INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH AND MAGNETIC DATA

(Issued August 1980)

RAMA EXPEDITION

LEG 1

San Diego, Calif. (10 March 1980)
to
Honolulu, Hawaii (17 April 1980)

R/V T. Washington

Chief Scientist - F. N. Spiess (SIO)

Resident Marine Tech - W. E. Keith

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

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"/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

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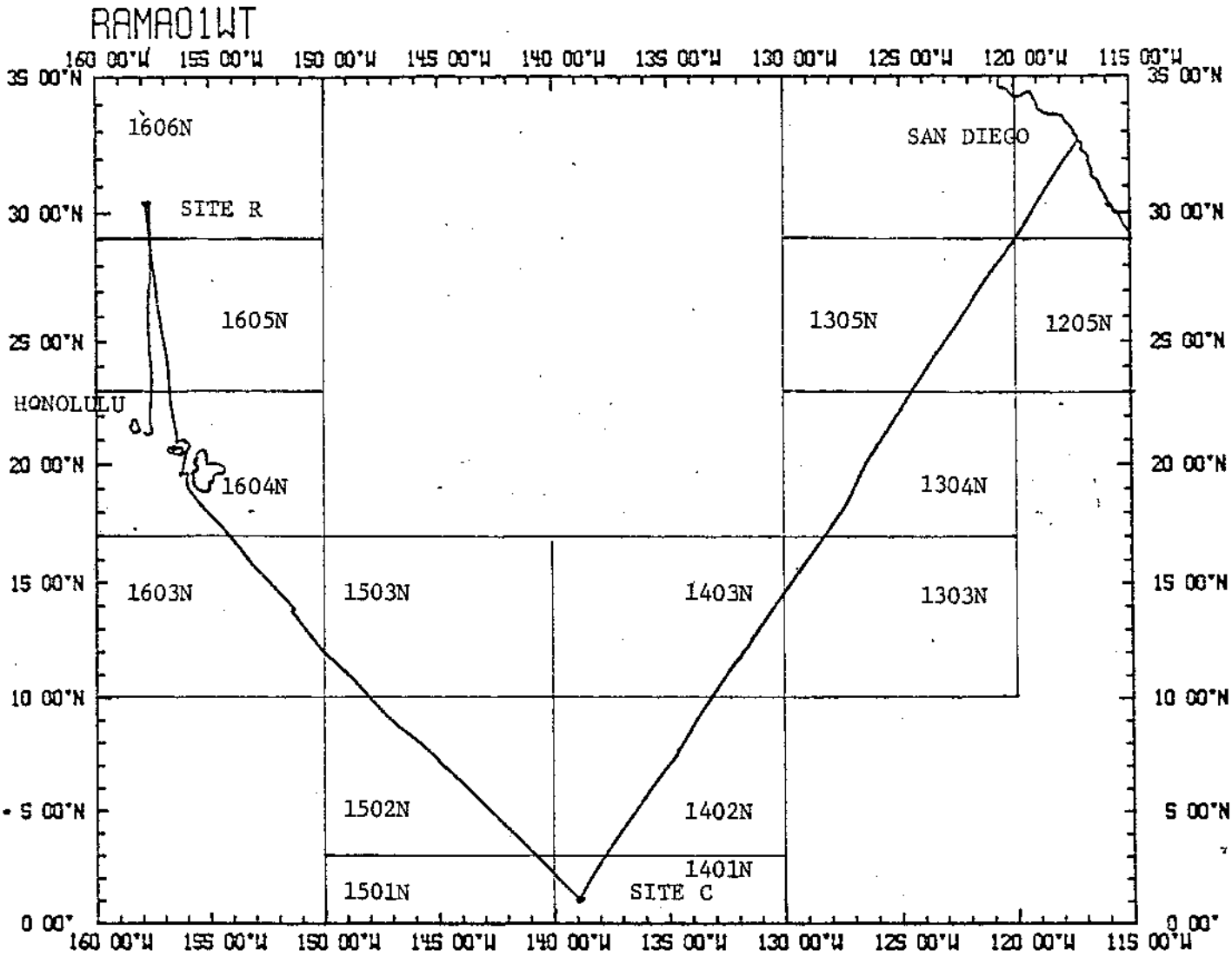
* NO SUBBOTTOM PROFILER DATA COLLECTED

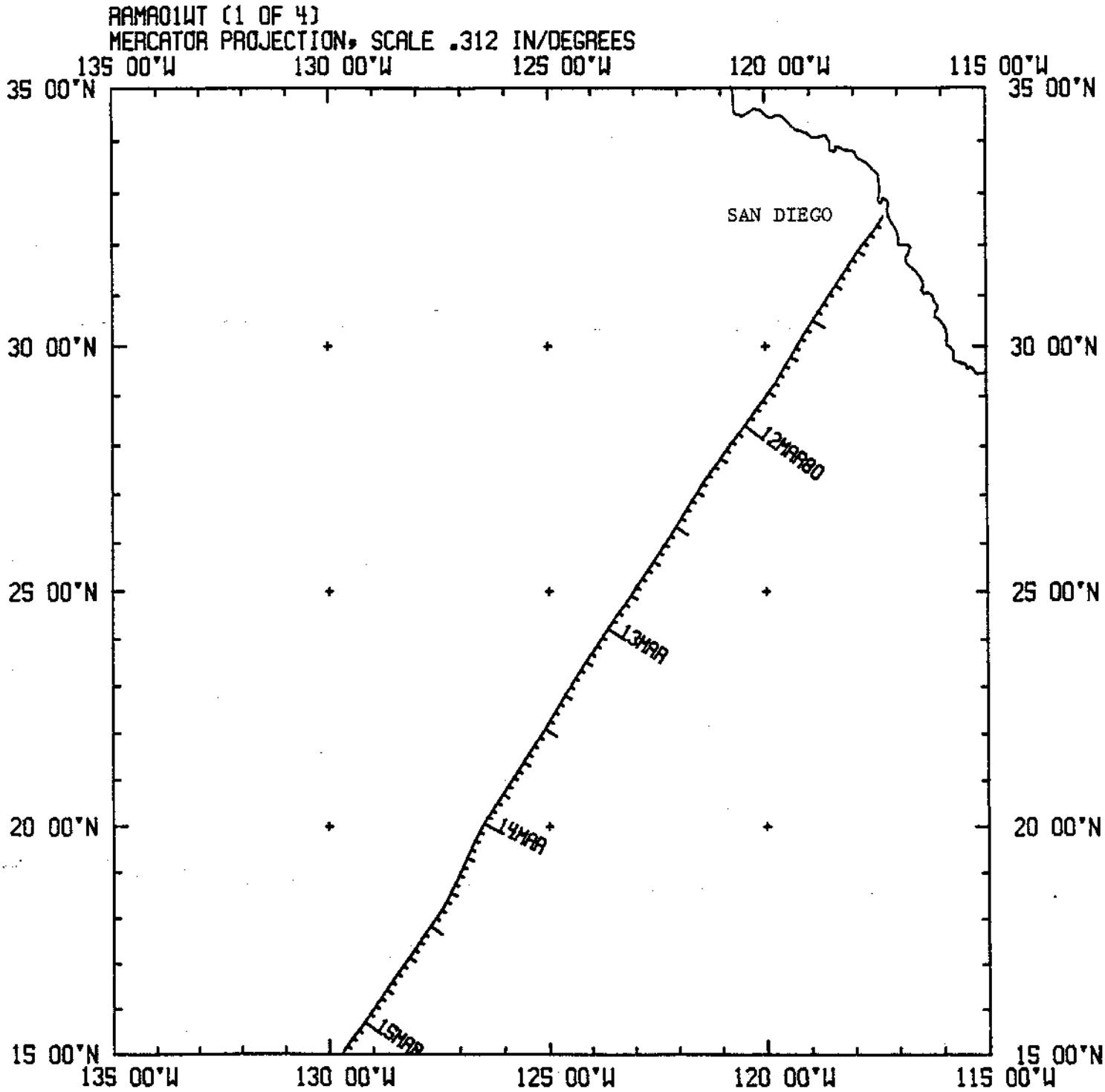


RAMA EXPEDITION LEG 1

Chief Scientist - F. N. Spiess (SIO)
Ports: San Diego, Cal. - Honolulu, Hawaii
Dates: 10 March - 17 April 1980
Ship: R/V T. Washington

