

REPORT AND INDEX OF  
UNDERWAY MARINE GEOPHYSICAL DATA

AVON EXPEDITION

LEG 4

(AVON04MV)

R/V Melville

(Issued June 1999)

**Ports:**

Apia, Western Samoa (20 March 1999)

to

Apia, Western Samoa (13 April 1999)

**Chief Scientist:**

Peter Lonsdale, Scripps Institution  
plonsdale@ucsd.edu

Computer Technician - Ron Moe

Resident Marine Technician - Ron Comer

Post-Cruise Processing and Report Preparation by the  
Geological Data Center, Scripps Institution of Oceanography  
La Jolla, California 92093-0223

**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 92093-0223*

GDC Cruise I.D.# 284

**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.

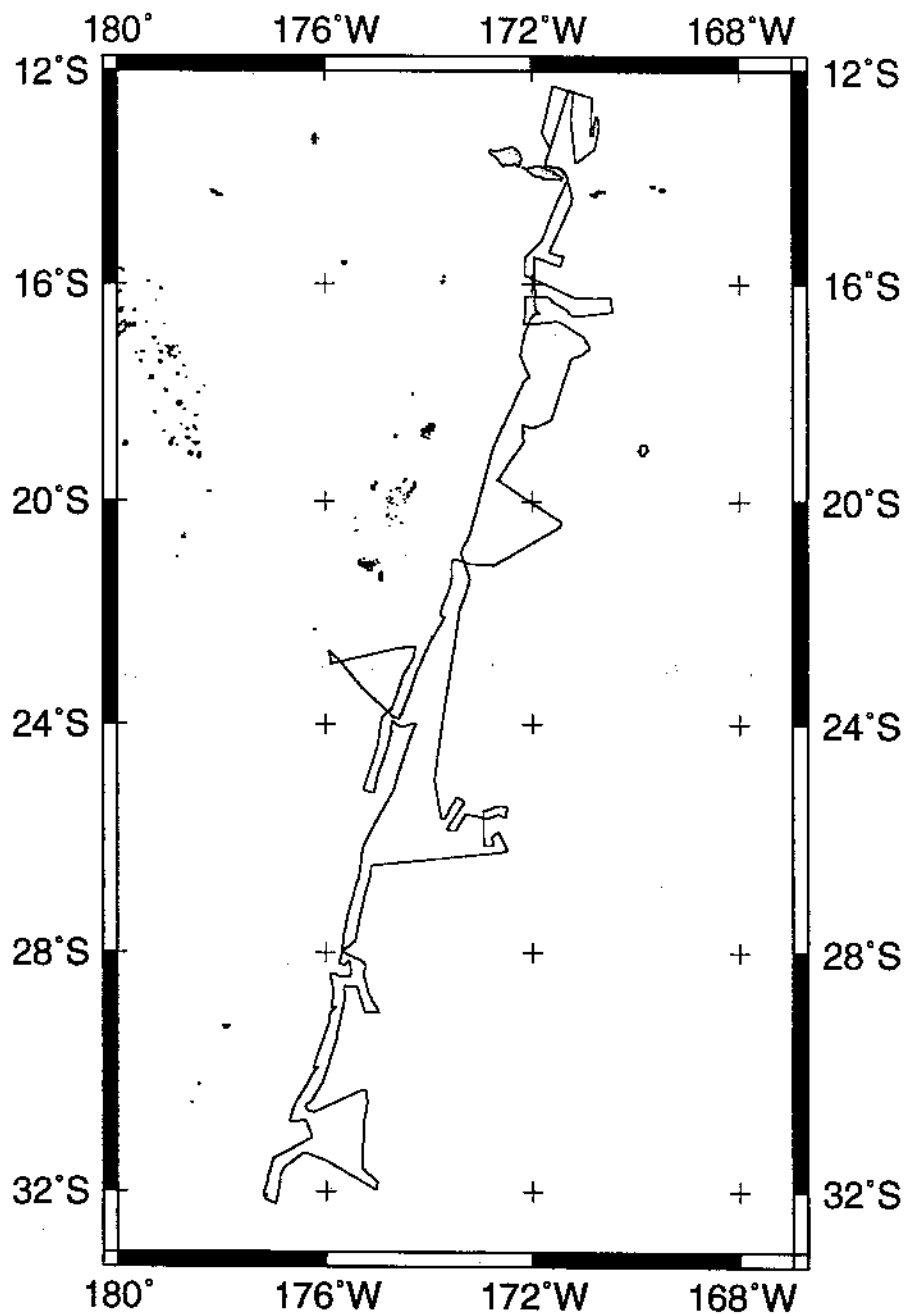
**Track Charts** - annotated with dates and hour ticks.

**Profiles** - depth, magnetic 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 samples and measurements from other disciplines collected on the leg.

**NOTE:** One or more of the underway data types may not be collected on a given 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, California 92093-0223. Phone: (619)534-2752, FAX: (619)534-6500, Internet email: [ssmith@ucsd.edu](mailto:ssmith@ucsd.edu)

1. Files via ftp or on 8mm (Exabyte) and 4mm (DAT) magnetic tape:
  - a) Separate time series ASCII files of navigation, single beam depth, gravity and magnetics.
  - b) Above data in a single merged ASCII file in the MGD77 Exchange Format.
  - c) SeaBeam depth data (binary, Sun byte order)
  - d) SeaBeam Sidescan data.
2. Microfilm (35 mm flowfilm) or hard copies of:
  - a) Underway watch log book.
  - b) SeaBeam vertical beam profile/Sidescan records.
  - c) 3.5 kHz and 12 kHz echosounder records.
  - d) Seismic reflection profiler records.
3. Navigation listing with times and positions of fixes and course and speed changes.
4. Custom plots in Mercator projection:
  - a) Track plots.
  - b) SeaBeam depth contour plots.
  - c) Depth, magnetic or gravity values printed or profiled along track.



