

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

**GLORIA EXPEDITION**

**LEG 2**  
=====

R/V Melville

(Issued March 1993)

Acapulco, Mexico (5 November 1992)  
to  
Easter Island (10 December 1992)

Chief Scientist:

Ken Macdonald (Univ. of Calif., Santa Barbara)

Resident Marine Technician - Bob Wilson

Computer Technician - Mike Moore

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. 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.# 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

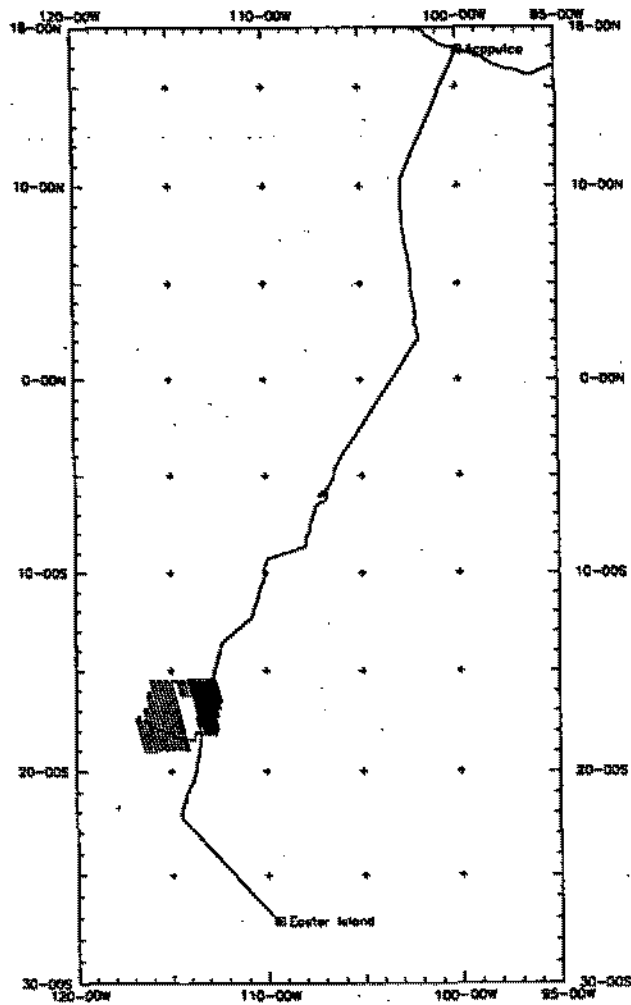
1. Files on Exabyte, DAT or 1/2 inch magnetic tape:
  - a) Separate time series ASCII files of navigation, single beam depth, gravity and magnetics.
  - b) These same data in a merged ASCII file in the MGD77 Exchange format.
  - c) SeaBeam depth data (binary, Sun byte order) in SIO Swath Bathymetry format (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.

## SIO SeaBeam 2000 Data Information

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

- 1) Hardcopy of realtime contour swath records and records with vertical beam and sidescan grayscale display are available for inspection at the data center.
- 2) Microfilm (35mm flowfilm) of vertical beam/sidescan records.
- 3) Sea Beam merged tapes - Sea Beam data merged with GPS-based navigation. (Navigation is edited to the extent that DR courses and speeds are edited and poor fixes are removed after inspection of speeds and drift vectors between fix pairs. No editing is done on the basis of adjusting to overlapping Sea Beam swaths.)
- 4) Archive contour plots - 8"/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 February 1992



GLORIA Leg 2 (GLOR02MV)

