INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH, MAGNETIC AND SUBBOTTOM PROFILER DATA

(Issued September 1980)

RAMA EXPEDITION

LEG_3

Midway Island (25 May 1980) to Yokosuka, Japan (25 June 1980)

R/V T. Washington

Co-Chief Scientists - E. L. Winterer and P. F. Lonsdale (SIO)

Resident Marine Tech - R. L. Comer

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

Data Collection Funded by NSF Grant Number OCE77-23258 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.

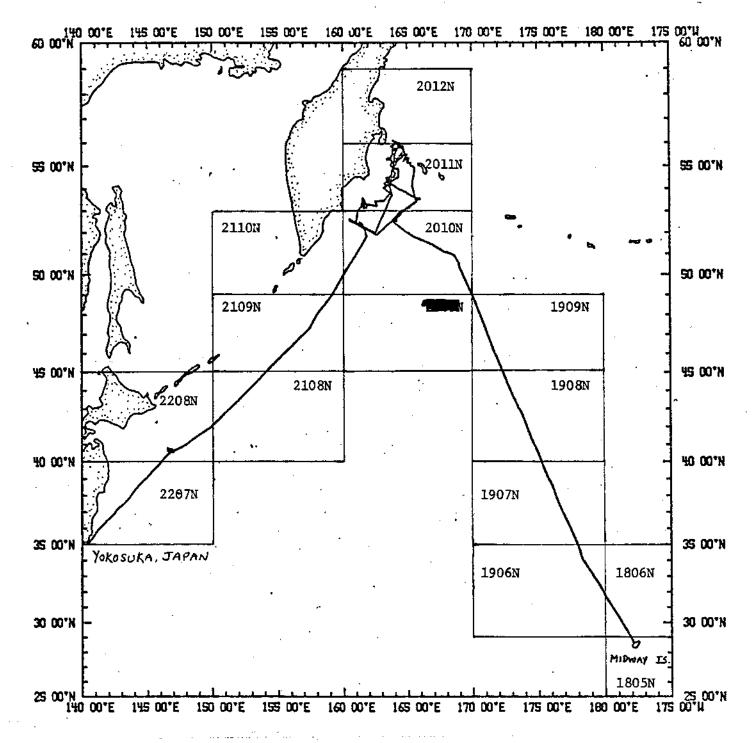
Informal Report and Index of Navigation, Depth, Magnetic and Subbottom Profiler Data

Contents:

- Track Charts annotated with dates (day/month) and hour ticks. The scale is .3"/deg. long.
- 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.

- 1. Navigation listing of times and positions of course and speed changes, fixes and drift velocity.
- 2. Depth compilation plots in fathoms (assumed sound velocity of 800 fm./sec.) at approximately 1 mile spacing, plotted at 4"/degree with standard U. S. Navy Oceanographic Office BC series boundaries (see index chart).
- 3. Plots of magnetic anomaly profiles along track map scale = 1.2"/degree; anomaly scale between 15°N and 15°S latitude = 500 gamm/inch; anomaly scale north of 15°N and south of 15°S = 1000 gamm/inch; from values retrieved at approximately 1 mile spacing and regional field removed using the 1975 IGRF.
- 4. Card decks of navigation, depth and magnetics (for specific formats, contact S. M. Smith, Geological Data Center).
- 5. 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.
- 6. 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 3

Co-Chief Scientists: E. L. Winterer and P. F. Lonsdale (SIO)

