INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH, MAGNETIC AND SUBBOTTOM PROFILER DATA

PLUME EXPEDITION

LEG 4

Ref: 2000 2000 2000 2000 2000

R/V Thomas Washington

(Issued July 1990)

Recife, Brazil (8 March 1990) to Montevideo, Uruguay (11 April 1990)

Co-Chief Scientists:

John Orcutt (Scripps Institution of Oceanography) Don Forsyth (Brown University)

Post-Cruise Processing and Report Preparation by the Geological Data Center, Scripps Institution of Oceanography La Jolia, California 92093

Data Collection and Processing Funded by: NSF Grant Number OCE87-02835

NOTE: This is an index of underway geophysical data edited and processed 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.

GDC Cruise I.D.# 246

INFORMAL REPORT AND INDEX OF NAVIGATION AND UNDERWAY GEOPHYSICAL DATA

Processed by the Geological Data Center Scripps Institution of Oceanography

Contents:

Index Chart - gives track of cruise leg, dates, ports, and mileage of each type of data collected.

Track Charts - annotated with dates and hour ticks.

Profiles - depth, magnetic anomaly and gravity free air anomaly vs. distance. Sections of track having subbottom profile (airgun or watergun) records have a wide black line along the bottom of the profile. Sections having Sea Beam are indicated by a narrow black line.

Sample Index - list of beginning and end times and positions of all underway records as well as all other samples and measurements (geology, biology, physical oceanography, etc.) collected on the cruise leg.

NOTE: One or more of the underway data types may not be collected on a given cruise leg.

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, CA 92093,-0223. Phone (619)534-2752. Fax (619)534-5306.

- 1. Navigation listing with times and positions of course and speed changes, fixes and drift velocity.
- Depth compilation plots compilation plots at the traditional scale of 4in/degree longitude (1:1,000,000) are no longer produced for Sea Beam cruises. Custom plots may be requested of vertical beam (2&2/3 degree beam width) depths retrieved at one minute intervals of ship time.
- Plots of depths, magnetics or gravity profiles along track custom plots at various map and profile scales on Mercator projection may be requested.
- 4. Separate time series files of navigation, depth, gravity and magnetics as well as these data merged in the MGD77 Exchange format on magnetic tape.
- 5. Microfilm or Xerox copies of:
 - a. Echosounder records 12 and 3.5 kHz frequency
 - b. Subbottom profiler records
 - c. Magnetometer records
 - d. Underway data log book

SIO Sea Beam Data Information

The following forms are available, subject to approval of the cruise leg chief scientist:

1) Archive copy of contour swath books generated in real time on board ship available for inspection at the data center.

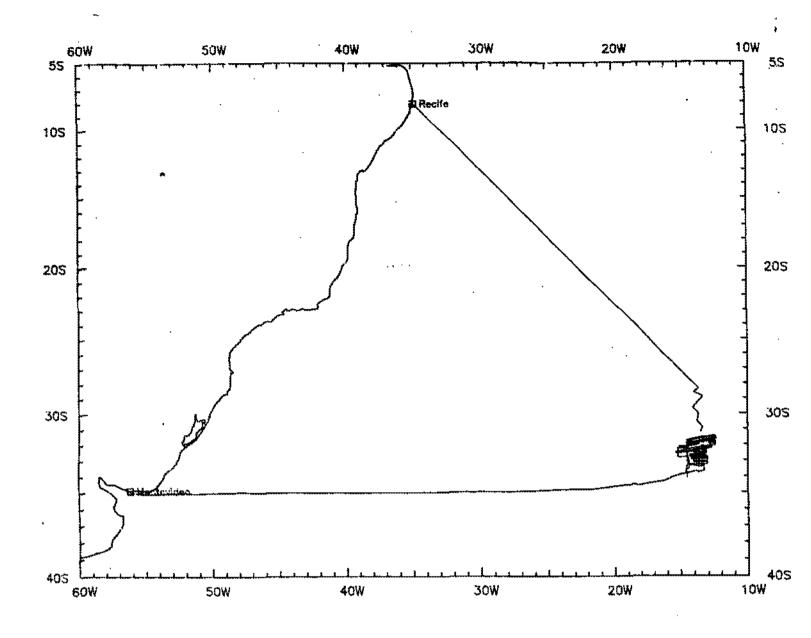
2) Microfilm (35mm flowfilm) containing swath books plus, for some cruises, the Sea Beam monitor record and navigation list.

3) Sea Beam merged tapes - Sea Beam data merged with navigation. (Navigation is edited to the extent that DR courses and speeds are edited and poor fixes are removed after inspection of drift vectors between fix pairs. No editing is done on the basis of adjusting to overlapping Sea Beam swaths.)

4) Archive contour plots - 16"/degree chart scale, with contour interval nominally 50m, are generated for all transit lines. Some survey areas are plotted at appropriate scales as well. Available for inspection at data center; additional copies may be generated from plot files stored on tape.

5) Custom generated plots of Sea Beam swaths on Mercator projection in four colors at variable plot scales and contour intervals. There are provisions to adjust positions of individual track lines and to edit out beams (bad data or overlapping data on inside of turns).

