INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH, MAGNETIC AND SUBBOTTOM PROFILER DATA (ISSUED JANUARY 1981)

RAMA EXPEDITION

LEG 5

Agana, Guam (22 August 1980) to Padang, Sumatra (29 September 1980)

R/V Thomas Washington

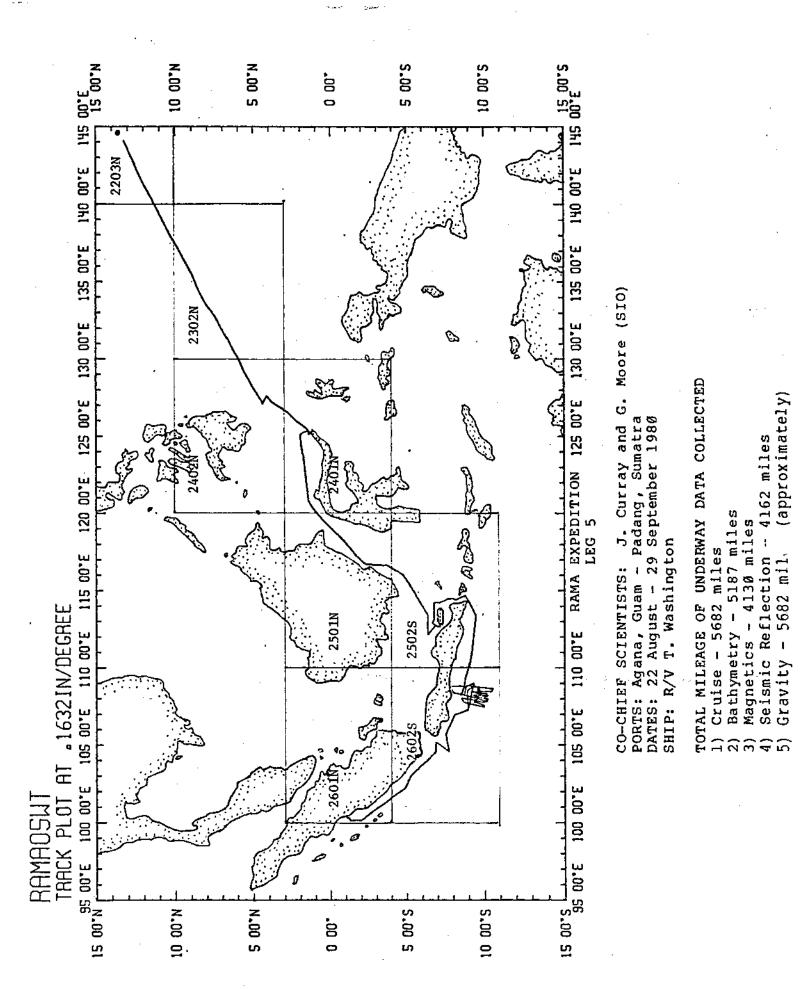
Co-Chief Scientists - G. Moore and J. Curray (SIO)

Resident Marine Tech - R. Wilson

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.



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 in/degree longitude.

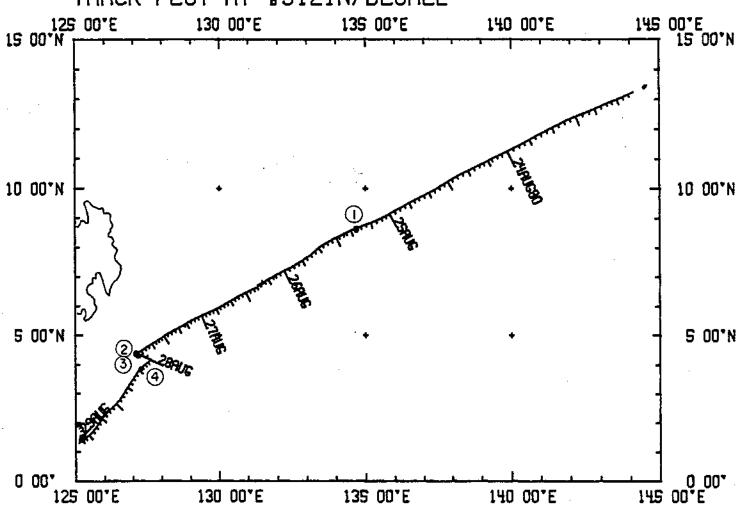
Profiles

- 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.

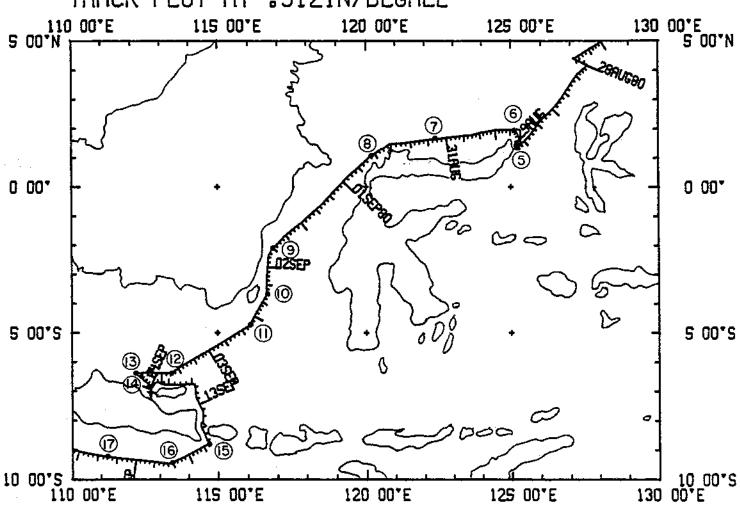
For information on the availability and reproduction costs of data in the following forms, contact S. M. Smith, Curator, Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093. Phone (714) 452-2752.

- 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) 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 I 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).
- 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

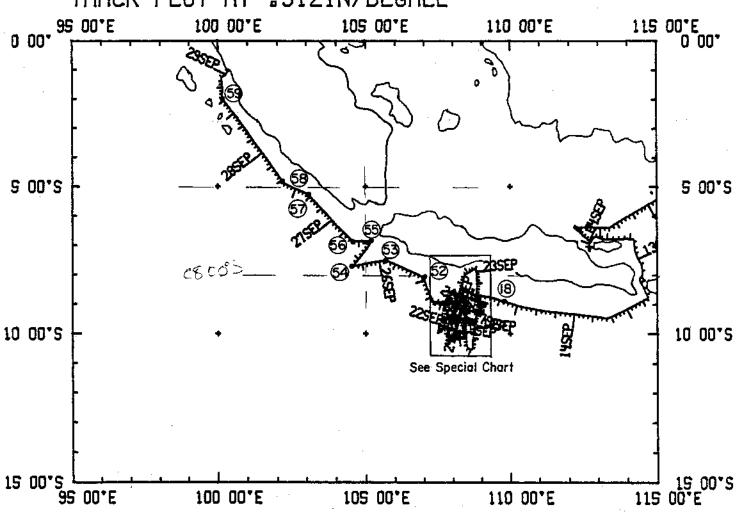
RAMAOSUT (1 OF 3) TRACK PLOT AT .312IN/DEGREE

