

**REPORT AND INDEX OF  
UNDERWAY MARINE GEOPHYSICAL DATA**

**GLORIA EXPEDITION**

**LEG 5**  
=====

R/V Melville

(Issued April 1993)

Papeete, Tahiti (8 February 1993)  
to  
Easter Island (20 March 1993)

Chief Scientist:

Richard Hey (University of Hawaii)

Resident Marine Technician - Seth Mogk

Computer Technician - Ron Moe

No Sea Beam/Underway Processor on board

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

Data Collection and Processing Funded by:  
NSF Grant Number OCE91-02183

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.  
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Geological Data Center, Scripps Institution of Oceanography,  
La Jolla, California 92093.

GDC Cruise I.D.# 261

**INFORMAL REPORT AND INDEX OF NAVIGATION  
AND UNDERWAY GEOPHYSICAL DATA**

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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 with seismic reflection data have a wide black line along the bottom of the profile).

**Sample Index** - list of begin/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. Internet Email:ssmith@ucsd.edu

1. Files on Exabyte, DAT or 1/2 inch magnetic tape:
  - a) Separate time series ASCII files of navigation, single beam depth, gravity and magnetics.
  - b) These same data in a merged ASCII file in the MGD77 Exchange format.
  - c) SeaBeam depth data (binary, Sun byte order) in SIO Swath Bathymetry format (not available on 1/2" tape).
  - d) SeaBeam Sidescan data (not available on 1/2" tape).
  
2. Microfilm (35mm flowfilm) or Xerox copies of:
  - a) Underway Watch log book.
  - b) SeaBeam vertical beam profile/Sidescan records.
  - c) Echosounder records - 3.5 kHz frequency.
  - d) Magnetometer records.
  - e) Seismic reflection profiler records.
  
3. Navigation listing with times and positions of fixes and course and speed changes.
  
4. Plots:
  - a) Copies of archived 1.2"/degree scale trackplots.
  - b) Copies of archived 8"/degree scale SeaBeam depth plots.
  - c) Custom plots in Mercator projection:
    - 1) Track plots.
    - 2) SeaBeam depth contour plots.
    - 3) Depth, magnetic or gravity values printed or profiled along track.

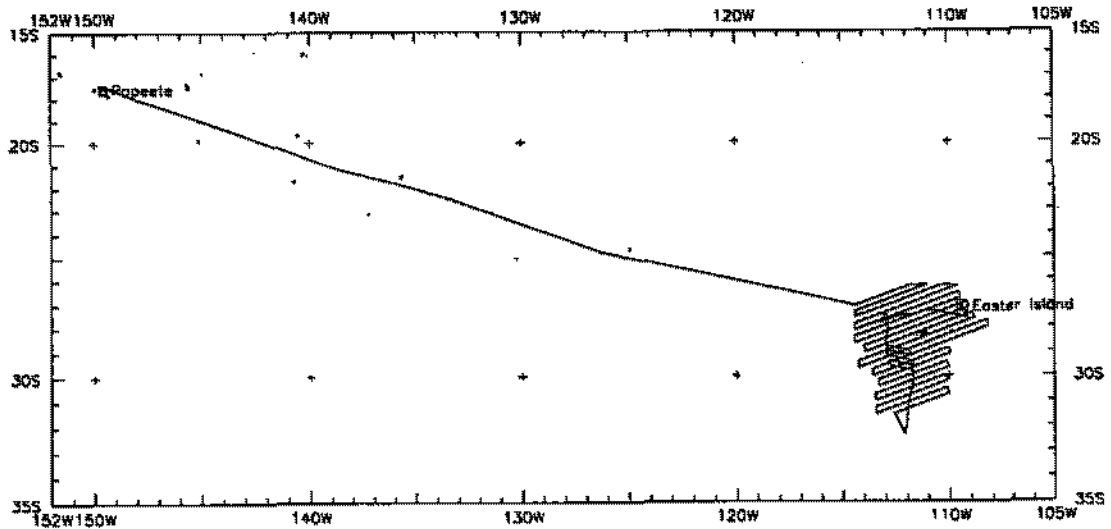
## SeaBeam 2000 Data Collected in Ancillary Mode

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In the absence of funding for SeaBeam operations on this leg, SeaBeam data were collected in "ancillary mode". In this mode of operation, no Hardware Technician or SB/Underway Processor were on board and the types of realtime records and post-processed data products are reduced from those available under the fully funded mode.

The SeaBeam data remain proprietary to the SIO Shipboard Technical Support Group, not the chief scientist.

May 1993



GLORIA Leg 5 (GLOR05MV)

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### GLORIA EXPEDITION LEG 5

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**CHIEF SCIENTIST:** Richard Hey, University of Hawaii

