

INFORMAL REPORT AND INDEX OF
NAVIGATION, DEPTH AND MAGNETIC DATA

(ISSUED AUGUST 1981)

VULCAN EXPEDITION

LEG 8

Valparaiso, Chile (13 April 1981)
to
Nuku Hiva, Marquesas (14 May 1981)

R/V Melville

Co-Chief Scientists - H. Craig (SIO)
R. Ballard (WHOI)

Resident Marine Tech - R. Comer

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

Data Collection Funded by NSF
Grant Number NSF-OCE80-24472
Bathymetric Data Collection
and Processing Funded by
Defense Mapping Agency
Contract 800-81-C-0023
Data Processing Funded by SIA and DMA

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.

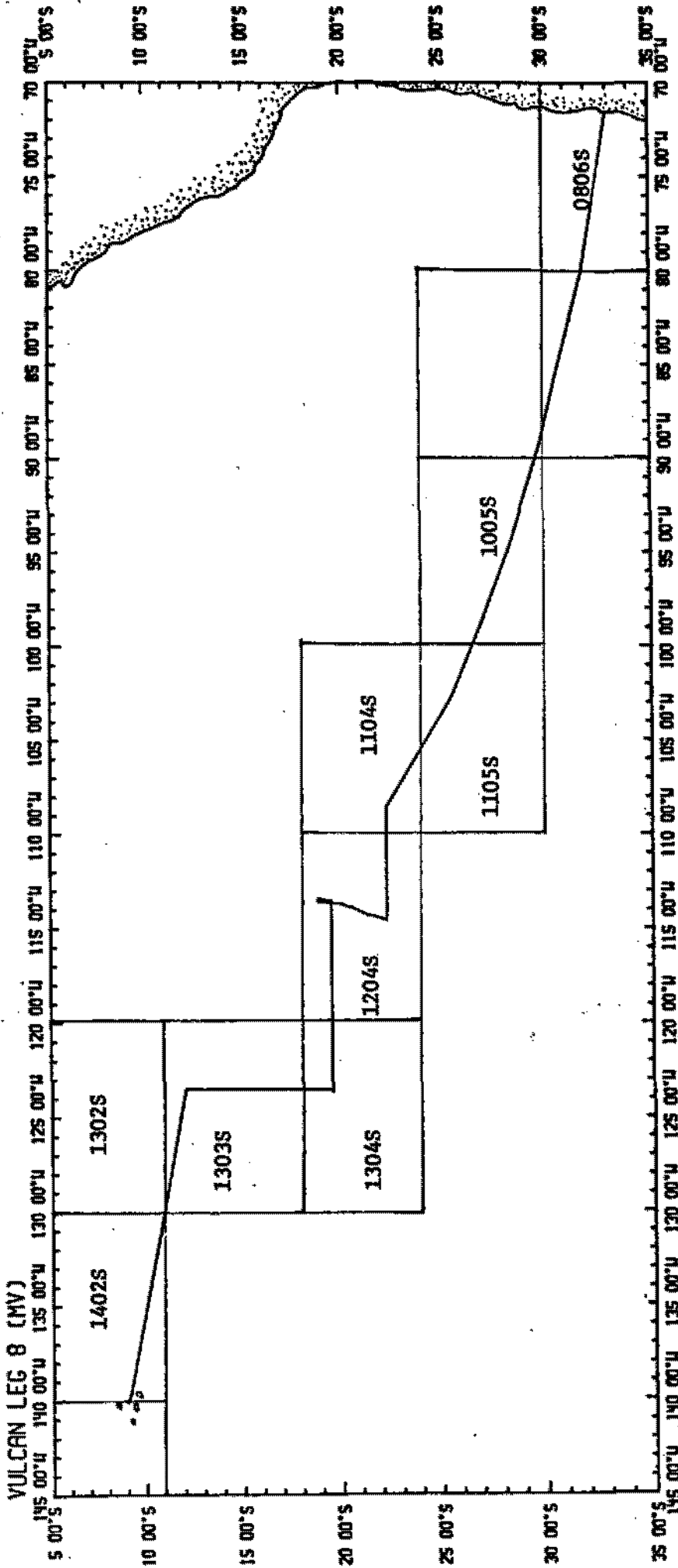
INFORMAL REPORT AND INDEX OF NAVIGATION, DEPTH, MAGNETIC
AND SUBBOTTOM PROFILER DATA

Contents:

- 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.

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 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



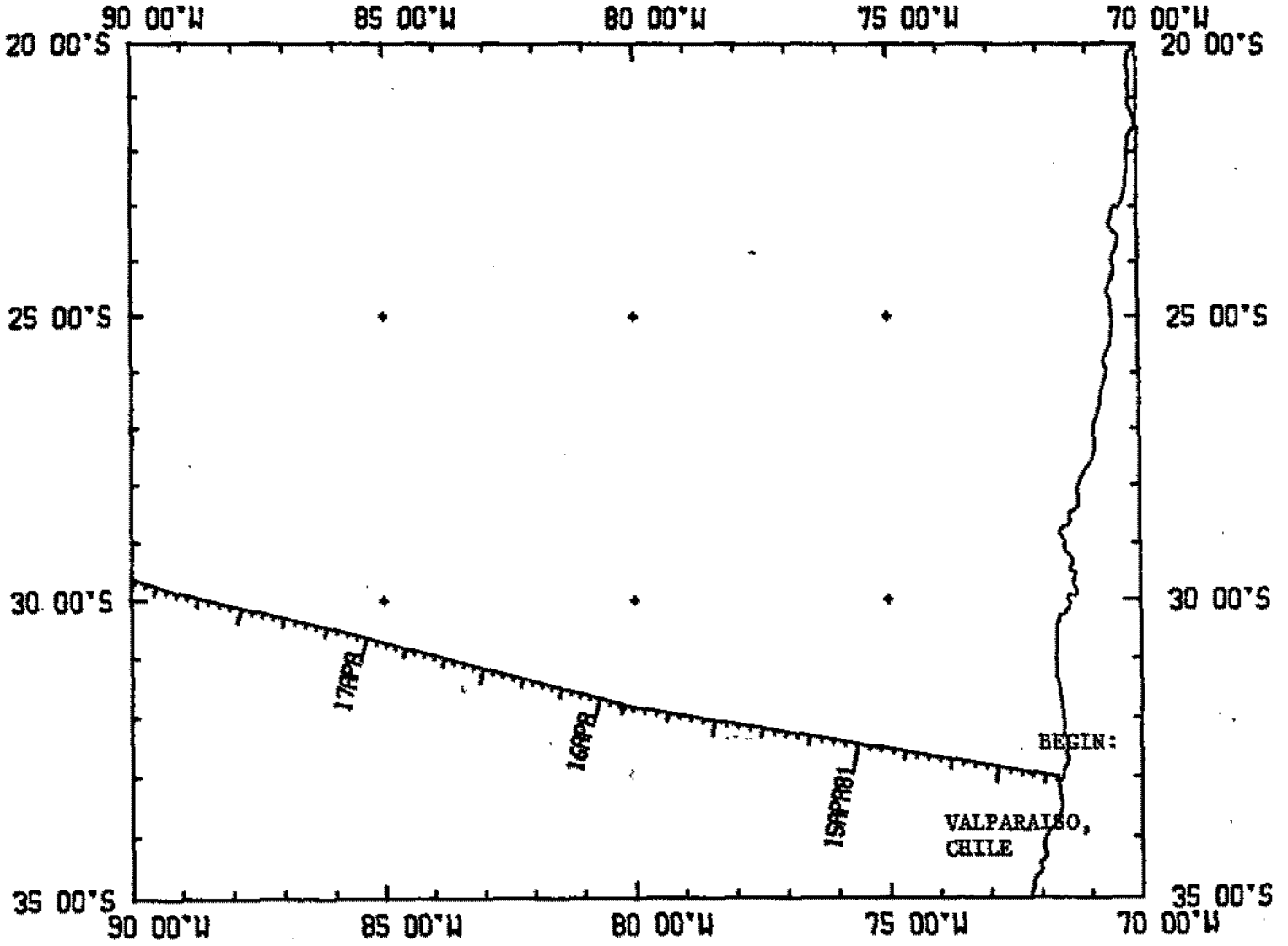
VULCAN EXPEDITION
LEG 8

Co-Chief Scientists: H. Ciriag (SIO)
R. Ballard (WHOI)
Ports: Valparaiso, Chile - Nuku Hiva, Marquesas
Dates: 13 April - 14 May 1981
Ship: R/V Melville

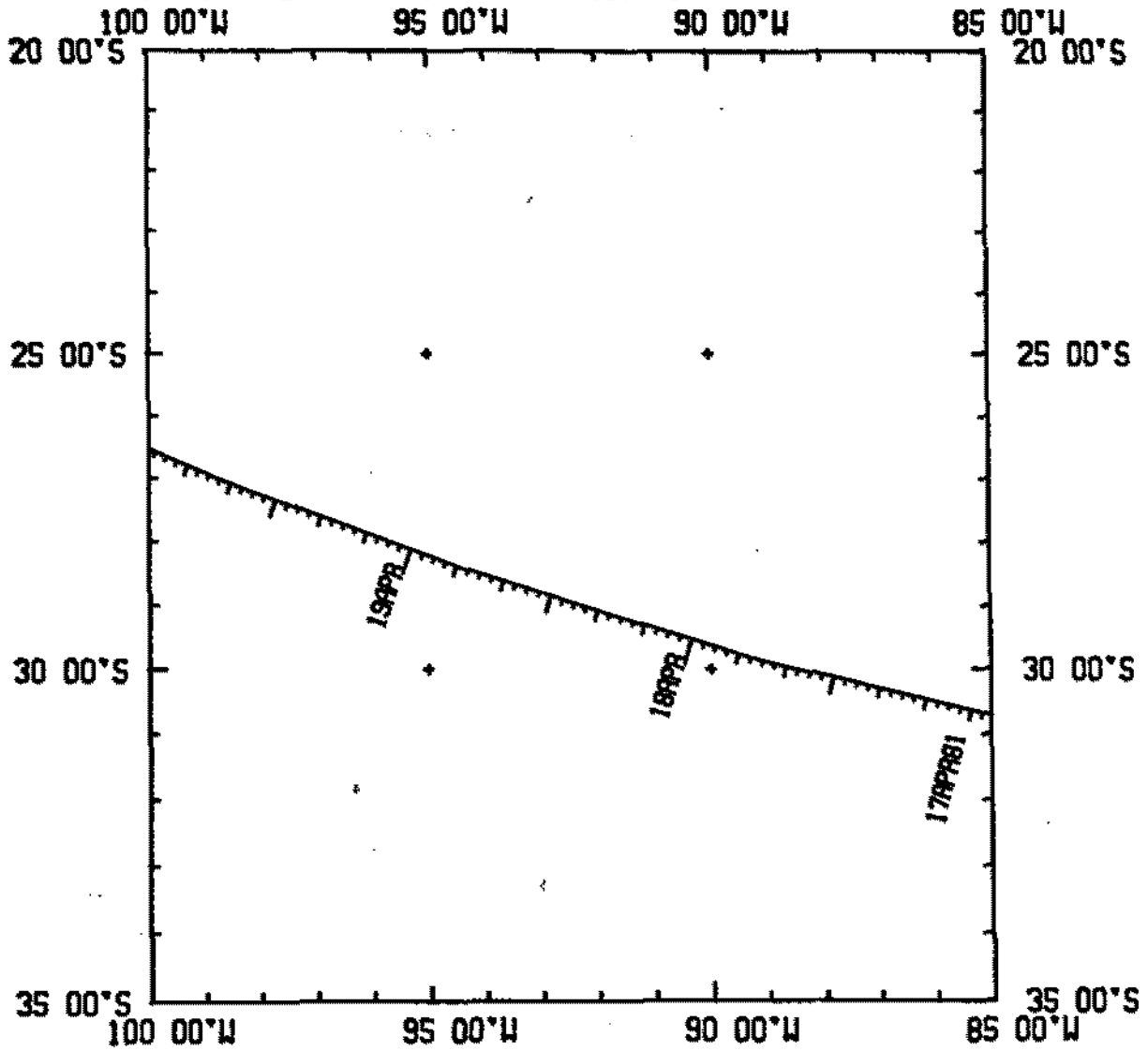
TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