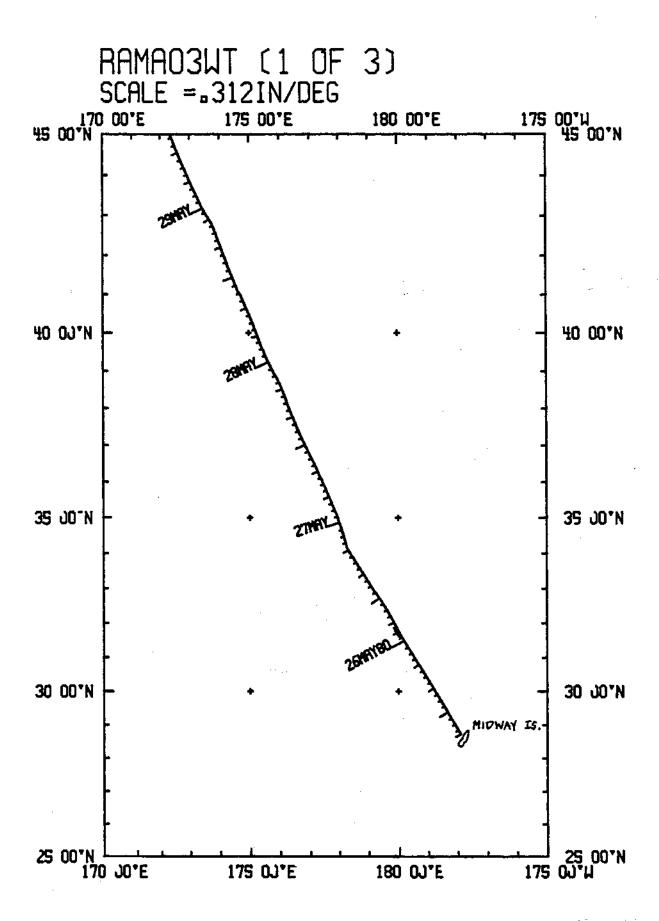
Ports: Midway Island to Yokosuka, Japan

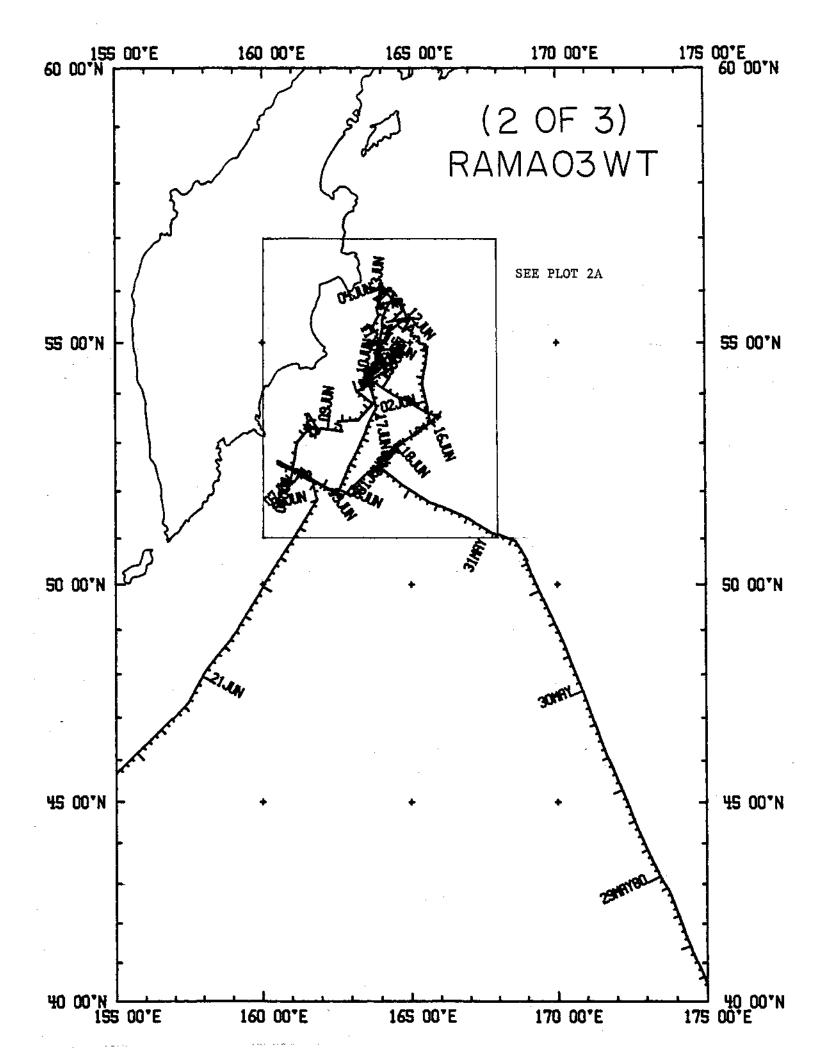
Dates: 25 May to 25 June 1980

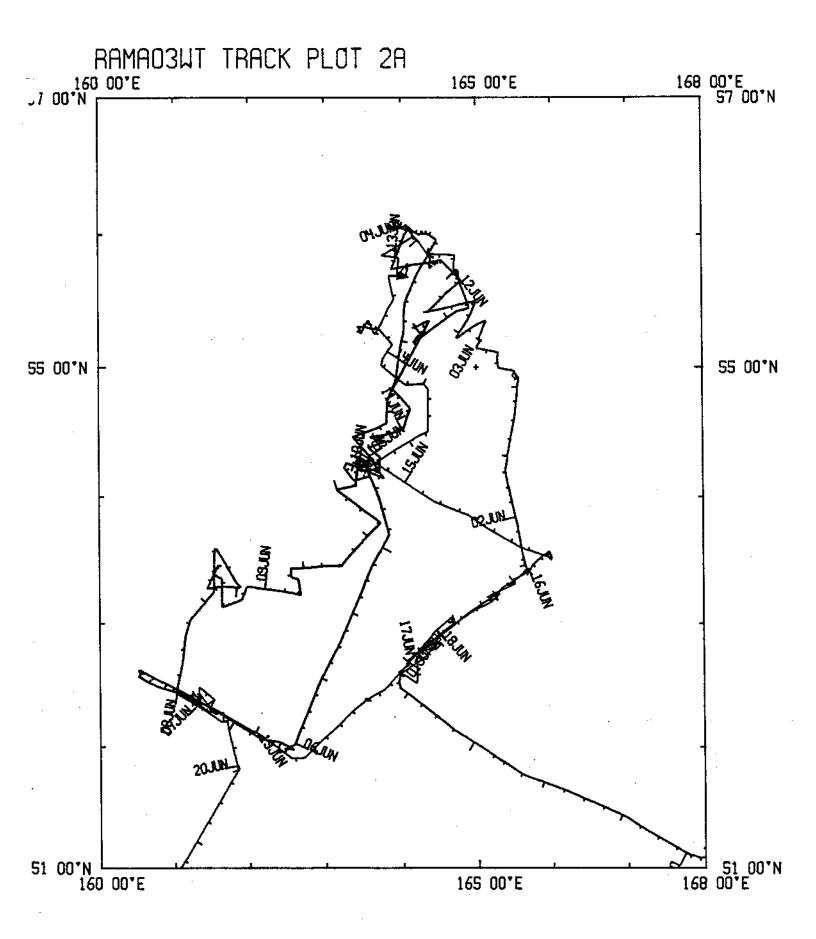
Ship: R/V T. Washington

TOTAL MILEAGE

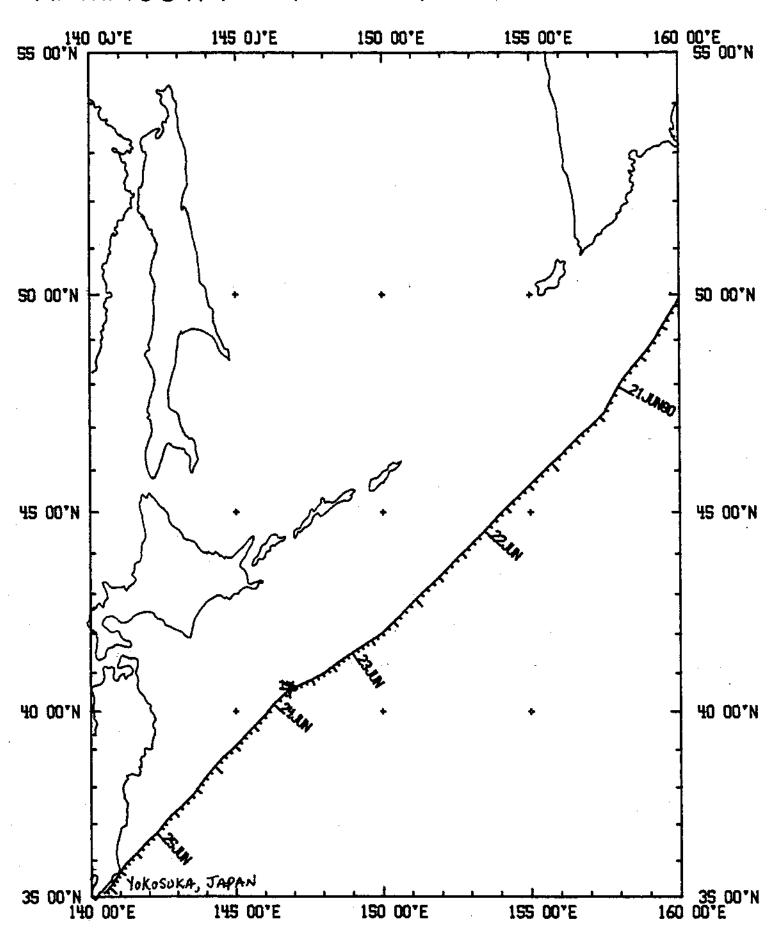
- 1) Cruise 5462 miles
- 2) Bathymetry 5027 miles
- 3) Magnetics 4278 miles
- 4) Seismic Reflection 4332 miles
- 5) Gravity none collected