**PORTS:** Papeete, Tahiti - Easter Island

**DATES:** 8 February - 20 March 1993

**SHIP:** R/V Melville

#### TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

Cruise - 8269 miles

Magnetics - 6375 miles

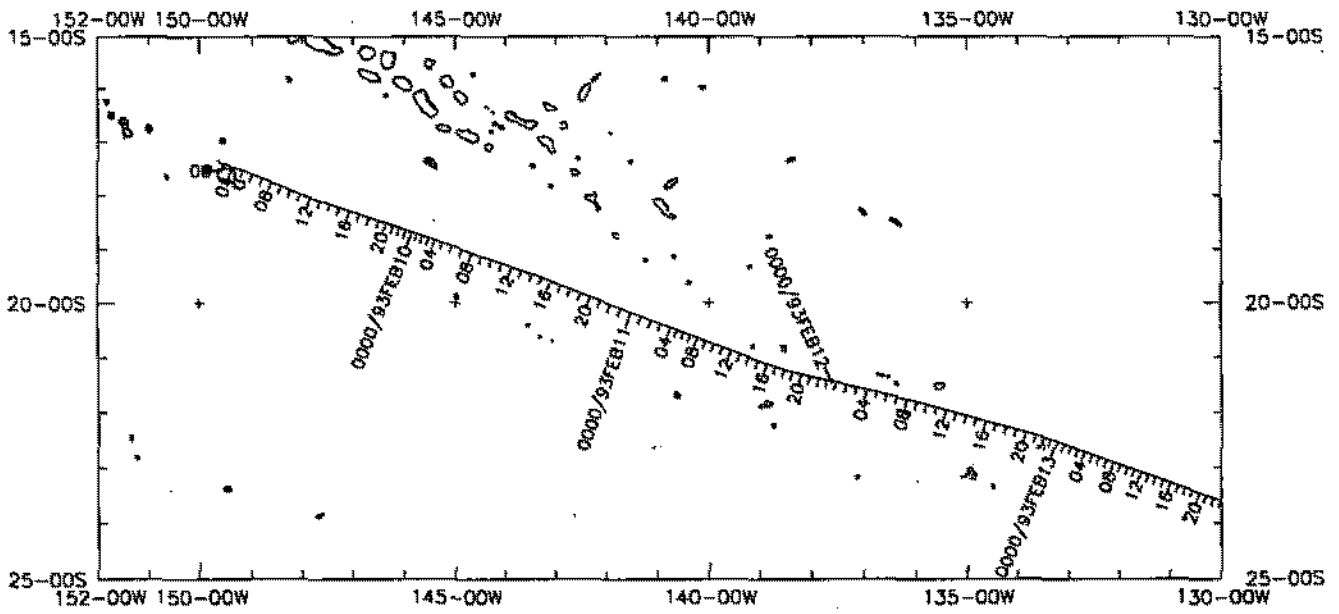
Bathymetry - 8210 miles

Seismic Reflection - none collected

Sea Beam - 8210 miles\*

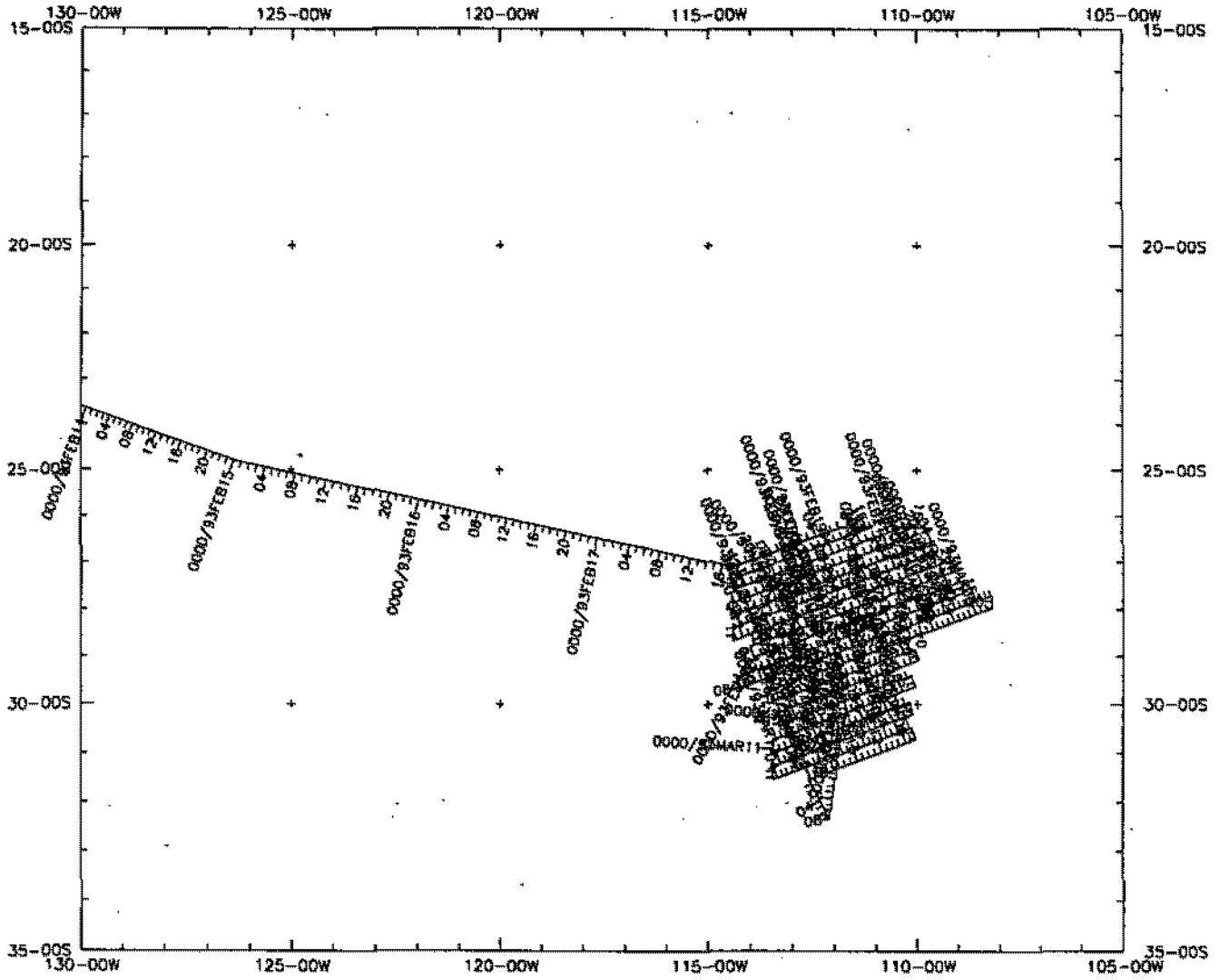
Gravity - 7319 miles

\*collected in ancillary mode



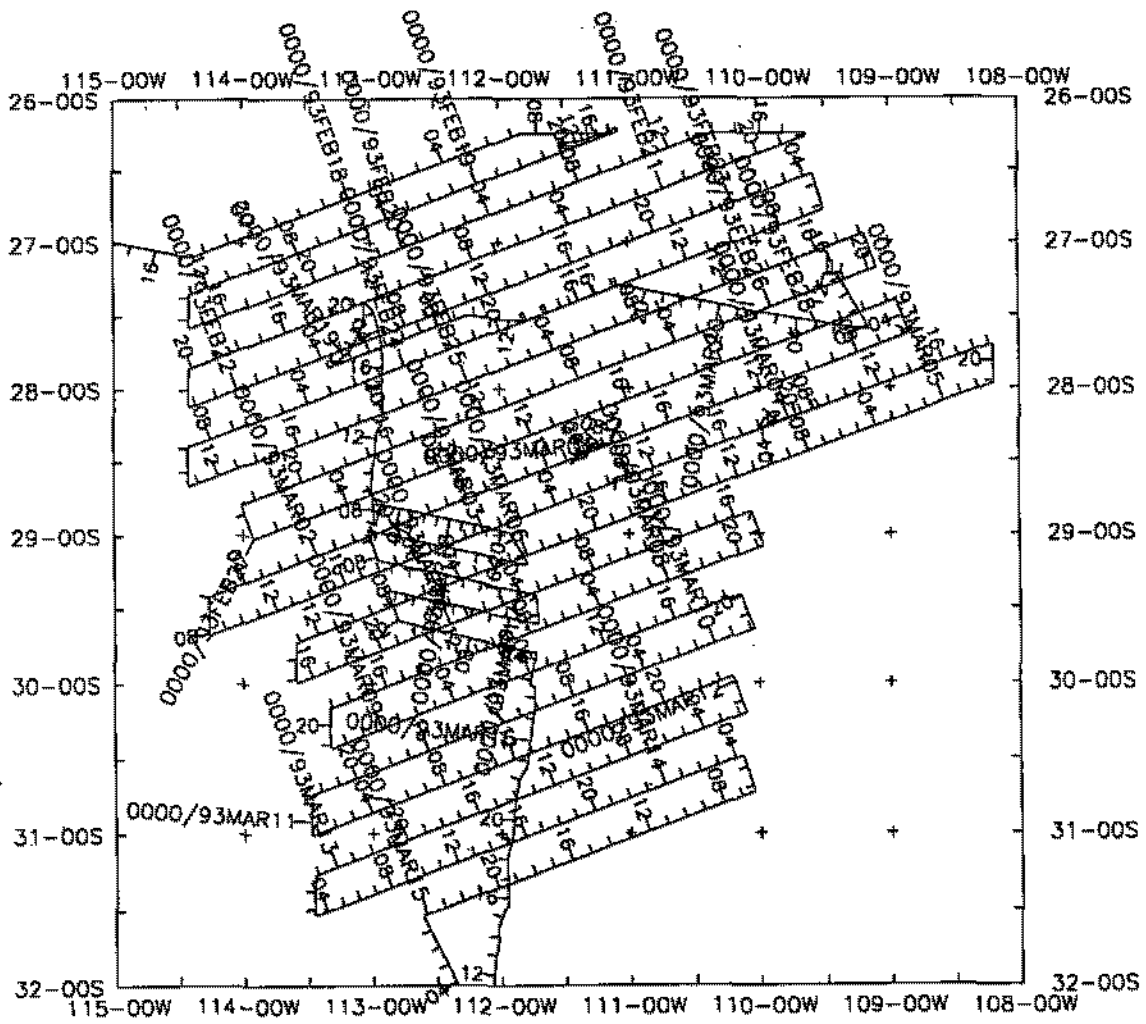
GLORIA Leg 5 (GLOR05MV) Track 1 of 2

\*



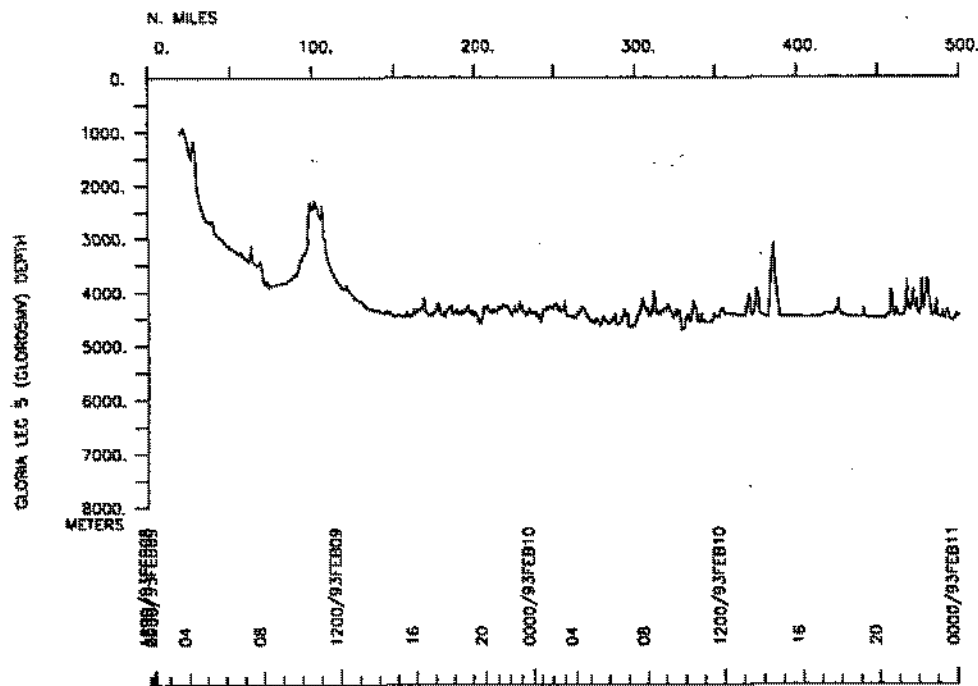
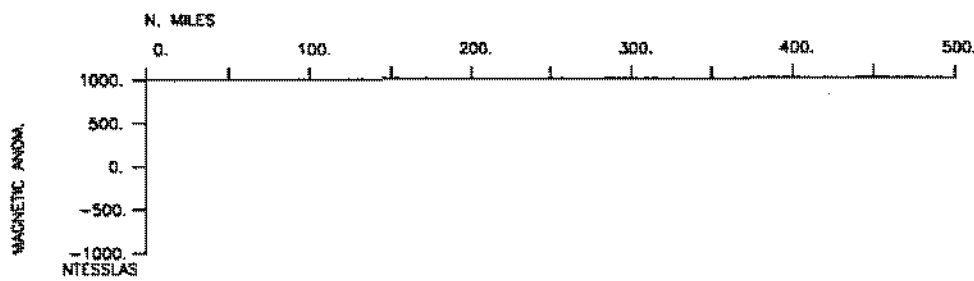
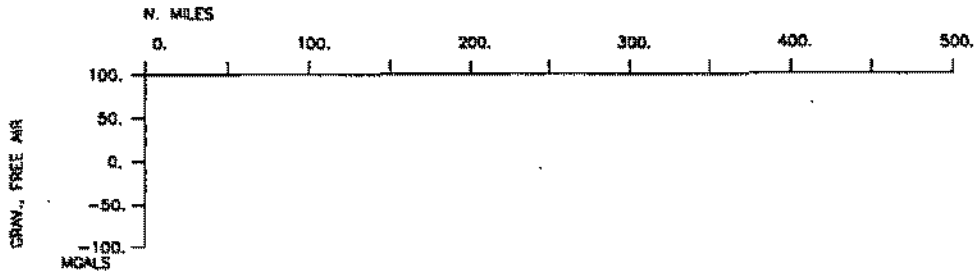
GLORIA Leg 5 (GLOROSMV) Track 2 of 2

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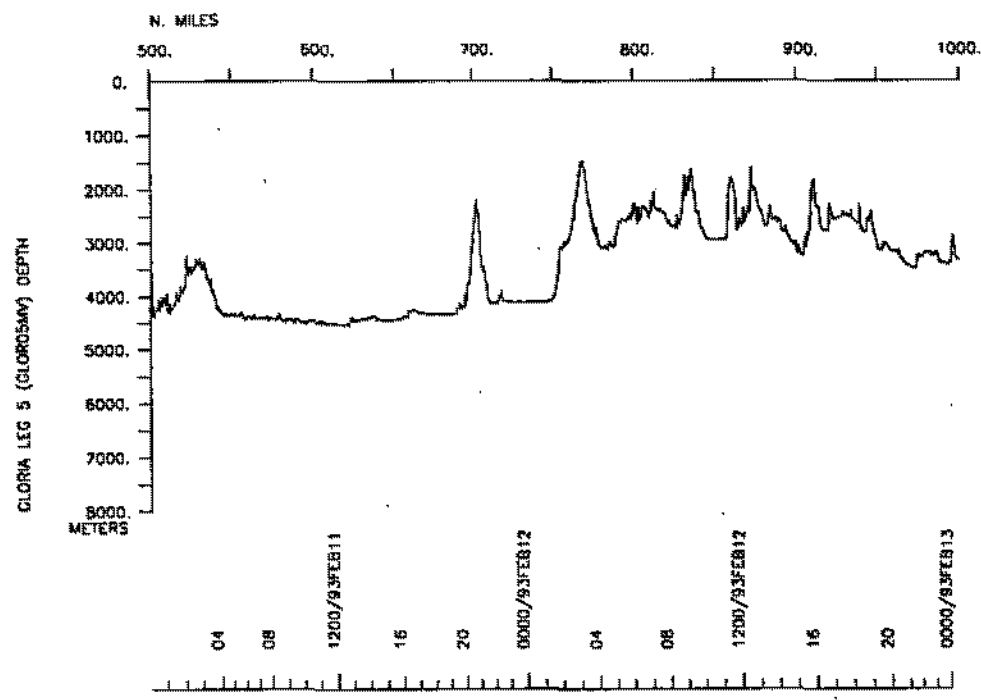
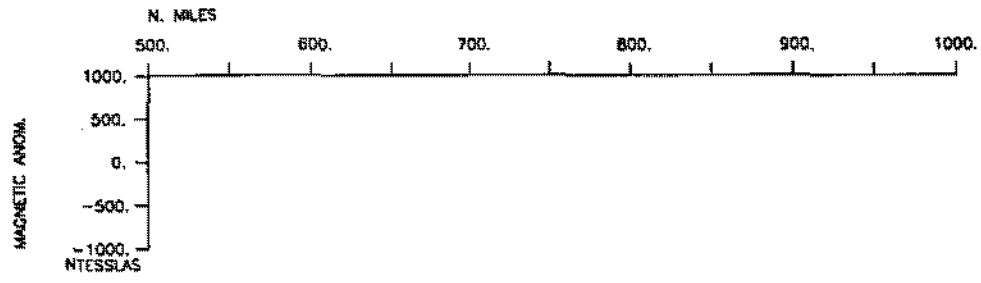
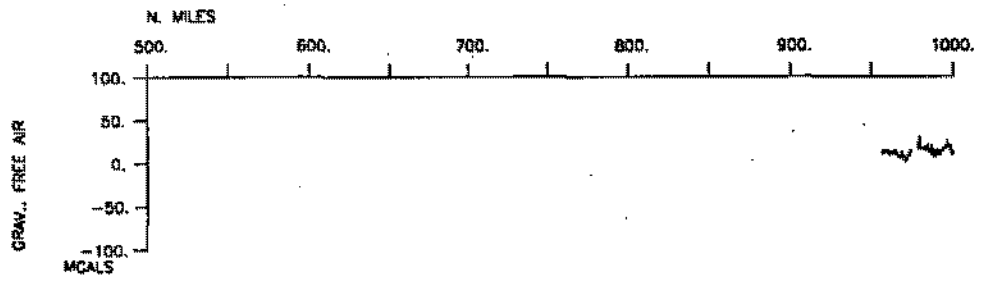


