## REPORT AND INDEX OF UNDERWAY MARINE GEOPHYSICAL DATA

### BOOMERANG EXPEDITION

### LEG 3

### (BMRG03MV)

### R/V MELVILLE

(Issued April 1996)

### Ports:

Chatham Is., New Zealand (11 December 1995)

to

Dunedin, New Zealand (3 January 1996)

Chief Scientist: Ellen Druffel (University of California, Irvine) Resident Marine Techician - Bob Wilson Computer Technician -Ron Moe

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

Data Collection and Processing Funded by: NSF OCE94-00707

**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.# 267

### 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 if 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, California 92093-0223.

Phone: (619)534-2752, FAX: (619)534-5306, Internet email: ssmith@ucsd.edu

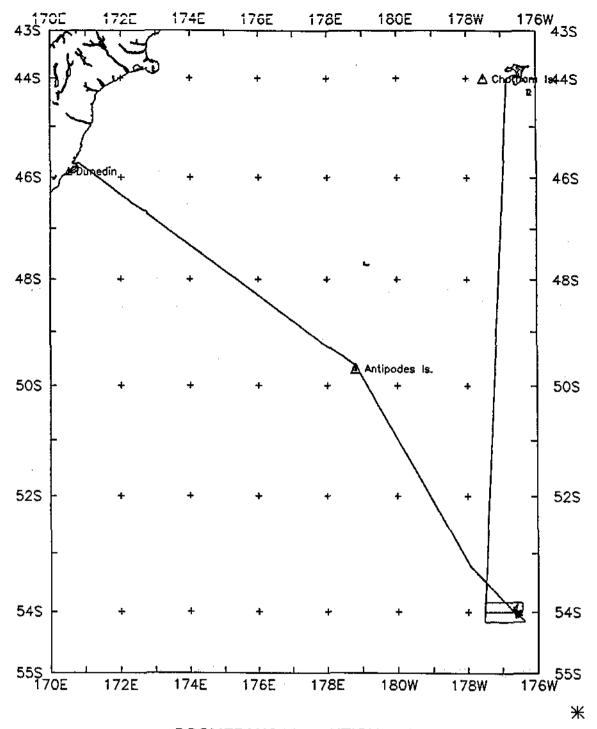
- 1. Files on Exabyte, DAT or 1/2 inch magnetic tape:
  - a) Separate time series ASCII files of navigation, single beam depth, gravity and magnetics.
  - b) These same data in a merged ASCII file in the MGD77 Exchange Format.
  - c) SeaBeam depth data (binary, Sun byte order) in SIO Swath Bathymetry Format (not available on 1/2" tape).
  - d) SeaBeam Sidescan data (not available on 1/2" tape).
- 2. Microfilm (35 mm flowfilm) or hard 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.
- Navigation listing with times and positions of fixes and course and speed changes.
- 4. Plots:
  - a) Copies of archived track plots.
  - b) Copies of archived SeaBeam contour 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.
- rev 7/93

### Sea Beam 2000 Data Collected in Ancillary Mode

In the absence of funding for Sea Beam operations on this leg, Sea Beam 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 Sea Beam data remain proprietary to the SIO Shipboard Technical Support Group, not the chief scientist.