- 1) Cruise - 5085 miles
- 2) Bathymetry - 3430 miles
- 3) Magnetics - 3665 miles
- 4) Seismic Reflection - none collected
- 5) Gravity - none collected

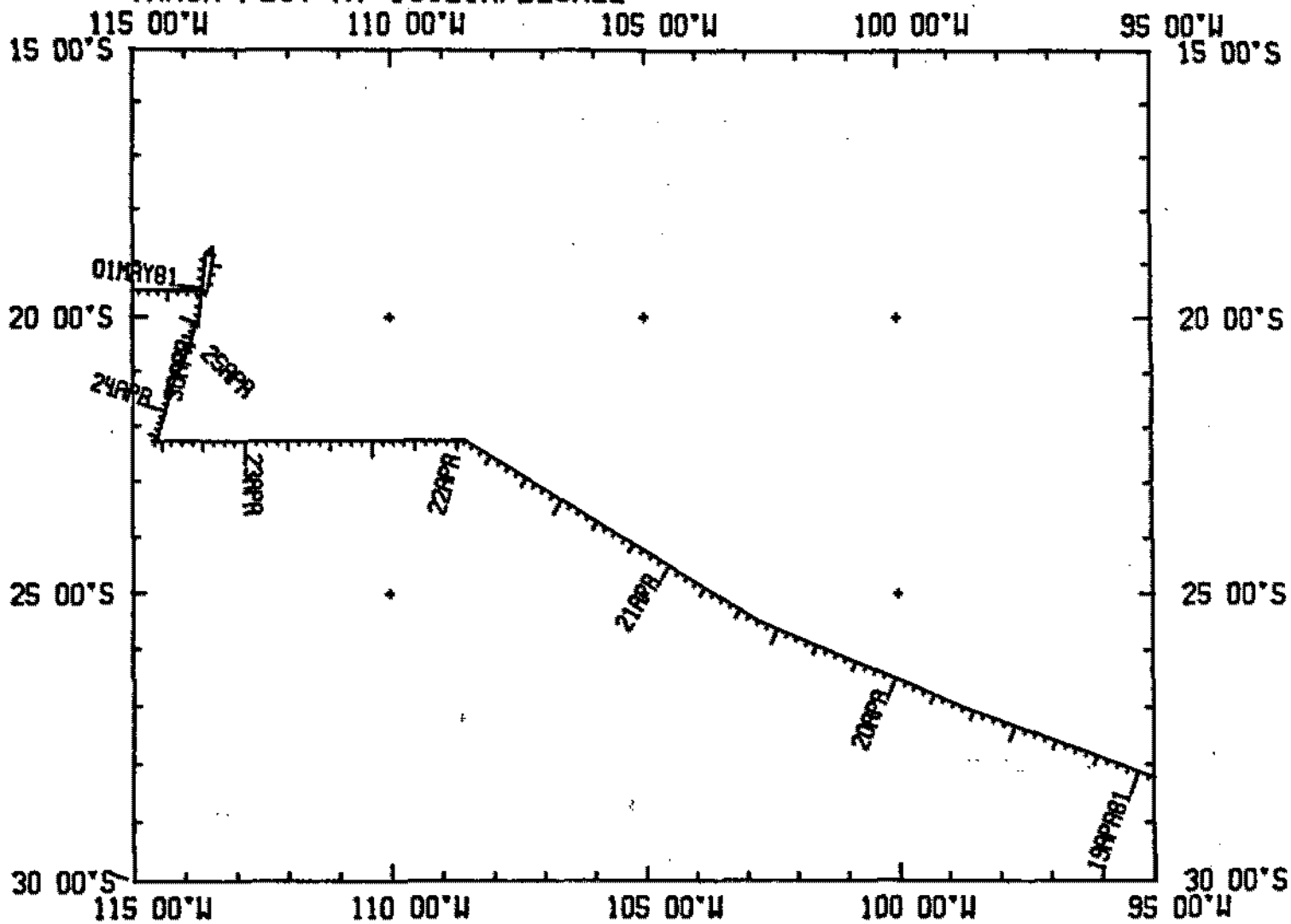
VLCN08MV (PLOT 1 OF 5)
TRACK PLOT AT .312IN/DEGREE



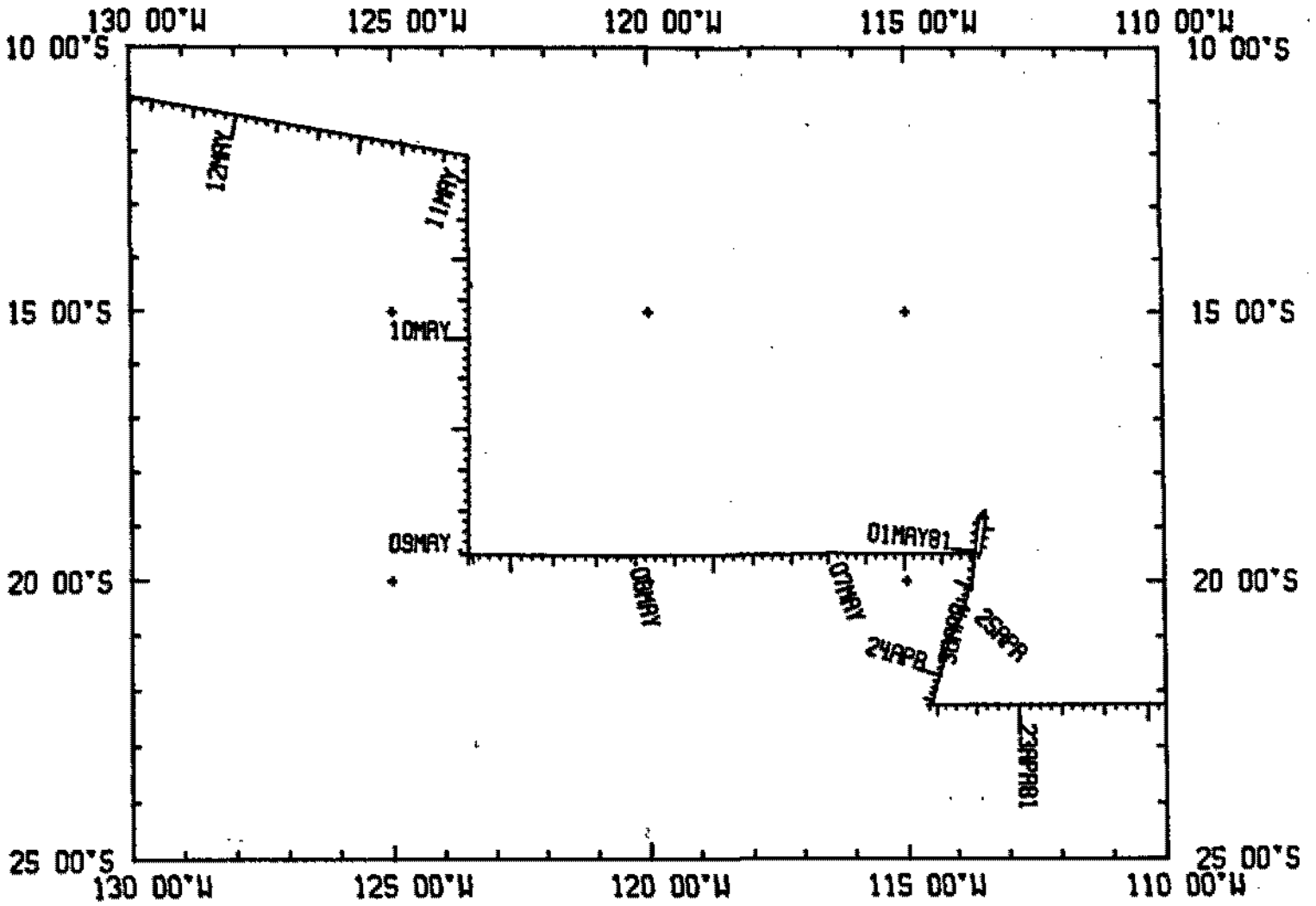
VLCN08MV (PLOT 2 OF 5)
TRACK PLOT AT .312IN/DEGREE