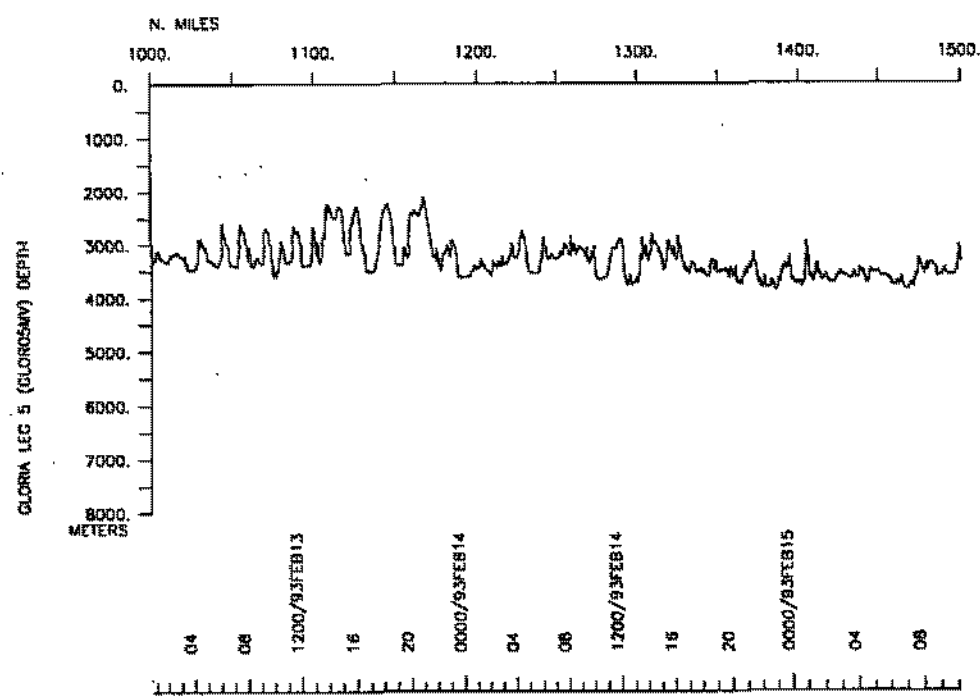
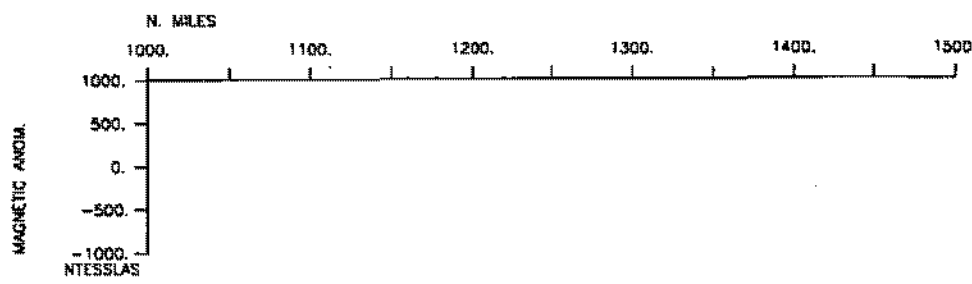
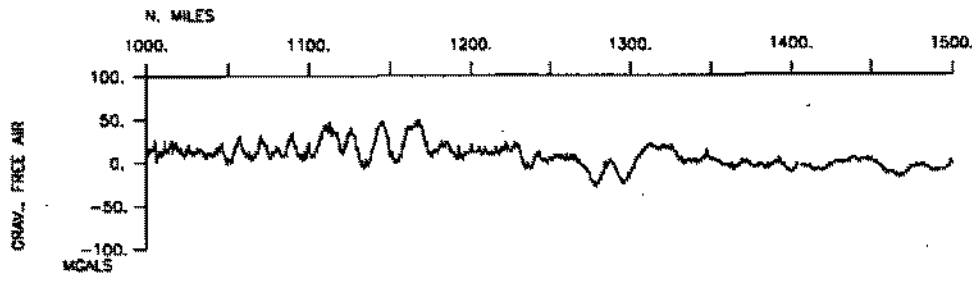
GLORIA Leg 5 (GLOR05MV) Survey area

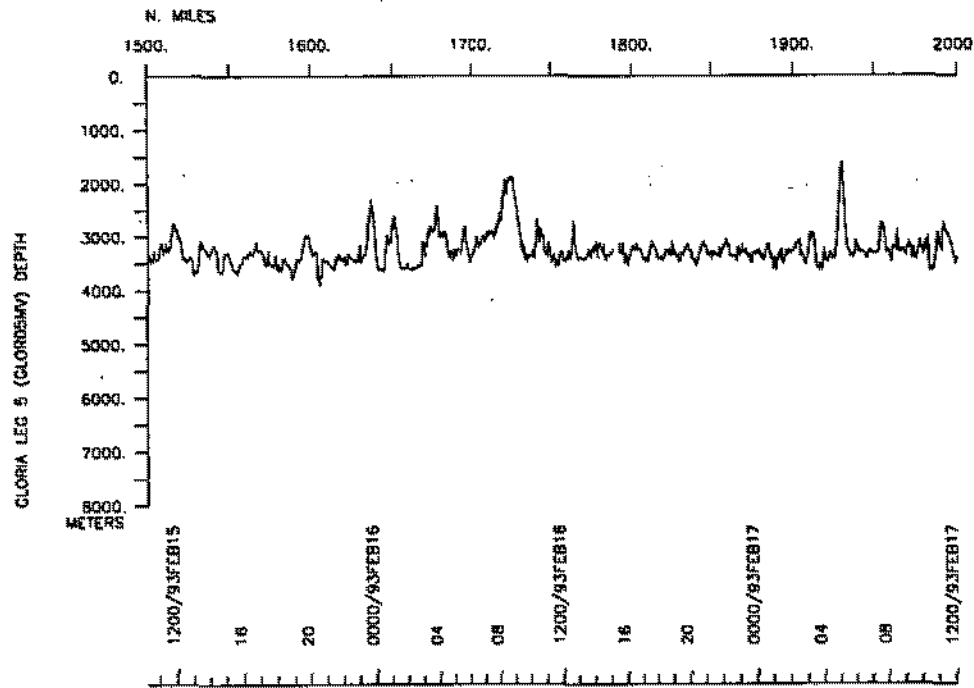
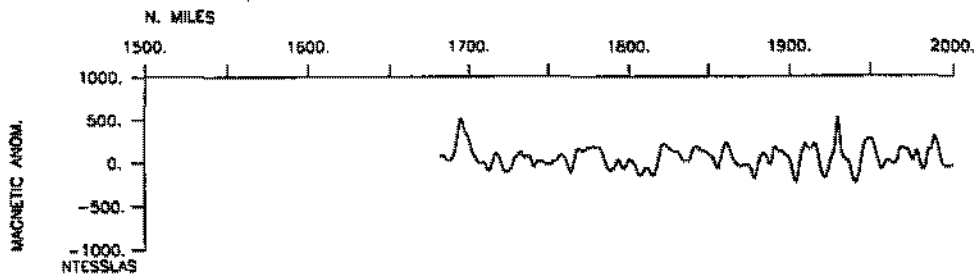
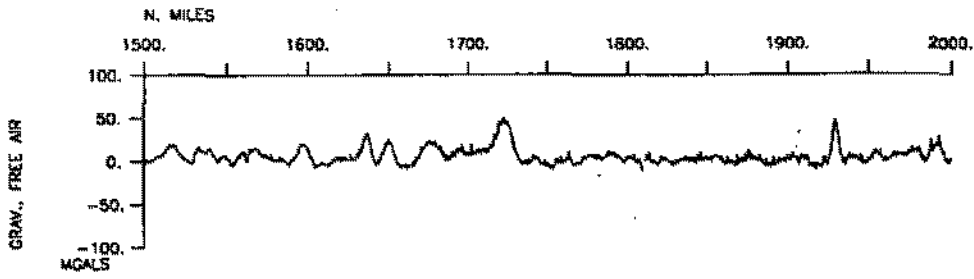
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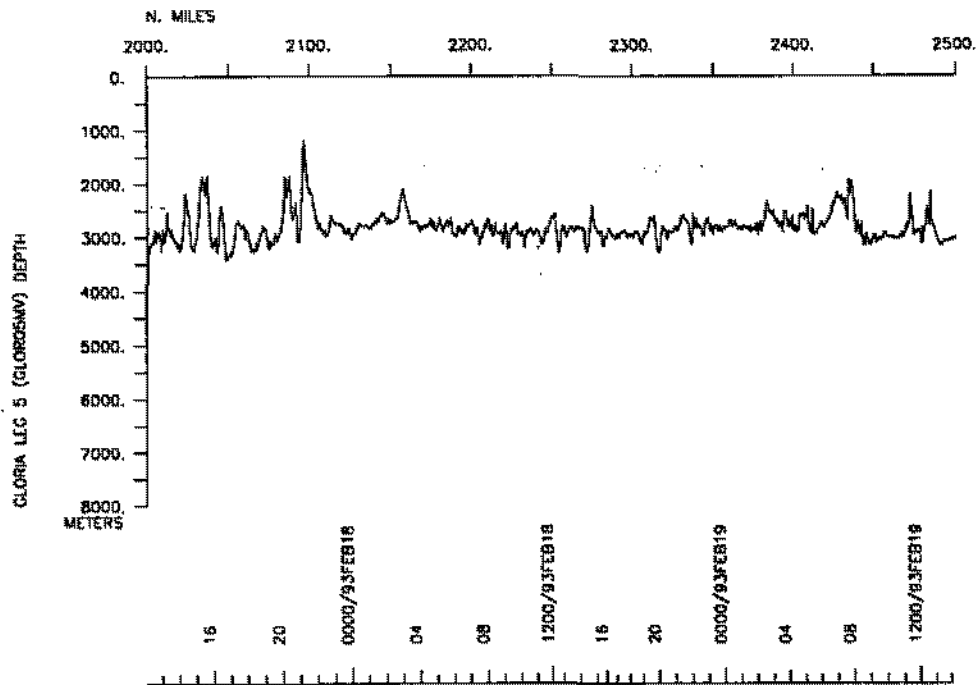
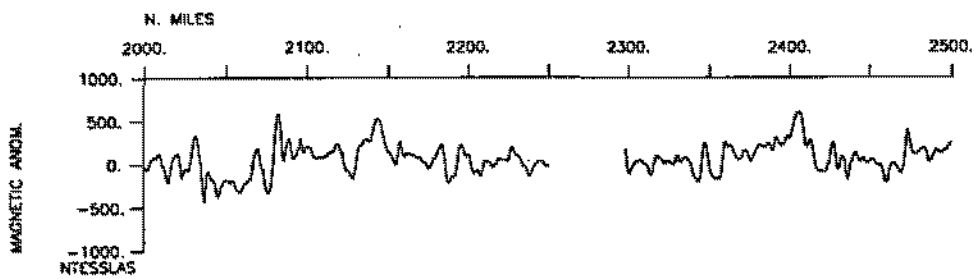
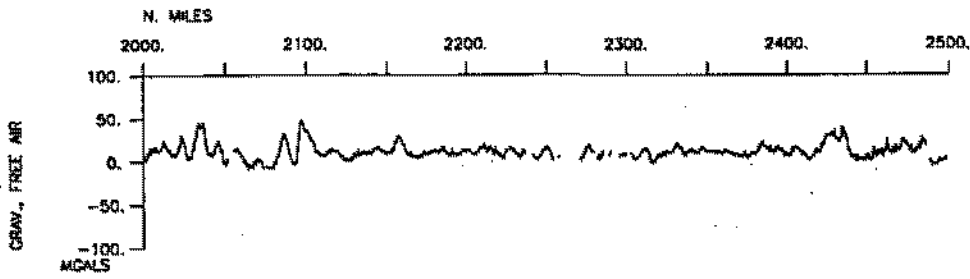