May 1993



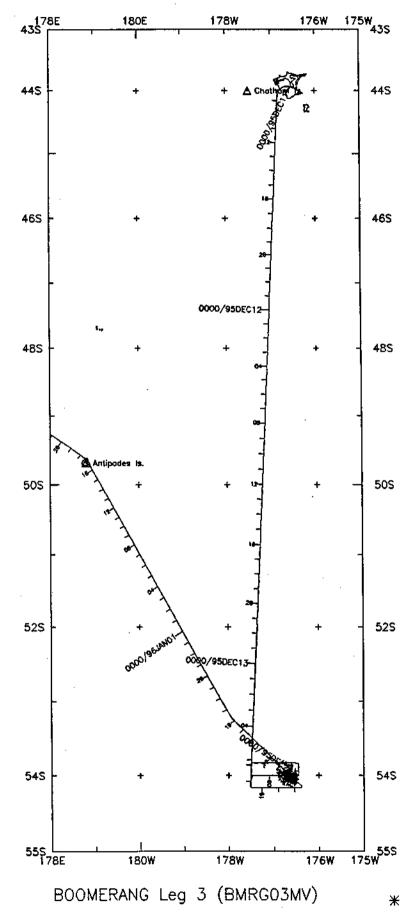
# BOOMERANG EXPEDITION LEG 3

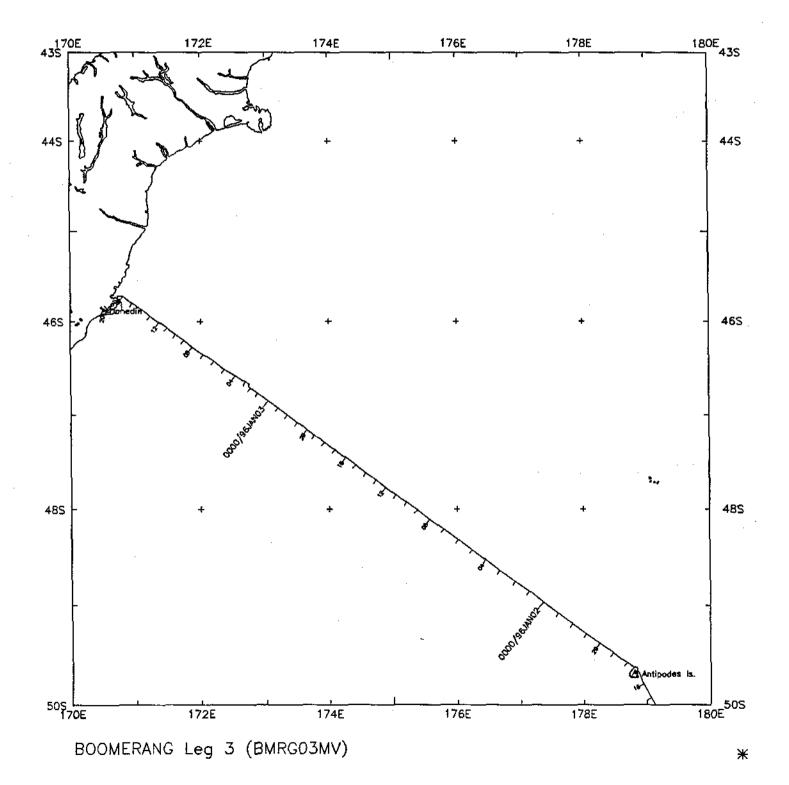
CHIEF SCIENTIST: Ellen Druffel University of California, Irvine PORTS: Chatham Island, New Zealand - Dunedin, New Zealand DATES: 11 December 1995 - 3 January 1996 SHIP: R/V Melville

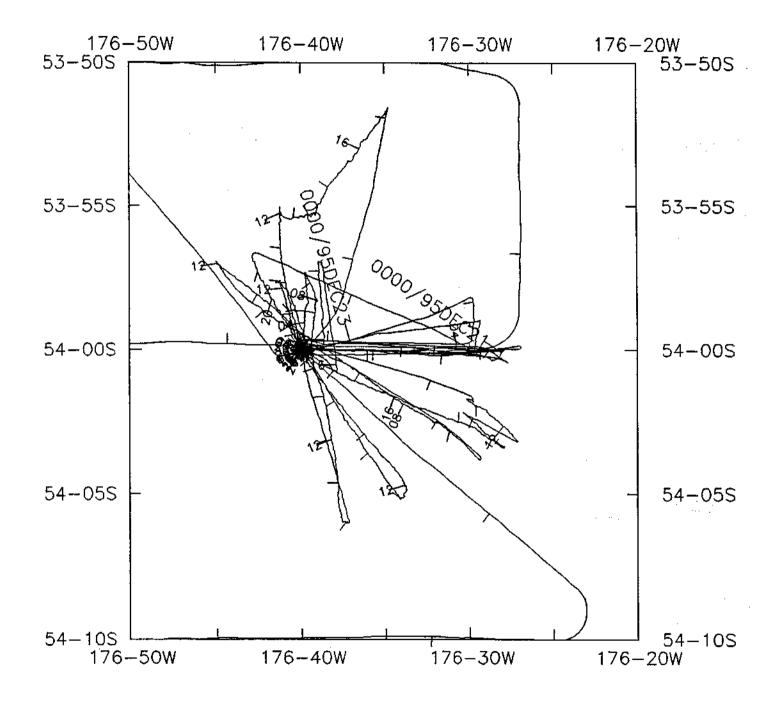
TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

