58.7N	94 4 95 5	6.4E	s s	RAMAO6WT Ramao6WT
1048 0038	24/10/80 25/10/80		SPRF B SPRF E	A I RGUN A I RGUN	(2SEC) (2SEC)	R-15 R-15	GDC C GDC C	5 58.4N 5 13.6N	95 5 97 1	50.3E	s S	RAMAO6WT Ramao6WT
0253 0630	25/10/80 25/10/80		SPRF 8 SPRF E	A I RGUN A I RGUN	(15EC) (15EC)	8-01 R-01	GDC C GDC O	5 16.5N 5 29.3N	97 1 97 4	15.3E 47.5E	s s	RAMAO6WT Ramao6WT
				A IR GUN A IR GUN								RAMAO6WT Ramao6WT
1525 2357	1/10/80 2/10/80		SPRS 8 SPRS E	A IRGUN A IRGUN	(55EC) (55EC)	R-02 R-02	GDC C GDC C	0 33.5N)1 38.9N	98 4 97 4	41.1E 45.4E	s s	RAMAO6WT Ramao6WT
2359 0830	2/10/80 4/10/80		SPRS 8 SPRS E	A IR GUN A IR GUN	(55EC) (55EC)	R-03 R-03	60C C 6DC C	01 38.7N 01 18.9N	97 4 97 4	45.5E 41.1E	s s	RAMAO6WT Ramao6WT
1301 0101				A IRGUN AIRGUN				01 27.6N 00 46.6N				RAMAO6WT Ramao6WT
0950 2319				A IRGUN A IRGUN			GDC (00 20.2N 00 18.5N				RAMAO6WT Ramao6wt
0356 2320				A IRGUN A IRGUN				0 37.9N 0 30.1N				RAMAO6WT RAMAO6WT
0837 0015	9/10/80 11/10/80			A IRGUN				00 43.9N 01 53.2N				RAMAO6WT Ramao6WT

	TIME	D /M /Y DATE	TIME 1	IZ SA	MP	SAMPLE	IDENT.		CODE DISP		29JA .AT.	N81 LON	PAGE G.		6 LEG-St CRUIS
•		11/10/80 12/10/80					(55EC) (55EC)								RAMAO6 RAMAO6
	0627 0040	12/10/80 13/10/80		SF SF	PRS B PRS E	A IRGUN A IRGUN	(5SEC) (5SEC)	R-09 R-09			30.6N 41.8N				
	0646 0936	13/10/80 14/10/80		SF SF	PRS B PRS E	A IRGUN	(5SEC) (5SEC)	R-10 R-10			36.5N 01.9N				RAMAO RAMAO
,	1450 1746	15/10/80 16/10/80		SI SI	PRS B PRS E	A IRGUN AIRGUN	(5SEC) (5SEC)	8-11 R-11			05.7N 03.1N				RAMAO RAMAO
	0932 1600	17/10/80 20/10/80		si Si	PRS 8 PRS E	A IRGÚN A IRGUN	4 (5SEC) 4 (5SEC)	R-12 R-12			01.2N 04.0N				RAMAO RAMAO
		21/10/80 22/10/80									03.8N 58.4N		-		RAMAO RAMAO
		22/10/80 24/10/80					N (5SEC) N (5SEC)				06.5N 58.7N				RAMAO Ramao
	1048 0038	24/10/80		\$1 \$1	PRS B PRS E	A IRGUI	N (5SEC) N (5SEC)	R-15 R-15			58.4N 13.6N				
1. 	÷÷∻⊬∐	JLT I-CHAN	NEL DI	GITAL	SEISM	IC TAP	<u> </u>	•							
	1334 0038	30/ 9/80 25/10/80		S S	PMT B PMT E	MULTI- REELS	-CHANNEL 0161-04	TAPES 61	SCG SCG	01 05	10.75 13.6N	100 97	00.9E 10.1E	้ร ร	Ramao Ramao
	¥ ☆☆対	JLT 1-C HAN	NEL SE	ISMIC	LINE*	* * *									
• \$	1555 0800	1/10/80 4/10/80	4, 8, 1	SI S	PML B PML E	LINE LINE	RAMA06-5 RAMA06-5	A-21A A-21A	GDC GDC	00 01	35.7N 16.3N	98 97	40.2E 42.9E	5 S	RAMAO Ramao
,		4/10/80 5/10/80					RAMA06-2 Rama06-2				26.3N 47.4N				RAMAO RAMAO
۲ [`]	1150 0125	5/10/80 6/10/80					RAMA06-3 RAMA06-3		soc soc	00	24.8N 39.1N				RAMAO RAMAO
.c 5	1410 2313	6/10/80 6/10/80					RAMA06-3 RAMA06-3			°00	46.4N 18.3N				RAMAO Ramao
	0356 2358	7/10/80 7/10/80					RAMA06-4 Rama06-4				37.9N 16.0S				RAMAO Ramao
	0837	9/10/80	¢.	s			RAMA06-5 RAMA06-5				43.9N 53.2N				

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GMT D TIME D	/N /Y LOC LOC ATE TIME TZ	CODE SAMP	SAMPLE I	DENT.	CODE DISP	LAT.	NB1 PAGE	LEG-SHI CRUISE
****´ <u>c</u>	SEISMIC REFLECTI	ON/REFRA	CTION LIN	<u>E</u> ****				
1641	30/ 9/80	SR S S	SEIS RU	IN RAMA 6-01	GDC	00 54.65	99 43. 98	S RAMADO
