

INFORMAL REPORT AND INDEX OF
NAVIGATION, DEPTH MAGNETIC AND SUBBOTTOM PROFILER DATA
(ISSUED FEBRUARY 1981)

VULCAN EXPEDITION

LEG 5

Valparaiso, Chile (2 December 1980)
to
Punta Arenas, Chile (11 January 1981)

R/V Melville

Co-Chief Scientists - H. Dick (WHO) and L. Lawver (MIT)

Resident Marine Tech - J. Boaz

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:

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.

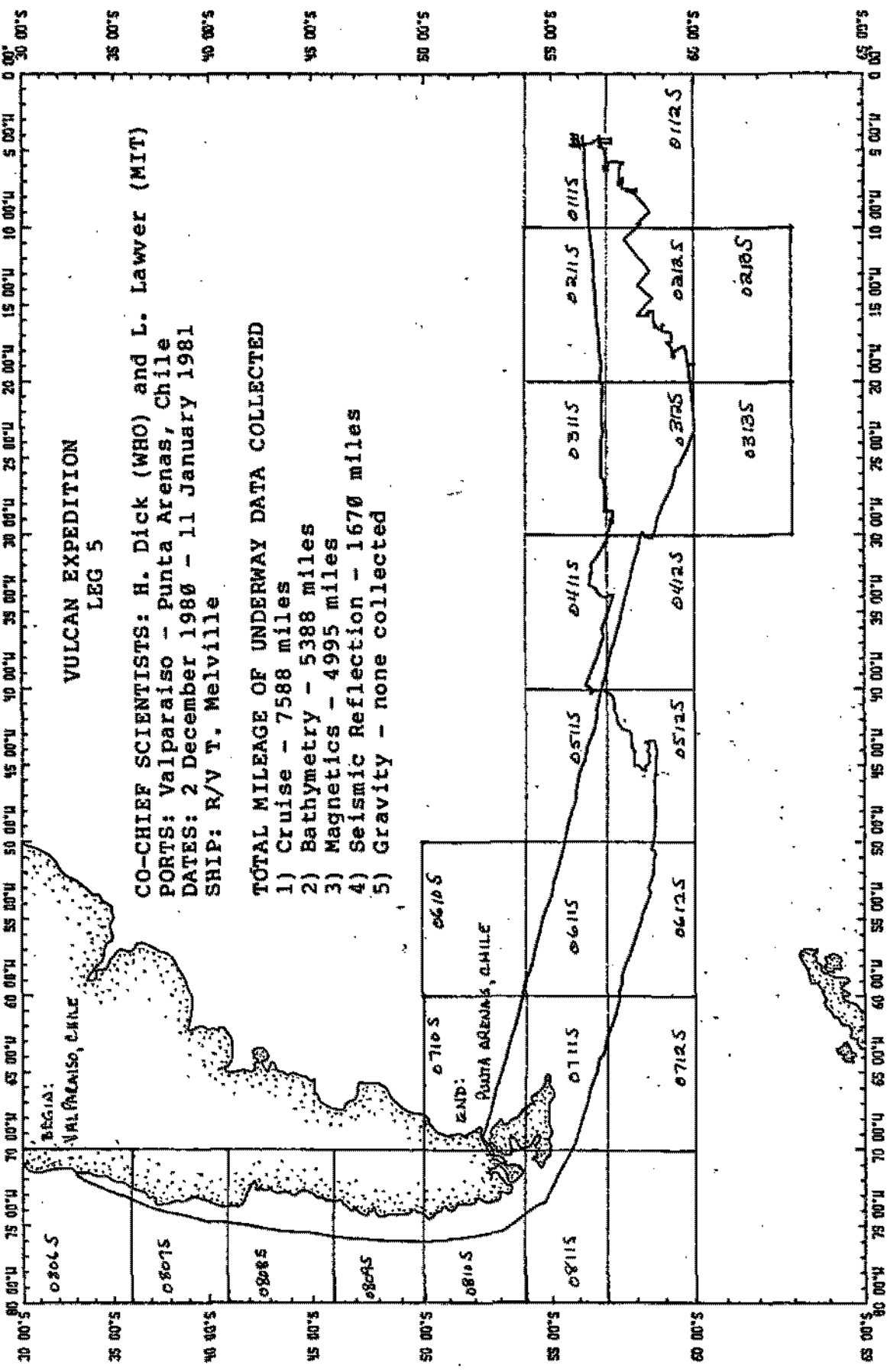
Profiles - depth and magnetic anomaly vs. distance. Dates (day/month) and positions of major course changes (greater than 30 degrees) are annotated. Sections of track having subbottom profiler (airgun) records have a solid black line along the bottom of the profile.

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

VLCN05MV

SCALE = .1632 IN/DEGREE



VULCAN EXPEDITION
LEG 5

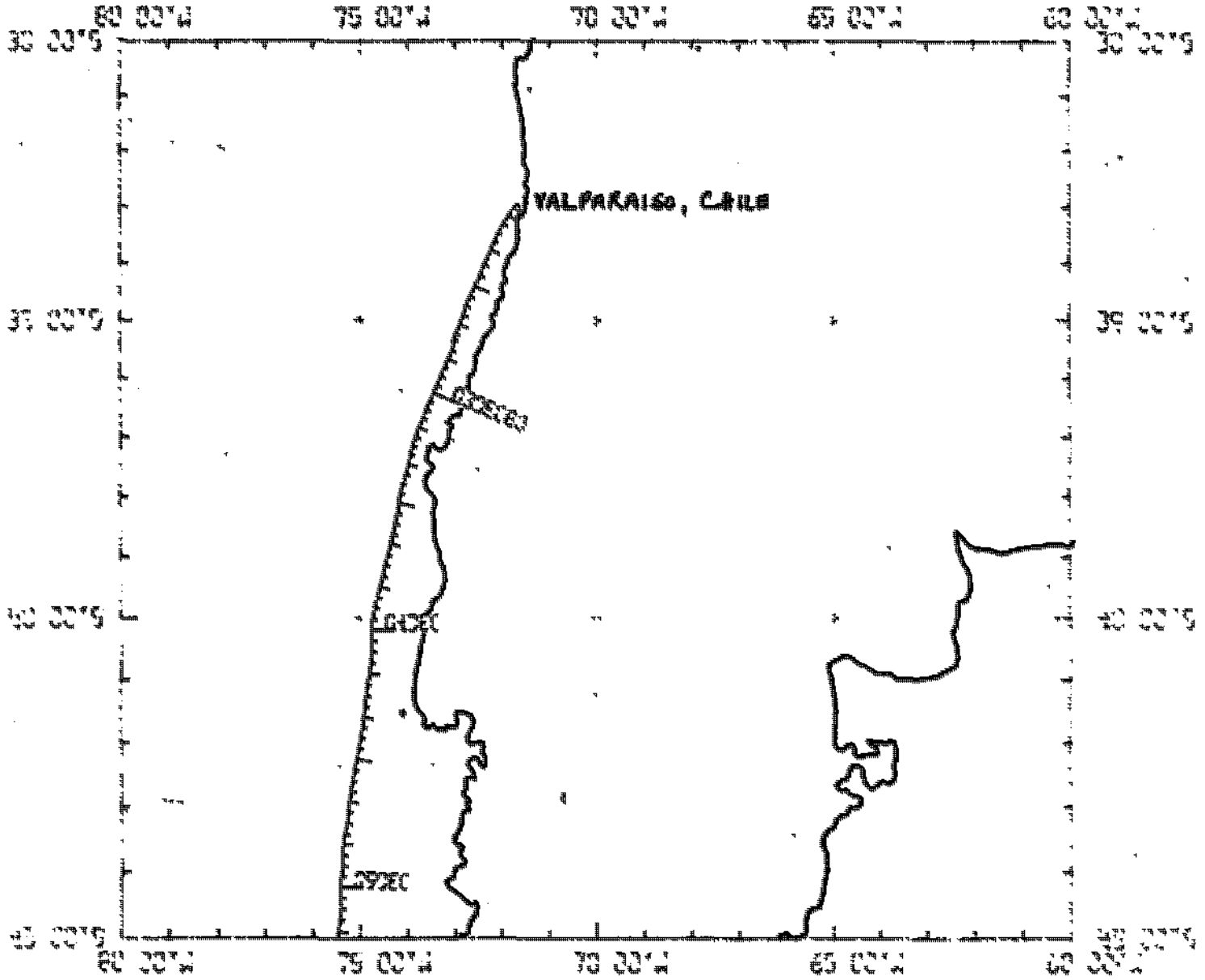
CO-CHIEF SCIENTISTS: H. Dick (WHO) and L. Lawver (MIT)
 PORTS: Valparaíso - Punta Arenas, Chile
 DATES: 2 December 1980 - 11 January 1981
 SHIP: R/V T. Melville

TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

- 1) Cruise - 7588 miles
- 2) Bathymetry - 5388 miles
- 3) Magnetics - 4995 miles
- 4) Seismic Reflection - 1670 miles
- 5) Gravity - none collected