Cruise - 1899 milesMagrBathymetry - 1371 milesSeisrSea Beam - 1371 milesGravities

Magnetics - 897 miles Seismic Reflection - none collected Gravity - 1659 miles

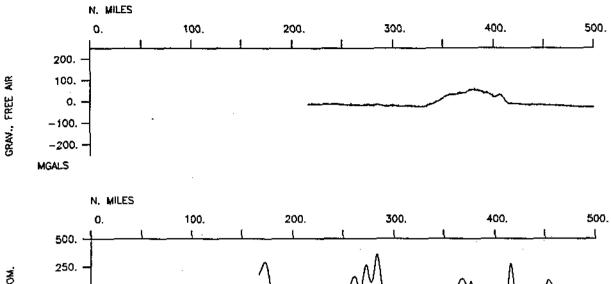




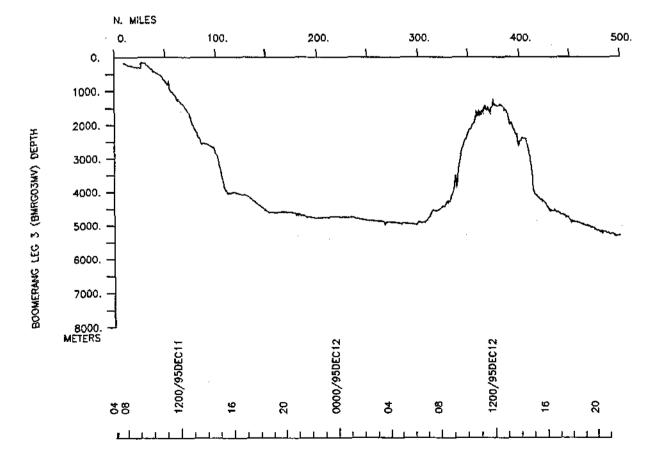


BMRG03MV survey area

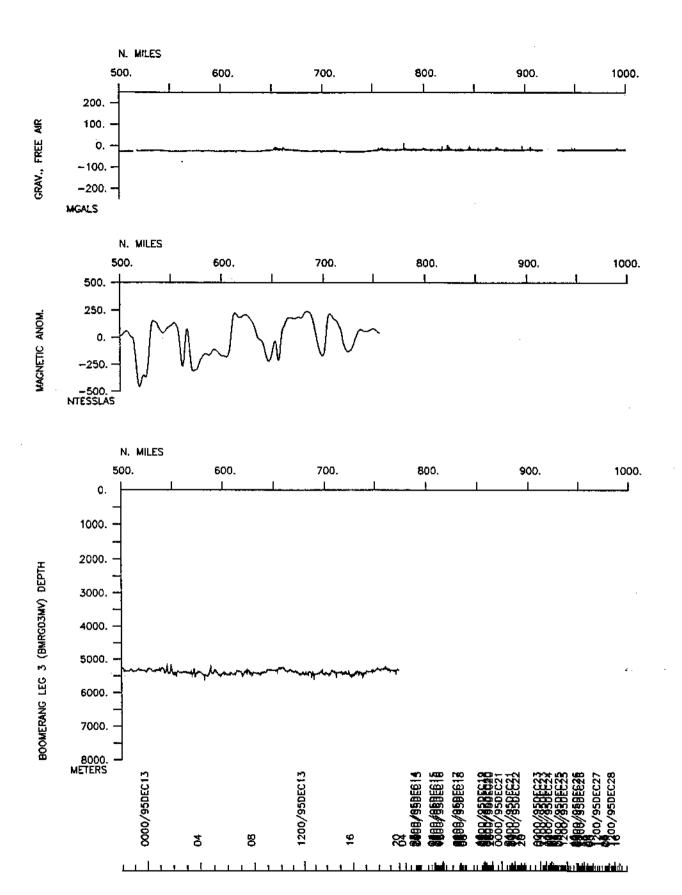
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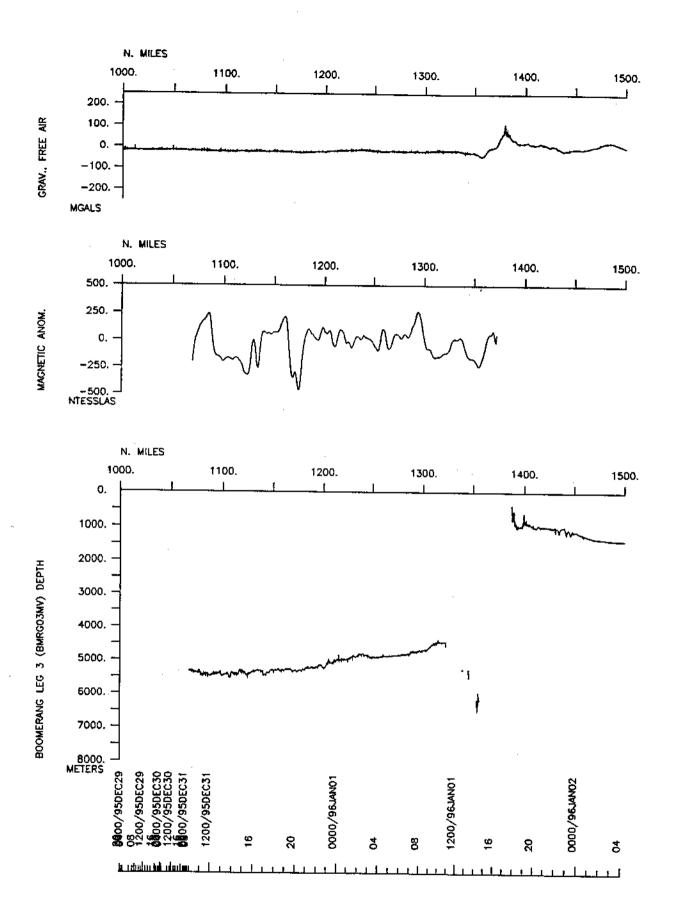