1710	1/10/80	SRSS	SEIS RU	IN RAMA 6-02	GDC	00 39.2N	98 33.6E	S RAMAO
1911	1/10/80	SRSS		IN RAMA 6-03		00 42.8N	98 21.6E	S RAMAOR
	1/10/80	SR SS		IN RAMA 6-04A		00 48.2N		
2149	1/10/80	SRSS		IN RAMA 6-04E		00 48.8N		
0014	2/10/80			IN RAMA 6-058		00 57.0N		
0740	2/10/80	SR SS SR SS SR SS		IN RAMA 6-06E		01 19.7N		
0857	2/10/80	SRSS		IN RAMA 6-074		01 26.3N		
	2/10/80	2822	SEIS RU	IN RAMA 6-076	5 600	01 28.0N		
0933 0954	2/10/80	24.22	SE13 KU	N RAMA 6-070 N RAMA 6-070	, 600 , 600	01 29.5N	97 51.8E 97 50.7E	
1306	2/10/80	22 92	2012 N	N KAMA 6-01L N RAMA 6-09		01 48.3N		
	2/10/80	5855	SETS RI	IN RAMA 6-08	000	02 07.8N		
2217	2/10/80	SRSS	SEIS RU	NN RAMA 6-070 IN RAMA 6-070 IN RAMA 6-08 IN RAMA 6-09 IN RAMA 6-10	GDC	01 48.9N		
0245	3/10/80	SRCS	B SEIS RU	IN RAMA6-11-1	GGS		97 51.6E	
0455	3/10/80	SRCS	E ES/EX/I	A/AD	GGS	01 23.2N	97 55.5E	S RAMAD
0734	3/10/80	SRCS	8 SEIS RU	IN RAMA6-11-2	2 GGS	01 23.3N	97 55.0E	S RAMAO
0952	3/10/80	SRCS	E ES/EX/1	TA/AD	GGS	01 33.9N	97 50.2E	S RAMAO
1046	3/10/80 3/10/80	SR S S	SE1S RU	IN RAMA 6-12	GD C	01 37.4N	97 46.3E	S RAMAO
1201	3/10/80	SR SS		IN RAMA 6-13		01 41.8N		
1905	3/10/80	SR S		IN RAMA 6-14		01 49.41		
				JN RAMA 6+15		01 34.9N		
2256	3/10/80	SRSS	SEIS RU	JN RAMA 6-16	GDC	01 29.70	97 31.0E	S RAMAQ
0848	4/10/80	SRCS	B SEIS RU	JN RAMA6-17 [A/AD	GGS	01 20.3N	97 40.5E	S RAMAO
1051					GGS		97 37.28	
0938	4/10/80	SR SS		IN RAMA 6-17		01 24.7		
1415	4/10/80	SR S S		IN RAMA 6-18		01 25.31		
1540	4/10/80	SRSS		JN RAMA 6-19		01 24.91		
2042	4/10/80	SRSS	SEIS R	JN RAMA 6-20	GDC	01 11.11	98 10.0E	S RAMAO
0130	5/10/80	SRCS	8 SEIS R	IN RAMA6-21	GGS	00 44.6	98 20.9E	-
0900	5/10/80			IA/AD JN RAMA 6-22		00 18.40		
2106	5/10/80 5/10/80	SRSS		JN RAMA 6-22			98 09.6E	
2100	J/10/00	3833	3613 K	IN RAMA 0-20		00 20.07	30 03 . 02	3 RAHAU
0227	6/10/80	SRCS	B SEIS R	JN RAMA 6-24	GGS	00 41.21		
1154	6/10/80		E ES/EX/			00 42.2		
0226	6/10/80	SBSD)Y RAMA 6-24-		00 41.11		
1036	6/10/80	SR S S		JN RAMA 6-246		00 35.30		
1634	6/10/80	SR SS		JN RAMA 6-25		00 33.0N		
2151	6/10/80	SRSS	SEIS R	JN RAMA 6-26	GDC	00 19.01	98 22.7E	S RAMAO
0030	7/10/80			JN RAMA 6-27		00 24.1	,	
0309	7/10/80 7/10/80	SBSD	E ES/EX/ SONOBU	TAZAD DY RAMA 6-27		00 38.11		
0012	8/10/80	SRCS	B SEIS R	JN RAMA 6-28	GDC	00 15.25	5 96 55.76	΄ 5 ΒΑΜΑΩ
1012	8/10/80		E CO/EX/			00 16.8		
0010	8/10/80	SBSD		DY RAMA 6-28		00 15.3		
0245	8/10/80	SBSD		DY RAMA 6-28		00 07.2		
	8/10/80	S8SD	CONONIN	TV DAMA (_ 70.	-c coc	00 0/ 0		S RAMAO
0332 0507	0/10/00	SBSD]Y RAMA 6-28]Y RAMA 6-28				

TIME	DATE	LOC LOC TIME TZ .	SAMP					CODE DISP	Ε L		LON	NG.		LEG-SHIP CRUISE
					0800 Y	RAMA	6-28-E	GDC	00	04.3N	97	27.4E	S	RAMA06WT
								GDC	01	05.6N	98	08.7E	S	RAMA06WT
1415	9/10/80		SRSS	SEL	S RUN	RAMA	6-30 4-71							RAMAO6WT Ramao6WT
2235	9710780		5K 33 6 8 6 6	5E1-	S KUN S RIIN	RAMA PAMA	6-21							RAMAUGWI
0310	10/10/80		SRSS	SEI	S RUN	RAMA	6-33							RAMAOGHT
1016	10/10/80		SRSS	SE I	S RUN	RAMA	6-34	GDC	01	44.1N	97	45.9E	S	RAMA06WT