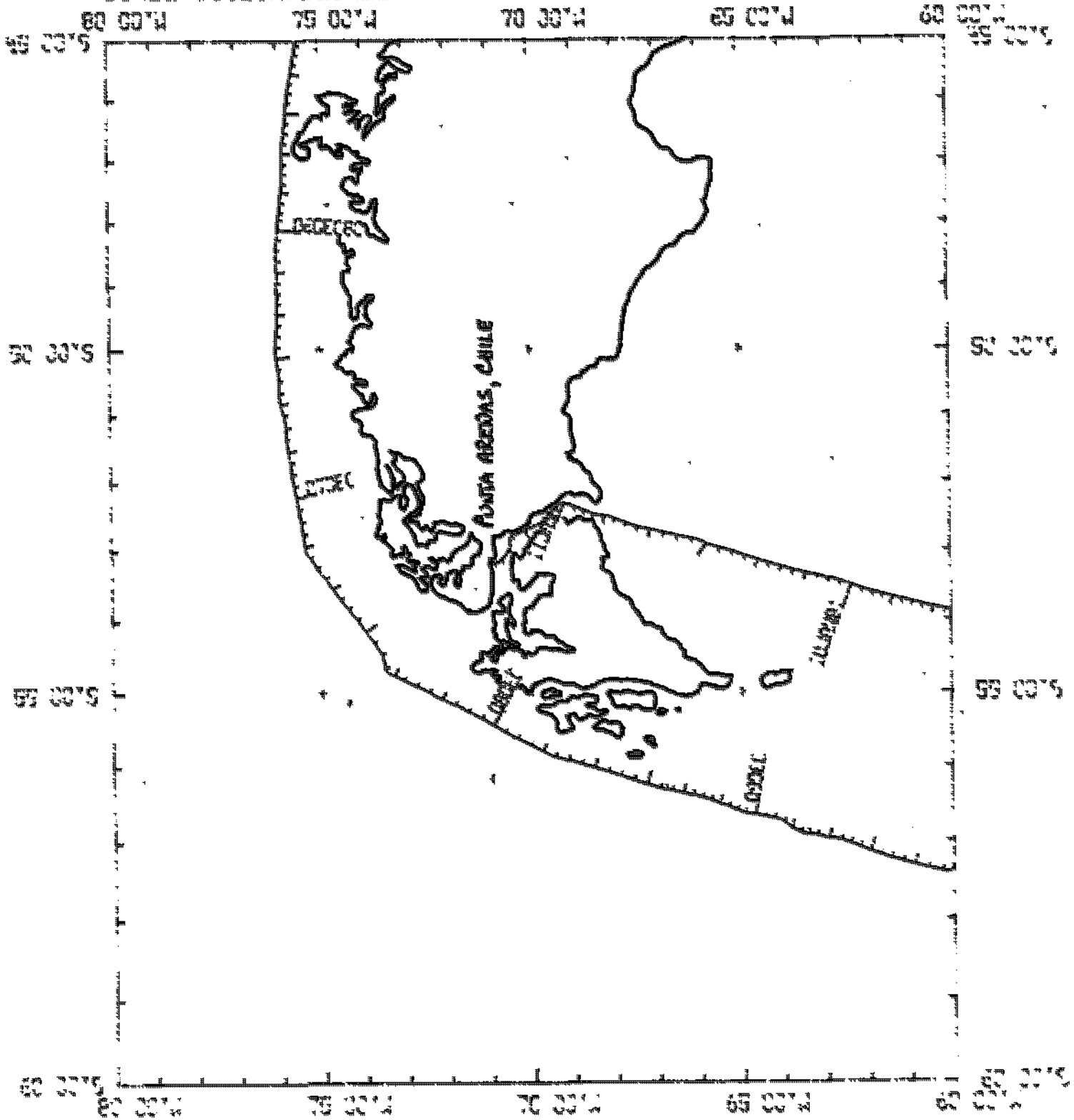
VELOCITY (PLOT 1 OF 6)

SCALE = .312 IN/DEGREE



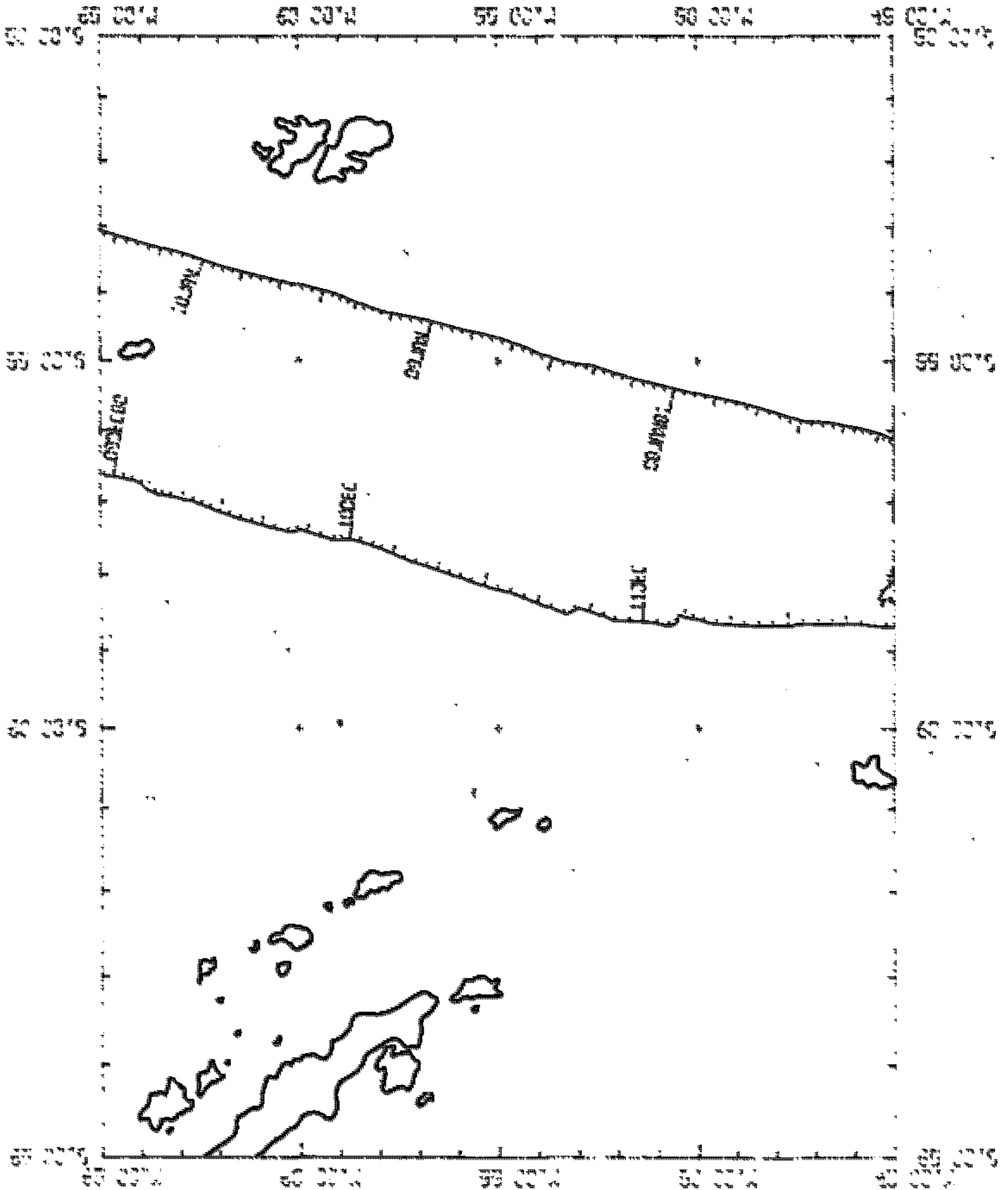
VLCN35W (PLUT 2 OF 6)