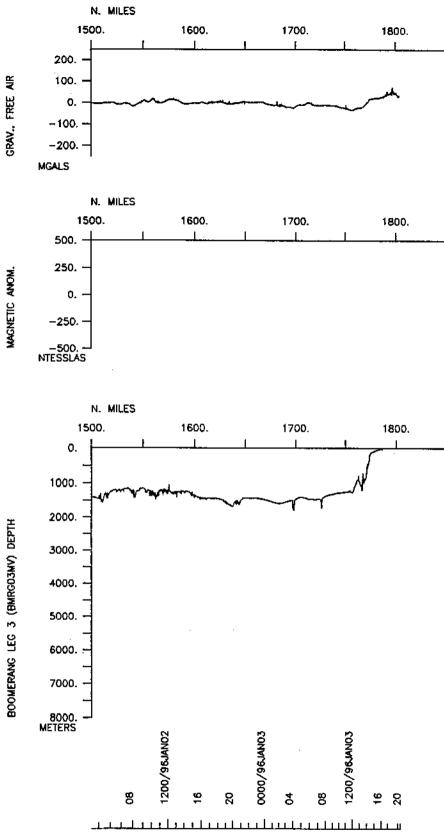




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### S.I.O. SAMPLE INDEX

### BOOMERANG EXPEDITION

### LEG 3

### (BMRG03MV)

### R/V Melville

(Issued April 1996)

Chatham Is., New Zealand (11 December 1995) to Dunedin, New Zealand (3 January 1996)

### Chief Scientist: Ellen Druffel

(University of California, Irvine)

The Sample Index is a first level interdisiplinary 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.# 267

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

0700 111295 0LGPT B Chatham Is., N.Zeal.44-00.00S 177-30.00E f BMRG03MV1625 030196 0LGPT E Dunedin, New Zealand45-53.00S 170-31.00E f BMRG03MV

#\*\*\* Personnel \*\*\* \*\*\*\*\*\*\*\*NAME\*\*\*\*\*\*\* \*\*\*\*\*TITLE\*\*\*\*\* \*\*\*AFFILIATION\*\*\*\* \*\*CRID\*\* # #-Chief Scientist U. of Cal. Irvine BMRG03MV Specialist U. of Cal. Irvine BMRG03MV Research asso U. of Cal. Irvine BMRG03MV PECS UCI Druffel, E. PESP UCI Griffin, S. PESP UCI Gaza, B.

