REPORT AND INDEX OF

UNDERWAY MARINE GEOPHYSICAL DATA

RAPA EXPEDITION

LEG 3

R/V Thomas Washington

(Issued May 1991)

Easter Island (7 January 1991) to Easter Island (18 February 1991)

Chief Scientist - Peter Lonsdale (Scripps Institution)

Resident Marine Technician - Gene Pillard

Sea Beam/Underway Data Processor - Andra Bobbitt (MPL)

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 OCE89-18898

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.# 251

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.

- 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.

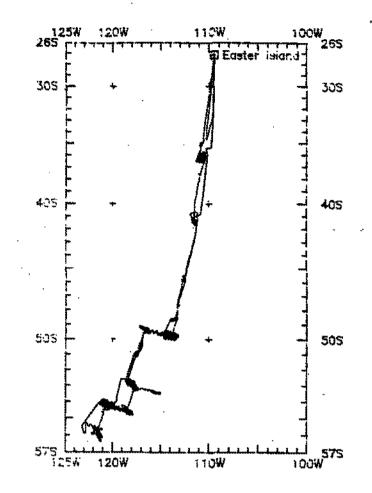
2) Microfilm (35mm flowfilm) containing swath books plus, for some cruises, the Sea Beam monitor record and navigation list.

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).

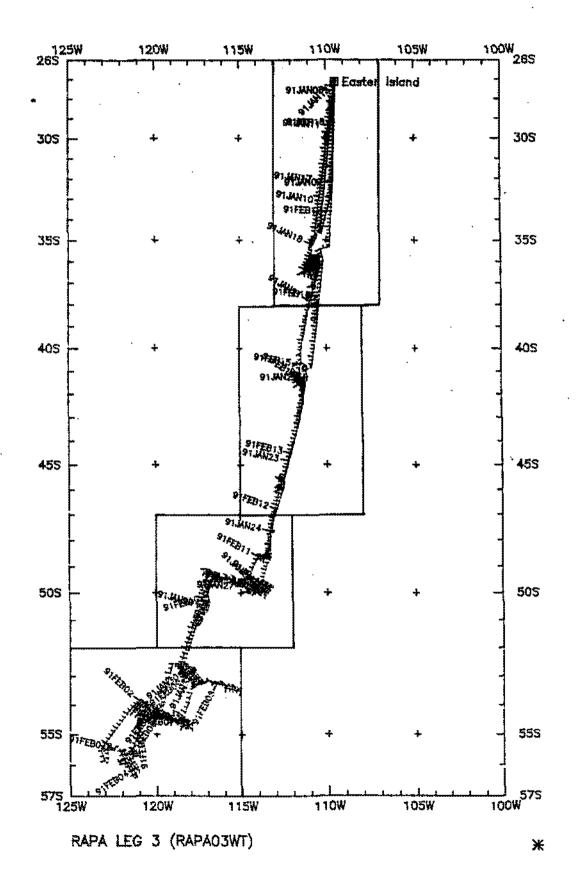
Revised October 1988

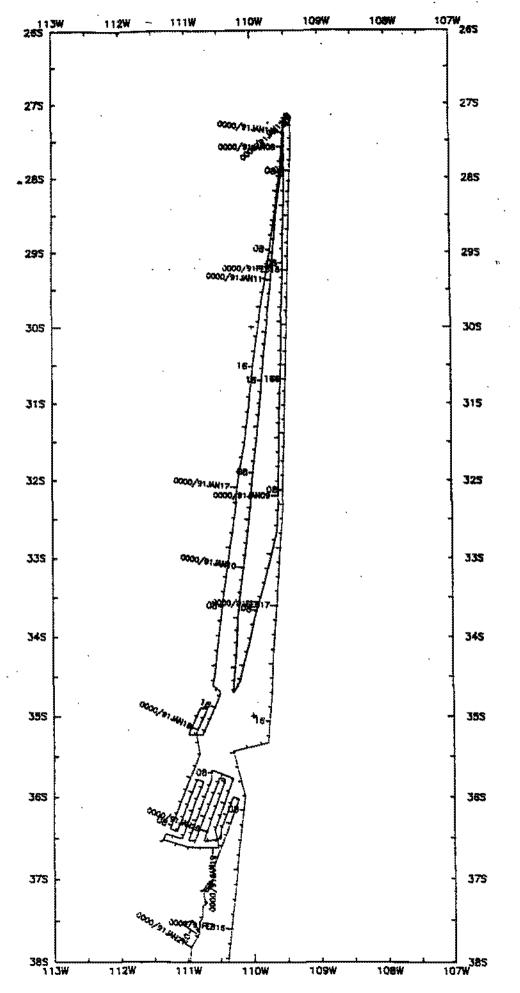


RAPA EXPEDITION LEG 3

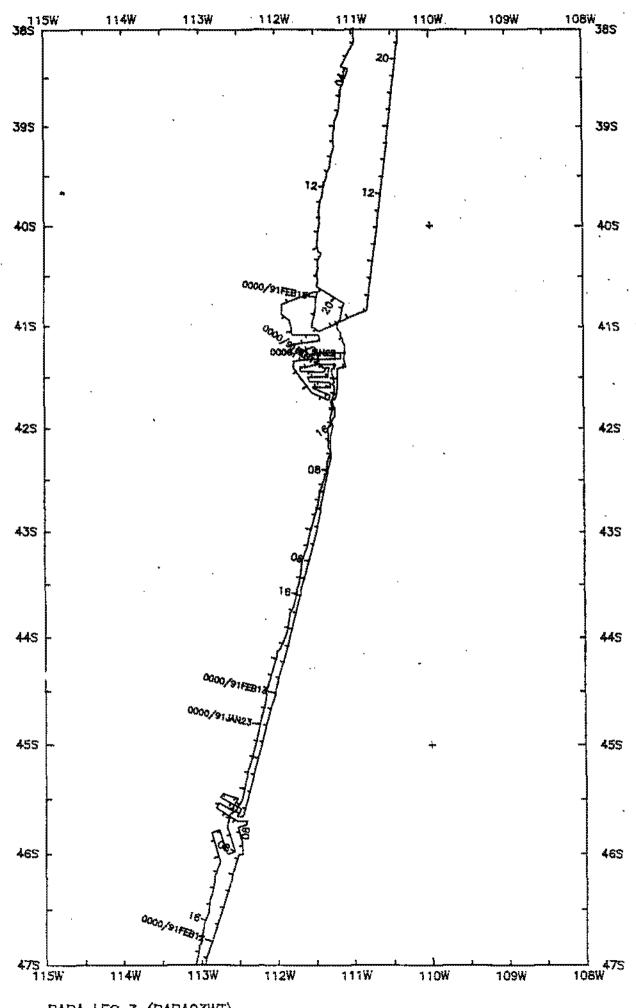
CHIEF SCIENTIST: Peter Lonsdale (Scripps Institution) PORTS: Easter Island - Easter Island DATES: 7 January - 18 February 1991 SHIP: R/V T. Washington

TOTAL MILEAGE OF UNDERWAY DATA COLLECTED 1) Cruise - 8502 miles 2) Bathymetry - 8349 miles 3) Magnetics - 7392 miles 4) Seismic Reflection - none collected 5) Gravity - 8502 miles 6) Sea Beam - 8349 miles 7) Sea Marc - 3550 miles