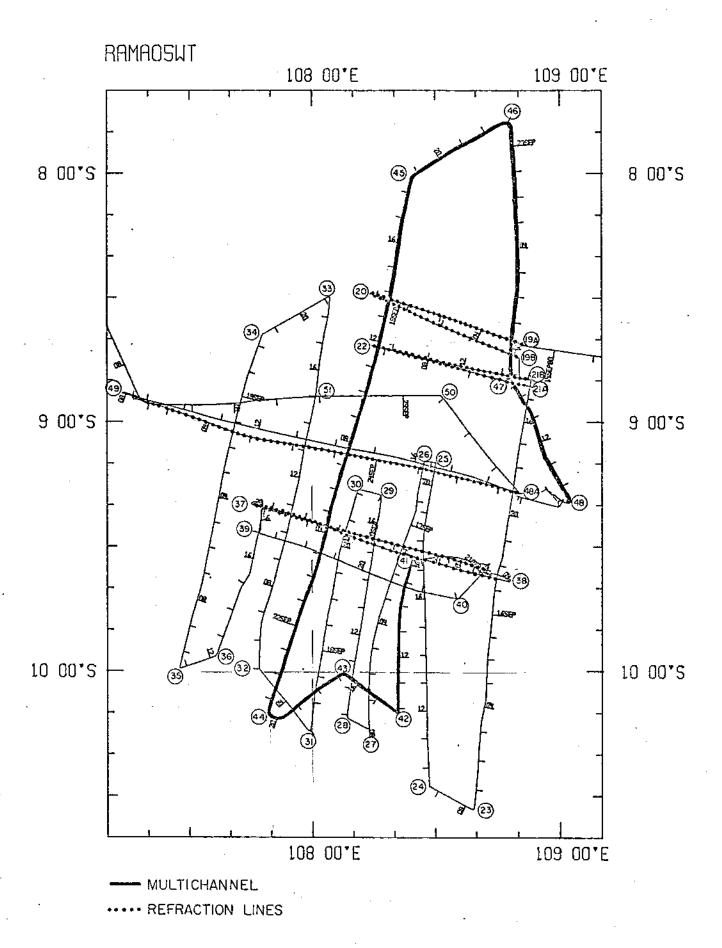


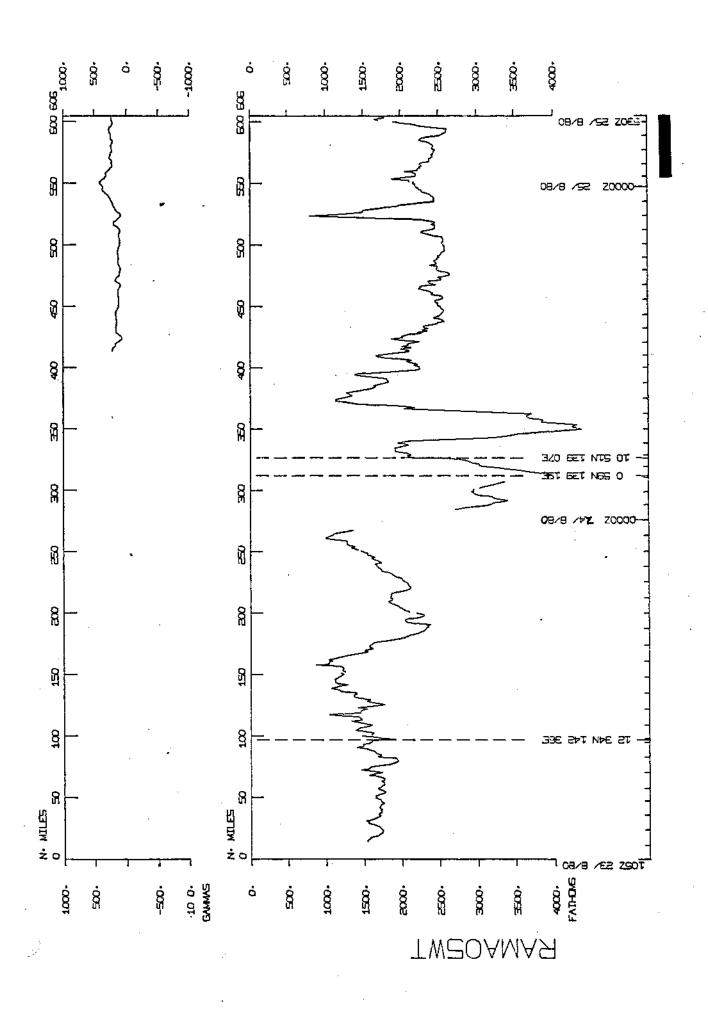
RAMAOSUT (2 OF 3) TRACK PLOT AT .312IN/DEGREE