PEST UCI	Masiello, C.	Grad student	U. of Cal. Irvine	BMRG03MV
PESP SIO	Wolgast, D.	Research asso	Scripps Institution	BMRG03MV
PESP SIX	Bauer, J.	Professor	VA.Inst.of Mar.Sci.	BMRG03MV
PESF SIX	Schrope, M.	Lab specialist	VA.Inst.of Mar.Sci.	BMRG03MV
PEST SIX	Loh, A.	Grad student	VA.Inst.of Mar.Sci.	BMRG03MV
PESP SIX	Taranto, M.	Volunteer	VA.Inst.of Mar.Sci.	BMRG03MV
PESP UCI	Wolgast, M.	Volunteer	U. of Cal. Irvine	BMRG03MV
PECT SIO	Moe, R.	Computer tech	Scripps Institution	BMRG03MV
PERT SIO	Wilson, R.	Resident tech	Scripps Institution	BMRG03MV

#### #\*\*\* 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.

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#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 #\*\*\* Sea Beam Records (vertical beam and side scan) \*\*\* 0749 111295 0 MBSR B v.beam&sidescan r-01 GDC 43-57.43S 176-43.50W q BMRG03MV 1625 030196 0 MBSR E v.beam&sidescan r-01 GDC 45-43.52S 170-45.69E g BMRG03MV #\*\*\* Magnetics (Earth Total Field) Records \*\*\* 19471112950MGRA B magnetics roll 1GDC46-30.91S176-59.50W gBMRG03MV16140101960MGRA E magnetics roll 1GDC49-45.22S178-54.92E gBMRG03MV #\*\*\* Continuous Recorded Gravity \*\*\* 0100 121295 0 GVCR B gravity auto record GDC 47-37.97S 177-03.93W g BMRG03MV 1625 030196 0 GVCR E gravity auto record GDC 45-43.52S 170-45.69E g BMRG03MV #\*\*\* Conductivity, Temperature, Depth \*\*\* 
 2054 131295
 0 TDCT B recording ctd
 UCI
 53-59.97S
 176-39.96W g BMRG03MV

 0010 141295
 0 TDCT E UCI sta 303a
 UCI
 53-59.59S
 176-39.94W g BMRG03MV
 0100 161295 0 TDCT B recording ctd 0100 161295 0 TDCT B recording ctd UCI 53-59.59S 176-40.01W g BMRG03MV 0419 161295 0 TDCT E UCI sta 316 5395m UCI 53-59.59S 176-40.01W g BMRG03MV 0533 231295 0 TDCT B recording ctd UCI 53-59.59S 176-40.00W g BMRG03MV 0835 231295 0 TDCT E UCI sta 355 5340m UCI 54-00.00S 176-39.99W g BMRG03MV 
 2100
 281295
 0
 TDCT B recording ctd
 UCI
 54-00.01S
 176-39.98W g BMRG03MV

 0000
 291295
 0
 TDCT E UCI sta
 386
 UCI
 53-59.59S
 176-39.99W g BMRG03MV
 0018 311295 0 TDCT B recording ctd UCI 53-59,965 176-40.03W g BMRG03MV 0319 311295 0 TDCT E UCI sta 398 5253m UCI 54-00.00S 176-39.97W g BMRG03MV #\*\*\* Hydrographic Casts \*\*\* 01131412950HCGFsta30425,85mUCI53-59.98S176-39.99WgBMRG03MV02391412950HCGF306250,1000mUCI53-59.99S176-39.95WgBMRG03MV05421512950HCGF3093000,3600mUCI53-59.99S176-40.00WgBMRG03MV22451512950HCGF312100mab,50mabUCI54-00.02S176-40.03WgBMRG03MV18461712950HCGF3222100,2800mUCI54-00.00S176-40.03WgBMRG03MV22551712950HCGF32350mab,4800mUCI54-00.00S176-39.99WgBMRG03MV11501812950HCGF325a3,10mUCI54-00.02S176-40.00WgBMRG03MV 