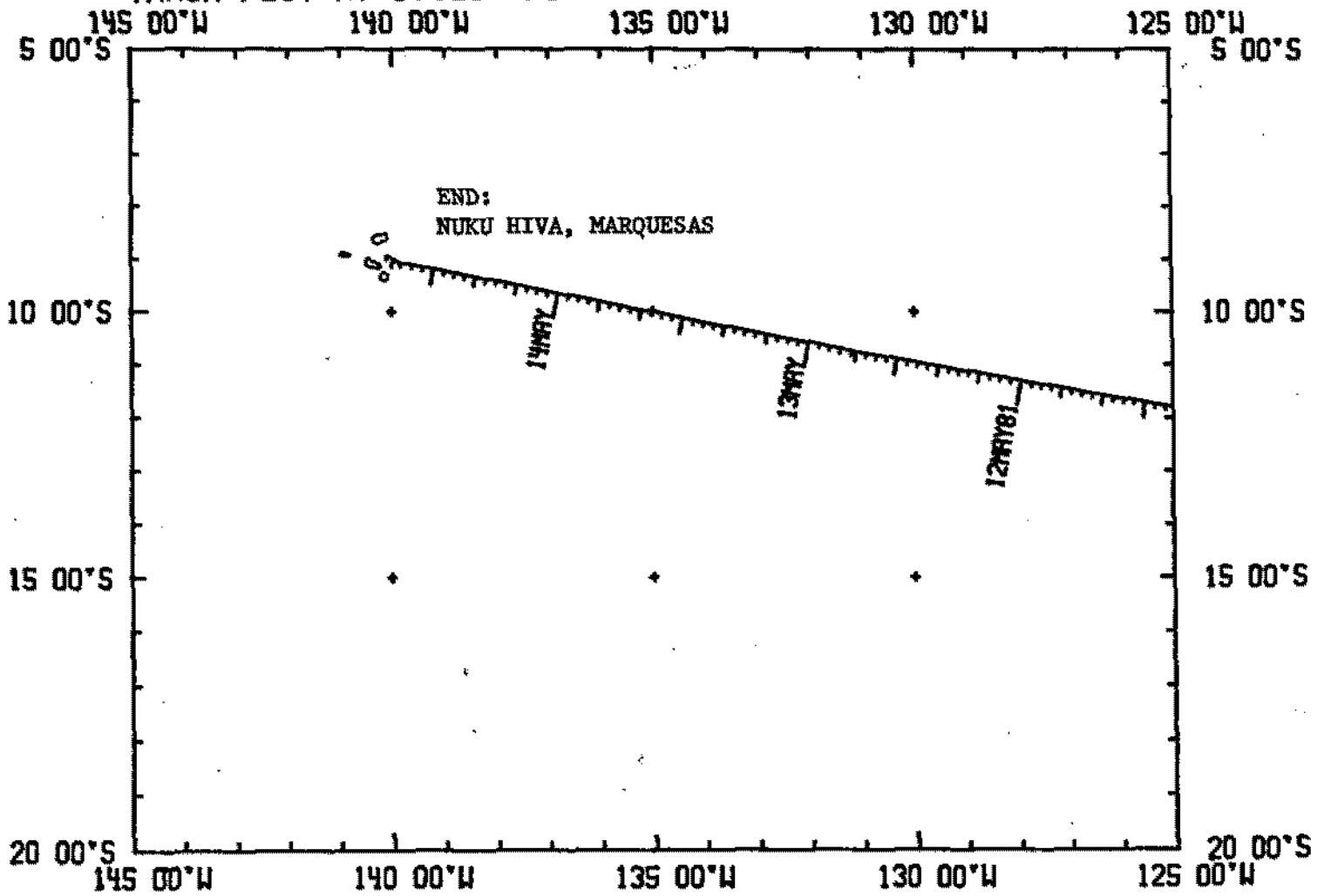
VLCN08MV (PLOT 3 OF 5)
TRACK PLOT AT .312IN/DEGREE

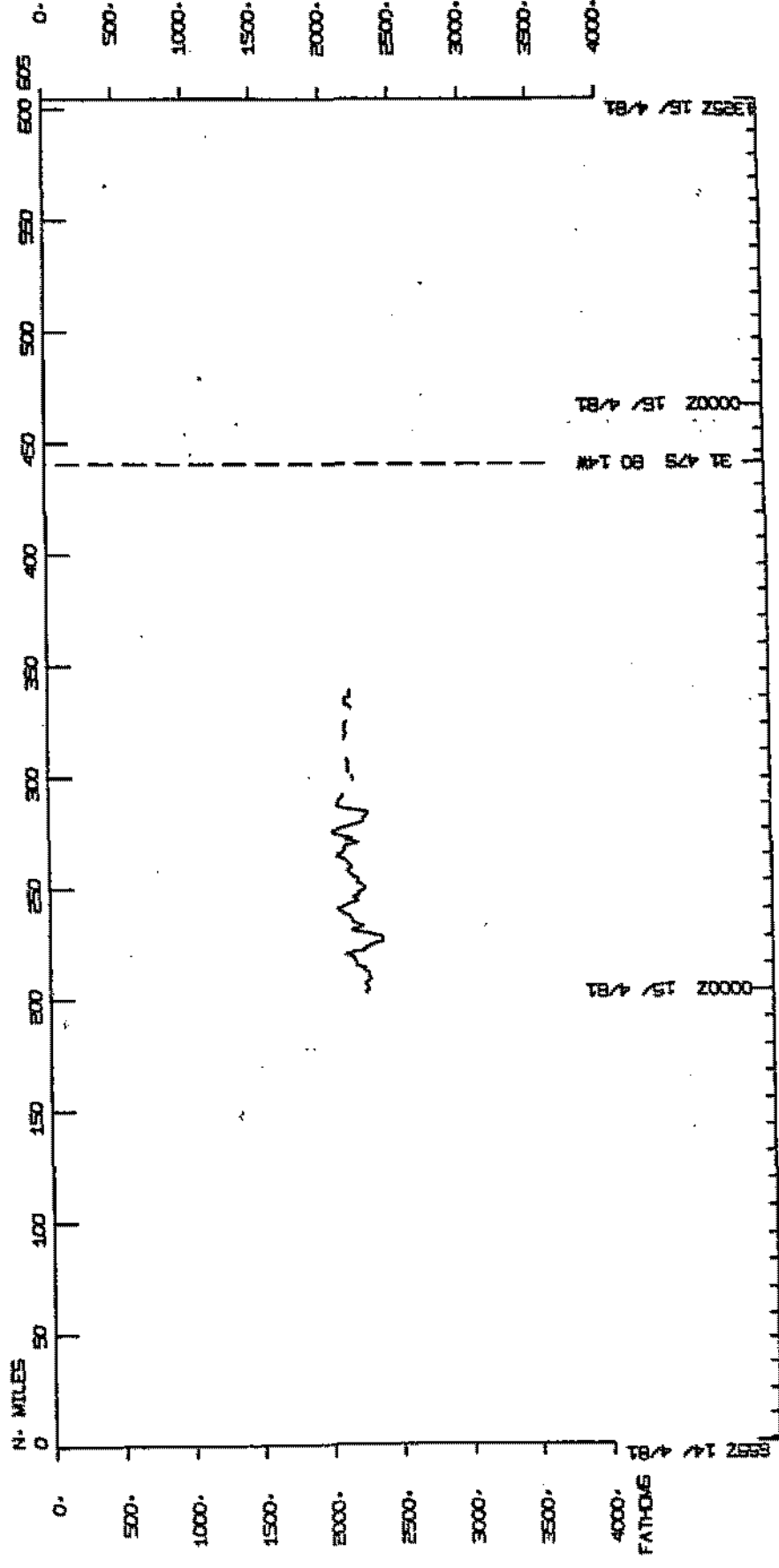
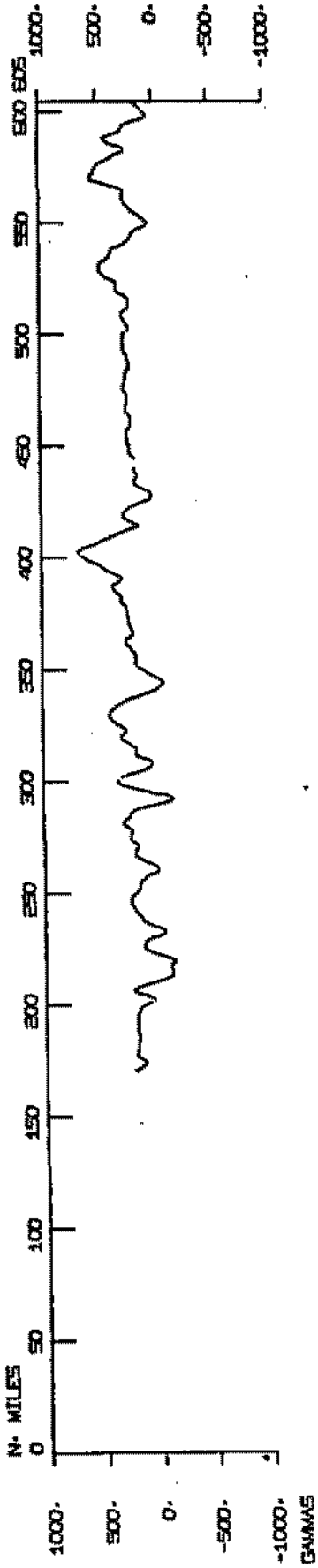


VLCN08MV (PLOT 4 OF 5)
TRACK PLOT AT .312IN/DEGREE

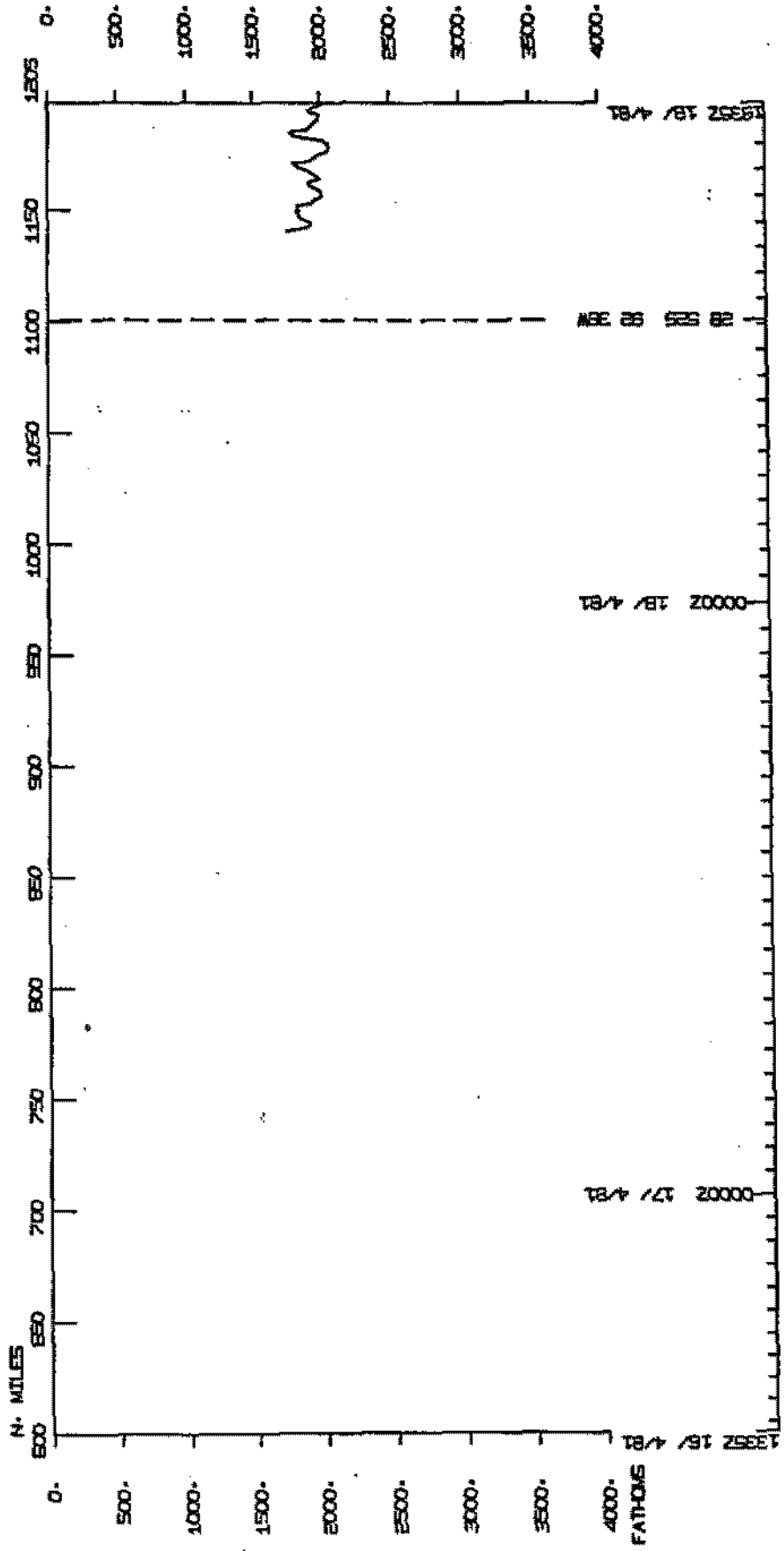
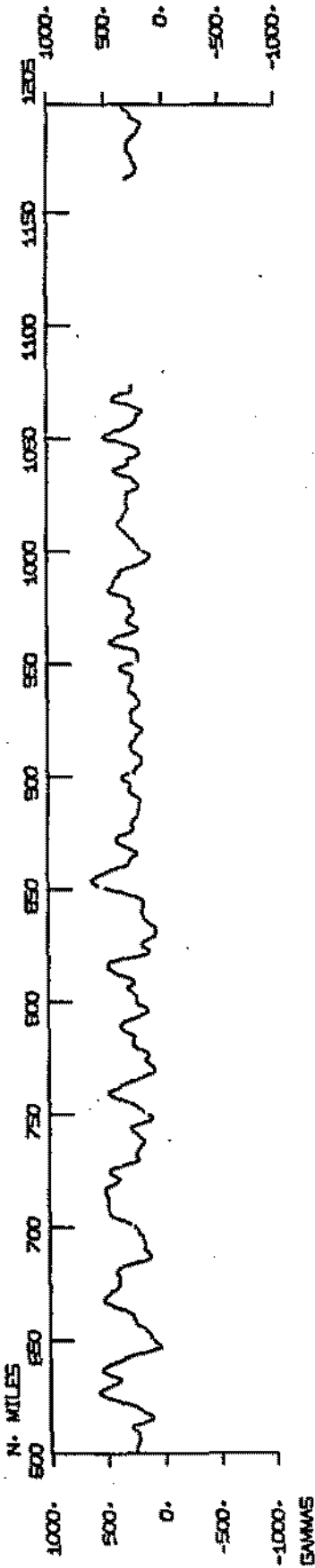