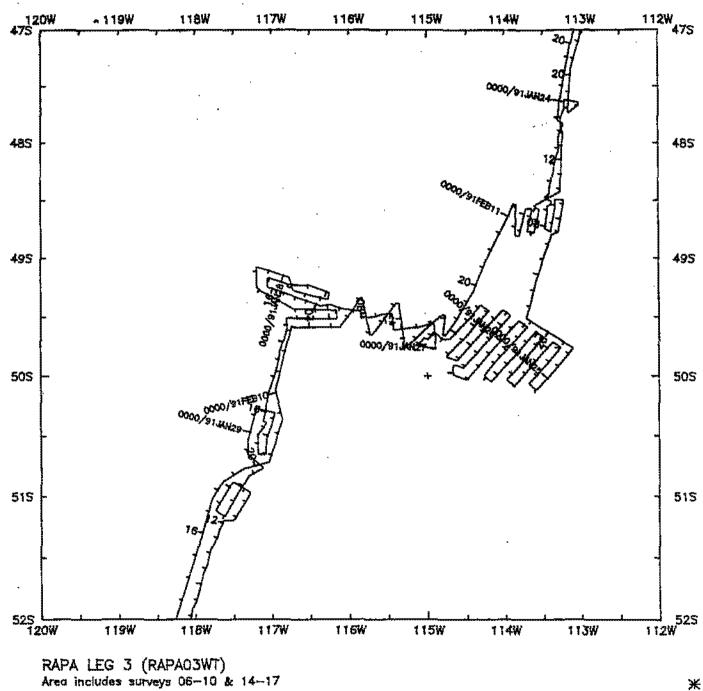




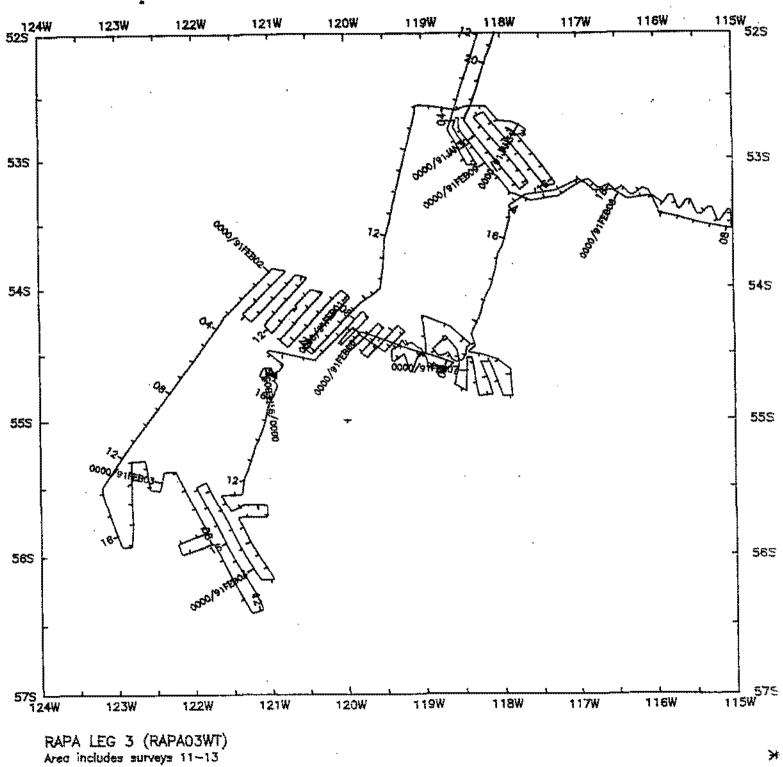
DADA (FC 3 (DADANSUT)

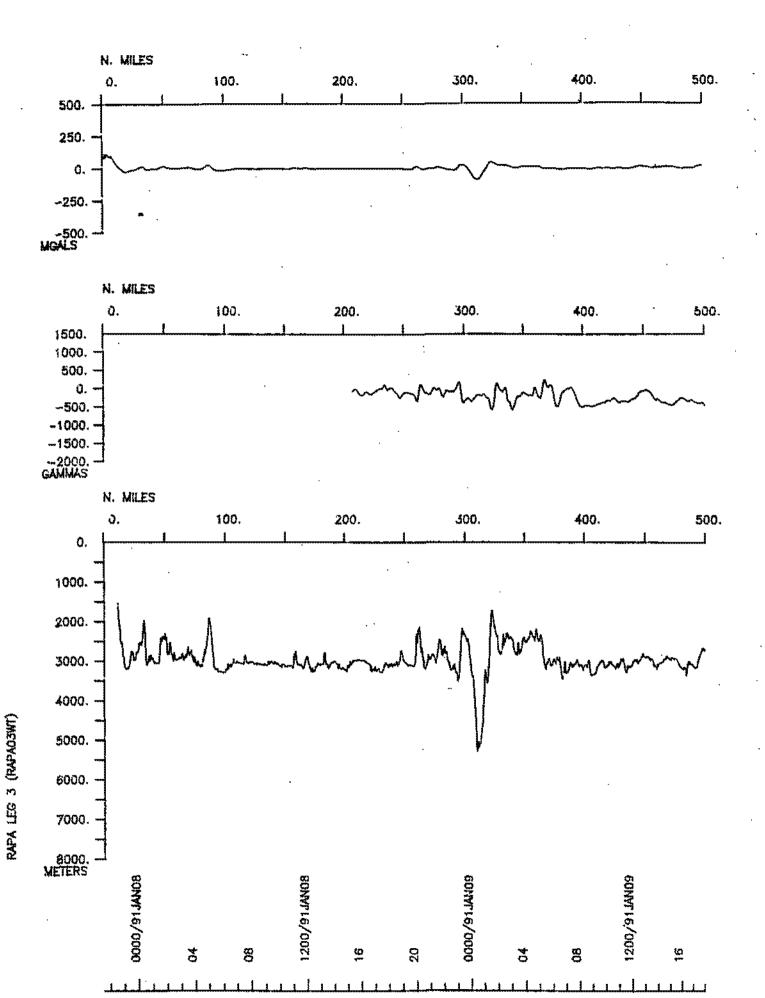


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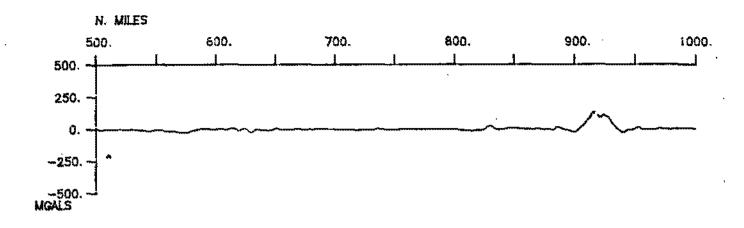


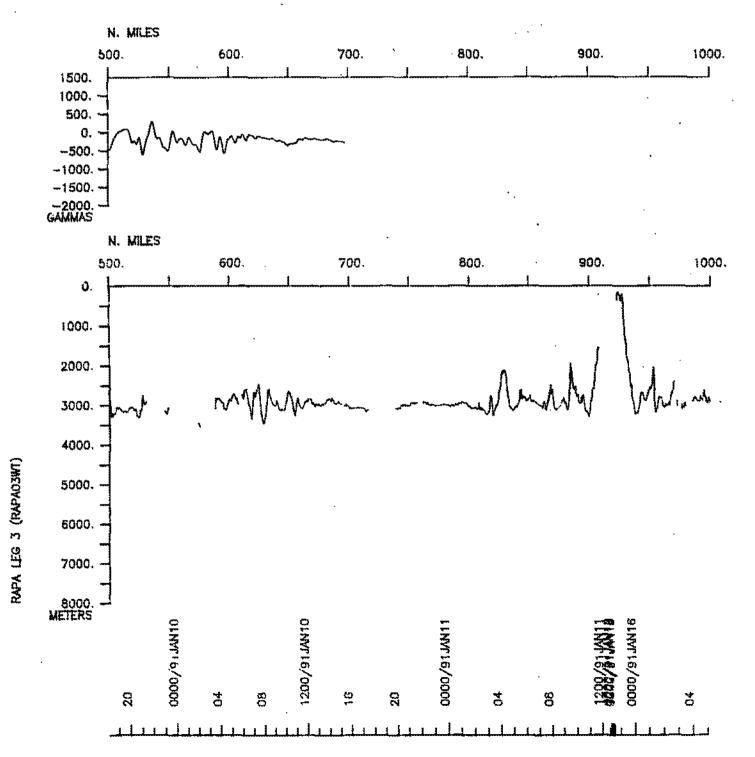
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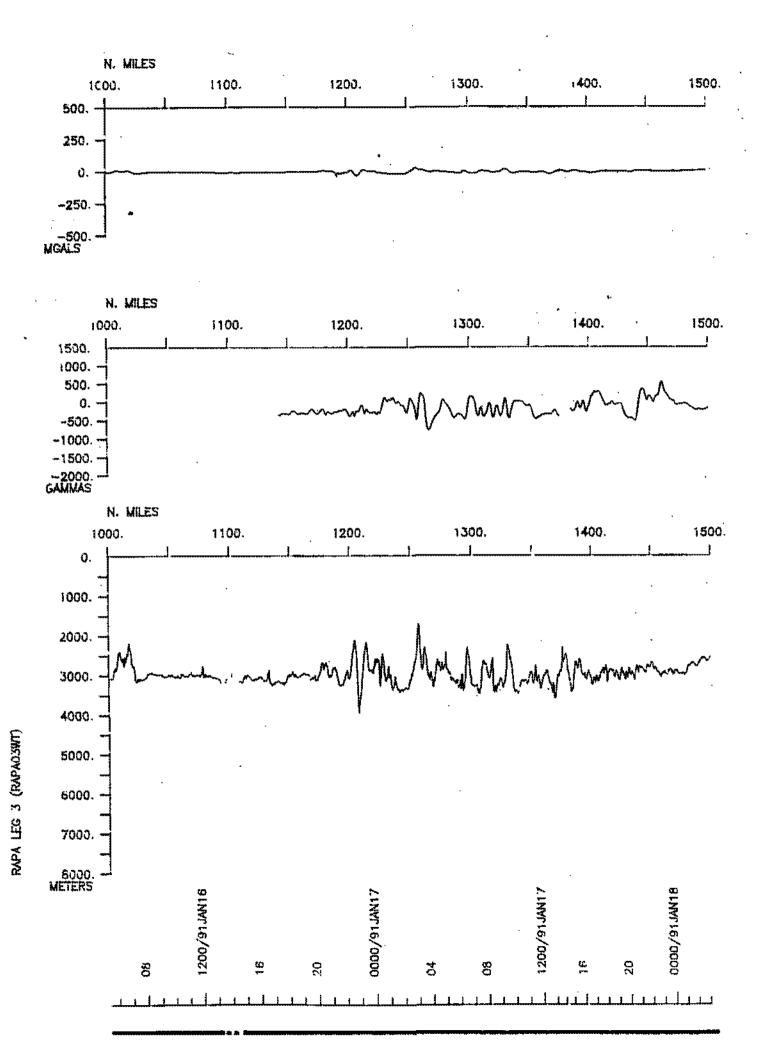