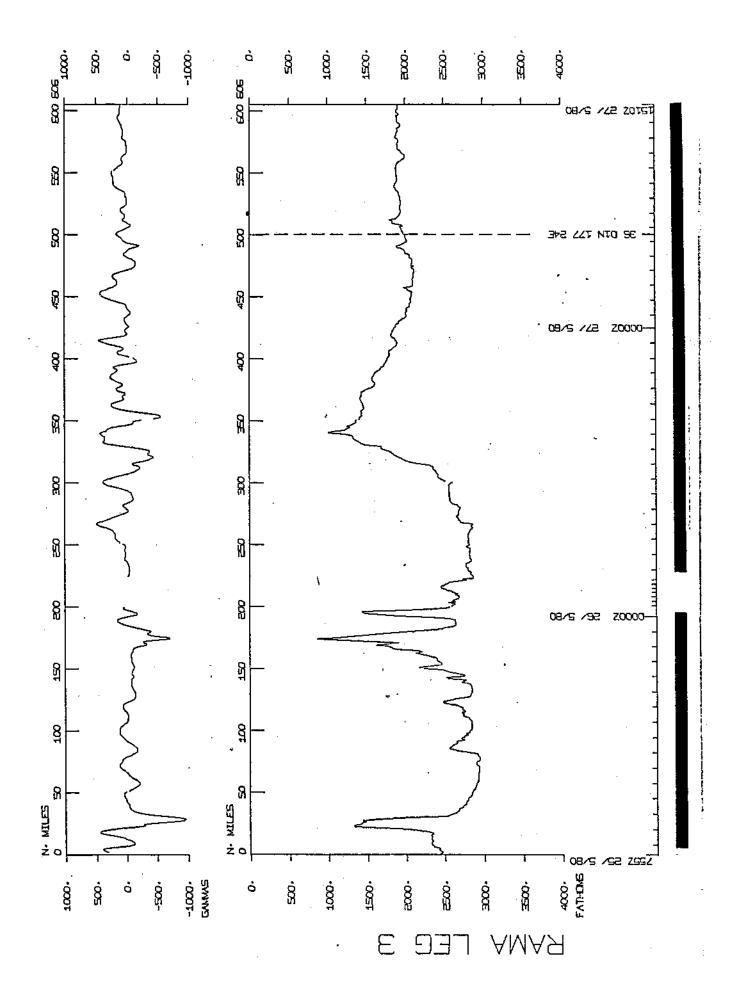


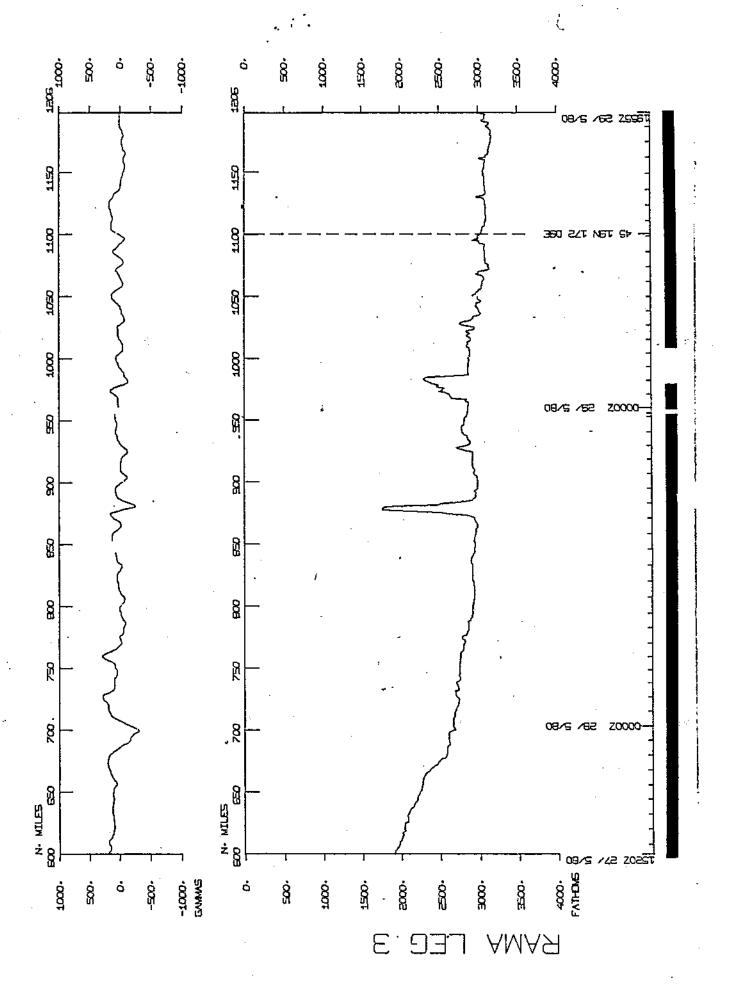


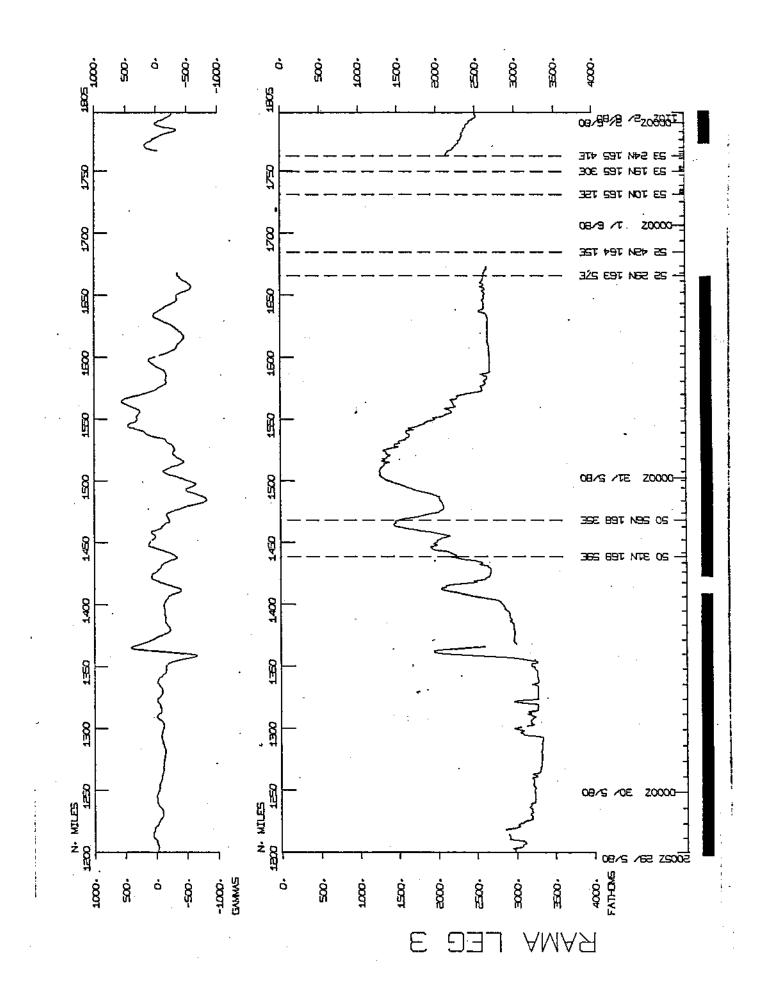


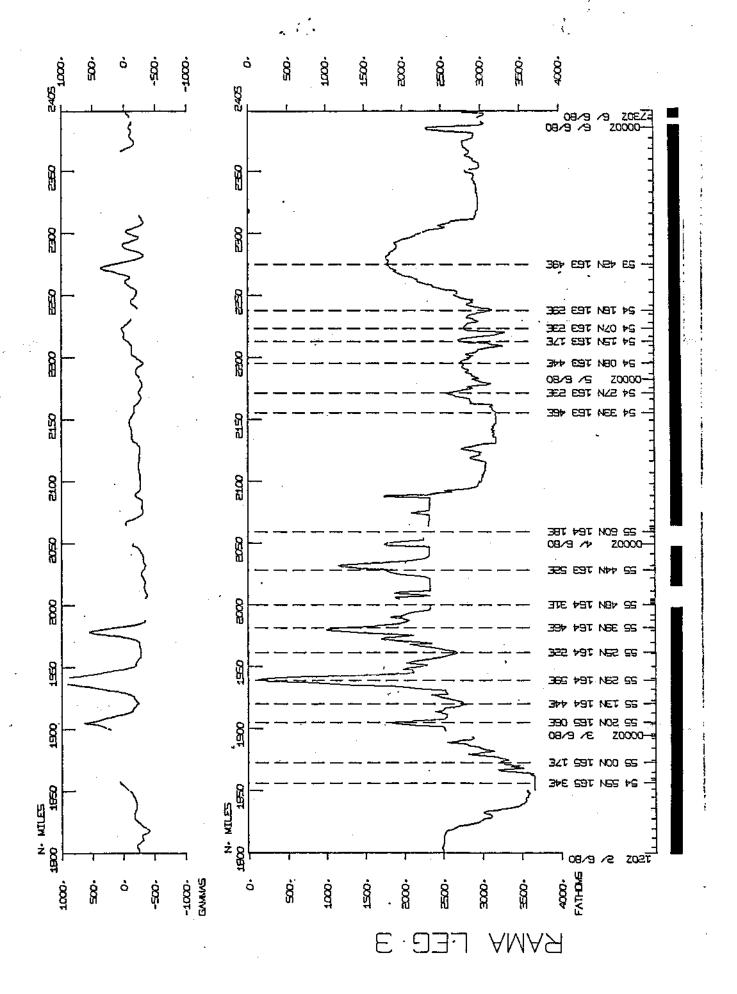
RAMAO3WT (3 OF 3)