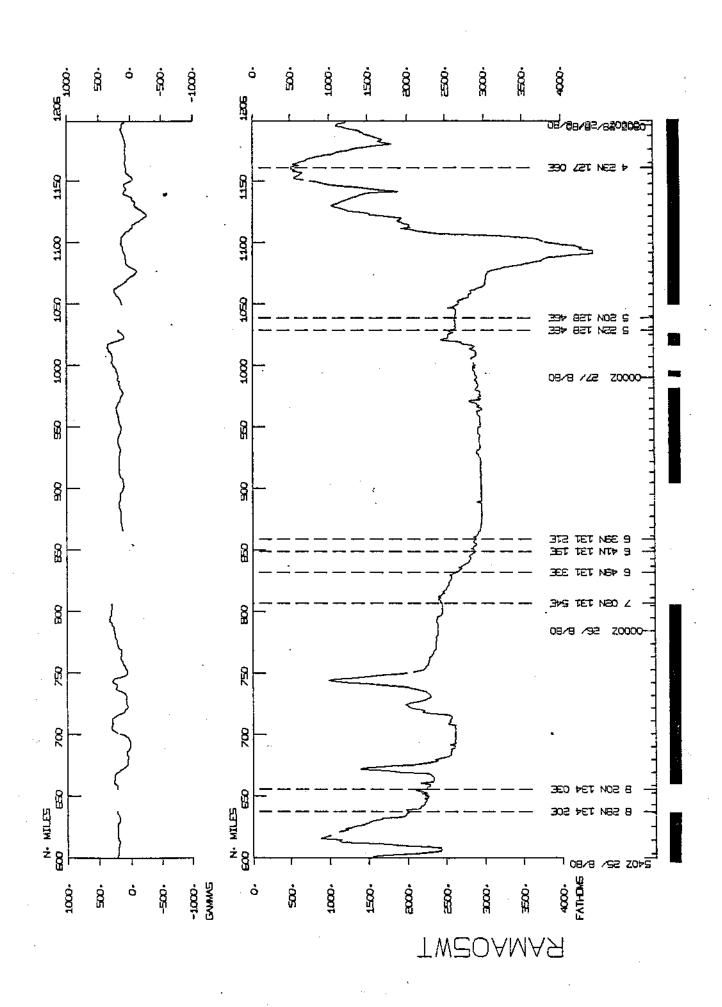


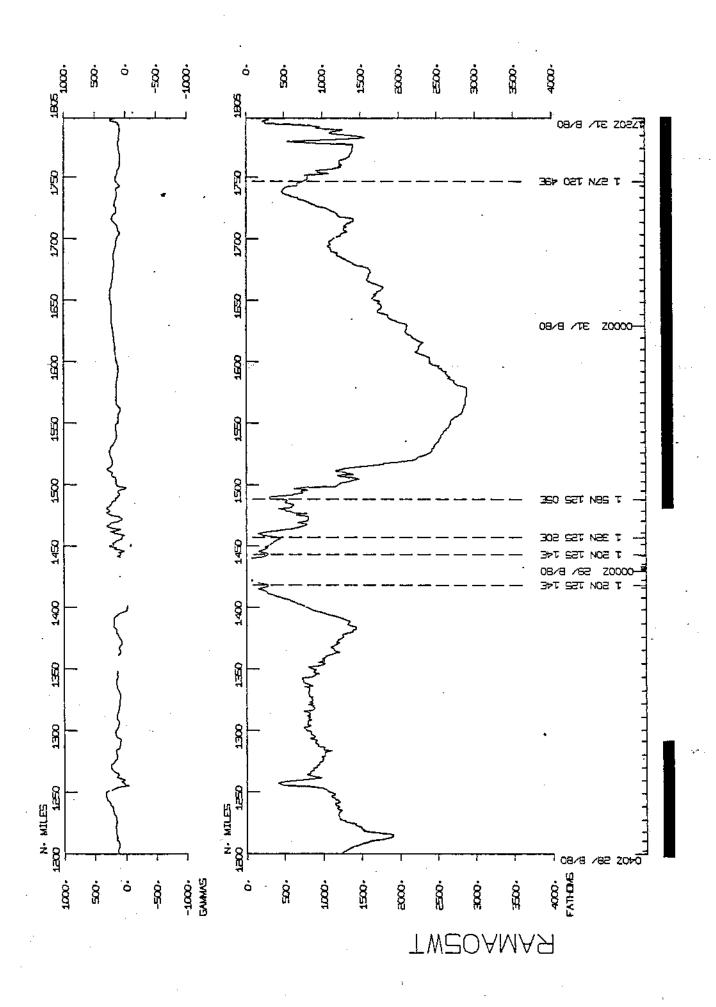
RAMAOSUT (PLOT 3 OF 3) TRACK PLOT AT .312IN/DEGREE

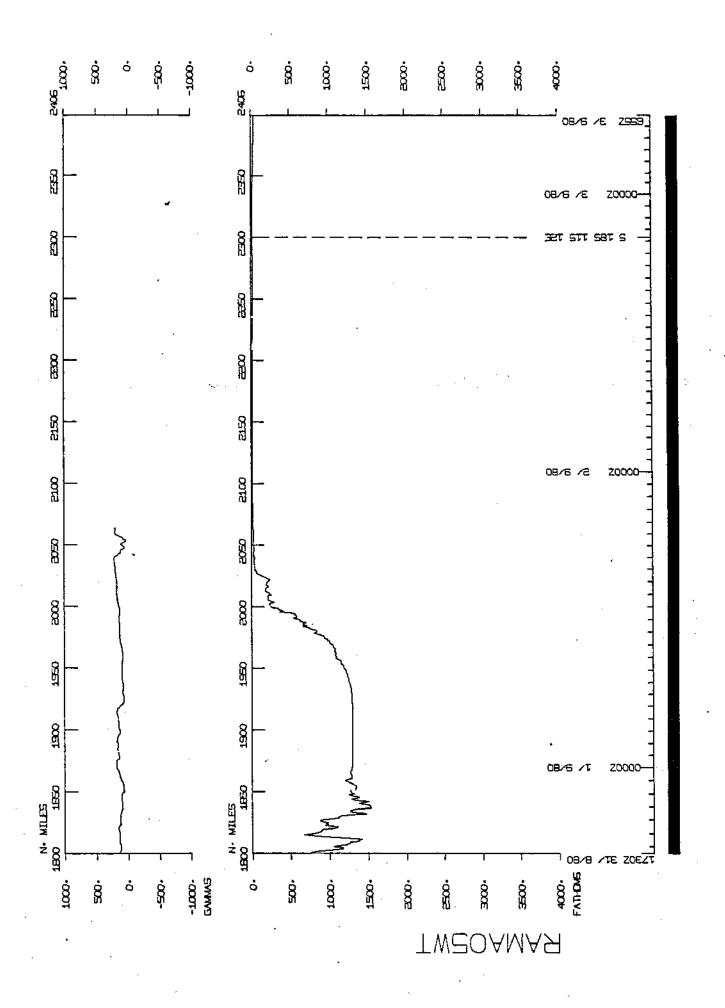


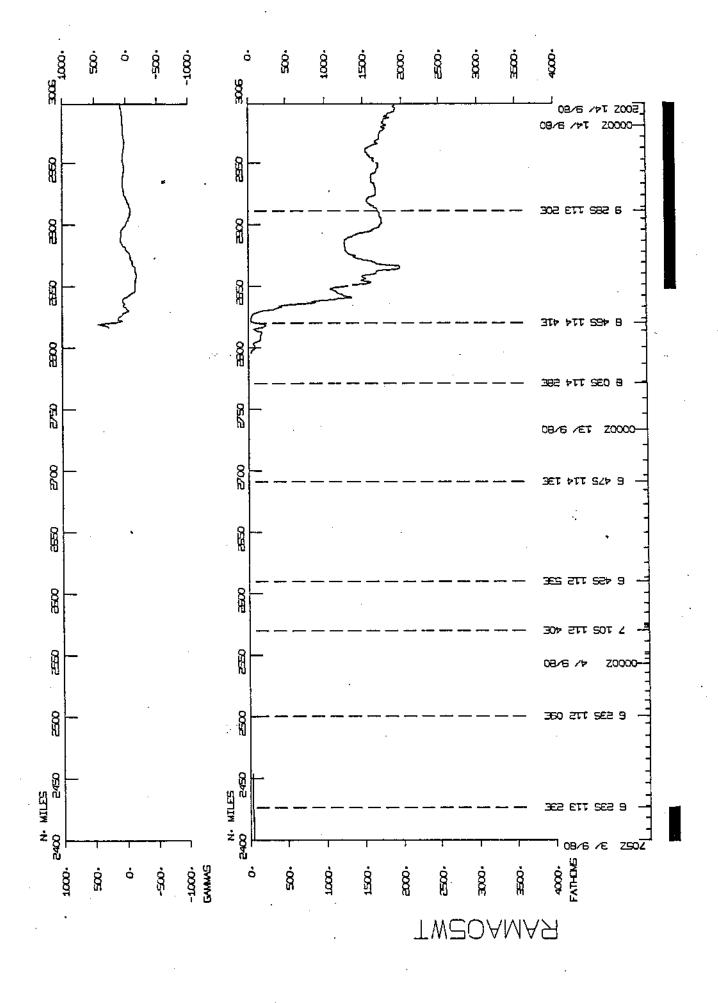


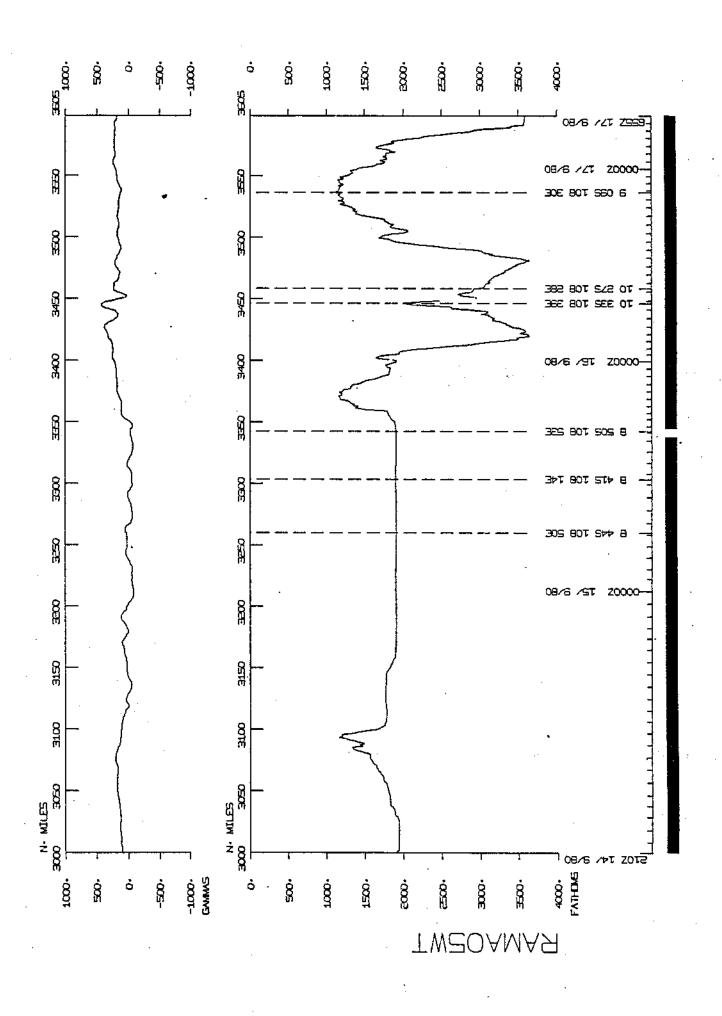


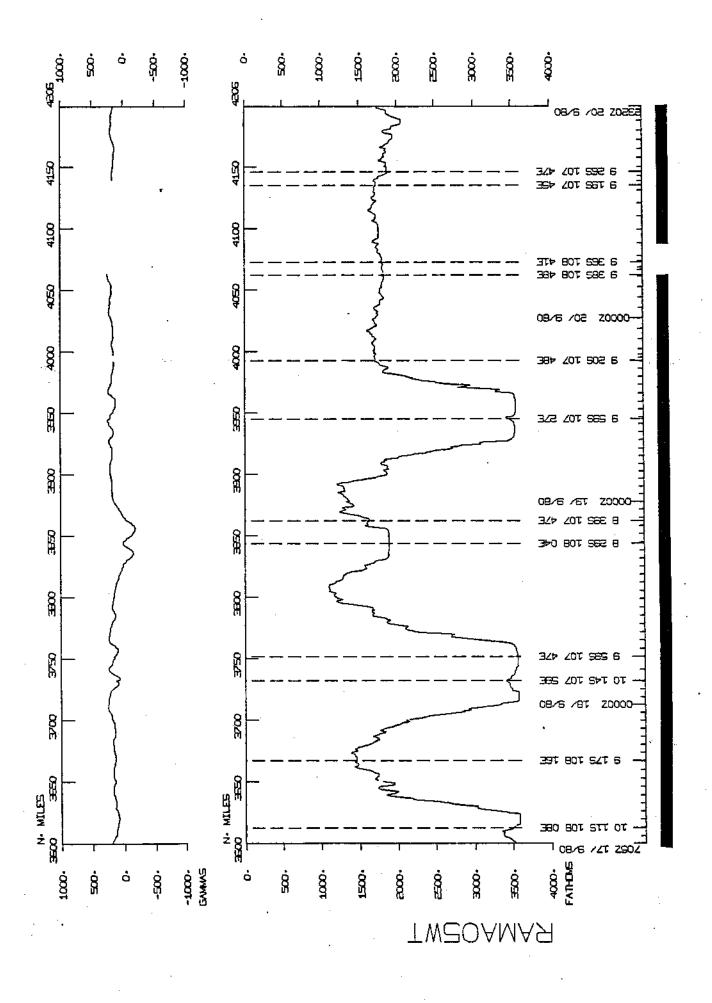


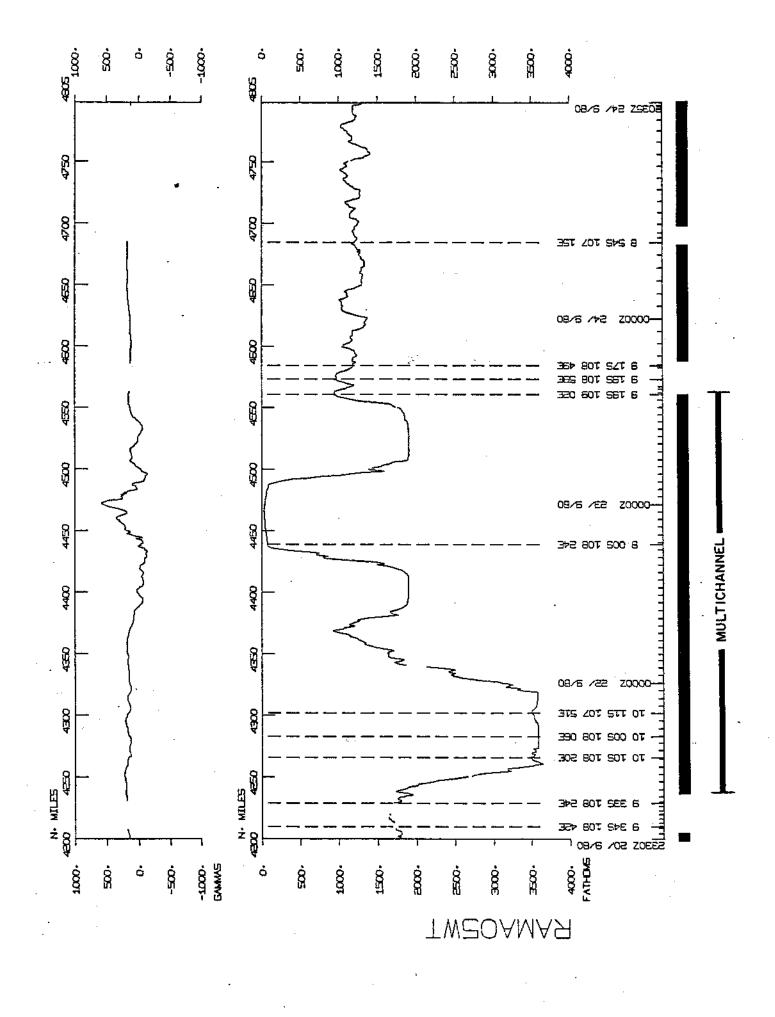


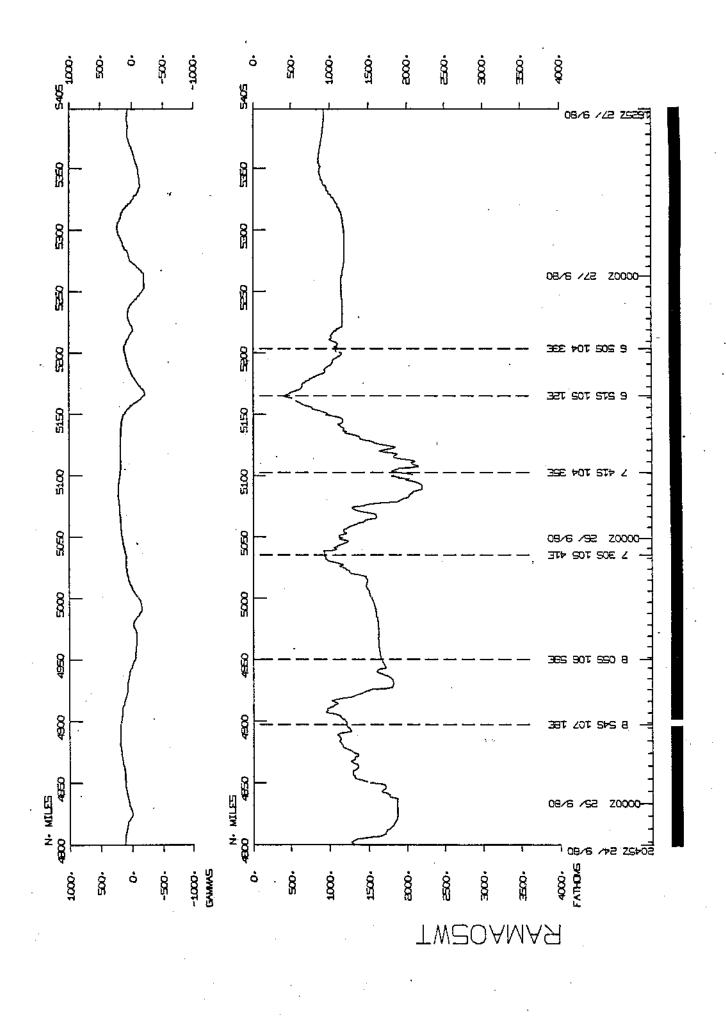


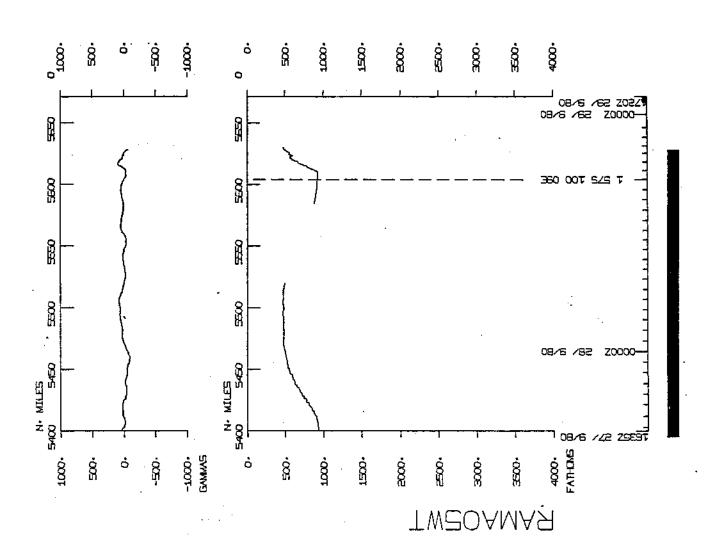












S.I.O. Sample Index (Issued January 1981)

RAMA EXPEDITION LEG 5

Agana, Guam (22 August 1980) to Padang, Sumatra (29 September 1980)

R/V T. Washington

Co-Chief Scientists - J. Curray and G. Moore Resident Marine Tech - R. Wilson

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.)

(RAMADSWT) ***

	60E	120E	180	120W	60W	0W
85N 80N 75N 70N		.0	CK BY	0000)00 0 000000 0000 10000 0 00 0	0000 75N 0000 70N
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	0000000000 0000000				0000000	45N
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	0.0000 0.0000 0.000			0000		00 30N
	000000000000000000000000000000000000000			000		000 25N
		00000		0 0	00	000 20N
15N	000000000000000000000000000000000000000	00 ព			00 0	000 15N
	000000000	0 0 XX			0	000 10N
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155	00000	x 00	-		0000000	155
205	000000 0	00000			000000	205
25\$	0000 0	0000000			000000	25\$
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35\$	00	00 000	0		00000	35 S 40 S
40\$ 45\$		00 0	0		000 00	403 45S
508		· ·			00	505
555					0	55\$
605		•				60\$
65\$						65S
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	000000000000000000000000000000000000000				0000000000000 0000000000000000	
	000000000000000000000000000000000000000					
	60E	120E	180	120W	60W	.÷+ OW
		22444624				•

22AUG80 - AGANA, GUAM, M.I.