 0342
 151295
 0
 HCGF
 305
 5000,3600m

 2245
 151295
 0
 HCGF
 312
 100mab,50mab

 1846
 171295
 0
 HCGF
 322
 2100,2800m

 2255
 171295
 0
 HCGF
 323
 50mab,4800m

 1150
 181295
 0
 HCGF
 325a
 3,10m

#GMT DDMMYY #TIME DATE	TZ			DISP CODE	LATITUDE	LONGITUDE		CRUISE LEG-SHIP
#			 					
1842 181295		HCGF		UCI		176-40.04W	_	
0959 191295		HCGF		UCI		176-40.00W		
1108 191295		HCGF	331 600,800m	ŲCI		176-40.01W		
2111 191295		HCGF		UCI		176-40.01W		
0159 211295		HCGF	342a 25m	UCI		176-39.89W		
0217 211295		HCGF		UCI		176-39,80W		
0424 211295 0306 221295		HCGF HCGF		UCI UCI		176-39.96W	_	
0314 221295		HCGF	349b 25m	UCI		176-39.95W		
						176-39.99W		
0513 221295		HCGF	350 3600m, 3590, 3595m 354 1000m			176-40.01W		
1238 231295		HCGF	358a 5,10m	UCI		176-41.22W		
2210 231295		HCGF	3588 5,10M	UCI		176-39.99W		
0010 241295		HCGF	358b 25,50m	UCI		176-40.05W		
0110 241295 0200 241295		HCGF	358c 85,100m 359 150,250m 364a 25m 364b 25m	UCI		176-40.01W 176-40.07W		
0754 241295		HCGF HCGF	3545 25m	UCI		176-39.11W		
0801 241295		HCGF	3646 25m	UCT		176-39.11W		
0809 241295		HCGF	364c 25m	UCI		176-39.11W		
0809 241295		HCGF	364d 25m	UCI		176-39.09W		
0824 241295		HCGF	364e 25m	UCI		176-39.11W		
1214 241295		HCGF	365 3600m	UCI		176-39.12W		
1603 241295		HCGF	365a 3600m	UCI		176-39.12W		
2035 241295		HCGF	366 1700,1900m	UCI		176-40.00W		
0006 251295		HCGF	367 15mab, 45mab	UCI		176-40.00W		
0330 251295		HCGF	370 450,600m	UCI		176-39.97W		
0753 251295		HCGF	369 1000,2800m	UCI		176-40.00W		
0259 261295		HCGF	374 2100,3600m	UCI		176-39.99%		
0807 261295		HCGF	375 20mab, 30mab	UCI		176-40.00W		
2313 261295		HCGF	377a 25m	UCI		176-39.98W		
2326 261295		HCGF	377b 25m	UCI		176-39.99W		
0204 271295		HCGF	378 3600m	UCI		176-39.99W		
0551 271295		HCGF	380 450m	UCT		176-40.00W		
0656 271295		HCGF	380 450m 381 1500m 382 20,30&60mab	UCT		176-40.03W		
		HCGF	382 20,30&60mab	UCT		176-40.03W		
2318 271295		HCGF	382 40mab, 50mab	ŬĈI		176-40.03W		
0638 281295		HCGF		ŪĊI		176-40.02W		
0148 291295		HCGF	388 1500m, 1450, 1550m			176-40.00W	~	
2029 291295		HCGF	389 2800m	UCI		176-40.00W		
2308 291295		HCGF	389a 2800m	UCI		176-39.98W		
0543 301295		HCGF	391 2800m	UCI		176-39.99W		
0610 301295		HCGF	392a 25m	UCI		176-39.99W		
0622 301295		HCGF	392b 25m	UCI		176-39.98W		
1820 301295		HCGF	393 25m	UCI		176-39.94W		
2114 301295		HCGF	394 45&55mab,2800m	UCI		176-39.99W		
0616 311295		HCGF	399 25m	UCI		176-39.97W		
0716 311295		HCGF	401 450,3600m	UCI		176-39.99W		
0716 311295		HCGF	401 1500,2100m	UCI		176-39.99W		
	-		-					