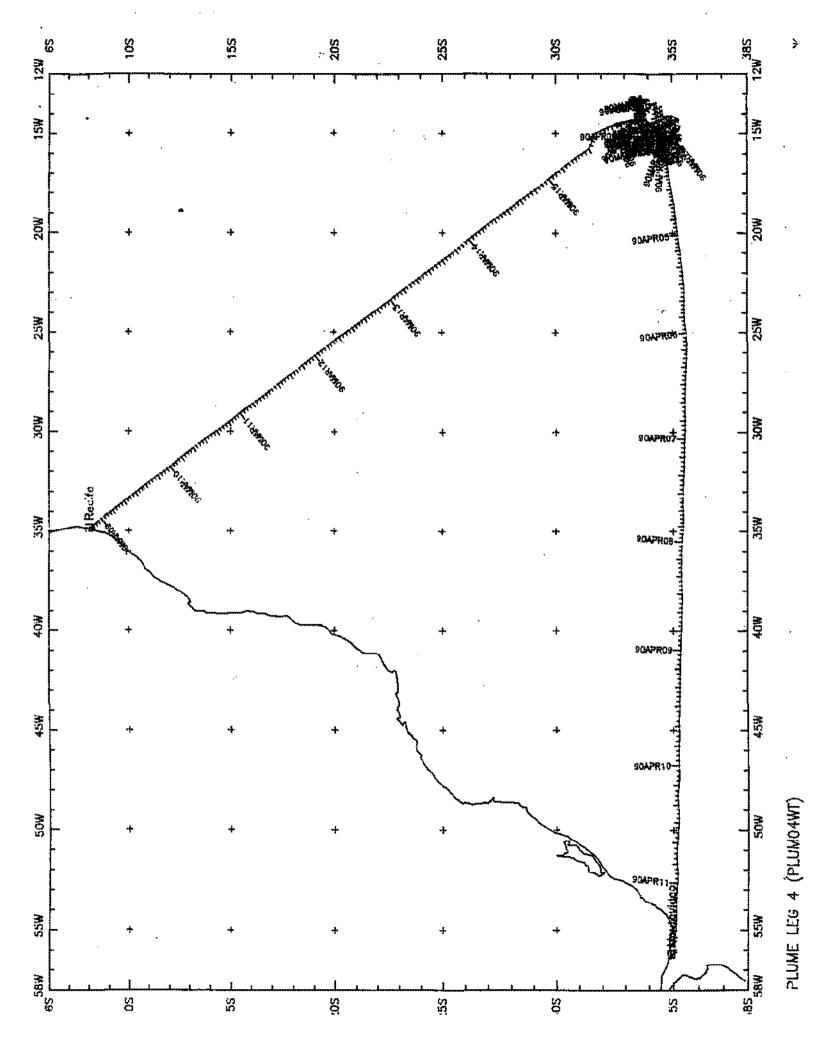
Revised October 1986

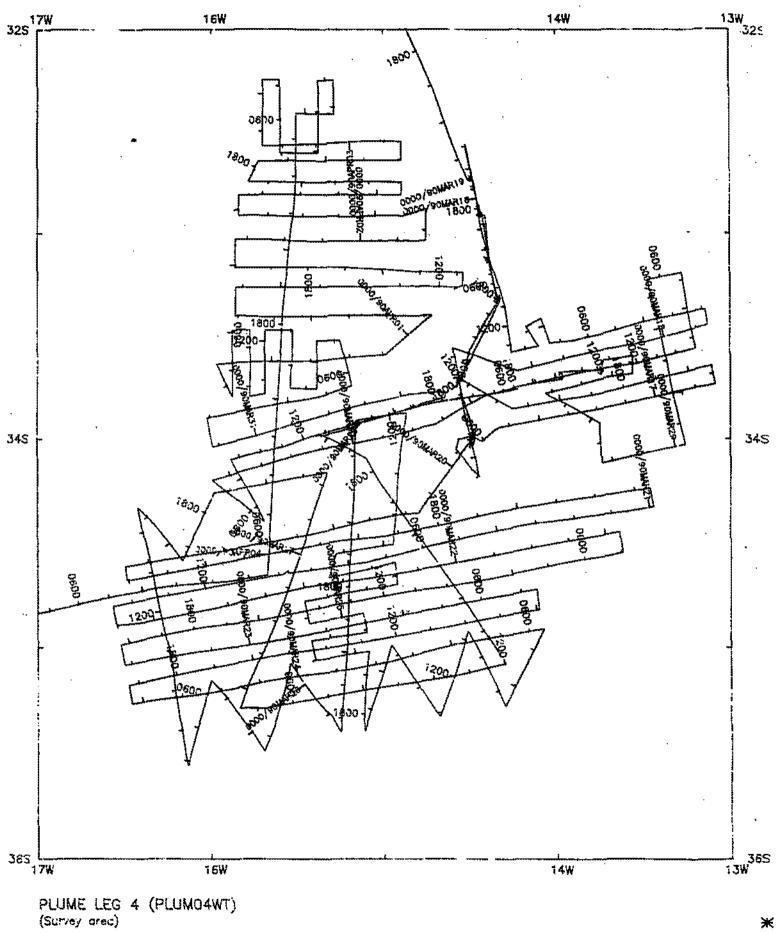


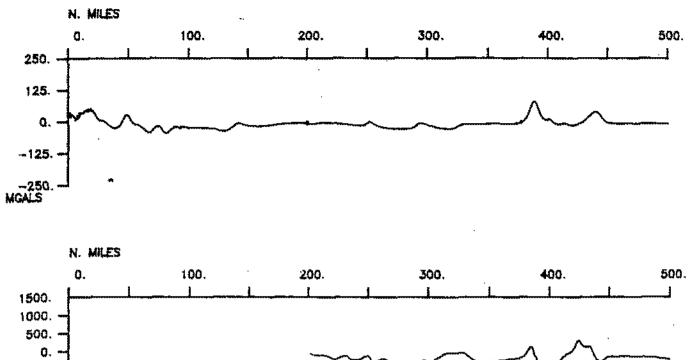
PLUME EXPEDITION LEG 4

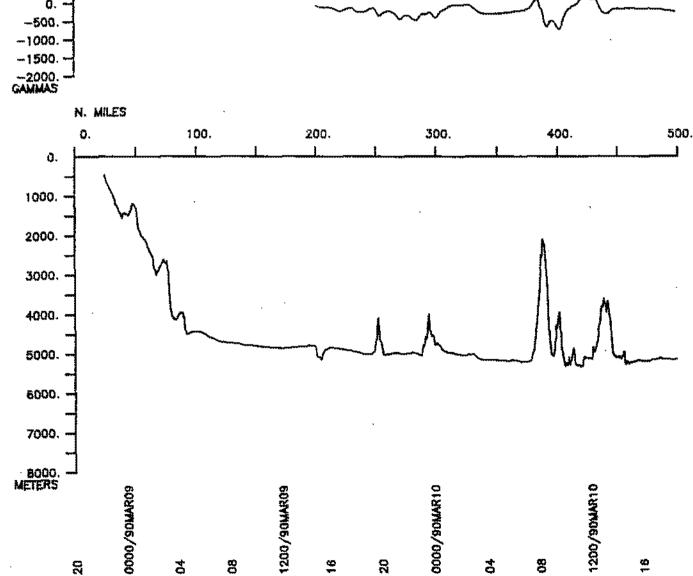
CO-CHIEF SCIENTISTS: J. Orcutt - Scripps Institution of Oceanography D. Forsyth - Brown University PORTS: Recife, Brazil - Montevideo, Uruguay DATES: 8 March - 11 April 1990 SHIP: R/V T. Washington

TOTAL MILEAGE OF UNDERWAY DATA COLLECTED 1) Cruise - 8142 miles 2) Bathymetry - 7917 miles 3) Magnetics - 7210 miles 4) Seismic Reflection - none collected 5) Gravity - 8142 miles 6) Sea Beam - 7917 miles





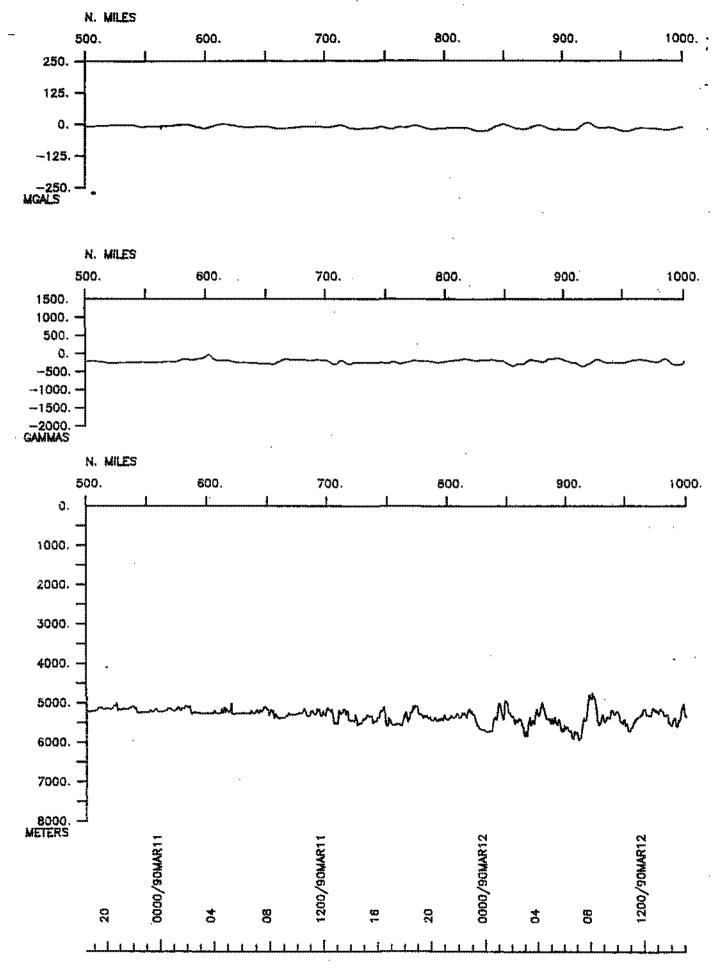




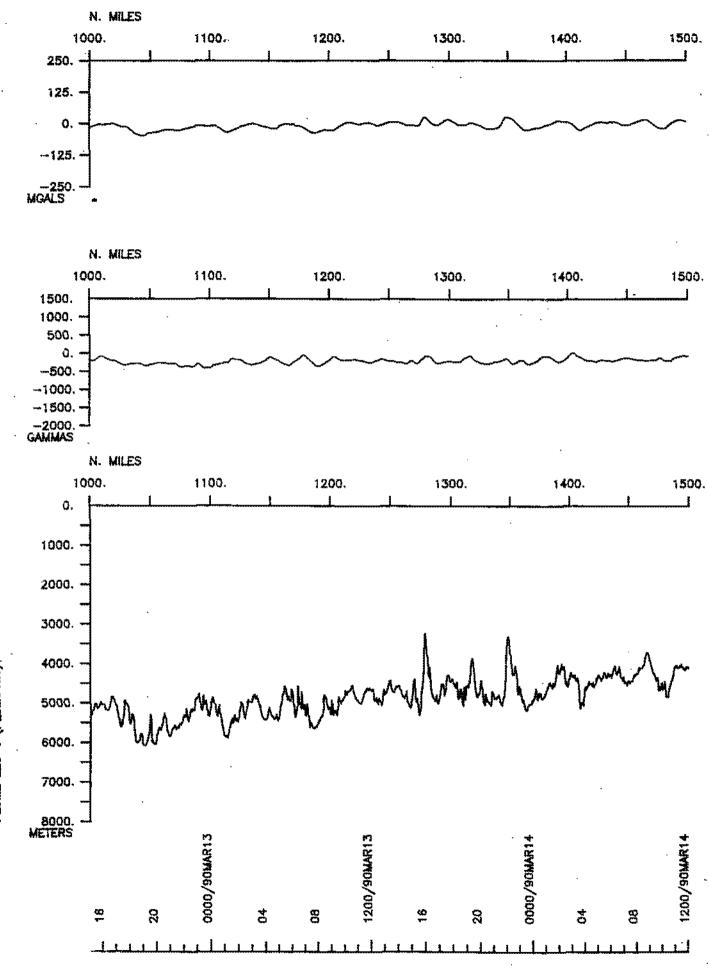
18

PLUME LEG 4 (PLUNO4WT)