GLORIA EXPEDITION LEG 2

CHIEF SCIENTIST: Ken Macdonald

Univ. of Calif., Santa Barbara

PORTS: Acapulco, Mexico - Easter Island

DATES: 5 November - 10 December 1992

SHIP: R/V Melville

TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

Cruise - 8774 miles

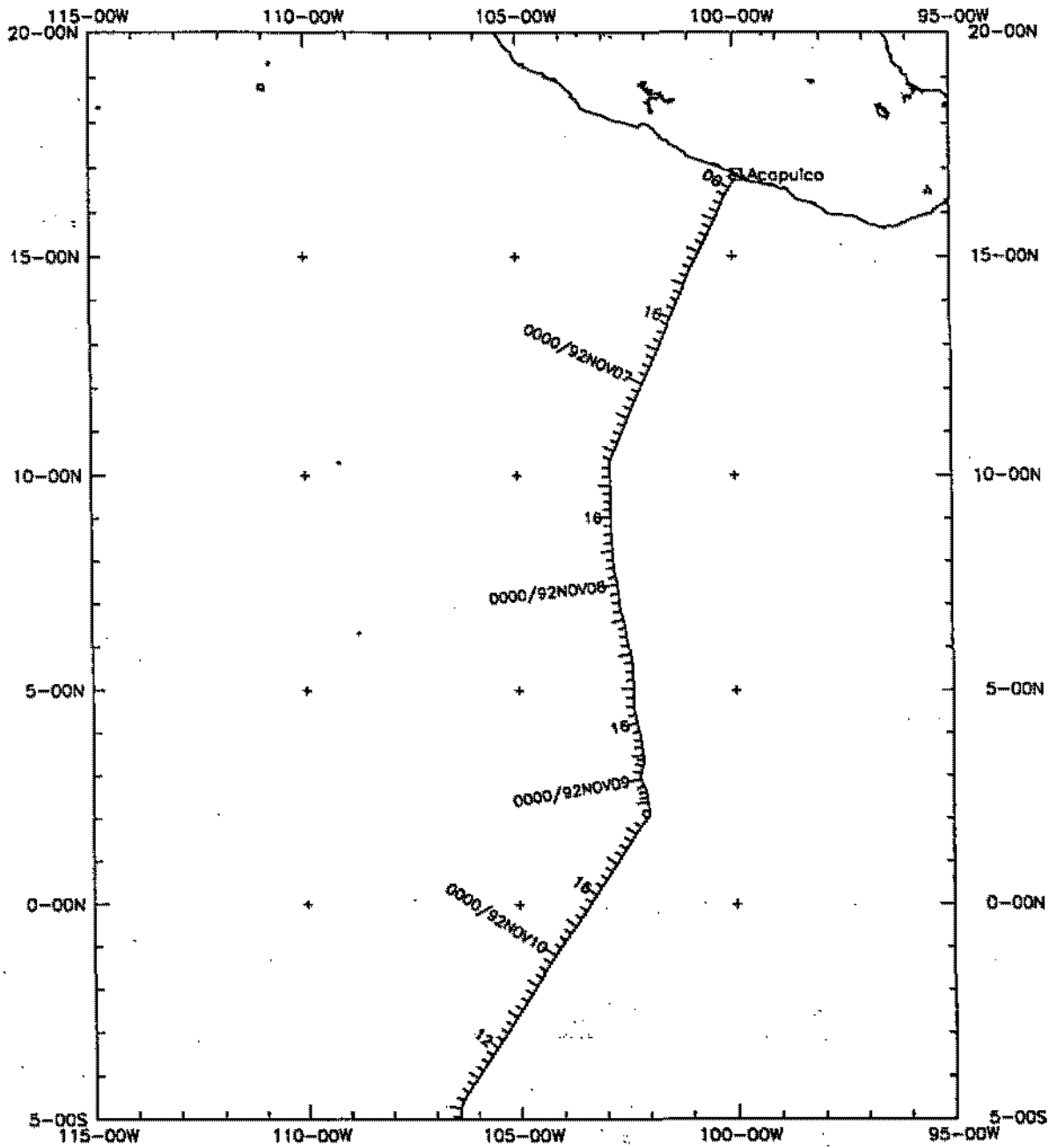
Magnetics - 8394 miles

Bathymetry - 8719 miles

Seismic Reflection - none collected

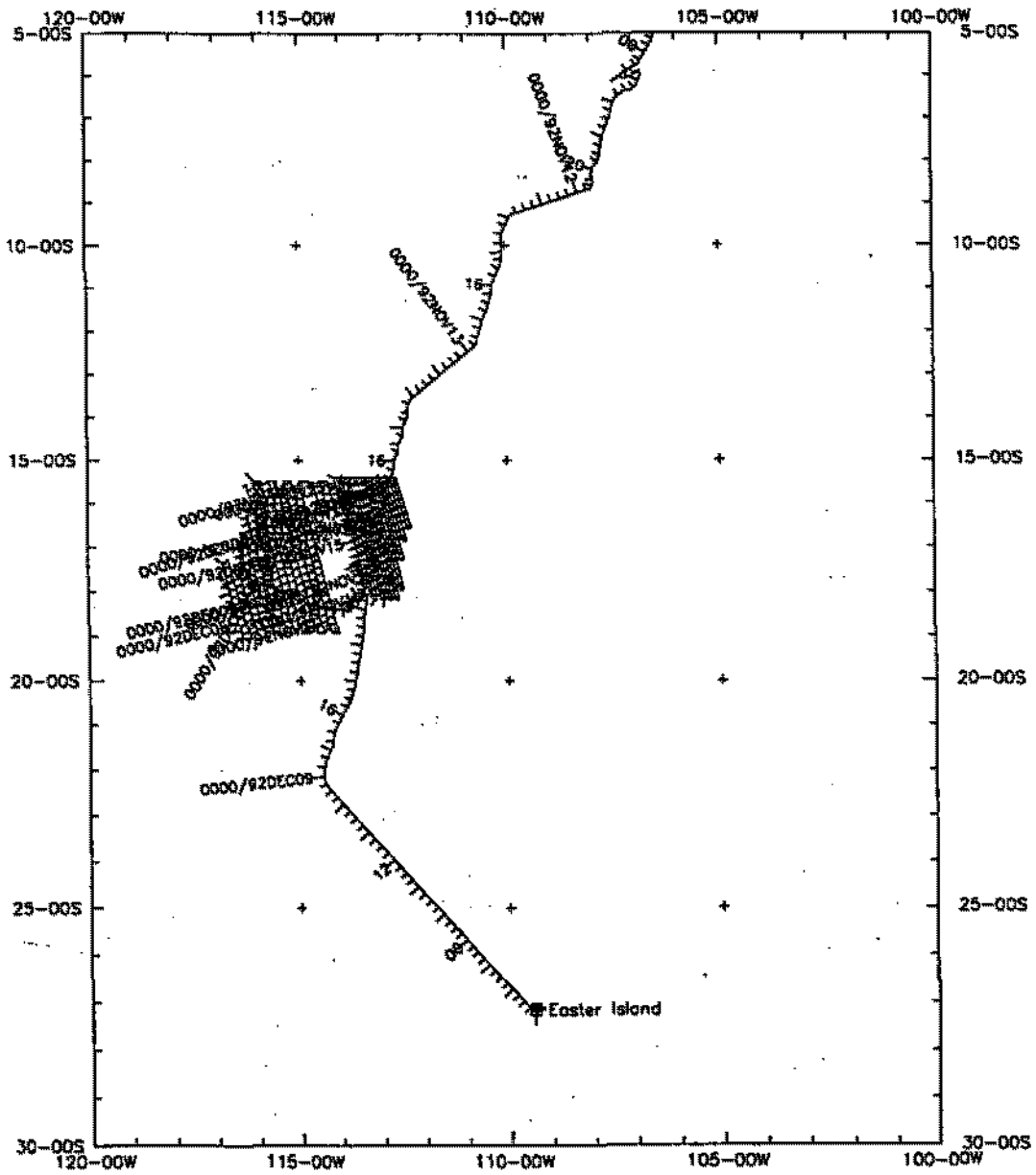
Sea Beam - 8719 miles

Gravity - 8480 miles



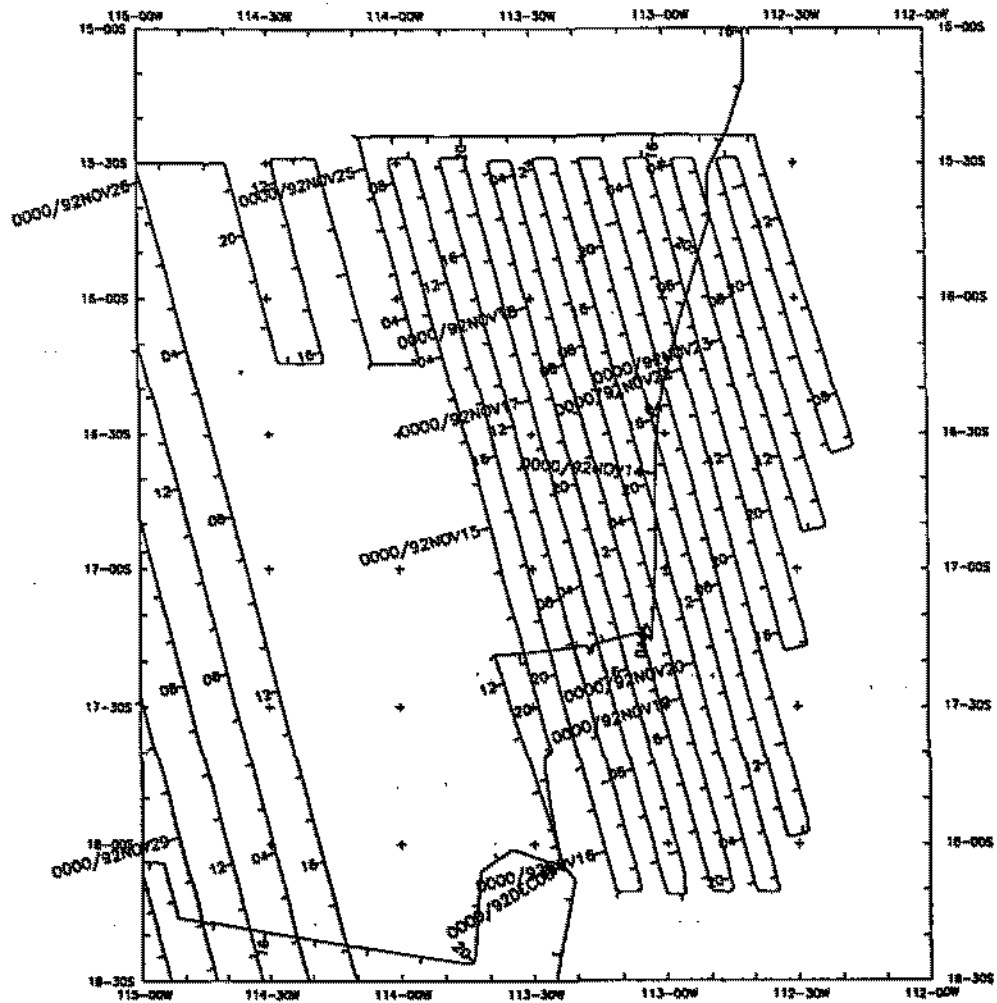
GLORIA Leg 2 (GLOR02MV) Part 1

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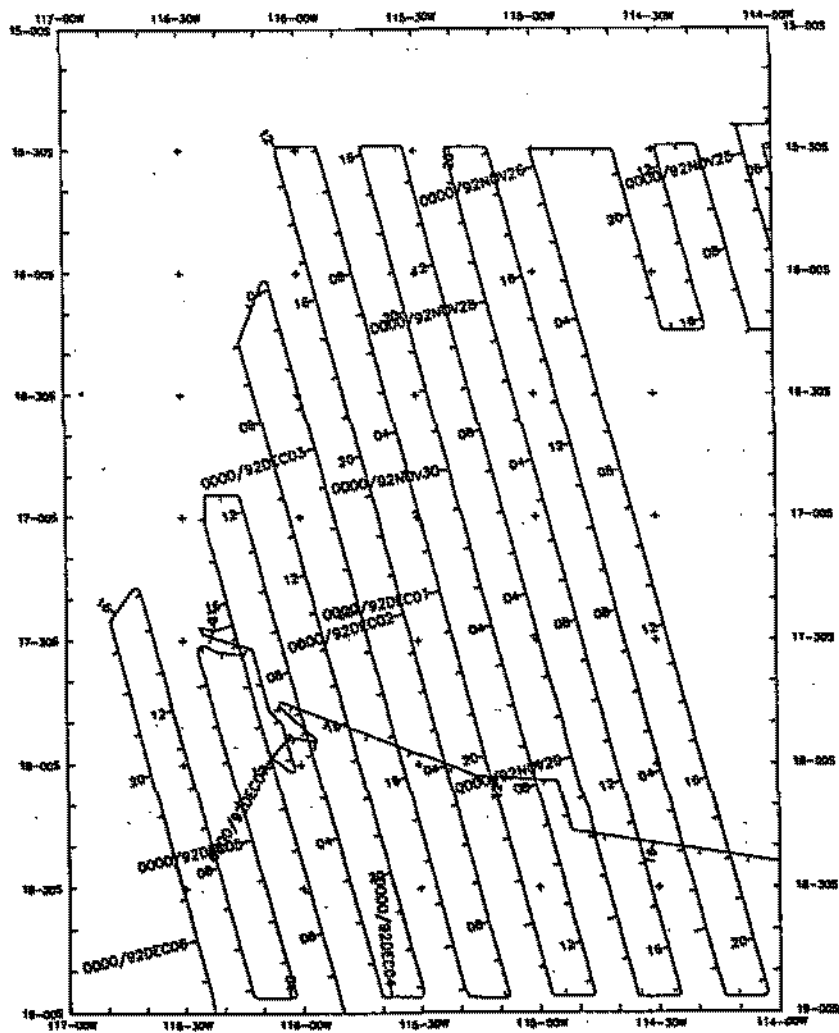
GLORIA Leg 2 (GLOR02MV) Part 2

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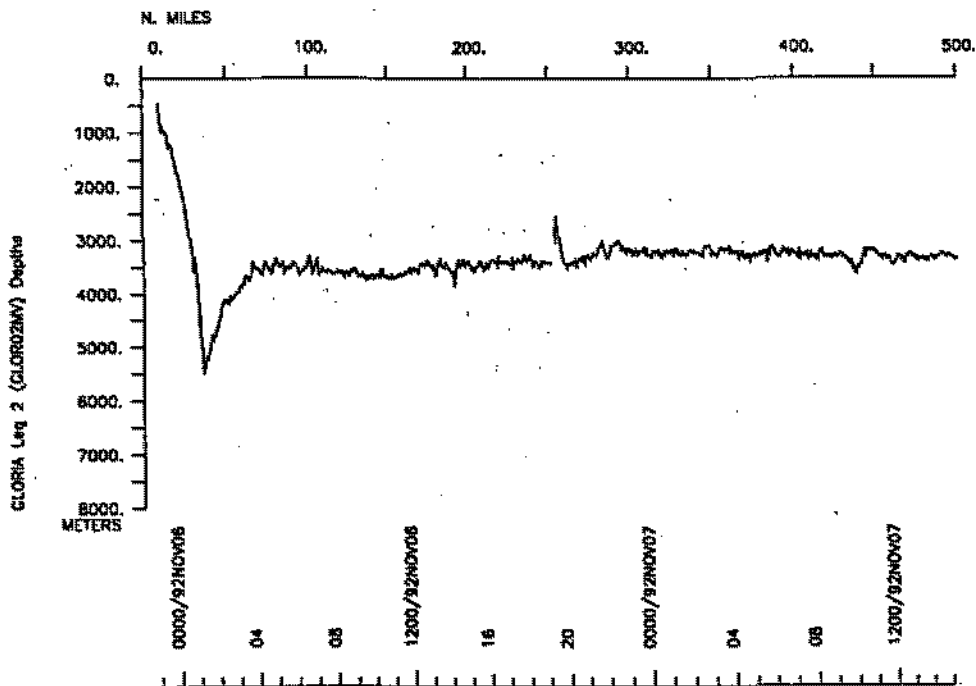
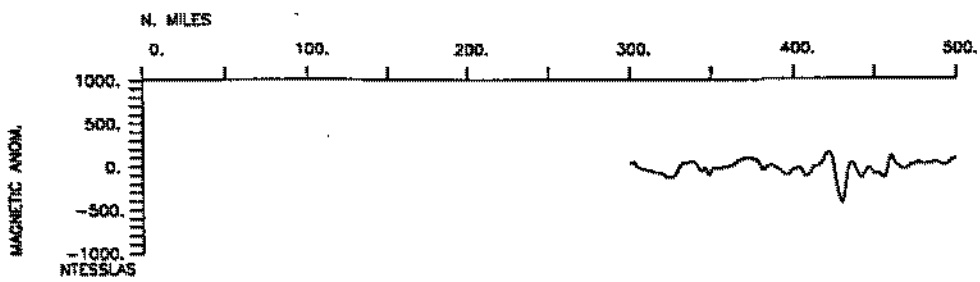
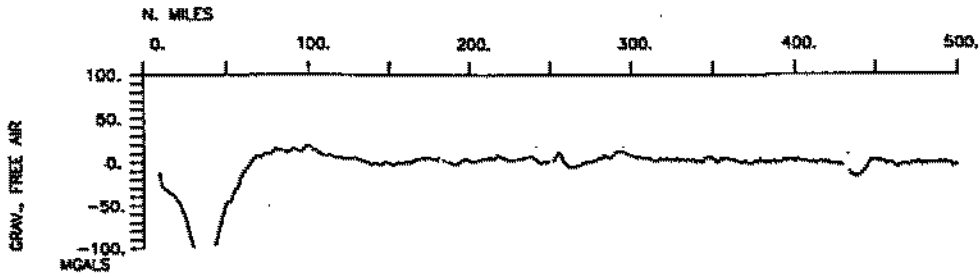
GLORIA Leg 2 (GLOR02MV) Area 1