TOTAL MILEAGE

1) Cruise - 5864 miles
2) Bathymetry - 4484 miles
3) Magnetics - 4101 miles
4) Seismic Reflection - none collected
5) Gravity - none collected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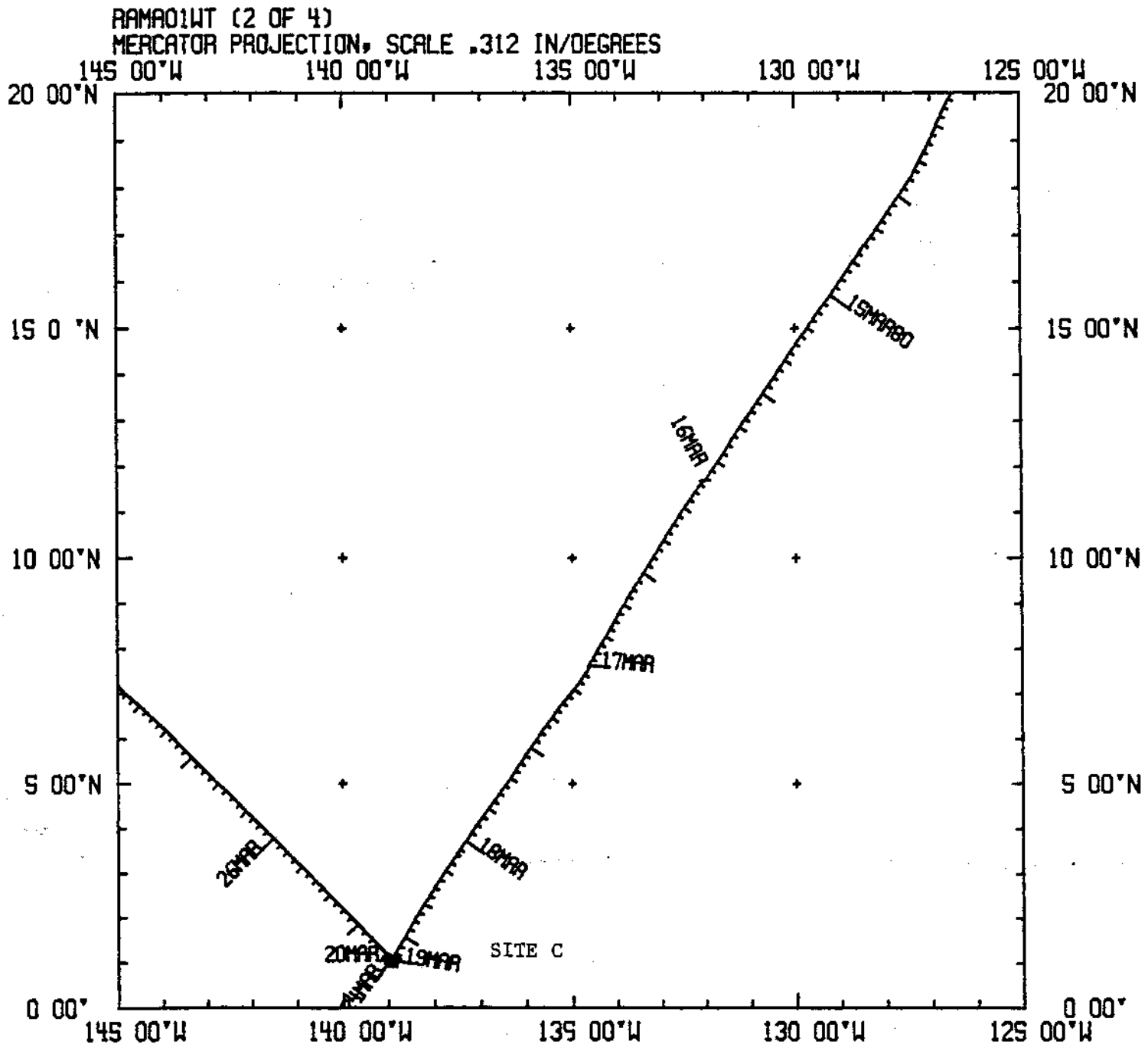
135 00°W
130 00°W
125 00°W
120 00°W
115 00°W
35 00°N
30 00°N
25 00°N
20 00°N
15 00°N
SAN DIEGO
12MAR80
13MAR
14MAR
15MAR


AAMA01WT (2 OF 4)
MERCATOR PROJECTION, SCALE .312 IN/DEGREES
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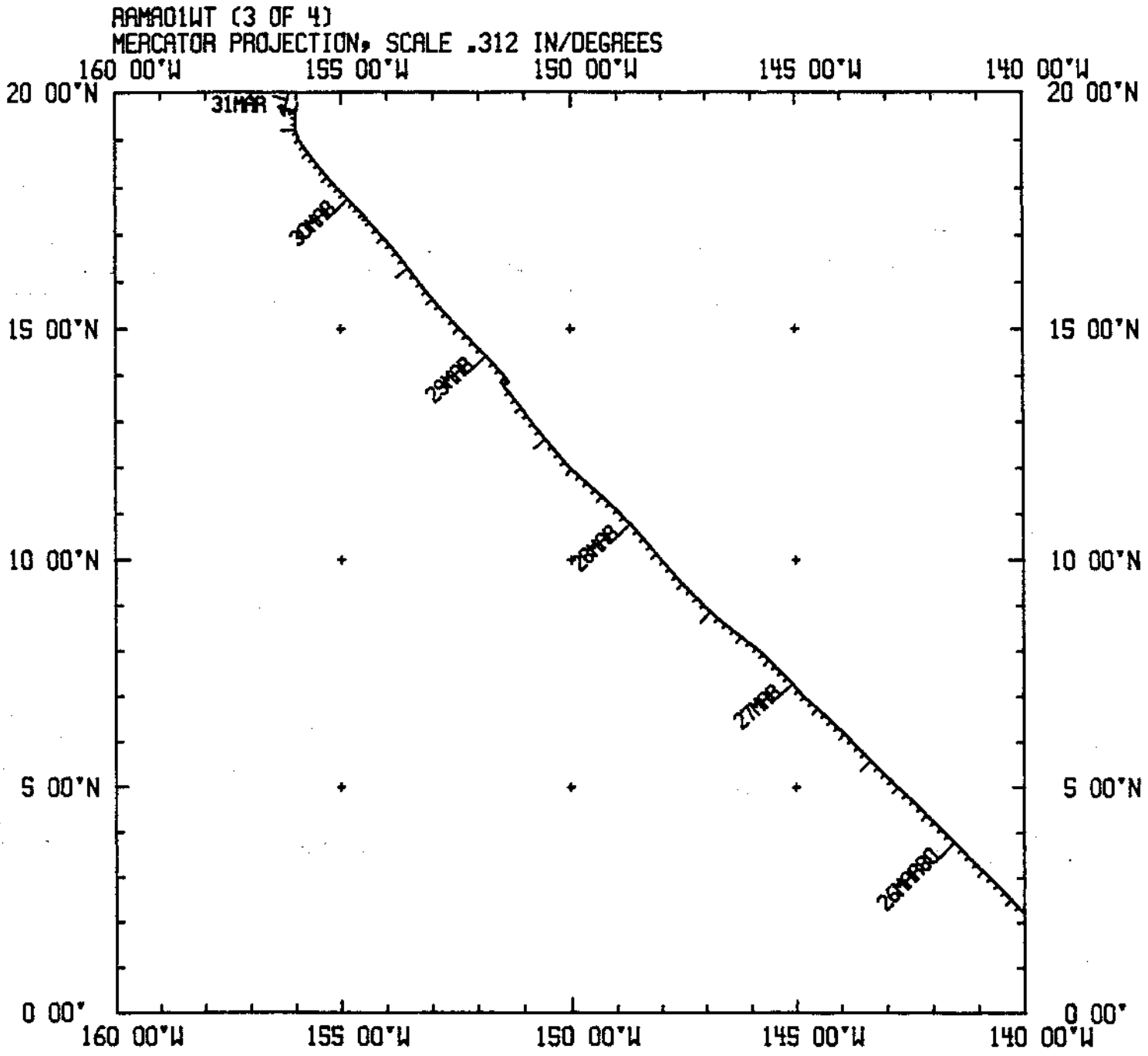
140 00'W
135 00'W
130 00'W
125 00'W
20 00'N
15 00'N
10 00'N
5 00'N
0 00'
16MAR
17MAR
18MAR
19MAR
20MAR
SITE C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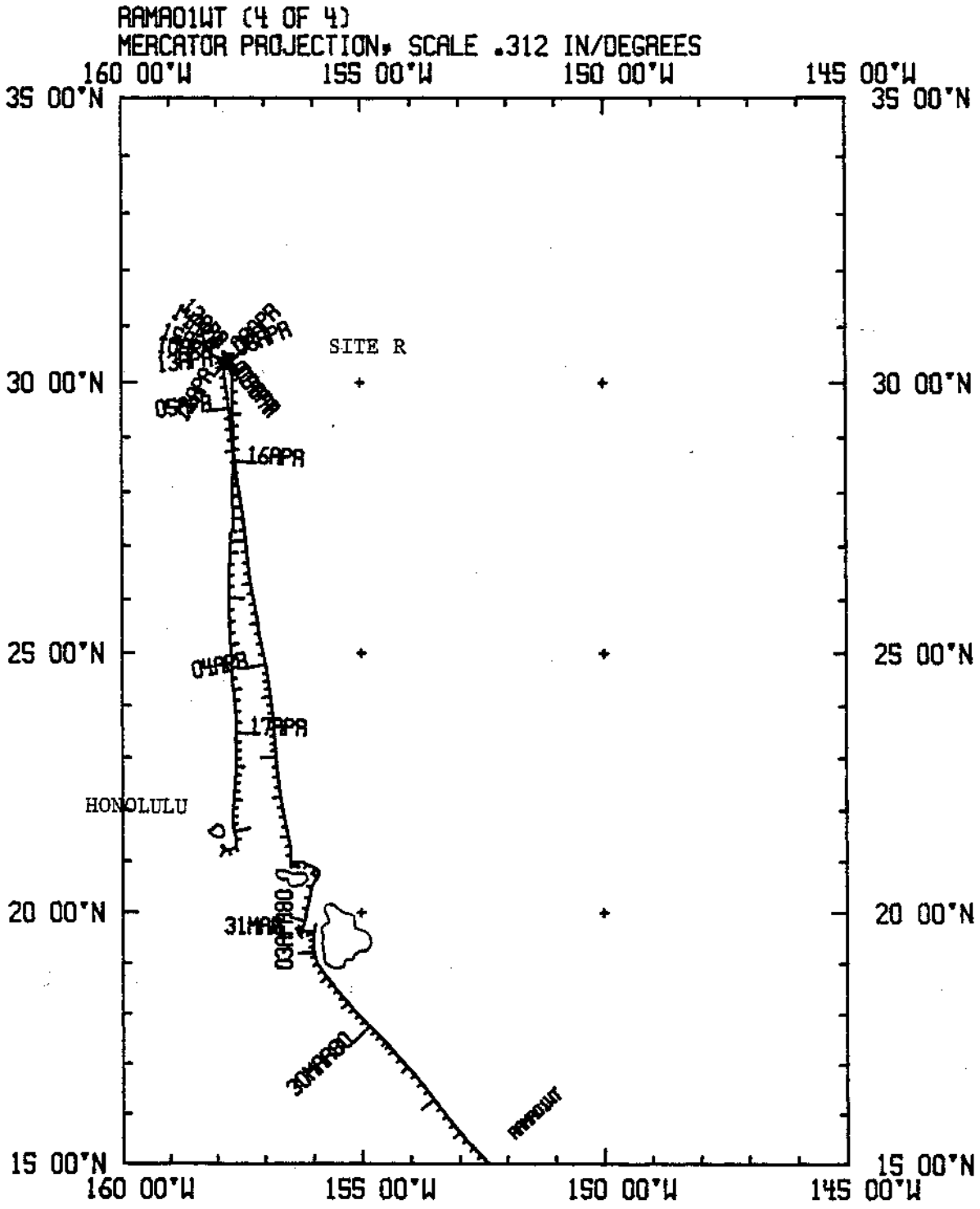
155 00°W
150 00°W
145 00°W
140 00°W
20 00°N
15 00°N
10 00°N
5 00°N
0 00°
31MAR
30MAR
29MAR
28MAR
27MAR
26MAR00