10

29SEP80 - PADANG, SUMATRA, INDO

CHIEF SCIENTISTS - MOORE G. F. GRD CURRAY J. R. GRD

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'

DISP						TYP	E				7	TOTAL
		BŢ	DP	GV	LB	MG	PE	\$B	SP	SR		
GDC	1		25		3	3		55	40	31	1	157
GGS	I							4		6	I	10
GRD	Ţ						7				I	7
100	I						2				Ī	2
JRC	I				1						1	1
LMD	Į			2							1	2
MPL	I		3				5				I	8
MTG	I	3					1				I	4
SC G	I				1		2		3		Į	6
SGG	I			~~~			2				ĭ	2

TOTAL I 3 28 2 5 3 19 59 43 37 I 199

SAMPLE 'TYPE' CODES USED ABOVE

- BT = BATHYTHERMOGRAM
- DP = DEPTH
- GV = GRAVITY
- LB = LOG BOUKS
- MG = MAGNETICS (TOWED VEHICLE, SURFACE, TOTAL FIELD)
- PE = PERSONNEL IN SCIENTIFIC PARTY
- SB = SEISM R BUOY
- SP = SEISMIC REFLECTION PROFILE AIRGUN
- SR = SEISMIC RUN

SAMPLE 'DISP' CODES USED ABOVE

- GDC = GEOLUGICAL DATA CENTER -- S. SMITH (EXT. 2752)
- GGS = GEORGE SHOR (EXT. 2853)
 GRD = GEOLUGICAL RESEARCH DIVISION (EXT. 3360)

- IDO = INDONESIAN

 JRC = J.R. CURRAY, GRD, (EXT. 3299)

 LMD = LERBY M. DORMAN (EXT. 2406)