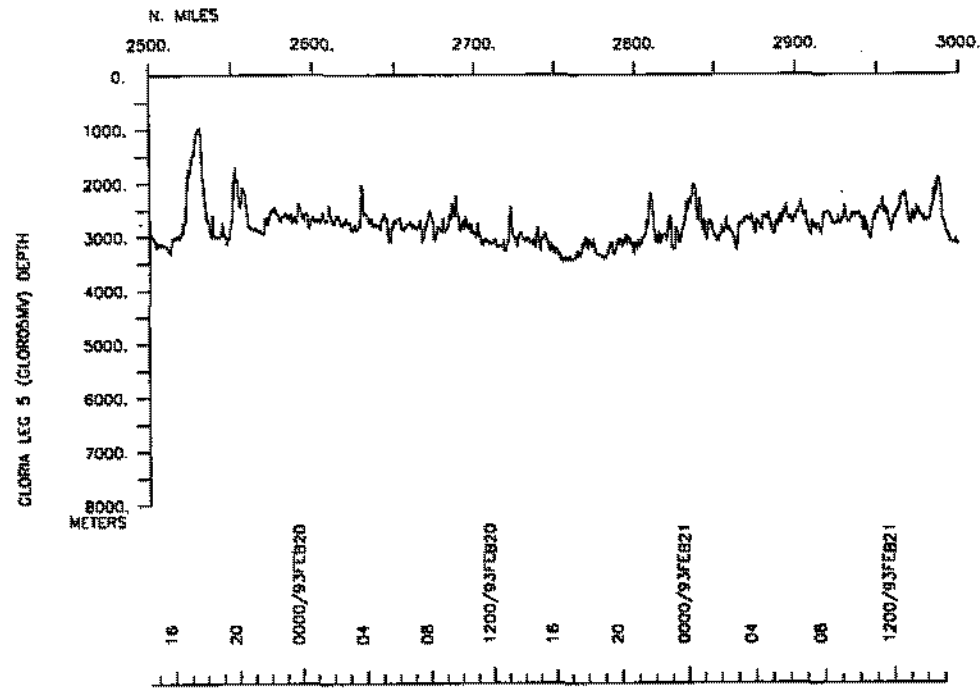
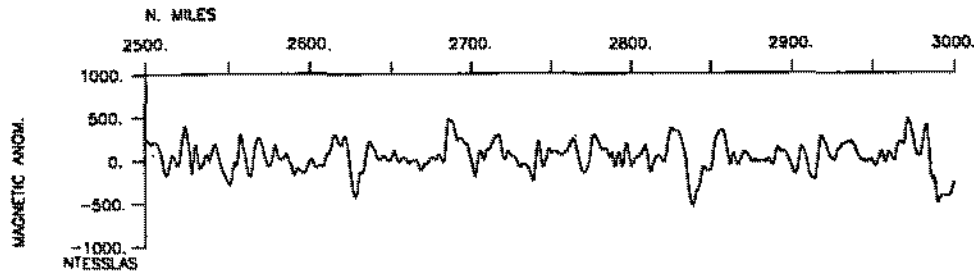


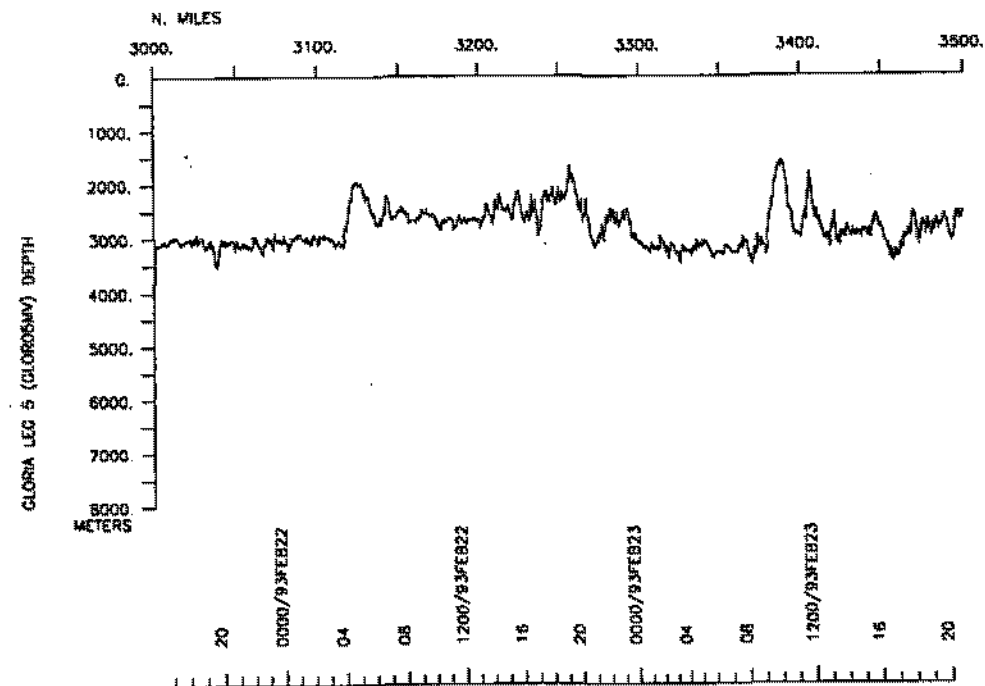
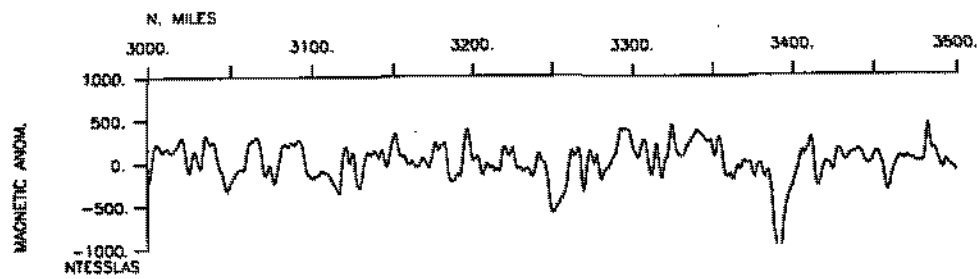
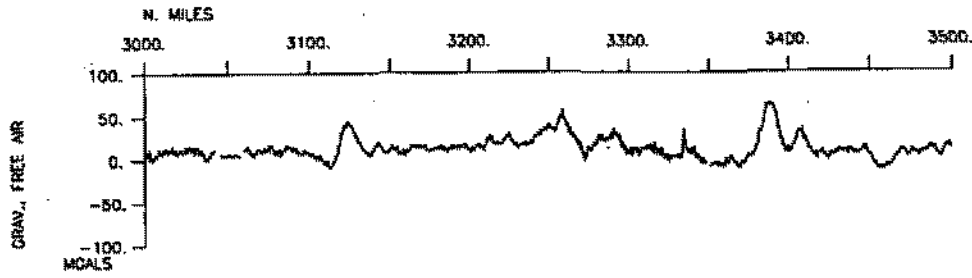


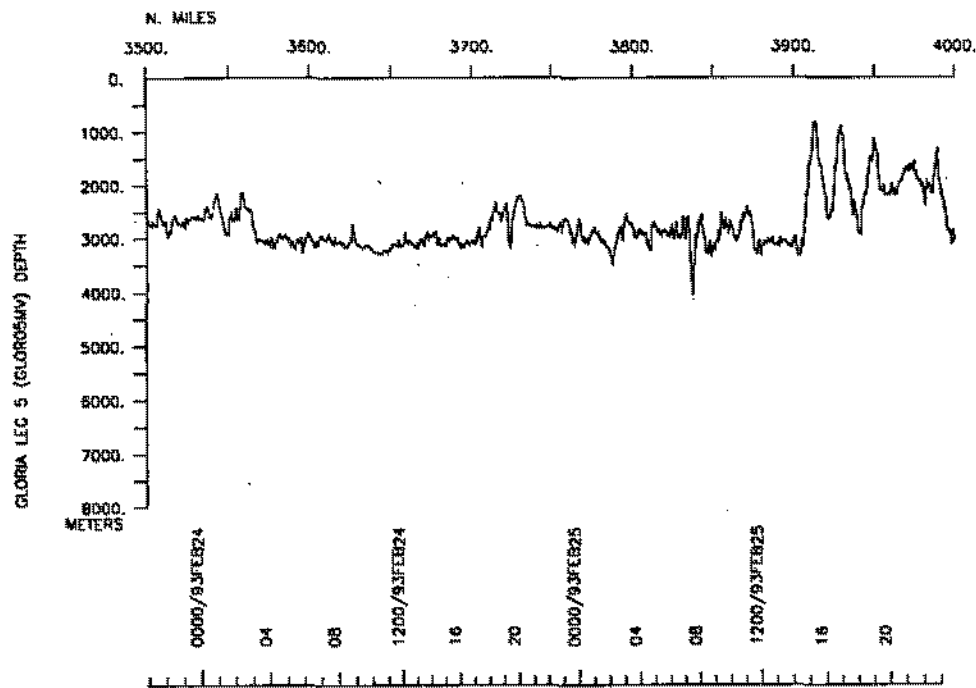
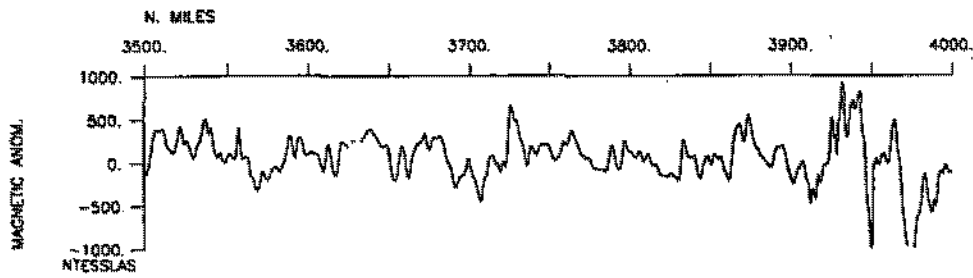
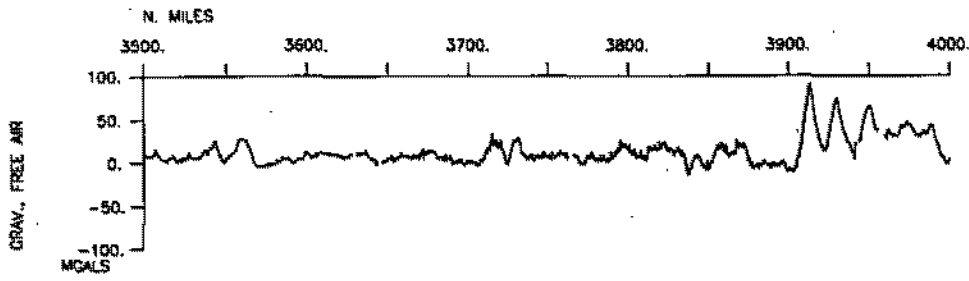