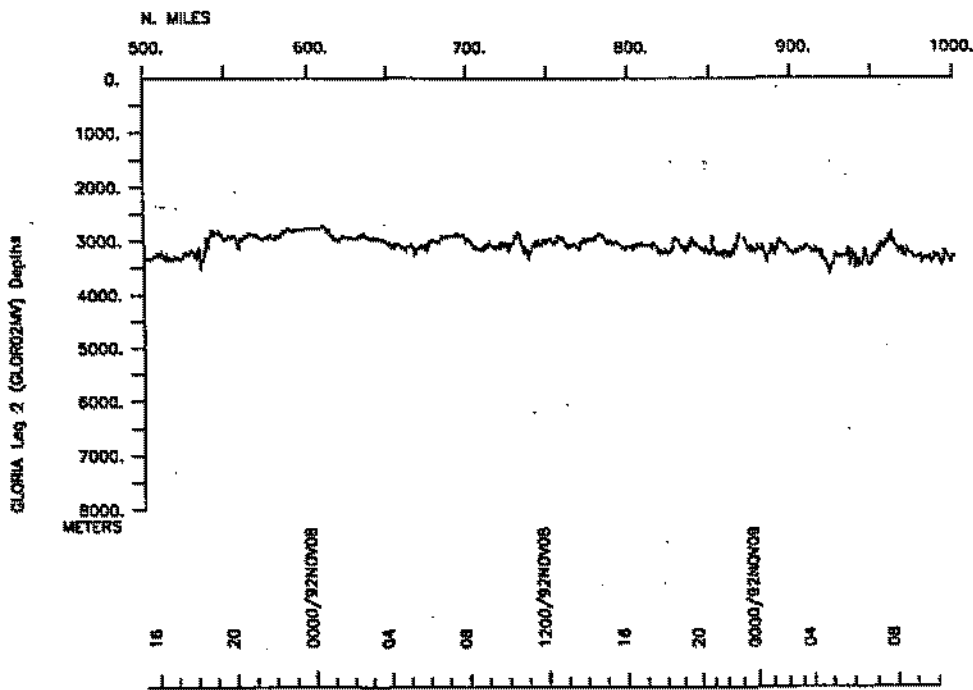
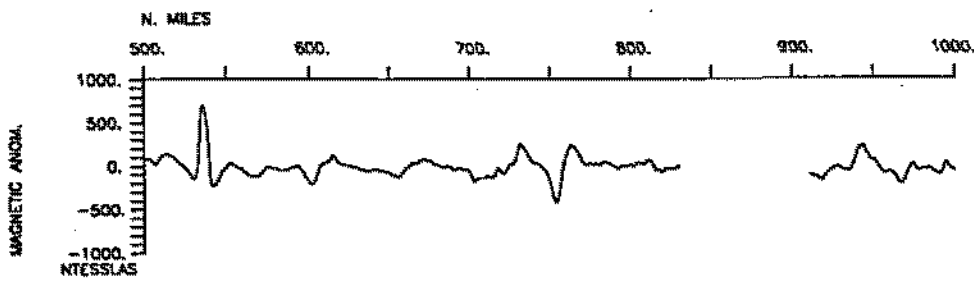
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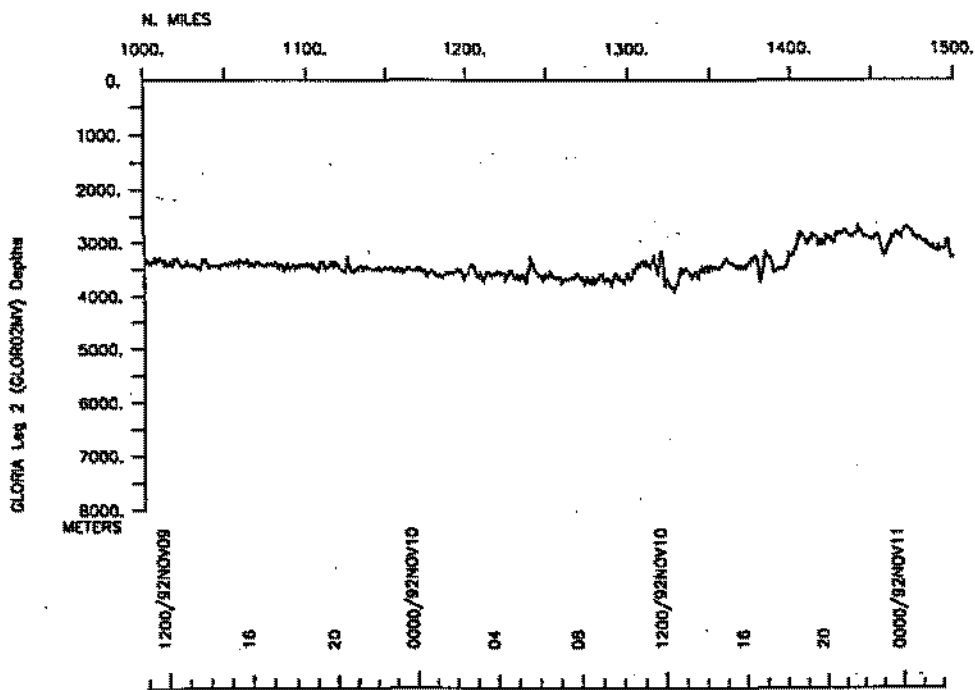
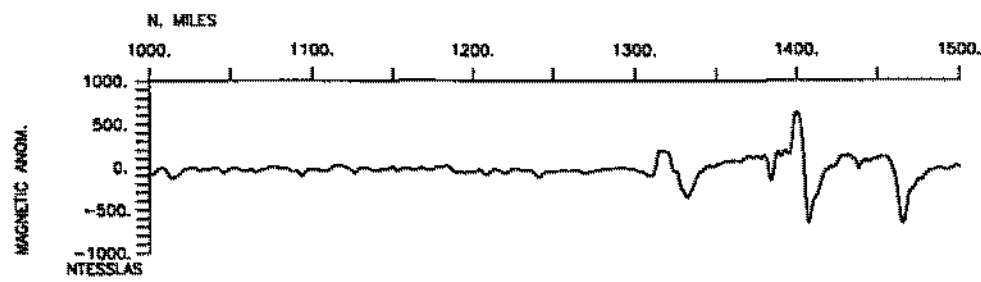
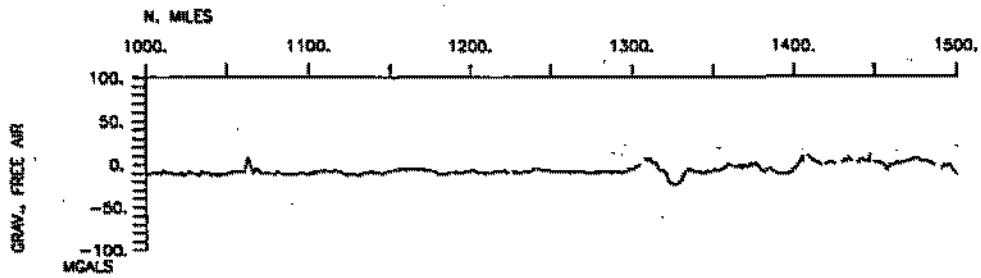


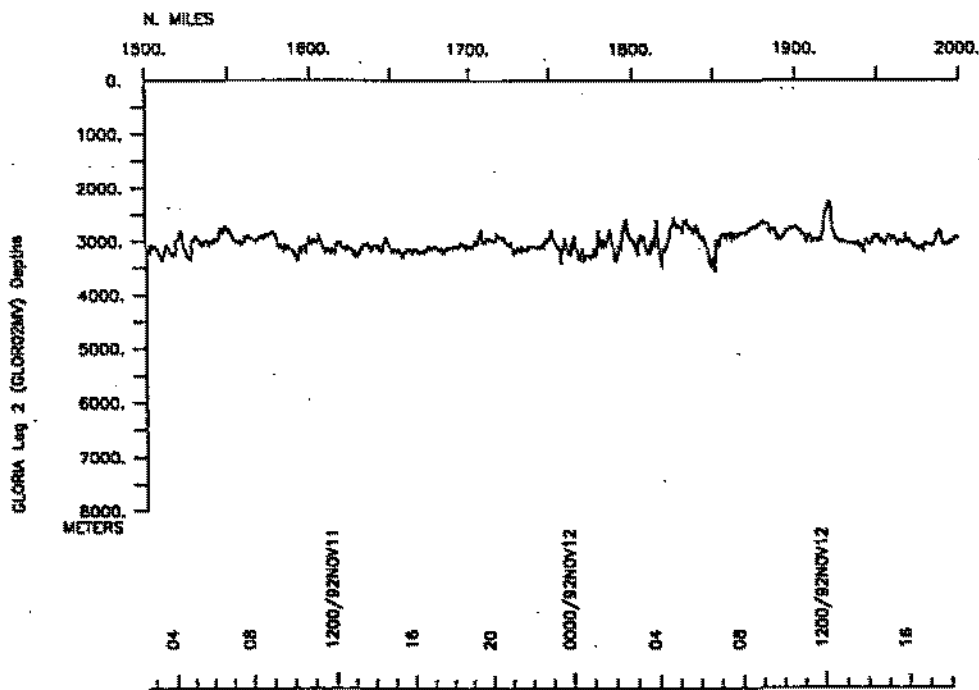
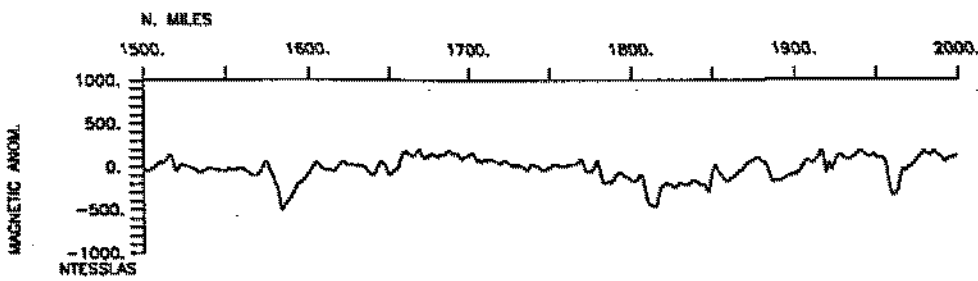
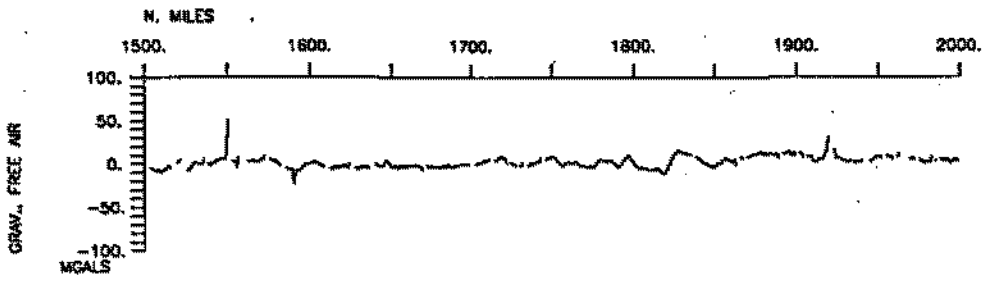
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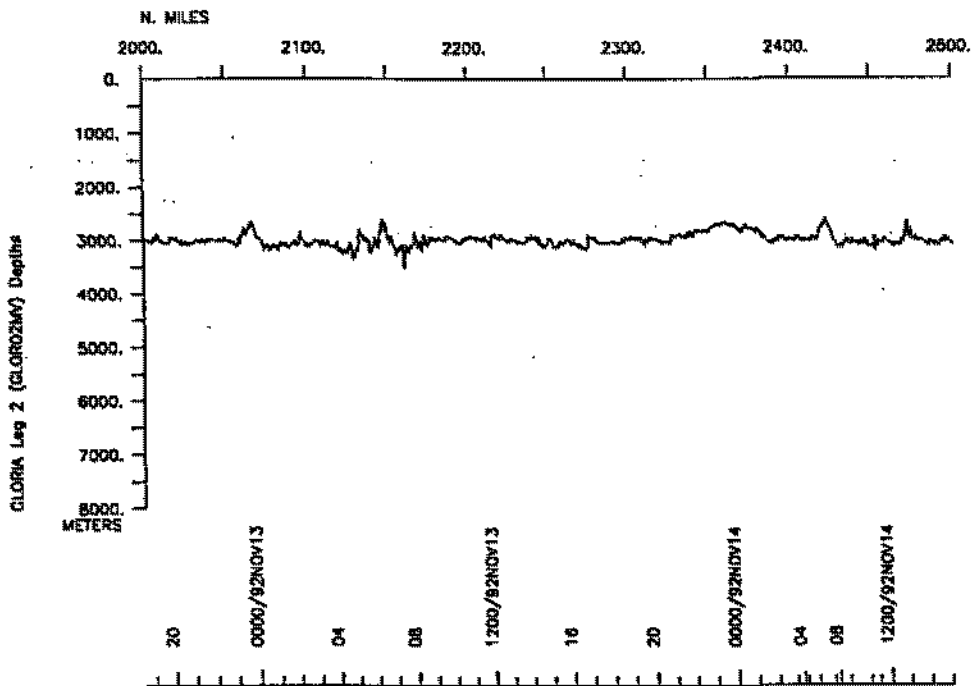
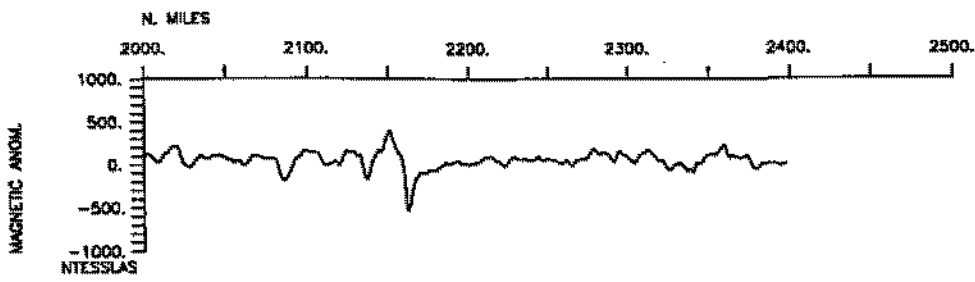
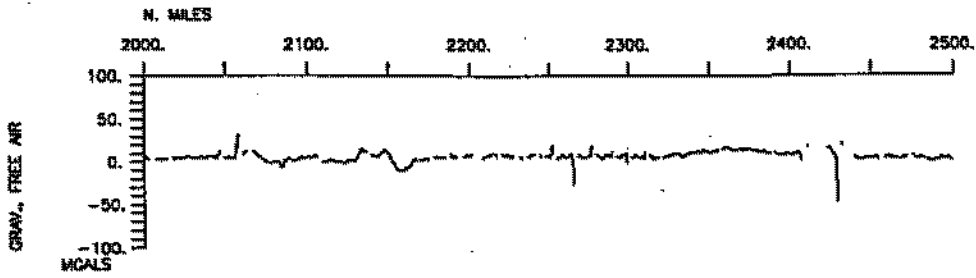