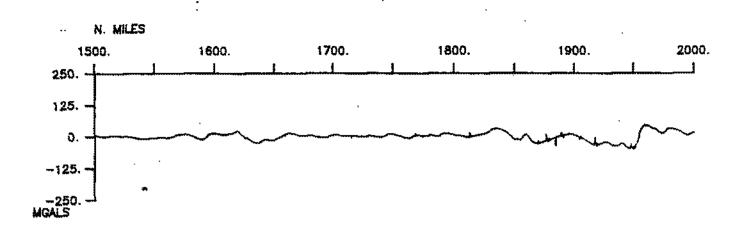
FABEAM

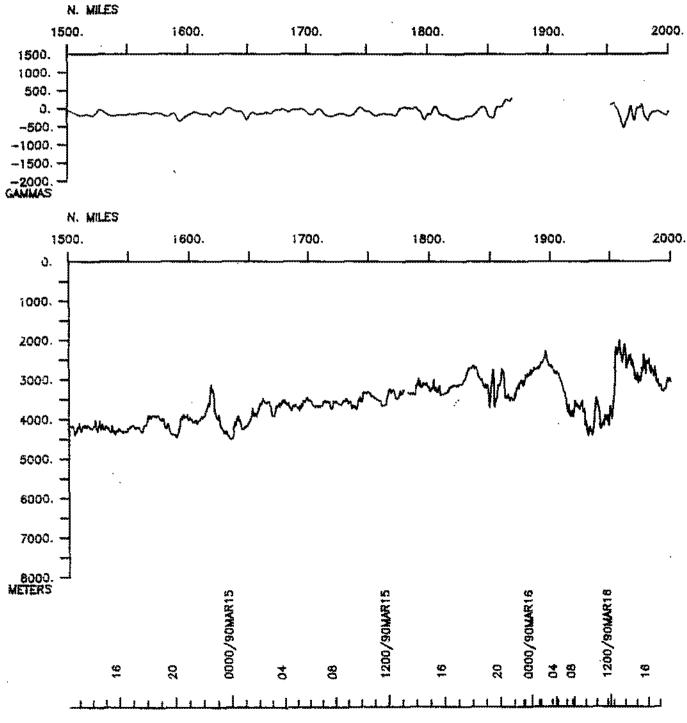


PLUME LEG 4 (PLUMONNT)

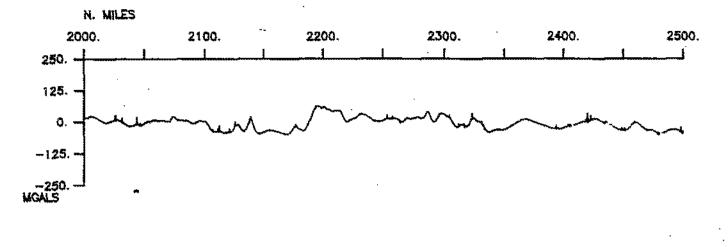


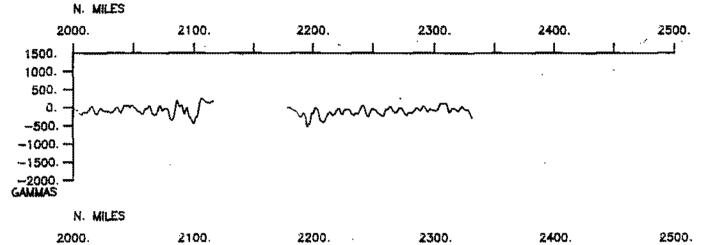
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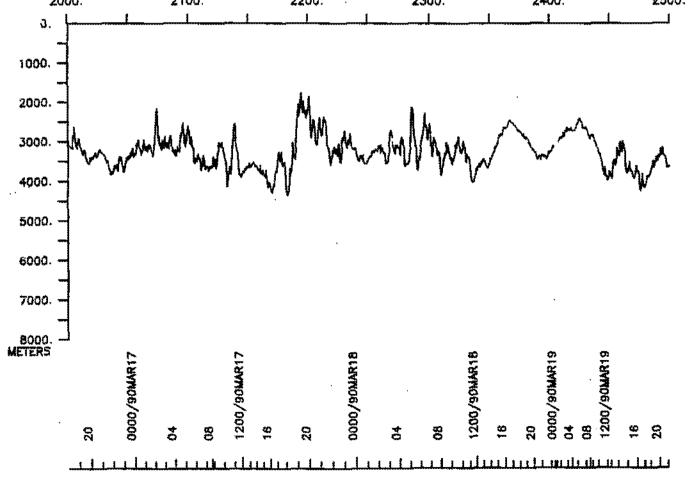


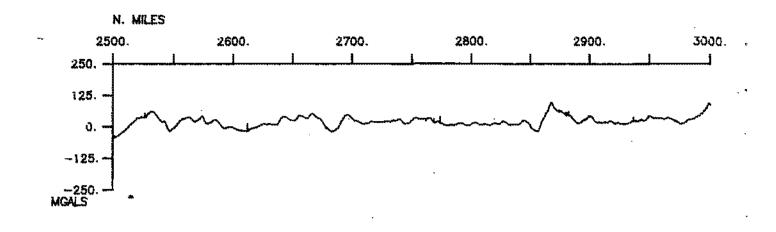


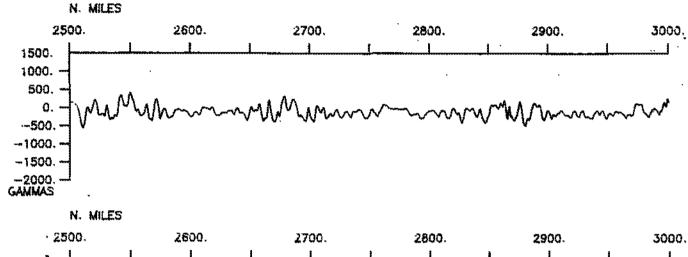
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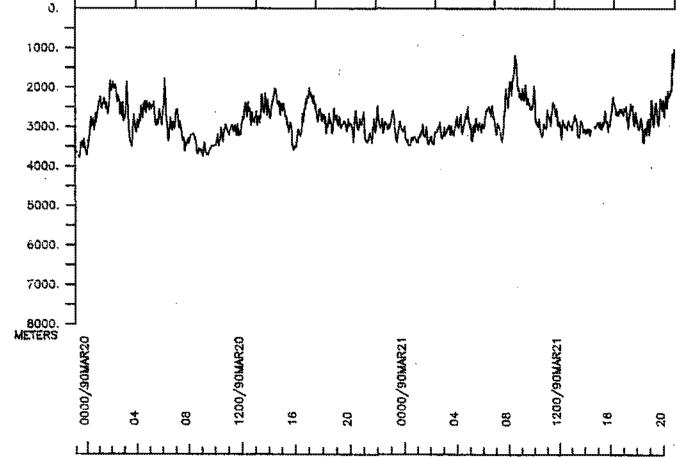