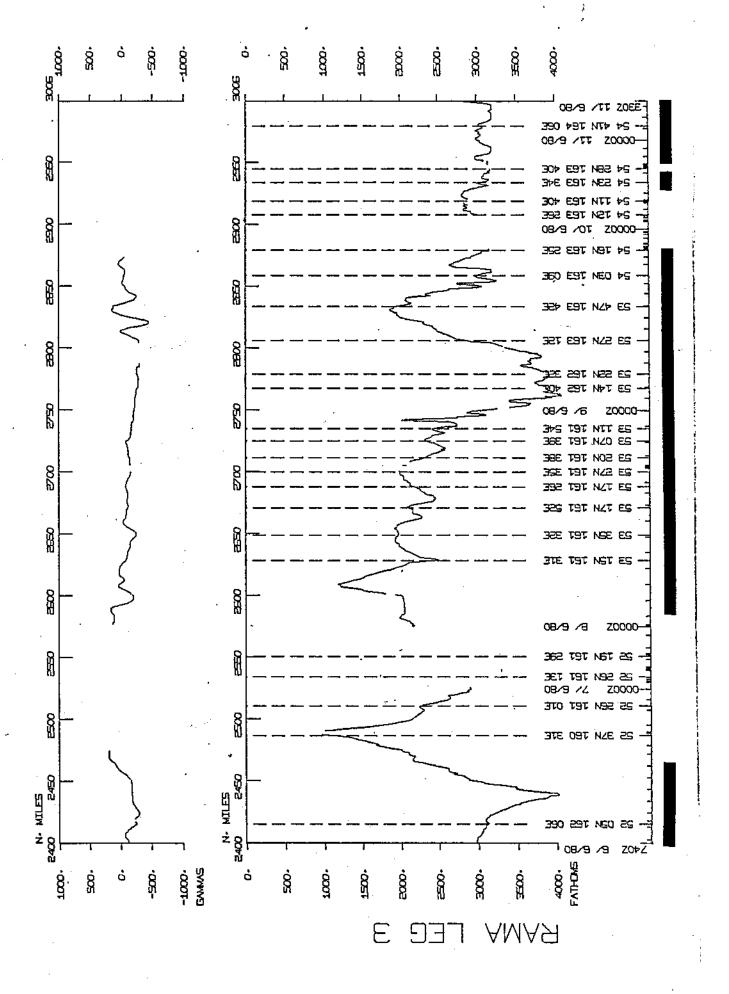


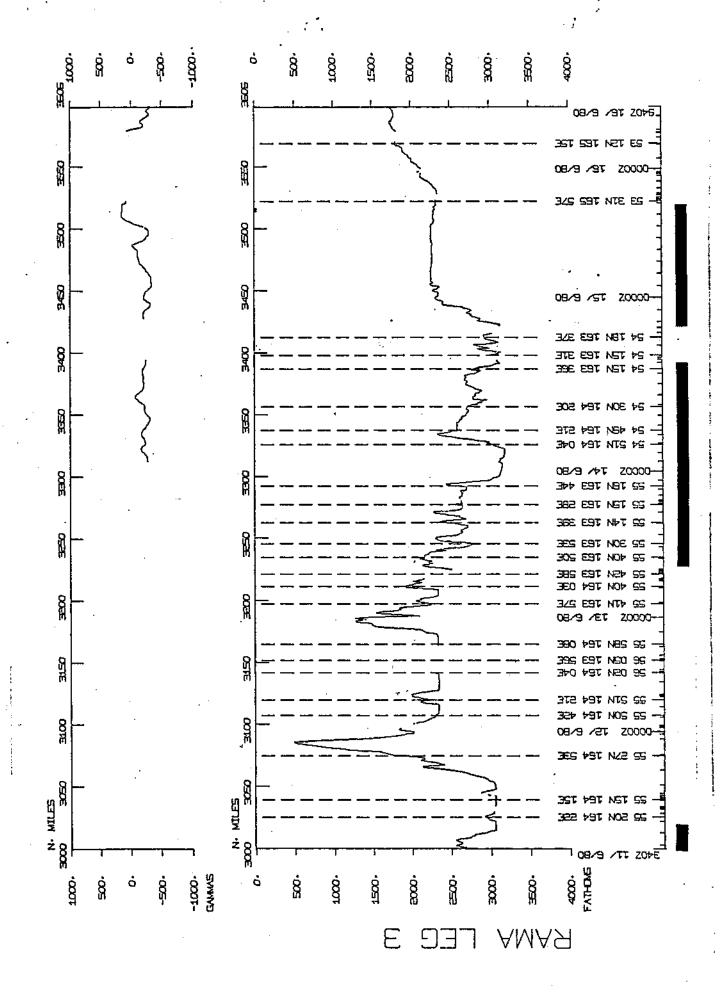


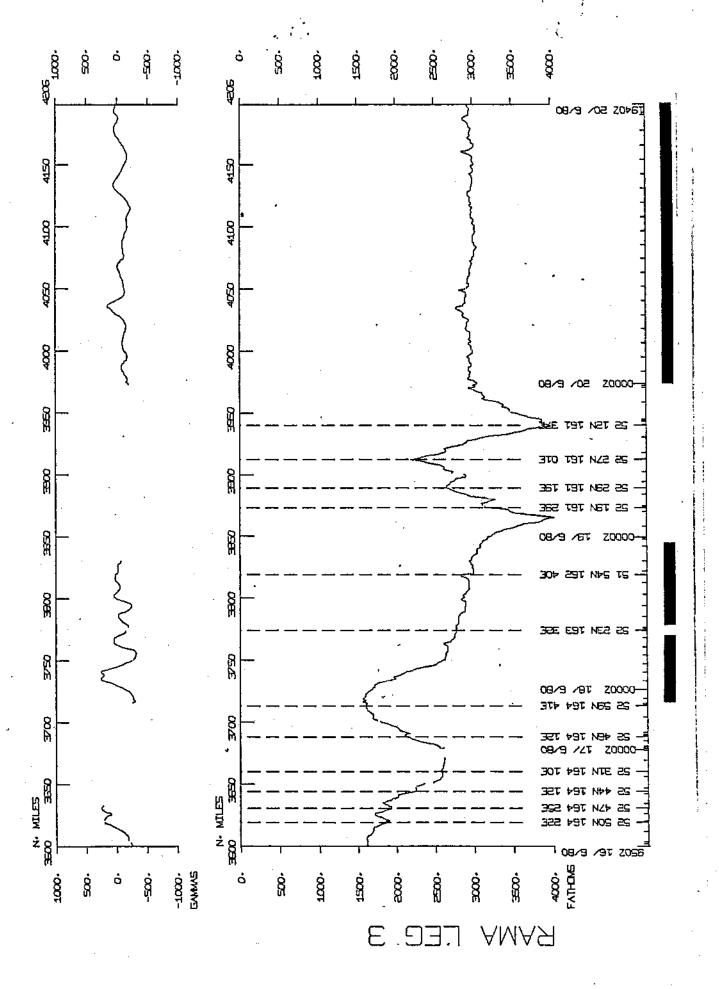


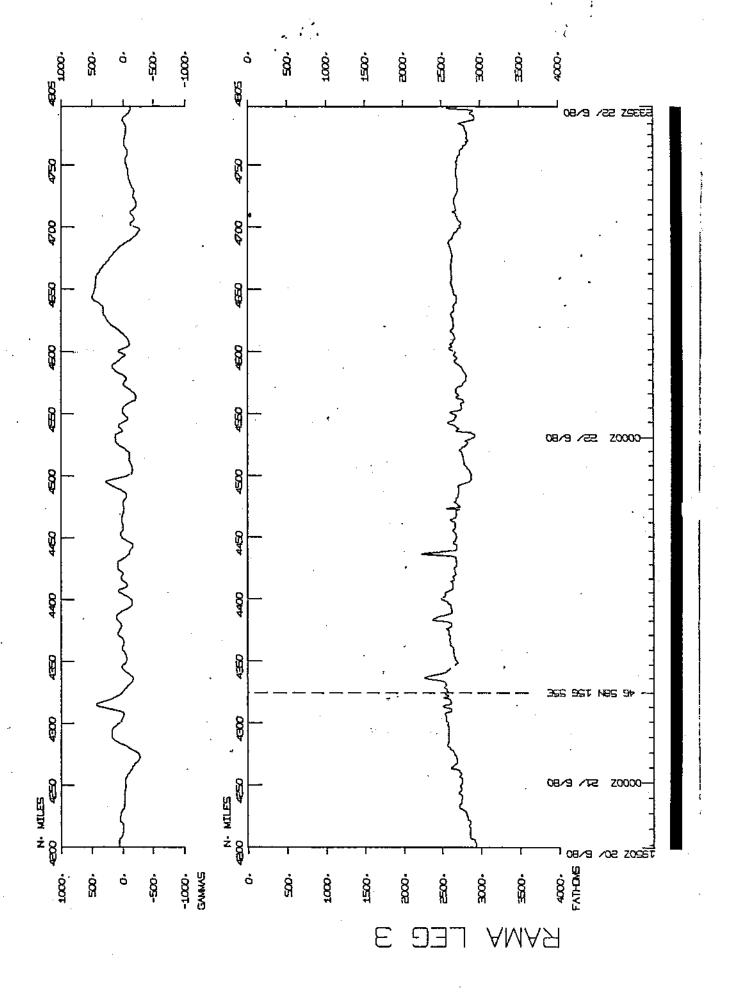


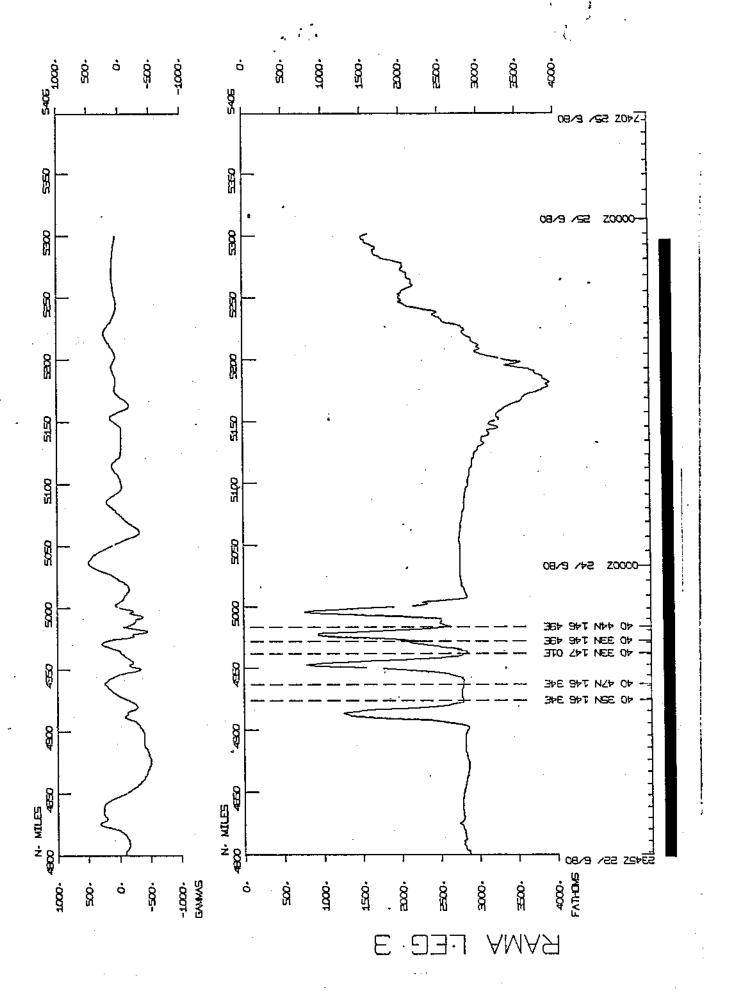


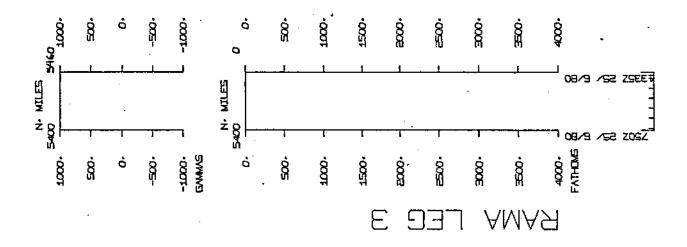












S.I.O. SAMPLE INDEX

(Issued September 1980)

RAMA EXPEDITION

LEG 3

Midway Island (25 May 1980) to Yokosuka, Japan (25 June 1980)

R/V T. Washington

Co-Chief Scientists - E. L. Winterer (SIO) P. F. Lonsdale (SIO)

Resident Marine Tech - R. L. Comer

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

Index Encoding Funded by NSF Grant Number OCE77-23704 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.)

NOTE: This document is intended primarily for informal use within the institution and 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.

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			τo			
		25JUN80	- YC	KOSUKA, JAPAN		

SHIP - R/V THOMAS WASHINGTON (SIO)

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

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

OISP						T	YPE					T	OTAL
		CA	CM	CO	ÐP	GC	HÇ	LB	MG	PE	SP		
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GDC	Ĭ				`8			1	3		18	Ī	30
GRD	I									8		I	8
MTG	I									1		I	1 .
ORD	1									1		Į	1
PCF	1		12			32	29			5		I	78
SCG	I									1		1	1
SGG	Ţ									1		I	1
SIX	Į				•					2	•	I	2
TOTAL	ī	2	12	24	8	32	29	1	3	19	18	 I	148

SAMPLE 'TYPE' CODES USED ABOVE

CA = CAMERA

CM = CURRENT MEASUREMENT.