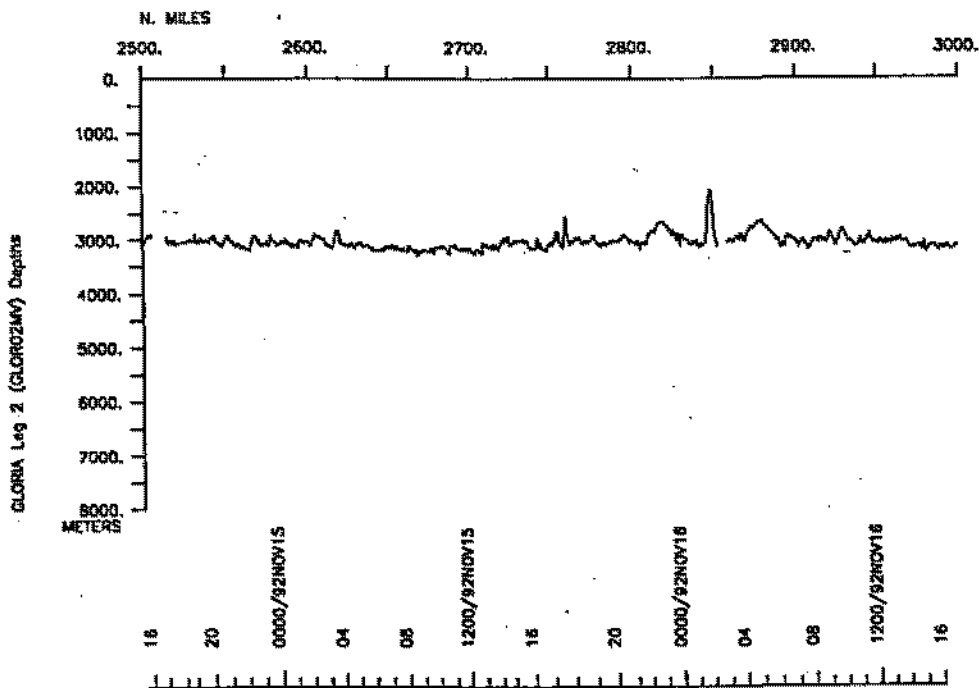
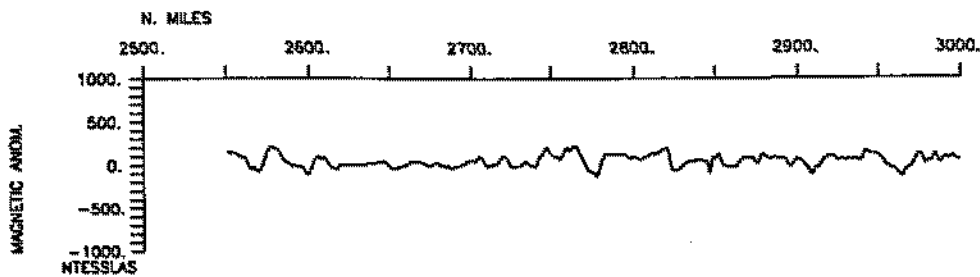
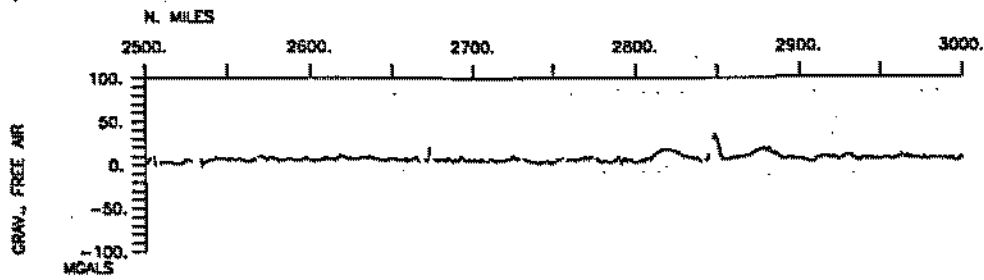


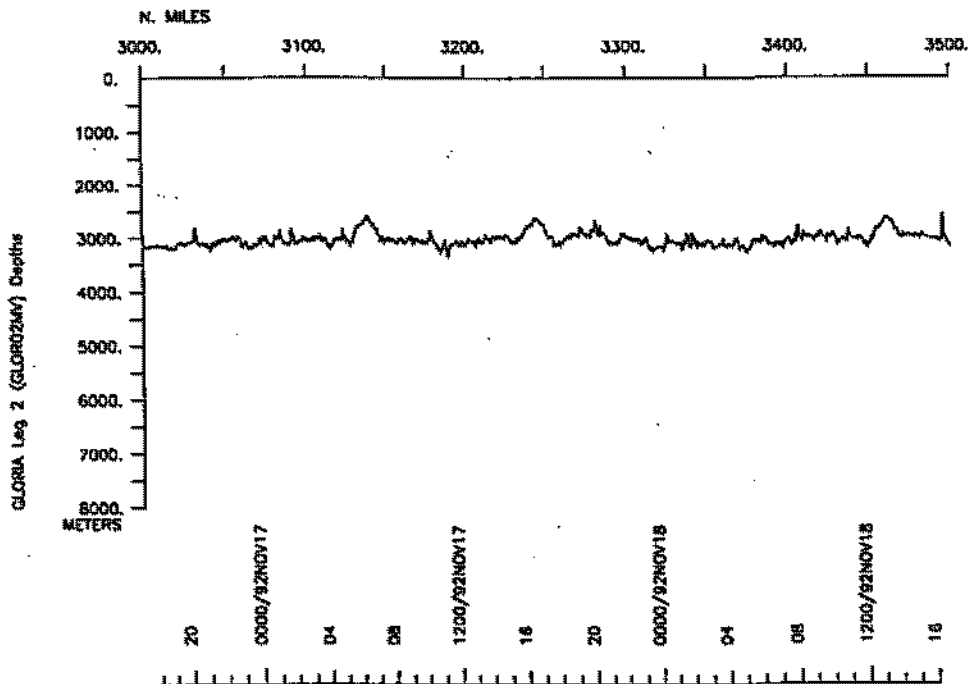
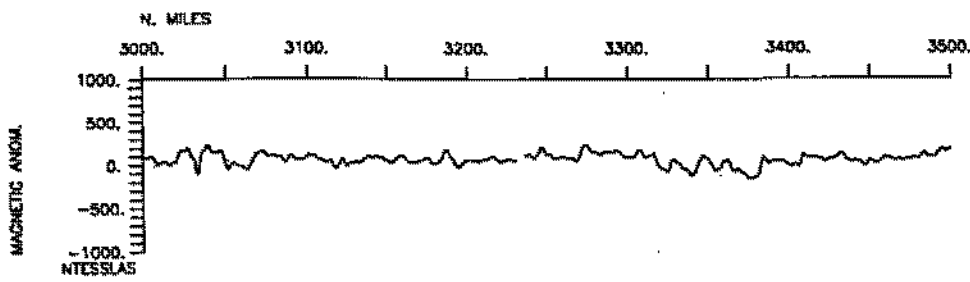
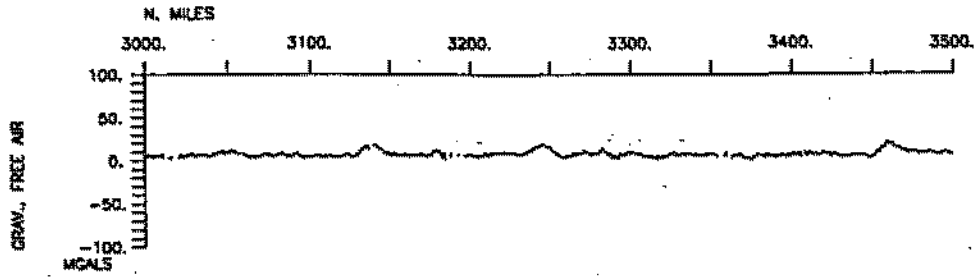


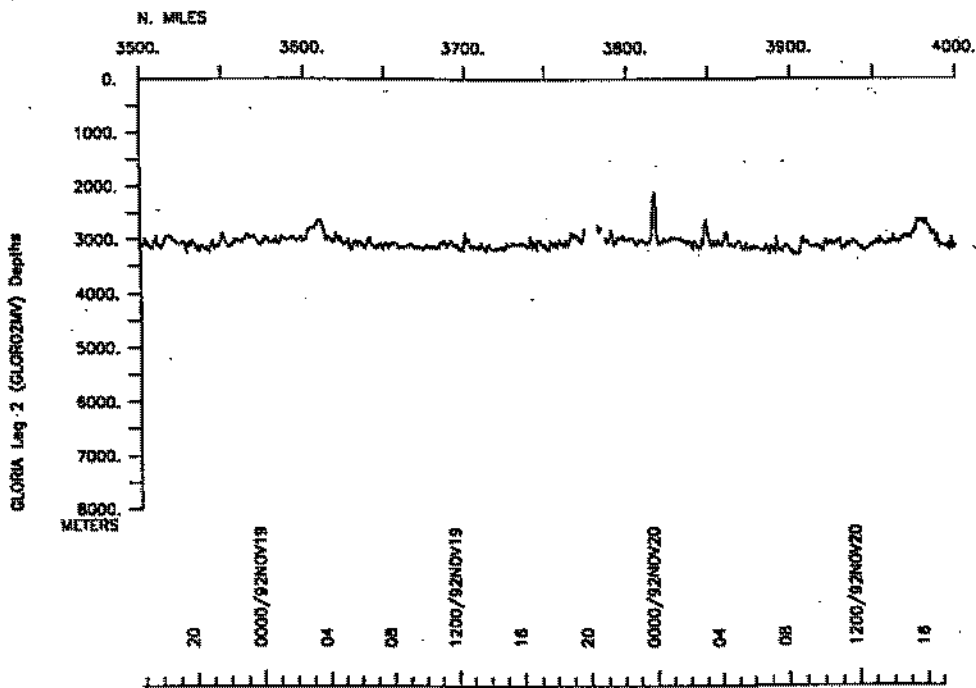
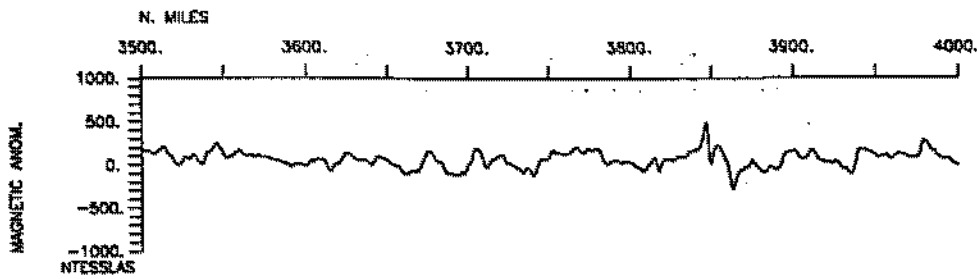