**AVON EXPEDITION LEG 4 (AVON04MV)**

**CHIEF SCIENTIST:** Peter Lonsdale, Scripps Institution

**PORTS:** Apia - Apia, Western Samoa

**DATES:** 20 March - 13 April 1999

**SHIP:** R/V Melville

**TOTAL MILEAGE OF UNDERWAY DATA COLLECTED**

**Cruise - 4630 miles**

**Magnetics - 3765 miles**

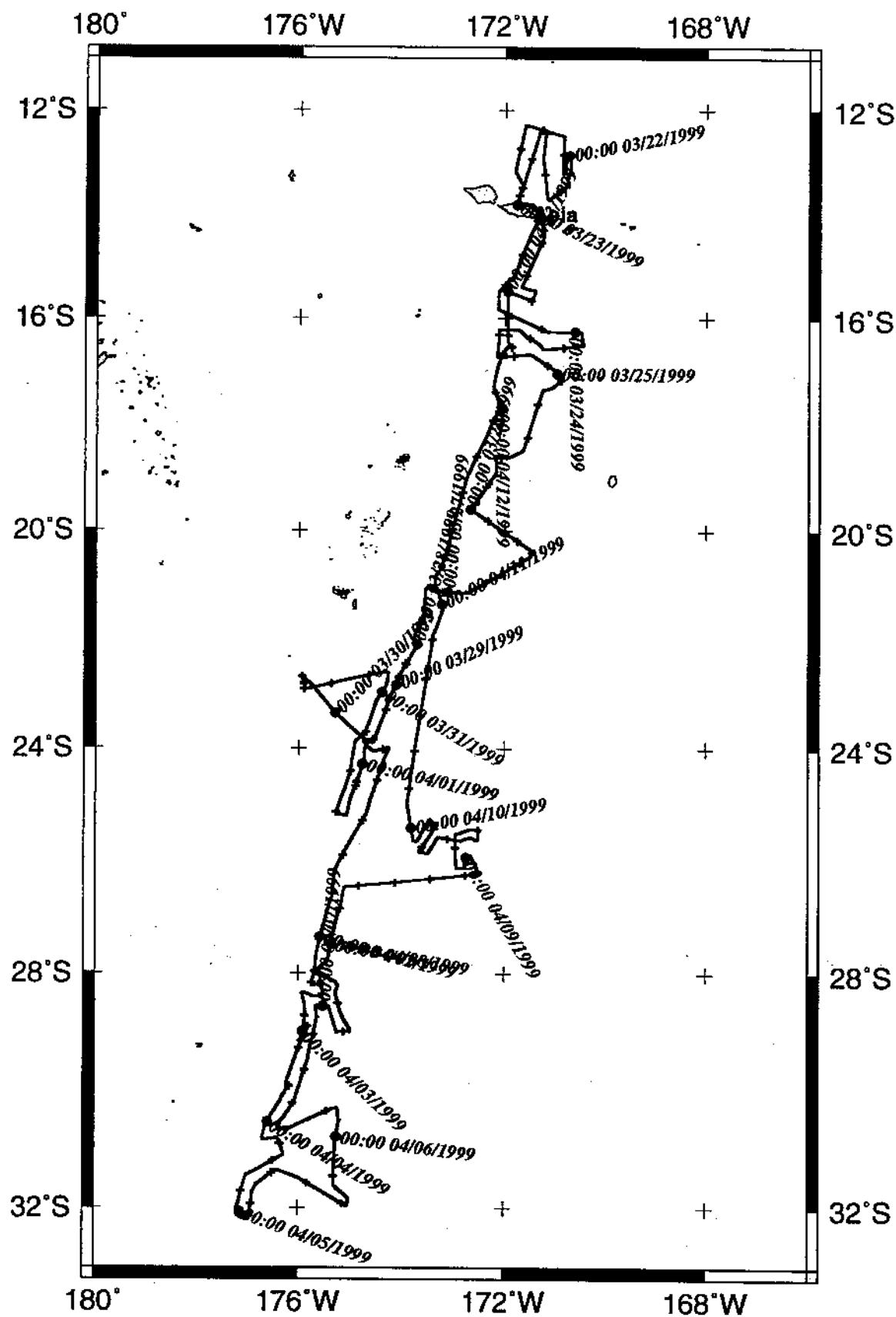
**Bathymetry - 4530 miles**

**Seismic Reflection - 2245 miles**

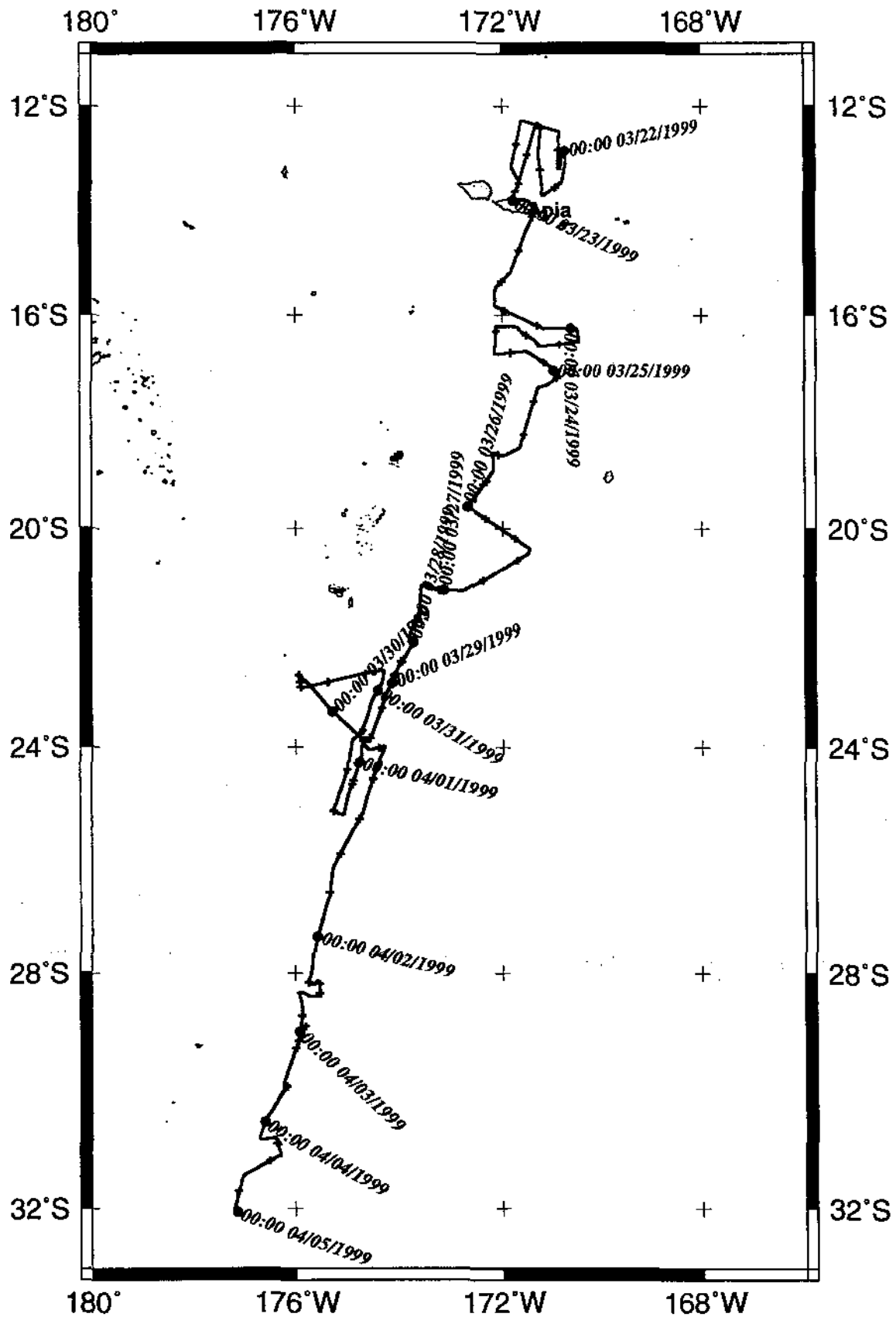
**Sea Beam - 4530 miles**

**Gravity - 4615 collected**

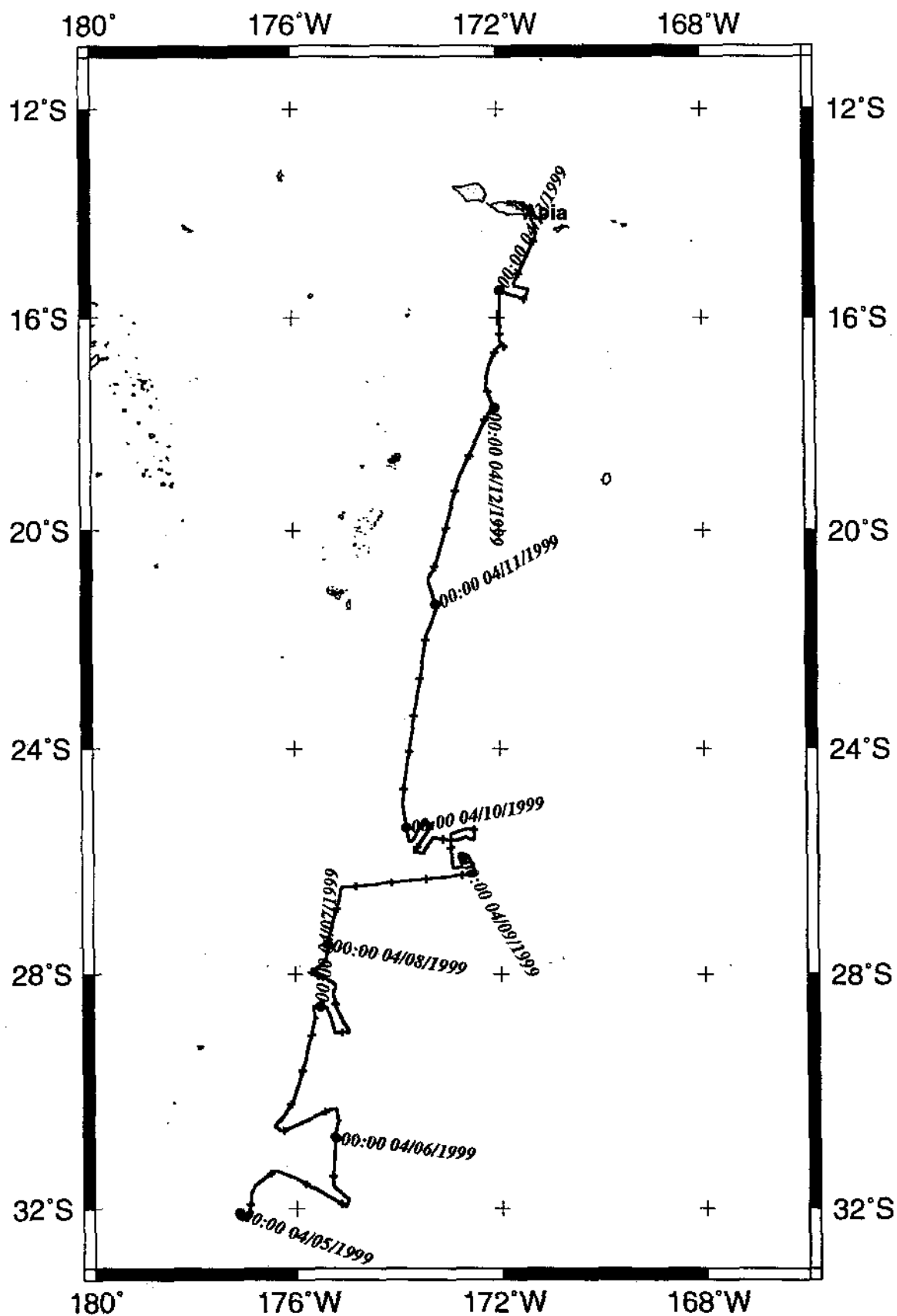
# AVON04MV Track

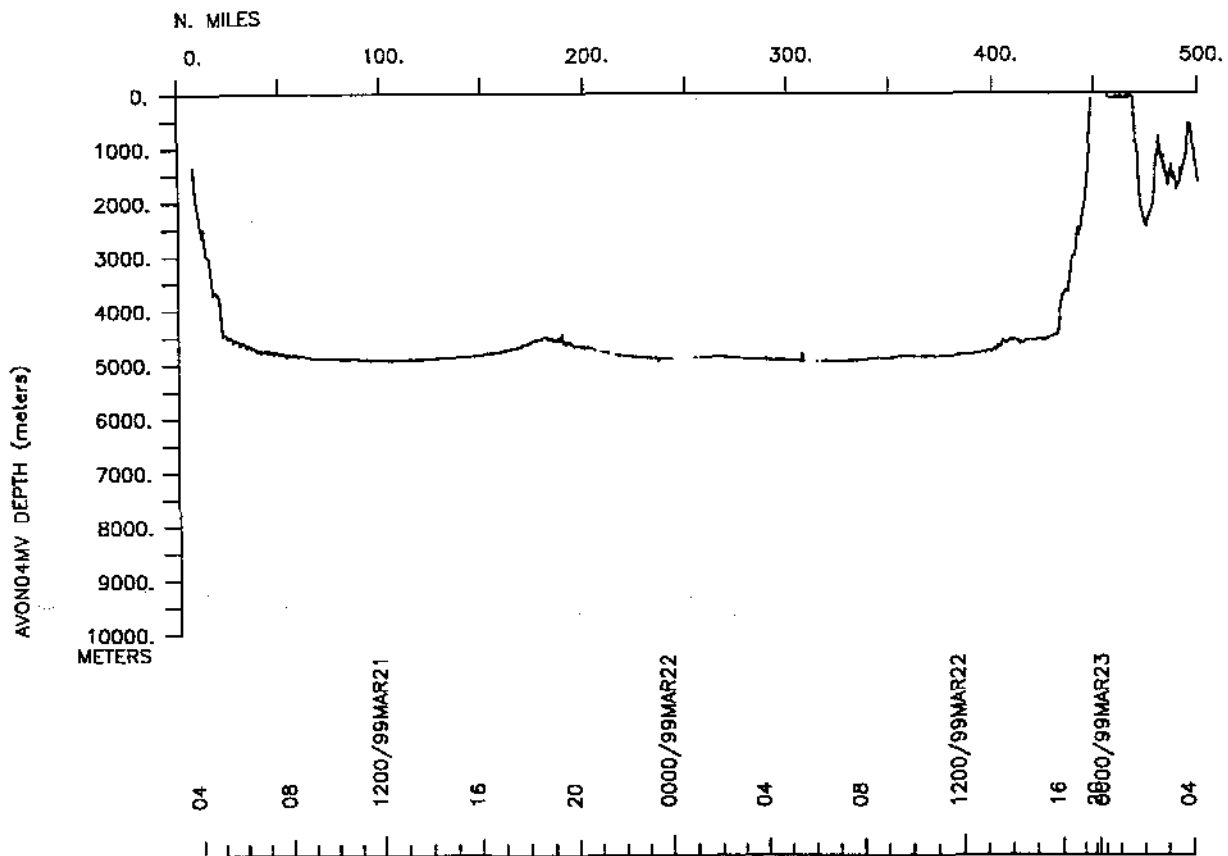
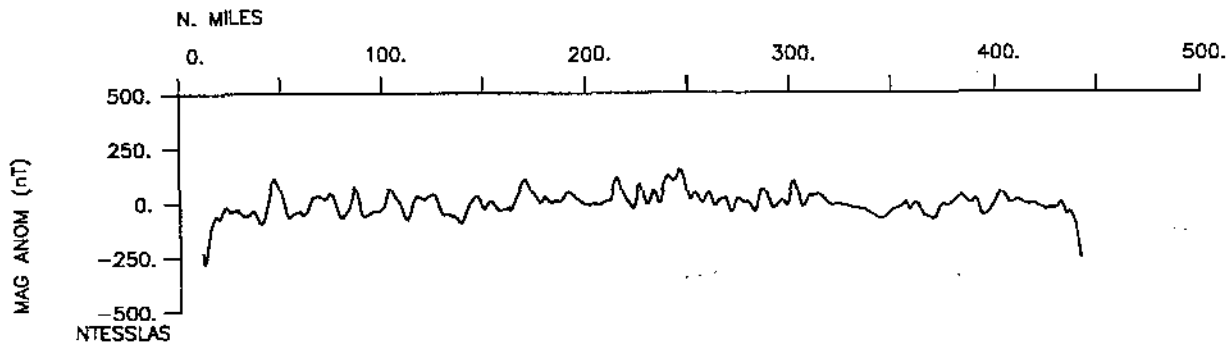
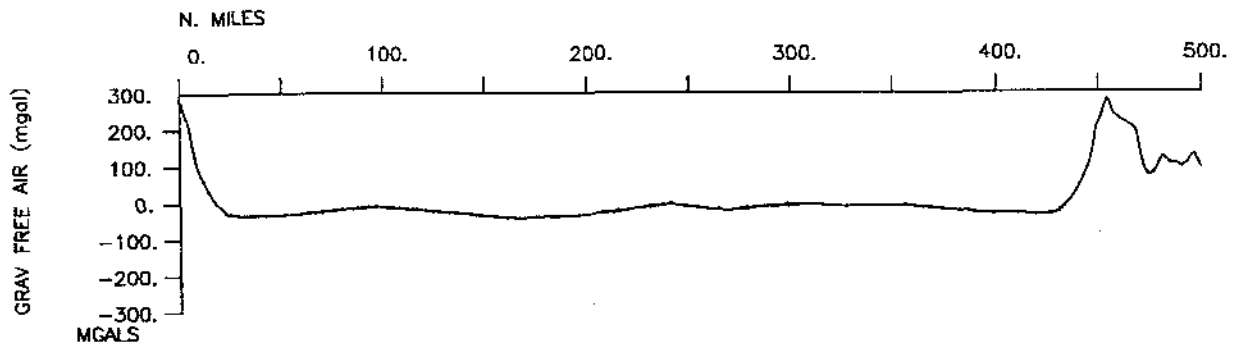