2041	10/10/80		SRSS	SEI	S RUN	RAMA	6-35	GDC	01	45.3N				RAMAO6WT
1207	11/10/80		SRSS	SE 1	S RUN	RAMA	6-36			26.4N	96	01.2E	S	RAMAOGWT
1432	12/10/80		5K 22 CD CC	SE1	S KUN S RIIN	КАМА • ФАМА	6-31 4-38							RAMAO6WT Ramao6WT
1017	16/10/80		SRSS	SEL	S RUN	RAMA	6-39	600	00	42.6N	96			RAMADOWT
1531	16/10/80		SRSS	SEI	S RUN	RAMA	6-40	GDC	00	19.7N	96	53.0E	S	RAMA06¥T
1642	16/10/80	· · · · · · · · · · · · · · · · · · ·	SRSS	SEI	S RUN	RAMA	6-41							RAMA06WT
0042	17/10/80	1	SRCS	3 SEI	S RUN		6-42	GGS	00	04.8N	96	59.6E	S	RAMA06WT
2025	16/10/80	-	SBMB	B RAM	A 6-4	2-A	_	GGS	00	03.4N	96	59.8E	S,	RAMAO6WT Ramao6WT
1990	11710760	I												
2259	16/10/80	•	SBOH (8 RAM	A 6-4	2-B		GGS	00	06.9N	96	59.4E	Ş	RAMAO6WT
2339	16/10/80		SBOH /	B RAM	A 6-4	-2-0	OD HONES	GGS	00	06.5N	96	59.4E	S	RAMADOWT
1024	17/10/60	ı	2005 1	E SEA SON	Р С UU 5 0 R H (1 Y	- 1110K / RAMA	UPDUNC2 4-42-D	603	00	00.30	96	59.6F	5	RAMADONT
1225	17/10/80	i	SBSD	SON	OBUOY	RAMA	6-42-E	GDC	00	10.4N	96	58.8E	ŝ	RAMAO6WT
1401	21/10/80	:	SRSS	SEI	S RUN	RAMA	6-43	GDC	00	54.ON	95	01.5E	S,	RAMAGENT
1512	21/10/80	r.	SRSS	SEI	S RUN	RAMA	6-44	GDC	00	59.1N	94	50.3E	S	RAMAO6WT
1612	21/10/80	1	28.22	261	S KUN	N KAMA	0-47	GUG	01	05.4N	94	40.45	3	KAMAUGWI
0448	22/10/80)	SRCS	B SEI ⊆ UR/	S RUN	RAMA	6-46 0/40	GG S GG S	00	57.8N	94 94	42.4E	S	RAMA06WT RAMA06WT
	21/10/80 22/10/80		SBMB 1 SBMB				0							RAMAO6WT Ramao6wt
	22/10/80		SBSD											RAMAOGWT
	22/10/80											_		RAMAOGWT
1459	22/10/80	1	SBOH	e sea	FLOOP	t HYDR	OPHONE2	GGS	00	57.9N	94	44.0E	S	RAMA06WT
	22/10/80		SBOH SBOH				ROPHONE3							RAMAOGWT RAMAOGWT
	23/10/80		SRSS				4 6-47							RAMACONT
	23/10/80		SRSS	-			6-48							RAMAOGWT
	24/10/80		SRSS	SEI	S RUN	RAMA	6-49	GDC	05	56.1N	95	50.58	S	S RAMAO6WT
1603	24/10/80))	SR SS SR SS		S RUN		6-50							S RAMAO6WT S RAMAO6WT

1 TWF	DATE	LOC LOC TIME TZ	SAMP			I DE			DIPE	,		101	MAGE		UEG-SHIP CRUISE
		TER ***	* - * * * *		****	• •• •• •• •							. 		
	- *	•								5				•	
1251	30/ 9/80		MGRA	8	MA GNET	ICS	R-01		GDC	01	12.05	100	05.6E	S	RAMAOGWT
1305	5/10/80		MGRA	£	MAGNET	rics	R-01		GDC	00	21.8N	97	56.3E	2	RAMAU6WI
1313 0039	5/10/80 25/10/80		MGRA MGRA	8 E	MA GNET MAGNET	FICS FICS	R-02 R-02		GDC GDC	00 05	21.5N 13.4N	97 97	57.0E 10.3E	S S	RAMAO6WI Ramao6WI
		·													
2355	26/10/80		MGRA	Ë	MAGNET	r ic s	R-03		GDC	01	09.9N	103	47.78	S	RAMAO6WT
¢≫≠GR	AVIMETRI	C RECORDS*	** CL	JR4	TOR L	M. C	ORMAN	I (EXT.	2406))					
			·												
1047	30/ 9/80		GVRA	в	GRAVI	ETER	R-01	L	LMD	01	01.35	100	16.5E	s	RAMAO6WI
1100	21/10/80		GVRA	ε	GRAVIN	4ET E P	R-01		LMD	00	42.0N	95	30.0E	S	RAMAO6W
1110	21/10/80		GVRA	8 5	GRAVIN	AETER	R-02	2	LMD	00	42.7N	95	28.4E	S	RAMA06WI
										01	U7.9N	105	4/4/6	Ş	KAMAUDW
***	GRAVITY	CORES ≉***	CURA	T)R – W	RIE	OEL E	XT. 43	86						
0436	13/10/80	· ·	COPG	·.	TRIP (GRAV	46 PG	1404M	GCR	00	35.6N	97	29.4E	s	RAMAO6W
0436	13/10/80		COPS	x	PISTO	N	46P	1404M	GCR						RAMA06W
1774	11. 110100				TOIN (SR AV	4 7 DC	C 776 M	C C D	00	02.4N	~ ~ ~			- 0 X M X O X M.