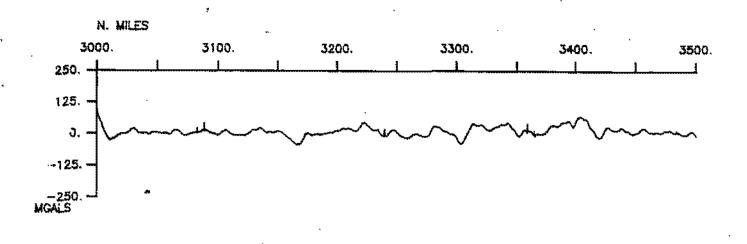


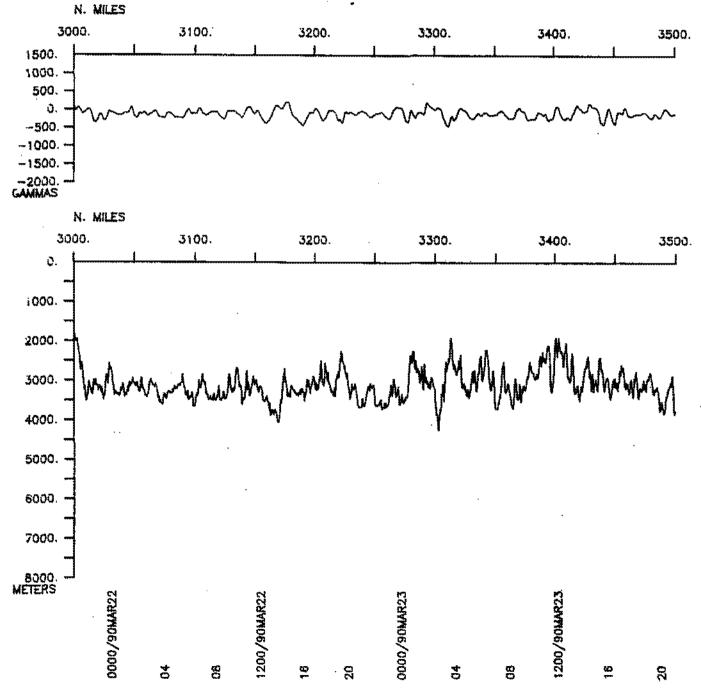




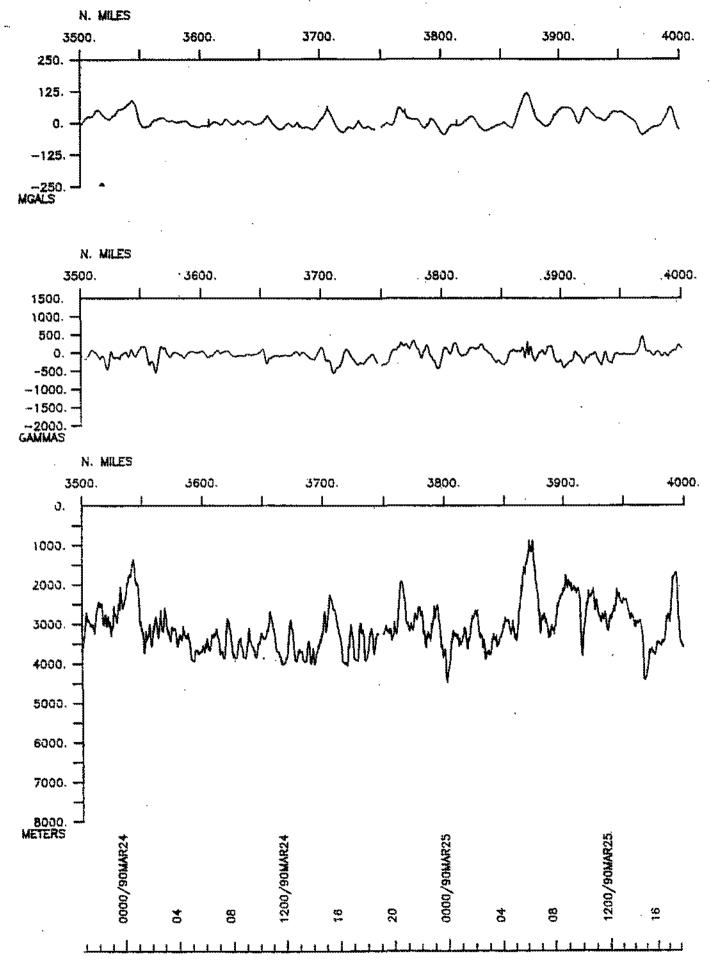


PLUME LEG 4 (PLUMOANT).

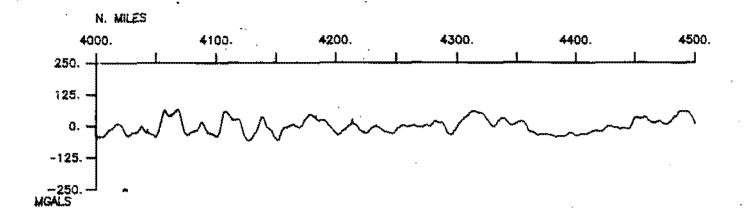


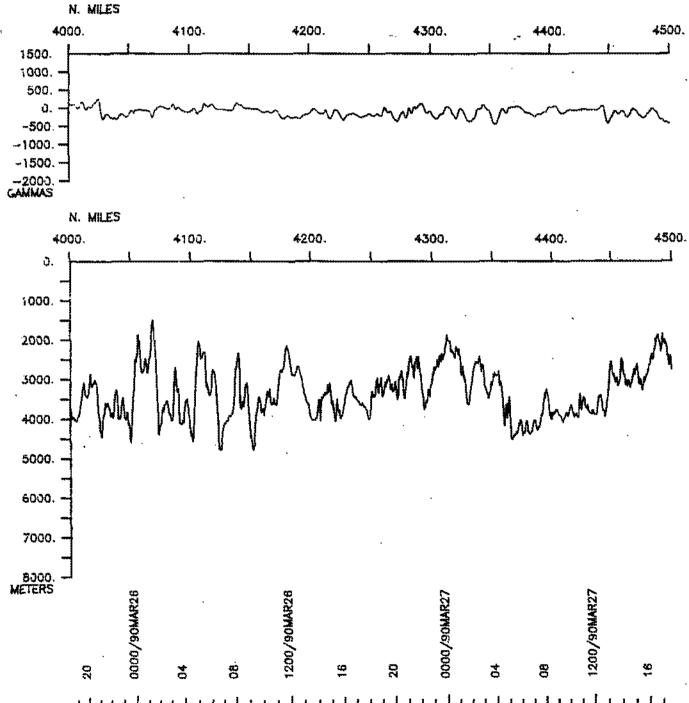


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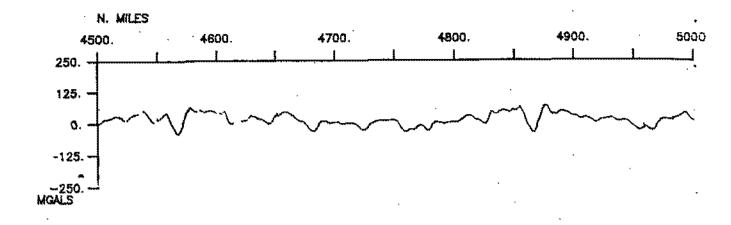


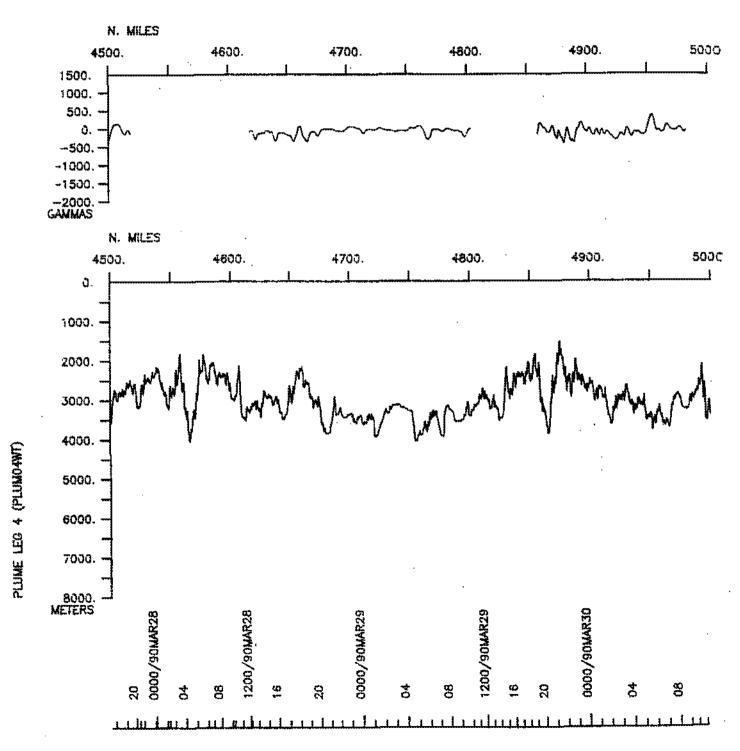
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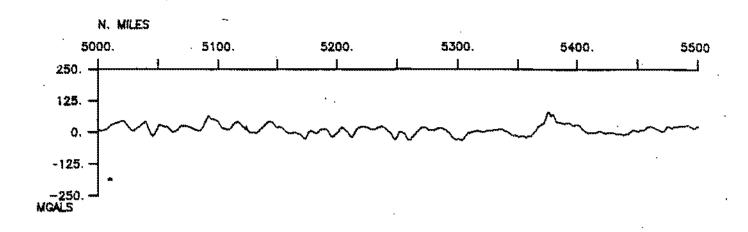