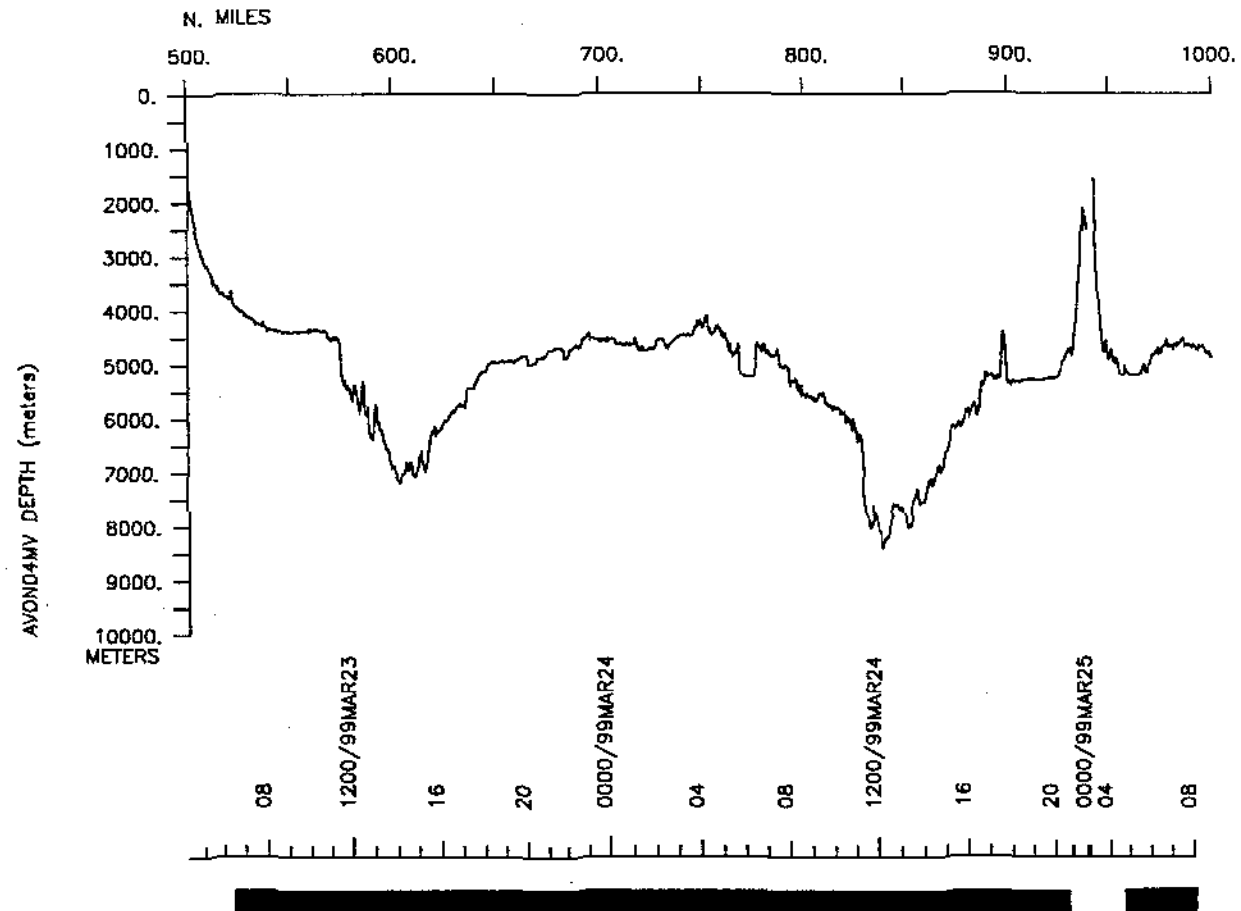
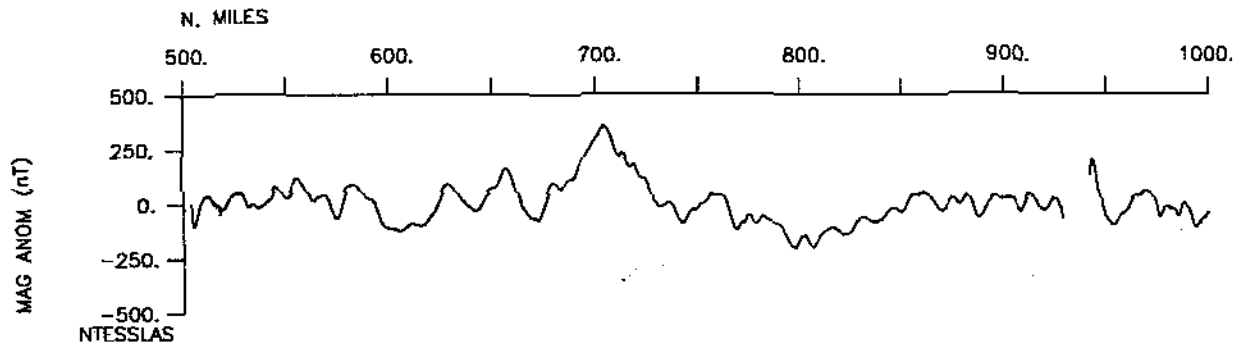
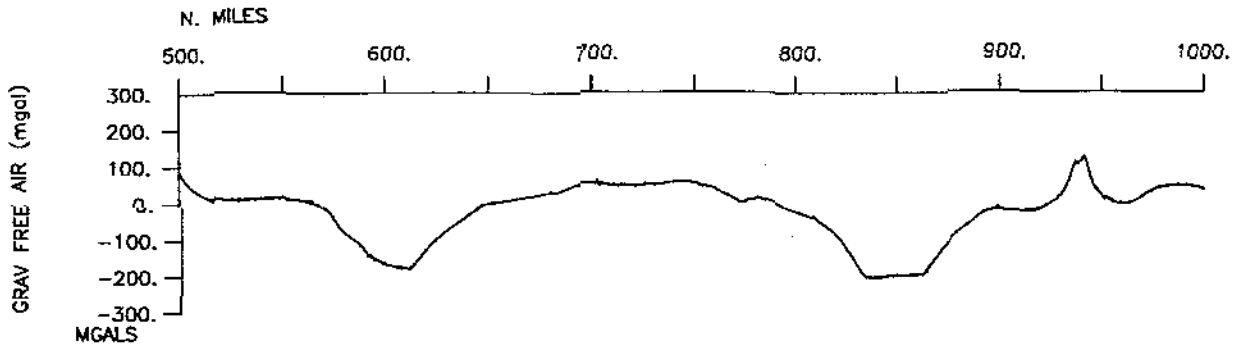
# AVON04MV Begin Track