RAMA01WT (4 OF 4)
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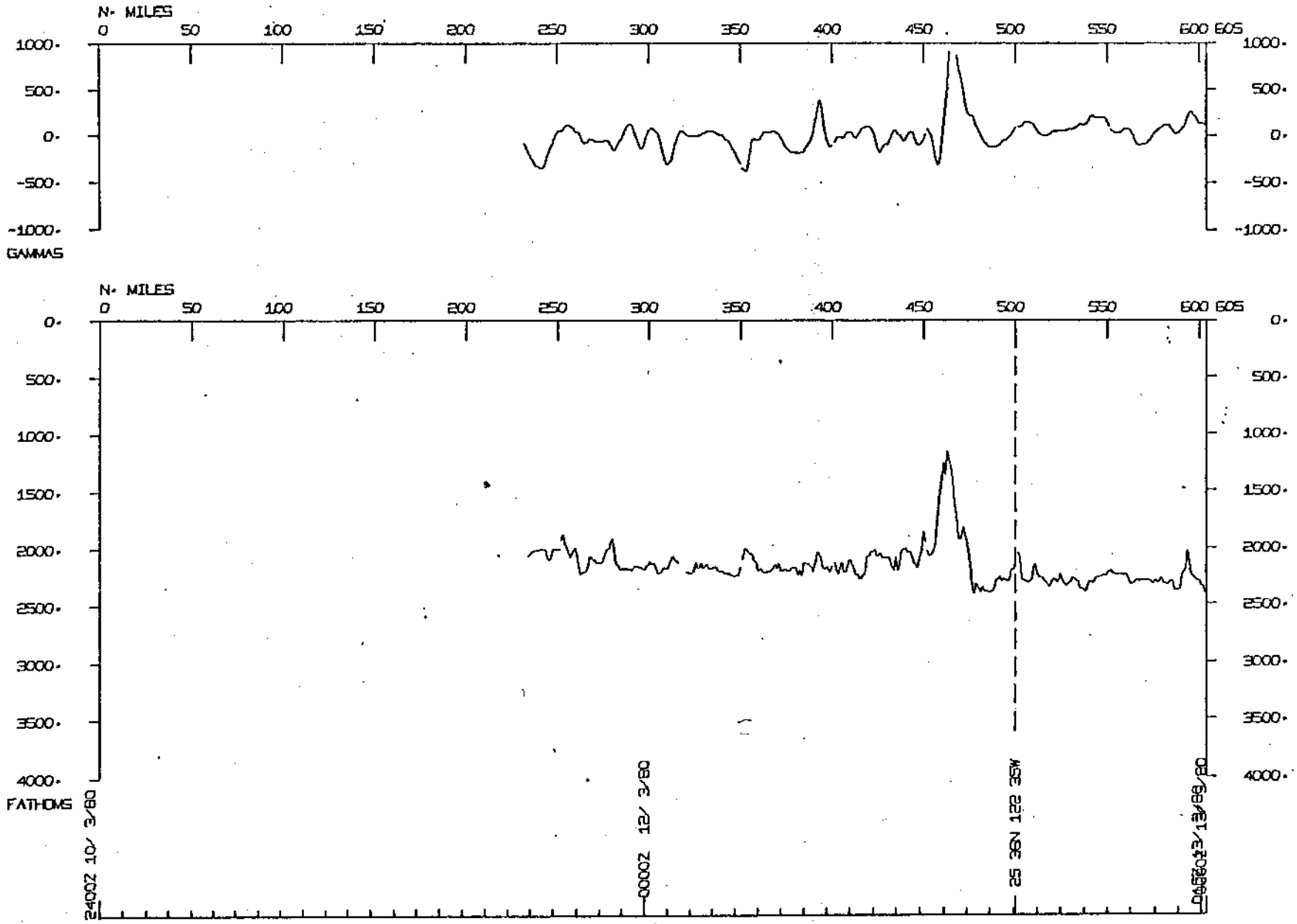
155 00°W
150 00°W
145 00°W
35 00°N
30 00°N
25 00°N
20 00°N
15 00°N
SITE R
16APR
17APR
HONOLULU
31MAR
30APR01
RAMA01WT