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#GMT DDMMYY SAMP B SAMPLE #TIME DATE TZ CODE E IDENTI #	E DIS FIER COD	P E LATITUDE 	F LONGITUDE C	CRUISE LEG-SHIP					
" #*** Yentsch Pump ***									
0710 141295 0 YNPM B yentso 0955 141295 0 YNPM E sta 30		54-00.01S 54-00.02S	176-40.01W g 176-39.97W g	I BMRG03MV J BMRG03MV					
1110 141295 0 YNPM B yentso 0044 151295 0 YNPM E sta 30			176-39.92W g 176-39.98W g						
1035 151295 0 YNPM B yents 1842 151295 0 YNPM E sta 33	ch 1300,1500m UCI 11 UCI		176-39.98W q 176-40.04W q						
0645 161295 0 YNPM B yents 2100 161295 0 YNPM E sta 3			176-40.00W ( 176-38.45W (						
0410 171295 0 YNPM B yents 1255 171295 0 YNPM E sta 33	ch 4200,4800m UCI 21 UCI		176-40.00W ( 176-39.99W (						
0520 181295 0 YNPM B yents 0920 181295 0 YNPM E sta 3	ch 2100,2800m UCI 25 UCI		176-39.97W ( 176-40.03W (						
2301 181295 O YNPM B yents 0058 191295 O YNPM E sta 3	ch 150,450m UC1 27 UCI	53-59.98S 54-00.00S	176-39.99W ( 176-40.01W (	g BMRG03MV g BMRG03MV					
0344 191295 O YNPM B yents 0910 191295 O YNPM E sta 3.		t 53-59.59S t 54-00.01S							
1340 191295 O YNPM B yents 1840 191295 O YNPM E sta 3	ch 450+600m UCI 32 UCI		176-39.99W 176-39.99W						
0241 201295 0 YNPM B yents 0441 201295 0 YNPM E sta 3	ch 6and16m UC 36 UCI	I 54-00.01S I 54-00.00S	176-39.99W 176-39.97W	g BMRG03MV g BMRG03MV					
0655 201295 0 YNPM B yents 0856 201295 0 YNPM E sta 3	ch 25,250m UC 37 UC	I 54-00.01S I 54-00.00S	176-40.01W 176-40.00W	g BMRG03MV g BMRG03MV					
1440 201295 0 YNPM B yents 1840 201295 0 YNPM E sta 3	ch 50&100mab UC 38 UC	I 54-00.05S I 54-00.02S	176-39.99W 176-40.00W	g BMRG03MV g BMRG03MV					
0750 211295 0 YNPM B yents 1150 211295 0 YNPM E sta 3		I 54-00.01S I 53-59.98S	176-40.00W 176-39.94W						
2006 211295 O YNPM B yents 2309 211295 O YNPM E sta 3		I 53-59.99S I 53-59.59S							

••

#GMT DDMMYY #TIME DATE TZ- #	SAMP B SAMPLE CODE E IDENTIFIER	DISP CODE LATITUDE	p CRUISE LONGITUDE c LEG-SHIP
#*** Open Nets	***		
	ON25 B sta305	UCI 53-59.98S	176-39.98W g BMRG03MV
	ON25 E sta305	UCI 53-59.98S	176-39.97W g BMRG03MV
	ON25 B sta305a ON25 E sta305a		176-39.98W g BMRG03MV 176-39.94W g BMRG03MV
	ON25 B sta310	UCI 54-00.03S	176-40-02W g BMRG03MV
	ON25 E sta310	UCI 53-59.98S	176-39.96W g BMRG03MV
2336 151295 0	ON25 B sta314	UCI 54~00.00S	176-39.99W g BMRG03MV
2346 151295 0	ON25 E sta314	UCI 54-00.00S	176-40.01W g BMRG03MV
	ON25 B sta315	UCI 54-00.01s	176-40.01W g BMRG03MV
	ON25 E sta315	UCI 53-59.99s	176-39.98W g BMRG03MV
	ON1M B net tow 120m	UCI 53-59.91S	176-40.10W g BMRG03MV
	ON1M E sta 356a	UCI 53-59.60S	176-40.27W g BMRG03MV
1004 231295 0	ON1M B net tow 85m	UCI 53-59.42s	176-40.36W g BMRG03MV
1034 231295 0	ON1M E sta 356b	UCI 53-58.97s	176-40.58W g BMRG03MV
1045 231295 0	ON1M B net tow 50m	UCI 53-58.80S	176-40.67W g BMRG03MV
1115 231295 0	ON1M E sta 356c	UCI 53-58.49S	176-40.81W g BMRG03MV
1125 231295 0	ON1M B net tow 25m	UCI 53-58.36S	176-40.89W g BMRG03MV
1153 231295 0	ON1M E sta 356d	UCI 53-57.97S	176-41.05W g BMRG03MV
	) ON1M B net tow 120m	UCI 53-59.76S	176-39.89W g BMRG03MV
	) ON1M E sta 362a	UCI 53-59.33S	176-39.84W g BMRG03MV
0355 241295  0	) ON1M B net tow 85m	UCI 53-59.158	176-39.75W g BMRG03MV
0415 241295  0	) ON1M E sta 362b	UCI 53-58.748	176-39.76W g BMRG03MV
	) ON1M B net tow 50m	UCI 53-58.439	176-39.62W g BMRG03MV
	) ON1M E sta 362c	UCI 53-58.019	176-39.65W g BMRG03MV
	) ON1M B net tow 25m ) ON1M E sta 362d		5 176-39.64W g BMRG03MV 5 176-39.74W g BMRG03MV
2159 251295 (	) ON1M B net tow 120m	UCI 53-59.938	5 176-39.86W g BMRG03MV
2227 251295 (	) ON1M E sta 372a	UCI 53-59.598	5 176-39.97W g BMRG03MV
	) ON1M B net tow 85m ) ON1M E sta 372b		5 176-40.01W g BMRG03MV 5 176-39.91W g BMRG03MV