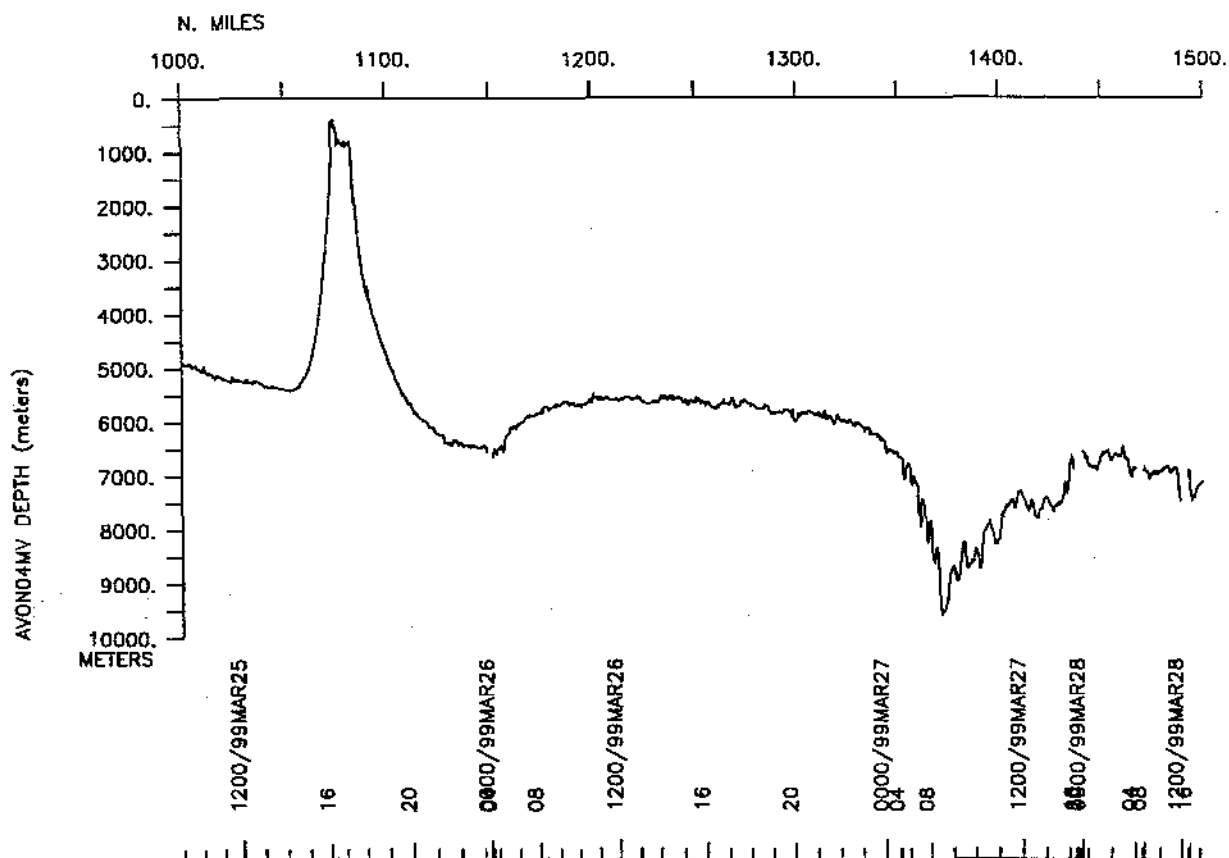
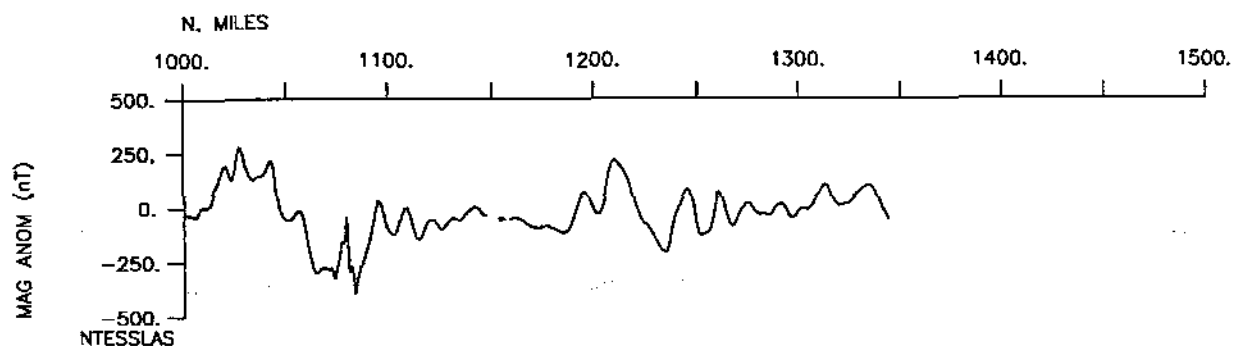
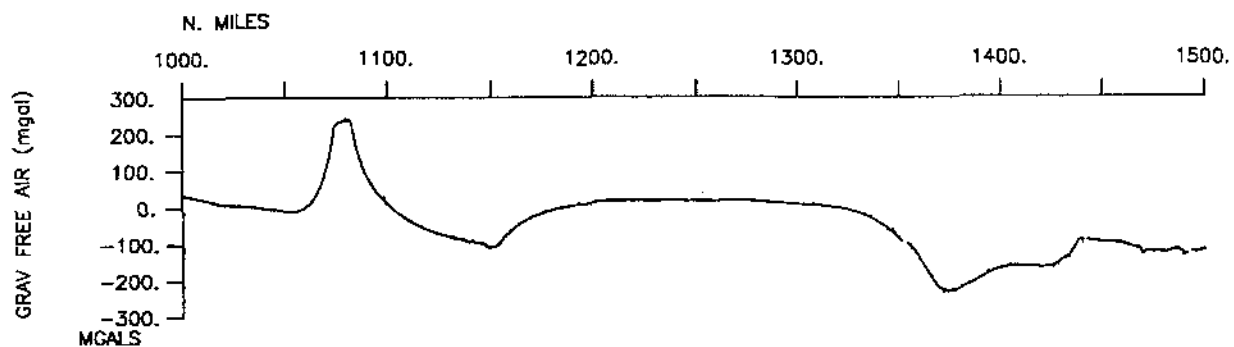
# AVON04MV End Track

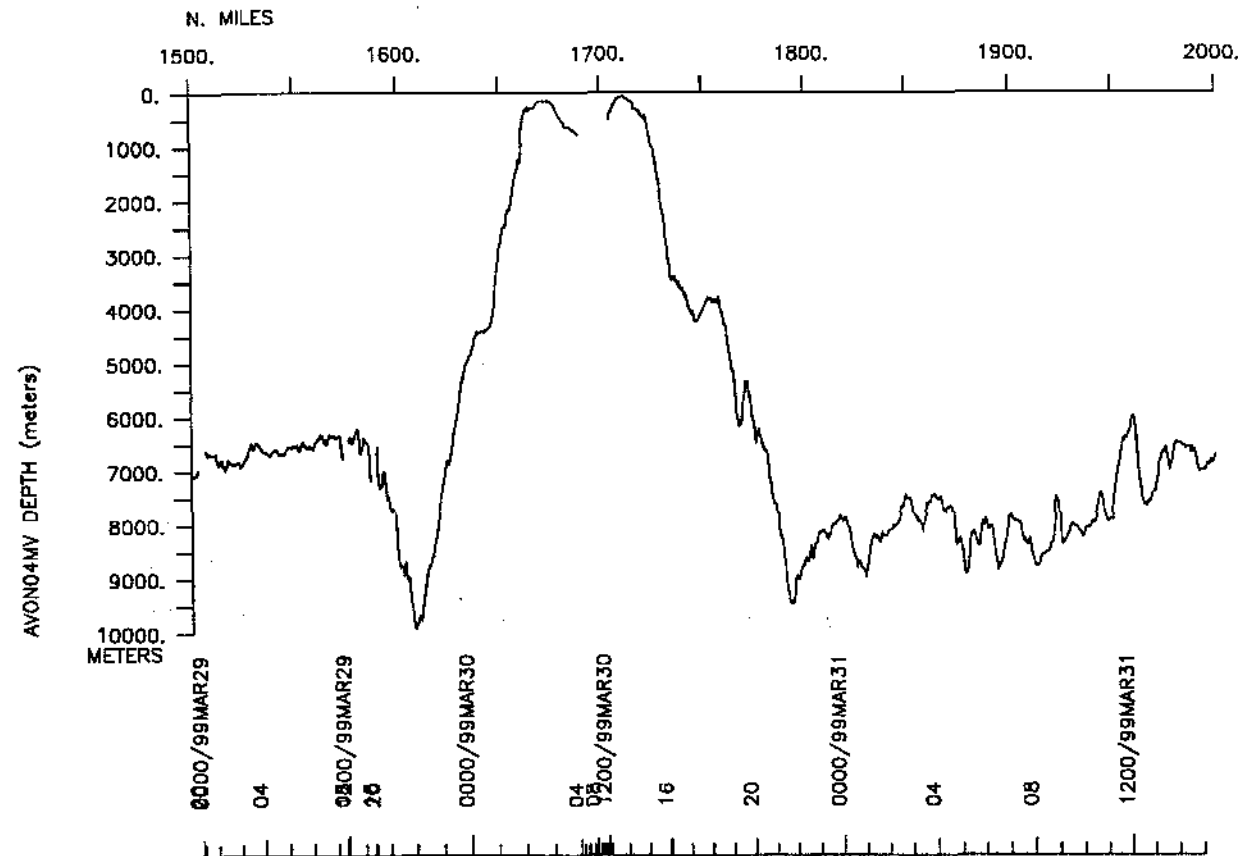
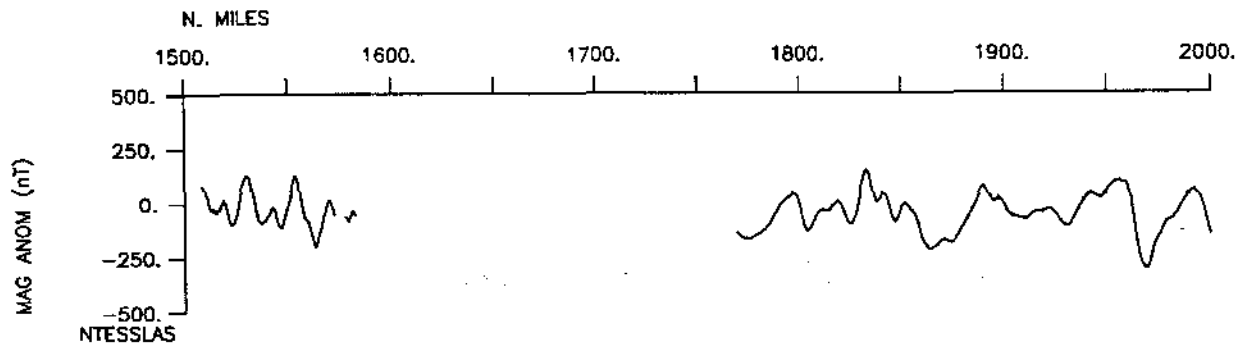
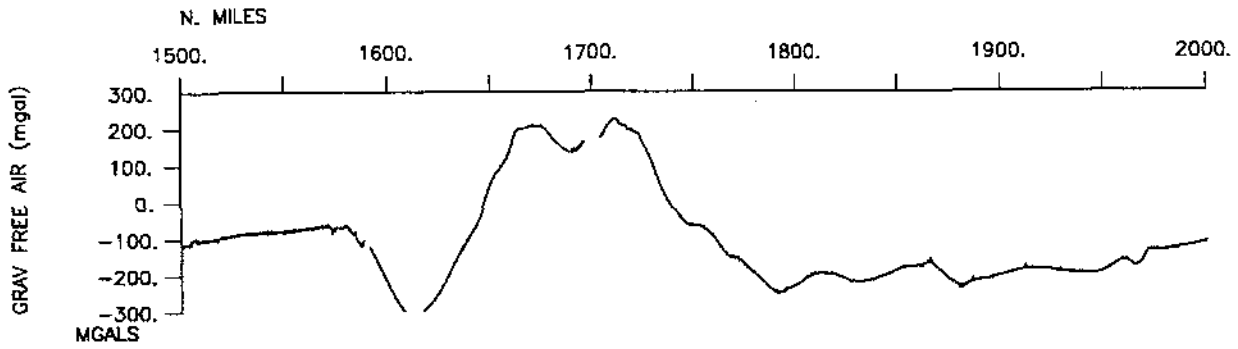