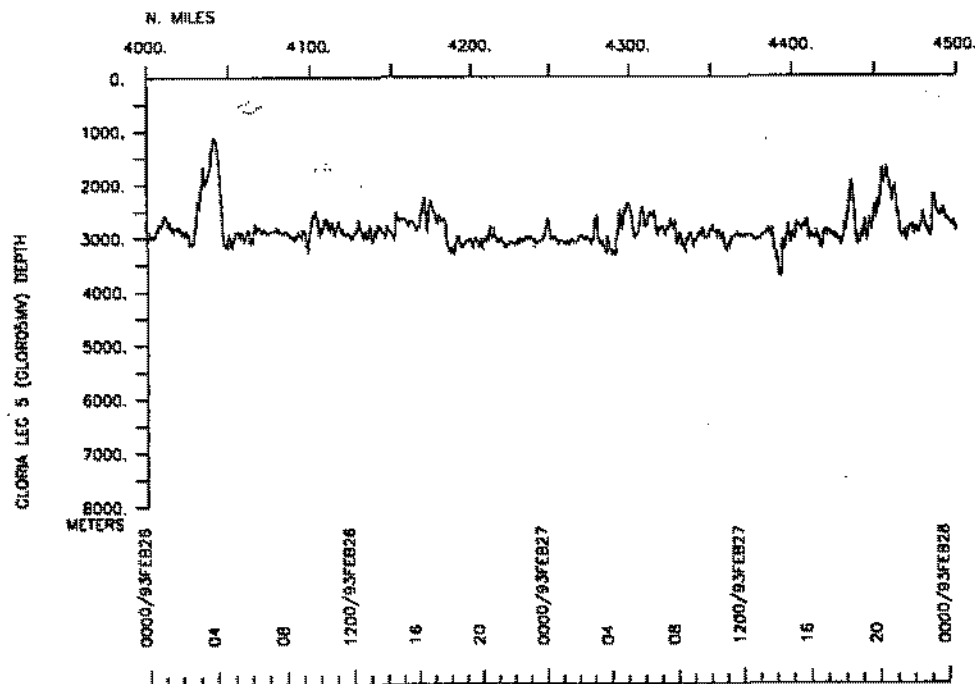
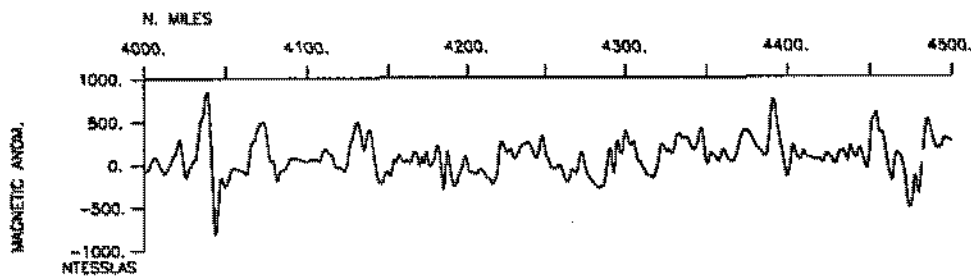
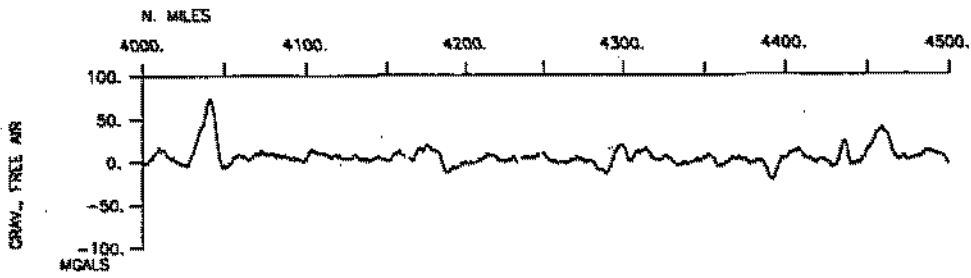




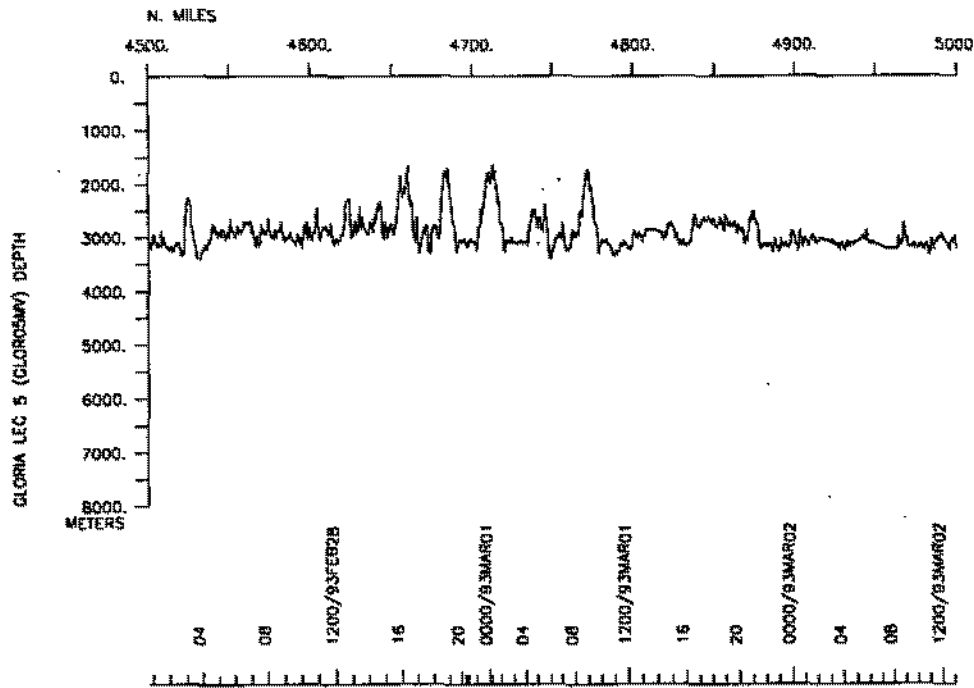
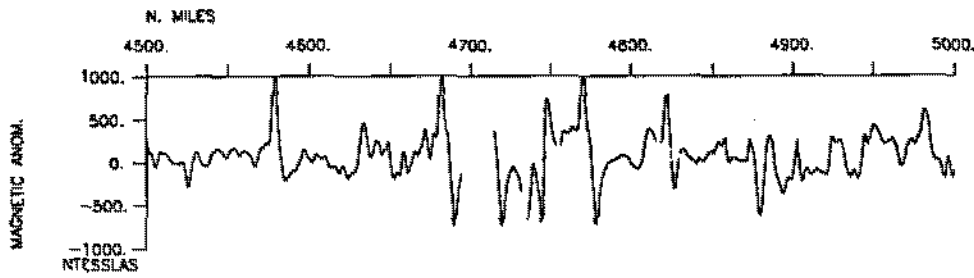
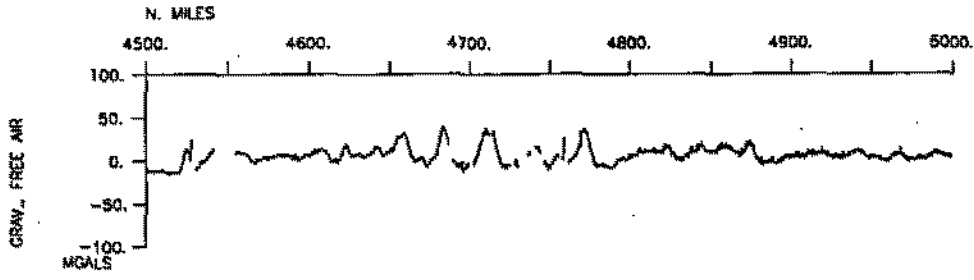


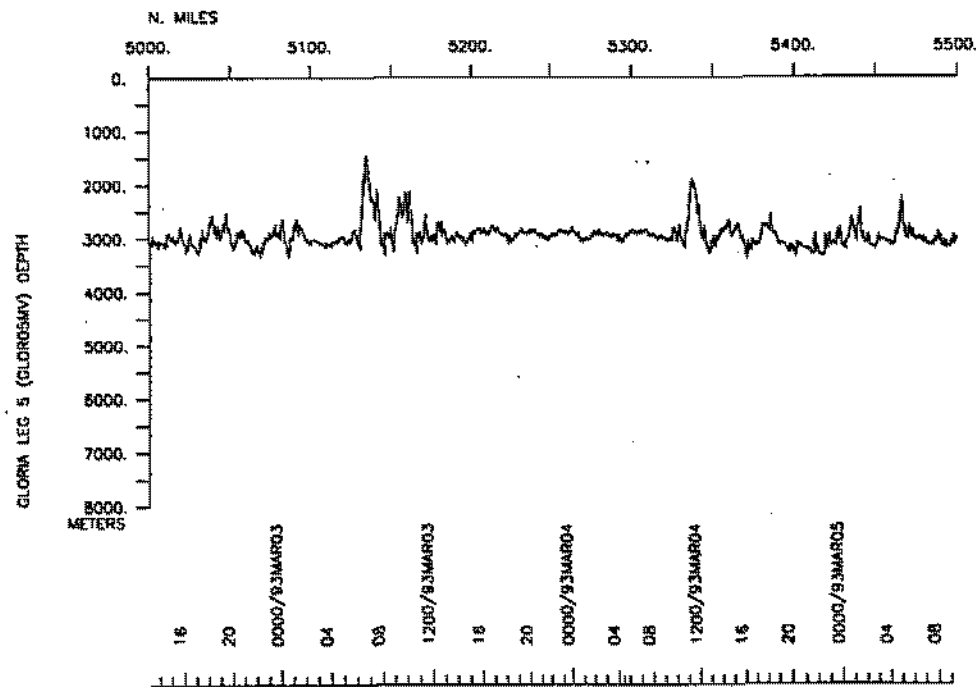
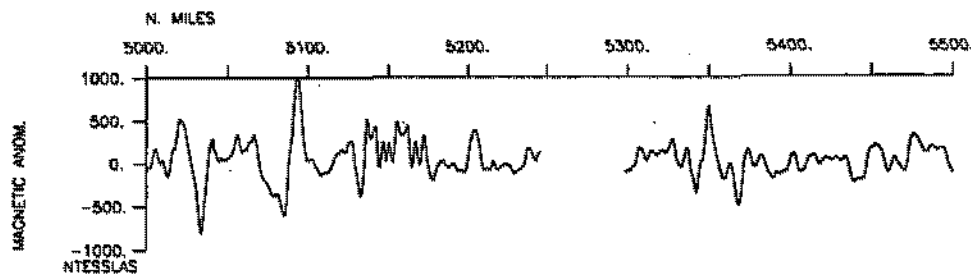
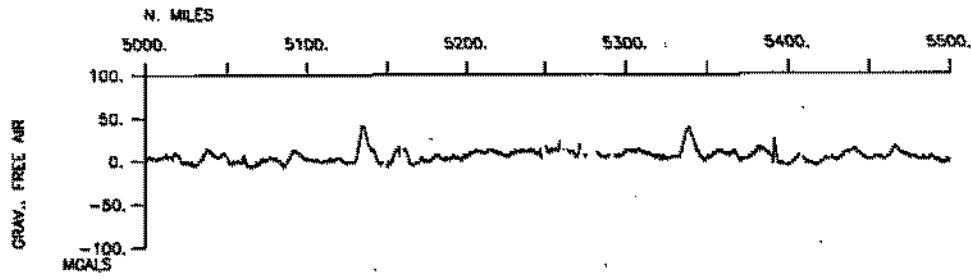