CO = CORE

OP = DEPTH GC = GEOCHEMICAL SAMPLING

HC = HYDROGRAPHIC CAST

LB = LDG 800KS

MG = MAGNETICS (TOWED VEHICLE, SURFACE, TOTAL FIELD)
PE = PERSONNEL IN SCIENTIFIC PARTY

SP = SEISMIC REFLECTION PROFILE AIRGUN

SAMPLE 'DISP' CODES USED ABOVE

ELW = EDW. L. WINTERER (EXT. 2083)

GCR = GEOLUGICAL CURATING FACILITY -- W. RIEDEL, (EXT. 4386) GDC = GEOLUGICAL DATA CENTER -- S. SMITH (EXT. 2752)

GRD = GEOLOGICAL RESEARCH DIVISION (EXT. 3360) MTG = MARINE TECHNOLOGY GROUP (EXT 4194)

= OCEAN RESEARCH DIVISION (EXT. 2857)

PCF = PHYSICAL AND CHEMICAL DATA FACILITY (EXT. 2240)

SCG = SHIPBOARD COMPUTER GROUP (EXT. 4195)

SGG = SHIPBOARD GEOPHYSICAL GROUP-P. CRAMPTON (EXT.2079)

SIX = SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER *(EXT.3675)

20AUG80 PAGE GMT D /M /Y LOC LOC CODE SAMPLE IDENT. CODE LAT. LONG. LEG-SHIP TIME DATE TIME TZ SAMP DISP RAMA LEG 3 SAMPLE INDEX RAMAG 3WT *** PORTS *** **-** . . . LGPT B MIDWAY ISLAND LGPT E YOKOSUKA, JAPAN 28 13. N 177 23. W F RAMAO3WT 35 17. N 139 40. E F RAMAO3WT 0400 25/ 5/80 2100 25/ 6/80 ***PERSONNEL*** *** NAME *** TITLE *** *** AFFILIATION *** CHIEF SCIENTIST SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 1 WINTERER E.L. DR. CO-CHIEF SCIENT. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 COMPUTER TECH. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 2 LONSDALE P.F. DR. 3 CHARTERS J.S. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 4 COMER R.L. RESIDENT TECH. 5 COSTELLO J.P.JR. MARINE TECH. SCRIPPS INSTITUTION OF OCEANDGRAPHY, LA JOLLA CAL. 92093 SCRIPPS INSTITUTION OF OCEANDGRAPHY, LA JOLLA CAL. 92093 6 GRAHAM J.B. ELECTRONIC TECH. 7 HUBENKA F. AIRGUN TECH. 8 MUUS D.A. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 MARINE TECH. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 9 SANCHEZ F.JR. ELECTRONIC TECH. MARINE TECH. 10 WALSH T. II MAYER L. A. DR. SCIENTIST SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JULLA CAL. 92093 12 STALLARD M. DR. 13 TENNY C.L. STAFF RES. ASSOC. SCRIPPS INSTITUTION OF DCEANOGRAPHY, LA JOLLA CAL. 92093 SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 14 BALTUCK M. STUDENT 15 GRUNDER A. STUDENT 16 MAHONEY J.J. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JULLA CAL. 92093 STUDENT SCRIPPS INSTITUTION OF CCEANGGRAPHY, LA JOLLA CAL. 92093 17 REED D.L. STUDENT 18 STONE W.A. 19 STOUT P.M. SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093 STUDENT

NOTES AN 'X' IN THE (8)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. (MOORED 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.

STUDENT

UNDERWAY DATA CURATOR - STUART M. SMITH (EXT.2752)

*** LGG BCOKS ***		
0730 25/ 5/80 2310 24/ 6/80	LBUW B UNDERWAY LOG P.1-182 LBUW E UNDERWAY LOG P.1-182	GDC 28 43.6N 177 54.0W \$ RAMAO3WT GDC 36 52.7N 142 23.6E \$ RAMAO3WT
*** FATHOGRAMS ***		
0730 25/ 5/80 2104 29/ 5/80	DPR3 B 3.5 KHZ ROLL 01 DPR3 E 3.5 KHZ ROLL 01	GDC 28 43:6N 177 54:0W \$ RAMAO3WT
2131 29/ 5/80	DPR3 8 3:5 KHZ ROLL 02	GDC 47 08:4N 171 07:0E \$ RAMA03WT
2327 4/ 6/80 1933 9/ 6/80	OPR3 8 3.5 KHZ ROLL 03 OPR3 E 3.5 KHZ ROLL 03	GDC 54 20.8N 163 32.7E \$ RAMAO3WT GDC 54 12.4N 163 25.5E \$ RAMAO3WT
1953 9/ 6/80 2009 13/ 6/80	DPR3 B 3.5 KHZ ROLL 04 OPR3 E 3.5 KHZ ROLL 04	GDC 54 15.0N 163 26.4E S RAMAO3WT GDC 55 17.5N 163 27.5E S RAMAO3WT
2037 13/ 6/80 1925 17/ 6/80	DPR3 B 3.5 KHZ ROLL 05 DPR3 E 3.5 KHZ ROLL 05	GDC 55 18.2N 163 26.6E S RAMAO3WT GDC 53 00.4N 164 39.9E S RAMAO3WT
1948 17/ 6/80 0727 21/ 6/80	DPR3 8 3.5 KHZ ROLL 06 DPR3 E 3.5 KHZ ROLL 06	GDC 53 00.6N 164 39.5E S RAMAO3WT GDC 46 47.5N 156 38.3E S RAMAO3WT
0755 21/ 6/80 1845 23/ 6/80	DPR3 B 3.5 KHZ ROLL 07 DPR3 E 3.5 KHZ ROLL 07	GDC 46 43.6N 156 32.8E S RAMAO3WT GDC 40 39.5N 146 49.0E S RAMAO3WT
1906 23/ 6/80 2310 24/ 6/80	DPR3 8 3.5 KHZ ROLL 08 DPR3 E 3.5 KHZ ROLL 08	GDC 40 43.0N 146 49.0E S RAMAO3WT GDC 36 52.7N 142 23.6E S RAMAO3WT
÷÷÷ MAGNETOMETER ***		
0824 25/ 5/80 0542 31/ 5/80	MGRA B MAGNETICS ROLL OF MGRA E MAGNETICS ROLL OF	GDC 28 46.1N 177 55.7W S RAMAO3WT GDC 51 33.5N 166 29.3E S RAMAO3WT
	MGRA B MAGNETICS ROLL 02 MGRA E MAGNETICS ROLL 02	GDC 51 34.2N 166 26.7E S RAMAD3WT GDC 40 24.0N 146 34.6E S RAMAD3WT
	,	GDC 40 22.5N 146 32.5E S RAMAD3WT GDC 36 54.8N 142 25.4E S RAMAD3WT