1246	14/10/80		COPG		PISTO	N	47P	5234M	GCR						
								-		00	02.4N	96	53.9E	S	RAMAO6W
	14/10/80							-		00	02.4N	96	53.9E	S	RAMAO6W
1948	14/10/80		CO PG	X	KING H		48G	5289M	GCR	00	02.4N 04.2N	96 96	53.9E 56.9E	s s	RAMAO6W
1948	14/10/80		CO PG	X	KING H		48G	5289M	GCR	00	02.4N 04.2N	96 96	53.9E 56.9E	s s	RAMAGAU
1948	14/10/80		CO PG	X	KING H		48G	5289M	GCR	00	02.4N 04.2N	96 96	53.9E 56.9E	s s	RAMAO6W
1948	14/10/80		CO PG	X	KING H		48G	5289M	GCR	00	02.4N 04.2N	96 96	53.9E 56.9E	s s	RAMAO6W
1948	14/10/80		CO PG	X	KING H		48G	5289M	GCR	00	02.4N 04.2N	96 96	53.9E 56.9E	s s	RAMAO6W RAMAO6W
1948 0035 0449 0449 0901 1233 1912	14/10/80		CO PG CO PG CO PG CO PG CO PG CO PG CO PG CO PG	×	KING H	KONG KONG KUNG TRIP CORE CORE GRAV	48G	5289M	GCR GCR GCR GCR GCR GCR GCR	00 00 00 00 00 00 00	02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N	96 96 97 97 97 97 97 97	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E	S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1912	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80		COPG COPG COPG COPG COPG COPG COPS	× ×	KING H KING H GRAV G GRAV G GRAV G TRIP G PISTO KING H	KONG KONG TRIP CORE CORE GRAV N	48G 49G 50G 51G 52G 53PG 53P	5289M 5251M 5264M 5264M 5232M 5226M 5162M 5162M 5241M	GCR GCR GCR GCR GCR GCR GCR GCR GCR	00 00 00 00 00 00 00 00	02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.8N	96 96 97 97 97 97 97 96 96 96	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E 49.5E 02.7E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1912 1328 1058	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80 19/10/80		COPG COPG COPG COPG COPG COPG COPS COPS	× × ×	KING H KING H GRAV G GRAV G GRAV G TRIP G PISTO KING H	KONG KONG TRIP CORE CORE GRAV N KONG	48G 49G 50G 51G 52G 53PG 53P 54G 55G	5289M 5251M 5264M 52264M 5232M 5226M 5162M 5162M 5162M 5241M 3363M	GCR GCR GCR GCR GCR GCR GCR GCR GCR		02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.0N 05.4N 03.9N 03.9N 03.9N 03.8N 08.3N	96 96 97 97 97 97 97 96 96 96 97	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E 49.5E 02.7E 16.8E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1328 1058 1511	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80 19/10/80 19/10/80		COPG COPG COPG COPG COPG COPG COPS COPS	× × ×	KING F KING F GRAV G GRAV G GRAV G TRIP G PISTO KING F KING F	KONG KONG TRIP CORE CORE GRAV N KONG KONG	486 496 506 516 526 53P6 53P 546 556	5289M 5251M 5264M 5264M 5232M 5226M 5162M 5162M 5162M 5241M 3363M 3190M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR	00 00 00 00 00 00 00 00 00 00 00 00	02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.9N 03.8N 03.8N 03.8N 17.5N	96 96 97 97 97 97 97 96 96 96 97 97	53.9E 56.9E 03.3E 00.9E 02.8E 02.9E 49.5E 49.5E 02.7E 16.8E 18.6E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1328 1058 1511	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80 19/10/80		COPG COPG COPG COPG COPG COPG COPS COPS	× × ×	KING H KING H GRAV G GRAV G GRAV G TRIP G PISTO KING H	KONG KONG TRIP CORE CORE GRAV N KONG KONG	486 496 506 516 526 53P6 53P 546 556	5289M 5251M 5264M 52264M 5232M 5226M 5162M 5162M 5162M 5241M 3363M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR	00 00 00 00 00 00 00 00 00 00 00 00	02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.0N 05.4N 03.9N 03.9N 03.9N 03.8N 08.3N	96 96 97 97 97 97 97 96 96 96 97 97	53.9E 56.9E 03.3E 00.9E 02.8E 02.9E 49.5E 49.5E 02.7E 16.8E 18.6E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1328 1058 1511 1904	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80 19/10/80 19/10/80	•	COPG COPG COPG COPG COPG COPG COPG COPS COGV COGV COGV	× × ×	KING H KING H GRAV G GRAV G GRAV G TRIP G PISTO KING H KING H	KONG KONG TRIP CORE CORE GRAV N KONG KONG KONG	486 496 506 516 526 53P6 53P 546 556 566 576	5289M 5251M 5264M 5264M 5232M 5226M 5162M 5162M 5162M 5241M 3363M 3190M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR	00 00 00 00 00 00 00 00 00 00	02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.9N 03.8N 03.8N 03.8N 17.5N	96 96 97 97 97 97 97 97 96 96 97 97 97	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E 02.7E 16.8E 18.6E 18.5E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1328 1058 1511 1904 0007 0118	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80 19/10/80 19/10/80 