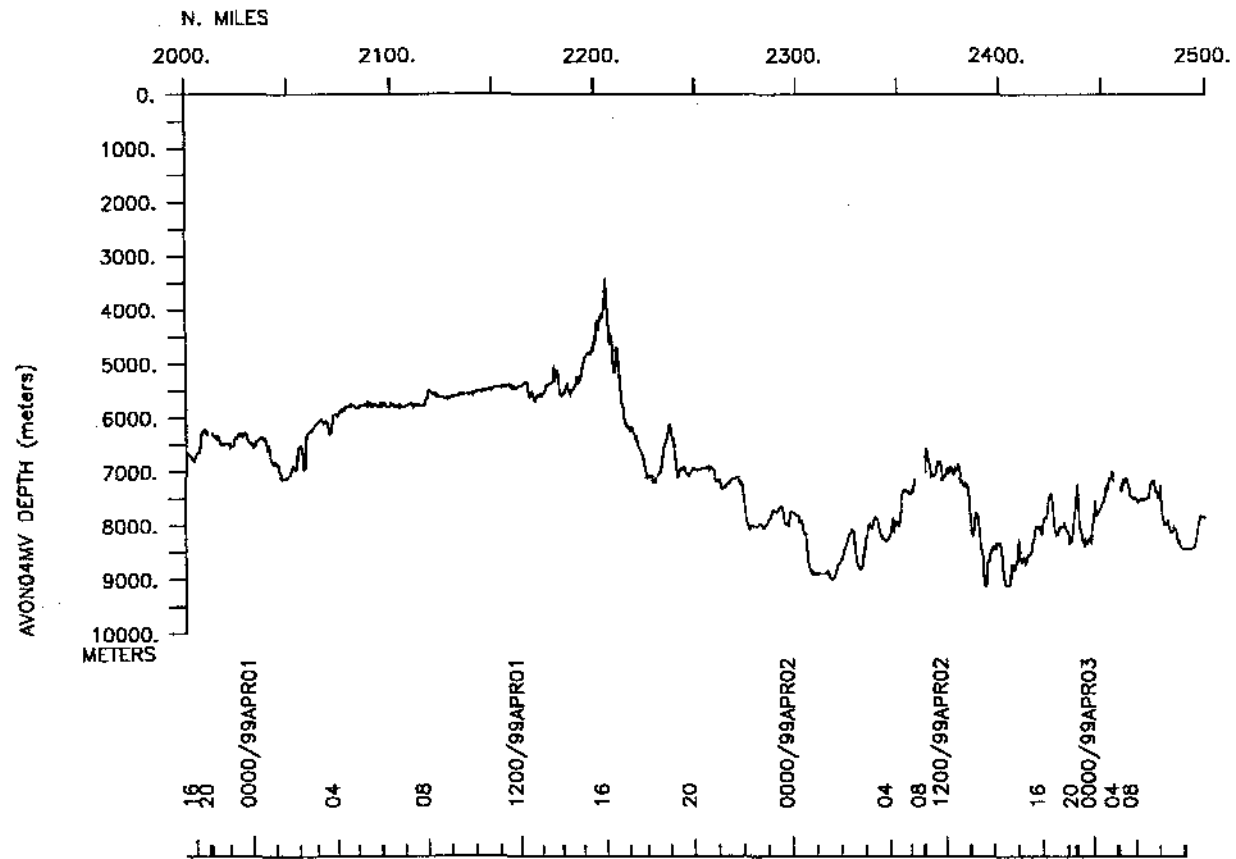
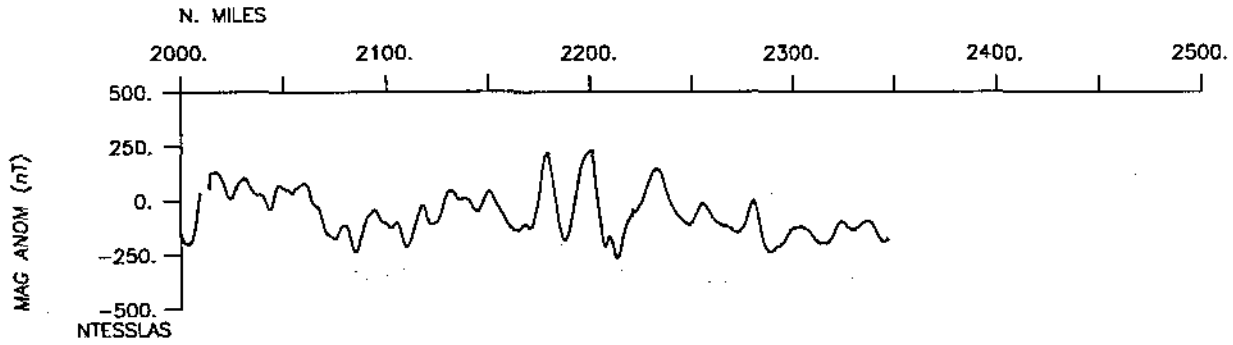
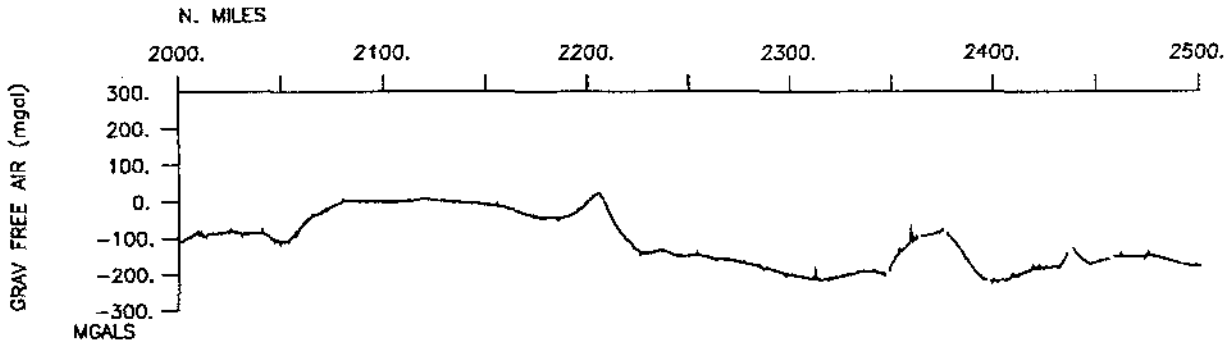


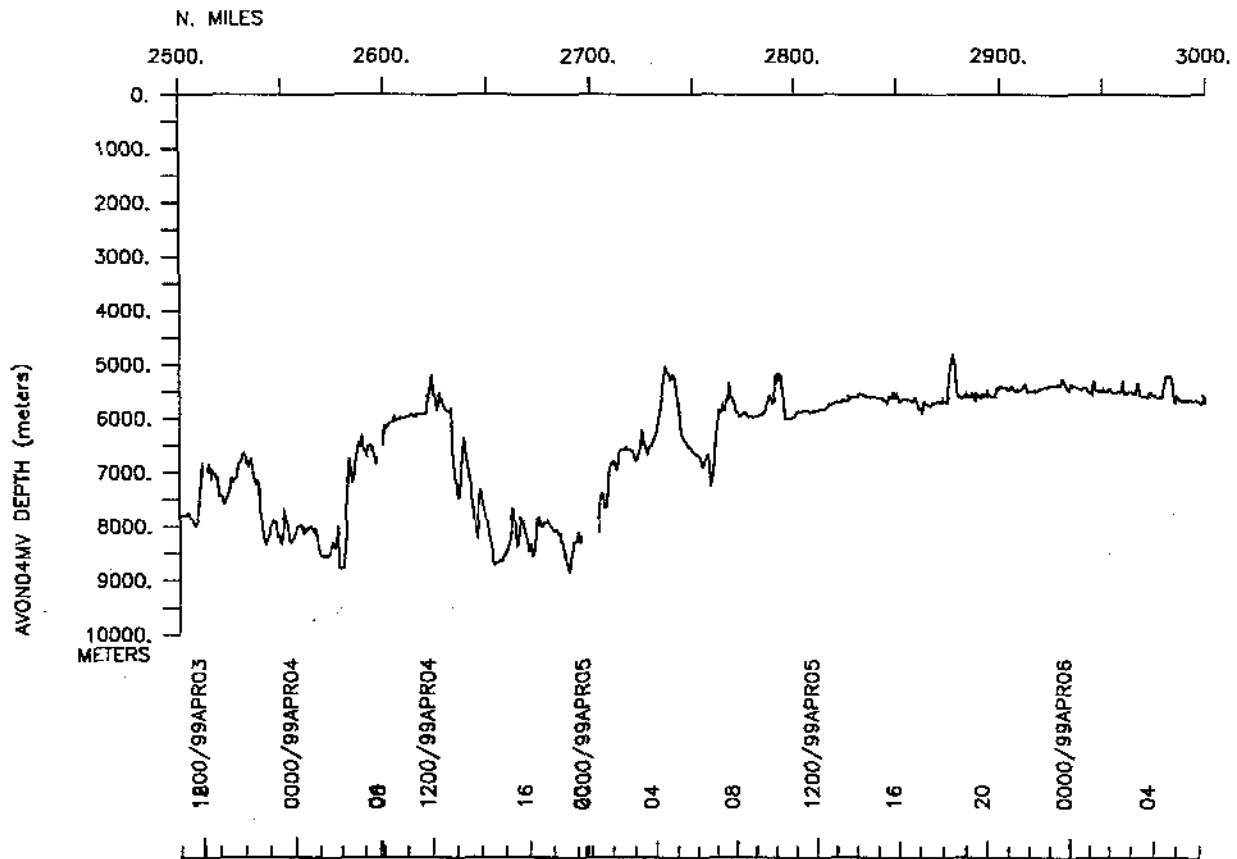
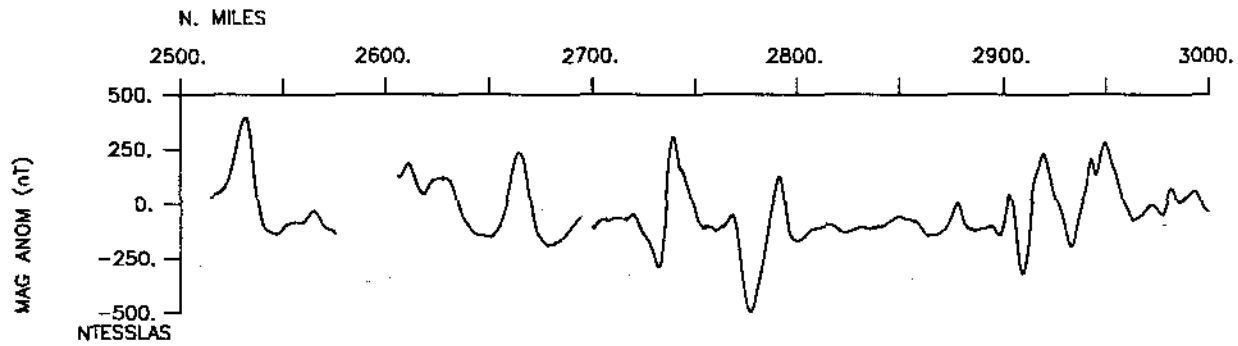
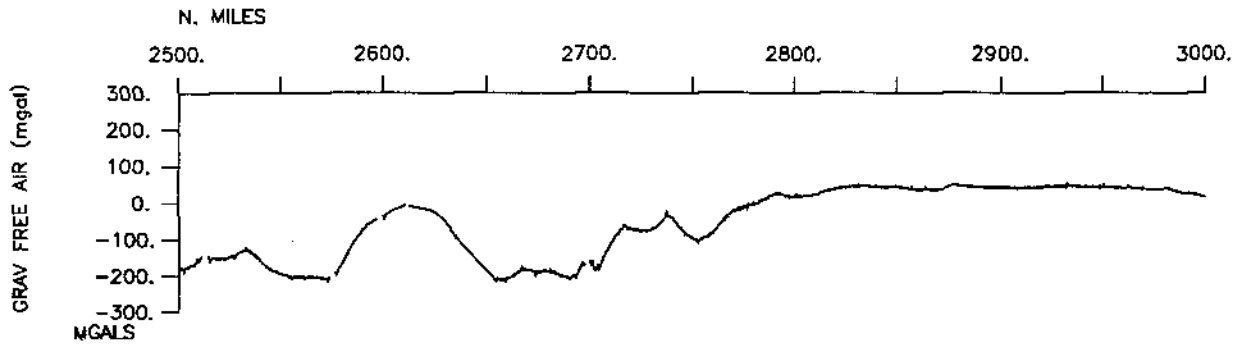