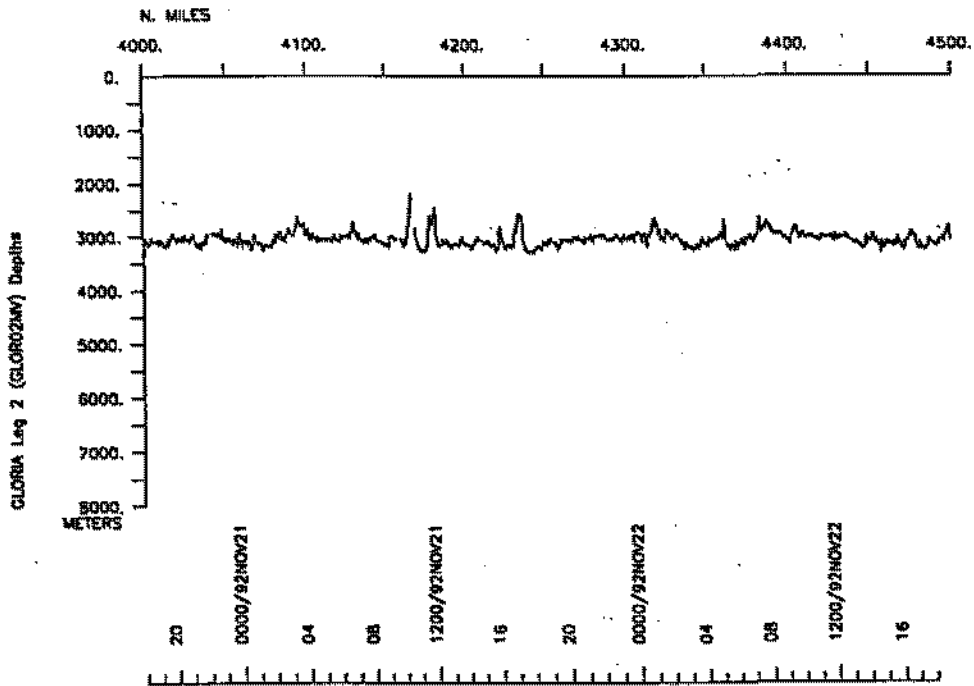
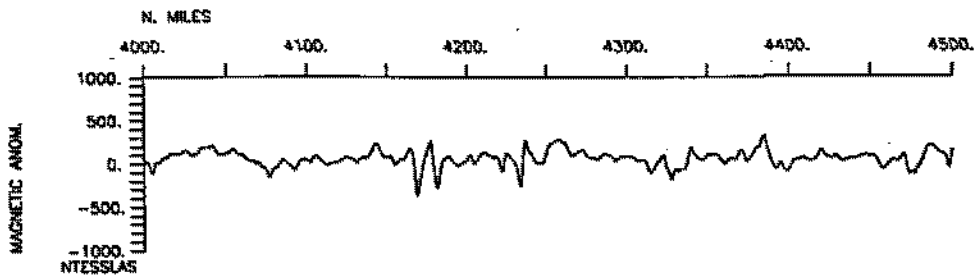


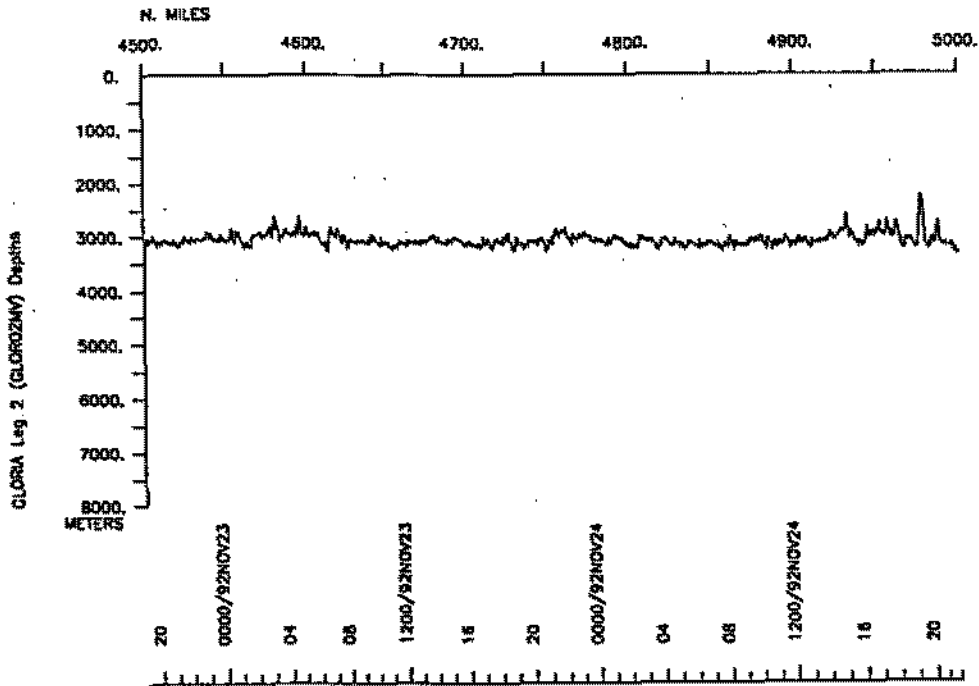
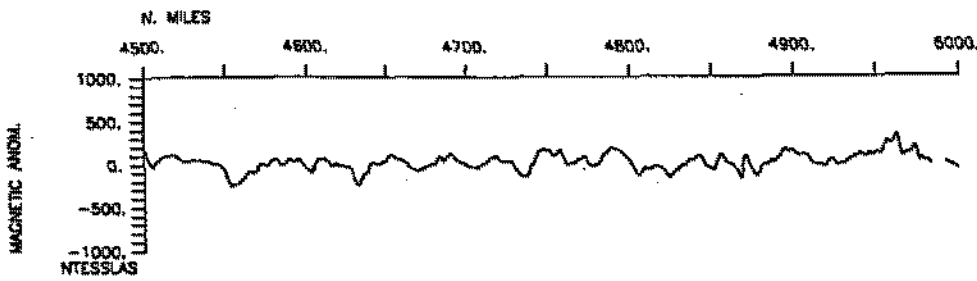
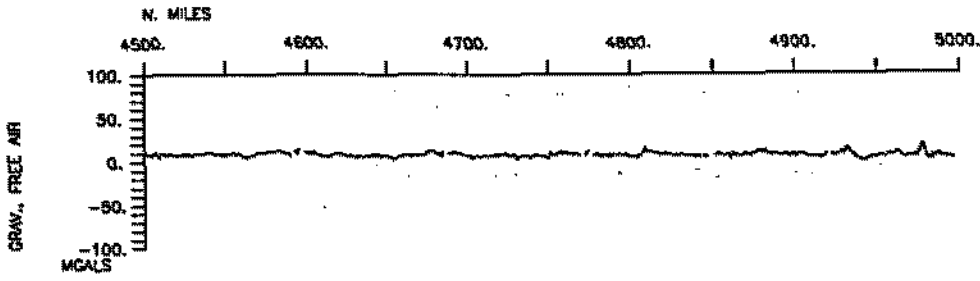


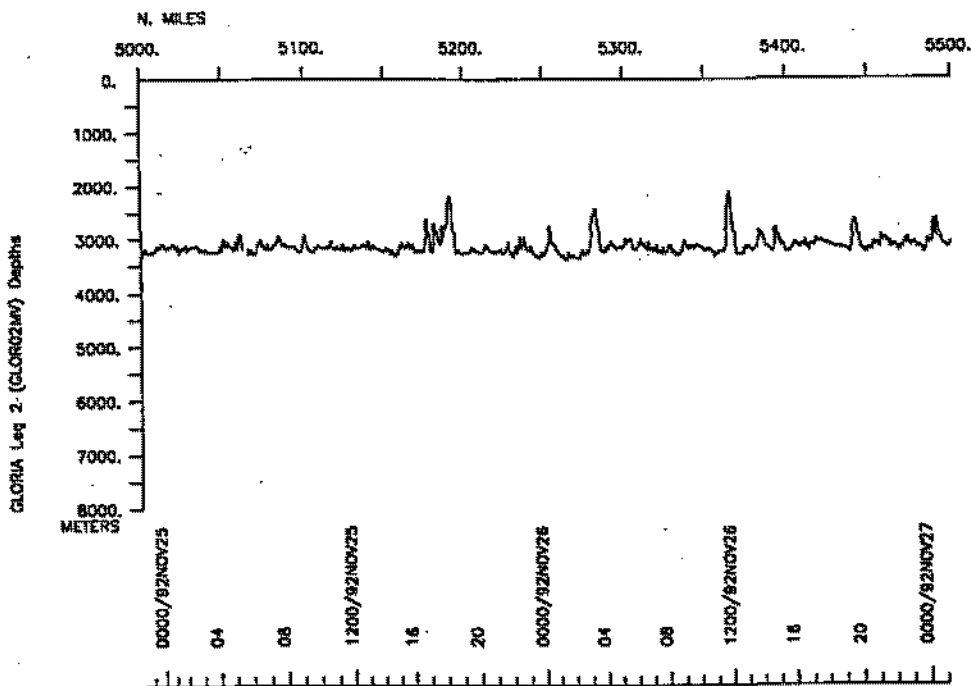
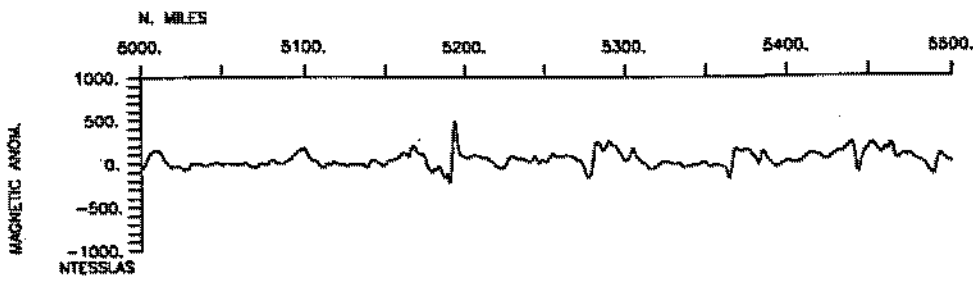