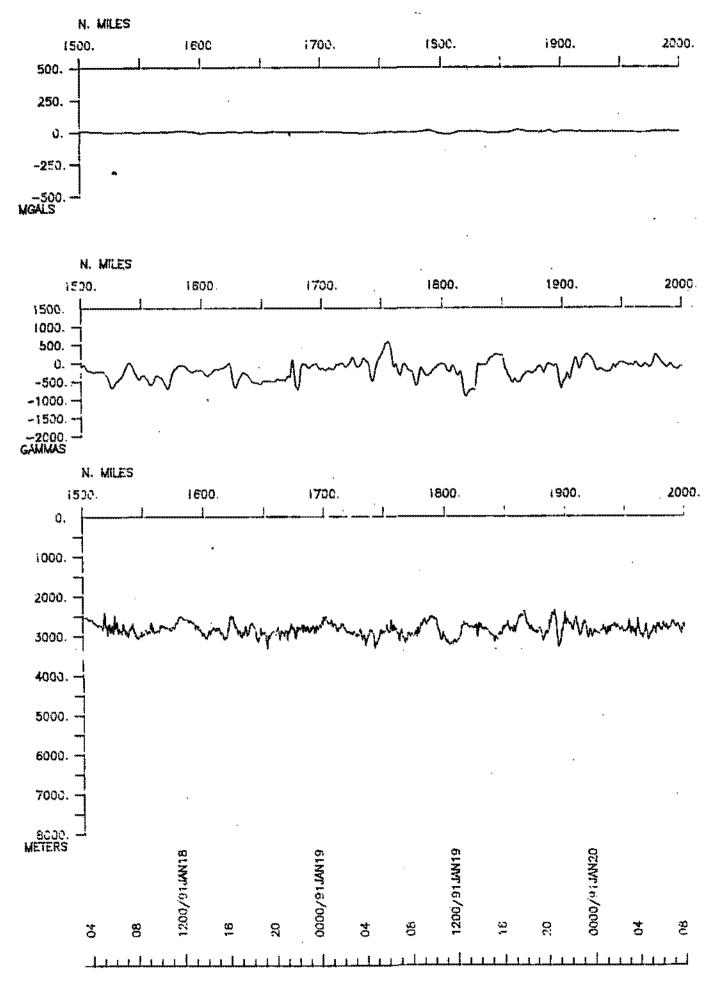


SEABEAM

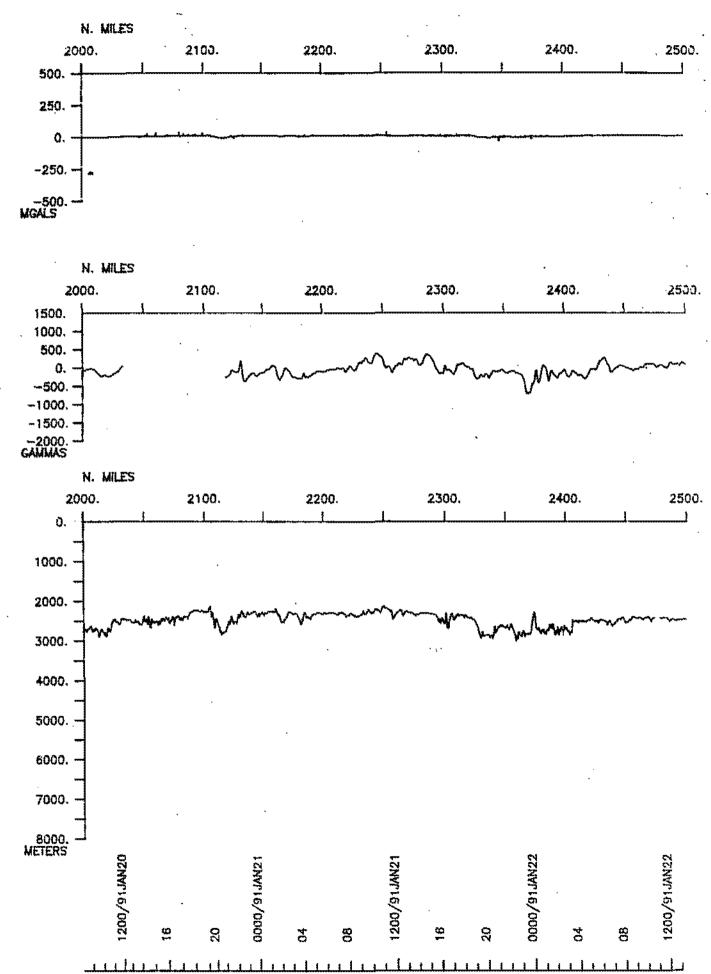




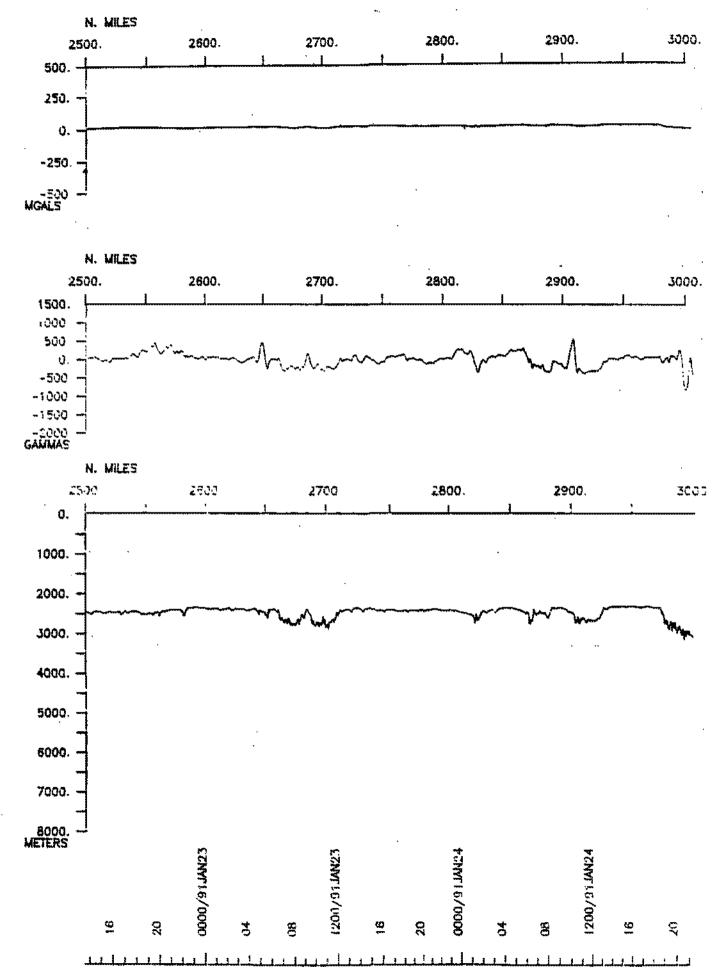




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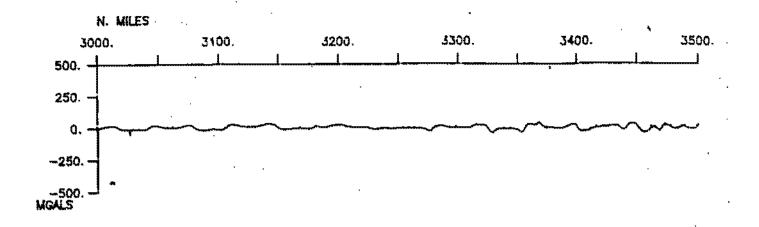