 MPL = MARINE PHYSICAL LAB. (EXT 2305)
- MTG = MARINE TECHNOLOGY GROUP (EXT 4194)
- SCG = SHIP LOARO COMPUTER GROUP (EXT. 4195)
- SGG = SHIPbOARD GEOPHYSICAL GROUP--P. CRAMPTON (EXT.2079)

```
16JAN81 PAGE
GMT D /M /Y
TIME DATE
               LDC LDC CODE SAMPLE IDENT.
TIME T-2 SAMP
                                                         CODE LAT. LONG.
                                                                                     LEG-SHIP
                                                         DISP
                                                                                      CRUISE
                                                                                     RAMA05WT
 *** PORTS ***
2210 22/ 8/80
                         LGPT B AGANA, GUAM, M.I.
                                                             13 27. N 144 37. E F RAMAOSWT
                          LGPT E PADANG, SUMATRA, INDO
0112 29/ 9/80
                                                              01 00. S 100 22. E F RAMA05WT
                                                              07 12. $ 112 44. E F RAMA05WT
07 12. $ 112 44. E F RAMA05WT
0147 4/ 9/80
                          LGUS B SURABAYA, JAVA, INDO
1000 12/ 9/80
                          LGUS E SURABAYA, JAVA, INDO
0000 29/ 8/80
                          LGSS B BITUNG, SULAWESI, INDO
                                                              01 27.2N 125 09.3E F RAMAOSWT
0045 30/08/80
                                                             01 27.2N 125 09.3E F RAMA05WT
                         LGSS E BITUNG, SULAWES I, INDO
***PERSONNEL***
                                                        *** AFFILIATION ***
                     *** TITLE ***
*** NAME ***
                      ASSI ALL
PROFESSOR
 1 MOORE G. F.
                         ASST RES GEO
                                             SCRIPPS INSTITUTION OF OCEANOGRAPHY. LA JOLLA CAL. 92093
 2 CURRAY J. R.
                                              SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JULLA CAL. 92093
                                             SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
                         SR GRAD STUDENT
JR GRAD STUDENT
 3 BEAUDRY D.
 4 BENARON N.
                                              SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
 5 BENSON M. D.
                          DEV ENGR
                                              SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
 6 CRAMPTON P. J.
                         DEV ENGR
                                              SCRIPPS INSTITUTION OF DCEANOGRAPHY, LA JOLLA CAL. 92093
 7 ELSTON M. D.
                         DEV ENGR
                                             SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 9209
 8 EMMEL F. T.
                         SPECIALIST
                          ELECT TECH
 9 HUBENKA F.
                        POSTGRAD RES GEO SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
IO KIECKHEFER R. M.
11 LIU CHAR-SHINE
                                             SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
                         GRAD STUDENT
STAFF RES ASSOC
12 MC GOWAN D. D.
                                              SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
13 MOORE J. M.
                          PR PROGRAMMER
14 PAVLICEK F. V.
                         ASSOC DEV ENGR
                                              SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
15 SUKARDJONO
                          GEOPHYCIST
                                              INDONESIAN
                          ASST RES ENGR
16 TYCE R. C.
                                              SCRIPPS INSTITUTION OF OCEANGGRAPHY, LA JOLLA CAL. 92093
17 DRIYO UTUMO
                         MAJOR IDO NAVY
                                              INDONESIAN
18 SUPARKA
                          GEOLOGIST
                                              INDONESIAN
19 WILSON R. C.
                          RESIDENT
                                              SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JULLA. CAL. 92093
***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.

(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.

UNDERWAY DATA CURATOR - STUART SMITH (EXT. 2752)

*** LOG BOOKS +***

2210 22/ 8/80	LBUW B LOG BOOK NO. 1	GDC 13 14.1N 144 07.7E S RAMA05WT
1145 3/ 9/60	LBUW E LOG BOOK NO. 1	GDC 06 23.0S 113 06.2E S RAMA05WT
1150 3/ 9/80	LBUW B LOG BOOK NO. 2	GDC 06 23.0S 113 05.4E S RAMA05WT
2220 23/ 9/80	LBUW E LOG BOOK NO. 2	GDC 09 12.5S 108 32.1E S RAMA05WT
2225 23/ 9/80 2050 28/ 9/80	LBUW 8 LOG BOOK NO. 3 LBUW E LOG BOOK NO. 3	GDC 09 12.3S 108 31.4E S RAMA05WT GDC 01 30.7S 100 09.8E S RAMA05WT
1124 27/ 8/80	LBSC B LOG-SEIS. MAG. TAPES	SCG 05 00.0N 128 08.5E S RAMA05WT
2010 28/ 9/80	LBSC E LOG-SEIS. MAG. TAPES	SCG 01 34.7S 100 10.2E S RAMA05WT
1124 27/ 8/80	LBSC B DIGITAL SEISMIC LOG	JRC 05 00.0N 128 08.5E S RAMA05WT
2037 27/ 8/60	LBSC E DIGITAL SEISMIC LOG	JRC 04 23.4N 127 06.1E S RAMA05WT
*** FATHOGRAMS ***		
0920 25/ 8/80	DPSV B SEABEAM TEST 01	MPL 08 28.9N 134 20.0E S RAMA05WT
1130 25/ 8/60	DPSV E SEABEAM TEST 01	MPL 08 20.7N 134 03.3E S RAMA05WT
0130 26/ 8/80	DPSV B SEABEAM TEST 02	MPL 07 05.3N 132 00.1E S RAMA05WT
0915 26/ 8/60	DPSV E SEABEAM TEST 02	MPL 06 37.3N 131 17.1E S RAMA05WT
0430 27/ 8/80 0700 27/ 8/80		MPL 05 22.7N 128 48.8E S RAMA05WT MPL 05 18.7N 128 44.0E S RAMA05WT
2352 22/ 8/80	DPR3 B UGR 3.5KHZ R-01	GDC 13 14.1N 144 07.7E S RAMAO5WT
2309 23/ 8/80	DPR3 E UGR 3.5KHZ R-01	GDC 11 19.6N 140 01.4E S RAMAO5WT
0026 24/ 8/60	DPR3 B UGR 3.5KHZ R-02	GDC 11 12.3N 139 46.6E S RAMA05WT
0710 25/ 8/80	DPR3 E UGR 3.5KHZ R-02	GDC 08 37.7N 134 38.9E S RAMA05WT
0727 25/ 8/80	DPR3 B UGR 3.5KHZ R-03	GDC OB 36.4N 134 36.0E S RAMAO5WT
1315 26/ 8/80	DPR3 E UGR 3.5KHZ R-03	GDC O6 22.1N 130 45.8E S RAMAO5WT
1330 26/ 8/80 0404 28/ 8/80	DPR3 B UGR 3.5KHZ R-04 DPR3 E UGR 3.5KHZ R-04	GDC 06 21.1N 130 43.8E S RAMA05WT GOC 03 47.0N 127 12.5E S RAMA05WT
0413 28/ 8/80	DPR3 B UGR 3.5KHZ R-05	GDC 03 45.8N 127 11.5E \$ RAMA05HT
2230 28/ 8/80	DPR3 E UGR 3.5KHZ R-05	GDC 01 20.9N 125 12.7E \$ RAMA05HT
2241 28/ 8/80	DPR3 B UGR 3.5KHZ R-06	GDC 01 21.4N 125 11.7E S RAMA05HT
0626 1/ 9/80	DPR3 E UGR 3.5KHZ R-06	GDC 00 35.7S 118 31.2E S RAMA05HT

TIME	DATE	LOC LOC TIME T?	SAMP		CODE LAT. DISP		CRUISE
					GDC 00 36. GDC 04 17.	4S 118 30.5E S 8S 116 17.9E S	RAMAOSWT RAMAOSWT
1102 1340	2/ 9/80 2/ 9/80		DPR3 B DPR3 E	UGR 3.5KHZ R-08 UGR 3.5KHZ R-08	GDC 04 18. GDC 04 39.	4S 116 17.5E S 8S 116 06.3E S	RAMAOSWT
	2/ 9/£0 3/ 9/80		DPR3 B	UGR 3.5KHZ R-09 UGR 3.5KHZ R-09	GDC 04 42. GDC 06 23.	15 116 05.2E 5 05 112 24.9E 5	RAMAOSWT
0058 0545	13/ 9/80 14/ 9/80				GDC 07 38.		
0556 1017	14/ 9/80 15/ 9/80		DPR3 8 DPR3 E	UGR 3.5KHZ R-11 UGR 3.5KHZ R-11	GDC 09 13. GDC 08 43.	5\$ 111 12.9E \$	RAMAOSWT Ramaoswt