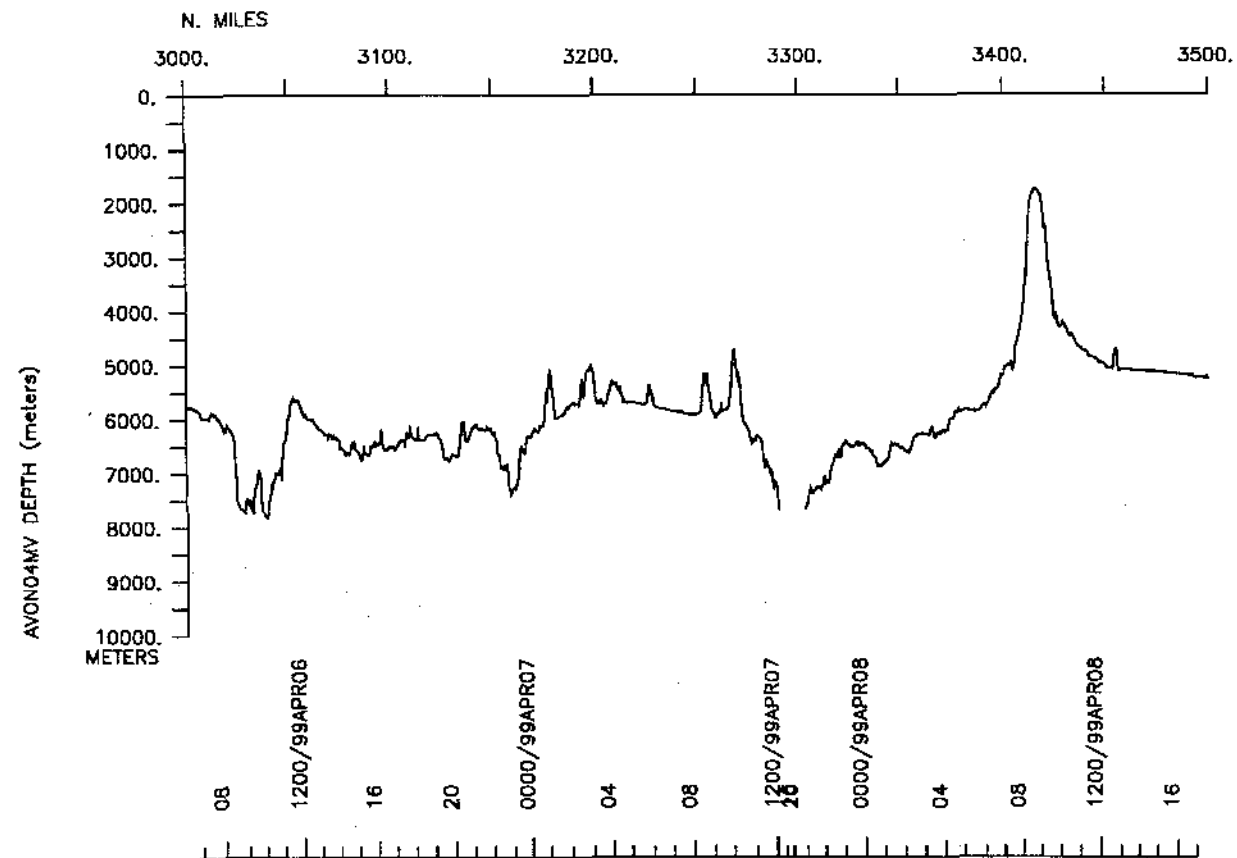
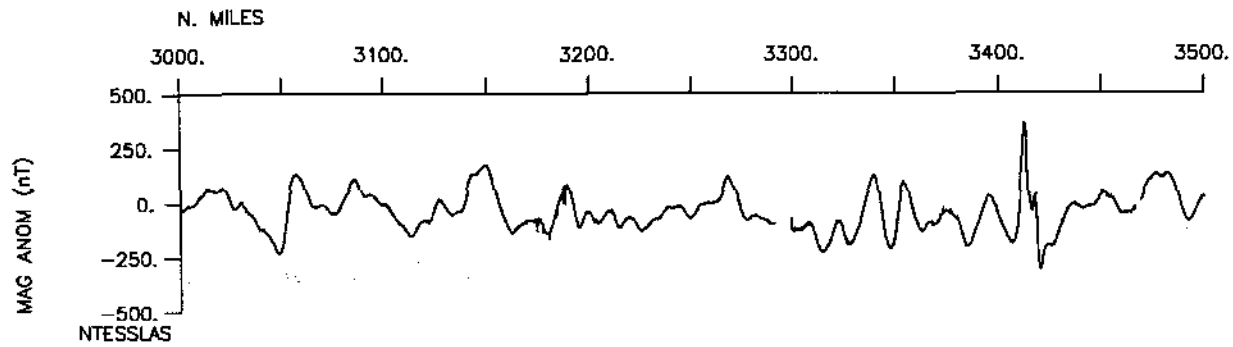
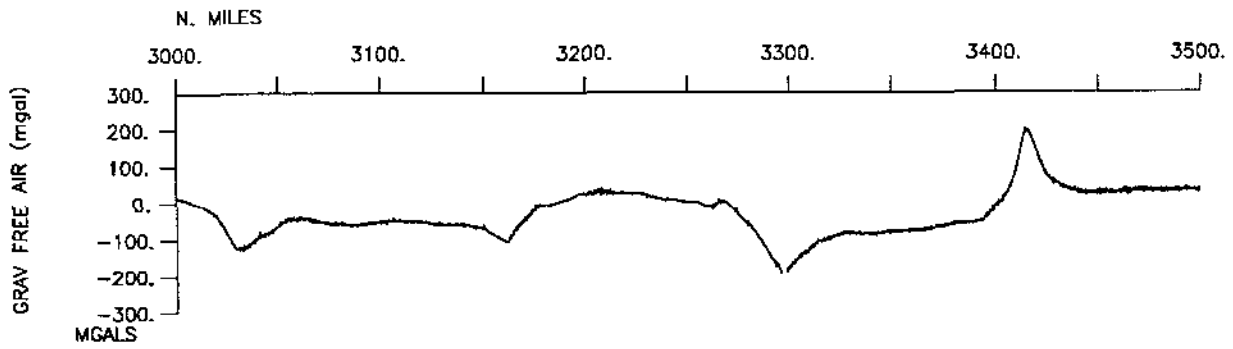


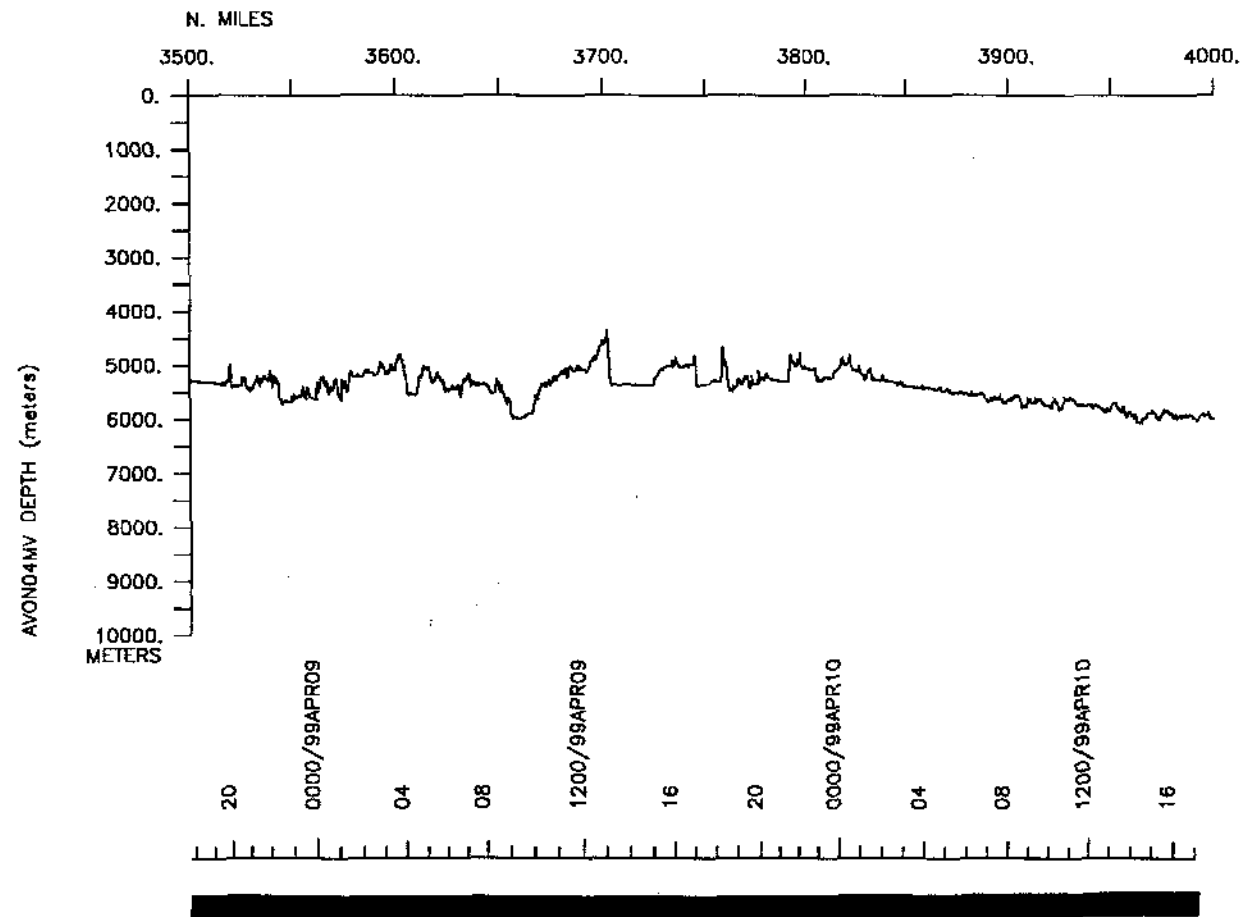
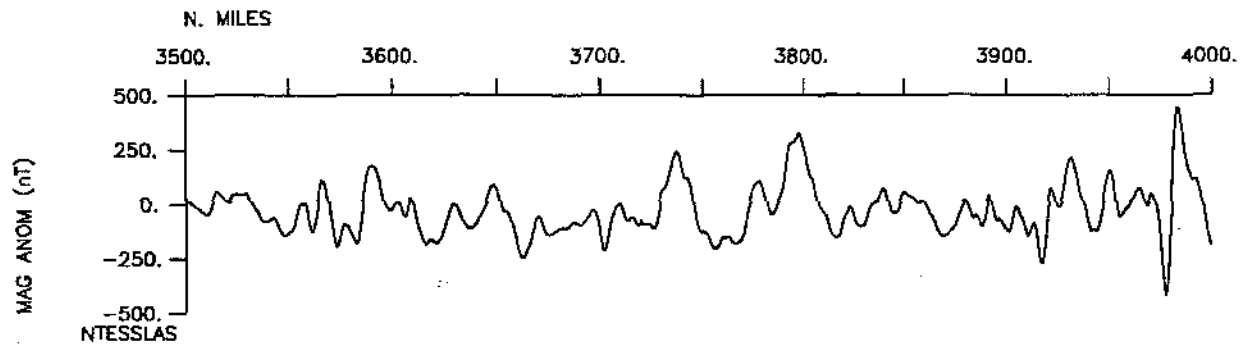
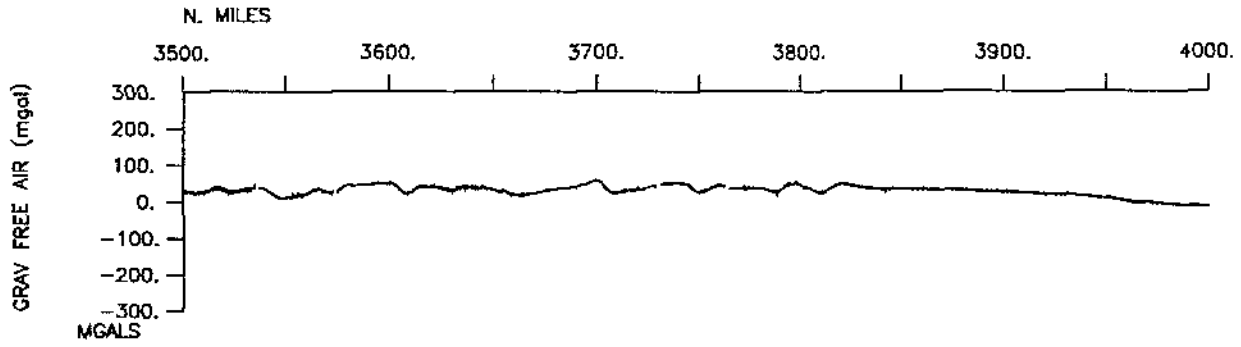