RAMA LEG 1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1000
500
0
-500
-1000
GAMMAS
N. MILES
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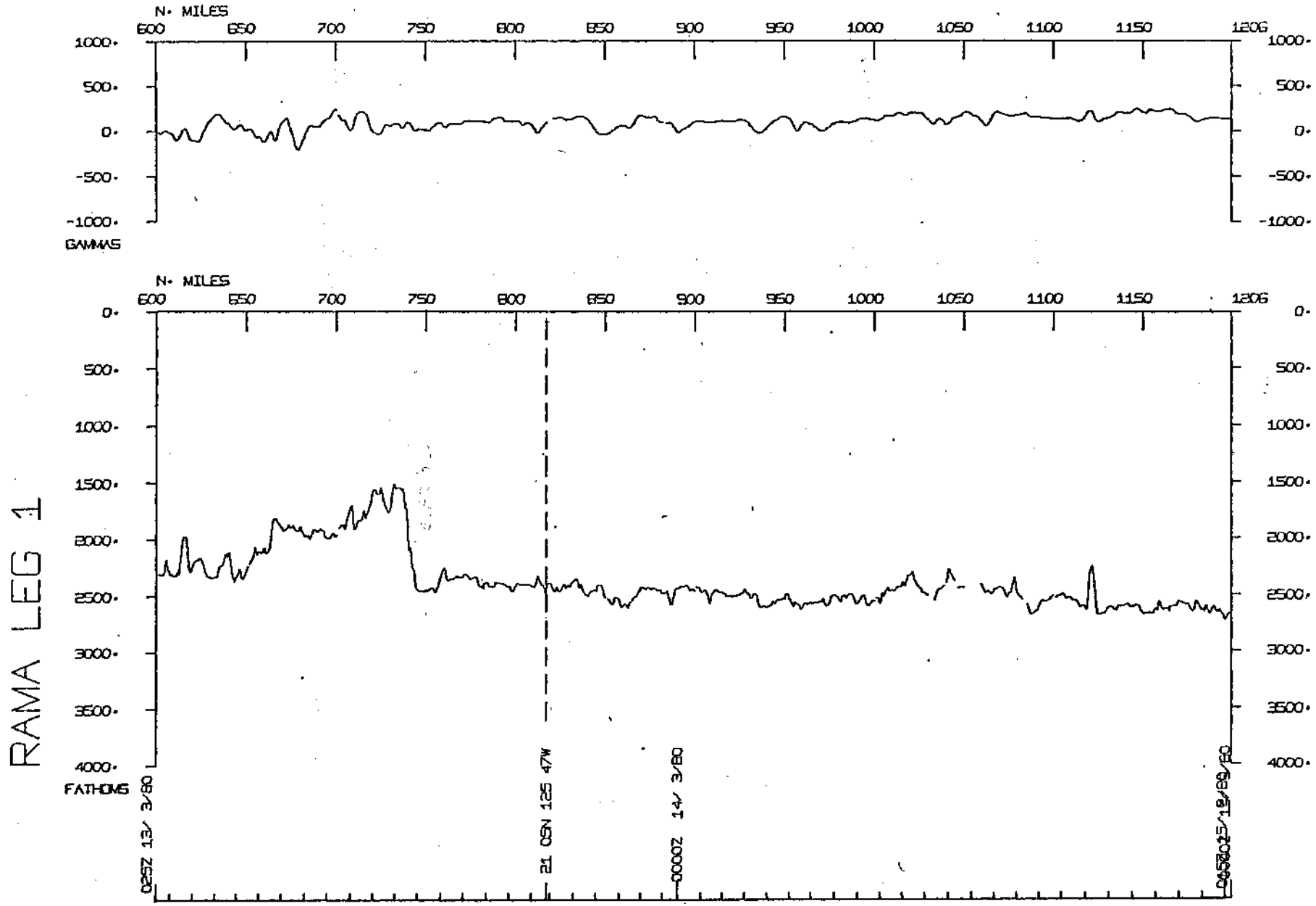
1500
2000
2500
3000
3500
4000
FATHOMS
24002 10/ 3/80
00002 12/ 3/80
25 36N 122 35W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700
750
800
850
900
950
1000
1050
1100
1150
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500.
0.
-500.
-1000.
GAMMAS
N. MILES
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
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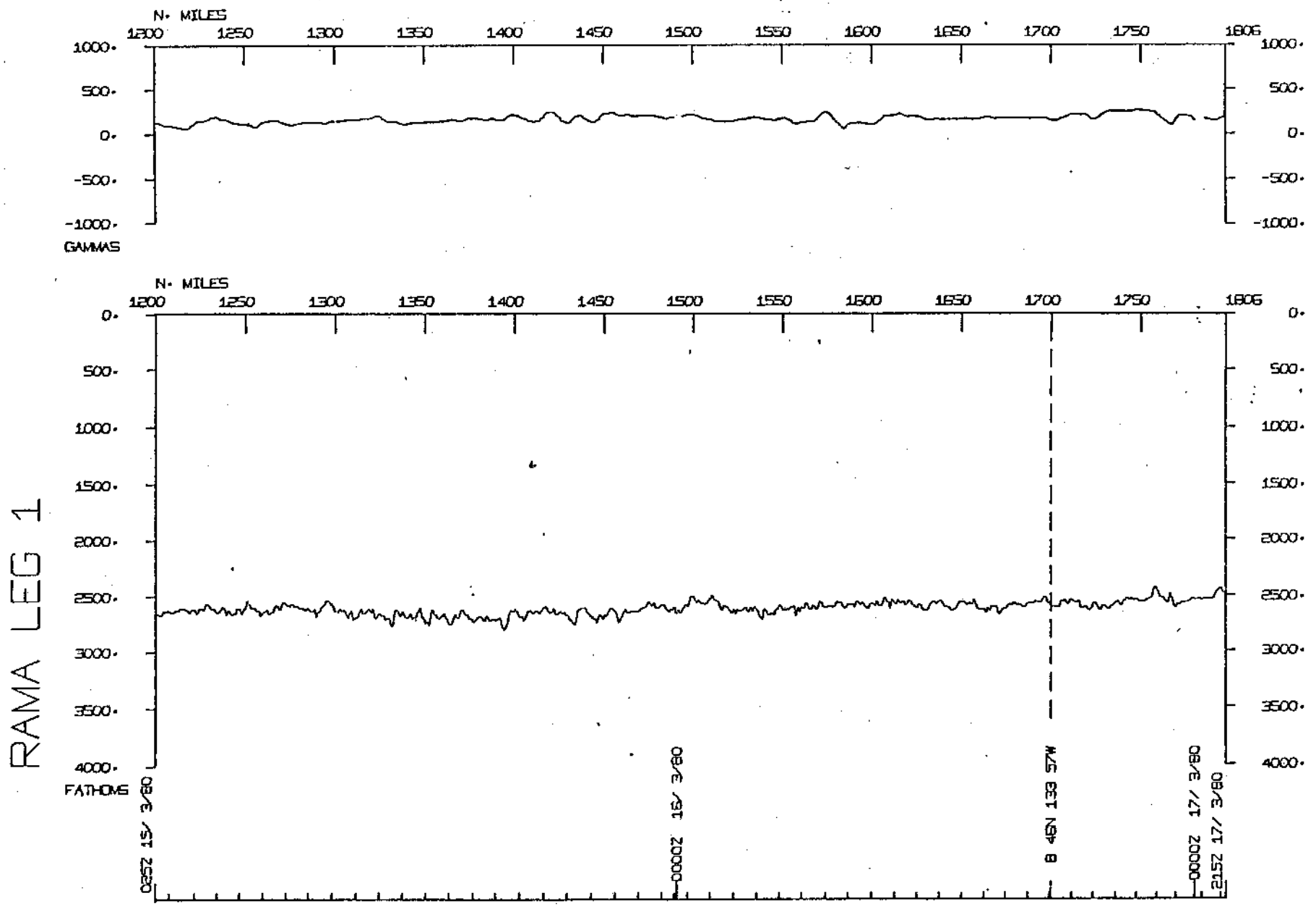
21 05N 125 47W
00002 14/ 3/80
0452 15/ 3/80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1400
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1750
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500.
0.
-500.
-1000.
GAMMAS
N. MILES
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
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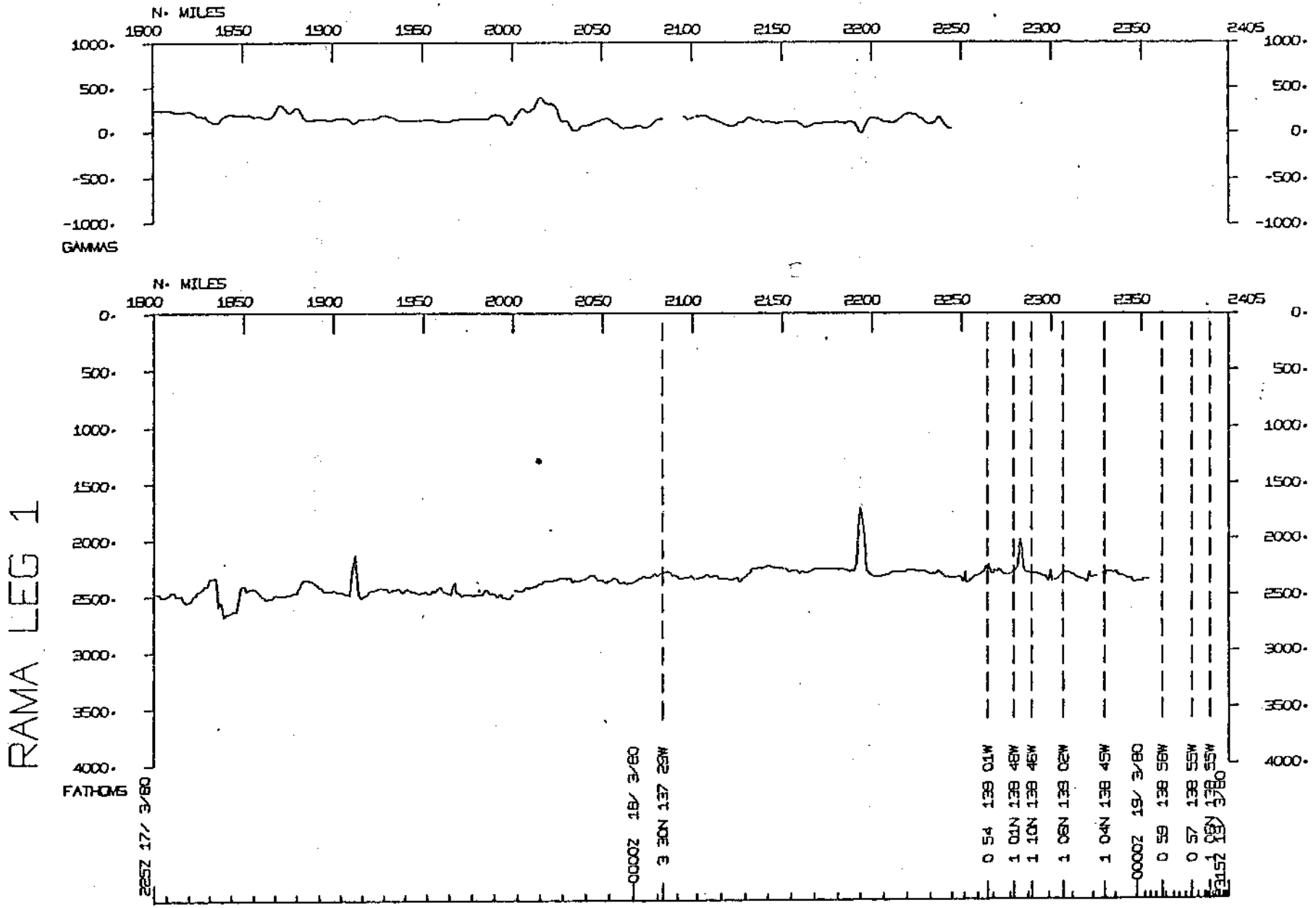
00002 15/ 3/80
8 48N 133 57W
00002 17/ 3/80
2152 17/ 3/80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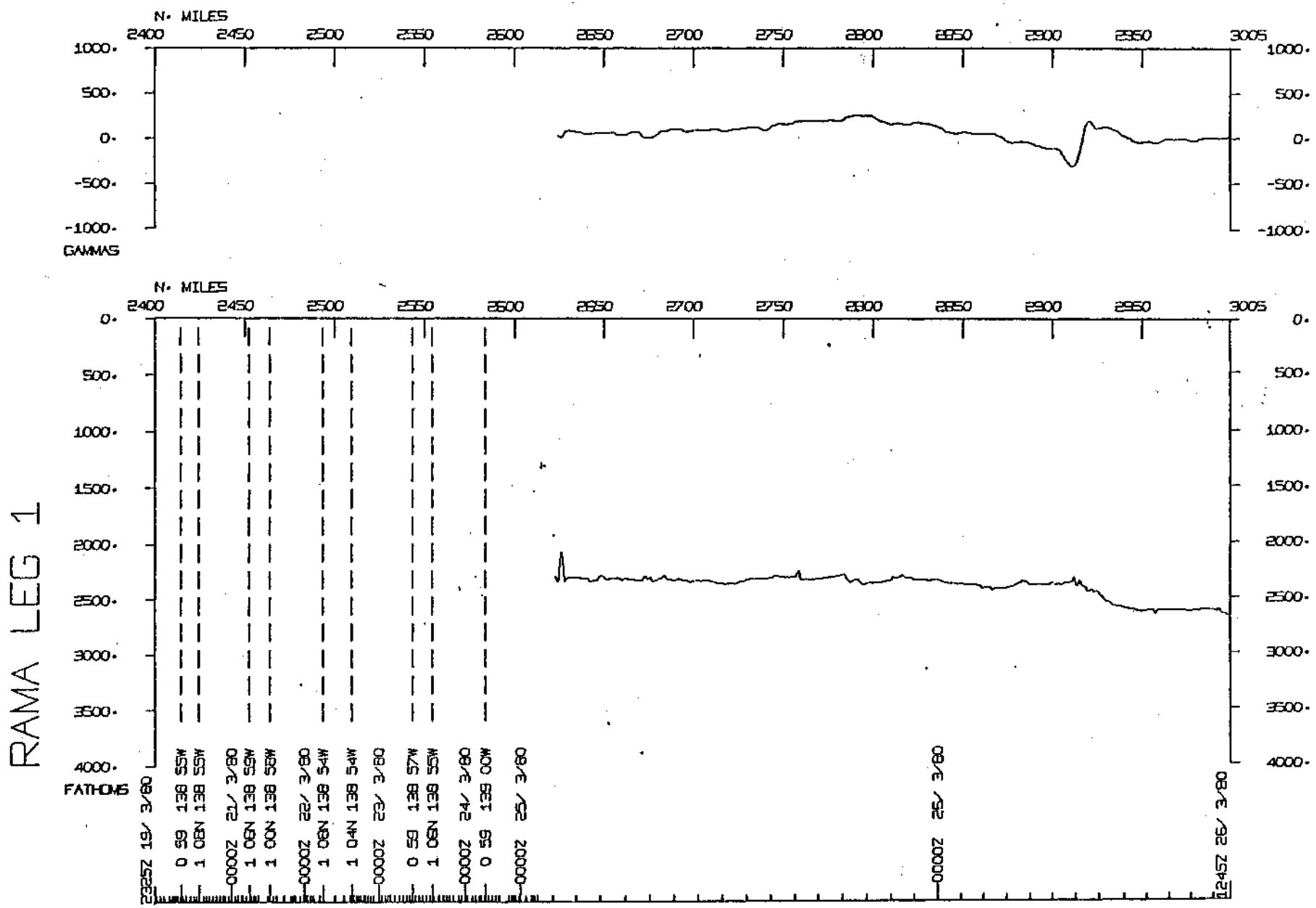