20AUG80 PAGE 3
GMT D /M /Y LOC LOC CODE SAMPLE IDENT. CODE LAT. LONG. LEG-SHIP
TIME DATE TIME TZ SAMP DISP CRUISE

*** SEISMIC REFLECTION PROFILES ***

	25/ 5/80 06/ 6/80		AIRGUN AIRGUN										RAMAO3WT Ramao3WT
	08/06/80 22/ 6/80	SPRS B SPRS E	AIRGUN AIRGUN	10SEC 10SEC	ROLL ROLL	02 02							RAMAO3WT RAMAO3WT
	22/ 6/80 24/ 6/80		AIRGUN AIRGUN										RAMAO3WT RAMAO3WT
0851 0532	25/*5/80 31/ 5/80		A IRGUN				GDC GDC	28 51	49.5N 32.8N	177 166	57.9W 31.9E	S	RAMAO3WT RAMAO3WT
	31/ 5/80 24/ 6/80		AIRGUN AIRGUN										RAMAD3WT RAMAD3WT

*** SEISMIC REFLECTION LINE, DIGITAL, SINGLE CHANNEL ***

NOTE: There is no Single Channel Seismic Line 03

0314 2104		5/80 5/80	SPSL B SPSL E	SINGLE CHAPES 1→7	N SEISMIC LINE OI	GDC 3 GDC 4	5 26.7N 3 05.4N	177 173	43.4E 30.2E	S	RAMAO 3WT RAMAO 3WT
2340 1743				SINGLE CHAITAPES 1-9						-	RAMAO3WT RAMAO3WT
2148 0131				SINGLE CHAPES 1-2				_		-	RAMAO3WT Ramao3WT
1928 2355		6/80 6/80		SINGLE CHA	N SEISMIC LINE 05						RAMAO 3WT RAMAO 3WT
1040 1730				SINGLE CHA TAPES 1-6							RAMAO3WT RAMAO3WT
0427 1338				SINGLE CHA							RAMAO3WT RAMAO3WT
		6/80 6/80		SINGLE CHA TAPES 1-2							RAMAO3WT RAMAO3WT
	.12/	6/80 6/80		SINGLE CHA	N SEISMIC LINE 09						RAMAO3WT RAMAO3WT
		6/80 6/80		SINGLE CHA TAPES 1	N SEISMIC LINE 10						RAMAO3WT Ramao3WT
	,	6/80 6/80		SINGLE CHA TAPES 1-3						_	RAMAOSWT RAMAOSWT
		6/80 6/80		SINGLE CHA TAPES 1-2							RAMAO3WT RAMAO3WT
				SINGLE CHA TAPES 1-2							RAMAD3WT RAMAO3WT

GMT D /M /Y LOC TIME DATE TIME		SAMPLE IDENT.	20AUG80 PAGE CODE LAT. LONG. DISP	LEG-SHIP CRUISE
1206 18/ 6/80 1756 18/ 6/80	SPSL B SPSL E	SINGLE CHAN SEISMIC TAPES 1 LINE 14	GDC 52 22.8N 163 31.5E S GDC 51 57.6N 162 25.8E S	RAMAO3WT RAMAO3WT
9999 32/ 8/88	SBSF B	SINGPE 1 CHAN SEES MIC	GBE 31 29:8N 142 19:3E 8	FAMA83WF .
*** CORES ***	: .		· · · · · · · · · · · · · · · · · · ·	
		•		
1320 1/6/80 0704 04/06/80 0300 07/06/80 1220 14/06/80 1059 15/06/80	CDBX X CDBX CDBX CDBX CDBX	BOX CORE 27BX 0000M BOX CORE 28BX 4357M BOX CORE 30BX 4939M BOX CORE 37BX 0000M BOX CORE 38BX 0000M	GCR 53 19.6N 165 29.0E S GCR 55 59.9N 164 20.9E F GCR 52 25.1N 161 14.5E F GCR 54 16.1N 163 29.6E F GCR 53 38.1N 165 58.6R F	RAMAOBWT RAMAOBWT RAMAOBWT
1124 17/06/80 0728 01/06/80 1207 02/06/80 1758 08/06/80	COBX COPS COPS COPS	BOX CORE 438X 3949M PISTON CO. 26P 3280M PISTON CO. 28P 6966M PISTON CO. 31P 3703M	GCR 52 46.8N 164 12.7E F GCR 53 11.9N 165 10.0E F GCR 54 55.1N 165 32.4E F GCR 53 25.2N 161 32.2E F	RAMAO3WT RAMAO3WT
1552 11/06/80 2029 17/06/80 0728 01/06/80 1207 02/06/80	CO PS CO PS CO PG CO PG	PISTON CO. 33P 5728M PISTON CO. 44P 3019M GRAVITY CO 26G 3280M GRAVITY CO 28G 6966M	GCR 55 13.6N 164 12.1E F GCR 53 00.7N 164 38.9E F GCR 53 11.9N 165 10.0E F GCR 54 55.1N 165 32.4E F	RAMAO3WT RAMAO3WT RAMAO3WT
1758 08/06/80 1552 11/06/80 2029 17/06/80 1020 10/06/80	CO PG CO PG CO PG CO GV	GRAVITY CO 31G 3703M GRAVITY CO 33G 5728M GRAVITY CO 44G 3019M KING KONG 32G 5324M	GCR 53 25.2N 161 32.2E F GCR 55 13.6N 164 12.1E F GCR 53 00.7N 164 38.9E F GCR 54 11.7N 163 39.3E F	RAMAG3WT RAMAG3WT
0940 12/06/80 0344 13/06/80 1843 13/06/80 2242 15/06/80	CD G V CD G V CD G V	KING KONG 34G 3862M KING KONG 35G 3910M KING KONG 36G 4934M KING KONG 39G 3930M	GCR 55 50.6N 164 22.6E F GCR 55 42.3N 164 00.3E F GCR 55 17.1N 163 28.2E F GCR 53 24.5N 165 40.9E F	RAMAO3WT RAMAO3WT
1109 16/06/80 1504 16/06/80 0516 17/06/80 2145 19/06/80	CO GV CO GV CO GV	KING KONG 40G 2989M KING KONG 41G 3464M KING KONG 42G 4764M KING KONG 45G 5625M	GCR 52 59.4N 164 41.6E F GCR 52 49.7N 164 22.7E F GCR 52 40.6N 164 04.3E F GCR 51 48.9N 161 50.9E F	RAMAO3WT RAMAO3WT RAMAO3WT
*** CAMERA ***				
	· - · .			
1240 07/06/80 1330 07/06/80		STERO CAM 01 5124M STERO CAM 01 5124M		
2250 09/06/80	CAWS B	STERO CAM 02 5802M	ELW 54 15.2N 163 25.1E F	RAMA03WT
2330 09/06/80	CAWS X	NOT RECOVERED 5802M	ELW 54 15.2N 163 25.1E	THEOAMA
***HYDROGRAPHIC CAS 2212 28/ 5/80 2326 31/ 5/80 1617 1/ 6/80 2122 2/ 6/80 1450 3/ 6/80 0252 4/ 6/80 0927 4/ 6/80	HCNI HCNI HCNI HCNI HCNI HCNI HCNI HCNI	TSON 01 SHAKEDOWN TSON 02H 134M 05 TSON 03 LOST TSUN 04H 5477M 16 TSUN 05H 2525M 07 TSUN 06H 1238M 13 TSUN 06H 4424M 13 TSUN 07H 5661M 16	PCF 52 58.1N 164 37.4E	RAMAO3WT RAMAO3WT RAMAO3WT