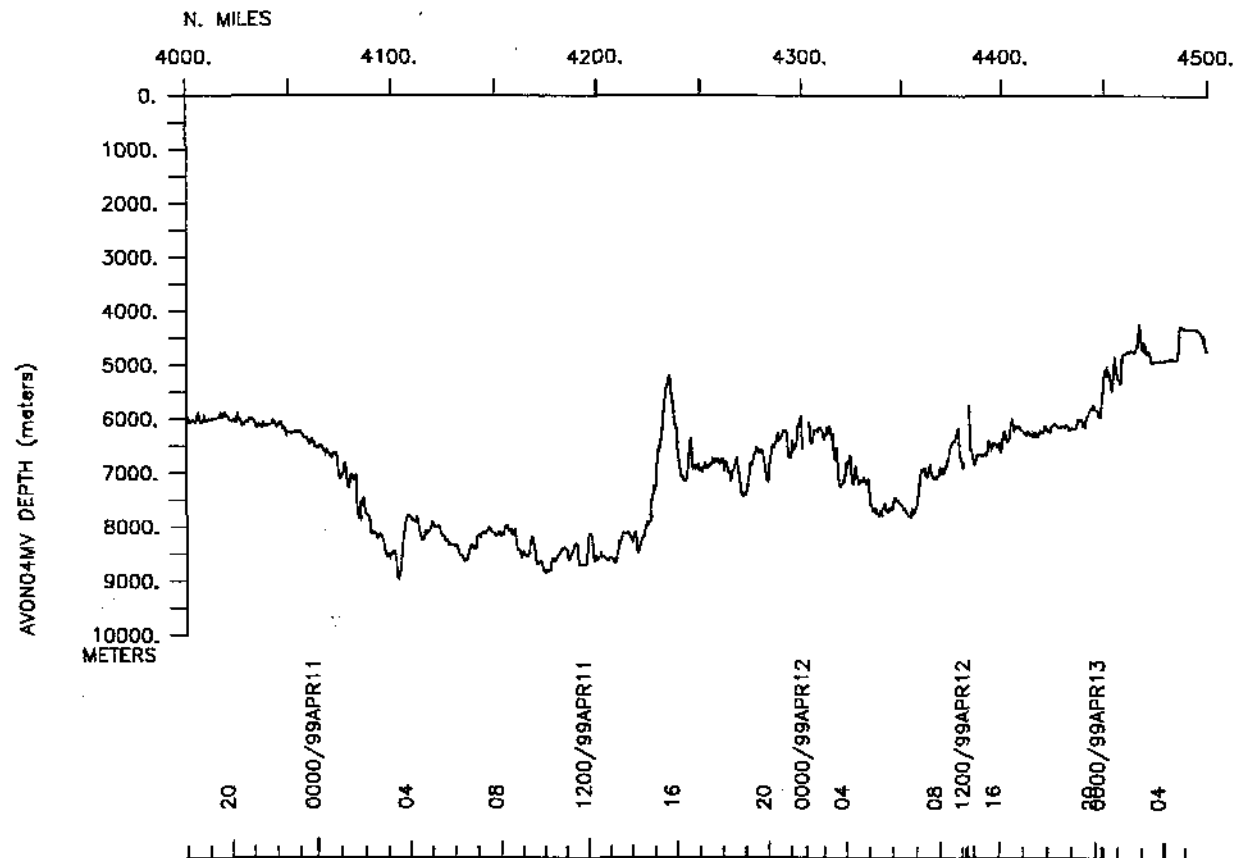
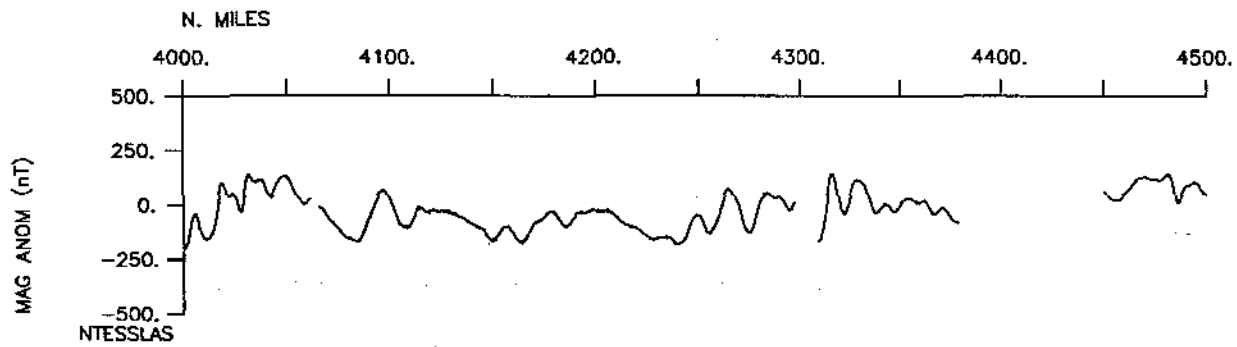
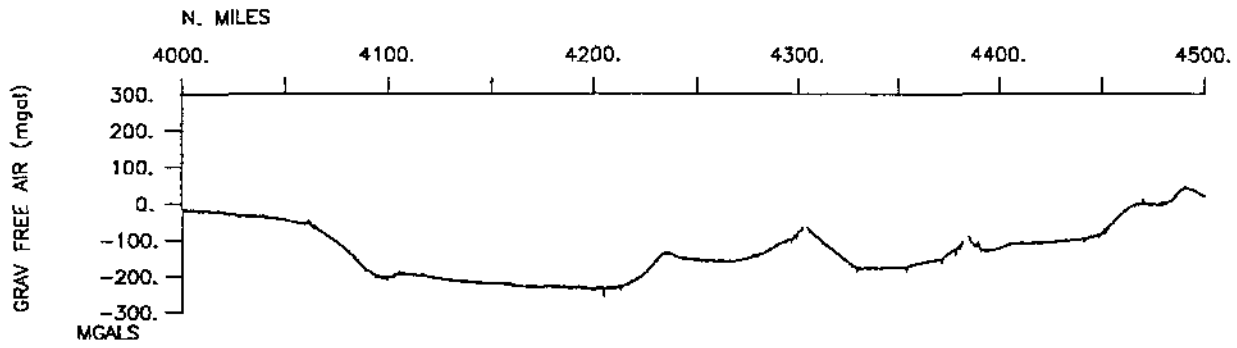


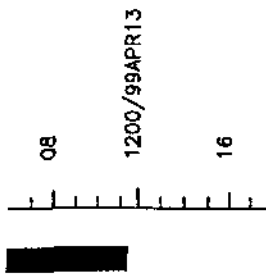
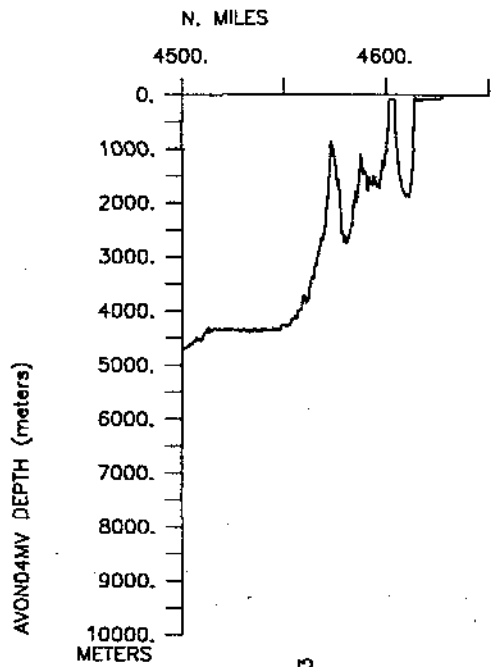
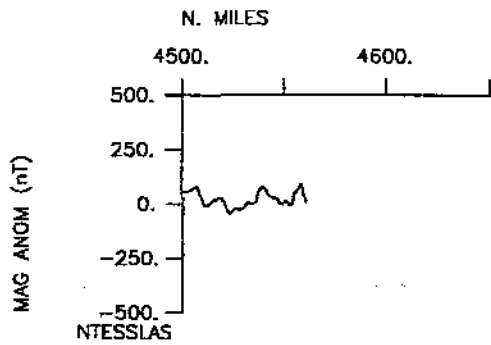
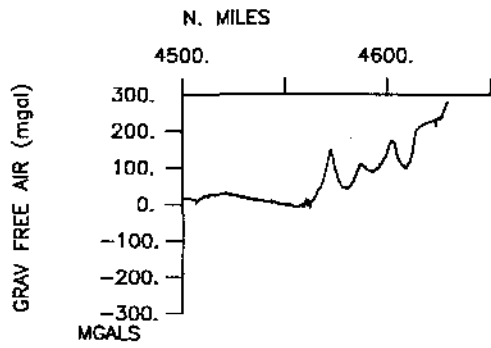