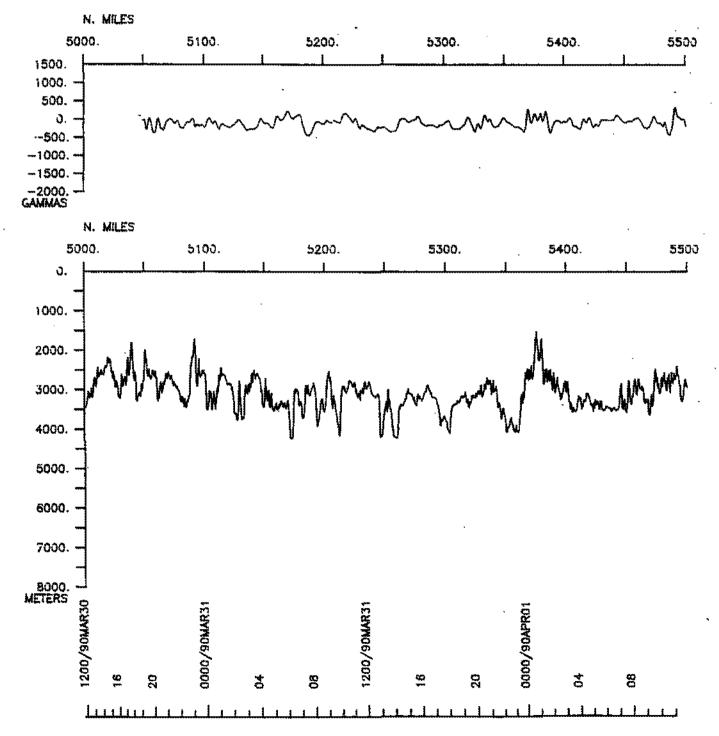


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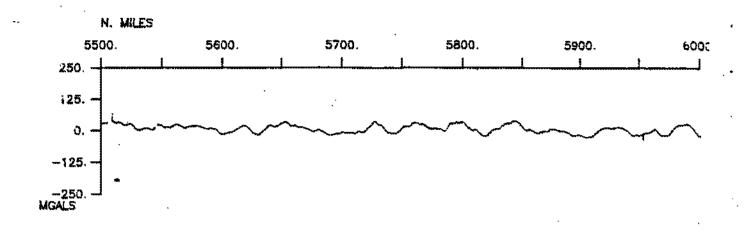


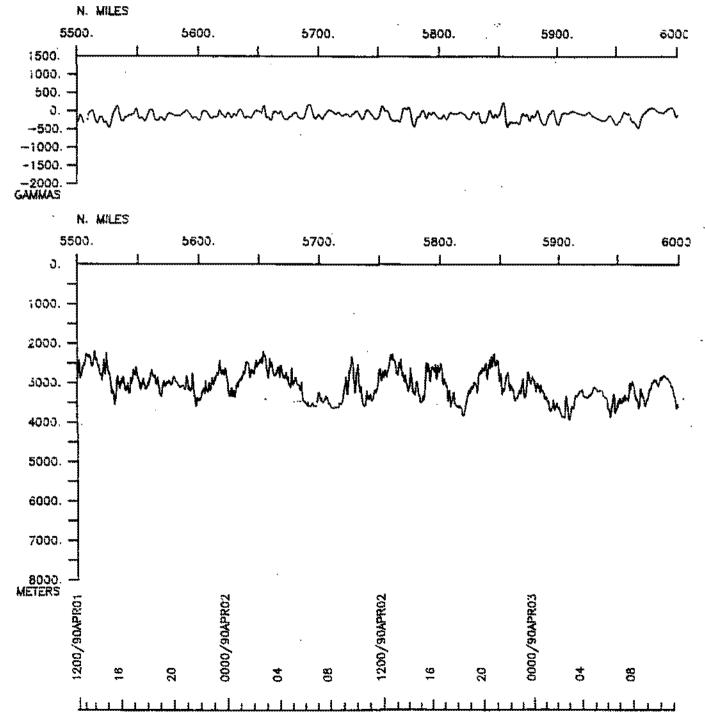




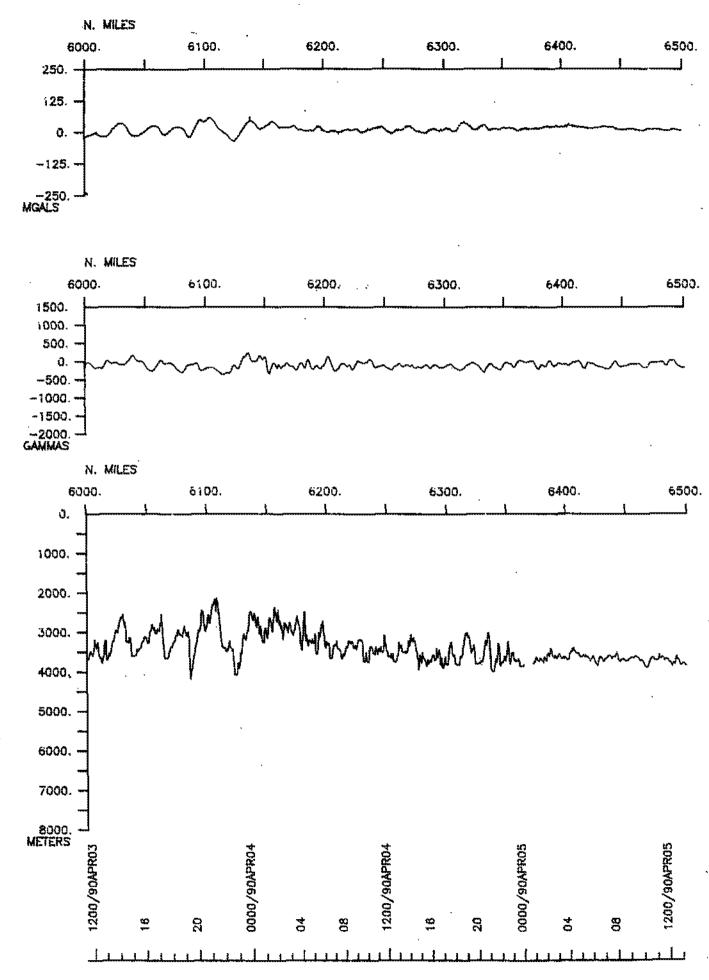


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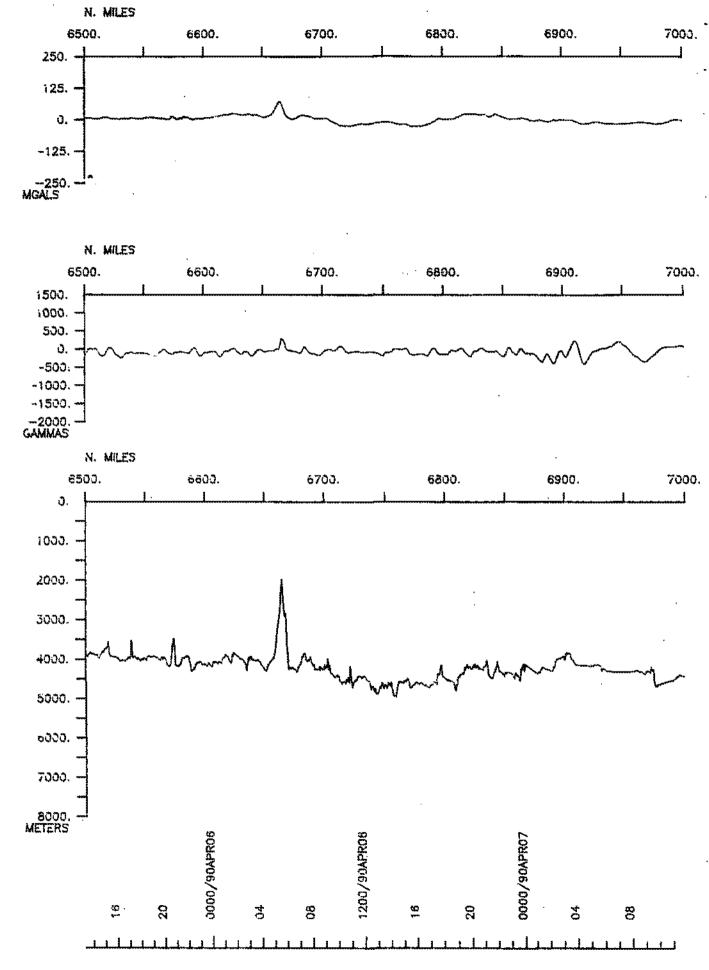