20/10/80 20/10/80		COPG COPG COPG COPG COPG COPG COPS COGV COGV COGV COGV	× × × × × ×	KING H KING H GRAV G GRAV G GRAV G TRIP G PISTO KING H KING H KING H KING H	KONG KONG KUNG TRIP CORE CORE CORE GRAV N KONG KONG KONG KONG	48G 49G 50G 51G 52G 53PG 53P 54G 55G 56G 57G 58G 59G	5289M 5251M 5264M 5264M 5232M 5226M 5162M 5162M 5162M 5241M 3363M 3190M 3208M 1367M 1391M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR		02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.9N 03.9N 03.8N 03.8N 17.5N 19.1N 35.5N	96 96 97 97 97 97 97 97 96 96 97 97 97 97 97	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E 02.7E 16.8E 18.6E 18.5E 24.4E 26.1E	S S S S S S S S S S S S S S S S S S S	RAMA06W
1948 0035 0449 0901 1233 1912 1912 1912 1328 1058 1511 1904 0007 0118 0220	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 17/10/80 19/10/80 19/10/80 19/10/80 20/10/80 20/10/80		COPG COPG COPG COPG COPG COPG COPG COPS COGV COGV COGV COGV COGV	× × × × ×	KING F KING F GRAV G GRAV G GRAV G TRIP G PISTO KING F KING F KING F KING F KING F KING F	KONG KONG KONG CORE CORE CORE CORE CORE CORE CORE KONG KONG KONG KONG KONG	48G 49G 50G 51G 52G 53PG 53P 54G 55G 56G 57G 58G 59G 60G	5289M 5251M 5264M 5232M 5226M 5162M 5162M 5162M 3363M 3190M 3208M 1367M 1391M 1391M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR		02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.9N 03.9N 03.9N 03.9N 03.9N 03.5N 17.5N 19.1N 35.5N	96 96 97 97 97 97 97 97 96 96 97 97 97 97 97 97	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E 49.5E 02.7E 16.8E 18.5E 24.4E 26.1E 26.6E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW
1948 0035 0449 0901 1233 1912 1912 1912 1328 1058 1511 1904 0007 0118 0220	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 18/10/80 19/10/80 19/10/80 20/10/80 20/10/80		COPG COPG COPG COPG COPG COPG COPS COGV COGV COGV COGV	× × × × ×	KING H KING H GRAV G GRAV G GRAV G TRIP G PISTO KING H KING H KING H KING H	KONG KONG KONG CORE CORE CORE CORE CORE CORE CORE KONG KONG KONG KONG KONG	48G 49G 50G 51G 52G 53PG 53P 54G 55G 56G 57G 58G 59G 60G	5289M 5251M 5264M 5264M 5232M 5226M 5162M 5162M 5162M 5241M 3363M 3190M 3208M 1367M 1391M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR		02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.9N 03.9N 03.8N 03.8N 17.5N 19.1N 35.5N	96 96 97 97 97 97 97 97 96 96 97 97 97 97 97 97	53.9E 56.9E 03.3E 00.9E 02.9E 02.9E 49.5E 49.5E 02.7E 16.8E 18.5E 24.4E 26.1E 26.6E	S S S S S S S S S S S S S S S S S S S	RAMA06W RAMA06W
1948 0035 0449 0901 1233 1912 1912 1328 1058 1511 1904 0007 0118 0220 0920	14/10/80 15/10/80 15/10/80 15/10/80 15/10/80 17/10/80 17/10/80 17/10/80 19/10/80 19/10/80 19/10/80 20/10/80 20/10/80		CO PG CO G CO CO PG CO G CO G CO G CO G CO G CO G CO G CO	× × × × × ×	KING F KING F GRAV G GRAV G GRAV G TRIP G PISTO KING F KING F KING F KING F KING F KING F	KONG KONG TRIP CORE CORE CORE CORE CORE CORE CORE KONG KONG KONG KONG KONG KONG	48G 49G 50G 51G 52G 53PG 53P 54G 556G 57G 58G 59G 60G 61G	5289M 5251M 5264M 5232M 5226M 5162M 5162M 5162M 3363M 3190M 3208M 1367M 1391M 1391M	GCR GCR GCR GCR GCR GCR GCR GCR GCR GCR		02.4N 04.2N 06.4N 05.8N 05.8N 05.0N 05.4N 03.9N 03.9N 03.9N 03.9N 03.9N 03.8N 03.8N 17.5N 19.1N 35.5N 35.8N 35.5N	96 96 97 97 97 97 97 97 96 97 97 97 97 97 97 97 97	53.9E 56.9E 03.3E 00.9E 02.9E 49.5E 02.7E 16.8E 18.6E 18.5E 24.4E 26.1E 26.6E 29.6E 03.1E	S S S S S S S S S S S S S S S S S S S	RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW RAMAOGW

T IME	DATE	LOC LOC TIME TZ	SAMP			• ••• ••• ••• ••• ••	DISP	•					LEG-SHIP CRUISE
		** CURATO											
0154 0456	18/10/80 18/10/80)	DRRO (DRRO (8 DREDGE E OREDGE	01 01	5129M 5129M	GCR GCR	00 00	08.5N 08.7N	97 97	04.8E 09.5E	s s	RAMAQ6WT Ramaq6wt
0704 0835	18/10/80 18/10/80		DRRO E DRRO E	3 DREDGE E DREDGE	02 02	4074M 4074M	GC R GC R	00 00	09.0N 09.1N	97 97	09.9E 11.2E	S S	RAMAO6WT RAMAO6WT
2045 2235	18/10/80 18/10/80		DRRO E DRRO E	B DREDGE E DREDGE	03 03	3141M 3141M	GCR GCR	00 00	08.2N 08.8N	97 97	17.1E 17.9E	S S	RAMAO6WT RAMAO6WT
0111 0230	19/10/80 19/10/80	 	DRRO E DRRO E	3 DREDGE E DREDGE	04 04	3352M 3352M	GCR GCR	00 00	08.4N 08.7N	97 97	17.2E 18.3E	s s	RAMAO6WT - Ramao6WT
0515 0656	19/10/80 19/10/80		DRRO I DRRO I	3 DREDGE E DREDGE	05 05	3440M 3440M	GCR GCR	00 00	07.5N 08.4N	97 97	16.7E 17.7E	s s	RAMAO6WT Ramao6WT