SCALE: 1:312 IN/DEGREE



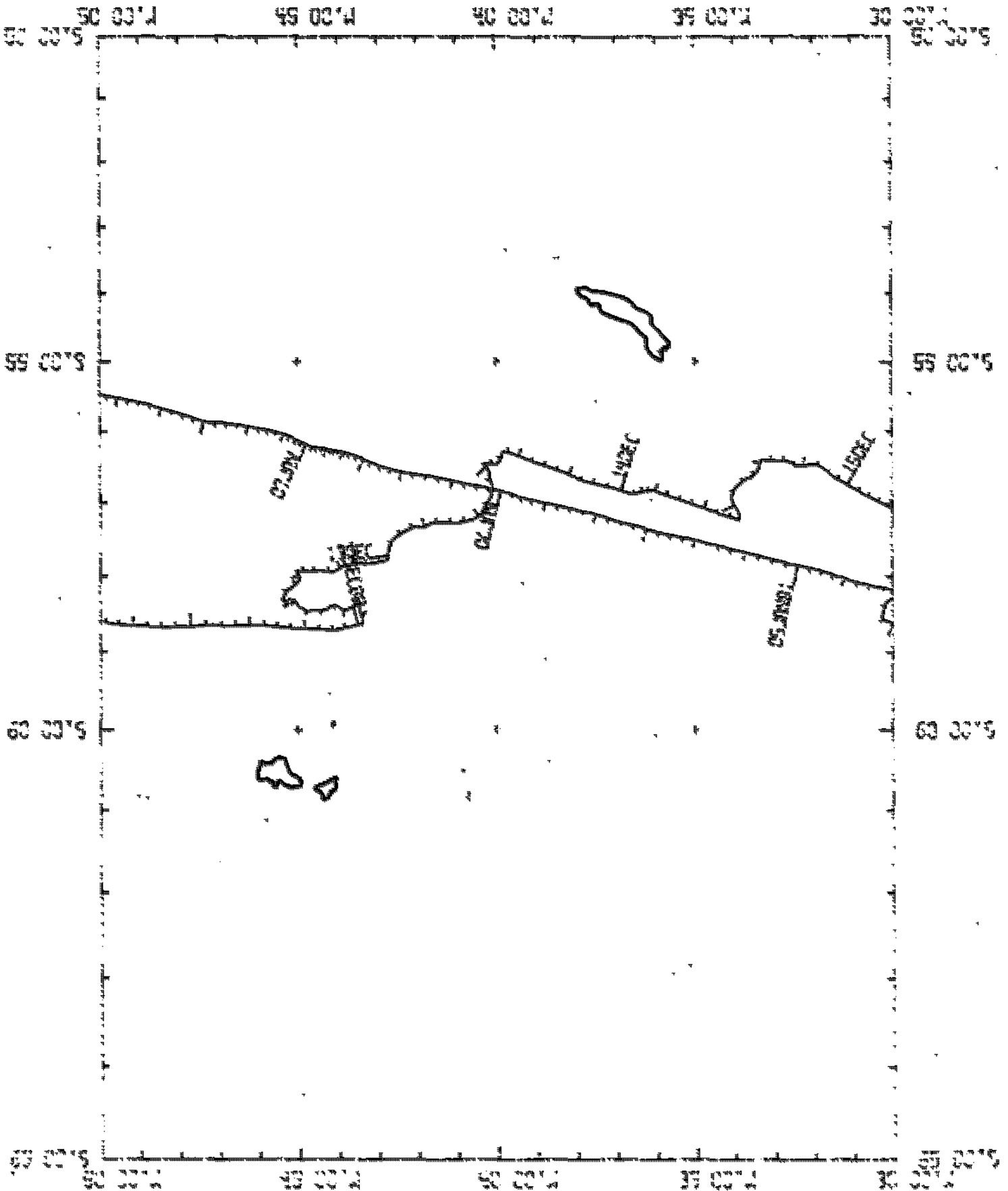
HYDROGRAPHY (PLOT 3 OF 6)

SCALE: 1/12TH DEGREE



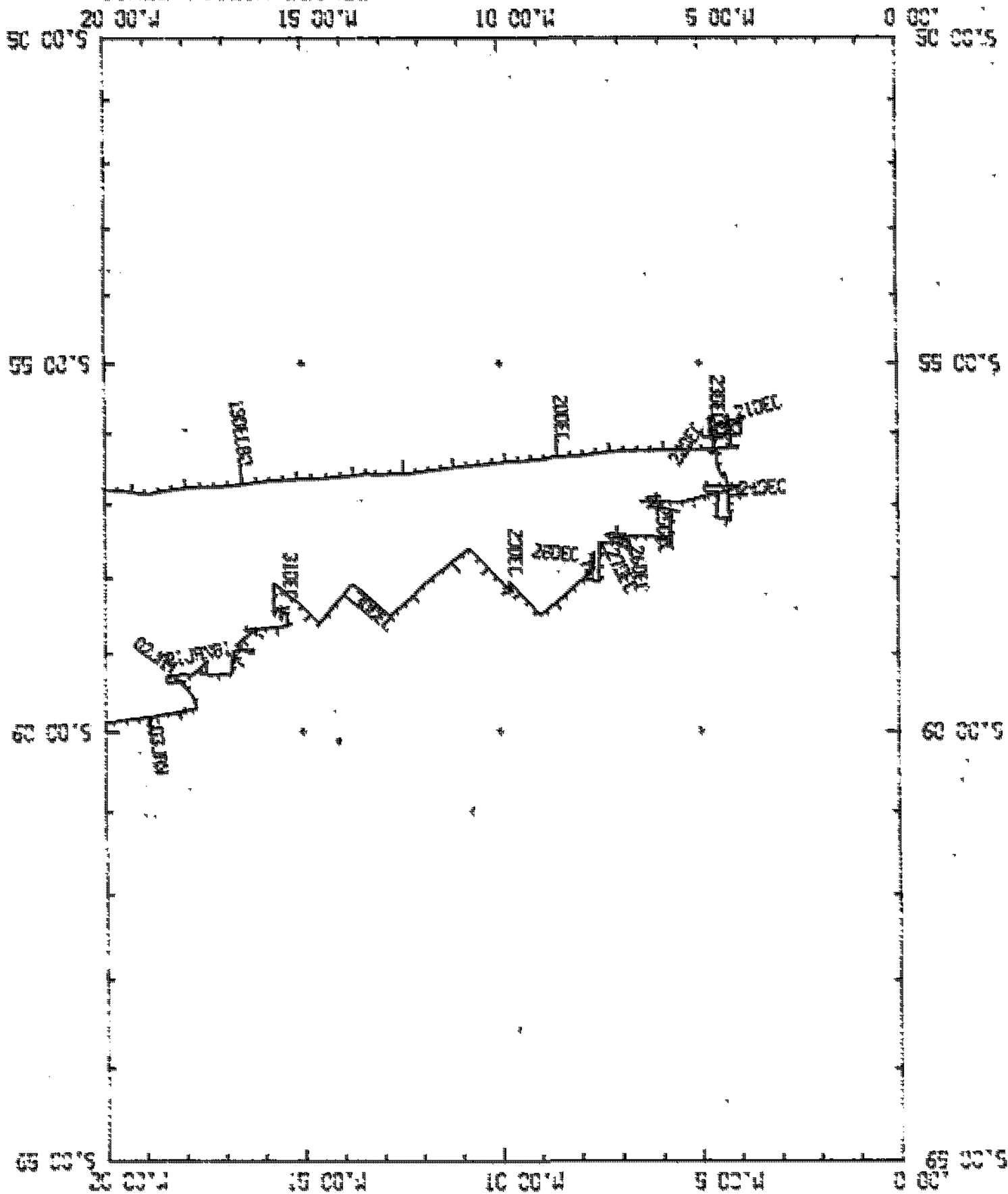
VLONGSNY (PLOT 4 OF 8)