VLCN08MV (PLOT 5 OF 5)
TRACK PLOT AT .312IN/DEGREE

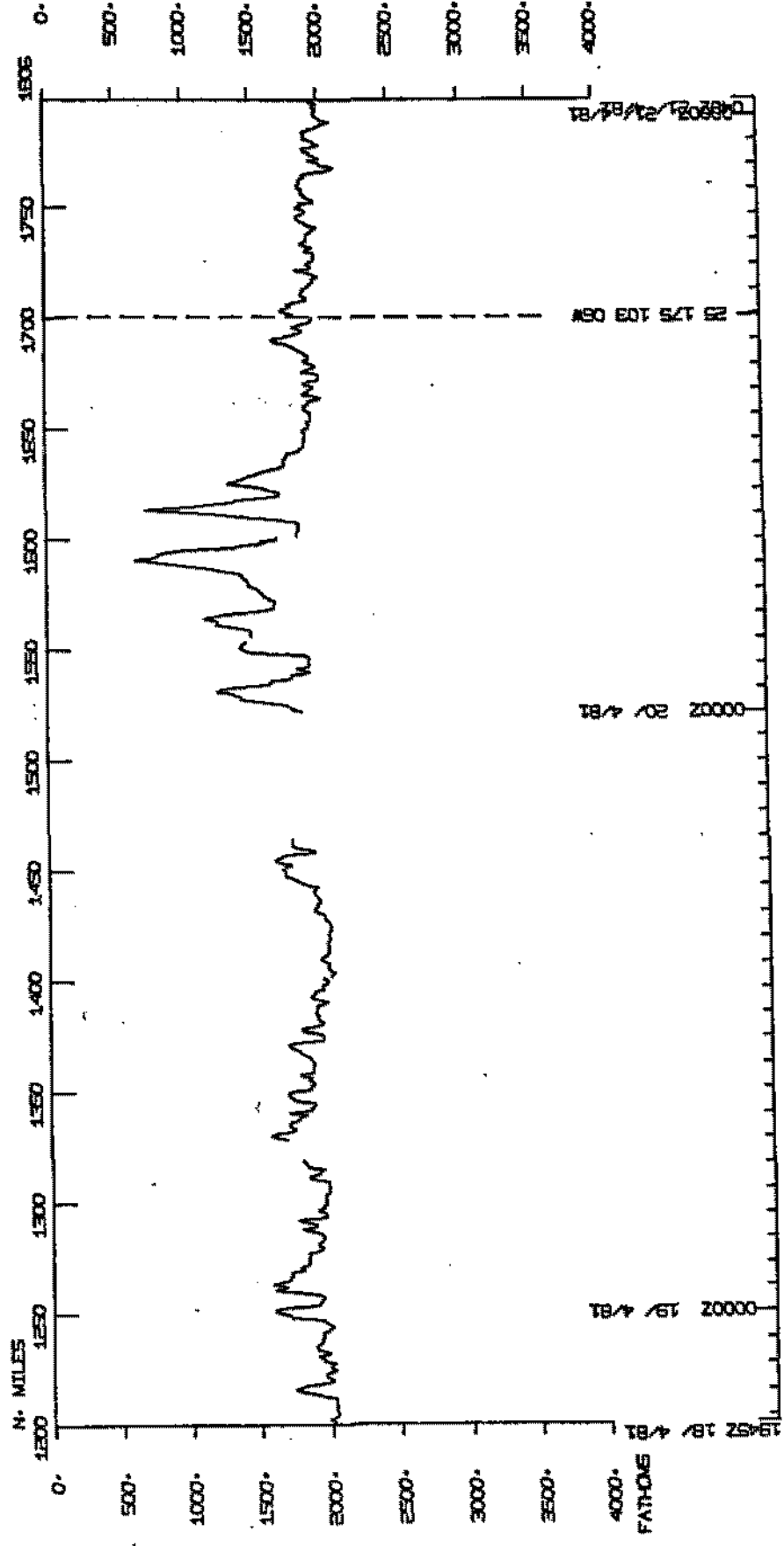
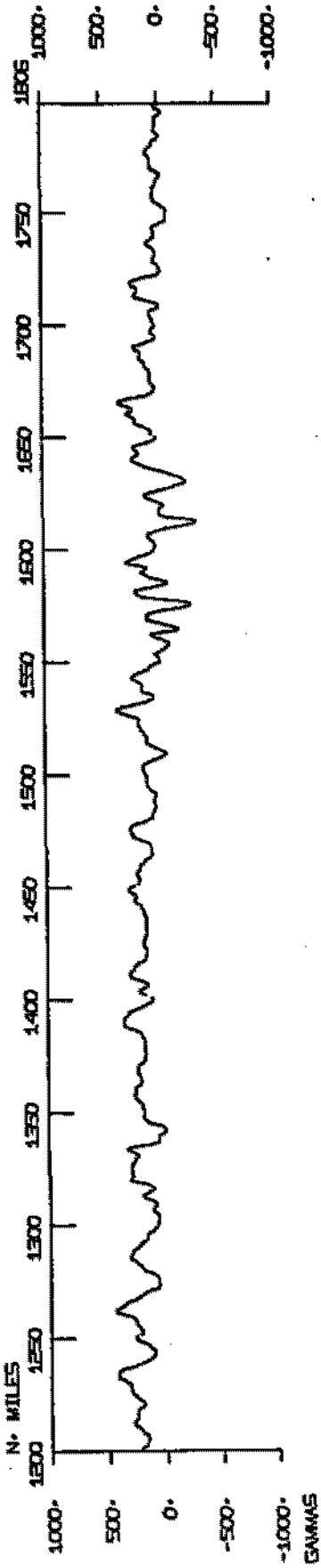




VLCNOBMV

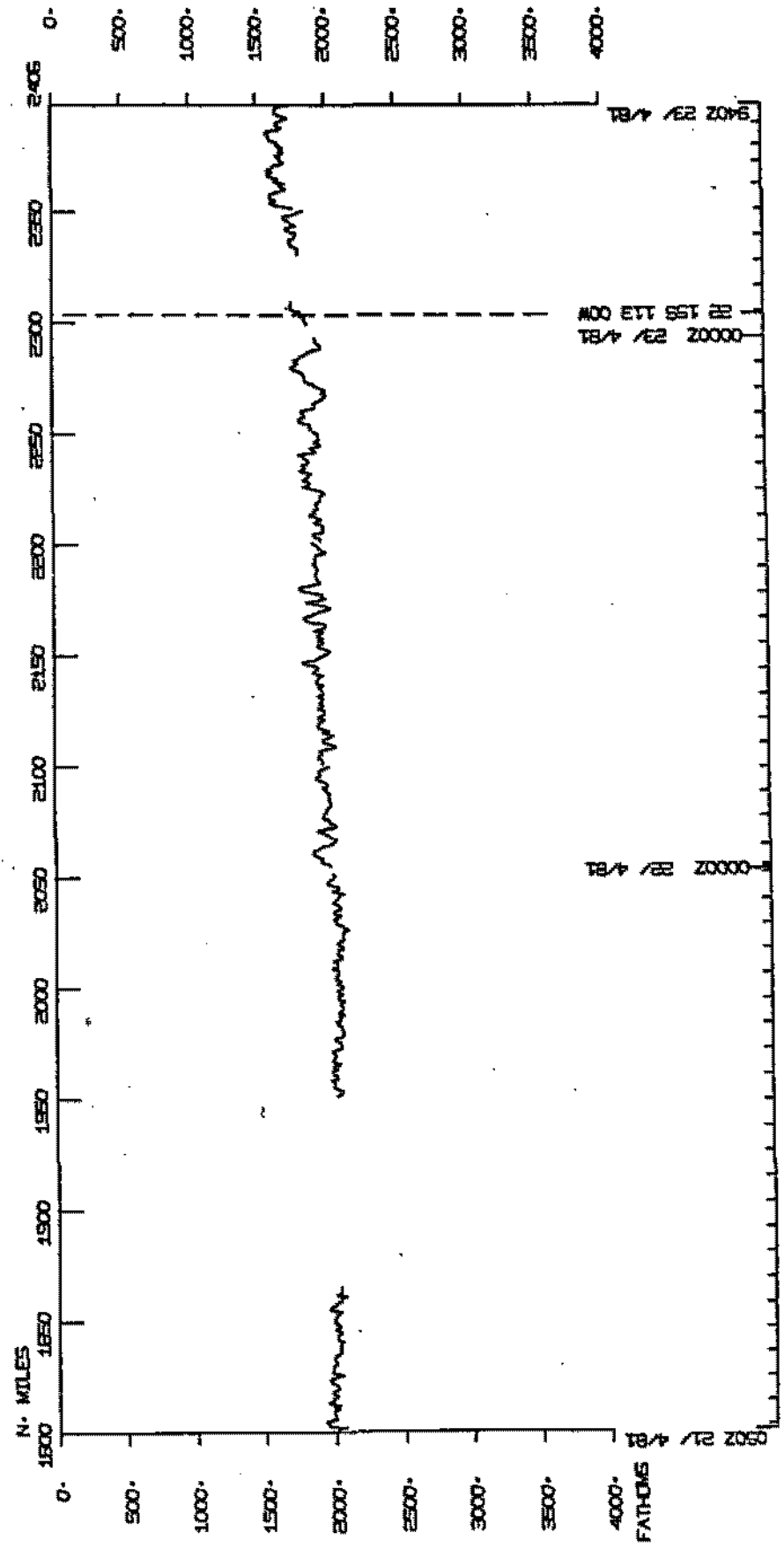
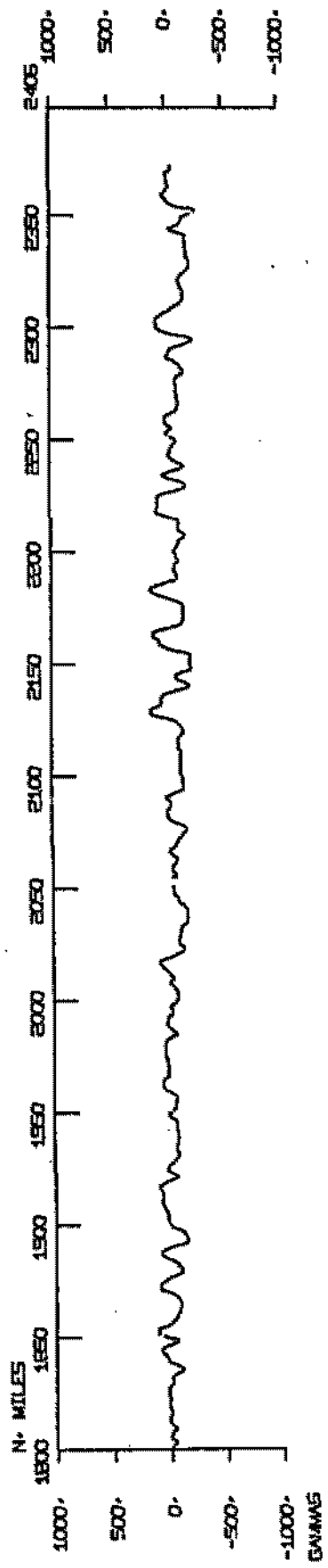