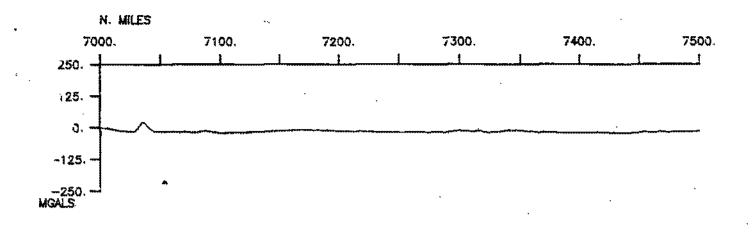
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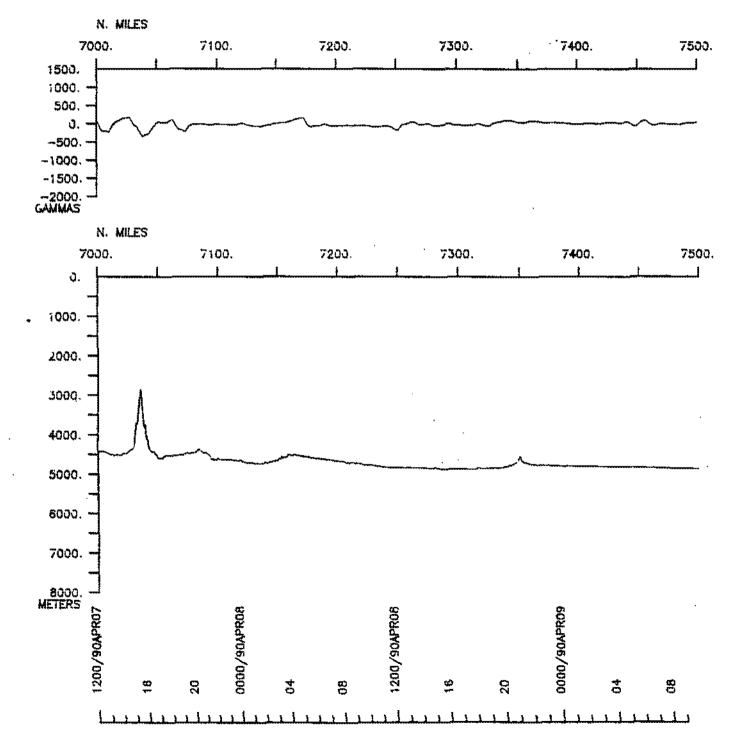


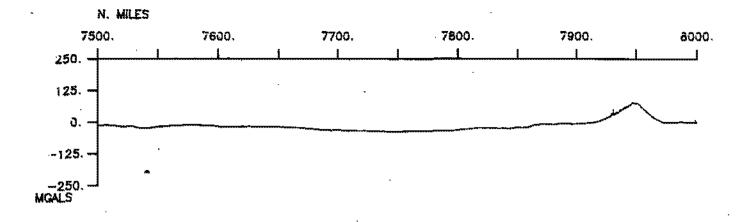
PLUME LEG 4 (PLUMO4WT)

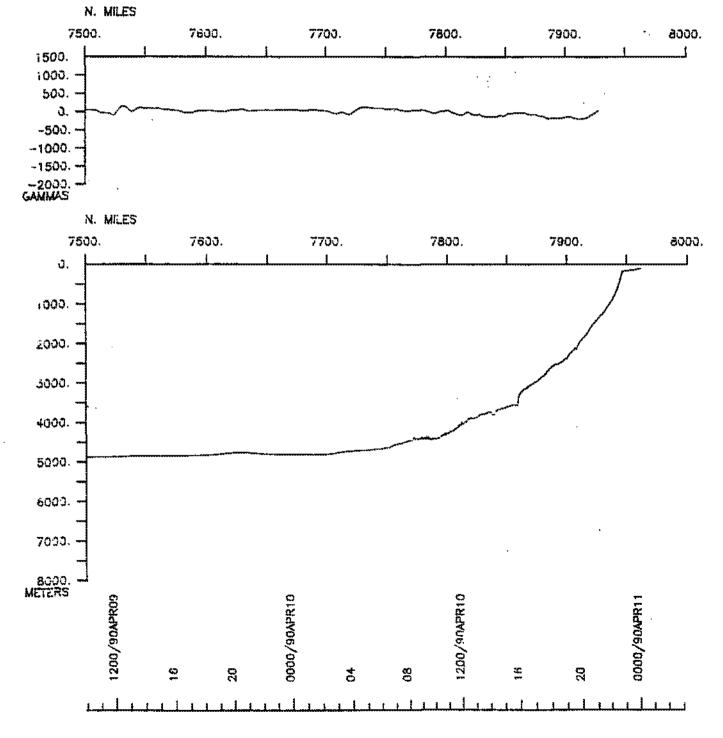


PLUME LEG + (PLUMO4WT)

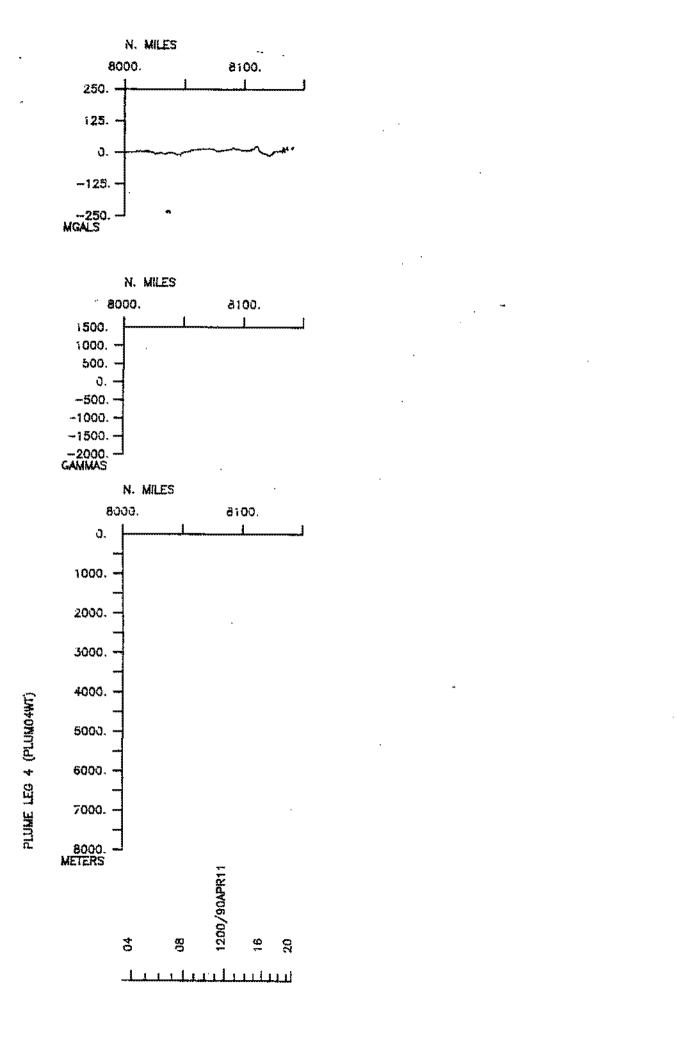








PLUME LEG 4 (PLUMO4WT)



S.I.O. SAMPLE INDEX

(Issued July 1990)

PLUME EXPEDITION

R/V T. Washington

Leg 4

Recife, Brazil (8 March 1990) to Montevideo, Uruguay (11 April 1990)

Co-Chief Scientists:

J. Orcutt (Scripps Institution of Oceanography)

D. Forsyth (Brown University)

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 marine 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 lines. Disposition and sample type are represented by three and four character codes to permit further computer searches on these parameters. (Listings defining these codes are available from the Geological Data Center.)