*** {	3ATHYTHER!	MOGRAPH **	*			· .							
0236 0220 0112 0034 0755 1836 0940 2000	3/10/80 5/10/80 6/10/80 7/10/80 8/10/80 16/10/80 17/10/80 21/10/80		BTXP BTXP BTXP BTXP BTXP BTXP BTXP BTXP	XBT NO XBT NO XBT NO XBT NO XBT NO XBT NO XBT NO XBT NO	• 1 • 2 • 3 • 5 • 6 • 7	·	665 665 665 665 665 665 665	01 00 00 00 00 00 00	31.1N 41.4N 38.5N 24.4N 08.5N 02.9N 00.6N 01.1N	97 98 98 98 97 96 96 94	51.7E 16.9E 28.5E 33.7E 59.9E 59.7E 42.2E	S S S S S S S S S S S S S S	RAMAOGWT RAMAOGWT RAMAOGWT RAMAOGWT RAMAOGWT RAMAOGWT RAMAOGWT RAMAOGWT
		ET ***						••		-,		-	Name Com.
1247 1253	8/10/80 8/10/80		SNNU I SNNU I	B SNNUH E SNNUH	SURFACE	0 02	MIC MIC	00 00	18.2N 18.4N	97 97	48.2E 48.0E	s s	RAMAO6WT Ramao6WT
0024 0029	9/10/80 9/10/80) 	SNNU I Snnu i	B SNNUH E SNNUH	SURFACE	0 03	MIC MIC	00 00	31.6N 31.7N	97 97	51.3E 51.1E	s s	RAMAO6WT Ramao6WT
0627 0632	13/10/80 13/10/80	1	SNNU (SNNU	B SNNUH E SNNUH	SURFACE	0 04	MIC MIC	00 00	36.0N 36.1N	97 97	29.5E 29.6E	S S	RAMAO6WT Ramao6WT
1217 1223	19/10/80 19/10/80	•	SNNU I SNNU I	B SNNUH E SNNUH	SURFACE	0 05	MIC MIC						RAMAO6WT Ramao6WT
0945 0953	20/10/80 20/10/80	•	SNNU I SNNU I	B SNNUH E SNNUH	SURFACE	0 06	MIC MIC	00 00	30.3N 29.8N	97 97	29.7E 29.6E	s s	RAMAO6WT Ramao6WT
1343 1355	22/10/80 22/10/80	1	SNNU SNNU	B SNNUH E SNNUH	SURFACE	0 7 0	MIC MIC	00	58.8N 58.3N	94 94	41.5E 41.7E	s s	RAMAOGWT Ramaogwt
0149 0202	25/10/80 25/10/80) 		B SNNUH E SNNUH	SURFACE	0 08	MIC MIC	05 05	12.7N 13.0N	97 97	11.5E 11.8E	s s	RAMAGGWT Ramadgwt

GMT D /M /Y LOC LOC TIME DATE TIME TZ	CODE SAMPLE SAMP	IDENT.	1 PAGE 11 DNG. LEG-SHIP CRUISE
*** MIDWATER TRAWL ***			
1621 22/10/80 2015 22/10/80			4 43.4E S RAMA06WT 4 45.9E S RAMA06WT

	D /M /Y DATE	LUC LUC TIME TZ	CODE SAMP	SAMPLE	IDENT.	DISP	LAT.	FB81 PAGE LONG.	LEG-SHIP CRUISE
*** (DES IGNATE	D TURNING	PUINTS	*** ***					,
1344	30/ 9/80		NVTP	TPLA			12.05	100 06.26	S RAMAQ6WT
	30/ 9/80		NVTP	TP2A					S RAMADOWT
	30/ 9/80		NVTP	TP3			0 21.75		S RAMADOWT
0300			NVTP	TP4			0 08.4N		S RAMAO6WT
0511			NVTP	TP5		GD C 00	0 18.5N	98 46.9E	S RAMAO6WT
1511	1/10/80		NVTP	TP5A			0 32.4N		S RAMAUGHT
1630			NVTP	TP6			0 37.9N		S RAMAOGWT
1948	1/10/80		NVTP	TP7			0 44.0N		S RAMADOWT
2225 0110			NVTP NVTP	TP8 TP9	· · -		0 50.4N 0 58.5N		S RAMAD6WT S RAMAD6WT
(440)			NVTP	TP10			1 01.6N		S RAMADOWT
0711			NVTP	TP11			1 17.1N		S RAMAOGWT
0910			NVTP	TP12			1 27.5N		S RAMADOWT
	2/10/80		ΝΥΤΡ	TP13		GDC 0	2 07.1N	97 28.3E	S RAMAQ6WT
2000	2/10/80	· ·	NVTP	TP14		GDC 0	2 02.6N	97 46.4E	S RAMAOGWT
2351			NVTP	TP15			1 39.5N		S RAMAD6WT
0640			NVTP	TP16			1 19.3N		S RAMAQ6WT