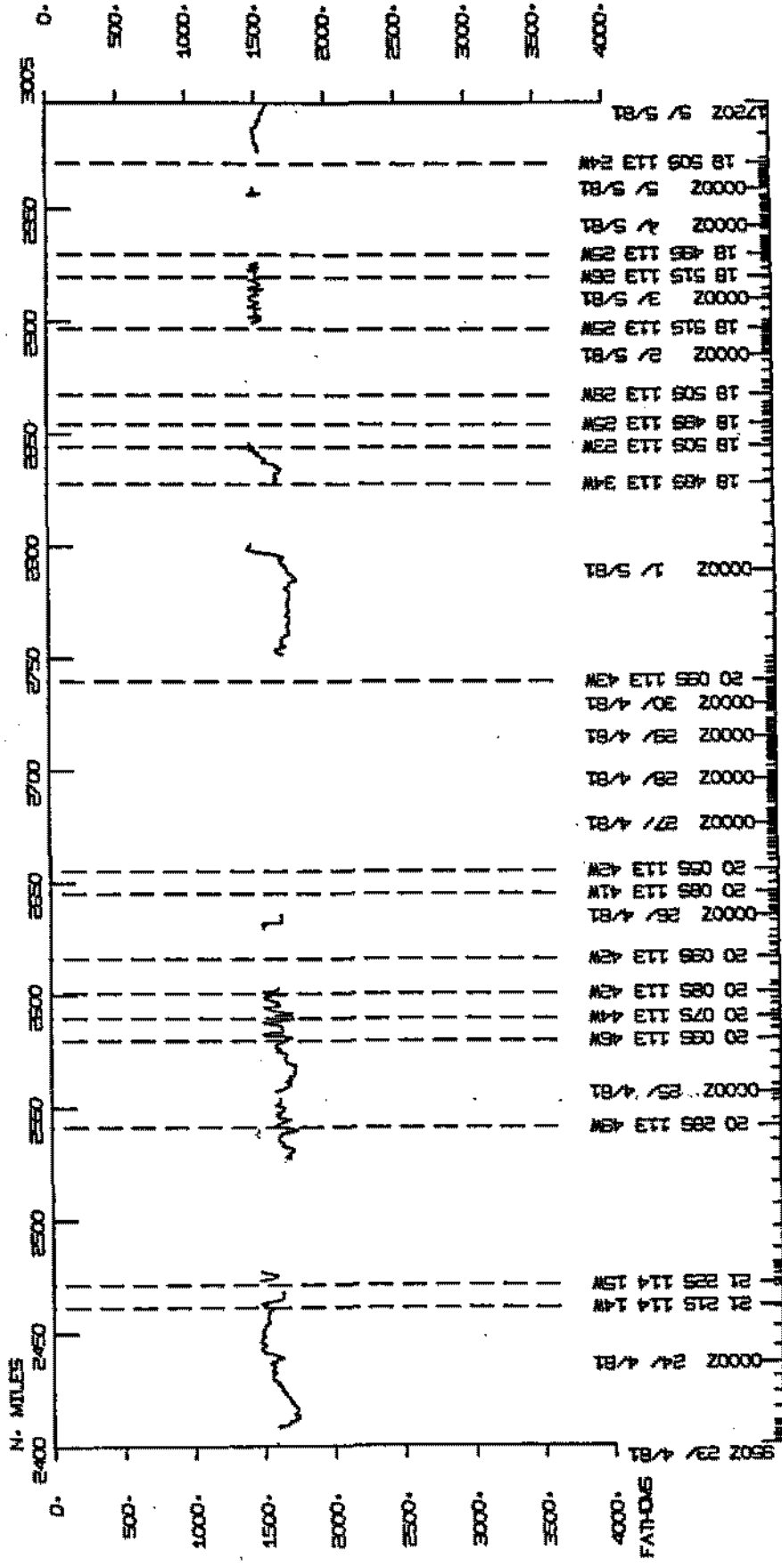
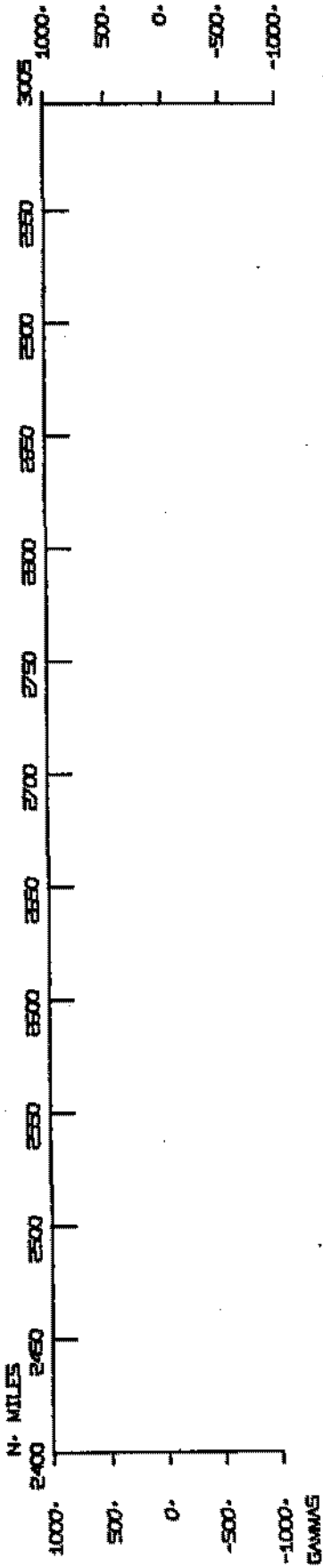
WLBONJTA



VLCN08MV

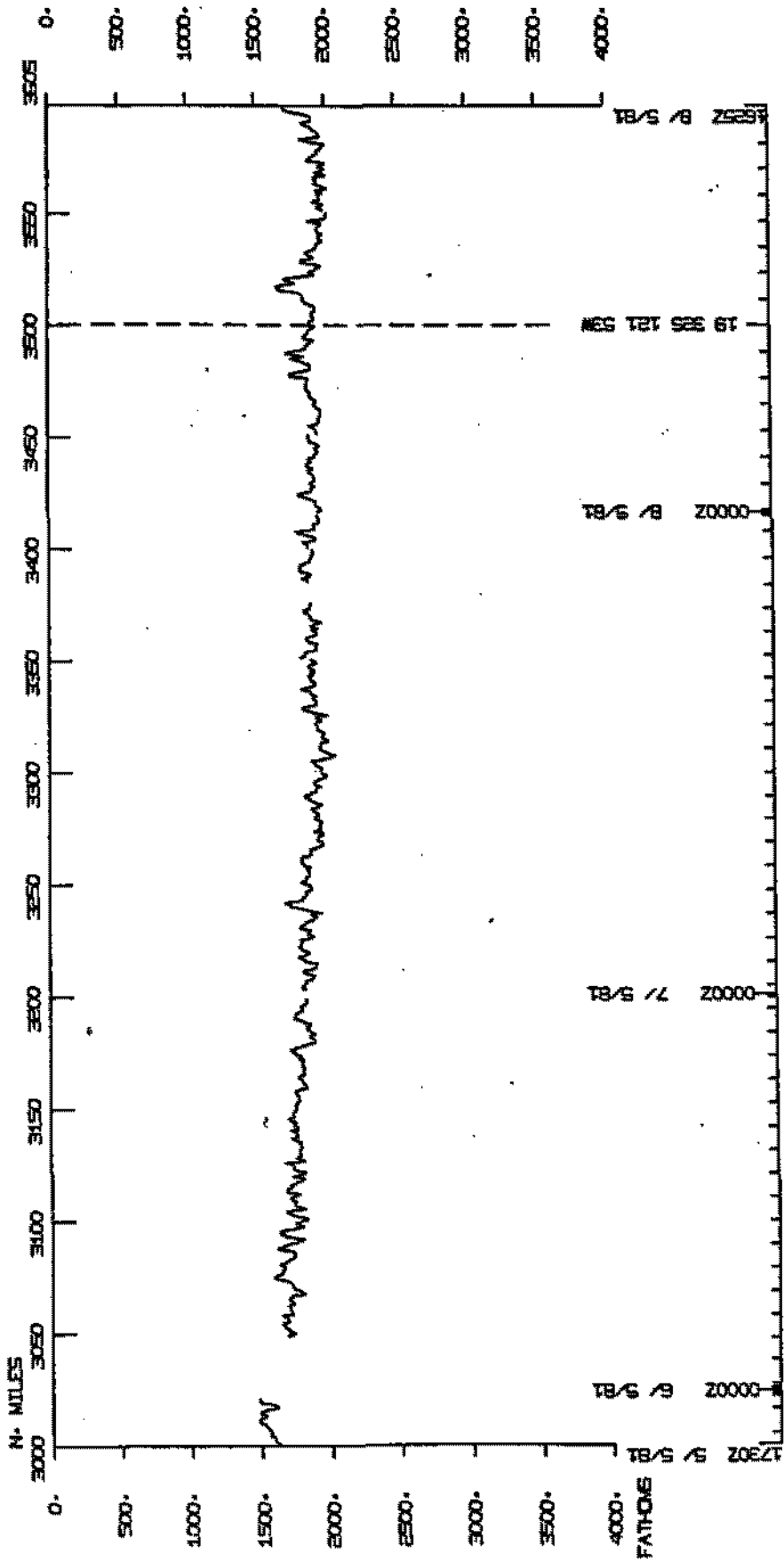
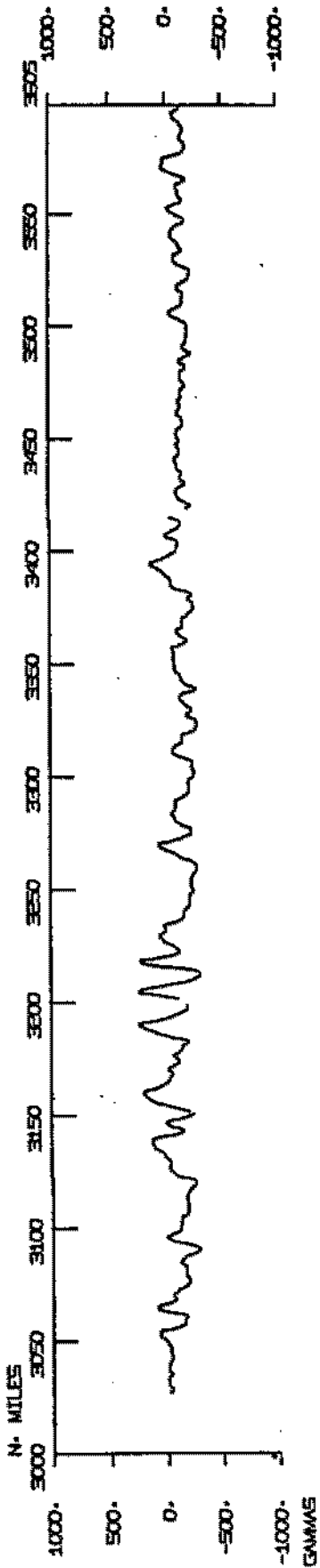
VLCN08MV