GDC Cruise I.D.# 246

#*** PORTS ***

1919 080390 1900 110490		B RECIFE, BRAZIL E MONTEVIDEO, URUGUAY		£PLUMO4WT £PLUMO4WT
	*			
#***PERSONN	EL***			
	NAME*	***TITLE***	***AFFILIATION***	**CRID**
PECS IGP O	RCUTT,J.	CO-CHIEF SCI.	SCRIPPS INSTITUTION	PLUM04WT
	ORSYTH, D.	CO-CHIEF SCI.	BROWN UNIVERSITY	PLUM04WT
	LACKMAN,D.	GRAD. STUDENT	BROWN UNIVERSITY	PLUMO4WT
	EUMANN,G.	GRAD. STUDENT	BROWN UNIVERSITY	PLUM04WT
	RANE, R.	SCIENTIST	BROWN UNIVERSITY	PLUM04WT
	EDLIN, M.	GRAD. STUDENT	SCRIPPS INSTITUTION	PLUM04WT
	ENT,G.	GRAD. STUDENT	SCRIPPS INSTITUTION	PLUMO4WT
	OLSTOY,M.	GRAD. STUDENT	SCRIPPS INSTITUTION	PLUM04WT
PEST UCS S	CHEIRER, D.	GRAD. STUDENT	U.OF CAL.SANTA CRUZ	PLUM04WT
PESP IGP W	ILLOUGHBY, D.	SCIENTIST	SCRIPPS INSTITUTION	PLUM04WT
PESP IGP H	OLLINSHEAD,C.	SCIENTIST	SCRIPPS INSTITUTION	PLUM04WT
PESP IGP J	OHNSON, R.	SCIENTIST	SCRIPPS INSTITUTION	PLUM04WT
PEBO STS S	MITH,S.	SEABEAM OPER.	SCRIPPS INSTITUTION	PLUM04WT
PEBE STS C	HARTERS, J.	SEABEAM ENGR.	SCRIPPS INSTITUTION	PLUM04WT
PECT STS E	BOUCHARD, G.	COMPUTER TECH	SCRIPPS INSTITUTION	PLUM04WT
	ILSON,R.	EXPLOSIVES TECH	SCRIPPS INSTITUTION	PLUMO4WT
PERT STS M	IOGK,S.	RESIDENT TECH	SCRIPPS INSTITUTION	PLUM04WT

#***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 A PARTICULAR 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. POSITIONS ARE IN TENTHS #OF MINUTES.

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#GMT DDMMYY LOC T #TIME DATE TIME Z #	SAMP CODE	SAMPLE IDENTIFIER		DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
#***UNDERWAY DATA							
#*** LOG BOOKS **	*						
2150 080390 0028 110490	LBUW B LBUW E	UNDERWAY LOG UNDERWAY LOG	BOOK BOOK	GDC GDC	8-205S 35-081S	34-381W 52-474W	sPLUMO4WT sPLUMO4WT
1919 080390 1900 110490	LBSC B LBSC E	ORCUTT LOG ORCUTT LOG		IGP IGP			sPLUMO4WT sPLUMO4WT
1919 080390 1900 110490	LBSC B LBSC E	FORSYTH LOG FORSYTH LOG		BWN BWN	8-039S 34-576S	34-523W 56-133W	sPLUMO4WT sPLUMO4WT
#*** SEISMIC RUN	- REFRACT	ION/REFLECTIO	N ***				
1103 170390 1722 170390	SRCS B SRCS E	SEISMIC LINE SEISMIC LINE	1 1	IGP IGP	34-106S 33-339S	14-268W 14-358W	sPLUMO4WT sPLUMO4WT
1105 180390 2058 180390	SRCS B SRCS E	SEISMIC LINE SEISMIC LINE	2 2	IGP IGP	33-321S 32-347S	14-159W 14-311W	sPLUMO4WT sPLUMO4WT
1028 290390 1915 290390	SRCS B SRCS E	SEISMIC LINE SEISMIC LINE	3 3	IGP IGP	33-356S 33-470S	13-216W 14-229W	sPLUMO4WT sPLUMO4WT
1001 300390 1815 300390	SRCS B SRCS E	SEISMIC LINE SEISMIC LINE	4 4	IGP IGP	34-038S 33-484S	15-424W 14-405W	sPLUMO4WT sPLUMO4WT
#*** OCEAN BOTTOM	SEISMOME	IER ***					
2221 150390 0113 190390	SBOB B SBOB E	OPUS DROP OPUS RCVD		IGP IGP			fPLUMO4WT fPLUMO4WT
0059 160390 0515 190390	SBOB B SBOB E	KAREN DROP KAREN RCVD		IGP IGP			fPLUMO4WT fPLUMO4WT
0357 160390 0916 190390	SBOB B SBOB E	JUDY DROP JUDY RCVD		IGP IGP			fPLUMO4WT fPLUMO4WT
0652 160390 1305 190390	SBOB B SBOB E	PHRED DROP PHRED RCVD		IGP IGP			fPLUMO4WT fPLUMO4WT
1131 160390 1825 190390	SBOB B SBOB E	JANICE DROP JANICE RCVD		IGP IGP			fPLUMO4WT fPLUMO4WT
0746 170390 2239 190390		SHARYN DROP Sharyn RCVD					fPLUMO4WT fPLUMO4WT

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#GMT DDMMYY LOC T #TIME DATE TIME Z #	SAMP CODE	SAMPLE IDENTIFIER		DISP CODE	LAT.	LONG.	
2036 270390 1900 110490	SBOB B SBOB C	SHARYN DROP SHARYN CONT	1	IGP IGP	33–587S 34–576S	015-220W 056-133W	fPLUMO4WT fPLUMO4WT
2318 270390 1900 110490	SBOB B SBOB C	JANICE DROF JANICE CONT	1 9	IGP IGP	33-553S 34-576S	015-082W 056-133W	fPLUMO4WT fPLUMO4WT
0125 280390 1900 110490	SBOB B SBOB C	OPUS DROP OPUS CONT		IGP IGP	33–526S 34–576S	014-562W 056-133W	£PLUMO4WT £PLUMO4WT
0640 280390 1900 110490	SBOB B SBOB C	PHRED DROP PHRED CONT		IGP IGP			fPLUMO4WT fPLUMO4WT
0923 280390 1900 110490	SBOB B SBOB C	KAREN DROP KAREN CONT		IGP IGP			fPLUMO4WT fPLUMO4WT
1158 280390 1900 110490	SBOB B SBOB C	JUDY DROP JUDY CONT		IGP IGP	33-402S 34-576S	013-439W 056-133W	fPLUMO4WT fPLUMO4WT
#*** SEA BEAM SWA	TH BOOKS	***					
2150 080390 1547 100390	MBSB E MBSB E	SB ARC SWAT SB ARC SWAT	TH BK O1 TH BK O1	GDC GDC	8-205S 14-176S	34-381W 30-009W	sPLUMO4WT sPLUMO4WT
1547 100390 1120 120390	MBSB E MBSB E	SB ARC SWAT SB ARC SWAT	TH BK 02 TH BK 02		14-176S 20-438S		sPLUM04WT sPLUM04WT
1120 120390 0600 140390	MBSB E MBSB F	S SB ARC SWAT SB ARC SWAT	TH BK 03 TH BK 03	GDC GDC	20-438S 27-010S	24-525W 19-352W	sPLUMO4WT sPLUMO4WT
0600 140390 0830 160390	MBSB H MBSB H	SB ARC SWAT	TH BK 04 TH BK 04	GDC GDC	27-010S 33-246S	19-352W 14-223W	sPLUMO4WT sPLUMO4WT
0830 160390 2155 180390		B SB ARC SWA' S SB ARC SWA'					sPLUMO4WT sPLUMO4WT
2155 180390 0756 210390		B SB ARC SWA E SB ARC SWA			32-405S 34-361S		sPLUMO4WT sPLUMO4WT
0756 210390 0245 220390		B SB ARC SWA E SB ARC SWA			34-361S 34-297S		sPLUMO4WT sPLUMO4WT
0245 220390 2137 240390		B SB ARC SWA E SB ARC SWA			34–297S 34–578S		sPLUMO4WT sPLUMO4WT
2137 240390 2005 260390		B SB ARC SWA E SB ARC SWA					sPLUMO4WT sPLUMO4WT