GAMMAS
N. MILES
1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2405
0. 500. 1000. 1500. 2000. 2500. 3000. 3500. 4000.
FATHOMS
2257 17/ 3/80
00002 18/ 3/80
3 30N 137 25W
0 54 138 01W
1 01N 138 48W
1 10N 138 46W
1 08N 138 02W
1 04N 138 45W
00002 19/ 3/80
0 59 138 58W
0 57 138 55W
1 05N 138 55W
2352 19/ 3/80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2500
2550
2600
2650
2700
2750
2800
2850
2900
2950
3005
1000
500
0
-500
-1000
GAMMAS
N. MILES
0
500
1000
1500
2000
2500
3000
3500
4000
FATHOMS
2325Z 19/ 3/80
0 59 138 55W
1 08N 138 55W
00002 21/ 3/80
1 08N 138 55W
1 00N 138 55W
00002 22/ 3/80
1 08N 138 54W
1 04N 138 54W
00002 23/ 3/80
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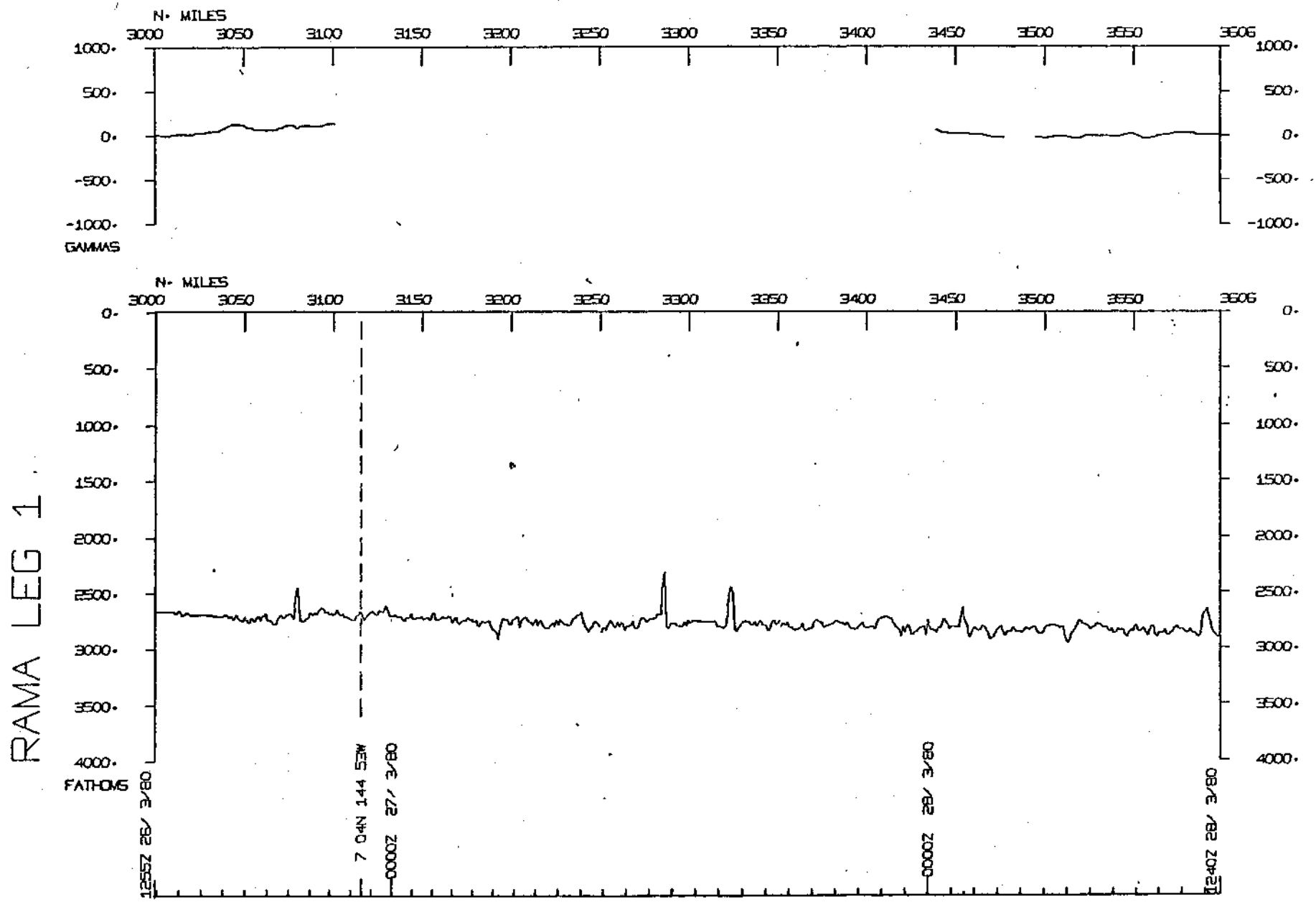
00002 25/ 3/80
00002 25/ 3/80
1245Z 26/ 3/80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3150
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3250
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3400
3450
3500
3550
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500.
0.
-500.
-1000.
GAMMAS
N. MILES
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