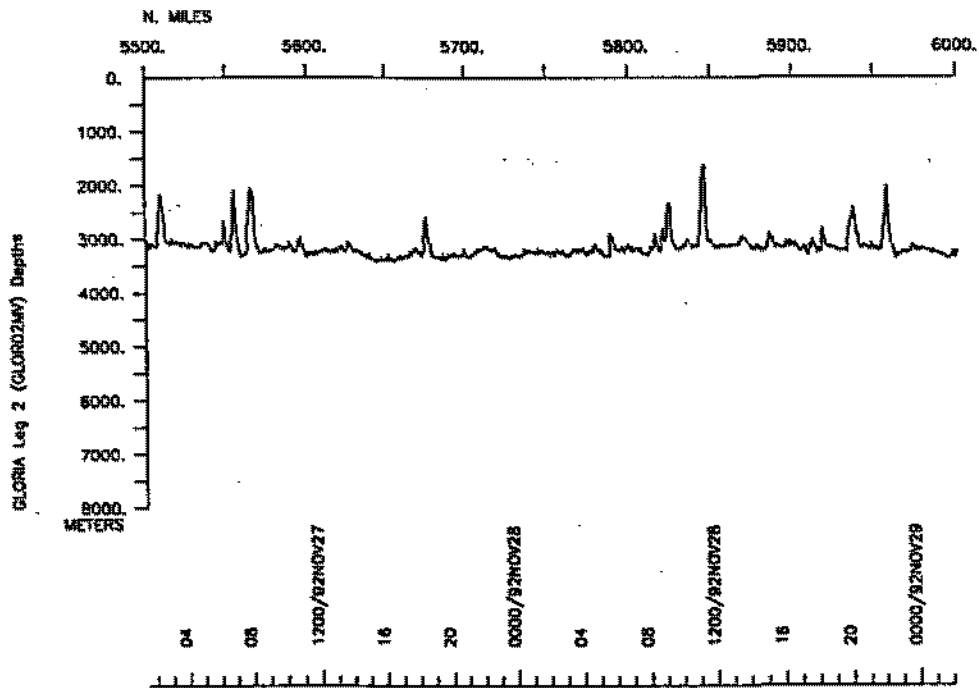
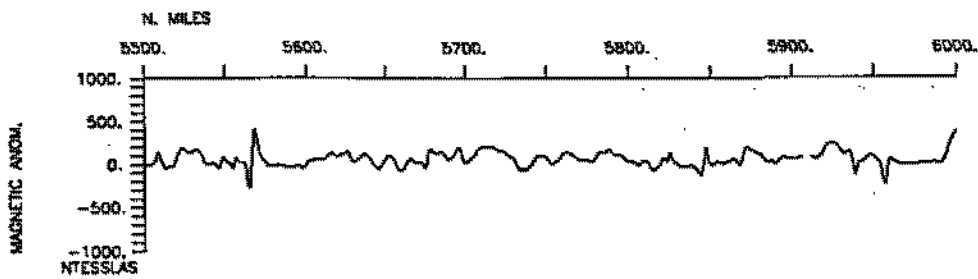
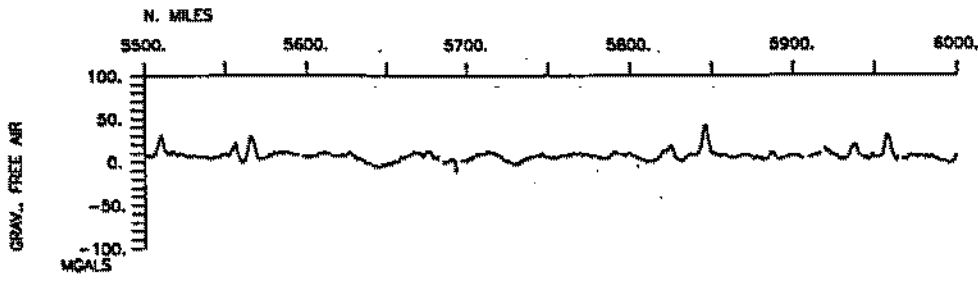


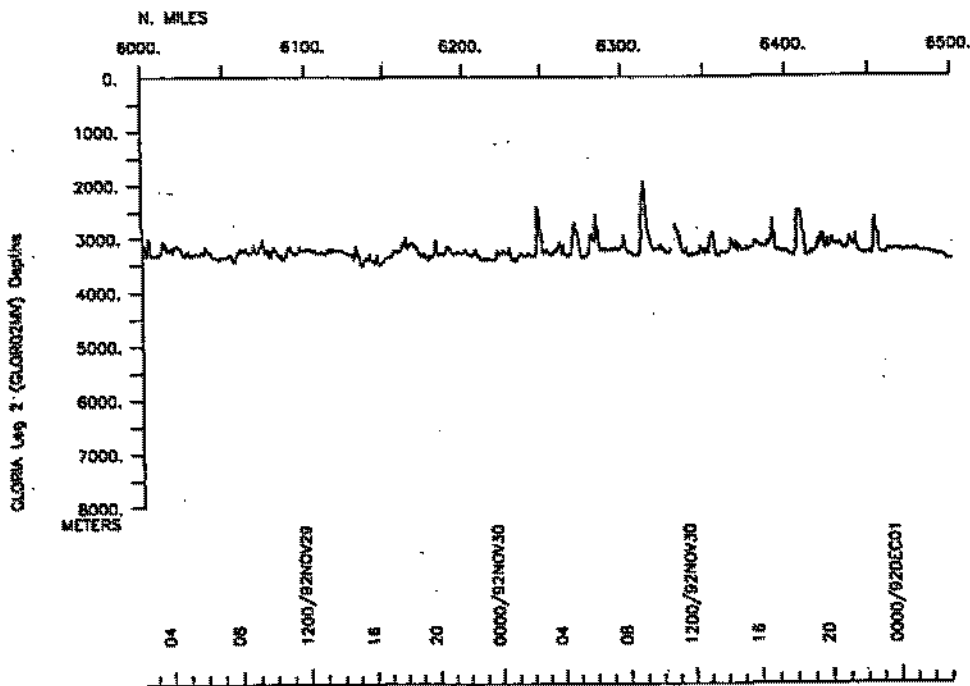
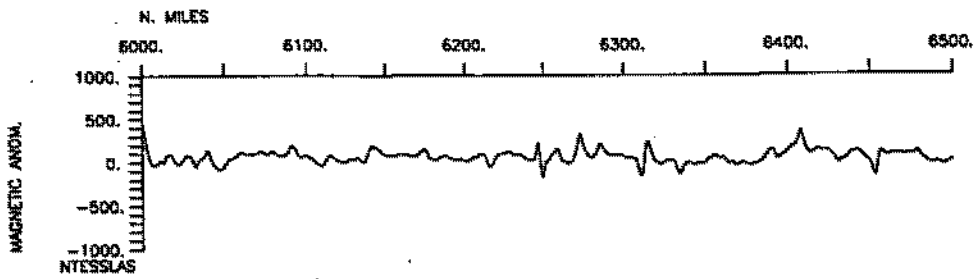


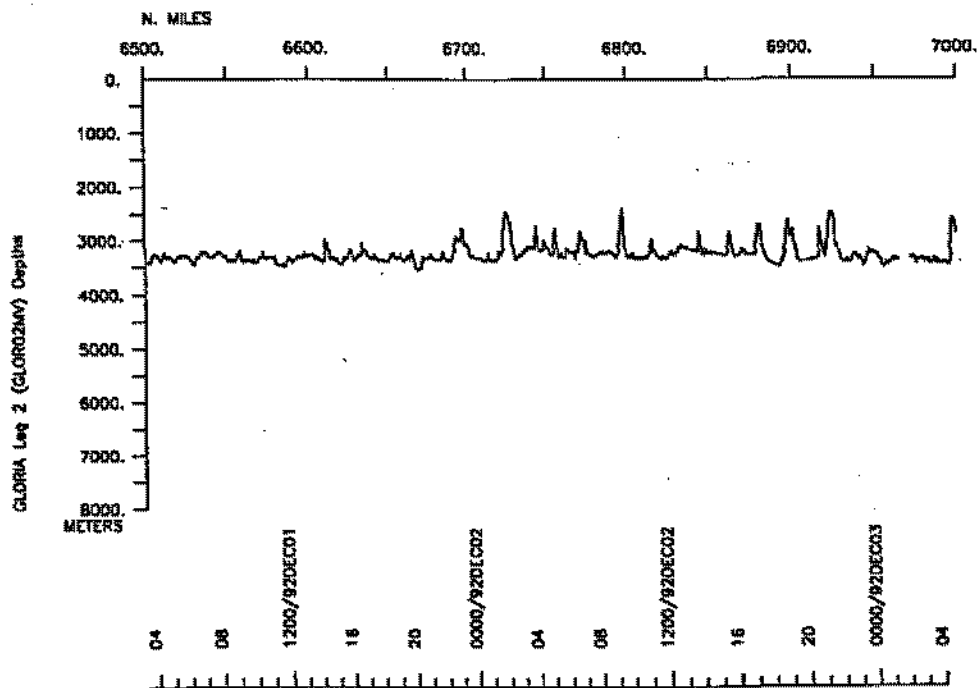
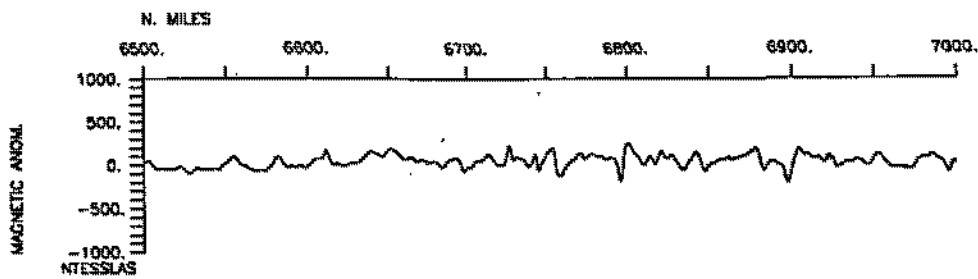
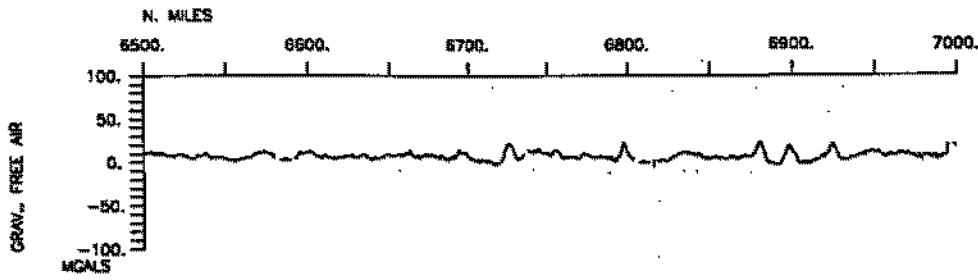