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#GMT DDMMYY LOC T #TIME DATE TIME Z #			DISP CODE LAT.	CRUISE LONG. LEG-SHIP
2005 260390	MBSB B SB	ARC SWATH BK 10	GDC 34-127S	15-395W sPLUMO4WT
0203 280390	MBSB E SB	ARC SWATH BK 10	GDC 33-523S	14-555W sPLUMO4WT
0203 280390	MBSB B SB	ARC SWATH BK 11	GDC 33-523S	14-555W sPLUMO4WT
1003 010490	MBSB E SB	ARC SWATH BK 11	GDC 33-158S	15-072W sPLUMO4WT
1003 010490	MBSB B SB	ARC SWATH BK 12	GDC 33-158S	15-072W sPLUMOÅWT
1305 040490	MBSB E SB	ARC SWATH BK 12	GDC 34-586S	18-008W sPLUMO4WT
1305 040490	MBSB B SB	ARC SWATH BK 13	GDC 34-586S	18-008W sPLUMO4WT
2230 070490	MBSB E SB	ARC SWATH BK 13	GDC 35-228S	35-144W sPLUMO4WT
2230 070490	MBSB B SB	ARC SWATH BK 14	GDC 35-2288	35-144W sPLUMO4WT
2308 100490	MBSB E SB	ARC SWATH BK 14	GDC 35-0958	52-286W sPLUMO4WT
#*** SEA BEAM MONIT	OR RECORDS	* * *		
2150 080390	MBMR B SB	MONITOR R-01	GDC 8-205S	34-381W sPLUMO4WT
2000 110390	MBMR E SB	MONITOR R-01	GDC 18-271S	26-420W sPLUMO4WT
2005 110390	MBMR B SB	MONITOR R-02	GDC 18-278S	26-414W sPLUMO4WT
1400 150390	MBMR E SB	MONITOR R-02	GDC 31-365S	15-225W sPLUMO4WT
1403 150390	MBMR B SB	MONITOR R-03	GDC 31-367S	15-218W sPLUMO4WT
1315 190390	MBMR E SB	MONITOR R-03	GDC 33-189S	14-195W sPLUMO4WT
1318 190390	MBMR B SB	MONITOR R-04	GDC 33-1908	14-195W sPLUMO4WT
0800 230390	MBMR E SB	MONITOR R-04	GDC 34-4918	14-069W sPLUMO4WT
0807 230390	MBMR B SB	MONITOR R-05	GDC 34-493S	14-083W sPLUMO4WT
0226 270390	MBMR E SB	MONITOR R-05	GDC 34-566S	15-393W sPLUMO4WT
0231 270390		MONITOR R-06	GDC 34-574S	15-397W sPLUMO4WT
1943 300390		MONITOR R-06	GDC 33-470S	14-503W sPLUMO4WT
1948 300390		MONITOR R-07	GDC 33-471S	14-513W sPLUMO4WT
2153 060490		MONITOR R-07	GDC 35-288S	29-519W sPLUMO4WT
2158 060490		MONITOR R-08	GDC 35-288S	29-531W sPLUMO4WT
0028 110490		MONITOR R-08	GDC 35-081S	52-474W sPLUMO4WT

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#GMT DDMMYY LOC T #TIME DATE TIME Z #	SAMP CODE	SAMPLE IDENTIFIER	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
		AL FIELD) RECORDS ***				
1440 090390	MGRA B	MAGNETICS R-01	GDC 1	10-405S		sPLUMO4WT
1412 180390	Mgra E	MAGNETICS R-01	GDC 3	33-145S		sPLUMO4WT
2302 190390	MGRA B	MAGNETICS R-02	GDC 3	34–006S		sPLUMO4WT
2225 010490	Mgra E	MAGNETICS R-02	GDC 3	33–023S ⁻ .		sPLUMO4WT
2232 010490	MGRA B	MAGNETICS R-03	GDC :	33-024S	15-271W	sPLUMO4WT
2104 100490	Mgra e	MAGNETICS R-03	GDC :	35-089S	51-596W	sPLUMO4WT
#*** GRAVITY RECORI)S ***					
1919 080390	GVCR E	GRAVIMETER R-01	GDC	8-039S	34-523W	sPLUMO4WT
1900 110490	GVCR E	GRAVIMETER R-01	GDC	34-576S	56-133W	sPLUMO4WT
#*** ECHO SOUNDER H	RECORDS	***				•
2150 080390	DPRT E	3 12 KHZ(W/3.5) R-01	GDC	8-205S	34-381W	sPLUMO4WT
2300 010490	DPRT E	12 KHZ(W/3.5) R-01	GDC	33-024S	15-209W	sPLUMO4WT
2305 010490 2119 030490	DPRT E DPRT E	8 12 KHZ R-02 12 KHZ R-02	GDC GDC			sPLUMO4WT sPLUMO4WT
2122 030490	DPRT E	12 KHZ R-03	GDC	34-035S	15-382W	sPLUMO4WT
0949 080490	DPRT E	12 KHZ R-03	GDC	35-212S	37-415W	sPLUMO4WT
0953 080490	DPRT H	3 12 KHZ(W/3.5) R-01	GDC	35-212S	37-424W	sPLUMO4WT
2336 100490	DPRT H	2 12 KHZ(W/3.5) R-01	GDC	35-089S	52-354W	sPLUMO4WT
2150 080390	DPR3 I	3 3.5 KHZ(W/12) R-01	GDC	8–205S		sPLUMO4WT
2300 010490	DPR3 I	2 3.5 KHZ(W/12) R-01	GDC	33–024S		sPLUMO4WT
0953 080490	DPR3 H	3 3.5 KHZ(W/12) R-02	GDC	35-212S	37-424W	sPLUMO4WT
2336 100490	DPR3 H	3 3.5 KHZ(W/12) R-02	GDC	35-089S	52-354W	sPLUMO4WT

TIME	DDMMYY LOC DATE TIME	Z	CODE		TIFI	ZR				LONG.	CRUISE LEG-SHIP
	EXPENDABLE [*]										
	090390		BTXP			PROBE				033-053W	fPLUM04W
	100390		BTXP			PROBE				030-284W	£PLUMO4W
	110390		BTXP			PROBE				027-541W	fPLUM04W
	120390		BTXP -			PROBE				025-007W	fPLUMO4W
	130390		BTXP			PROBE				022-025W	fPLUM04W
	140390		BTXP			PROBE				019-060W	fPLUMO4W
	150390		BTXP			PROBE				016-002W	fPLUMO4W
	160390		BTXP			PROBE				014-294W	fPLUMO4W
	170390		BTXP			PROBE				014-339W	fPLUM04W
949	180390		BTXP			PROBE		GDC	33-335S	014-089W	fPLUMO4W
	190390		BTXP			PROBE				014-223W	fPLUMO4W
	200390		BTXP	XBT	0014	PROBE	T-6	GDC	34-406S	016-273W	fPLUM04W
113	220390		BTXP	XBT	0015	PROBE	T-6	GDC	34-441S	014-522W	fPLUMO4W
012	230390		BTXP	XBT	0016	PROBE	Т-б	GDC	34-5358	014-353W	fPLUM04W
951	240390		BTXP	XBT	0017	PROBE	T-4	GDC	35-034S	014-256W	fPLUMO4W
.009	250390		BTXP	XBT	0018	PROBE	T-4	GDC	34-080S	014-548W	fPLUM04W
954	260390		BTXP	XBT	0019	PROBE	T-4	GDC	35~1318	016-127W	fPLUMO4W
003	260390		BTXP	XBT	0020	PROBE	T-4	GDC	35-113S	016-127W	fPLUMO4V
951	270390		BTXP	XBT	0021	PROBE	T-4	GDC	35-089S	014-433W	fPLUMO4V
000	270390		BTXP	XBT	0022	PROBE	T-4	GDC	35-086S	014-413W	fPLUMO4V
022	280390		BTXP	XBT	0023	PROBE	T-4	GDC	33-404S	013-566W	fPLUMO4V
.004	290390		BTXP	XBT	0024	PROBE	T-4	GDC	33-351S	013-194W	fPLUM04V
000	300390		BTXP	XBT	0025	PROBE	T-4	GDC	34-0358	015-419W	fPLUM04
952	310390		BTXP	XBT	0026	PROBE	T-4	GDC	33-398S	015-322W	fPLUM04V
956	010490		BTXP	XBT	0027	PROBE	T-4	GDC	33-156S	015-080W	fPLUMO4V
004	020490		BTXP	XBT		PROBE				015-269W	£PLUMO4V
	030490		BTXP			PROBE				015-171W	fPLUM04V
	040490					PROBE				017-283W	· fPLUMO4J
	050490		BTXP	XBT		PROBE				022-090W	fPLUM04
	060490		BTXP			PROBE				027-111W	EPLUMO4
•	070490		BTXP			PROBE				032-373W	fPLUMO4
	080490		BTXP			PROBE				038-013W	fPLUNO4
	090490		BTXP			PROBE				043-340W	fPLUMO4
	100490		BTXP			PROBE				049-318W	fPLUMO4V

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END SAMPLE INDEX