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7 04N 144 53W
0000Z 27/ 3/80
0000Z 28/ 3/80
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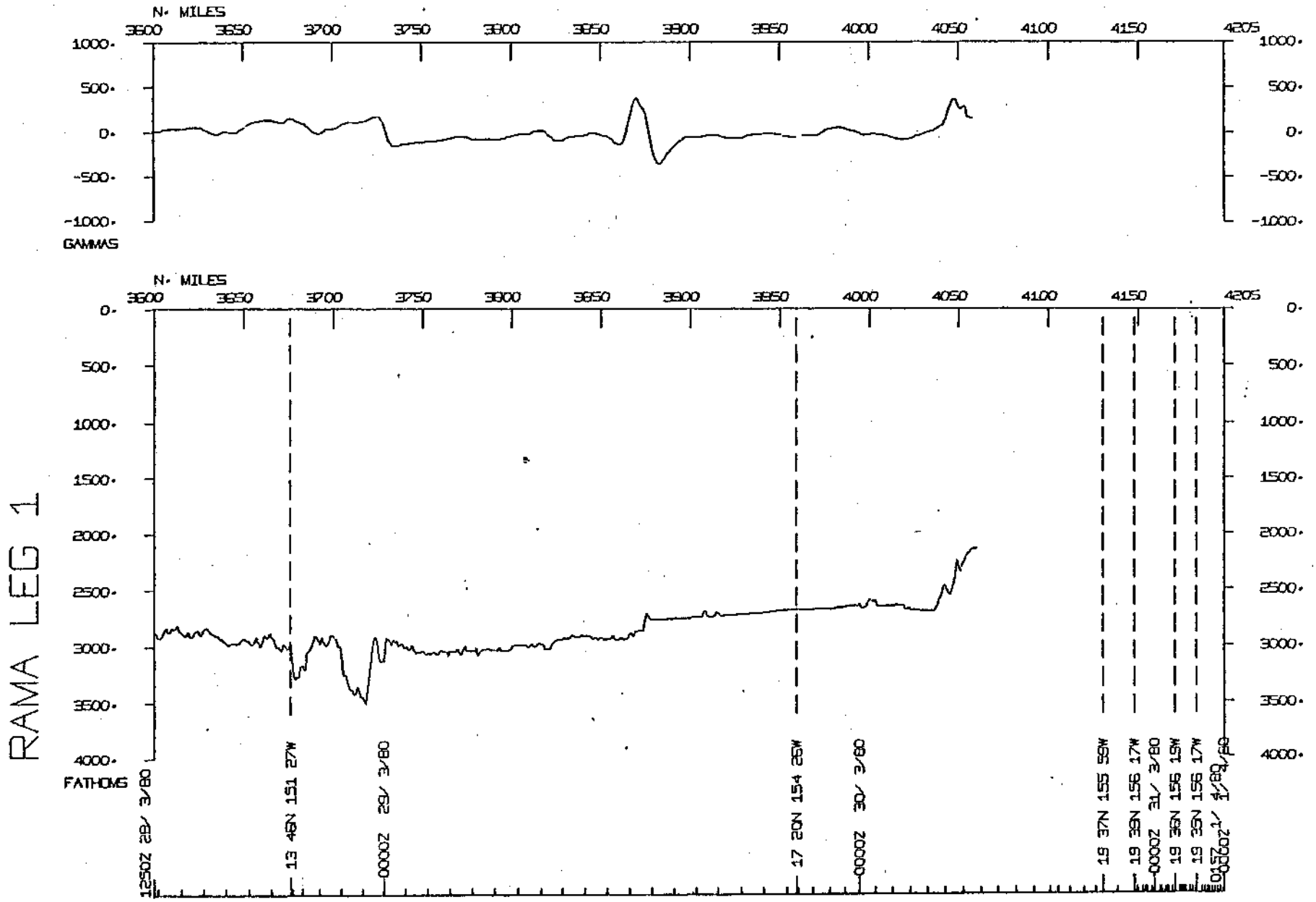
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GAMMAS
N. MILES
3600 3650 3700 3750 3800 3850 3900 3950 4000 4050 4100 4150 4205
0. 500. 1000. 1500. 2000. 2500. 3000. 3500. 4000.
FATHOMS
1250Z 28/ 3/80
13 48N 151 27W
0000Z 29/ 3/80
17 20N 154 25W
0000Z 30/ 3/80
19 37N 155 59W
19 39N 156 17W
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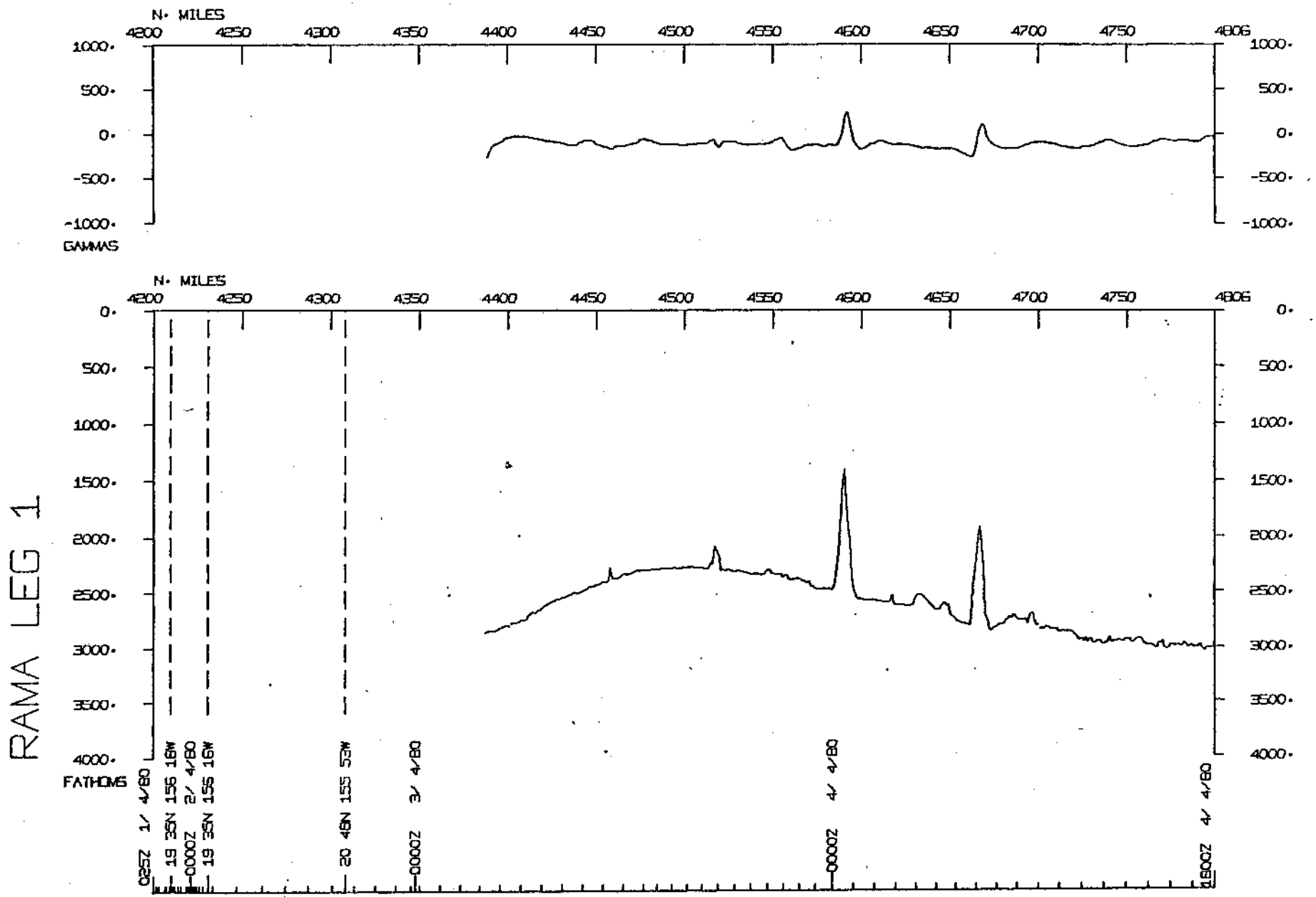
0000Z 1/ 4/80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4600
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4700
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0.
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-1000.
GAMMAS
N. MILES
0.
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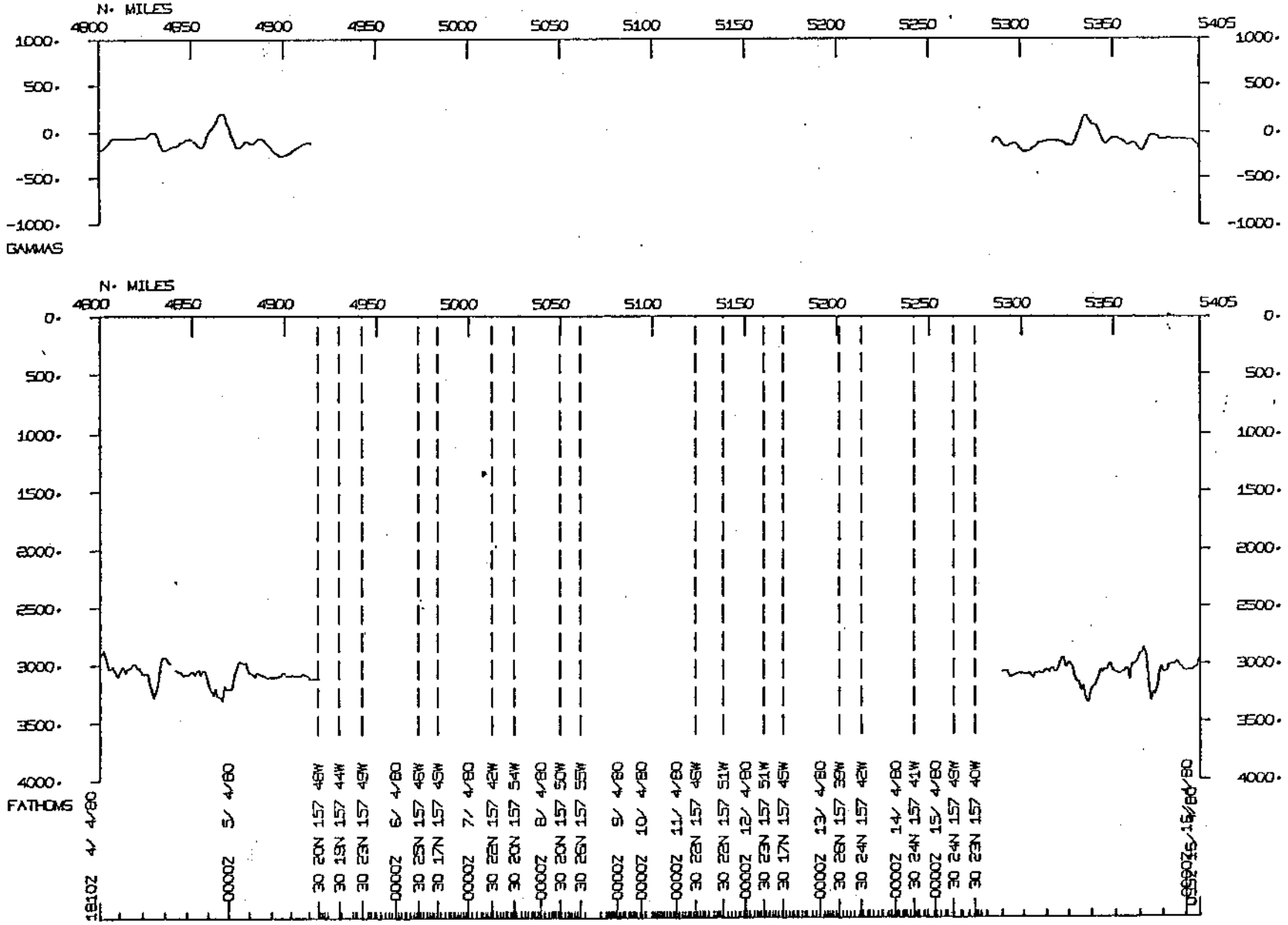
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
025Z 1/ 4/80
19 35N 156 16W
0000Z 2/ 4/80
19 35N 155 16W
20 48N 155 53W
0000Z 3/ 4/80
0000Z 4/ 4/80
1800Z 4/ 4/80