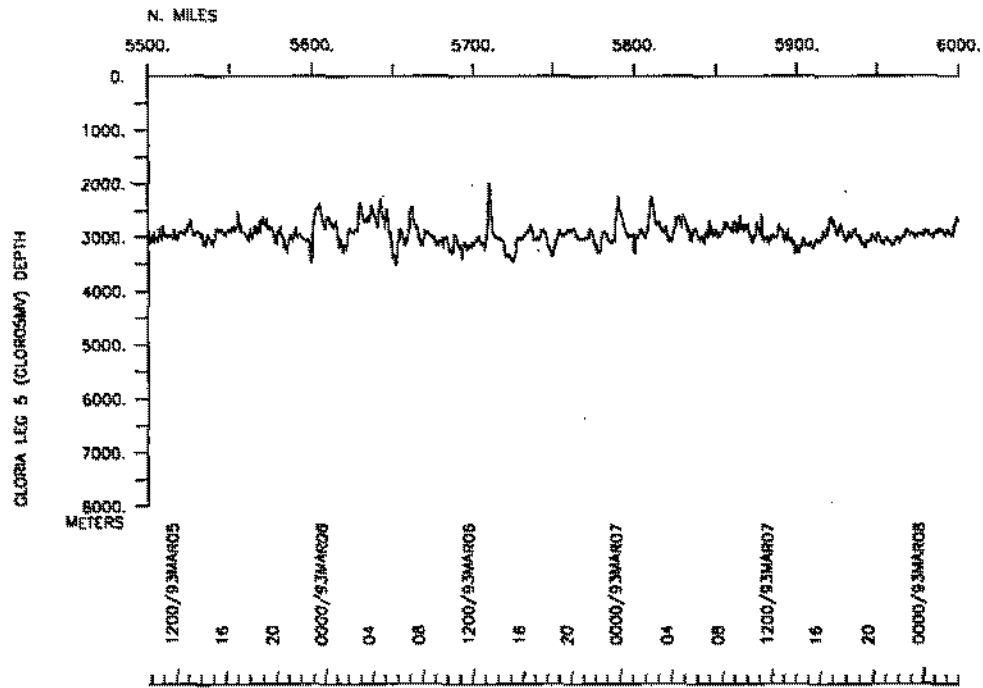
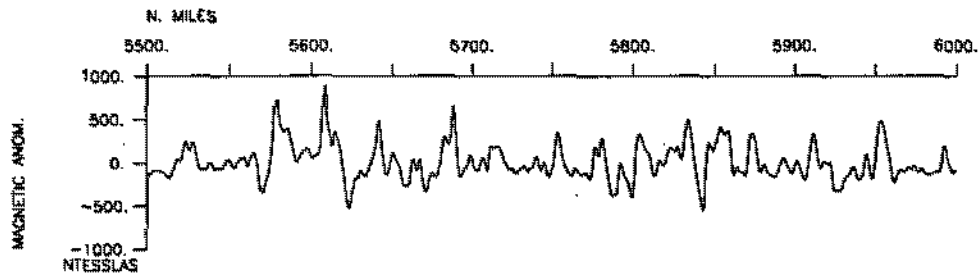
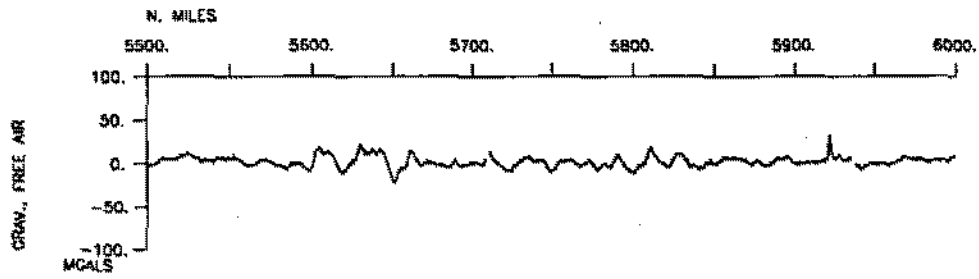


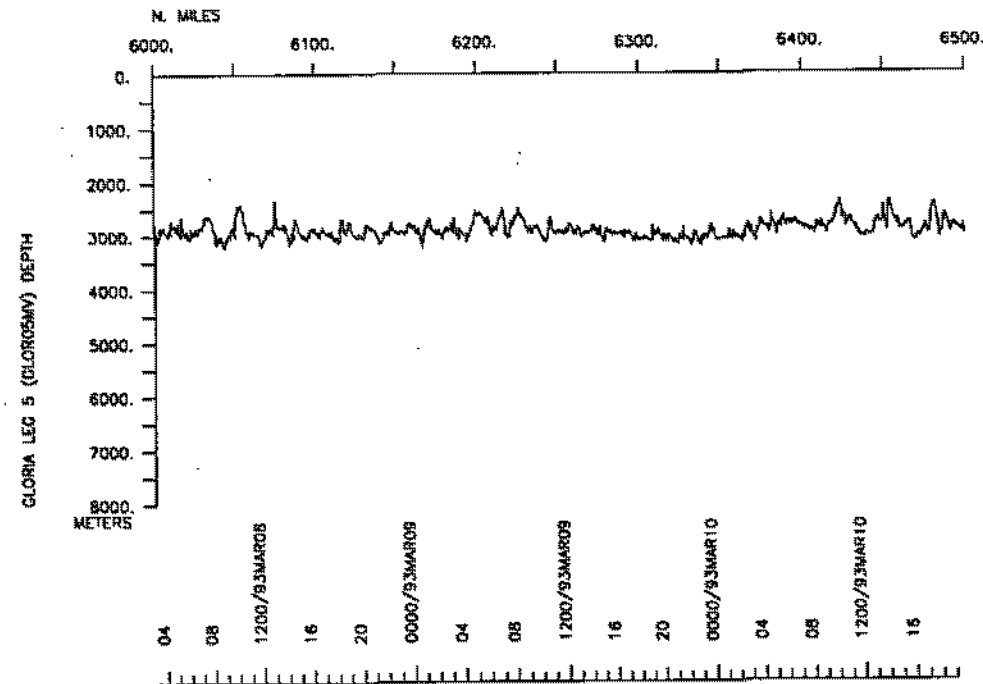
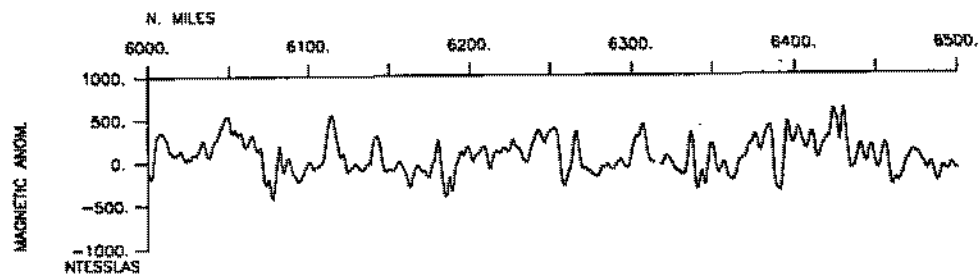


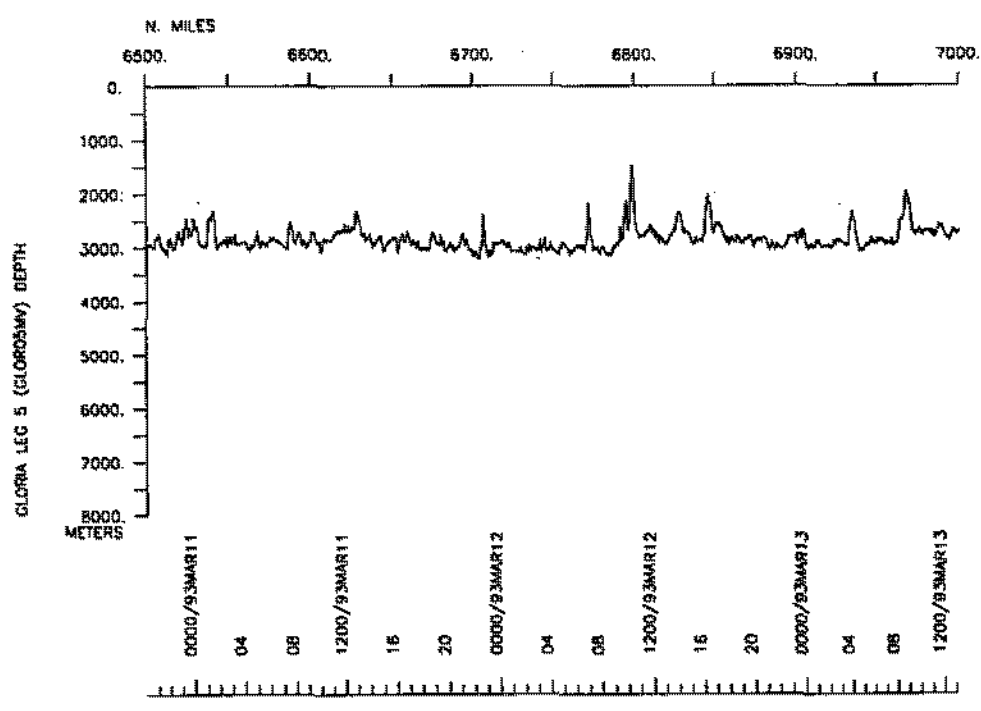
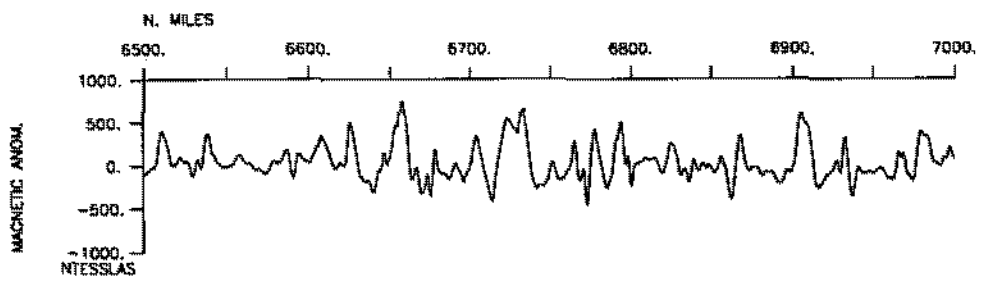
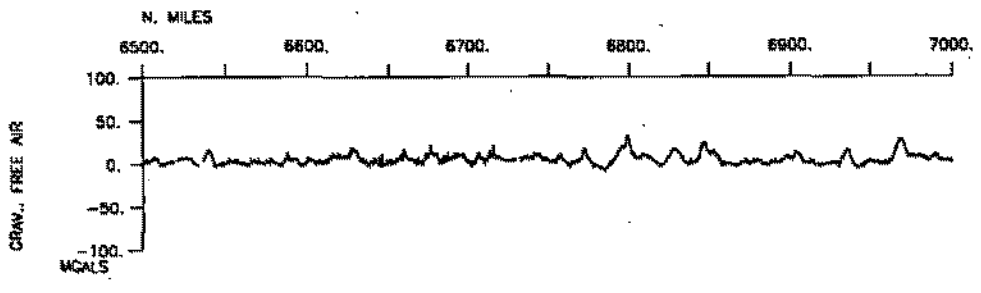