GMT TIME	D /M /Y DATE	LOC LOC TIME TZ	CO DE Samp	SAMP	LE IDE	NT.		C NO E D I S P	20 A LAT •	UĞ80 LON	PAGE G.	5 LEG-SHIP CRUISE
1728 0901 2301 0243 1435 1848 0747 1816 1422 0533 0031 0730 1419 0842 2124 0322 1412	6/ 6/80 7/ 6/80 7/ 6/80 8/ 6/80 9/ 6/80 10/ 6/80 11/ 6/80 11/ 6/80 12/ 6/80 12/ 6/80 13/ 6/80 13/ 6/80 17/ 6/80 17/ 6/80 17/ 6/80 18/ 6/80 19/ 6/80	ASUREMENT*	HHCCONNI HHCCCONNI H	TSUM TSUM TSUM TSUM TSUM TSUM TSUM TSUM	09H 10H 11H 12H 12H 13H 15H 15H 16H 17H 18H 19H 20H 22H 23H 23H 23H 24H 25H 26H 27H	1483M 5055M 6076M 4113M 5816M 5816M 5836M 1489M 3837M 3794M 14858M 14858M 1400M 4857M 3500M 5296M 6146M 5291M 6043M	14 16 16 16 16 16 16 17 17 17 17 17 17 17		52 25.8N 52 18.6N 52 13.8N 55 16.3N 55 4 16.3N 55 5 43.7N 55 5 60 04.9N 55 5 60 04.9N 55 5 43.3N 55 5 2 2 2 2 2 7 .1N 55 5 2 2 2 2 7 .1N 55 5 2 2 2 3 7 .4N	161 163 163 163 164 164 164 163 165 165 165 165 164 164 164 164 164 165	14.8E = 128.9E = 128.9E = 128.9E = 128.3E = 128.	RAMAOBWT
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	31/05/80 16/06/80				ION 01 ION 01		3 7M 3 7M					RAMAOSWT
1905 2015	31/05/80 16/06/80		CMAB E	MISS	10N 02 10N 02		12M 12M	PCF PCF	52 42.1N 52 42.1N	164 164	11.1E 11.1E	F RAMADEWT
2010 1820	31/05/80		CMAB E	MISS	10N 83	34	78M 78M	PCF	52 48.9N 52 48.9N	164 164	25:6E	F RAMAO3WT
0456 0229	01/06/80 16/06/80		CMAB E	MISS	ION 04 ION 04	33 33	23 M 23 M	PCF PCF	53 11.4N 53 11.4N	165	13:3E	F RAMAO3WT
	01/06/80 16/06/80		CMAB E	MISS MISS	10N 05		49 M 49M	PCF PCF	53 25.2N 53 25.2N	165 165	41.0E	F RAMAO3WT F RAMAO3WT
	03/06/80 12/06/80	•	CMAB E	MISS	ION 06		84M 84M	PCF	55 41.8N 55 41.8N	164 164	47.2E 47.2E	F RAMAO3WT F RAMAO3WT

4367M PCF 56 02.7N 164 05.1E F RAMAO3WT 4367M PCF 56 02.7N 164 05.1E F RAMAO3WT

5552M PCF 54 18.3N 163 35.0E F RAMAO3WT 5552M PCF 54 18.3N 163 35.0E F RAMAO3WT

5750M PCF 54 16.7N 163 30.5E F RAMAO3WT

5750M PCF 54 16.7N 163 30.5E F RAMAO3WT

CMAB B MISSIAN 07

CMAB B MISSION 08 CMAB E MISSION 08

CMAB B MISSION 09

CMAB X LOST

0040 04/06/80 2034 12/06/80

0027 05/06/80 · 1635 14/06/80

0728 05/06/80

1936 14/06/80

GMT D /M /Y LOC LOC TIME DATE TIME TZ	CODE SAMPI SAMP	LE IDENT.	CODE LAT. DISP	G80 PAGE LONG.	6 LEG→SHIP CRUISE
1002 06/06/80 1915 18/06/80	CMAB B MISS CMAB E MISS		PCF 52 04.2N PCF 52 04.2N	162 09.8E F	RAMAO3WT RAMAO3WT
2230 06/06/80 0935 19/06/80	CMAB B MISS	ION 11 4250M ION 11 4250M	PCF 52 25.7N PCF 52 25.7N		
2352 06/06/80 0726 19/06/80	CMAB B MISS	ION 12 5450M ION 12 5450M	PCF 52 19.2N PCF 52 19.2N		
***GEOCHEMICAL SAMPLE**	· *				
2212 28/ 5/80 2258 31/ 5/80 1617 1/ 6/80 2150 2/ 6/80 1516 3/ 6/80 0315 4/ 6/80 0328 6/ 6/80 1952 6/ 6/80 1952 6/ 6/80 1952 6/ 6/80 1840 7/ 6/80 0159 8/ 6/80 1804 9/ 6/80 0330 10/ 6/80 1804 9/ 6/80 0330 10/ 6/80 1800 10/ 6/80 0330 11/ 6/80 0332 12/ 6/80 1455 12/ 6/80 1455 12/ 6/80 1858 12/ 6/80 0816 13/ 6/80 0816 13/ 6/80 0816 13/ 6/80 0816 13/ 6/80 0816 13/ 6/80 1444 15/ 6/80 0739 17/ 6/80 0739 17/ 6/80 0739 17/ 6/80 0739 17/ 6/80 0739 17/ 6/80 0739 17/ 6/80 0738 19/ 6/80 2158 18/ 6/80 0358 19/ 6/80	GCTD 01H GCTD 02 GCTD 03 GCTD 04 GCTD 05 GCTD 06H1 GCTD 06H3 GCTD 09H GCTD 09H GCTD 10H GCTD 12H GCTD 12H GCTD 13H GCTD 15H GCTD 15H GCTD 16H3 GCTD 16H3 GCTD 19H2 GCTD 21H GCTD 21H GCTD 22H GCTD 22H GCTD 23H1 GCTD 23H1 GCTD 23H1 GCTD 25H GCTD 25H GCTD 25H GCTD 26H GCTD 27H GCTD 26H	750M R23 3045M R21 0000M R00 5466M 3289M 4441M 1229M 5672M 1477M 5066M 6123M 4119M 0000M 5817M 6094M 0000M 1484M 3845M 3802M 1477M 300M 3869M 1479M 4431M 3506M 4868M 1392M 3997M 5309M 6164M 2597M 6060M	PCF 43 06.2N PCF 52 58.6N PCF 55 12.3N PCF 55 12.3N PCF 56 00.1N PCF 56 00.1N PCF 57 58.5N PCF 57 34.8N PCF 57 34.8N PCF 57 18.4N PCF 57 18.4N PCF 58 18.7N PCF 58 18.7N PCF 58 18.7N PCF 58 18.7N PCF 58 43.8N PCF 58 43.1N PCF 58 43.1N PCF 58 42.4N PCF 58 42.4N PCF 58 42.4N PCF 58 41.1N PCF 5	164 37.4E S 165 28.4E S 165 28.4E S 164 28.9E S 164 17.6E S 164 23.7E S 162 28.1E S 161 28.8E S 161 01.7E S 163 24.4E S 164 44.9E S 164 44.9E S 164 45.1E S 165 59.3E S 163 57.4E S 164 05.4E S 165 59.3E S 165 16.3E S 164 04.2E S 165 28.1E S 164 03.3E S 165 28.1E S	RAMAO 3 WT
9900	END SAMP	,	PUP DZ 12+2N	161 41.3E S	