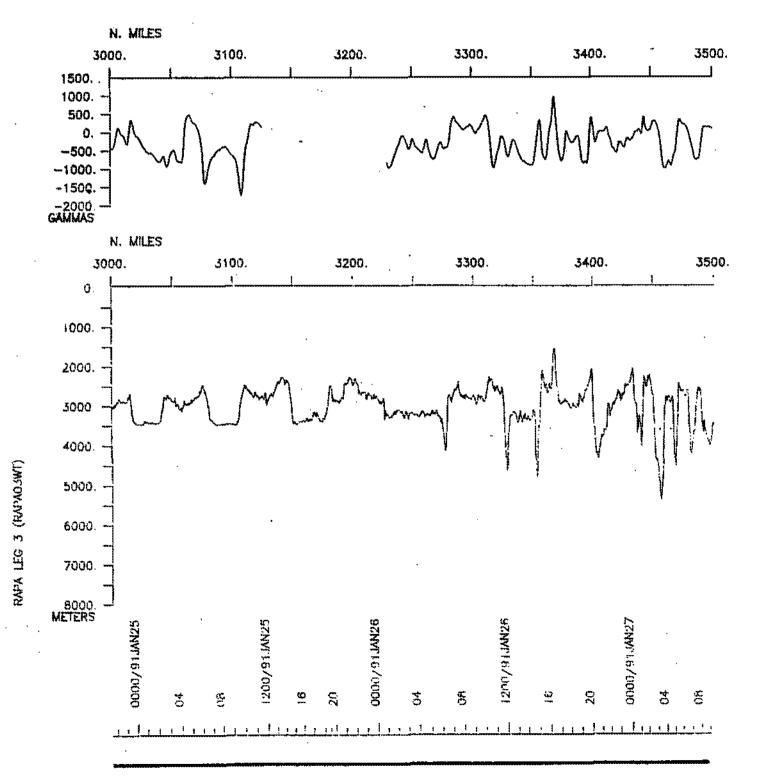
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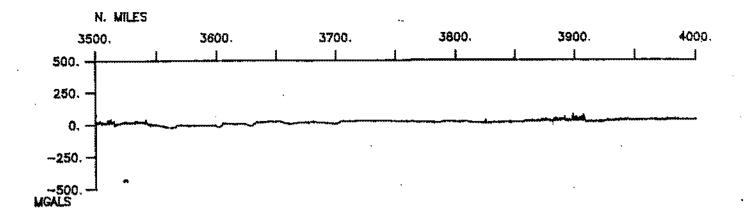


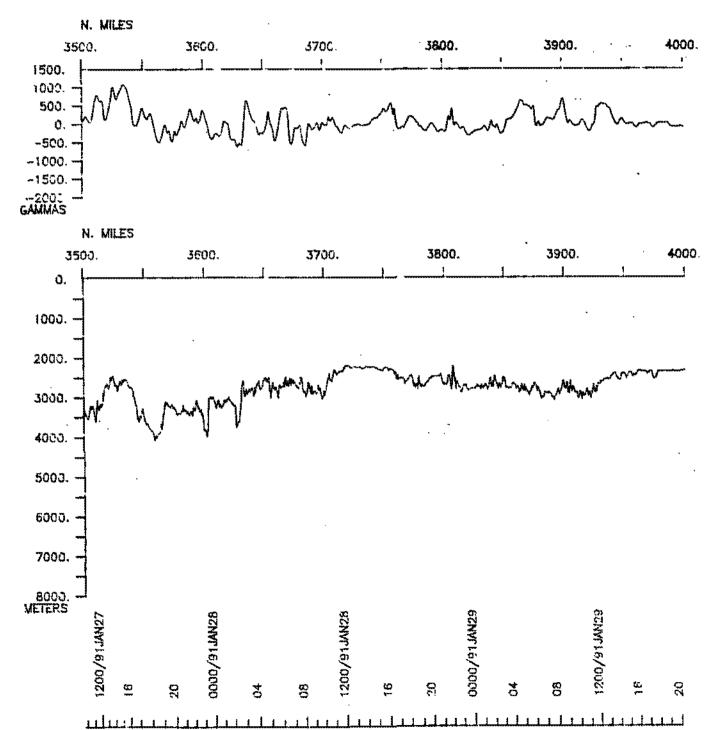
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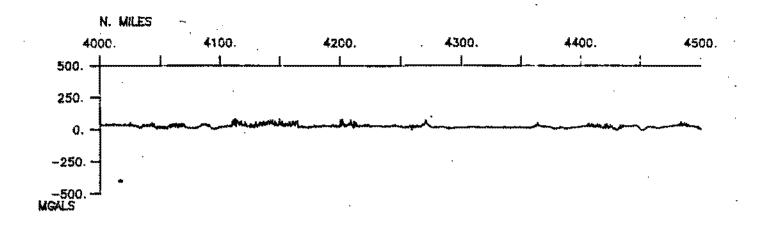