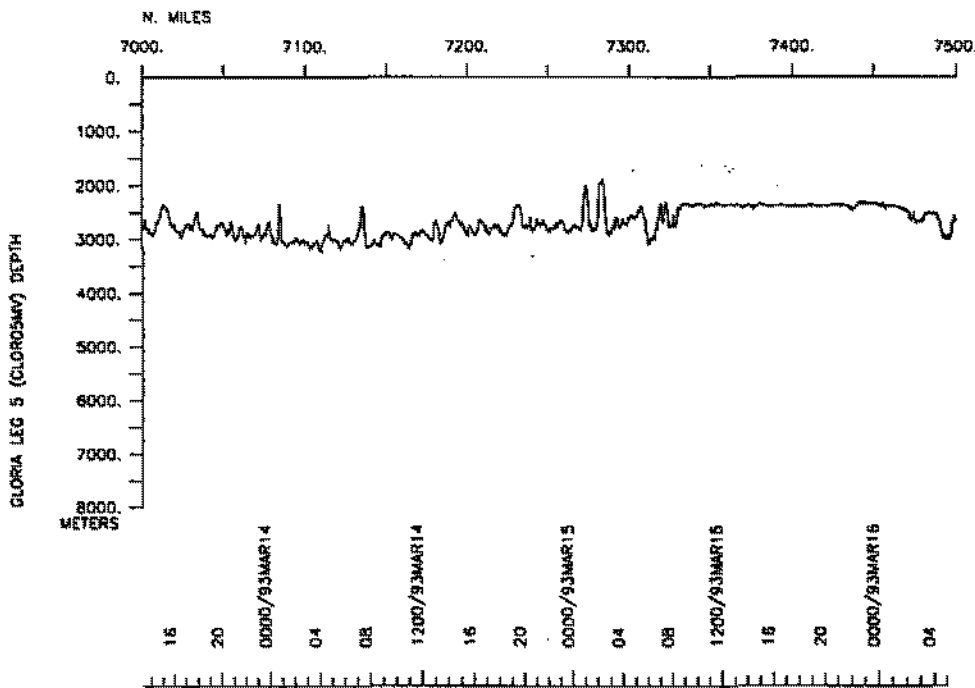
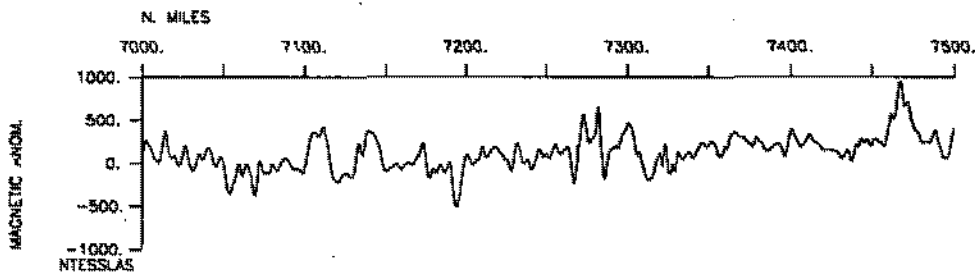
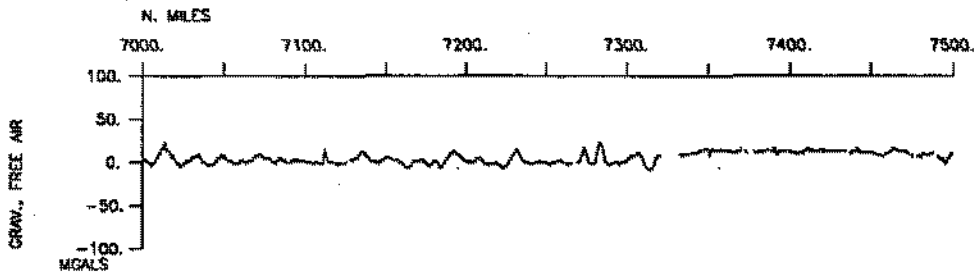


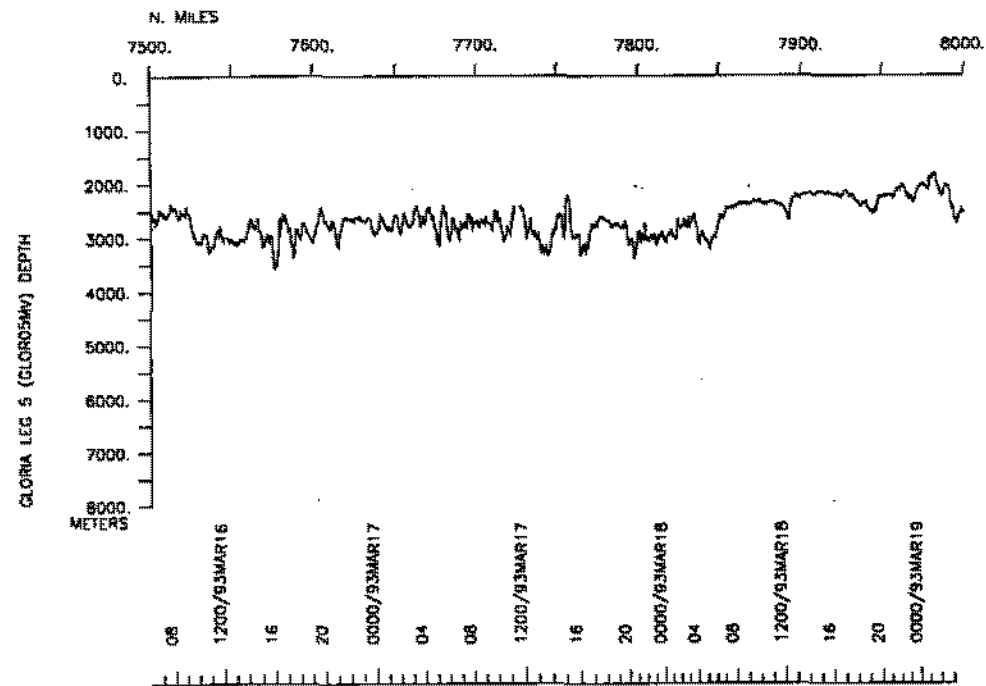
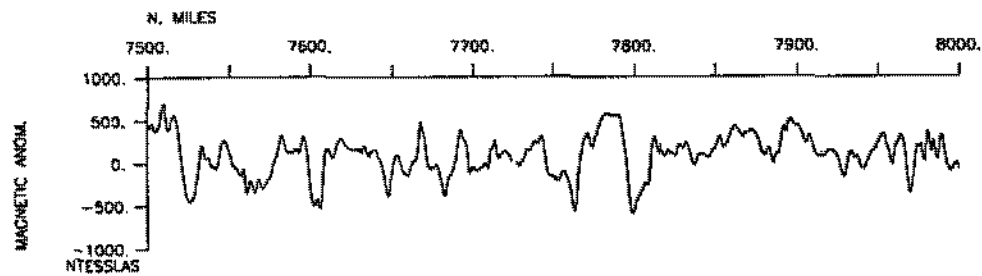
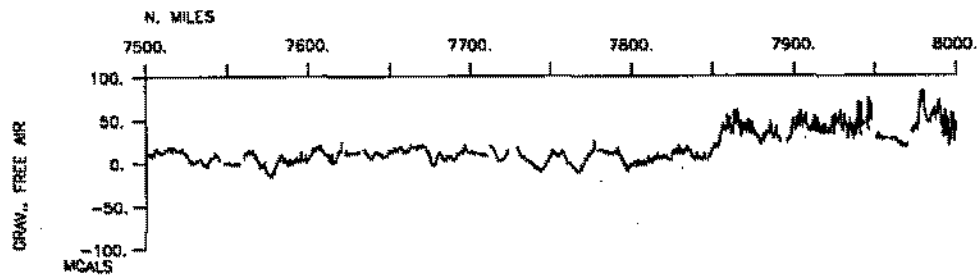


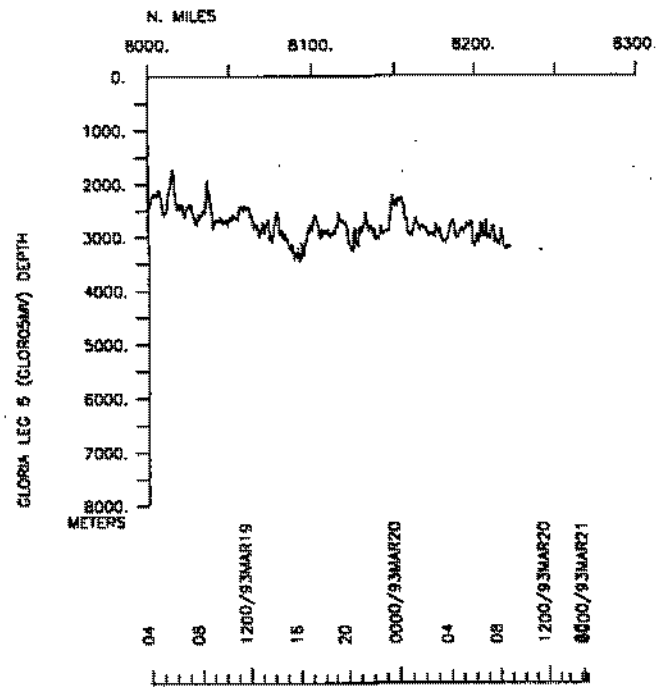
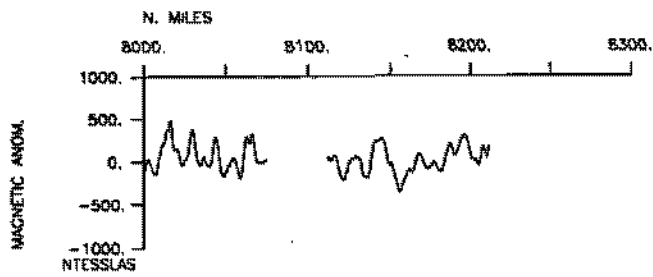
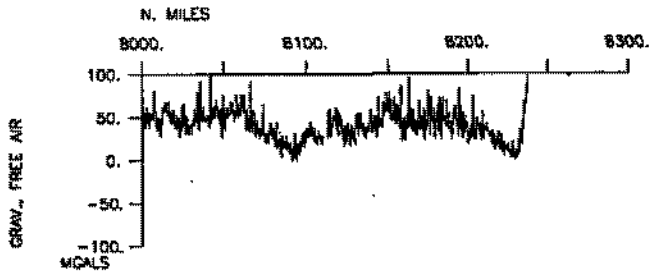