1000			NVTP	TP17			1 34.5N		S RAMA06WT
1608 1730			NVTP NVTP	TP18 TP19			1 55.9N 1 57.0N		S RAMAO6WT S RAMAO6WT
0253			NVTP	TP20			1 11.6N		S RAMAUGHT
0630			NVTP	TP21	•		1 11.4N		S RAMADOWT
0705			NVTP	TP21A			1 11.8N		S RAMAO6WT
0830			NVTP	TP22			1 18.9N		S RAMAO6WT
1110			NVTP	TP23		GDC 0	1 32.7N	97 36.9E	S RAMAO6WT
1205			NVTP	TP24			1 32.7N		S RAMAO6WT
1305			NVTP	T P 2 5	· .		1 27.2N		S RAMAOGWT
1830			NVTP	TP26			1 23.9N		S. RAMAO6WT
2320 0009			NVTP NVTP	T P 2 7 T P 2 8	. •		0 54.5N 0 51.1N		S RAMAO6WT S Ramao6WT
0009	• = • • •		NVTP	TP28			0 51.1N		S RAMAUSWI S RAMAOSWI
0130			NVTP	TP30			0 44.6N		S RAMAOGWT
0925			NVTP	TP31		GDC O	0 18.1N	97 40.5E	S RAMAOGWT
1115	5/10/80		NVTP	TP32		GDC 0	0 26.1N	97 45.5E	S RAMAUGWT
1720			ΝΥΤΡ	T P 3 3			0 11.3N		S RAMAO6WT
1825			NVTP	TP34			0 15.2N		S RAMAD6WT
2320			NVTP	T P 3 5			0 36.2N		S RAMAOGWT
0041			NVTP	TP36			0 38.2N		S RAMAOGWT
0400 0900			NVTP NVTP	TP37 TP38			0 48.0N		S RAMAO6WT S Ramao6WT
1400			NVTP	TP37A			0 47.4N		S RAMADOWT
1815			NVTP	TP40			0 24.5N		S RAMAOGHT
2308			NVTP	TP41	·		0 18.2N		S RAMAO6WT
0023			ΝΥΤΡ	TP41A			0 23.5N		S RAMAO6WT
0313			NVTP	TP42	25		0 38.4N	98 22.5E	S RAMAO6WT
2130			NVTP	TP43			0 23.15		S RAMAO6WT
2212			NVTP	TP44			0 21.15		S RAMAO6WT
1245			NVTP	TP45			0 18.1N		S RAMAO6WT
1725			NVTP	TP46			0 45.1N		S RAMAOGWT
1836	8/10/80		NV T P	TP47		606 0	0 48.2N	91 31.7E	S RAMAO6WT

	Y\ M\ D 3TAU	LOC LOC TIME TZ	CDDE Samp	SAMPLE	IDENT .	CODE DISP	LAT.	B81 PAGE LONG.	LEG-SHIP CRUISE
- - 1939	8/10/80		NVTP	TP48		GDC 0	0 43.5N	97 35.88	S RAMAO6WT
2200	8/10/80		NVTP	TP49		GDC 0	0 30.7N	97 40.58	S RAMAO6WT
2305	8/10/80	•	NVTP	TP50		690 0	0 30.ON	97 47.0E	S RAMAO6WT
335	8/10/80		NVTP	TP51		GDC 0	0 30.1N	97 49.5E	S RAMAO6WT
816	9/10/80		NVTP	TP52			0 42.0N		S RAMAO6WT
100	9/10/80		NVTP	ТР53,		- GDC 0	0 58.3N		S RAMAO6WT
.230	9/10/80		ΝΥΤΡ	TP54			1 07.ON		S RAMAO6WT
550	9/10/80		NVTP	TP55			1 21.8N		S RAMAO6WT
905	9/10/80		NVTP	TP56	· .		1 36.8N		S RAMAO6WT
124	9/10/80		NVTP	TP57			1 43.9N		S RAMAO6WT
2211	9/10/80		NVTP	TP58			1 46.4N		S RAMAOGWT
	10/10/80		NVTP	TP59			1 23.4N		S RAMAO6WT
	10/10/80		NVTP	TP60			1 26.4N		S RAMAOGWT
	10/10/80		NVTP	TP61			1 41.7N 1 40.0N		S RAMAO6WT S RAMAO6WT
	10/10/80		NVTP	T P62 T P63			1 52.8N		S RAMADOWI
	11/10/80		NVTP	TP64			2 15.2N		S RAMAOSWT
	11/10/80		NVTP	TP65			1 26.3N		S RAMAO6WT
	11/10/80		NVTP	TP66			1 35.1N		S RAMAO6WT
	11/10/80		NVTP	TP67			1 12.1N		S RAMADOWT
	11/10/80	•		TP68			0 30.6N		S RAMAO6WT
	12/10/80			. TP69			0 29.9N		S RAMAO6WT
550	12/10/80		ΝΥΤΡ	TP70		GDC O	0 32.2N		S RAMAO6WT