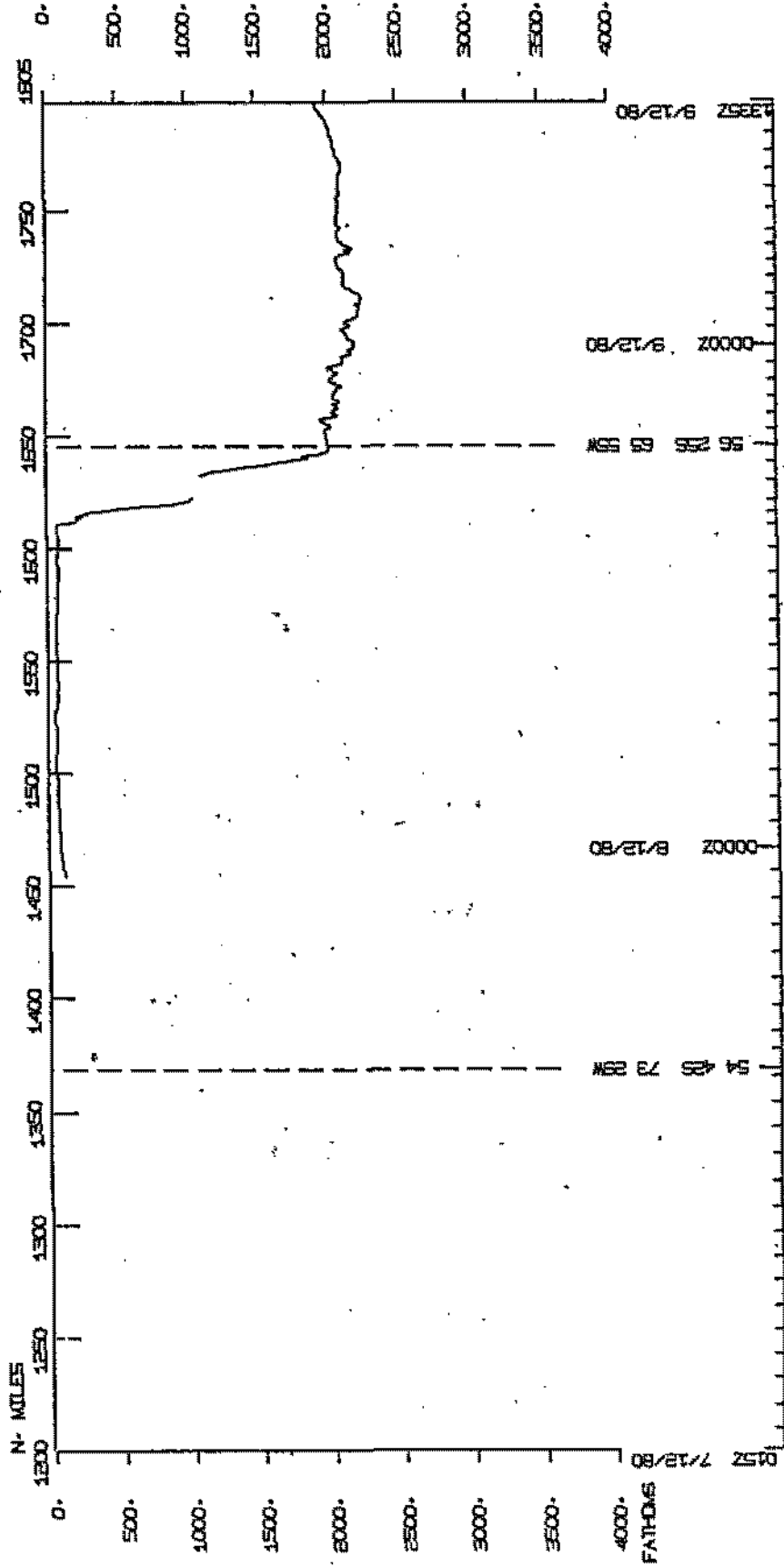
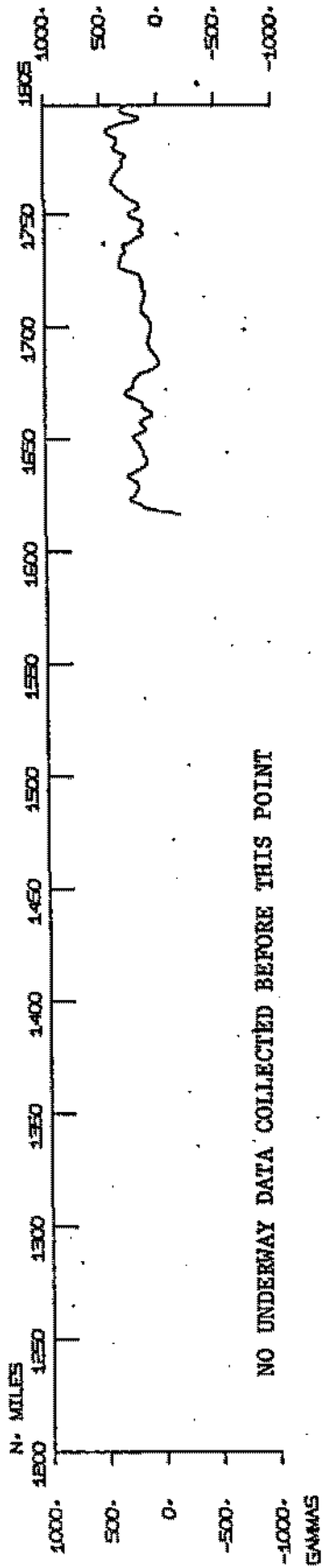
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VLCN05MV (PLOT 6 OF 6)

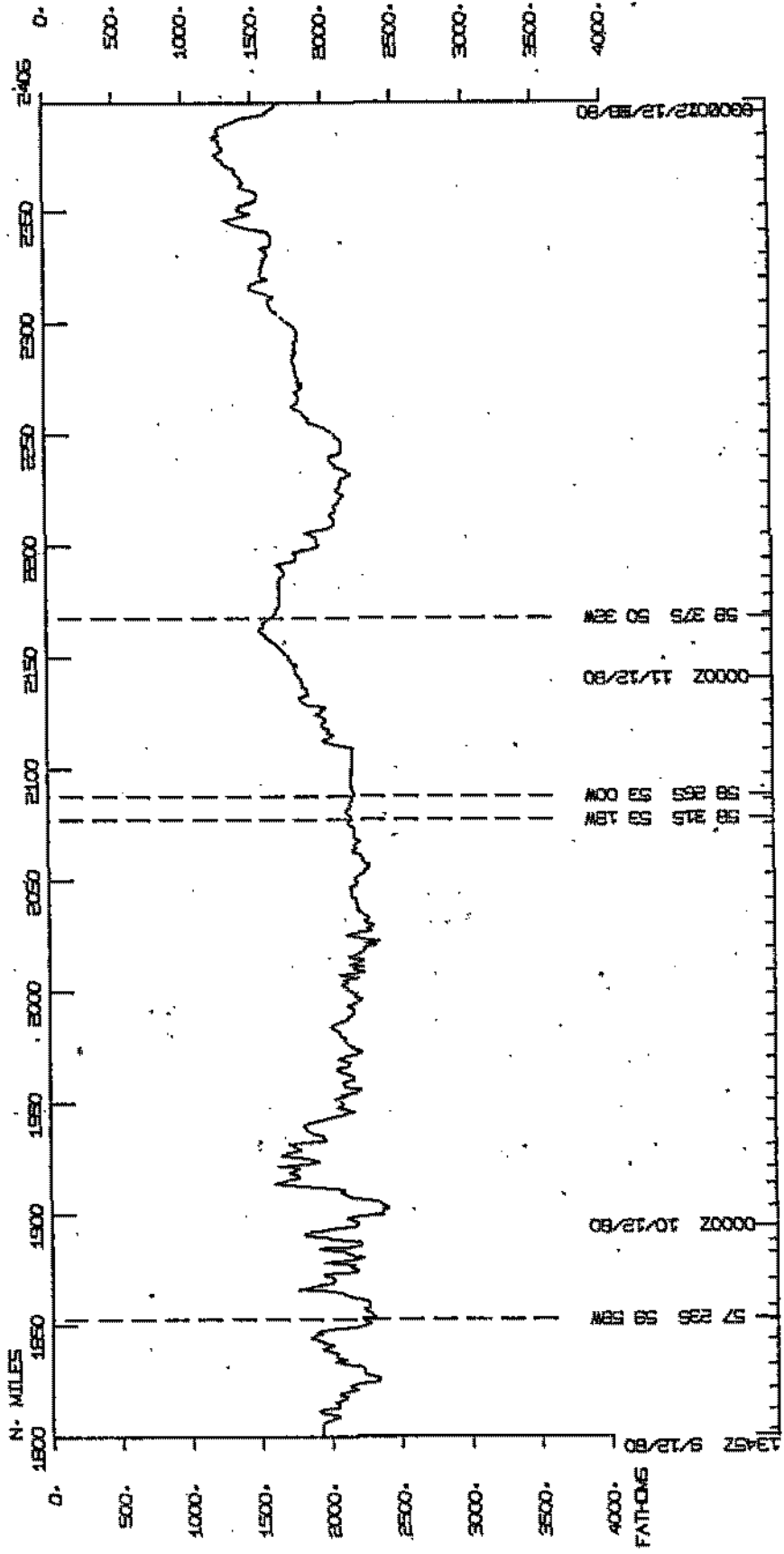
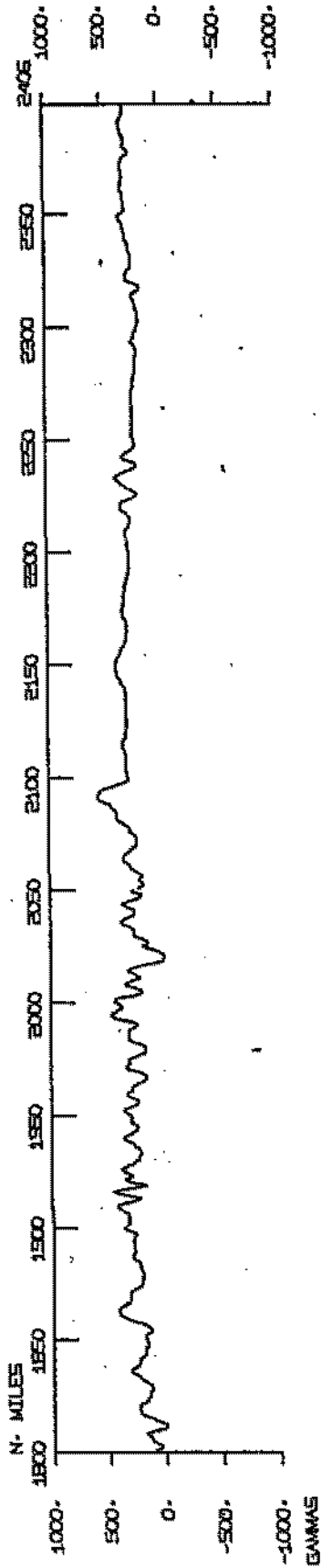
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VLGNOSMV