## **S.I.O. SAMPLE INDEX**

### **AVON EXPEDITION**

#### **LEG 4**

**(AVON04MV)**

R/V Melville

(Issued June 1999)

#### **Ports:**

Apia, Western Samoa (20 March 1999)

to

Apia, Western Samoa (13 April 1999)

#### **Chief Scientist:**

Peter Lonsdale, Scripps Institution

*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 future computer searches on these parameters. (Listings defining these codes are available from the Geological Data Center.)*

**GDC Cruise I.D.# 284**

## \*\*\* Ports \*\*\*

0258	210399	11	LGPT B	Apia, Western Samoa	13-49.00S	171-46.00W	f	AVON04MV
1900	130499	11	LGPT E	Apia, Western Samoa	13-49.00S	171-46.00W	f	AVON04MV
2006	220399	11	LGUS B	Apia, Western Samoa	13-49.00S	171-46.00W	f	AVON04MV
0017	230399	11	LGUS E	Apia, Western Samoa	13-49.00S	171-46.00W	f	AVON04MV

## \*\*\* Personnel \*\*\*

#	*****NAME*****	*****TITLE*****	*****AFFILIATION*****	**CRID**
PECS GRD	Lonsdale, Dr. P.	Chief Scientist	Scripps Institution	AVON04MV
PECS GRD	Castillo, Dr. P.	Co-Chief Scientist	Scripps Institution	AVON04MV
PESP GRD	Hawkins, Dr. J.	Research Scientist	Scripps Institution	AVON04MV
PERT STS	Comer, R. L.	Resident Tech.	Scripps Institution	AVON04MV
PECT STS	Moe, R.	Computer Tech.	Scripps Institution	AVON04MV
PEAT STS	Mogk, S.	Air Gun Tech.	Scripps Institution	AVON04MV
PEST GRD	Massell, C.	Graduate Student	Scripps Institution	AVON04MV
PEST GRD	Eakins, B.	Graduate Student	Scripps Institution	AVON04MV
PEST GRD	Dombard, A.	Graduate Student	Scripps Institution	AVON04MV
PEMT SIX	McFadden, E. L.	Marine Sci. Tech	U.S. Coast Guard	AVON04MV

## \*\*\* 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	CODE	LATITUDE	LONGITUDE	p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER					c	LEG-SHIP

\*\*\* Underway Data Curator - S.M. Smith/Geological Data Center ext. 42752 \*\*\*

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

0258	210399	0	LBUW B	Underway watch Log	GDC	13-49.35S	171-45.87W	g	AVON04MV
1300	130499	0	LBUW E	Underway watch log	GDC	14-22.83S	171-13.84W	g	AVON04MV

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

0340	210399	0	MBSR B	v.beam&sidescan r-01	GDC	13-42.09S	171-44.15W	g	AVON04MV
1800	130499	0	MBSR E	v.beam&sidescan r-01	GDC	13-47.65S	171-45.41W	g	AVON04MV

## \*\*\* Seismic Reflection Records \*\*\*

0635	230399	0	SPRF B	Fast airgun r-01	GDC	14-32.63S	171-33.14W	g	AVON04MV
1130	130499	0	SPRF E	Fast airgun r-01	GDC	14-36.12S	171-17.84W	g	AVON04MV

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#	-----	--	-----	-----	----	-----	-----	-----	-	-----
*** Digital Magnetics (Earth Total Field) ***										
0357	210399	0	MGDR	B Digital Magnetics	GDC	13-38.99S	171-43.22W	g		AVON04MV
1130	130499	0	MGDR	E Digital Magnetics	GDC	14-36.12S	171-17.84W	g		AVON04MV
*** Digital Gravity ***										
0258	210399	0	GVDR	B Digital Gravity	GDC	13-49.35S	171-45.87W	g		AVON04MV
1900	130499	0	GVDR	E Digital Gravity	GDC	13-49.60S	171-45.71W	g		AVON04MV
*** Acoustic Doppler Current Profiler ***										
0258	210399	0	ADCP	B Accoustic Doppler	GDC	13-49.35S	171-45.87W	g		AVON04MV
1900	130499	0	ADCP	E Current Profiler	GDC	13-49.60S	171-45.71W	g		AVON04MV
*** Meteorological Data ***										
0258	210399	0	IMET	B Weather data	GDC	13-49.35S	171-45.87W	g		AVON04MV
1900	130499	0	IMET	E Weather data	GDC	13-49.60S	171-45.71W	g		AVON04MV
*** Dredges ***										
2251	240399	0	DRRO	Rock Drdg.	81 2437M	GCR	17-03.49S	170-57.90W	g	AVON04MV
0116	250399	0	DRRO	Rock Drdg.	82 2215M	GCR	17-03.00S	170-58.00W	g	AVON04MV
0144	260399	0	DRRO	Rock Drdg.	83 7012M	GCR	19-36.00S	172-40.21W	g	AVON04MV
0257	270399	0	DRRO	Rock Drdg.	84 6993M	GCR	21-08.30S	173-13.91W	g	AVON04MV
1628	270399	0	DRRO	X Rock Drdg.	85 6877M	GCR	22-06.00S	173-43.60W	g	AVON04MV
2229	270399	0	DRRO	Rock Drdg.	86 6892M	GCR	22-06.02S	173-43.58W	g	AVON04MV
0628	280399	0	DRRO	Rock Drdg.	87 7330M	GCR	22-26.90S	173-58.30W	g	AVON04MV
1452	280399	0	DRRO	Rock Drdg.	88 7435M	GCR	22-41.50S	174-05.10W	g	AVON04MV
2152	280399	0	DRRO	Rock Drdg.	89 6875M	GCR	22-50.80S	174-08.41W	g	AVON04MV
0937	290399	0	DRRO	Rock Drdg.	90 6832M	GCR	23-49.99S	174-34.09W	g	AVON04MV
1643	290399	0	DRRO	Rock Drdg.	91 7181M	GCR	23-53.00S	174-41.60W	g	AVON04MV
1849	310399	0	DRRO	Rock Drdg.	92 6828M	GCR	24-36.41S	174-53.22W	g	AVON04MV
0737	020499	0	DRRO	Rock Drdg.	93 7270M	GCR	28-11.30S	175-32.60W	g	AVON04MV
1938	020499	0	DRRO	Rock Drdg.	94 7809M	GCR	28-55.50S	175-48.99W	g	AVON04MV
0336	030499	0	DRRO	Rock Drdg.	95 7961M	GCR	29-10.21S	175-56.49W	g	AVON04MV
1412	030499	0	DRRO	Rock Drdg.	96 7562M	GCR	29-57.01S	176-10.21W	g	AVON04MV
0638	040499	0	DRRO	Rock Drdg.	97 6780M	GCR	30-55.40S	176-21.60W	g	AVON04MV
2050	040499	0	DRRO	Rock Drdg.	98 7931M	GCR	32-04.00S	177-09.20W	g	AVON04MV
1615	070499	0	DRRO	Rock Drdg.	99 8441M	GCR	27-57.80S	175-41.10W	g	AVON04MV
2343	110499	0	DRRO	Rock Drdg.	100 6140M	GCR	17-42.00S	172-02.95W	g	AVON04MV
1110	120499	0	DRRO	Rock Drdg.	101 6297M	GCR	16-32.60S	171-52.60W	g	AVON04MV
2208	120499	0	DRRO	X Rock Drdg.	102 5849M	GCR	15-29.60S	171-57.60W	g	AVON04MV

#GMT	DDMMYY	SAMP	B	SAMPLE	DISP				p	CRUISE
#TIME	DATE	TZ	CODE	E IDENTIFIER	CODE	LATITUDE	LONGITUDE		c	LEG-SHIP
#										

\*\*\*\* Expendable Bathythermograph \*\*\*\*

0501	210399	0	BTXP	XBT Deep tf_00132	GDC	13-27.87S	171-38.88W	g	AVON04MV
0511	210399	0	BTXP	XBT Deep tf_00133	GDC	13-26.10S	171-38.28W	g	AVON04MV
0518	210399	0	BTXP	XBT Deep tf_00134	GDC	13-24.86S	171-37.87W	g	AVON04MV
0531	210399	0	BTXP	XBT Deep tf_00135	GDC	13-22.57S	171-37.13W	g	AVON04MV
0448	230399	0	BTXP	XBT Deep tf_00137	GDC	14-16.38S	171-25.56W	g	AVON04MV
2054	240399	0	BTXP	XBT Deep tf_00140	GDC	16-57.61S	171-02.34W	g	AVON04MV
0023	270399	0	BTXP	XBT Deep tf_00150	GDC	21-08.28S	173-09.30W	g	AVON04MV
0020	290399	0	BTXP	XBT Deep tf_00151	GDC	22-50.99S	174-07.82W	g	AVON04MV
2318	310399	0	BTXP	XBT Deep tf_00154	GDC	24-24.64S	174-48.10W	g	AVON04MV
2343	010499	0	BTXP	XBT Deep tf_00156	GDC	27-19.14S	175-34.06W	g	AVON04MV
2134	030499	0	BTXP	XBT Deep tf_00157	GDC	30-08.01S	176-18.99W	g	AVON04MV
2349	080499	0	BTXP	XBT Deep tf_00158	GDC	25-55.92S	172-42.69W	g	AVON04MV
2310	090499	0	BTXP	XBT Deep tf_00159	GDC	25-34.01S	173-48.35W	g	AVON04MV
2343	100499	0	BTXP	XBT Deep tf_00160	GDC	21-23.34S	173-13.23W	g	AVON04MV
0152	120499	0	BTXP	XBT Deep tf_00161	GDC	17-42.00S	172-02.68W	g	AVON04MV
2352	120499	0	BTXP	XBT Deep tf_00162	GDC	15-29.18S	171-57.08W	g	AVON04MV

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End Sample Index

AVON04MV