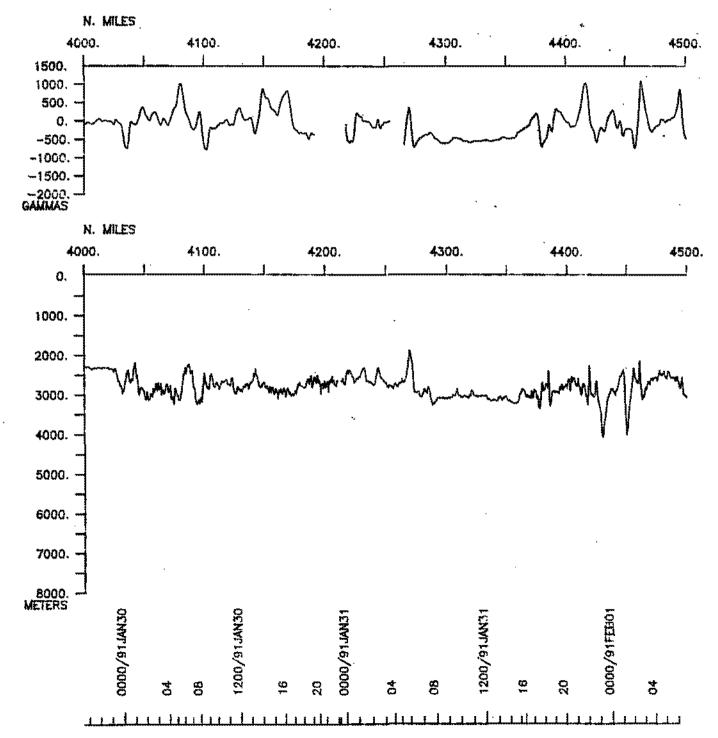




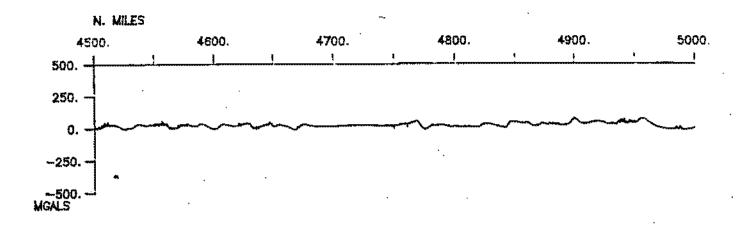


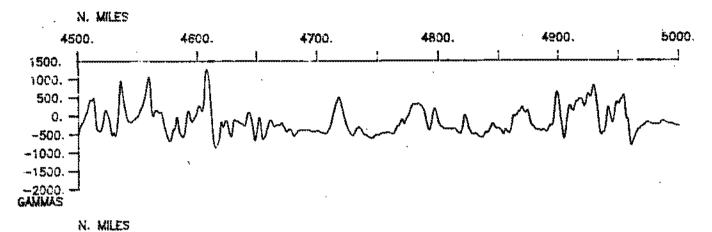
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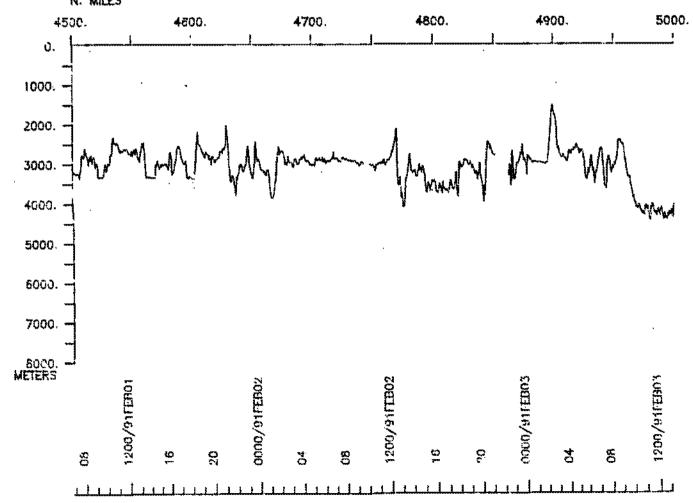




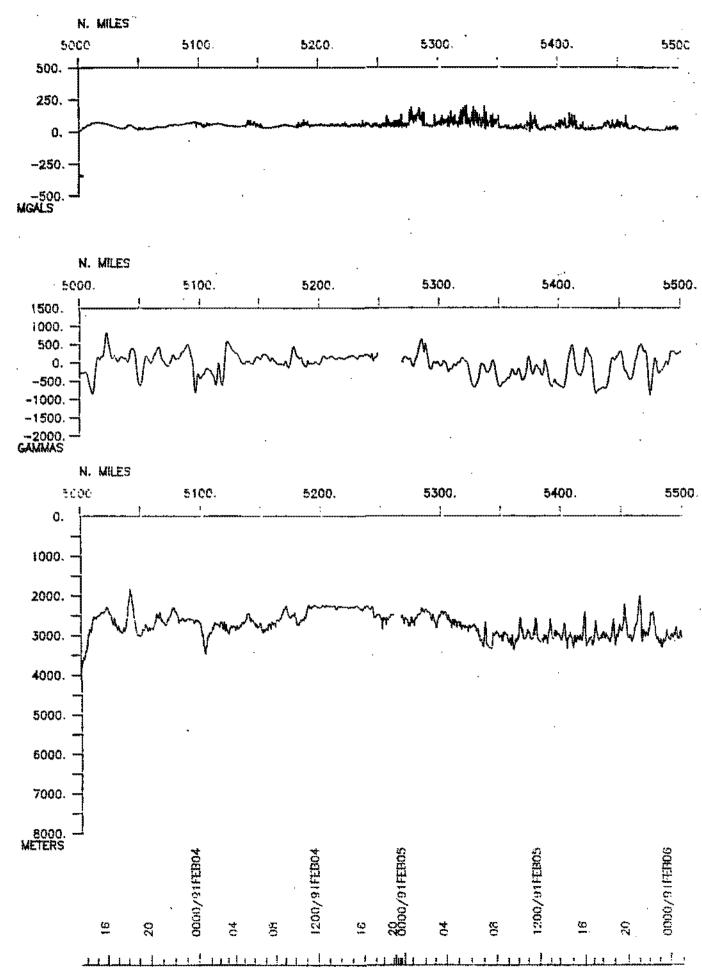
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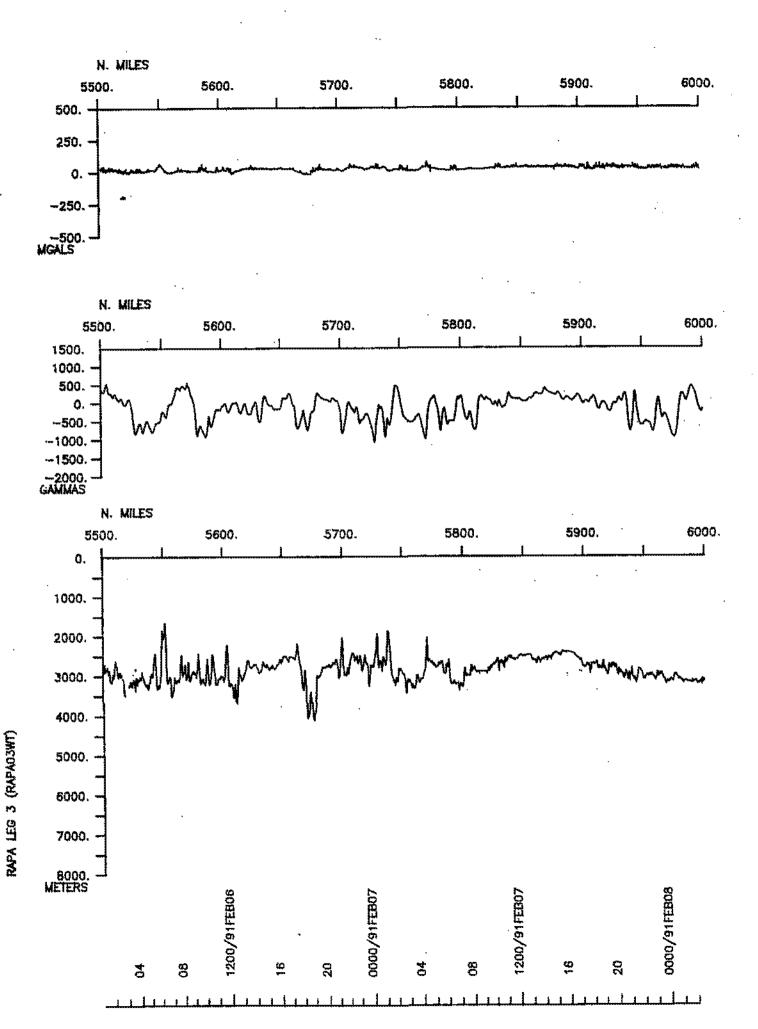