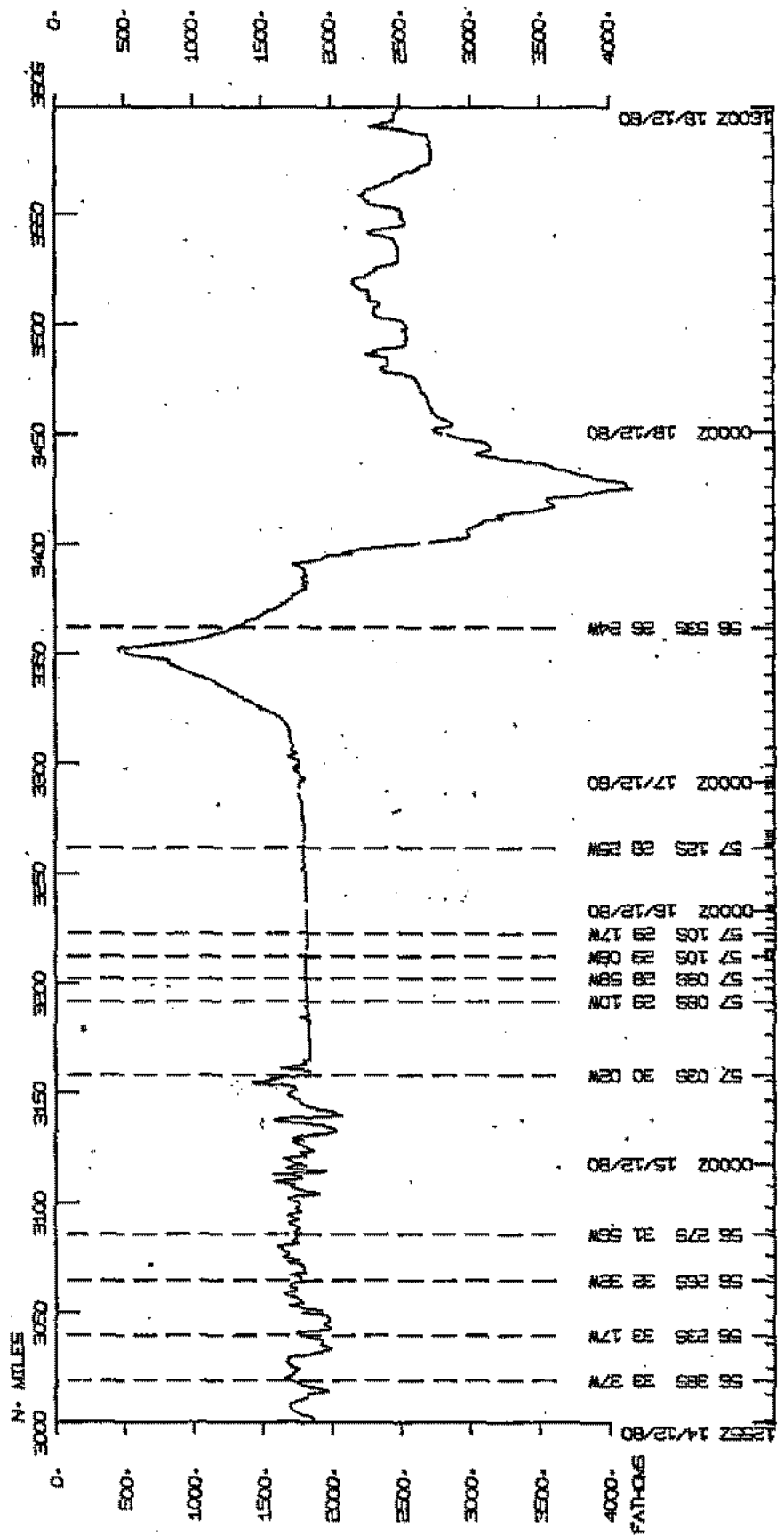
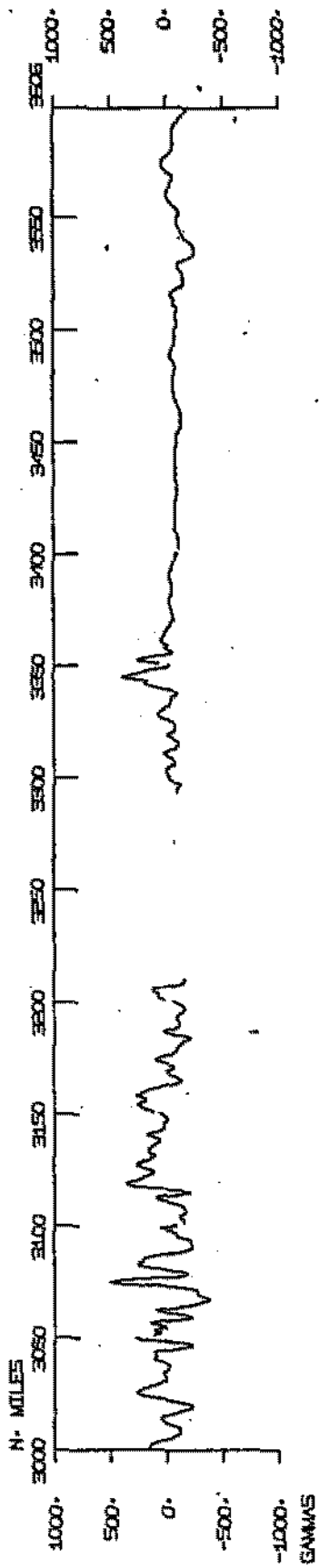




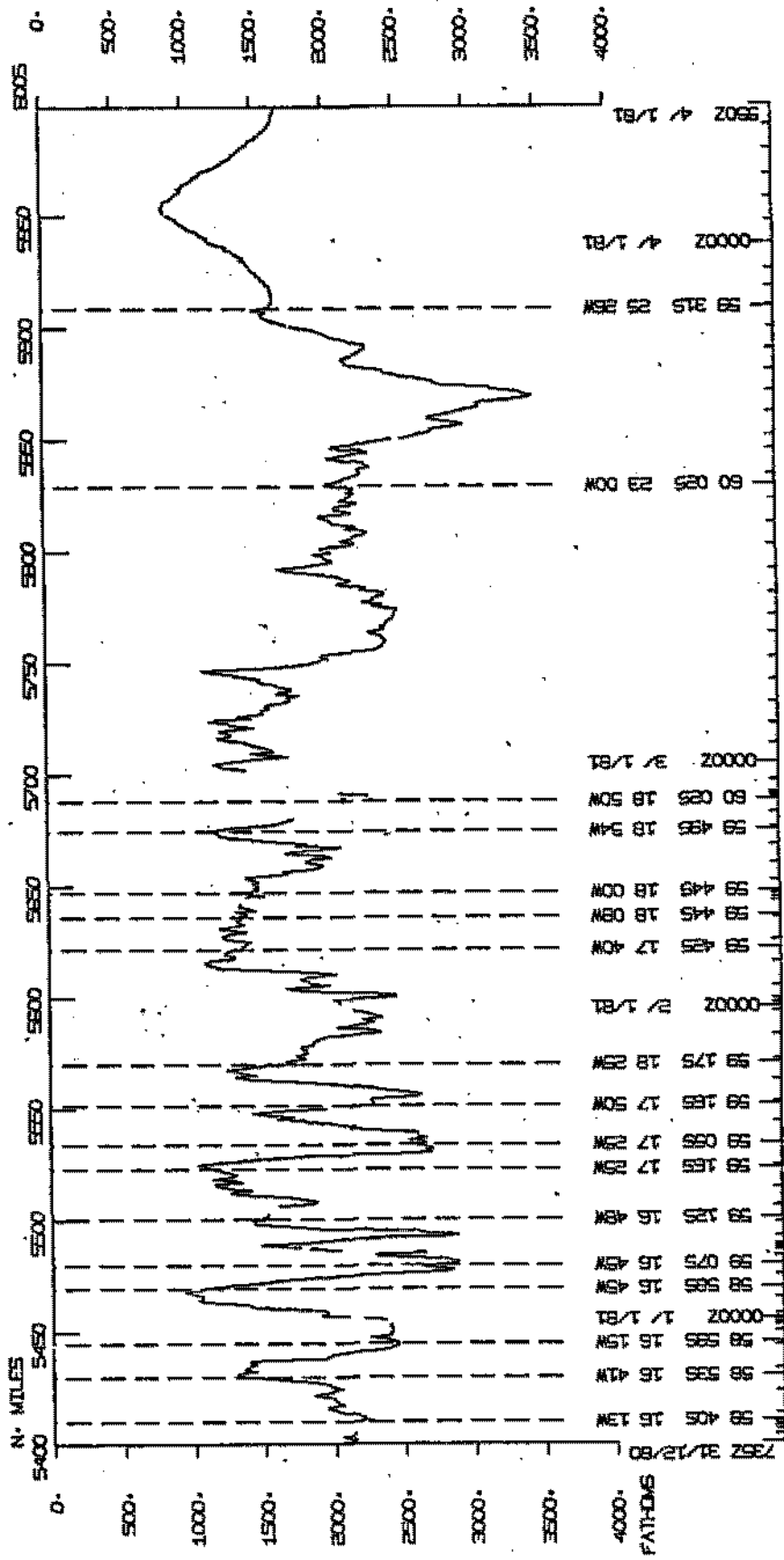
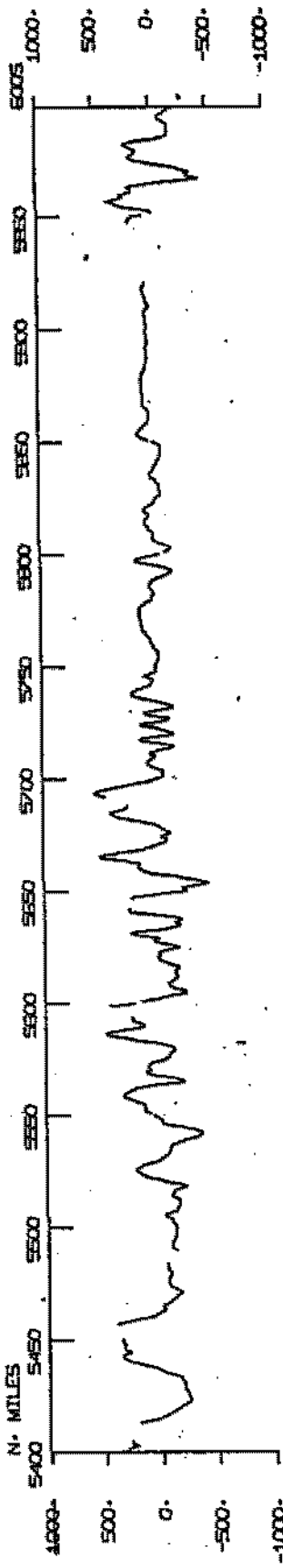
WLCNOSMV