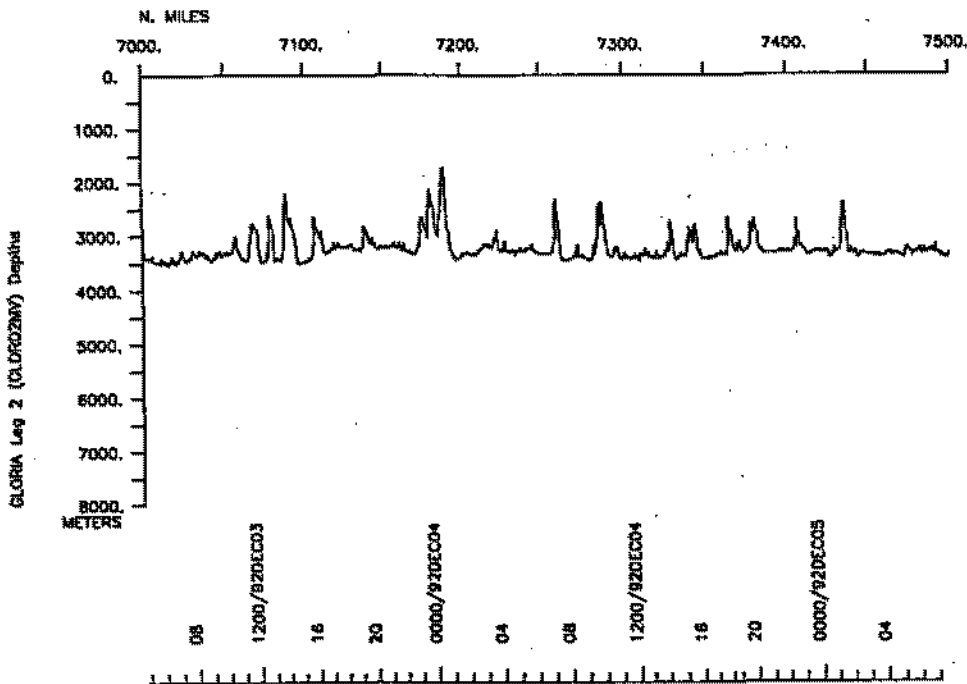
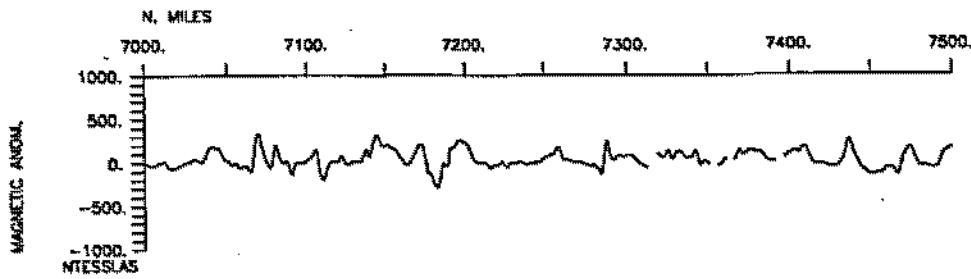
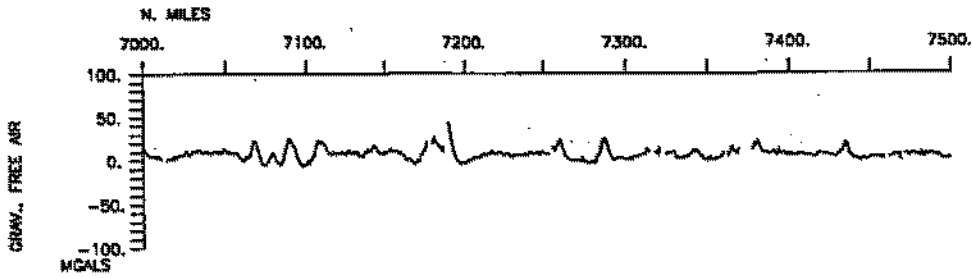


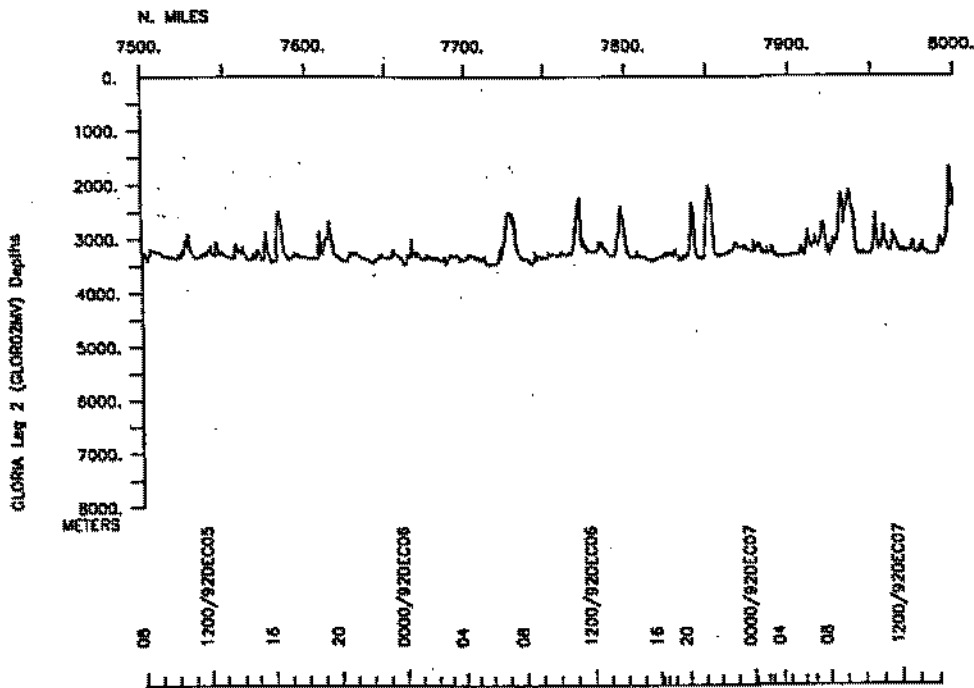
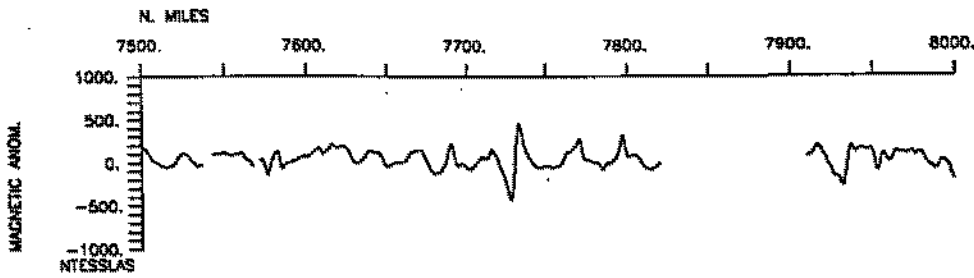
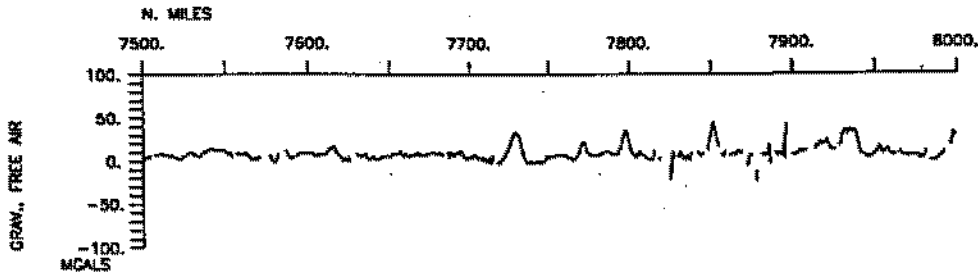




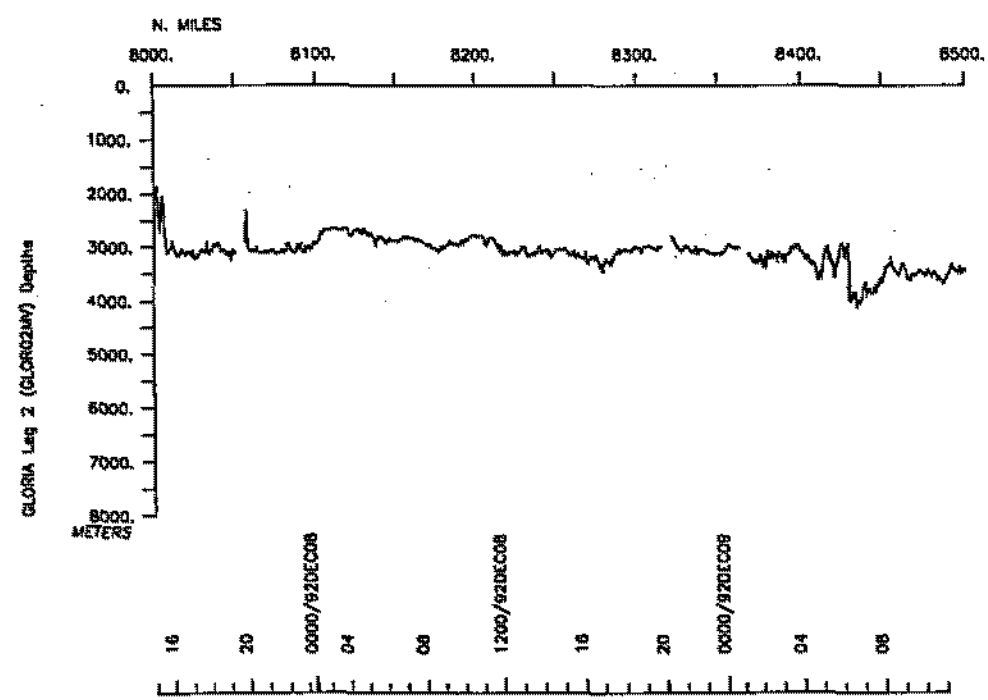
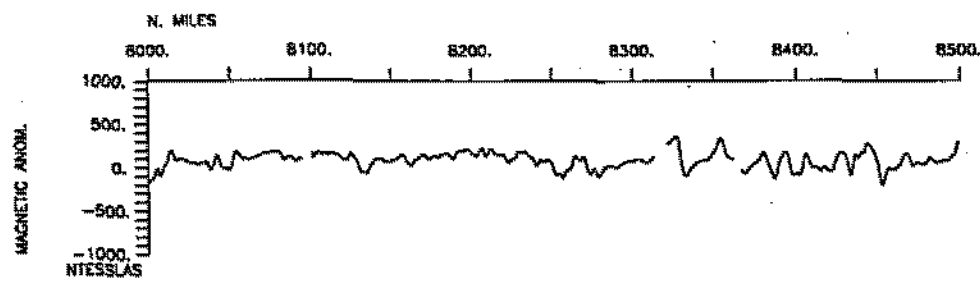


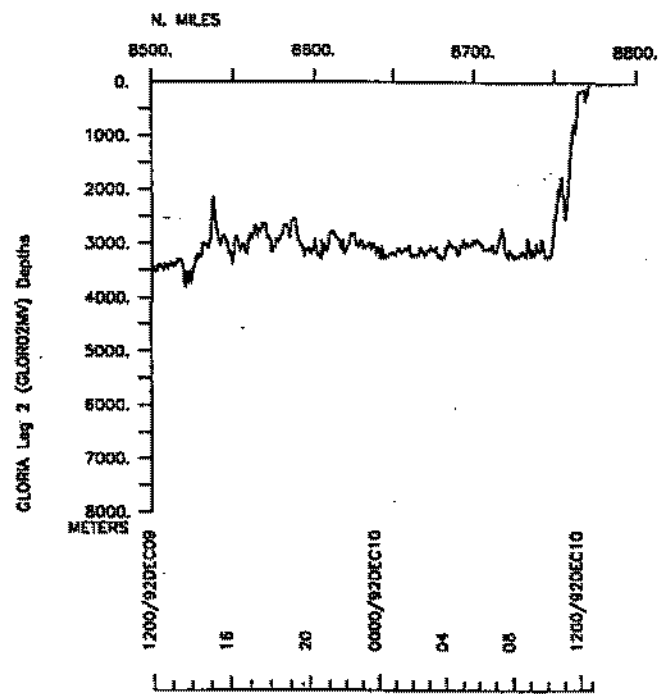
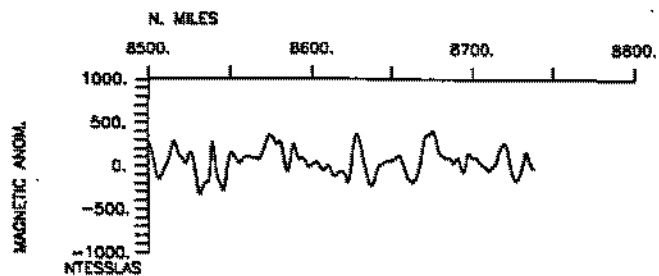
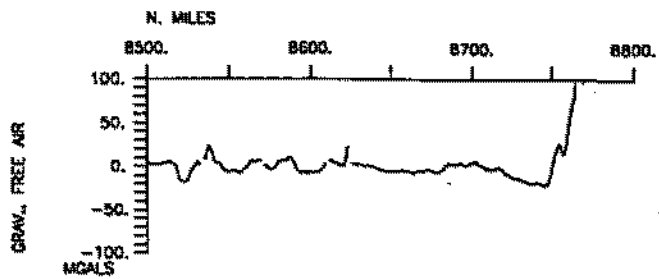