1 02 9 09 06	15/ 9/80 16/ 9/80		DPR3 B	UGR 3.5KHZ R-12 UGR 3.5KHZ R-12	GDC 08 43. GDC 10 28.	7S 108 23.8E S 5S 108 30.0E S	RAMAOSWT Ramaoswt
0916 0853	16/ 9/80 17/ 9/80		OPR3 B	UGR 3.5KHZ R-13 UGR 3.5KHZ R-13	GDC 10 27. GDC 10 11.	9S 108 28.9E 3	S RAMAOSWT S RAMAOSWT
0909 0324	17/ 9/80 18/ 9/80		DPR3 B	UGR 3.5KHZ R-14 UGR 3.5KHZ R-14	GDC 10 09. GDC 10 12.	6S 108 08.6E S	S RAMAOSWT S Ramaoswt
0331 1035	18/ 9/60 19/ 9/80		DPR3 8 DPR3 E	UGR 3.5KHZ R-15 UGR 3.5KHZ R-15	GDC 10 11. GDC 09 59.	2S 107 56.5E 3	S RAMAO5WT S RAMAO5WT
1043 2119	19/ 9/80 19/ 9/80		DPR3 B	UGR 3.5KHZ R-16	GDC 09 59.	3S 107 28.0E 7S 107 52.8E	S RAMAO5WT S RAMAO5WT
2131 0055	19/ 9/80 21/ 9/80		DPR3 B	UGR 3.55HZ R-17 UGR 3.55HZ R-17	GDC 09 22.	2S 107 54.4E 8S 108 42.2E	S RAMAOSWT S RAMAOSWT
0251 0547	21/ 9/80 22/ 9/80		DPR3 E	UGR 3.5KHZ R-18 UGR 3.5KHZ R-18	GDC 09 34. GDC 09 17.	0S 108 40.6E :	S RAMAO5WT S RAMAO5WT
0602 2111	22/ 9/ 80 23/ 9/80		DPR3 E	UGR 3.5KHZ R-19 UGR 3.5KHZ R-19	GDC 09 16. GDC 09 15.	0S 108 05.7E 2S 108 43.6E	S RAMAOSWT S RAMAOSWT
2116	23/ 9/60		DPR3 8	UGR 3.5KHZ R-20	GDC 09 14. GDC 08 54.	9\$ 108 42.8E	S RAMAOSŅT
0909 0704	24/ 9/60 25/ 9/80		DPR3 E	UGR 3.5KHZ R-21 UGR 3.5KHZ R-21	GDC 08 55. GDC 08 53.	15 107 21.0E 65 107 17.6E	S RAMAOSWT S RAMAOSWT
	25/ 9/60 26/ 9/80			UGR 3.5KHZ R-22 UGR 3.5KHZ R-22	GDC 08 52. GDC 07 42.	.8S 107 17.2E .1S 104 36.0E	
0604 1227	26/ 9/80 26/ 9/80		DPR3 E	UGR 3.5KHZ R-23 UGR 3.5KHZ R-23	GDC 07 41. GDC 06 56.	.95 104 35.2E .65 105 09.6E	S RAMAOSWI S RAMAOSWI
1253 1221	26/ 9/£0 27/ 9/80	I .	DPR3 E	UGR 3.5KHZ R-24	GDC 06 53 GDC 05 02	.75 105 11.26 .85 102 36.6E	S RAMAOSWI S RAMAOSWI

	CODE SAMPLE IDENT. SAMP		LEG-SHIP
	DPR3 B UGR 3.5KHZ R-25 DPR3 E UGR 3.5KHZ R-25	•	
*** SEISMIC REFLECTION	PROFILES ***		
0100 25/ 8/60	SPRF B AIRGUN (2SEC) R-01	GDC 09 03.7N 135 41.4E S	RAMAOSWT
	SPRF E AIRGUN (2SEC) R-01 SPRF B AIRGUN (2SEC) R-02 SPRF E AIRGUN (2SEC) R-02		
0251 28/ 8/80	SPRF B AIRGUN (2SEC) R-03 SPRF E AIRGUN (2SEC) R-03	• • •	· RAMAOSWT
0533 3/ 9/80	SPRF B AIRGUN (2SEC) R-04	GDC 06 02.1S 113 58.3E S	RAMAO5WT
0956 3/ 9/80	SPRF E AIRGUN (2SEC) R-04	GDC 06 23.5S 113 23.0E S	RAMAO5WT
0920 13/ 9/80	SPRF B AIRGUN (25EC) R-05	GDC 08 59.55 114 20.0E S	
2144 13/ 9/80	SPRF E AIRGUN (25EC) R-05	GDC 09 22.2S 112 31.2E S	
2145 13/ 9/80	SPRF 8 AIRGUN (2SFC) R-06	GDC 09 22.2\$ 112 31.0E \$ GDC 09 13.6\$ 111 14.1E \$	RAMAO5WT
0545 14/ 9/80	SPRF E AIRGUN (2SEC) R-06		RAMAO5WT
0552 14/ 9/80	SPRF B AIRGUN (2SEC) R-07	GDC 09 13.5S 111 13.3E S	
1215 14/ 9/80	SPRF E AIRGUN (2SEC) R-07	GDC 09 01.6S 110 12.0E S	
1215 14/ 9/80	SPRF B AIRGUN (2SEC) R-08	GDC 09 01.65 110 12.05 5	RAMAOSWT
1330 15/ 9/80	SPRF E AIRGUN (2SEC) R-08	GDC 08 49.45 108 50.4E S	RAMAOSWT
1330 15/ 9/60	SPRF B AIRGUN (2SEC) R-09	GDC 08 49.45 108 50.4E S	RAMAOSWT
0921 16/ 9/80	SPRF E AIRGUN (2SEC) R-09	GDC 10 27.6S 108 28.5E S	RAMAOSWT
	SPRF B AIRGUN (2SEC) R-10 SPRF E AIRGUN (2SEC) R-10		RAMAOSWT RAMAOSWT
0855 17/ 9/80	SPRF B AIRGUN (2SEC) R-11	GDC 10 11.1S 108 08.4E S	RAMAOSWT
0500 18/ 9/80	SPRF E AIRGUN (2SEC) R-11	GDC 09 59.5S 107 47.1E S	RAMAOSWT
0504 18/ 9/80	SPRF B AIRGUN (2SEC) R-12	GDC 09 59.0S 107 47.2E S	
1038 19/ 9/80	SPRF E AIRGUN (2SEC) R-12	GDC 09 59.4S 107 27.6E S	
1048 19/ 9/80	SPRF B AIRGUN (2SEC) R-13	GDC 09 59.2S 107 28.3E S	
0404 20/ 9/80	SPRF E AIRGUN (2SEC) R-13	GDC 09 38.2S 108 48.2E S	
0844 20/ 9/80	SPRE B AIRGUN (2SEC) R-14	GDC 09 35.9S 108 43.5E S	RAMAOSWI
0041 22/ 9/80	SPRE E AIRGUN (2SEC) R-14	GDC 09 45.0S 107 57.1E S	Ramaoswi
0048 22/ 9/60	SPRF B AIRGUN (2SEC) R-15	GDC 09 44.4\$ 107 57.4E \$	
0554 24/ 9/80	SPRF E AIRGUN (2SEC) R-15	GDC 08 54.0\$ 107 15.9E \$	
0740 24/ 9/80	SPRF B AIRGUN (2SEC) R-16	GDC 08 53.8S 107 16.4E S	RAMAOSWT
0607 25/ 9/80	SPRF E AIRGUN (2SEC) R-16	GDC 08 55.3S 107 19.0E S	RAMAOSWT

T IME	DATE	LOC LOC TIME T?	SAMP		IDENT.		DISP	LAT.			5 LEG-SHIP CRUISE
	25/ 9/8 26/ 9/8		SPRF B SPRF E								RAMAOSWT RAMAOSWT
	26/ 9/8 26/ 9/8		SPRF B SPRF E	AIRGUN AIRGUN							RAMAO5WT RAMAO5WT
	26/ 9/8 27/ 9/8		SPRF 8 SPRF E	AIRGUN AIRGUN							RAMAO5WT RAMAO5WT
1527 2016	27/ 9/6 28/ 9/8	0	SPRF 8 SPRF E	AIRGUN AIRGUN	(2SEC)	R-20 R-20					RAMAOSWT RAMAOSWT
-01 00 02 01	25/ 8/8 26/ 8/8	Ö Ö	SPRS B SPRS E	A IRGUN A IRGUN	(5SEC) (5SEC)	R-01 R-01	GOC 09 GDC 07	03.7N 02.9N	135 41 131 55	4E S	RAMAO5WT RAMAO5WT
0327 0333	26/ 8/8 28/ 8/8 28/ 8/8 31/ 8/8	0 0	SPRS B	AIRGUN	(5SEC)	R-02 R-03	GDC 03	51.9N 51.2N	127 16 127 16	.9E S .2E S	RAMAOSWT RAMAOSWT RAMAOSWT RAMAOSWT
	31/ 8/8 1/ 9/8	=	SPRS B SPRS E	AIRGUN AIRGUN	(5SEC) (5SEC)	R-04 R-04					RAMAOSWT RAMAOSWT
1957 0956	1/ 9/8 3/ 9/8		SPRS B SPRS E	AIRGUN AIRGUN							RAMAO5WT RAMAO5WT
. – –	13/ 9/8 14/ 9/8	-	SPRS B SPRS E	AIRGUN AIRGUN	(5SEC) (5SEC)	R-06 R-06					RAMAO5WT RAMAO5WT
	14/ 9/8 15/ 9/8		SPRS B SPRS E	AIRGUN AIRGUN							RAMAOSWT RAMAOSWT
1330 0921	15/ 9/8 16/ 9/8	0	SPRS B SPRS E	AIRGUN AIRGUN	(5SEC) (5SEC)	R-08 R-08					RAMAOSWT RAMAOSWT
	16/ 9/8 17/ 9/8	_									RAMAOSWT RAMAOSWT
	17/ 9/8 18/ 9/8		SPRS B SPRS E	AIRGUN AIRGUN	(5SEC) (5SEC)	R-10 R-10					RAMAO5WT RAMAO5WT
	18/ 9/8 19/ 9/8			AIRGUN AIRGUN							RAMAOSWT RAMAOSWT
	19/ 9/8 20/ 9/8			AIRGUN AIRGUN			GDC 09	59.3S 38.2S	107 28 108 48	.0E S	RAMAOSWT RAMAOSWT
	20/ 9/8 22/ 9/8			AIRGUN AIRGUN							RAMAOSWT RAMAOSWT

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0047 22/ 9/80 1842 22/ 9/60				(5SEC) (5SEC)								RAMAO5WT RAMAO5WT
1846 22/ 9/80 0554 24/ 9/80		SPRS 8 SPRS E	A IRGUN	(5SEC)	R-15 R-15							RAMAOSWT RAMAOSWT
0740 24/ 9/80 0607 25/ 9/80	•			(5SEC) (5SEC)								RAMAOSWT RAMAOSWT
0716 25/ 9/80 0600 26/ 9/80				(5SEC) (5SEC)								RAMAO5WT RAMAO5WT
0603 26/ 9/8 0 1518 27/ 9/60		SPRS B SPRS E	A IRGUN	(5SEC) (5SEC)	R-18 R-18							RAMAOSWT Ramaoswt
												RAMAO5WT RAMAO5WT
**+S INGL E-C HANN	EL DIGIT.	AL SEIS	MIC TAP	,E2* * *								•
1124 28/ 8/80 0033 21/ 9/60		SPST B SPST E	SINGLE REELS	-CHANNE 0001-00	L TAPES	SCG SCG	02 09	44.0N 34.0\$	126 108	29.0E 43.1E	S	RAMAO5WT RAMAO5WT
2020 23/ 9/80 2010 28/ 9/60		SPST B SPST E	SINGLE REELS	-CHANNE 0150-01	L TAPES	SCG SCG	09 01	17.15 34.75	108 100	50.6E 10.2E	S S	RAMAO5WT RAMAO5WT
MULT I-C HANNE	L DIGITA	L SEISM	IC TAPE	S								٠
0851 21/ 9/80 1446 23/ 9/60		SPMT B SPMT E	MULTI- REELS	CHANNEL 0028-01	TAPES	SC G SC G	09 09	38.15 19.45	108 109	23.06 01.9E	\$ \$	RAMAOSWI RAMAOSWI
***MULTI-CHANNE												
0850 21/ 9/80 1442 23/ 9/80		SPMI F	LINE R	LAMA05-4 RAMA05-4	1-48 1-48	GNC GNC	09 09	38.0S 19.1S	108 109	23.0E 02.3E	\$ \$	RAMAOSWI RAMAOSWI
SEISMIC KEFL	ECT IO N/R		0Ñ (CONTACT	GDC FOR	EXP	LAN	ATION (OF C	DDES)		•
1109 26/ 8/80 1237 30/ 8/60 1429 30/ 8/80 1254 31/ 8/60 0100 1/ 9/80 0526 1/ 9/60 0637 1/ 9/80 1319 2/ 9/60 2128 2/ 9/60 0522 3/ 9/60 0229 14/ 9/80		SR SS SR SS	SEIS F SEIS F SEIS F SEIS F SEIS F SEIS F SEIS F SEIS F	RUN RAMA RUN RAMA RUN RAMA RUN RAMA RUN RAMA RUN RAMA RUN RAMA RUN RAMA RUN RAMA	05-02 05-03 05-04 05-05 05-06 05-07 05-08 05-09 05-10	GDC GDC GDC GDC GDC GDC GDC	01 01 00 00 00 04 05 06	55.6N 52.9N 24.6N 03.6N 28.8S 36.9S 36.9S 25.2S 01.3S	124 120 119 118 118 116 115	22.5E 07.2E 44.9E 07.8E 37.8E 29.9E 07.8E 01.7E 59.8E	S S S S S S S S	R AMAOSWI R AMAOSWI