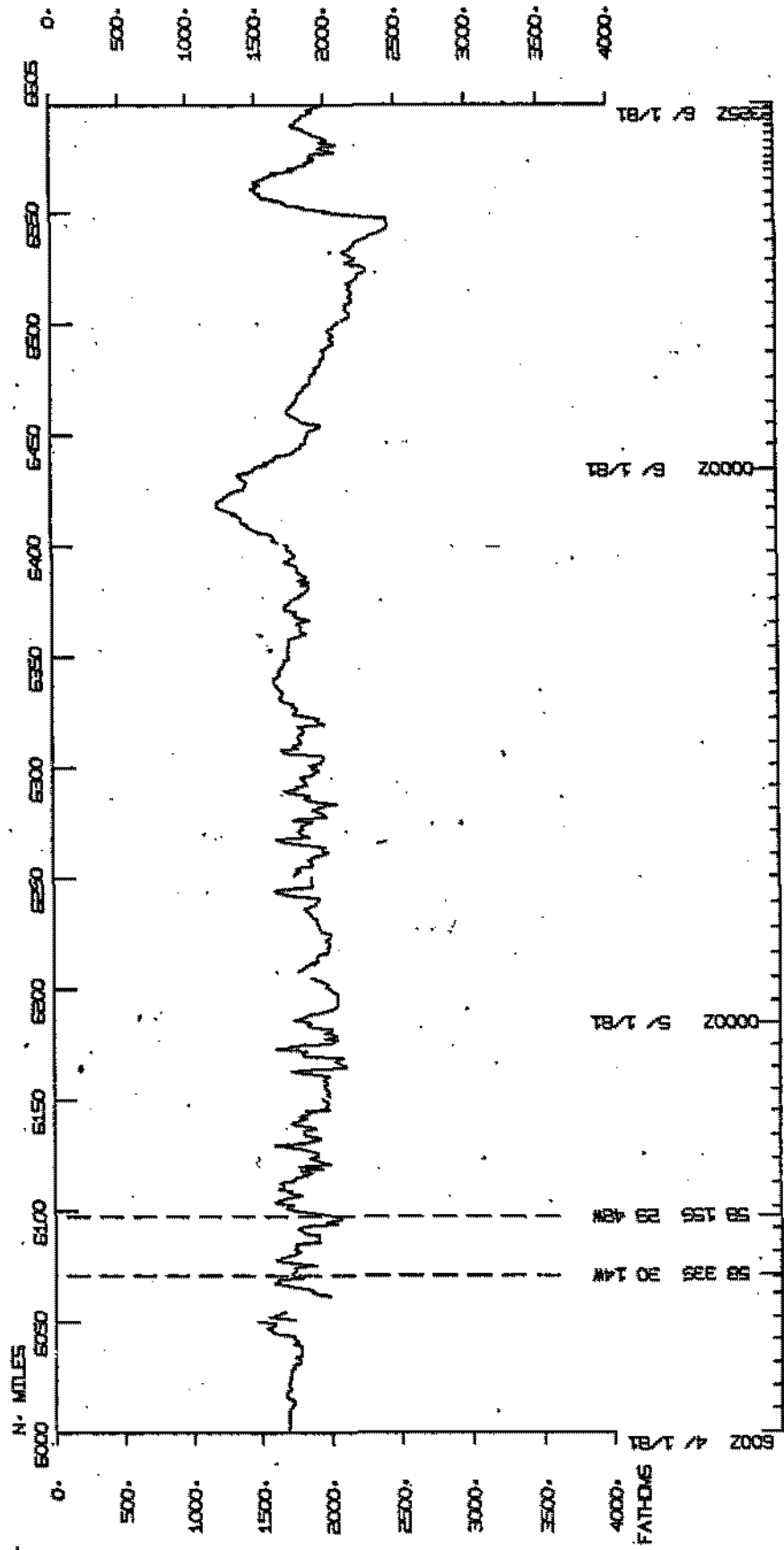
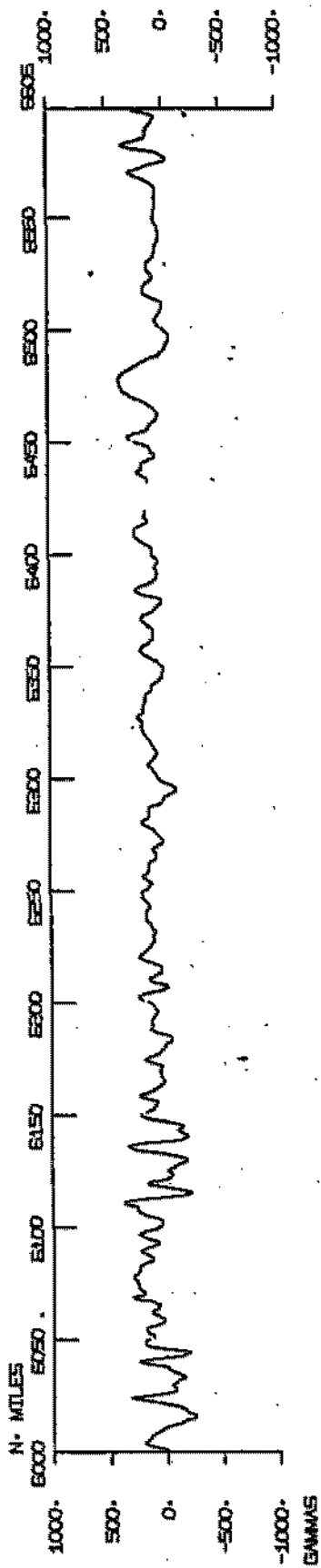
VLCN05MV