750	12/10/80		NVTP	TP71		GDC 0	0 26.6N	97 39.28	S RAMAO6WT
100	12/10/80		NVTP	TP72		GDC 0	0 47.3N	97 19.9E	S RAMAO6WT
150	12/10/80		NVTP	TP 73		GDC O	0 47.7N		S RAMAOGWT
557	12/10/80		NVTP	TP 74		GDC 0	0 16.3N		S RAMAO6WT
	12/10/80		Νντρ	TP 75			0 21.6N		S RAMAD6WT
	12/10/80		ΝΥΤΡ	TP76			0 36.9N		S RAMAOGWT
	12/10/80		NVTP	TP 77			0 34.4N		5 RAMAD6WT
	13/10/80		NVTP	TP78			0 41.8N		S RAMAOGWT
	13/10/80		NVTP	TP 79			0 36.5N		S RAMAO6WT
	13/10/80		NVTP	TP80	. •		0 29.8N		S RAMAOGWT
	13/10/80		NVTP	TP81			0 11.5N		S RAMAOGWT S RÅMAOGWT
	14/10/80		NVTP NVTP	TP82 TP83			0 10.8N 0 10.0N		S RAMAUGWT
	14/10/80		NVTP	TP84		600 0	0 01.55		S RAMAOGWT
	14/10/80	•	NVTP	TP85			0 10.6N		S RAMADOWT
	14/10/80		NVTP	TP86			0 07.2N		S RAMADOWT
	14/10/80		NVTP	TP87			0 06.4N		S RAMADOWT
	14/10/80		NVTP	TP88			0 05.7N		S RAMADOWT
	15/10/80		NVTP	TP89		GDC O	0 08.1N		S RAMAO6WT
624	15/10/80		NVTP	TP90		GDC 0	0 10.3N	96 54.9E	S RAMAO6WT
048	15/10/60		NVTP	TP91			0 30.4N	97 16.7E	S RAMAO6WT
	15/10/80		ΝΥΤΡ	TP92			0 36.2N		S RAMAO6WT
	16/10/80		NVTP	TP93			0 26.1N		S RAMAO6WT
	16/10/80		NVTP	TP94			0 31.1N		S RAMAOGWT
	16/10/80		NVTP	TP95			0 46.1N		S RAMAO6WT
	16/10/80		NVTP	TP96	70		0 47.7N		S RAMAOGWT
	16/10/80		NVTP	TP97			0 42.7N		S RAMAD6WT
	16/10/80		NVTP	T 998			0 32.9N		S RAMADOWT
	16/10/80		NVTP	TP99			0 20.3N		S RAMAO6WT
1746	16/10/80		NVTP	TP100 -		GDC 0	0 03.1N	96 59.9E	S RAMAO6WT

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LEG-SHIP CRUISE	iG.	LAT. LO	CODE	SAMPLE IDENT.	CODE	100 100	D /M /Y	
			D15P		SAMP	TIME TZ	DATE	TIME
S RAMAOGWT	59.7E S	0 01.4N 96	6DC 0	TP101	NVTP		17/10/80	0930
S RAMAOGWT	57.1E S	0 15.8N 96	GDC 0	TP102	NVTP		17/10/80	1330
S RAMADOWT	04.4E S	0 03.4N 9	GDC 0	TP103	NVTP		21/10/80	0028
S RAMA06WT	28.1E S	1 08.7N 94	GDC 0	TP104	NVTP		21/10/80	1726
S RAMA06WT	26.18 S	1 09.5N 94	GDC 0	TP104A	NVTP		21/10/80	1738
S RAMA06WT	41.3E S	1 01.6N 94	GDC 0	TP1048	ΝΥΤΡ		21/10/80	1934
5 RAMA06WT	42.0E 5	2 36.7N 95	GDC 0	TP105	NVTP		23/10/80	0840
S RAMAO6WT	07.8E S	4 04.4N 95	GDC 0	TP106	NVTP		23/10/80	1835
S RAMA06W1	55.4E S	5 23.9N 94	GDC 0	TP107	NVTP		24/10/80	0312
5 RAMAO6WT	19.8E 5	5 44.6N 95	600 0	TP108	ΝΥΤΡ		24/10/80	0705
S RAMAO6W1	50.1E S	5 58.7N 95	GDC 0	TP109	NVTP		24/10/60	1045
S RAMAO6WT	57.7E S	5 31.8N 95	GDC 0	TP110	ΝΥΤΡ		24/10/80	1355
S RAMA06WT	16.8E S	5 36.7N 90	GD C 0	TP111	NVTP	•	24/10/80	1600
S RAMAOGWT	31.7E S	5 15.9N 96	GDC 0	TP112	Νντρ		24/10/80	1840
S RAMADOW			GDC 0	TP113	NVTP		24/10/80	
S RAMAOGWT	11.0E S			TP114	NVTP		25/10/80	
S RAMAD6W1	00.3E S			TP115	ΝΥΤΡ		25/10/80	