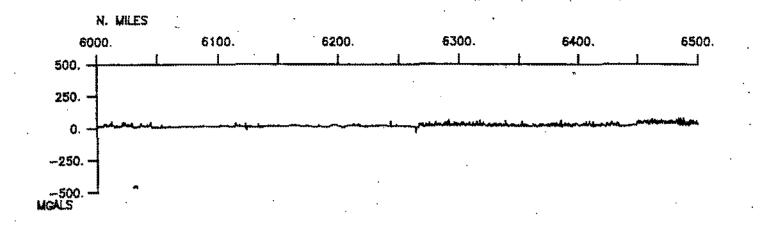


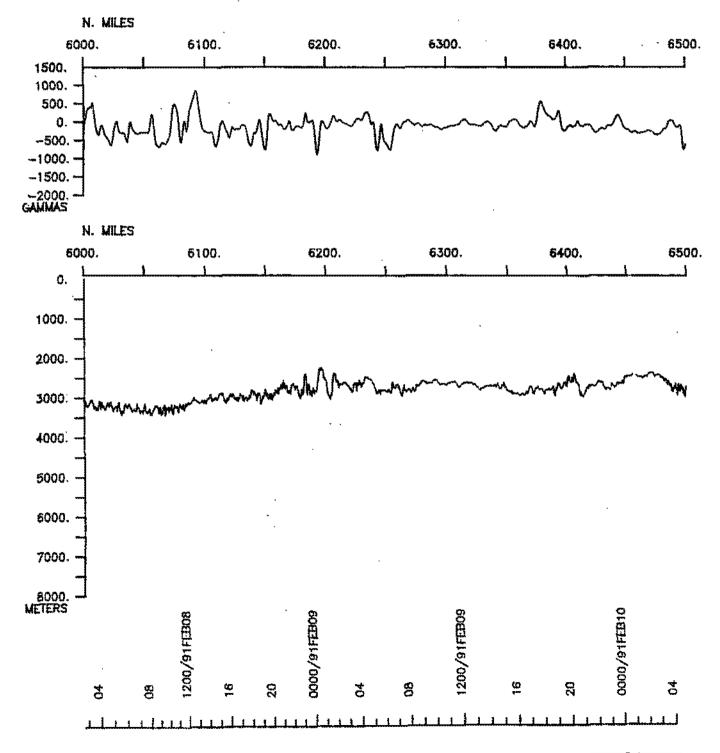
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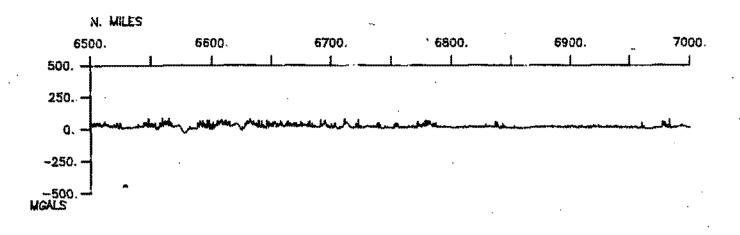
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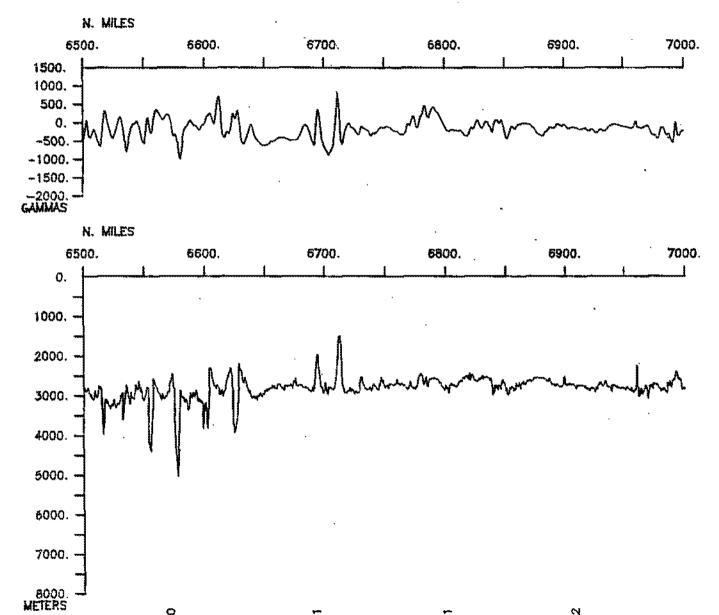






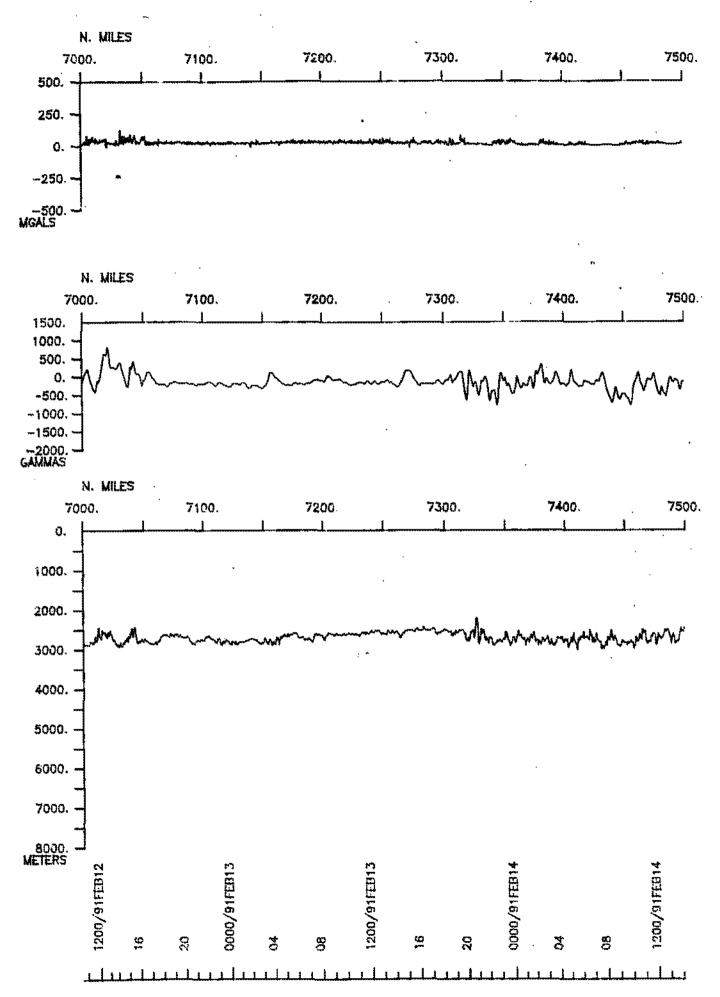
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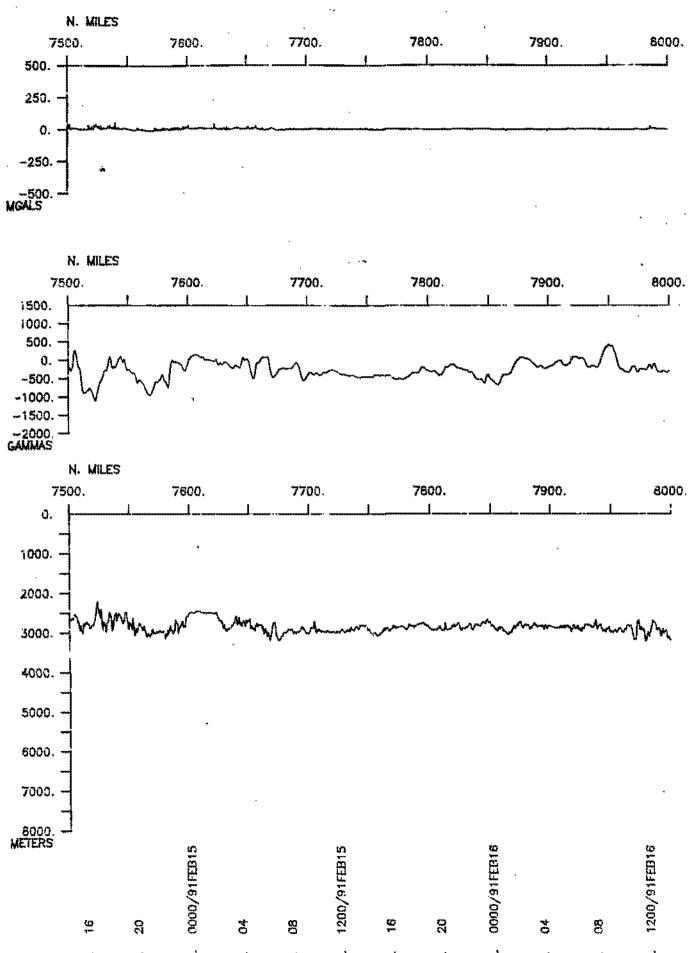




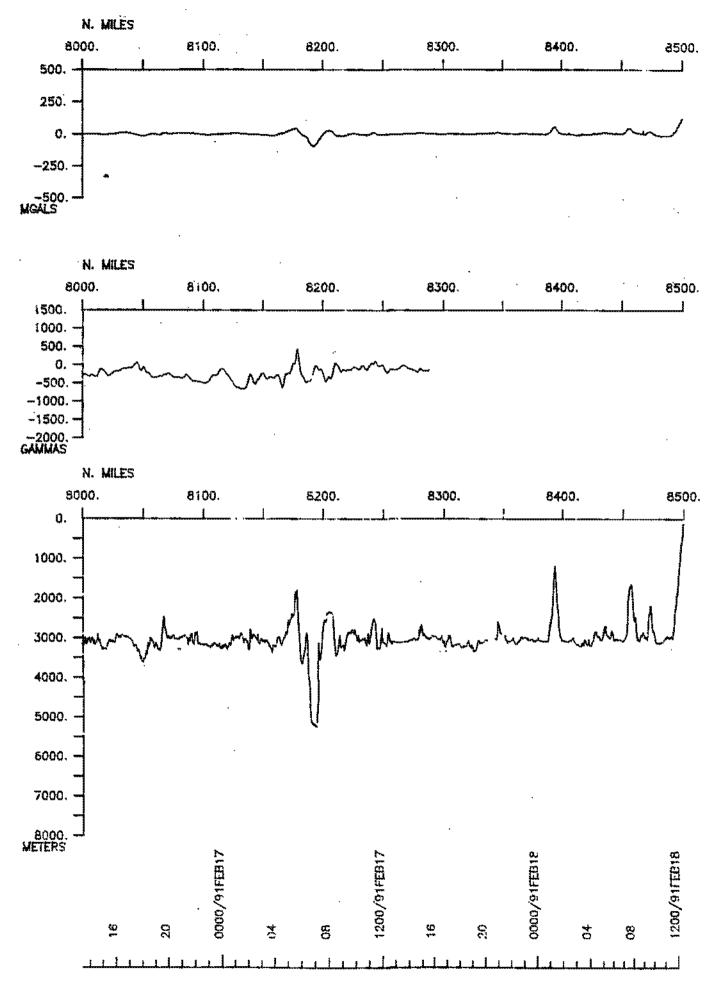
1200/91FEB10 0000/91FEB12 0000/91FEB11 1200/91FEB11 Ŷ