## S.I.O. SAMPLE INDEX

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(Issued April 1993)

### GLORIA EXPEDITION

Leg 5

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R/V Melville

Papeete, Tahiti (8 February 1993)  
to  
Easter Island (20 March 1993)

Chief Scientist:

Richard Hey (University of Hawaii)

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.# 261

\*\*\*\* Ports \*\*\*\*

0200 090293 0 LGPT B Papeete, Tahiti 17-32.00S 149-34.00W f GLOR05MV  
 1400 000000 0 LGPT E Hangarua, Easter Is. 27-09.00S 109-27.00W f GLOR05MV

\*\*\*\* Personnel \*\*\*\*

#	*****NAME*****	*****TITLE*****	*****AFFILIATION*****	**CRID**
PECS UHI	Hey, R.	Chief scientist	University of Hawaii	GLOR05MV
PESP UHI	Allen, P.	Researcher	University of Hawaii	GLOR05MV
PEXN GBN	Beale, R.	Programmer	Inst. of Ocean Sci.	GLOR05MV
PEXN GBN	Campbell	Programmer	Inst. of Ocean Sci.	GLOR05MV
PEST UHI	Canine, D.	Student	University of Hawaii	GLOR05MV
PEST UHI	Harlowe, A.	Student	University of Hawaii	GLOR05MV
PESP GBN	Hugget, Q.	Gloria staff	Inst. of Ocean Sci.	GLOR05MV
PEXN JPN	Korenaga, J.	Grad. student	University of Tokyo	GLOR05MV
PEST UHI	Johnson, P.	Student	University of Hawaii	GLOR05MV
PESP GBN	Le Bas, T.	Gloria staff	Inst. of Ocean Sci.	GLOR05MV
PEST UHI	Ludwig, N.	Grad. student	University of Hawaii	GLOR05MV
PEST UHI	Martinez, F.	Researcher	University of Hawaii	GLOR05MV
PESP STS	Moe, R.	Computer tech.	Scripps Institution	GLOR05MV
PESP STS	Mogk, S.	Resident tech.	Scripps Institution	GLOR05MV
PESP GBN	Rusby, R.	Researcher	Inst. of Ocean Sci.	GLOR05MV
PESP GBN	Somers, M.	Gloria staff	Inst. of Ocean Sci.	GLOR05MV

\*\*\*\* 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.

\*\*\*\* NOTE \*\*\*\*

#This preliminary index was produced while all the analog records were  
 #still on board the Melville and is subject to revision when data are  
 #returned to SIO.

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#										
#*** Underway data curator - S. M. Smith ext. 41898										
#*** Log Books ***										
0530	090293	0	LBUW	B Underway watch log	GDC	17-34.33S	149-04.63W	g		GLOR05MV
1400	200393	0	LBUW	E Underway watch log	GDC	27-13.36S	109-26.11W	g		GLOR05MV
0530	090293	0	LBSC	B Scientific log book	UHI	17-34.33S	149-04.63W	g		GLOR05MV
1400	200393	0	LBSC	E Scientific log book	UHI	27-13.36S	109-26.11W	g		GLOR05MV
#*** Sea Beam Records (vertical beam and side scan) ***										
0200	200293	0	MBS	B monitor/sscan r-01	GDC	26-55.54S	112-24.58W	g		GLOR05MV
0850	200393	0	MBS	E monitor/sscan r-01	GDC	27-29.18S	109-13.75W	g		GLOR05MV
#*** Echo Sounder Records ***										
0530	090293	0	DPR3	B pdr 3.5 khz r-01	GDC	17-34.33S	149-04.63W	g		GLOR05MV
2036	090293	0	DPR3	E pdr 3.5 khz r-01	GDC	18-32.67S	146-16.77W	g		GLOR05MV
2047	090293	0	DPR3	B pdr 3.5 khz r-02	GDC	18-33.16S	146-15.34W	g		GLOR05MV
1353	100293	0	DPR3	E pdr 3.5 khz r-02	GDC	19-27.38S	143-30.95W	g		GLOR05MV
1356	100293	0	DPR3	B pdr 3.5 khz r-03	GDC	19-27.57S	143-30.34W	g		GLOR05MV
1335	120293	0	DPR3	E pdr 3.5 khz r-03	GDC	22-02.40S	135-07.94W	g		GLOR05MV
1338	120293	0	DPR3	B pdr 3.5 khz r-04	GDC	22-02.59S	135-07.36W	g		GLOR05MV
0135	150293	0	DPR3	E pdr 3.5 khz r-04	GDC	24-50.75S	126-05.82W	g		GLOR05MV
0138	150293	0	DPR3	B pdr 3.5 khz r-05	GDC	24-50.84S	126-05.26W	g		GLOR05MV
1144	170293	0	DPR3	E pdr 3.5 khz r-05	GDC	26-53.43S	115-29.54W	g		GLOR05MV
1147	170293	0	DPR3	B pdr 3.5 khz r-06	GDC	26-53.53S	115-28.97W	g		GLOR05MV
1621	190293	0	DPR3	E pdr 3.5 khz r-06	GDC	27-28.24S	114-03.86W	g		GLOR05MV
1625	190293	0	DPR3	B pdr 3.5 khz r-07	GDC	27-28.02S	114-03.17W	g		GLOR05MV
1831	210293	0	DPR3	E pdr 3.5 khz r-07	GDC	27-45.70S	114-07.44W	g		GLOR05MV

#GMT #TIME #	DDMMYY DATE	TZ	SAMP CODE	B E	SAMPLE IDENTIFIER	DISP CODE	LATITUDE	LONGITUDE	p c	CRUISE LEG-SHIP
1834	210293	0	DPR3	B	pdr 3.5 khz r-08	GDC	27-45.88S	114-07.98W	g	GLOR05MV
2037	230293	0	DPR3	E	pdr 3.5 khz r-08	GDC	27-38.46S	112-06.50W	g	GLOR05MV
2040	230293	0	DPR3	B	pdr 3.5 khz r-09	GDC	27-38.64S	112-07.06W	g	GLOR05MV
2339	250293	0	DPR3	E	pdr 3.5 khz r-09	GDC	27-25.46S	109-50.26W	g	GLOR05MV
2342	250293	0	DPR3	B	pdr 3.5 khz r-10	GDC	27-25.64S	109-50.83W	g	GLOR05MV
0448	280293	0	DPR3	E	pdr 3.5 khz r-10	GDC	27-38.15S	108-52.00W	g	GLOR05MV
0451	280293	0	DPR3	B	pdr 3.5 khz r-11	GDC	27-38.12S	108-52.53W	g	GLOR05MV
1434	020393	0	DPR3	E	pdr 3.5 khz r-11	GDC	29-23.85S	113-24.15W	g	GLOR05MV
1437	020393	0	DPR3	B	pdr 3.5 khz r-12	GDC	29-23.74S	113-23.77W	g	GLOR05MV
2055	040393	0	DPR3	E	pdr 3.5 khz r-12	GDC	27-56.51S	108-12.11W	g	GLOR05MV
2058	040393	0	DPR3	B	pdr 3.5 khz r-13	GDC	27-56.92S	108-12.09W	g	GLOR05MV
0254	070393	0	DPR3	E	pdr 3.5 khz r-13	GDC	29-28.53S	111-59.20W	g	GLOR05MV
0257	070393	0	DPR3	B	pdr 3.5 khz r-14	GDC	29-28.38S	111-58.79W	g	GLOR05MV
0858	090393	0	DPR3	E	pdr 3.5 khz r-14	GDC	29-53.32S	111-38.04W	g	GLOR05MV
0901	090393	0	DPR3	B	pdr 3.5 khz r-15	GDC	29-53.18S	111-37.59W	g	GLOR05MV
1448	110393	0	DPR3	E	pdr 3.5 khz r-15	GDC	30-22.70S	111-29.91W	g	GLOR05MV
1451	110393	0	DPR3	B	pdr 3.5 khz r-16	GDC	30-22.57S	111-29.48W	g	GLOR05MV
1914	130393	0	DPR3	E	pdr 3.5 khz r-16	GDC	30-53.01S	111-22.98W	g	GLOR05MV
1917	130393	0	DPR3	B	pdr 3.5 khz r-17	GDC	30-52.87S	111-22.60W	g	GLOR05MV
2157	150393	0	DPR3	E	pdr 3.5 khz r-17	GDC	30-38.75S	111-51.42W	g	GLOR05MV
2200	150393	0	DPR3	B	pdr 3.5 khz r-18	GDC	30-38.33S	111-51.28W	g	GLOR05MV
2347	170393	0	DPR3	E	pdr 3.5 khz r-18	GDC	28-53.92S	112-21.99W	g	GLOR05MV
2351	170393	0	DPR3	B	pdr 3.5 khz r-19	GDC	28-53.86S	112-22.33W	g	GLOR05MV
0407	200393	0	DPR3	E	pdr 3.5 khz r-19	GDC	27-31.76S	109-41.56W	g	GLOR05MV
0410	200393	0	DPR3	B	pdr 3.5 khz r-20	GDC	27-31.84S	109-41.11W	g	GLOR05MV
0745	200393	0	DPR3	E	pdr 3.5 khz r-20	GDC	27-36.33S	109-10.08W	g	GLOR05MV

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
*** Magnetics (Earth Total Field) Records ***										
0345	160293	0	MGRA	B Magnetics r-01	GDC	25-46.71S	121-17.25W	g		GLOR05MV
2053	270293	0	MGRA	E Magnetics r-01	GDC	27-47.18S	110-07.34W	g		GLOR05MV
2100	270293	0	MGRA	B Magnetics r-02	GDC	27-46.73S	110-06.05W	g		GLOR05MV
0039	120393	0	MGRA	E Magnetics r-02	GDC	30-04.74S	110-09.25W	g		GLOR05MV
0045	120393	0	MGRA	B Magnetics r-03	GDC	30-05.50S	110-08.95W	g		GLOR05MV
0733	200393	0	MGRA	E Magnetics r-03	GDC	27-36.18S	109-11.40W	g		GLOR05MV
*** Expendable Bathythermographs ***										
0216	110293	0	BTXP	xbt 01	GDC	20-19.90S	141-05.25W	g		GLOR05MV
0115	120293	0	BTXP	xbt 02	GDC	21-27.53S	137-29.48W	g		GLOR05MV
0120	130293	0	BTXP	xbt 03	GDC	22-36.15S	133-03.20W	g		GLOR05MV
0124	140293	0	BTXP	xbt 04	GDC	23-42.49S	129-41.09W	g		GLOR05MV
1604	150293	0	BTXP	xbt 05	GDC	25-22.15S	123-24.37W	g		GLOR05MV
1713	160293	0	BTXP	xbt 06	GDC	26-14.29S	118-54.25W	g		GLOR05MV
1701	170293	0	BTXP	xbt 07	GDC	27-05.15S	114-28.53W	g		GLOR05MV
1529	260293	0	BTXP	xbt 08	GDC	28-22.64S	112-44.40W	g		GLOR05MV
1739	100393	0	BTXP	xbt 09	GDC	30-31.62S	112-48.06W	g		GLOR05MV
#	End Sample Index									GLOR05MV