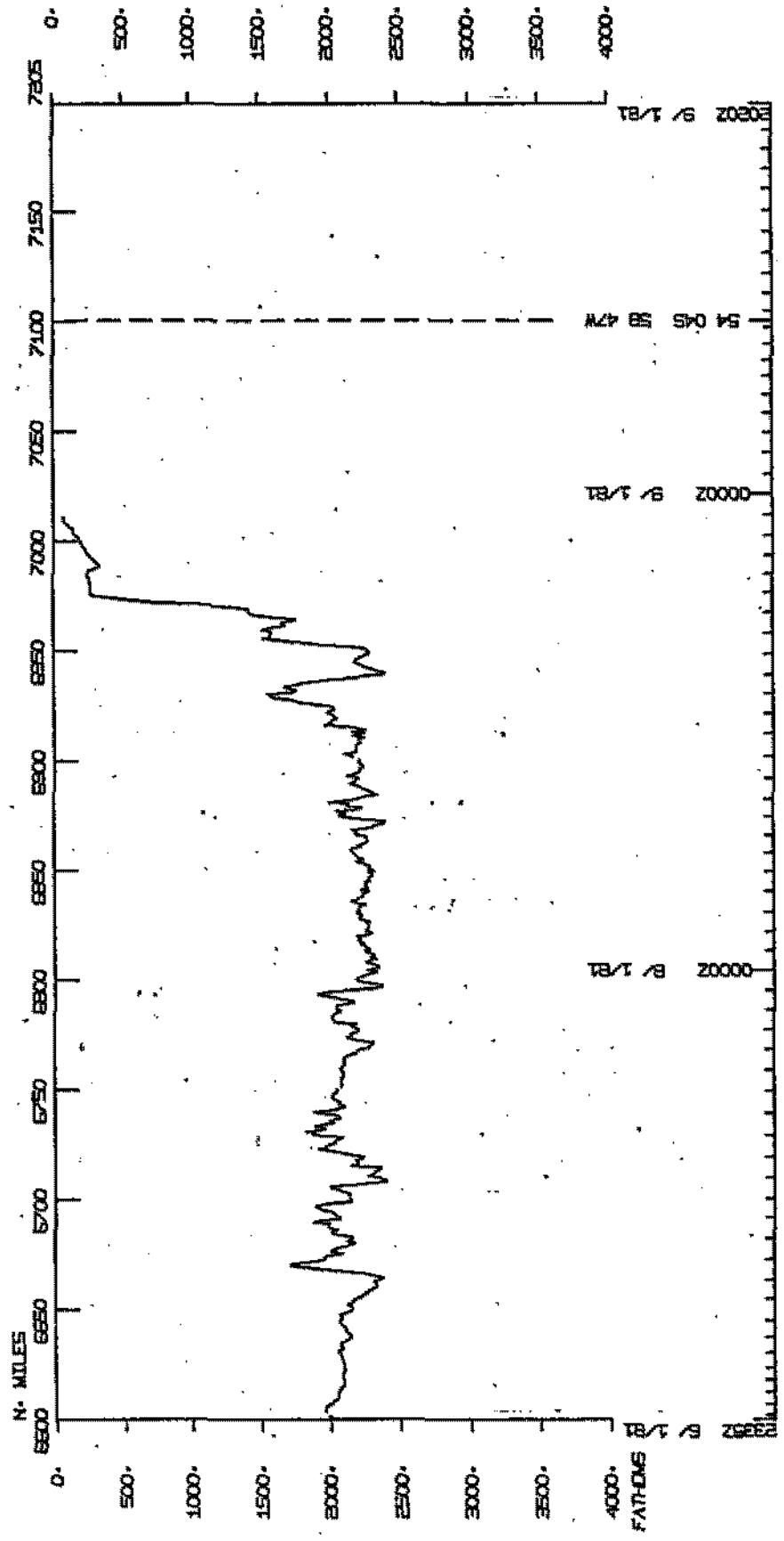
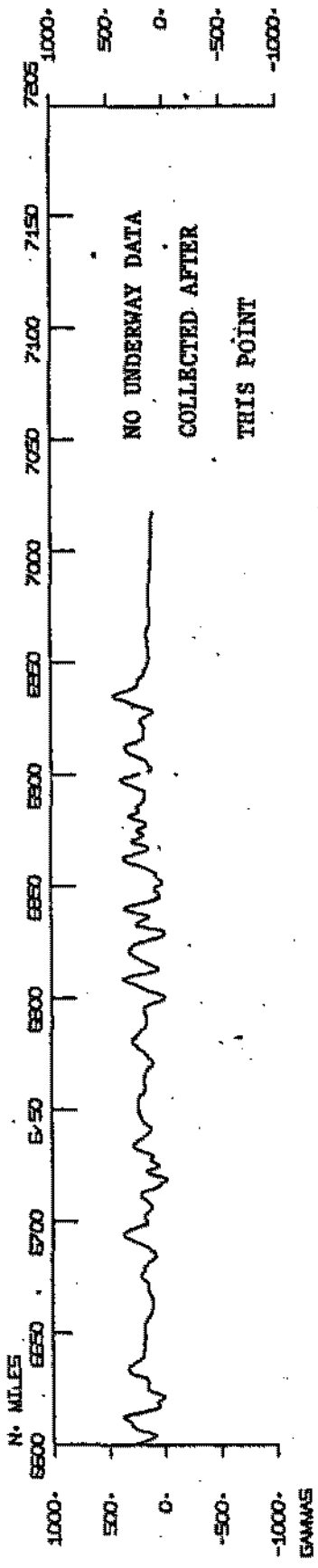
VLCNOSMV



VLCNOSMV



VLCNOSMV



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

VULCAN EXPEDITION
LEG 5

Valparaiso, Chile (2 December 1980)
to
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Co-Chief Scientists - H. Dick (WHO) and
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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.)

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

DISP	TYPE									TOTAL	
	CO	DP	DR	HF	LB	MG	PE	SP			
MIT	I			13			2	I	15		
MTG	I						3	I	3		
WHO	I	2	7	16		1	4	6	2	I	38
TOTAL	I	2	7	16	13	1	4	11	2	I	56

SAMPLE 'TYPE' CODES USED ABOVE

- CO = CORE
- DP = DEPTH
- DR = DREDGE
- HF = HEAT PROBE
- LB = LOG BOOKS
- MG = MAGNETICS (TOWED VEHICLE, SURFACE, TOTAL FIELD)
- PE = PERSONNEL IN SCIENTIFIC PARTY
- SP = SEISMIC REFLECTION PROFILE AIRGUN

SAMPLE 'DISP' CODES USED ABOVE

- MIT = MASS. INST. TECHNOLOGY
- MTG = MARINE TECHNOLOGY GROUP (EXT 4194)
- WHO = WOODS HOLE OCEANOGRAPHIC INSTITUTION

GMT D /M /Y TIME DATE	LOC TIME TZ	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
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VULCAN LEG 5 SAMPLE INDEX

VLCN05MV

*** PORTS ***

0125	2/12/80		LGPT B	VALPARAISO, CHILE		33 02. S	71 37. W	F VLCN05MV
1532	11/ 1/81		LGPT E	PUNTA ARENAS, CHILE		53 10. S	70 54. W	F VLCN05MV

PERSONNEL

*** NAME ***	*** TITLE ***	*** AFFILIATION ***
1 DICK, H.	CHIEF SCIENTIST	WOODS HOLE OCEANOGRAPHIC INSTITUTION
2 LAWVER, L.	CO-CHIEF SCIENT.	MASS. INST. TECHNOLOGY
3 WOODING, C.	TECHNICIAN	WOODS HOLE OCEANOGRAPHIC INSTITUTION
4 WOODING, F.	TECHNICIAN	WOODS HOLE OCEANOGRAPHIC INSTITUTION
5 OTTER, M.	TECHNICIAN	WOODS HOLE OCEANOGRAPHIC INSTITUTION
6 PADOVANI, E.	SCIENTIST	MASS. INST. TECHNOLOGY
7 BONZI, J.	STUDENT	WOODS HOLE OCEANOGRAPHIC INSTITUTION
8 LOY, W.	STUDENT	WOODS HOLE OCEANOGRAPHIC INSTITUTION
9 HUBENKA, F.	PR. ELECT. TECH.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
10 ABBOTT, L.	PR. DVLMT. ENG.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
11 BOAZ, J.	RESIDENT TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093

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 D /M /Y TIME DATE	LOC LOC TIME TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
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*** LOG BOOKS ***

2300 7/12/80		LBUW B	UNDERWAY LOG	WHO 55	21.5S	71 11.5W	S VLCN05MV
2308 8/ 1/81		LBUW E	UNDERWAY LOG	WHO 54	27.5S	56 23.7W	S VLCN05MV

*** FATHOGRAMS ***

2300 7/12/80		DPR3 B	PDR 3.5KHZ R-01	WHO 55	21.5S	71 11.5W	S VLCN05MV
1519 11/12/80		DPR3 E	PDR 3.5KHZ R-01	WHO 58	39.0S	46 27.5W	S VLCN05MV
1540 11/12/80		DPR3 B	PDR 3.5KHZ R-02	WHO 58	39.0S	46 19.9W	S VLCN05MV
1518 19/12/80		DPR3 E	PDR 3.5KHZ R-02	WHO 56	29.5S	11 22.4W	S VLCN05MV
1529 19/12/80		DPR3 B	PDR 3.5KHZ R-03	WHO 56	29.3S	11 18.9W	S VLCN05MV
0039 26/12/80		DPR3 E	PDR 3.5KHZ R-03	WHO 57	27.2S	06 55.0W	S VLCN05MV
0048 26/12/80		DPR3 B	PDR 3.5KHZ R-04	WHO 57	27.3S	06 56.8W	S VLCN05MV
0127 4/ 1/81		DPR3 E	PDR 3.5KHZ R-04	WHO 59	17.1S	26 41.1W	S VLCN05MV
0135 4/ 1/81		DPR3 B	PDR 3.5KHZ R-05	WHO 59	16.8S	26 43.7W	S VLCN05MV
2308 8/ 1/81		DPR3 E	PDR 3.5KHZ R-05	WHO 54	27.5S	56 23.7W	S VLCN05MV
2103 10/12/80		DPRT B	PDR 12 KHZ R-01	WHO 58	32.6S	52 22.4W	S VLCN05MV
2043 12/12/80		DPRT E	PDR 12 KHZ R-01	WHO 57	50.6S	43 43.8W	S VLCN05MV
2115 12/12/80		DPRT B	PDR 12 KHZ R-02	WHO 57	50.1S	43 32.9W	S VLCN05MV
1445 1/ 4/81		DPRT E	PDR 12 KHZ R-02	WHO 53	10.1S	70 54.9W	S VLCN05MV