RAPA LEG 3 (PAPA03WT)



RAPA LEG 3 (RAPA03WT)



RAPA LEG 3 (RAPAOSWI)

S.I.O. SAMPLE INDEX

(Issued May 1991)

RAPA EXPEDITION

Leg 3

R/V T. Washington

Easter Island (7 January 1991) to Easter Island (18 February 1991)

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

GDC Cruise I.D.# 231

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#***PORTS***

2100 070191		LGPT B	EASTER	ISLAND	27-09	S 1	09-27	W	fRAPAO3WT
1300 180291	*	LGPT E	EASTER	ISLAND	27-09	S 1	09-27	W	frapao3wt
1200 110191		LGUS B	EASTER	ISLAND	27-09	S 1	09-27	W	fRAPAO3WT -
2300 150191		LGUS E	EASTER	ISLAND	27-09	S 1	09-27	W	frapaoswt

#***PERSONNEL***

		NAME	***TITLE***	***AFFILIATION***	**CRID**
#					
PECS	MPL	LONSDALE, P.	CHIEF SCIENTIST	SCRIPPS INSTITUTION	RAPAO3WT
PESP	HIG	ADKINS,B.	SEAMARC TECH	HAWAII IN.OF GEOPHYS.	RAPAO3WT
PEBO	MPL	BOBBITT,A.	SEA BEAM OPERATOR	SCRIPPS INSTITUTION	RAPAO3WT
PECT	STS	CHARTERS, J.	COMPUTER TECH	SCRIPPS INSTITUTION	RAPAO3WT
PESP	GRD	CHEN,Y.	POST DOC	SCRIPPS INSTITUTION	RAPAO3WT
PEBE	STS	JAIN, J.	SEA BEAM ENG.	SCRIPPS INSTITUTION	RAPAO3WT
PESP	HIG	JOHNSON, D.	COMPUTER TECH	HAWAII IN.OF GEOPHYS.	RAPAO3WT
PESP	HIG	MARTINEZ,F.	S.M.PARTY CHIEF	HAWAII IN.OF GEOPHYS.	RAPAO3WT
PEST	GRD	MAYER,H.	GRAD STUDENT	SCRIPPS INSTITUTION	RAPAO3WT
PESP	HIG	MUELLER, T.	S.M. DATA TECH	HAWAII IN.OF GEOPHYS.	RAPAO3WT
PERT	STS	PILLARD, E.	RESIDENT TECH	SCRIPPS INSTITUTION	RAPAO3WT
PESP	WHO	SMITH, D.	RESEARCHER	WOODS HOLE	RAPAO3WT
		-			

#***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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CRUISE #GMT DDMMYY LOC T SAMP SAMPLE DISP #TIME DATE TIME Z CODE LAT. LONG. LEG-SHIP IDENTIFIER CODE #***UNDERWAY DATA CURATOR - S. M. SMITH EXT. 42752 #***LOG BOOKS*** GDC 27-085S 109-263W sRAPA03WT LBUW B UNDERWAY WATCH LOG 2125 070191 GDC 27-126S 109-240W sRAPA03WT LBUW E UNDERWAY WATCH LOG 1241 180291 UHI 34-4375 110-303W sRAPA03WT LBUW B SEAMARC II LOG BOOK 1450 170191 LBUW E SEAMARC II LOG BOOK UHI 54-409S 120-555W sRAPA03WT 1708 040291 #*** ECHO SOUNDER RECORDS *** MBRM B SEABEAM MONITOR R-01 GDC 27-183S 109-297W sRAPA03WT 2232 070191 GDC 29-267S 109-480W sRAPA03WT MBRM E SEABEAM MONITOR R-01 1030 160191 GDC 29-2915 109-485W sRAPA03WT MBRM B SEABEAM MONITOR R-02 1043 160191 GDC 44-534S 112-150W sRAPA03WT 0033 230191 MBRM E SEABEAM MONITOR R-02 0037 232191 0220 310191 MBRM B SEABEAM MONITOR R-03 GDC 44-540S 112-152W sRAPA03WT GDC 52-3505 118-211W sRAPA03WT MBRM E SEABEAM MONITOR R-03 0226 312191 0344 060291 GDC 52-350S 118-228W sRAPA03WT MBRM B SEABEAM MONITOR R-04 MBRM E SEABEAM MONITOR R-04 GDC 54-326S 118-470W sRAPA03WT GDC 54-378S 118-427W sRAPA03WT MBRM B SEABEAM MONITOR R-05 0452 060291 GDC 50-338S 116-569W sRAPA03WT MBRM E SEABEAM MONITOR R-05 2131 090291 GDC 50-331S 116-565W sRAPA03WT 2135 090291 MBRM B SEABEAM MONITOR R-06 GDC 41-453S 111-172W sRAPAO3WT MBRM E SEABEAM MONITOR R-06 1720 130291 GDC 41-443S 111-171W sRAPA03WT 1727 130291 1455 170291 MBRM B SEABEAM MONITOR R-07 GDC 30-514S 109-303W sRAPA03WT MBRM E SEABEAM MONITOR R-07 GDC 30-505S 109-302W sRAPA03WT MBRM B SEABEAM MONITOR R-08 1500 170291 GDC 27-126S 109-240W sRAPA03WT MBRM E SEABEAM MONITOR R-08 1241 180291 GDC 32-405S 110-043W sRAPA03WT DPR3 B 3.5 KHZ RECORD R-01 0253 100191 2153 060291 GDC 54-390S 118-344W sRAPA03WT DPR3 E 3.5 KHZ RECORD R-01

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#CMT DIMMYY LOG T	SAMP	SAMPLE	DTSP		CRUISE			
#TIME DATE TIME Z	CODE	SAMPLE IDENTIFIER	CODE LAT.	LONG.	LEG-SHIP			
#*** SEA BEAM SURVEYS ***								
1325 170191 0030 180191	MBSV B MBSV E	RAPAO3-O1 SURVEY PAC-NAZ-FERN T.J.	GDC 34-370S GDC 35-130S	110-300W 110-590W	fRAPAO3WT fRAPAO3WT			
0320 180191 1020 200191	MBSV B MBSV E	RAPAO3-O2 SURVEY 36.OS EPR OFFSET	GDC 35-400S GDC 36-400S					
1330 200191 1610 200191	MBSV B MBSV E	RAPAO3-O3 SURVEY Rapao3-o3 Survey	GDC 37-010S GDC 37-100S					
		RAPAO3-O4 SURVEY RAPAO3-O4 SURVEY						
0630 230191 1220 230191		RAPA03-05 SURVEY 46 DEG OFFSET						
0535 240191 1320 240191	MBSV B MBSV E	RAPAO3-OG SURVEY Rapao3-og Survey	GDC 48-250S GDC 48-480S					
1840 240191 2045 260191	MBSV B MBSV E	EAST MENARD TRANSFORM FAULT	GDC 49-230S GDC 50-070S					
1000 270191 1035 280191	MBSV B MBSV`E	WEST MÉNARD TRANSFORM FAULT	GDC 49-040S GDC 49-315S					
1550 280191 0220 290191		RÀPAO3-09 SURVEY Rapao3-09 Survey	GDC 50-150S GDC 50-460S					
0400 290191 1200 290191	MBSV B Mbsv E	RAPAO3-10 SURVEY Rapao3-10 Survey	GDC 50-530S GDC 51-120S					
2200 290191 0660 310191		RAPAO3-10 VACQUIER TRANSFORM FAULT	GDC 52-3409 GDC 53-1509					
1600 310191 0300 020291		RAPAO3-11 WEST RAITT TRANSFORM FAULT	GDC 53-5008 GDC 54-3008					
1200 020291 1130 040291		RAPAO3-12 HEEZEN TRANSFORM FAULT	GDC 55-1508 GDC 56-3008					