**S.I.O. SAMPLE INDEX**

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(Issued March 1993)

**GLORIA EXPEDITION**

**Leg 2**

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R/V Melville

Acapulco, Mexico (5 November 1992)  
to  
Easter Island (10 December 1992)

Chief Scientist:

Ken Macdonald (Univ. of Calif., Santa Barbara)

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 \*\*\*

2200 051192 LGPT B Acapulco, Mexico 16-51.00N 99-56.00W f GLOR02MV  
 1230 101292 LGPT E Easter Island, Chile 27-09.00S 109-27.00W f GLOR02MV

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

#	*****NAME*****	*****TITLE*****	*****AFFILIATION*****	**CRID**
PECS UCS	Macdonald,K.	Chief Scientist	UC Santa Barbara	GLOR02MV
PERT STS	Wilson,R.	Resident Tech	Scripps Institution	GLOR02MV
PECT STS	Moore,M.	Computer Tech	Scripps Institution	GLOR02MV
PEBE STS	Skinner,J.	Seabeam eng	Scripps Institution	GLOR02MV
PEST UCS	Alexander,R.	Student	UC Santa Barbara	GLOR02MV
PESP UCS	Atwater,T.	Professor	UC Santa Barbara	GLOR02MV
PEST UCS	Beedle,N.	Student	UC Santa Barbara	GLOR02MV
PESP UHI	Erickson,J.	Engineer	University of Hawaii	GLOR02MV
PESP UCS	Feldman,K.	Volunteer	UC Santa Barbara	GLOR02MV
PESP UCS	Johnson,D.	Technician	Hawaii Inst.of Geoph	GLOR02MV
PEXN SIX	Korenaga,J.	Observer	University of Tokyo	GLOR02MV
PESP UCS	Miller,S.	Specialist	UC Santa Barbara	GLOR02MV
PESP UHI	Mueller,T.	Technician	University of Hawaii	GLOR02MV
PESP UCS	Padgett,A.	Cartographer	UC Santa Barbara	GLOR02MV
PESP UHI	Petersen,L.	Technician	University of Hawaii	GLOR02MV
PEXN SIX	Sayanagi,K.	Observer	University of Tokyo	GLOR02MV
PEST UCS	Scheirer,D.	Student	UC Santa Barbara	GLOR02MV
PEST SIX	Shen,Y.	Student	Brown University	GLOR02MV
PESP UHI	Valanciano,M.	Electronic Tech	University of Hawaii	GLOR02MV
PEST UCS	Weiland,C.	Student	UC Santa Barbara	GLOR02MV
PEST UCS	Wright,D.	Student	UC Santa Barbara	GLOR02MV

\*\*\*\* 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.

#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. 42752 \*\*\*

\*\*\* Log Books \*\*\*

2204	051192	0	LBUW	B Underway watch log	GDC	16-50.69N	99-53.96W	g		GLOR02MV
1230	101292	0	LBUW	E Underway watch log	GDC	27-12.14S	109-23.46W	g		GLOR02MV
2258	051192	0	LBSC	B UCSB ops log	UCSB	16-43.17N	99-57.06W	g		GLOR02MV
1625	181192	0	LBSC	E UCSB ops log	UCSB	17-40.94S	112-58.23W	g		GLOR02MV
1625	181192	0	LBSC	B UCSB ops log	UCSB	17-40.94S	112-58.23W	g		GLOR02MV
2045	031292	0	LBSC	E UCSB ops log	UCSB	18-33.12S	115-35.92W	g		GLOR02MV
2100	031292	0	LBSC	B UCSB ops log	UCSB	18-35.37S	115-35.31W	g		GLOR02MV
1230	101292	0	LBSC	E UCSB ops log	UCSB	27-12.14S	109-23.46W	g		GLOR02MV

\*\*\* Sea Beam Records (vertical beam and side scan) \*\*\*

2258	051192	0	MBSR	B v.beam&sidescan r-01	GDC	16-43.17N	99-57.06W	g		GLOR02MV
0300	141192	0	MBSR	E v.beam&sidescan r-01	GDC	17-14.78S	113-03.14W	g		GDCR02MV
0319	141192	0	MBSR	B v.beam&sidescan r-02	GDC	17-14.79S	113-04.05W	g		GLOR02MV
1634	181192	0	MBSR	E v.beam&sidescan r-02	GDC	17-42.48S	112-57.82W	g		GLOR02MV
1640	181192	0	MBSR	B v.beam&sidescan r-03	GDC	17-43.49S	112-57.54W	g		GLOR02MV
1548	041292	0	MBSR	E v.beam&sidescan r-03	GDC	17-18.58S	116-19.16W	g		GLOR02MV
1603	041292	0	MBSR	B v.beam&sidescan r-04	GDC	17-21.15S	116-18.45W	g		GLOR02MV
1230	101292	0	MBSR	E v.beam&sidescan r-04	GDC	27-12.14S	109-23.46W	g		GLOR02MV

\*\*\* Seamarc II (mapping system) \*\*\*

1817	141192	0	MBSM	B Seamarc II	UCSB	17-44.62S	113-27.43W	g		GLOR02MV
1422	151192	0	MBSM	E Seamarc II	UCSB	16-18.50S	113-42.32W	g		GLOR02MV
2143	151192	0	MBSM	B Seamarc II	UCSB	17-41.08S	113-19.70W	g		GLOR02MV
1731	061292	0	MBSM	E Seamarc II	UCSB	17-27.15S	116-23.19W	g		GLOR02MV

GMT #TIME	DDMMYY DATE	SAMP TZ	B CODE	SAMPLE E IDENTIFIER	DISP CODE	LATITUDE	LONGITUDE	p c	CRUISE LEG-SHIP
#*** Echo Sounder Records ***									
2205	271192	0	DPR3	B 3.5khz epc r-01	GDC	15-48.66S	115-16.77W	g	GLOR02MV
1026	281192	0	DPR3	E 3.5khz epc r-01	GDC	17-48.81S	114-43.32W	g	GLOR02MV
1030	281192	0	DPR3	B 3.5khz epc r-02	GDC	17-49.47S	114-43.15W	g	GLOR02MV
0946	301192	0	DPR3	E 3.5khz epc r-02	GDC	18-22.15S	114-55.68W	g	GLOR02MV
0955	301192	0	DPR3	B 3.5khz epc r-03	GDC	18-23.53S	114-55.25W	g	GLOR02MV
1758	011292	0	DPR3	E 3.5khz epc r-03	GDC	16-25.19S	115-49.76W	g	GLOR02MV
1816	011292	0	DPR3	B 3.5khz epc r-04	GDC	16-28.12S	115-49.03W	g	GLOR02MV
1500	031292	0	DPR3	E 3.5khz epc r-04	GDC	17-40.65S	115-50.95W	g	GLOR02MV
1509	031292	0	DPR3	B 3.5khz epc r-05	GDC	17-42.02S	115-50.54W	g	GLOR02MV
1227	051292	0	DPR3	E 3.5khz epc r-05	GDC	17-43.06S	116-33.70W	g	GLOR02MV
1236	051292	0	DPR3	B 3.5khz epc r-06	GDC	17-41.54S	116-34.07W	g	GLOR02MV
1956	061292	0	DPR3	E 3.5khz epc r-06	GDC	17-31.34S	116-14.03W	g	GLOR02MV
#*** Magnetics (Earth Total Field) Records ***									
1514	061192	0	MGRA	B magnetics r-01	GDC	13-45.20N	101-21.31W	g	GLOR02MV
0025	131192	0	MGRA	E magnetics r-01	GDC	12-32.03S	110-59.32W	g	GLOR02MV
0032	131192	0	MGRA	B magnetics r-02	GDC	12-32.97S	111-00.47W	g	GLOR02MV
1828	221192	0	MGRA	E magnetics r-02	GDC	17-01.93S	112-31.78W	g	GLOR02MV
1830	221192	0	MGRA	B magnetics r-03	GDC	17-01.61S	112-31.87W	g	GLOR02MV
0300	251192	0	MGRA	E magnetics r-03	GDC	15-54.47S	114-00.18W	g	GLOR02MV
0305	251192	0	MGRA	B magnetics r-04	GDC	15-55.29S	113-59.98W	g	GLOR02MV
1420	061292	0	MGRA	E magnetics r-04	GDC	17-37.65S	116-13.62W	g	GLOR02MV
1425	061292	0	MGRA	B magnetics r-05	GDC	17-36.81S	116-13.83W	g	GLOR02MV
0919	101292	0	MGRA	E magnetics r-05	GDC	26-53.12S	109-48.35W	g	GLOR02MV

#	GMT	DDMMYY	TZ	SAMP	B	SAMPLE	DISP	LATITUDE	LONGITUDE	p	CRUISE
#	TIME	DATE		CODE	E	IDENTIFIER	CODE			c	LEG-SHIP
#*** Ocean Bottom Seismographs ***											
0336	141192	0		SBOB	B	Stie 1, Obs. 6	LMD	17-13.99S	113-04.82W	g	GLOR02MV
1230	101292	0		SBOB	C	Stie 1, Obs. 6	LMD	27-12.14S	109-23.46W	g	GLOR02MV
0722	141192	0		SBOB	B	Stie 2, Obs. 5	LMD	17-16.49S	113-16.28W	g	GLOR02MV
1230	101292	0		SBOB	C	Stie 2, Obs. 5	LMD	27-12.14S	109-23.46W	g	GLOR02MV
1032	141192	0		SBOB	B	Site 3, Obs. 4	LMD	17-18.58S	113-38.35W	g	GLOR02MV
1230	101292	0		SBOB	C	Site 3, Obs. 4	LMD	27-12.14S	109-23.46W	g	GLOR02MV
1540	141192	0		SBOB	B	Site 4a, Obs. 9	LMD	18-04.73S	113-23.52W	g	GLOR02MV
1541	141192	0		SBOB	E	Site 4a, Obs. 9	LMD	18-04.71S	113-23.54W	g	GLOR02MV
0027	071292	0		SBOB	B	Site 5, Obs. 8	LMD	17-58.40S	116-07.33W	g	GLOR02MV
1230	101292	0		SBOB	C	Site 5, Obs. 8	LMD	27-12.14S	109-23.46W	g	GLOR02MV
0201	071292	0		SBOB	B	Site 6, Obs. 12	LMD	17-52.94S	116-02.67W	g	GLOR02MV
1230	101292	0		SBOB	C	Site 6, Obs. 12	LMD	27-12.14S	109-23.46W	g	GLOR02MV
0344	071292	0		SBOB	B	Site 8, Obs. 14	LMD	17-54.38S	115-56.02W	g	GLOR02MV
1230	101292	0		SBOB	C	Site 8, Obs. 14	LMD	27-12.14S	109-23.46W	g	GLOR02MV
0616	071292	0		SBOB	B	Site 7, Obs. 3	LMD	17-46.94S	116-05.41W	g	GLOR02MV
1230	101292	0		SBOB	C	Site 7, Obs. 3	LMD	27-12.14S	109-23.46W	g	GLOR02MV
0202	081292	0		SBOB	B	Site 4b, Obs. 9	LMD	18-04.71S	113-23.48W	g	GLOR02MV
1230	101292	0		SBOB	C	Site 4b, Obs. 9	LMD	27-12.14S	109-23.46W	g	GLOR02MV
#*** Expendable Bathythermographs ***											
2200	051192	0		BTXP		25 xbts for svp	GDC	16-50.70N	99-53.94W	g	GLOR02MV
#*** Continuous Recorded Gravity ***											
2200	051192	0				GVCB B gravity	GDC	16-50.70N	99-53.94W	g	GLOR02MV
1230	101292	0				GVCB E gravity	GDC	27-12.14S	109-23.46W	g	GLOR02MV

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End Sample Index

GLOR02MV