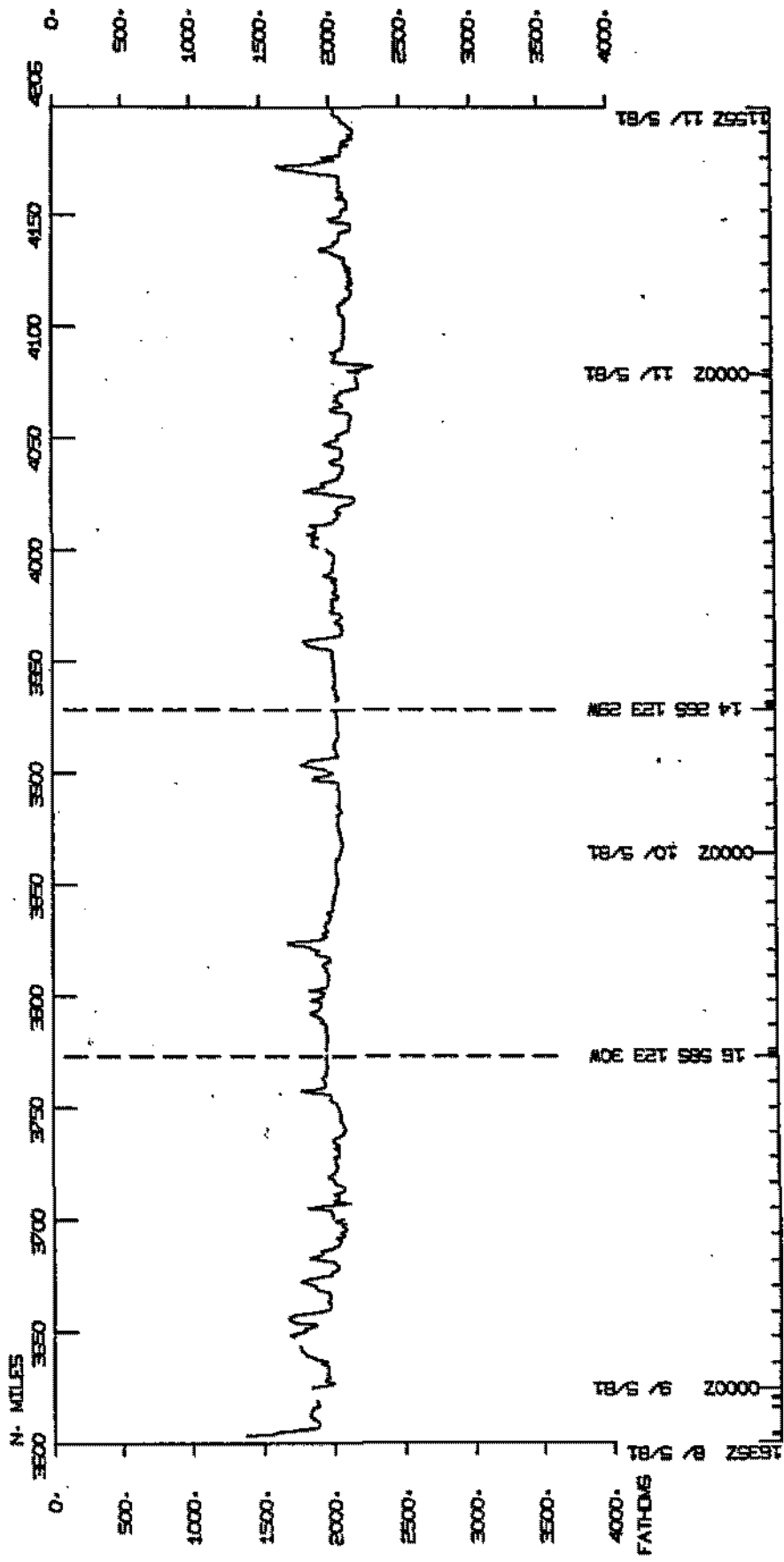
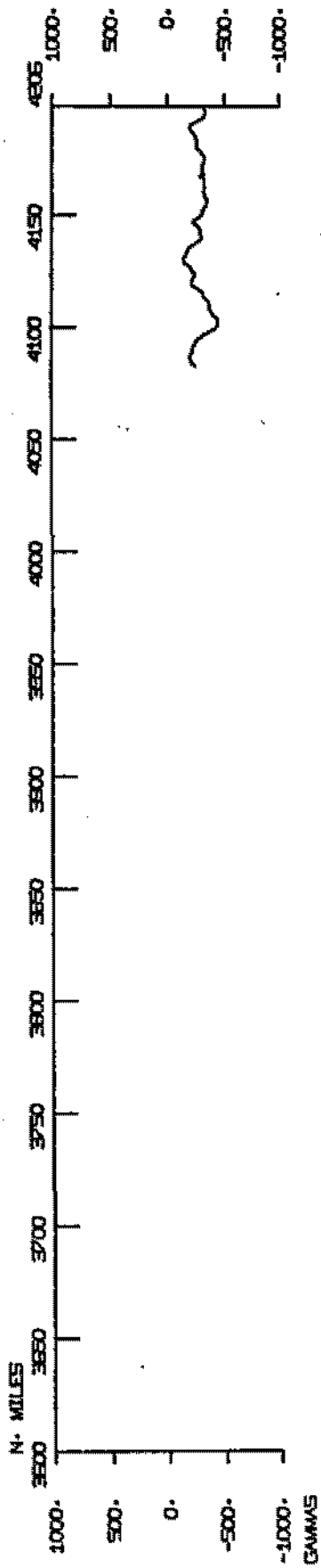


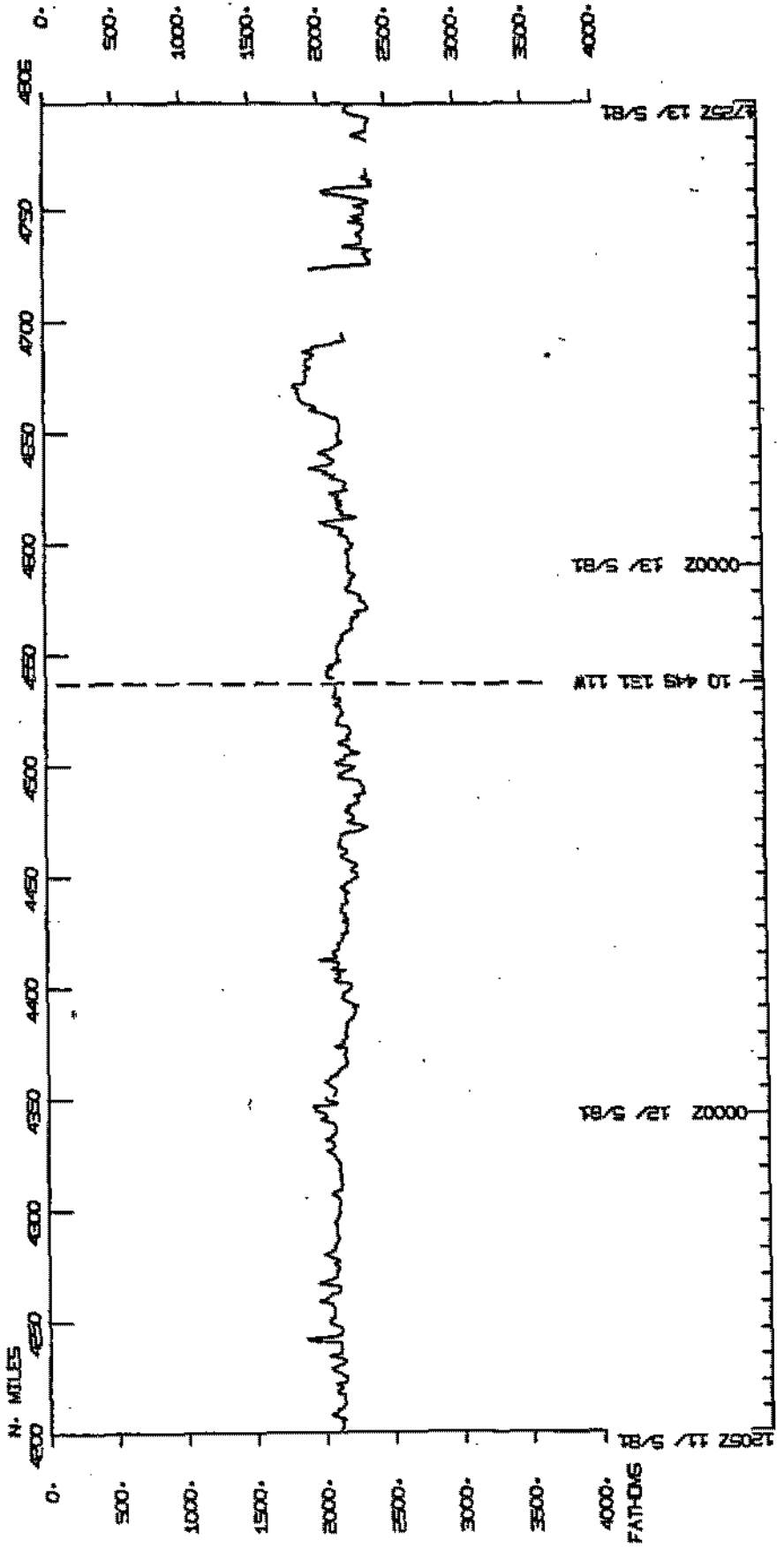
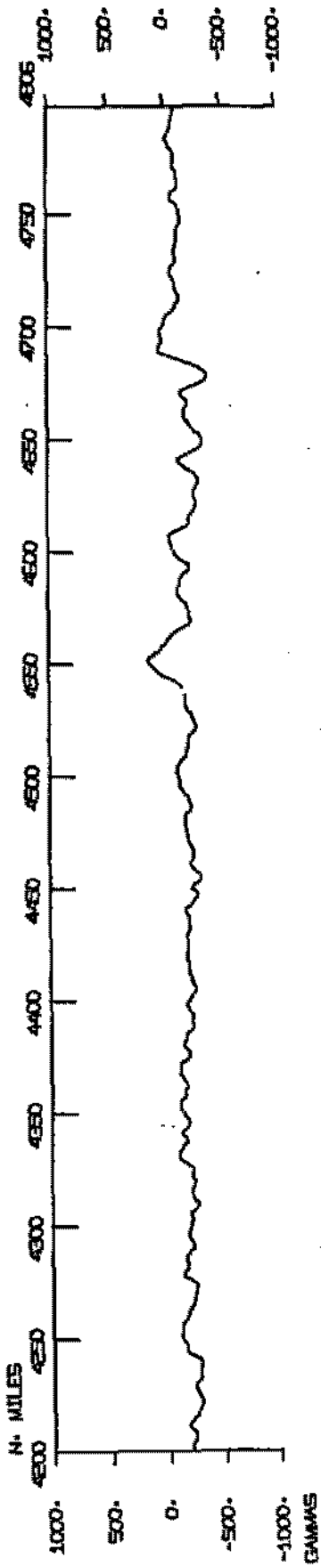
VLONOBMV