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		SAMPLE IDENTIFIER			CRUISE LEG-SHIP
0200 050291 1120 070291	MBSV B MBSV E	RAPAO3-13 EAST RAITT TRANSFORM FAULT	GDC 54-100S GDC 54-500S		
1710 070291 0810 090291	MBSV B MBSV E	RAPAO3-14 SOUTHEAST VACQUIER T. FAULT	GDC 52-4008 GDC 53-3508		
0310 100291 1950 100291	MBSV B MBSV E	RAPAO3-15 CENTRAL MENARD T. FAULT	GDC 49-1508 GDC 50-1008	114-250W 1 16 -550W	fRAPAO3WT fRAPAO3WT
2300 100291 0950 110291	MBSV B MBSV (E	RAPAO3-16 SURVEY Rapao3-16 Survey	GDC 48-2508 GDC 48-5008	113-250W 114-050W	fRAPAO3WT fRAPAO3WT
1510 110291 1835 110291	MBSV B MBSV E	RAPA03-17 SURVEY Rapa03-17 Survey	GDC 47-3708 GDC 47-4508	113-000W 113-150W	fRAPAO3WT fRAPAO3WT
0510 120291 1730 120291	MBSV B MBSV E	RAPAO3-18 46 DEG S OFFSET,RAPAO3-O5CONT	GDC 45-2708 GDC 46-0508		
1700 130291 0505 150291	MBSV B MBSV E	RAPAO3-19 SURVEY 41 DEG S OFFSET	GDC 40-3908 GDC 41-4558	110-450W 111-570W	fRAPAO3WT FRAPAO3WT
#*** SEA BEAM SWATH	BOOKS	***			
2232 070191 2320 080191	MBSB B MBSB E	SEABEAM SWATH BK-01 SEABEAM SWATH BK-01	GDC 27-1839 GDC 32-0445	109-297W 109-366W	sRAPAO3WT sRAPAO3WT
2320 080191 0753 110191	MBSB B MBSB E	SEABEAM SWATH BK-02 SEABEAM SWATH BK-02	GDC 32-0449 GDC 27-5699		
0754 110191 1157 170191	MBSB B MBSB E	SEABEAM SWATH BK-03 SEABEAM SWATH BK-03	GDC 27-5679 GDC 34-2149		
1157 170191 2039 190191	MBSB B MBSB E	SEABEAM SWATH BK-04 SEABEAM SWATH BK-04	GDC 34-2143 GDC 35-5493		
		SEABEAM SWATH BK-05 SEABEAM SWATH BK-05			

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#GMT DDMMYY LOC T #TIME DATE TIME Z #	SAMP SAMPLI CODE IDENTI	E FIER		CRUIS LONG. LEG-SHI	
0444 220191 1946 240191				111-163W sRAPAO3W 113-298W sRAPAO3W	
1946 240191 1733 270191	MBSB B SEABEAN MBSB E SEABEAN	M SWATH BK-07 M SWATH BK-07		113-298W sRAPAO3W 116-531W sRAPAO3W	
1733 270191 1301 300191	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-08 M SWATH BK-08		116-531W sRAPAO3W 117-467W sRAPAO3W	
1301 300191 2255 010291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-09 M SWATH BK-09		117-467W sRAPAO3W 120-483W sRAPAO3W	
2255 010291 1915 040291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-10 M SWATH BK-10		120-483W sRAPAO3W 120-545W sRAPAO3W	
2336 040291 1309 070291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-11 M SWATH BK-11		121-002W sRAPA03W 118-121W sRAPA03W	
1309 070291 0748 090291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-12 M SWATH BK-12	GDC 54-046S GDC 52-445S	118-121W sRAPAO3W 118-384W sRAPAO3W	
0748 090291 0918 110291	MBSB B SEABEA MBSB E SEABEA			118-384W sRAPAO3W 113-220W sRAPAO3W	
0918 110291 1948 130291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-14 M SWATH BK-14	GDC 48-277S GDC 41-234S	113-220W sRAPA03W 111-142W sRAPA03W	
1948 130291 0926 160291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-15 M SWATH BK-15		111-142W sRAPA03W 110-096W sRAPA03W	
0926 160291 1241 180291	MBSB B SEABEA MBSB E SEABEA	M SWATH BK-16 M SWATH BK-16	GDC 35-5459 GDC 27-1269	110-096W sRAPA03W 109-240W sRAPA03W	

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#GMT DDMMYY LOC 1 #TIME DATE TIME 1	T SAMP SAMPLE Z CODE IDENTIFIER	DISP CODE LAT.	LONG.	CRUISE LEG-SHIP		
	FOTAL EARTH FIELD) RECORDS ***		,			
	MGRA B MAGNETICS R-01 MGRA E MAGNETICS R-01	GDC 30-324S GDC 40-284S				
1800 210191 1726 020291	MGRA B MAGNETICS R-02 Mgra e magnetics R-02	GDC 40-2938 GDC 55-5098				
1735 020291 1704 140291	MGRA B MAGNETICS R-03 MGRA E MAGNETICS R-03	GDC 55-4965 GDC 41-0975				
1707 140291 1531 170291	MGRA B MAGNETICS R-04 MGRA E MAGNETICS R-04	GDC 41-0968 GDC 30-4488	5 111-380W 5 109-300W	sRAPAO3WT sRAPAO3WT		
#*** SEA MARC II	SIDE SCAN RECORDS ***					
1450 170191 1208 200191	DPSM B SEAMARK DEPLOYMENT DPSM E SURVEY RAPAO3-01	UHI 34-4375 UHI 36-5285				
1955 200191 1900 300191	DPSM B SEAMARK DEPLOYMENT DPSM E SURVEY RAPAO3-02	UHI 37-3745 UHI 52-5135				
1615 310191 1708 040291	DPSM B SEAMARK DEPLOYMENT DPSM X SURVEY RAPAO3-03	UHI 54-062 UHI 54-409				
#*** BATHYTHERMOGRAPH RECORDS ***						
2100 070191 1406 180291	TGRC B THERMOGRÀPHS 1-10 TGRC E THERMOGRAPHS 1-10	GDC 27-085 GDC 27-117	5 109-263W 5 109-239W	SRAPAO3WT SRAPAO3WT		
#*** CONTINUOUS	COMPUTER RECORDED GRAVITY ***					
2100 070191 1300 180291	GVCR B GRAVITY DATA GVCR E COMPUTER LOGGED	GDC 27-085 GDC 27-117	S 109-263W S 109-239W	sRAPAO3WT sRAPAO3WT		

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#GMT DDMMYY LOC #TIME DATE TIME #	T SAMI Z CODI	P SAMPLE IDENTIFIER	DISP CODE LAT	. LONG.	CRUISE LEG-SHIP
	•	ERMOGRAPH RECORDS ***		· · · · · · · · · · · · · · · · · · ·	
1420 080191	BTXI BTXI	P XBT 0001 PROBE T-		21S 109-338W 80S 110-149W	
	BIXI		•	055 109-589W	
	BTX			61S 110-313W	
	BTX			21S 110-384W	
1735 210191	BTX			55S 111-270W	
1758 220191	BTX	P XBT 0007 PROBE T-	6 GDC 43-5	39S 111-517W	sRAPAO3WT
2008 230191	BTX			82S 113-078W	sRAPA03WT
1556 280191	BTX	P XBT 0009 PROBE T-	6 GDC 50-1	73S 117-042W	sRAPA03WT
1506 310191	BTX	P XBT 0010 PROBE T-	6 GDC 54-0	33S 119-397W	sRAPA03WT
1515 310191	BTX			37S 119-406W	
1706 020291	BTX			39S 122-489W	
2038 060291	BTX			83S 118-351W	
	BTX			31S 116-338W	·
1909 090291	BTX			83S 117-273W	·
1705 110291	BTX			06S 113-019W	
1656 130291	BTX			90S 111-165W	
	BTX			375 111-298W	
	BTX			345 110-296W	
1538 160291	BTX			825 109-460W	
1553 170291	BTX	P XBT 0022 PROBE T-	6 GDC 30-4	23S 109-299W	sRAPA03WT

END SAMPLE INDEX

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