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	0338	14/ 9/t0 14/ 9/80		SR SS SR SS	•	GDC 09 16.15 GDC 08 57.65		
	0042 2052 2054 2054 2055 2155 2241	14/ 9/80 15/ 9/80 14/ 9/80 14/ 9/80 14/ 9/80 14/ 9/80 14/ 9/80 14/ 9/80			SEIS RUN RAMAO5-14W RV/AX/SO/AN SONOBUOY RAMA5-14A SONOBUOY RAMA5-14B SONOBUOY RAMA5-14C SONOBUOY RAMA5-14D SONOBUOY RAMA5-14E SONOBUOY RAMA5-14F SONOBUOY RAMA5-14F	GGS 08 41.55 GGS 08 29.05 GDC 08 41.55 GDC 08 41.45 GDC 08 41.45 GDC 08 41.45 GDC 08 38.05 GDC 08 35.35 GDC 08 33.15	108 14.8E 108 51.8E 108 51.5E 108 51.5E 108 51.3E 108 42.1E 108 34.8E	S RAMAOSWT
	0505 0054 0054 0141 0239	15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80		SRC\$ 6	SEIS RUN RAMAO5-14E RV/AX/SD/AN SONOBUOY RAMA5-14H SONOBUOY RAMA5-14I SONOBUOY RAMA5-14J SONOBUOY RAMA5-14K SONOBUOY RAMA5-14L	GGS 08 29.0S GGS 08 44.2S GDC 08 29.2S GDC 08 29.2S GDC 08 31.7S GDC 08 35.6S GDC 08 35.6S	108 49.7E 108 14.7E 108 14.7E 108 20.5E 108 28.5E	S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT
	0921 0555 0556 0556 0654 0739	15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80			SEIS RUN RAMAO5-15W RV/AX/SD/AN SONOBUOY RAMA5-15A SONOBUOY RAMA5-15B SONOBUOY RAMA5-15C SONOBUOY RAMA5-15D SONOBUOY RAMA5-15E SONOBUOY RAMA5-15F	GGS 08 50.85 GGS 08 41.45 GDC 08 50.85 GDC 08 50.75 GDC 08 50.75 GDC 08 48.15 GDC 08 46.05 GDC 08 46.05	108 14.6E 108 49.6E 108 49.4E 108 49.4E 108 39.6E 108 32.0E	S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT
	1325 0930 0930 0931 1034 1121 1122	15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80 15/ 9/80		SRCS 8 SRCS E SBSD SBSD SBSD SBSD SBSD SBSD SBSD SBS	SEIS RUN RAMAOS-15E RV/AX/SD/AN SONOBUOY RAMAS-15G SONOBUOY RAMAS-15H SONOBUOY RAMAS-15I SONOBUOY RAMAS-15J SONOBUOY RAMAS-15K SONOBUOY RAMAS-15L SONOBUOY RAMAS-15M	GGS 08 41.45 GGS 08 49.35 GDC 08 41.65 GDC 08 41.75 GDC 08 43.85 GDC 08 45.55 GDC 08 46.85 GDC 08 46.85	108 15.26 108 15.26 108 15.46 108 24.56 108 31.46 108 31.56	S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT
•		19/ 9/80 21/ 9/80			SEIS RUN RAMAO5-16 RV/AX/SD,MB/AD	GGS 09 20.55 GGS 09 34.85		
	1517 2131 2311 0002 0052 0131 0220	19/ 9/80 20/ 9/80 19/ 9/80 19/ 9/80 20/ 9/80 20/ 9/80 20/ 9/80 20/ 9/80			RAMA 5-16A MOORED BUOY JO SONOBUOY RAMA5-16B SONOBUOY RAMA5-16C SONOBUOY RAMA5-16D SONOBUOY RAMA5-16E SONOBUOY RAMA5-16F SONOBUOY RAMA5-16G SONOBUOY RAMA5-16G	GGS 09 20.55 GGS 09 19.85 GDC 09 22.25 GDC 09 26.95 GDC 09 31.75 GDC 09 33.05 GDC 09 34.95 GDC 09 37.65	107 47.9E 107 54.4E 108 07.7E 108 14.7E 108 21.4E 108 26.8E 108 33.6E	S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT
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0816 2 0051 2 0931 2 1018 2 1049 2 1131 2 1212 2 1323 2	0/ 9/50 1/ 9/80 0/ 9/80 0/ 9/80 0/ 9/80 0/ 9/80 0/ 9/80 0/ 9/80		SBMB B SRMB E SBSD SBSD SBSD SBSD SBSD SBSD SBSD SBS	RAMA 5-16I MOORED BUDY REGINA SONOBUDY RAMA5-16J SONOBUDY RAMA5-16K SONOBUDY RAMA5-16L SONOBUDY RAMA5-16M SONOBUDY RAMA5-16N SONOBUDY RAMA5-16N SONOBUDY RAMA5-160 SEIS RUN RAMA05-17 SEIS RUN RAMA05-18 SEIS RUN RAMA05-19 SEIS RUN RAMA05-20	GGS 0 GDC 0 GDC 0 GDC 0 GDC 0 GDC 0	9 34.85 9 33.45 9 31.35 9 29.95 9 28.05 9 26.15 9 22.75	108 42.3E 108 35.8E 108 27.5E 108 22.0E 108 14.5E 108 07.2E 107 55.0E	S RAMAOSWT
2023 2 2346 2 0712 2	2/ 9/80 2/ 9/60 3/ 9/80		SRSS SRSS SRSS	SEIS RUN RAMAO5-18 SEIS RUN RAMAO5-19 SEIS RUN RAMAO5-20	GDC O GDC O	7 54.95 7 51.85 8 37.35	108 33.3E 108 48.7E 108 48.9E	S RAMAOSWT S RAMAOSWT S RAMAOSWT
2035 2 0635 2	3/ 9/60 5/ 9/80		SRCS B SRCS E	SEIS RUN RAMAO5-21 RV/AX/SD, M8/AD	GGS O	9 16.8S 8 54.7S	108 49.6E 107 18.3E	S RAMAOSWT S RAMAOSWT
1956 2 1958 2 2125 2 2252 2 0017 2 0122 2 0239 2	3/ 9/80 4/ 9/80 3/ 9/80 3/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80		SBMB B SBMB E SBSD SBSD SBSD SBSD SBSD SBSD SBSD SBS	RAMA 5-21A MODRED BUOY JO SONOBUOY RAMAO5-21B SONOBUOY RAMAO5-21C SONOBUOY RAMAO5-21D SONOBUOY RAMAO5-21E SONOBUOY RAMAO5-21F SONOBUOY RAMAO5-21F	GGS O GGS O GDC O GDC O GDC O GDC O	9 17.25 9 16.85 9 14.65 9 11.35 9 08.55 9 06.55 9 04.45	108 49.4E 108 50.2E 108 41.3E 108 27.2E 108 12.8E 108 01.8E 107 48.7E	S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT
0715 2 0643 2 0853 2 0952 2 1052 2 1152 2 1247 2 1339 2 1428 2 1521 2 1611 2 1701 2 1747 2 2336 2 1356 2 2337 2 2305 2 2345 2 0307 2	4/ 9/80 5/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80 4/ 9/80 5/ 9/80 5/ 9/80 6/ 9/80 7/ 9/80		\$8MB B \$8880	RAMA 5-21H MOORED BUDY DONNA SONOBUDY RAMAO5-21 I SONOBUDY RAMAO5-21 I SONOBUDY RAMAO5-21 K SONOBUDY RAMAO5-21 K SONOBUDY RAMAO5-21 K SONOBUDY RAMAO5-21 M SONOBUDY RAMAO5-21 N SONOBUDY RAMAO5-21 D SONOBUDY RAMAO5-21 P SONOBUDY RAMAO5-21 P SONOBUDY RAMAO5-21 R SONOBUDY RAMAO5-21 S SEIS RUN RAMAO5-22 SEIS RUN RAMAO5-22 SEIS RUN RAMAO5-23 SEIS RUN RAMAO5-25 SEIS RUN RAMAO5-25 SEIS RUN RAMAO5-26 SEIS RUN RAMAO5-27 SEIS RUN RAMAO5-28 SEIS RUN RAMAO5-28 SEIS RUN RAMAO5-28	GGS 0 GDC 0	8 54.6S 8 54.5S 8 56.8S 9 01.4S 9 03.3S 9 05.0S 9 06.6S 9 08.1S 9 11.9S 11.9S 13.8S 14.5S 14.5S 16.2S 16.2S 17.55.8S 18.5S 18	107 18.2E 107 18.7E 107 27.4E 107 36.6E 107 45.9E 107 54.2E 108 02.3E 108 10.1E 108 26.6E 108 34.0E 108 26.2E 106 50.7E 106 39.5E 104 11.8E 103 57.1E 103 53.7E 103 44.5E 103 35.5E	S RAMAOSWT
0548 2 0706 2 1427 2 2203 2	7/ 9/80 7/ 9/80 7/ 9/80 7/ 9/80 7/ 9/80 8/ 9/80		SR SS SR SS SR SS SR SS SR SS SR SS	SEIS RUN RAMAO5-30 SEIS RUN RAMAO5-31 SEIS RUN RAMAO5-32 SEIS RUN RAMAO5-33 SEIS RUN RAMAO5-34 SEIS RUN RAMAO5-35	GDC 0 GDC 0 GDC 0	95 33.7S 5 25.7S 94 55.2S 4 04.1S	103 20.5E 103 13.1E 102 20.3E 101 39.8E	S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT S RAMAOSWT

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** MAGNETOMETER **					
.230 24/ 8/80 2235 26/ 8/80	MGRA B MA MGRA E MA	AGNETICS R-01 AGNETICS R-01	GDC 10 11.5N GDC 05 44.8N		
243 26/ 8/60 3407 20/ 9/80		AGNETICS R-02	GDC 05 44.3N GDC 09 38.0S		
.533 20/ 9/60 2032 28/ 9/80	MGRA B MA MGRA E MA	AGNETICS R-03 AGNETICS R-03	GDC 09 20.45 GDC 01 32.35	107 47.7E S 100 09.9E S	RAMAO5WT RAMAO5WT
GRAVIMETRIC RECO	RDS* CURATO	DR L.M. DORMAN (EXT.2	406)		
133 23/ 8/50 430 14/ 9/80	GVRA B GR GVRA E GR	RAVIMETER R-01 RAVIMETER R-01	LMD 13 11.5N LMD 08 55.7S	144 01.7E S	RAMAOSWT RAMAOSWT
435 14/ 9/80 135 29/ 9/80	GVRA B GR GVRA E GR	RAVIMETER R-02 RAVIMETER R-02	LMD 08 55.45 LMD 01 00.75	109 50.7E S 100 22.4E S	RAMAO5WT
** BATHYTHERMOGRAI	*** H		· · · · · · · · · · · · · · · · · · ·		
945 15/ 9/80 0125 21/ 9/80 0619 25/ 9/80	BTXP XE BTXP XE BTXP XE	BT NO. 1 3T NO. 2 BT NO. 3	MTG 08 42.2S MTG 09 34.9S MTG 08 54.8S	108 17.4E S 108 42.4E S 107 18.2E S	RAMAOSWT RAMAOSWT RAMAOSWT
9900	END SA	AMPLE INDEX		RAMAC	5WT