*** SEISMIC REFLECTION PROFILES ***

1430 8/12/80		SPSV B	AIRGUN (FAST) R-01	WHO 56	19.3S	66 44.7W	S VLCN05MV
0600 18/12/80		SPSV E	AIRGUN (FAST) R-01	WHO 56	51.1S	22 30.5W	S VLCN05MV
2100 14/12/80		SPSV B	AIRGUN (SLOW) R-01	WHO 56	28.4S	31 53.1W	S VLCN05MV
1445 4/ 1/81		SPSV E	AIRGUN (SLOW) R-01	WHO 58	18.1S	30 01.0W	S VLCN05MV

*** MAGNETOMETER ***

1415 8/12/80		MGRA B	MAGNETICS R-01	WHO 56	19.2S	66 46.6W	S VLCN05MV
0135 12/12/80		MGRA E	MAGNETICS R-01	WHO 58	28.1S	43 22.0W	S VLCN05MV
0145 12/12/80		MGRA B	MAGNETICS R-02	WHO 58	28.8S	43 22.3W	S VLCN05MV
2300 19/12/80		MGRA E	MAGNETICS R-02	WHO 56	21.3S	08 52.7W	S VLCN05MV
2305 19/12/80		MGRA B	MAGNETICS R-03	WHO 56	21.2S	08 51.1W	S VLCN05MV
1300 7/ 1/81		MGRA E	MAGNETICS R-03	WHO 55	48.9S	47 36.9W	S VLCN05MV

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

1310	7/ 1/81		MGRA B MAGNETICS R-04	WHO	55 48.4S	47 39.4W	S VLCN05MV
2342	8/ 1/81		MGRA E MAGNETICS R-04	WHO	54 26.1S	56 32.7W	S VLCN05MV

*** DREDGES ***

1937	20/12/80		DRRO B STA-18	2489M	WHO	55 52.3S	04 17.0W	S VLCN05MV
2150	20/12/80		DRRO E STA-18	2032M	WHO	55 54.2S	04 18.7W	S VLCN05MV
0102	21/12/80		DRRO B STA-19	3208M	WHO	55 51.5S	04 20.4W	S VLCN05MV
0232	21/12/80		DRRO E STA-19	3208M	WHO	55 52.1S	04 21.9W	S VLCN05MV
0620	21/12/80		DRRO B STA-20	4782M	WHO	55 50.7S	04 29.4W	S VLCN05MV
1021	21/12/80		DRRO E STA-20	3221M	WHO	55 54.3S	04 35.7W	S VLCN05MV
1453	21/12/80		DRRO B STA-21	4456M	WHO	55 51.2S	04 28.2W	S VLCN05MV
1705	21/12/80		DRRO E STA-21	3490M	WHO	55 52.7S	04 33.4W	S VLCN05MV
2240	21/12/80		DRRO B STA-22	4563M	WHO	55 47.1S	04 38.4W	S VLCN05MV
0107	22/12/80		DRRO E STA-22	4361M	WHO	55 45.9S	04 42.5W	S VLCN05MV
1100	22/12/80		DRRO B STA-23	5378M	WHO	55 46.6S	03 57.2W	S VLCN05MV
1730	22/12/80		DRRO E STA-23	3321M	WHO	55 49.6S	04 00.9W	S VLCN05MV
0125	23/12/80		DRRO B STA-24	3302M	WHO	56 02.4S	04 42.4W	S VLCN05MV
0305	23/12/80		DRRO E STA-24	3227M	WHO	56 03.6S	04 41.5W	S VLCN05MV
0914	23/12/80		DRRO B STA-25	3924M	WHO	56 16.2S	04 37.7W	S VLCN05MV
1030	23/12/80		DRRO E STA-25	3924M	WHO	56 15.4S	04 36.1W	S VLCN05MV
1702	23/12/80		DRRO B STA-26	3984M	WHO	56 36.5S	04 23.8W	S VLCN05MV
1923	23/12/80		DRRO E STA-26	3984M	WHO	56 35.8S	04 22.2W	S VLCN05MV
2254	24/12/80		DRRO B STA-27	1079M	WHO	56 54.3S	06 04.4W	S VLCN05MV
0111	25/12/80		DRRO E STA-27	1079M	WHO	56 54.9S	06 06.7W	S VLCN05MV
0412	25/12/80		DRRO B STA-28	2966M	WHO	56 57.0S	06 08.5W	S VLCN05MV
0447	25/12/80		DRRO E STA-28	2966M	WHO	56 56.3S	06 08.8W	S VLCN05MV
1032	25/12/80		DRRO B STA-29	3589M	WHO	57 03.8S	06 03.9W	S VLCN05MV
1231	25/12/80		DRRO E STA-29	3589M	WHO	57 04.2S	06 05.1W	S VLCN05MV
0811	26/12/80		DRRO B STA-30	4112M	WHO	57 27.5S	06 60.0W	S VLCN05MV
1129	26/12/80		DRRO E STA-30	3794M	WHO	57 25.5S	07 02.8W	S VLCN05MV
1803	26/12/80		DRRO B STA-31	3730M	WHO	57 34.2S	06 58.8W	S VLCN05MV
2011	26/12/80		DRRO E STA-31	3500M	WHO	57 33.0S	06 57.6W	S VLCN05MV
0830	27/12/80		DRRO B STA-32	3152M	WHO	57 42.4S	07 39.5W	S VLCN05MV
1007	27/12/80		DRRO E STA-32	2543M	WHO	57 42.1S	07 39.2W	S VLCN05MV
1333	27/12/80		DRRO B STA-33	3999M	WHO	57 45.7S	07 41.2W	S VLCN05MV
1722	27/12/80		DRRO E STA-33	2797M	WHO	57 42.8S	07 38.8W	S VLCN05MV

GMT D /M /Y TIME DATE	LOC LOC TIME TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
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HEAT FLOW

1217	15/12/80	HF4M	HF-TEST STA-02	MIT 57	10.4S	29 08.1W	S VLCN05MV
1345	15/12/80	HF4M	HF-1 STA-03	MIT 57	10.7S	29 06.9W	S VLCN05MV
1545	15/12/80	HF4M	HF-2 STA-04	MIT 57	11.3S	29 06.4W	S VLCN05MV
1700	15/12/80	HF4M	HF-3 STA-05	MIT 57	11.0S	29 06.5W	S VLCN05MV
0105	16/12/80	HF4M	HF-4 STA-07	MIT 57	12.6S	29 12.3W	S VLCN05MV
0309	16/12/80	HF4M	HF-5 STA-08	MIT 57	12.9S	29 13.8W	S VLCN05MV
0448	16/12/80	HF4M	HF-6 STA-09	MIT 57	13.2S	29 13.1W	S VLCN05MV
1232	16/12/80	HF4M	HF-7 STA-11	MIT 57	13.3S	28 26.9W	S VLCN05MV
1509	16/12/80	HF4M	HF-8 STA-12	MIT 57	14.8S	28 28.2W	S VLCN05MV
1638	16/12/80	HF4M	HF-9 STA-13	MIT 57	14.8S	28 28.6W	S VLCN05MV
2239	16/12/80	HF4M	HF-10 STA-15	MIT 56	55.1S	28 26.5W	S VLCN05MV
0025	17/12/80	HF4M	HF-11 STA-16	MIT 56	55.0S	28 28.8W	S VLCN05MV
0221	17/12/80	HF4M	HF-12 STA-17	MIT 56	55.0S	28 30.9W	S VLCN05MV

*** CORES ***

1100	15/12/80	COGV	GC-1 STA-01	WHO 57	09.7S	29 08.1W	S VLCN05MV
2322	15/12/80	COGV	GC-2 STA-06	WHO 57	12.5S	29 12.9W	S VLCN05MV
1037	16/12/80	COGV X	GC-3 STA-10 NO SAMP	WHO 57	12.5S	28 27.0W	S VLCN05MV
2055	16/12/80	COGV X	GC-4 STA-14 NO SAMP	WHO 56	54.8S	28 28.5W	S VLCN05MV
9900			END SAMPLE INDEX				VLCN05MV