RAMA LEG 1

RAMA LEG 1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4950
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5100
5150
5200
5250
5300
5350
5405
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
4800
4850
4900
4950
5000
5050
5100
5150
5200
5250
5300
5350
5405
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
18102 4/ 4/80
00002 5/ 4/80
30 20N 157 48W
30 13N 157 44W
30 23N 157 49W
00002 6/ 4/80
30 25N 157 45W
30 17N 157 49W
00002 7/ 4/80
30 22N 157 42W
30 20N 157 54W
00002 8/ 4/80
30 20N 157 50W
30 26N 157 55W
00002 9/ 4/80
00002 10/ 4/80
00002 11/ 4/80
30 22N 157 48W
30 22N 157 51W
00002 12/ 4/80
30 23N 157 51W
30 17N 157 45W
00002 13/ 4/80
30 28N 157 39W
30 24N 157 42W
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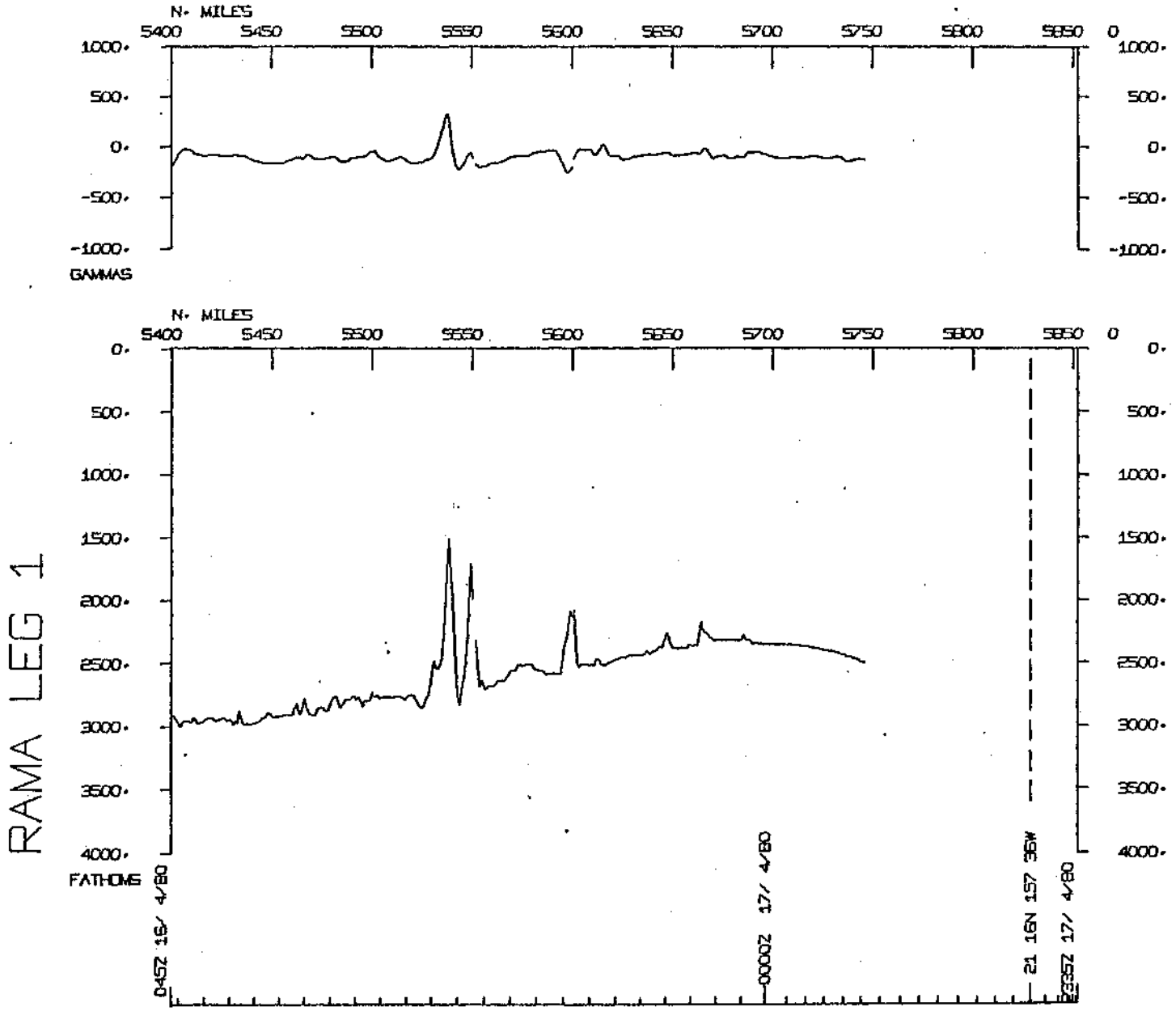
30 24N 157 49W
30 23N 157 40W
00002 15/ 4/80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5800
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500.
0.
-500.
-1000.
GAMMAS
N. MILES
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
0452 16/ 4/80
00002 17/ 4/80
21 16N 157 36W
2352 17/ 4/80

S.I.O. SAMPLE INDEX GENERATED 15AUG80

*** RAMA LEG 1 SAMPLE INDEX (RAMA01WT) ***

10MAR80 - SAN DIEGO, CA
TO
17APR80 - HONOLULU, HAWAII

CHIEF SCIENTIST - SPIESS, F. N. MPL

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	TYPE							TOTAL
	CO	DP	DT	HC	LB	MG	PE	
GDC		6			1	2		9
MBD							1	1
MIT				6			2	8
MPL			5				9	14
MTG							3	3
OSU	3						1	4
SIO	22						1	23
SIX							6	6
TOTAL	25	6	5	6	1	2	23	68

SAMPLE 'TYPE' CODES USED ABOVE

CO = CORE
DP = DEPTH
DT = DEEP TOWED INSTRUMENT PACKAGE (MPL PROJECT)
HC = HYDROGRAPHIC CAST
LB = LOG BOOKS
MG = MAGNETICS (TOWED VEHICLE, SURFACE, TOTAL FIELD)
PE = PERSONNEL IN SCIENTIFIC PARTY

SAMPLE 'DISP' CODES USED ABOVE

GDC = GEOLOGICAL DATA CENTER -- S. SMITH (EXT. 2752)
MIT = MASS. INST. TECHNOLOGY
MPL = MARINE PHYSICAL LAB. (EXT 2305)
MTG = MARINE TECHNOLOGY GROUP (EXT 4194)
OSU = OREGON STATE UNIVERSITY
SIO = SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA, CAL. 92093
SIX = SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)
MBD = MARINE BIOLOGY RESEARCH DIVISION (EXT. 4245)

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
					RAMA LEG 1 SAMPLE INDEX				RAMA01WT
*** PORTS ***									
2356	10/ 3/80			LGPT B	SAN DIEGO, CA		32 43. N	117 11. W	F RAMA01WT
1700	17/ 4/80			LGPT E	HONOLULU, HAWAII		21 18. N	157 52. W	F RAMA01WT
1455	30/ 3/80			LGSS B	KAILUA, HAWAII		19 38. N	156 00. W	F RAMA01WT
1519	30/ 3/80			LGSS E	KAILUA, HAWAII		19 38. N	156 00. W	F RAMA01WT
1035	2/ 4/80			LGSS B	KAHULUI, MAUI		20 54. N	156 28. W	F RAMA01WT
1435	2/ 4/80			LGSS E	KAHULUI, MAUI		20 54. N	156 28. W	F RAMA01WT

PERSONNEL

	*** NAME ***	*** TITLE ***	*** AFFILIATION ***
1	SPIESS, F. N.	CHIEF SCIENTIST	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
2	KEITH, W. E.	RESIDENT TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
3	MOE, R.	COMPUTER TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
4	BOEGEMAN, D. E.	SR. DVLMT. ENG.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
5	COLBURN, C. C.	ASST. DVLMT. ENG.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
6	GLEASON, D. E.	PR. ENG. AID	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
7	HARVIE, W. S.	RESEARCH ASST.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
8	HOLZSCHUH, J. E.	U. S. NAVY	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)
9	KISHIMOTO, B. H.	U. S. NAVY	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)
10	LAWHEAD, R.	ASST. PROGRAMMER	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
11	LESTER, D. M.	U. S. NAVY	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)
12	LOWENSTEIN, C. D.	SPECIALIST	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
13	LYLE, M. W.	RES. ASSOC.	OREGON STATE UNIVERSITY
14	OLSSON, M. S.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
15	PAVLICEK, F. V.	ASSO. DVLMT. ENG.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
16	ROMAN, N.	VOLUNTEER	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
17	SHIMAMOTO, M.	U. S. NAVY	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)
18	STARK, K.	ASSISTANT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
19	WITHEROW, S. L.	MARINE TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
20	CRISCENZO, S.	GRAD STUDENT	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)
21	GOODWIN, J.	HYDRO-CHEMIST	MASS. INST. TECHNOLOGY
22	GRANT, B.	HYDRO-CHEMIST	MASS. INST. TECHNOLOGY
23	PERCIVAL, C. M.	SANDIA LAB TECH	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)

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. (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.