VLCNOBMV



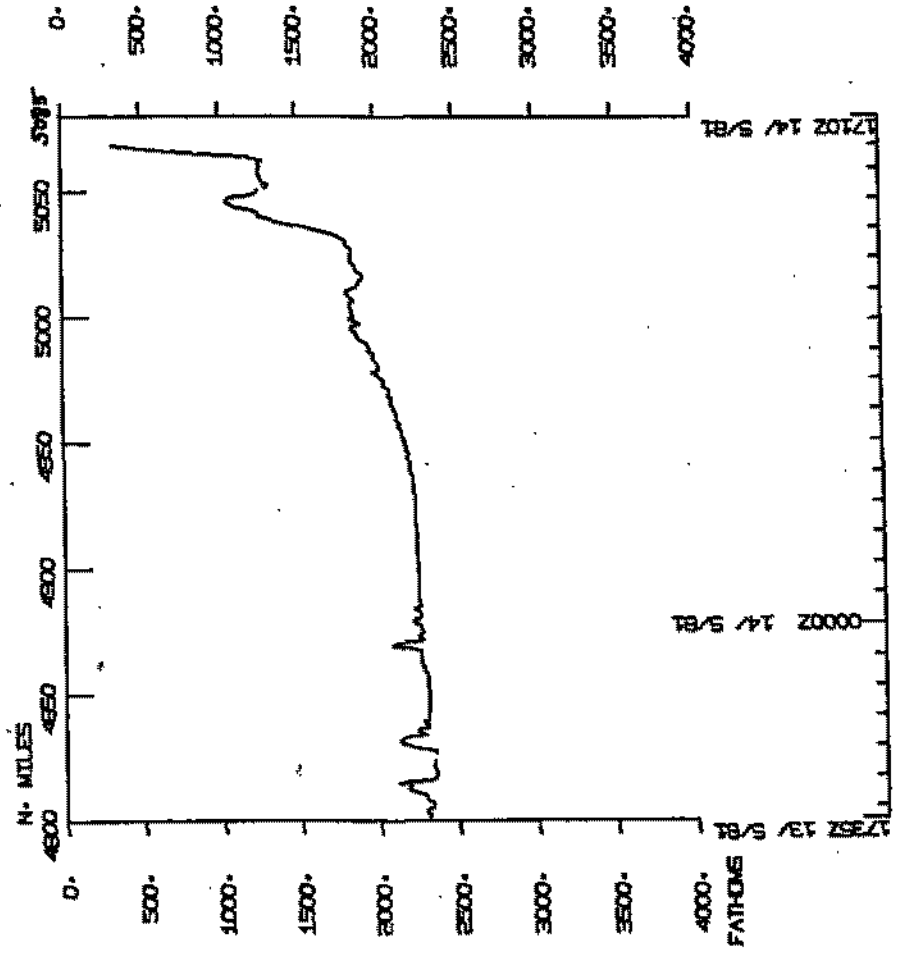
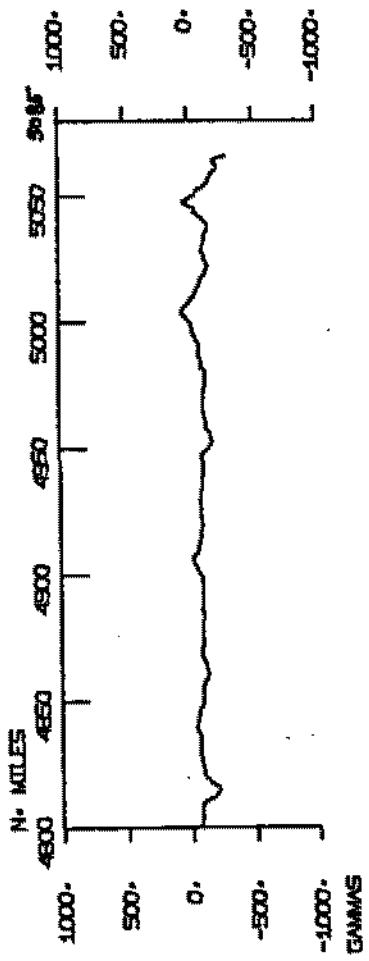
VLCN08MV





VLCN08MV

VLCN08MV



0000Z 14/ 9/81

1730Z 14/ 9/81

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

VULCAN EXPEDITION

Leg 8

Valparaiso, Chile (13 April 1981)
to
Nuku Hiva, Marquesas Is. (14 May 1981)

R/V Melville

Co-Chief Scientists - H. Craig (SIO)
R. Ballard (WHOI)

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

Index Encoding Funded by NSF
Grant Number OCE80-22996
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

GENERATED 11AUG81

*** VULCAN LEG B SAMPLE INDEX

(VLCNOBMV) ***

	60E	120E	180	120W	60W	0W	
	+-----+-----+-----+-----+-----+-----+						
	X = SHIP'S TRACK BY 5 DEGREE SQUARE						
85N							85N
80N					0 0000		80N
75N		0		0 00000 0000000000			75N
70N		000000000000		0000 0 00 0 00000000			70N
65N	0000 000000000000000000000000000000	000000000000000000000000000000		0000000000000000 00 0000 0			65N
60N	0000000000000000000000000000000000	000000000000000000000000000000		00000000000000 00 00			60N
55N	0 000000000000000000000000000000	00	0	00000000 000		0	55N
50N	000000000000000000000000000000 0			000000000 0000		00	50N
45N	0000000000 0000000000000000000000			000000000000 0			45N
40N	0 00 00 0000000000000000 0			000000000000			40N
35N	0 00000 0000000000000000 0			000000000		0	35N
30N	000 00000000000000000000 0			00000000		00	30N
25N	0000000000 00000000000000			0000 0		000	25N
20N	0000000 0000 000 00000		0	0 00		000	20N
15N	00000000 00 0 00 0			00 0		000	15N
10N	000000000 0 0 0 0			0		000	10N
5N	0000000000 0				00000	000	5N
0N	0000000 00 00				000000		0N
5S	000000 0 0 0 00				0000000		5S
10S	00000 0 00			X	000000000		10S
15S	00000 0 0			X	0000000		15S
20S	000000 0 0000			xxx	000000		20S
25S	0000 0 000000			X X	000000		25S
30S	00 0000000			X	0000		30S
35S	00 00 000 0				xx0000		35S
40S			00 0		000		40S
45S			0		00		45S
50S					00		50S
55S					0		55S
60S							60S
65S							65S
70S	00 0000000000				0		70S
75S	0000000000000000000000000000000000			0 00000		0000	75S
80S	0000000000000000000000000000000000			000000000000000000000000		0000000	80S
85S	0000000000000000000000000000000000			000000000000000000000000000000			85S
90S	0000000000000000000000000000000000			000000000000000000000000000000			90S
	+-----+-----+-----+-----+-----+-----+						
	60E	120E	180	120W	60W	0W	

13APR81 - VALPARAISO, CHILE
 TO
 14MAY81 - NUKU HIVA, MARO. ISL

CHIEF SCIENTISTS - BALLARD, R.D.DR. WHO
 CRAIG, H.DR. GRD

SHIP - R/V MELVILLE (SI0)

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	
	CA	DP	DR	GC	LB	MG	PE		
FNC	1						1	1	
GCR	1		6				1	6	
GDC	1	5			1	2	1	8	
GRU	1			13			1	14	
MTG	1						1	1	
PCF	1						1	1	
SCG	1						1	1	
SIO	1						1	1	
SIX	1						4	4	
WHO	1	11					7	18	
TOTAL	1	11	5	6	13	1	2	17	55

SAMPLE 'TYPE' CODES USED ABOVE

CA = CAMERA
 DP = DEPTH
 DR = DREDGE
 GC = GEOCHEMICAL SAMPLING
 LB = LOG BOOKS
 MG = MAGNETICS (TOWED VEHICLE, SURFACE, TOTAL FIELD)
 PE = PERSONNEL IN SCIENTIFIC PARTY

SAMPLE 'DISP' CODES USED ABOVE

FNC = FRANCE
 GCR = GEOLOGICAL CURATING FACILITY -- W. RIEDEL, (EXT. 4386)
 GDC = GEOLOGICAL DATA CENTER -- S. SMITH (EXT. 2752)
 GRU = GEOLOGICAL RESEARCH DIVISION (EXT. 3360)
 MTG = MARINE TECHNOLOGY GROUP (EXT. 4194)
 PCF = PHYSICAL AND CHEMICAL DATA FACILITY (EXT. 2240)
 SCG = SHIPBOARD COMPUTER GROUP (EXT. 4195)
 SIO = SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA, CAL. 92093
 SIX = SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT. 3675)
 WHO = WOODS HOLE OCEANOGRAPHIC INSTITUTION

23JUL81 PAGE 1

GMT D / M / Y TIME DATE	LOC LOC TIME T2	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
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VULCANOBMV SAMPLE INDEX