. . . . .

	DDMMYY DATE				SAMPLE IDENTIFIER	DISP CODE	LATITUDE	LONGITUDE	p c ≁	CRUISE LEG-SHIP
2303 2322	251295 251295	0 0	ON1M ON1M	B E	net tow 50m sta 372c	UCI UCI	53-59.93S 53-59.90S	176-39.88W 176-39.87W	g	BMRG03MV BMRG03MV
2325 2339	251295 251295	0 0	ON1M ON1M	B E	net tow 25m sat 372d	UCI UCI	53-59.93S 54-00.00S	176-39.92W 176-40.04W	g	BMRG03MV BMRG03MV
#***	Bucket	Sar	mples	**	*					
2249 2346 2350 0043 0328 2328 2354 2320 2302 2302 2323	131295 141295 151295 151295 211295 211295 241295 261295 271295 291295 301295	000000000000000000000000000000000000000	BKST BKST BKST BKST BKST BKST BKST BKST		bucket sta 305 bucket sta 310 bucket sta 314 bucket sta 315 bucket sta 319 bucket sta 340 bucket sta 346 bucket sta 368 bucket sta 379 bucket sta 383 bucket sta 387 bucket sta 395	UCI UCI UCI UCI UCI UCI UCI UCI UCI	54-00.01s 54-00.00s 54-00.01s 54-00.00s 53-59.99s 54-00.01s 53-59.99s 54-00.00s 53-59.99s	176-39.98W 176-39.99W 176-40.01W 176-40.01W 176-39.99W 176-39.98W 176-40.01W 176-40.01W 176-40.01W 176-40.01W 176-40.01W		BMRG03MV BMRG03MV BMRG03MV BMRG03MV BMRG03MV BMRG03MV BMRG03MV BMRG03MV BMRG03MV
	Air Sam	•								
0228 0118	211295 231295	0 0	ASCS ASCS	B E	aerosol sample sta 339	UCI UCI	54-00.30S 53-59.99S	176-39.37W 176-39.93W	g	BMRG03MV BMRG03MV
1938 1939	231295 251295	0 0	ASCS ASCS	B E	aerosol sample sta 352	UCI UCI	54-00.00S 53-59.99S	176-40.03W 176-40.04W	ĝ	BMRG03MV BMRG03MV
	251295 271295	0 0	ASCS	B E	aerosol sample sta 371.	UCI UCI	54-00.00S 53-59.99S	176-40.00W 176-40.03W	g g	BMRG03MV BMRG03MV
#*** Gravity Cores ***										
1845 2046	261295	0	COGV		gravityl sta352a gravity2 sta357a gravity3 sta376a gravity4 sta381a	UCI UCI UCI UCI	54~00.01S	176-40.020 176-40.020 176-39.980 176-39.980	ig ig	BMRG03MV BMRG03MV
#*** Biological Sample *** #*** Boat Hook Kelp ***										
	271295 281295				boathk.kelp sta378a boathk.kelp sta384a			176-39.450 176-40.000		
#					End Sample Inc	lex				BMRG03MV