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.		LEG-SHIP CRUISE
					UNDERWAY DATA CURATOR - STUART M. SMITH (EXT.2752)					
*** LOG BOOKS ***										
1900	11/ 3/80			LBUW B	UNDERWAY LOG	GDC	29 14.9N	119 46.9W	S	RAMA01WT
0515	17/ 4/80			LBUW E	UNDERWAY LOG	GDC	22 38.2N	157 36.6W	S	RAMA01WT
*** FATHOGRAMS ***										
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2357	15/ 3/80			DPR3 E	PDR 3.5KHZ R-01	GDC	11 41.2N	132 02.3W	S	RAMA01WT
0022	16/ 3/80			DPR3 B	PDR 3.5KHZ R-02	GDC	11 41.3N	132 02.0W	S	RAMA01WT
0515	27/ 3/80			DPR3 E	PDR 3.5KHZ R-02	GDC	07 58.8N	145 47.8W	S	RAMA01WT
0540	27/ 3/80			DPR3 B	PDR 3.5KHZ R-03	GDC	08 02.0N	145 51.4W	S	RAMA01WT
0320	5/ 4/80			DPR3 E	PDR 3.5KHZ R-03	GDC	30 09.5N	157 49.6W	S	RAMA01WT
1700	15/ 4/80			DPR3 B	PDR 3.5KHZ R-04	GDC	30 01.8N	157 39.6W	S	RAMA01WT
0519	17/ 4/80			DPR3 E	PDR 3.5KHZ R-04	GDC	22 37.5N	157 36.6W	S	RAMA01WT
1745	26/ 3/80			DPRT B	~~PDR~~ GDR 12 KHZ R-01	GDC	06 26.3N	144 12.0W	S	RAMA01WT
1742	27/ 3/80			DPRT E	~~PDR~~ GDR 12 KHZ R-01	GDC	09 45.4N	147 47.4W	S	RAMA01WT
1758	27/ 3/80			DPRT B	~~PDR~~ GDR 12 KHZ R-02	GDC	09 48.0N	147 49.7W	S	RAMA01WT
0705	29/ 3/80			DPRT E	~~PDR~~ 12 KHZ R-02	GDC	15 29.7N	152 53.0W	S	RAMA01WT
*** MAGNETOMETER ***										
1853	11/ 3/80			MGRA B	MAGNETICS R-01	GDC	29 16.1N	119 46.1W	S	RAMA01WT
0619	30/ 3/80			MGRA E	MAGNETICS R-01	GDC	18 31.2N	155 33.5W	S	RAMA01WT
0418	3/ 4/80			MGRA B	MAGNETICS R-02	GDC	21 33.3N	156 32.4W	S	RAMA01WT
0519	17/ 4/80			MGRA E	MAGNETICS R-02	GDC	22 37.5N	157 36.6W	S	RAMA01WT
*** CORES ***										
1224	21/ 3/80			COGV	RAMA 01G 4372M	OSU	01 00.5N	138 58.7W	S	RAMA01WT
1944	21/ 3/80			COGV	RAMA 02G 4408M	OSU	01 02.7N	138 58.4W	S	RAMA01WT
2346	21/ 3/80			COGV	RAMA 03G 4464M	OSU	01 03.9N	138 56.1W	S	RAMA01WT
1429	24/ 3/80			COGK	RAMA 04GK 4434M	SIO	01 05.2N	138 55.5W	S	RAMA01WT
1928	24/ 3/80			COBX	RAMA 05BX N.S. 4479M	SIO	01 04.4N	138 55.1W	S	RAMA01WT
2307	24/ 3/80			COGV	RAMA 06G 4478M	SIO	01 04.2N	138 55.5W	S	RAMA01WT
0456	25/ 4/80			COBX	RAMA 07BX N.S. 4463M	SIO	21 19.0N	157 53.3W	S	RAMA01WT
0640	5/ 4/80			COGV	RAMA 08G 5837M	SIO	30 20.8N	157 51.3W	S	RAMA01WT

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
1902	8/ 4/80			COBX	RAMA 09BX N.S. 5897M	SIO	30 21.8N	157 46.0W	S RAMA01WT
0210	9/ 4/80			COGV	RAMA 10G 5869M	SIO	30 21.9N	157 47.6W	S RAMA01WT
0623	9/ 4/80			COBX	RAMA 11BX N.S. 5862M	SIO	30 21.9N	157 48.3W	S RAMA01WT
1524	9/ 4/80			COGV	RAMA 12G 5890M	SIO	30 23.0N	157 46.9W	S RAMA01WT
1923	9/ 4/80			COBX	RAMA 13BX N.S. 5890M	SIO	30 22.9N	157 45.9W	S RAMA01WT
0022	10/ 4/80			COGV	RAMA 14G 5862M	SIO	30 24.1N	157 44.4W	S RAMA01WT
0947	10/ 4/80			COBX	RAMA 15BX 5945M	SIO	30 22.1N	157 44.4W	S RAMA01WT
1452	10/ 4/80			COGV	RAMA 16G 5905M	SIO	30 22.3N	157 44.9W	S RAMA01WT
0020	14/ 4/80			COBX	RAMA 17BX N.S. 5794M	SIO	30 26.3N	157 43.5W	S RAMA01WT
0717	14/ 4/80			COBX	RAMA 18BX 5800M	SIO	30 26.1N	157 43.6W	S RAMA01WT
1238	14/ 4/80			COGV	RAMA 19G 5862M	SIO	30 24.3N	157 41.6W	S RAMA01WT
1643	14/ 4/80			COBX	RAMA 20BX 5955M	SIO	30 24.3N	157 41.5W	S RAMA01WT
2027	14/ 4/80			COGV	RAMA 21G 5876M	SIO	30 22.8N	157 42.5W	S RAMA01WT
0018	15/ 4/80			COGV	RAMA 22G 5850M	SIO	30 21.9N	157 45.4W	S RAMA01WT
0341	15/ 4/80			COGV	RAMA 23G 5895M	SIO	30 20.8N	157 49.3W	S RAMA01WT
0717	15/ 4/80			COGV	RAMA 24G 5887M	SIO	30 23.3N	157 45.8W	S RAMA01WT
1215	15/ 4/80			COGK	RAMA 25GK 5803M	SIO	30 23.1N	157 39.9W	S RAMA01WT
**** DEEP TOW SURVEY **** CURATOR ROBERT LAWHEAD EXT. 4892									
0913	19/ 3/80			DTWS B	SITE C LOWERING 1	MPL	01 00.6N	138 55.1W	S RAMA01WT
2140	19/ 3/80			DTWS E	SITE C LOWERING 1	MPL	01 00.5N	138 54.8W	S RAMA01WT
2324	19/ 3/80			DTWS B	SITE C LOWERING 2	MPL	01 01.8N	138 53.3W	S RAMA01WT
0455	21/ 3/80			DTWS E	SITE C LOWERING 2	MPL	01 07.5N	138 58.0W	S RAMA01WT
1240	22/ 3/80			DTWS B	SITE C LOWERING 3	MPL	01 04.3N	138 54.2W	S RAMA01WT
0923	24/ 3/80			DTWS E	SITE C LOWERING 3	MPL	01 04.2N	139 01.8W	S RAMA01WT
0343	6/ 4/80			DTWS B	SITE R LOWERING 1	MPL	30 20.6N	157 44.2W	S RAMA01WT
1340	8/ 4/80			DTWS E	SITE R LOWERING 1	MPL	30 26.1N	157 53.9W	S RAMA01WT
0035	11/ 4/80			DTWS B	SITE R LOWERING 2	MPL	30 24.1N	157 50.4W	S RAMA01WT
1830	13/ 4/80			DTWS E	SITE R LOWERING 2	MPL	30 23.0N	157 46.7W	S RAMA01WT
HYDROGRAPHIC CAST									
1237	5/ 4/80			HCNI	HC 1 10BTL 2700M	MIT	30 22.4N	157 46.5W	S RAMA01WT
1112	9/ 4/80			HCNI	HC 2 10BTL 4700M	MIT	30 23.2N	157 49.5W	S RAMA01WT
0348	11/ 4/80			HCNI	HC 3 10BTL 5800M	MIT	30 22.2N	157 51.0W	S RAMA01WT
2246	11/ 4/80			HCNI	HC 4 10BTL 1200M	MIT	30 22.9N	157 42.6W	S RAMA01WT
2032	13/ 4/80			HCNI	HC 5 10BTL 500M	MIT	30 24.5N	157 43.2W	S RAMA01WT
1004	14/ 4/80			HCNI	HC 6 10BTL 150M	MIT	30 26.7N	157 42.8W	S RAMA01WT
9900					END SAMPLE INDEX				RAMA01WT