VLCNOBMV

*** PARTS ***

0800 13/ 4/81		LGPT B	VALPARAISO, CHILE		33 02. S	71 37. W	F VLCNOBMV
1630 14/ 5/81		LGPT E	NUKU HIVA, MARO. ISL		08 56. S	140 05. W	F VLCNOBMV

PERSONNEL

*** NAME ***

*** TITLE ***

*** AFFILIATION ***

1 BALLARD, R. D. DR.	CHIEF SCIENTIST	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
2 CRAIG, H. DR.	CHIEF SCIENTIST	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA	CAL. 92093
3 COKER, R. L.	RESIDENT TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA	CAL. 92093
4 STUBER, D. V.	COMPUTER TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA	CAL. 92093
5 COLLINS, C.	COMPUTER TECH	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
6 CORTES, N.	ELECTRONICS TECH	FRANCE	
7 HANUY, R. E.	MARINE TECH	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
8 LOUD, J. F.	COMPUTER TECH	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
9 PORTEOUS, J. W.	PHOTOGRAPHER	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
10 SCHEER, C. II.	COMPUTER TECH	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
11 VITEK, J. L.	ELECTRONICS TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA	CAL. 92093
12 YOUNG, E. H.	CAMERA TECH.	WOODS HOLE OCEANOGRAPHIC INSTITUTION	
13 DIXON, F. S.	VOLUNTEER	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT. 3675	
14 CRAIG, V. K.	VOLUNTEER	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT. 3675	
15 MORTON, J.	STUDENT	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT. 3675	
16 KIN, K.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA	CAL. 92093
17 HUDSON, A. G.	STUDENT	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. (MIXED 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 D / M / Y	LOC	LOC	CODE	SAMPLE	IDENT.	CODE	LAT.	LONG.	LEG-SHIP
TIME	DATE	TIME	T7	SAMP		DISP			CRUISE

*** UNDERWAY DATA CURATOR - STUART M. SMITH FXT. 2752 ***

*** LOG BOOKS ***

2125	13/ 4/81			LBSC	B SCIENTIFIC LOG 139PG	GDC 32	59.9S	71 40.2W	S VLCN08MV
1600	14/ 5/81			LBSC	E SCIENTIFIC LOG 139PG	GDC 09	00.7S	139 57.8W	S VLCN08MV

*** FATHOGRAMS ***

1235	14/04/81			DPR3	B PDR 3.5 KHZ R-01	GDC 37	51.4S	72 49.4W	S VLCN08MV
0425	24/04/81			DPR3	E PDR 3.5 KHZ R-01	GDC 21	22.0S	114 15.4W	S VLCN08MV
0705	24/04/81			DPR3	B PDR 3.5 KHZ R-02	GDC 21	22.9S	114 16.4W	S VLCN08MV
0237	27/04/81			DPR3	E PDR 3.5 KHZ R-02	GDC 20	06.5S	113 42.6W	S VLCN08MV
2040	30/04/81			DPR3	B PDR 3.5 KHZ R-03	GDC 20	03.9S	113 42.5W	S VLCN08MV
0030	01/05/81			DPR3	E PDR 3.5 KHZ R-03	GDC 19	21.1S	113 39.3W	S VLCN08MV
1650	02/05/81			DPR3	B PDR 3.5 KHZ R-04	GDC 18	50.9S	113 25.3W	S VLCN08MV
0222	06/05/81			DPR3	E PDR 3.5 KHZ R-04	GDC 19	30.8S	113 33.5W	S VLCN08MV
0608	06/05/81			DPR3	B PDR 3.5 KHZ R-05	GDC 19	30.2S	113 49.9W	S VLCN08MV
1600	14/ 5/81			DPR3	E PDR 3.5 KHZ R-05	GDC 09	00.7S	139 57.8W	S VLCN08MV

*** MAGNETOMETER ***

2125	14/ 4/81			MGRA	B MAGNETICS ROLL-01	GDC 37	34.4S	75 02.0W	S VLCN08MV
0230	19/ 4/81			MGRA	E MAGNETICS ROLL-01	GDC 27	55.4S	95 48.7W	S VLCN08MV
0243	19/ 4/81			MGRA	B MAGNETICS ROLL-02	GDC 27	54.6S	95 51.2W	S VLCN08MV
1543	14/ 5/81			MGRA	E MAGNETICS ROLL-02	GDC 09	00.6S	139 56.9W	S VLCN08MV

*** CAMERA ***

2346	26/ 4/81			CATR	B ANGUS LOW. 142 2925M	WHD 20	08.3S	113 42.7W	S VLCN08MV
0430	27/ 4/81			CATR	E 35MM CAMERA-COLOR	WHD 20	05.3S	113 42.2W	S VLCN08MV
1022	27/ 4/81			CATR	B ANGUS LOW. 143 2800M	WHD 20	08.1S	113 42.1W	S VLCN08MV
0024	28/ 4/81			CATR	E 35MM CAMERA-COLOR	WHD 20	09.1S	113 43.5W	S VLCN08MV
0024	28/ 4/81			CATR	B ANGUS LOW. 144 2802M	WHD 20	06.8S	113 43.4W	S VLCN08MV
1104	28/ 4/81			CATR	E 35MM CAMERA-COLOR	WHD 20	09.4S	113 43.7W	S VLCN08MV
2211	29/ 4/81			CATR	B ANGUS LOW. 145 2950M	WHD 20	08.1S	113 42.2W	S VLCN08MV
0933	30/ 4/81			CATR	E 35MM CAMERA-COLOR	WHD 20	08.4S	113 43.2W	S VLCN08MV

GMT TIME	D / M / Y DATE	LOC TIME	LOC T2	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
0036	2/ 5/81			CATR B	ANGUS LOW. 146 2800M	WHO 18	51.9S	113 26.3W	S VLCNO8MV
0918	2/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	51.2S	113 25.6W	S VLCNO8MV
1737	2/ 5/81			CATR B	ANGUS LOW. 147 2700M	WHO 18	50.6S	113 25.2W	S VLCNO8MV
1958	2/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	50.5S	113 25.2W	S VLCNO8MV
0854	3/ 5/81			CATR B	ANGUS LOW. 148 2900M	WHO 18	50.8S	113 25.6W	S VLCNO8MV
1413	3/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	50.0S	113 27.8W	S VLCNO8MV
2359	3/ 5/81			CATR B	ANGUS LOW. 149 2900M	WHO 18	51.0S	113 25.7W	S VLCNO8MV
0600	4/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	50.1S	113 25.1W	S VLCNO8MV
1227	4/ 5/81			CATR B	ANGUS LOW. 150 2900M	WHO 18	50.0S	113 25.8W	S VLCNO8MV
1311	4/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	49.7S	113 25.5W	S VLCNO8MV
1913	4/ 5/81			CATR B	ANGUS LOW. 151 2920M	WHO 18	49.6S	113 26.4W	S VLCNO8MV
2151	4/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	48.9S	113 24.6W	S VLCNO8MV
0504	5/ 5/81			CATR B	ANGUS LOW. 152 2750M	WHO 18	50.0S	113 27.4W	S VLCNO8MV
1030	5/ 5/81			CATR E	35MM CAMERA-COLOR	WHO 18	50.0S	113 27.0W	S VLCNO8MV

*** DREDGES *** CURATOR - W. RIEDEL EXT. 4386

1635	23/ 4/81			DRRD B	DREDGE 1 STA.2 2962M	GCR 22	13.8S	114 28.6W	S VLCNO8MV
1817	23/ 4/81			DRRD E	DREDGE 1 STA.2	GCR 22	11.0S	114 28.7W	S VLCNO8MV
0952	24/ 4/81			DRRD B	DREDGE 2 STA.3 2745M	GCR 21	24.0S	114 16.7W	S VLCNO8MV
1105	24/ 4/81			DRRD E	DREDGE 2 STA.3	GCR 21	24.1S	114 18.0W	S VLCNO8MV
1231	30/ 4/81			DRRD B	DREDGE 3 STA.5 2807M	GCR 20	09.2S	113 43.3W	S VLCNO8MV
1418	30/ 4/81			DRRD E	DREDGE 3 STA.5 2807M	GCR 20	09.2S	113 43.3W	S VLCNO8MV
1906	3/ 5/81			DRRD B	DREDGE 4 2927M	GCR 18	50.2S	113 25.4W	S VLCNO8MV
1941	3/ 5/81			DRRD E	DREDGE 4 2927M	GCR 18	49.7S	113 25.1W	S VLCNO8MV
0055	5/ 5/81			DRRD B	DREDGE 5 2760M	GCR 18	49.3S	113 26.8W	S VLCNO8MV
0230	5/ 5/81			DRRD E	DREDGE 5 2760M	GCR 18	49.8S	113 26.6W	S VLCNO8MV
0108	6/ 5/81			DRRD B	DREDGE 6 STA.6 2800M	GCR 19	30.6S	113 34.1W	S VLCNO8MV
0216	6/ 5/81			DRRD E	DREDGE 6 STA.6 2800M	GCR 19	30.7S	113 33.5W	S VLCNO8MV

*** CONDUCTIVITY, TEMPERATURE, DEPTH ***

2038	15/ 4/81			GCTD	ST-99 TEST CAST 608M	GRD 31	46.7S	104 14.2W	S VLCNO8MV
0059	21/ 4/81			GCTD	ST-01 168TL C1 3777M	GRD 24	23.9S	104 41.8W	S VLCNO8MV
1210	23/ 4/81			GCTD	ST-02 168TL C1 2984M	GRD 22	15.2S	114 28.8W	S VLCNO8MV
0515	24/ 4/81			GCTD	ST-03 138TL C1 2815M	GRD 21	22.4S	114 15.8W	S VLCNO8MV
2059	24/ 4/81			GCTD	ST-04 138TL C1 3090M	GRD 20	29.2S	113 51.2W	S VLCNO8MV
0701	28/ 4/81			GCTD	ST-05 128TL C1 2815M	GRD 20	09.6S	113 43.6W	S VLCNO8MV
2015	5/ 5/81			GCTD	ST-06 138TL C1 2770M	GRD 19	30.0S	113 33.4W	S VLCNO8MV
2157	6/ 5/81			GCTD	ST-07 168TL C1 3423M	GRD 19	30.0S	116 34.7W	S VLCNO8MV

GMT D /P /Y TIME DATE	LOC LOC TIME TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
2212 7/ 5/81		GCTD	ST-08 15BTL C1 3624M	GRD 19	31.3S	120 24.1W	S VLCNORMV
1730 8/ 5/81		GCTD X	ST-09 14BTL C1 2625M	GRD 19	29.6S	123 39.0W	S VLCNORMV
2116 8/ 5/81		GCTD	ST-09 14BTL C2 3526M	GRD 19	29.5S	123 30.3W	S VLCNORMV
1405 9/ 5/81		GCTD	ST-10 14BTL C1 3649M	GRD 16	59.1S	123 30.3W	S VLCNORMV
0711 10/ 5/81		GCTD	ST-11 14BTL C1 3806M	GRD 14	27.0S	123 30.2W	S VLCNORMV
2336 10/ 5/81		GCTD	ST-12 14BTL C1 4114M	GRD 12	03.4S	123 29.8W	S VLCNORMV

9900

END SAMPLE INDEX

VLCNORMV