### Report and Index of

## Underway Marine Geophysical Data

### Cook Expedition

Leg 19

(COOK19MV)

R/V Melville

(Issued April 2002)

Ports:

19

Lyttleton, New Zealand (25 January 2002)

to

Lyttleton, New Zealand (26 February 2002)

Chief Scientist: Kenneth Coale Moss Landing Marine Laboratory coale@mlml.calstate.edu

Computer Tech - Jim Charters Resident Marine Tech - Gene Pillard

Post-Cruise processing and report preparation by Shipboard Technical Support Group, Scripps Institution of Oceanography La Jolla, CA 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 Shipboard Technical Support Group, Scripps Institution of Oceanography, La Jolla, California 92093–0223.

# Report and Index of Navigation and Underway Geophysical Data

Processed by the Shipboard Technical Support Group 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.)

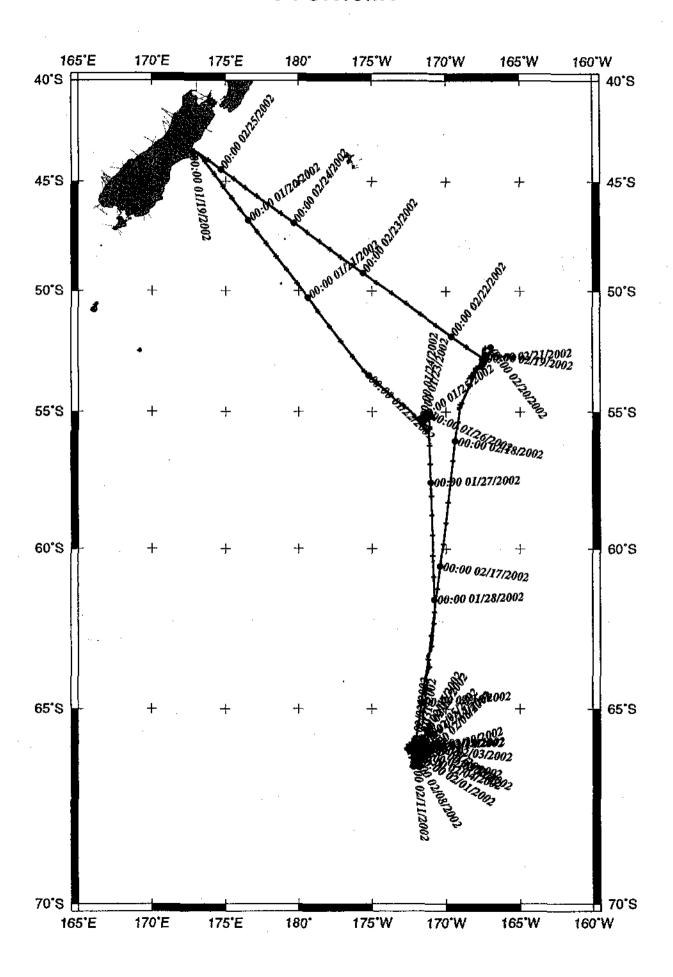
Sample Index – list of begin/end times and positions of all underway records as well as samples and measurements from other disciplines collected on the leg.

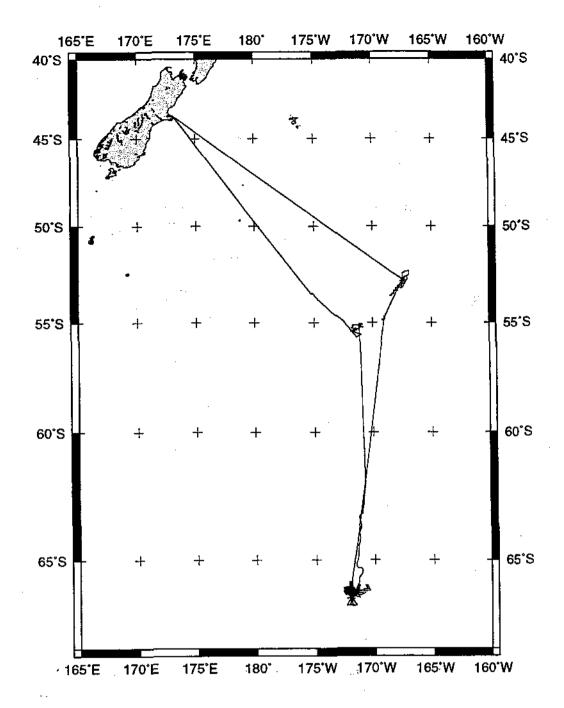
### NOTE:

For information on the availability of this current digital data as well as archived digital data contact Stephen P. Miller, Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093–0220 Phone: (858)534–1898, internet email: spmiller@ucsd.edu: or his Website: http://SIOExplorer@ucsd.edu

Rev 6/2001

# COOK19MV





## COOK EXPEDITION LEG 19 (COOK19MV)

CHIEF SCIENTIST: Kenneth Coale, Moss Landing Marine Lab

PORTS: Lyttleton - Lyttleton, New Zealand

DATES: 25 January - 26 February 2002

SHIP: R/V Melville

## TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

Cruise-5531 miles

Magnetics-none collected

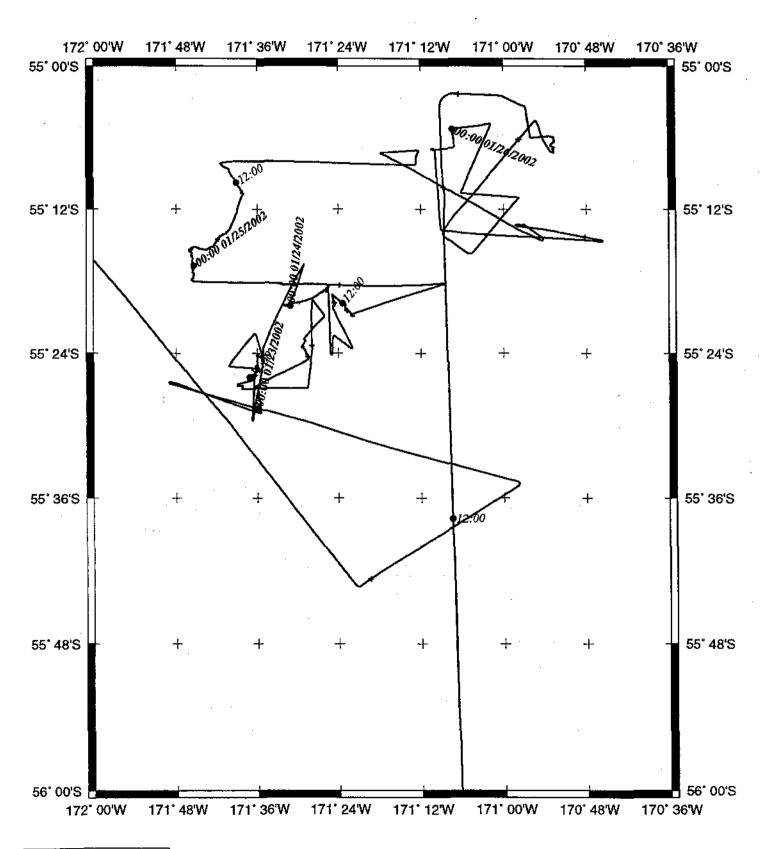
Bathymetry-5370 miles

Seismic Reflection-none collected

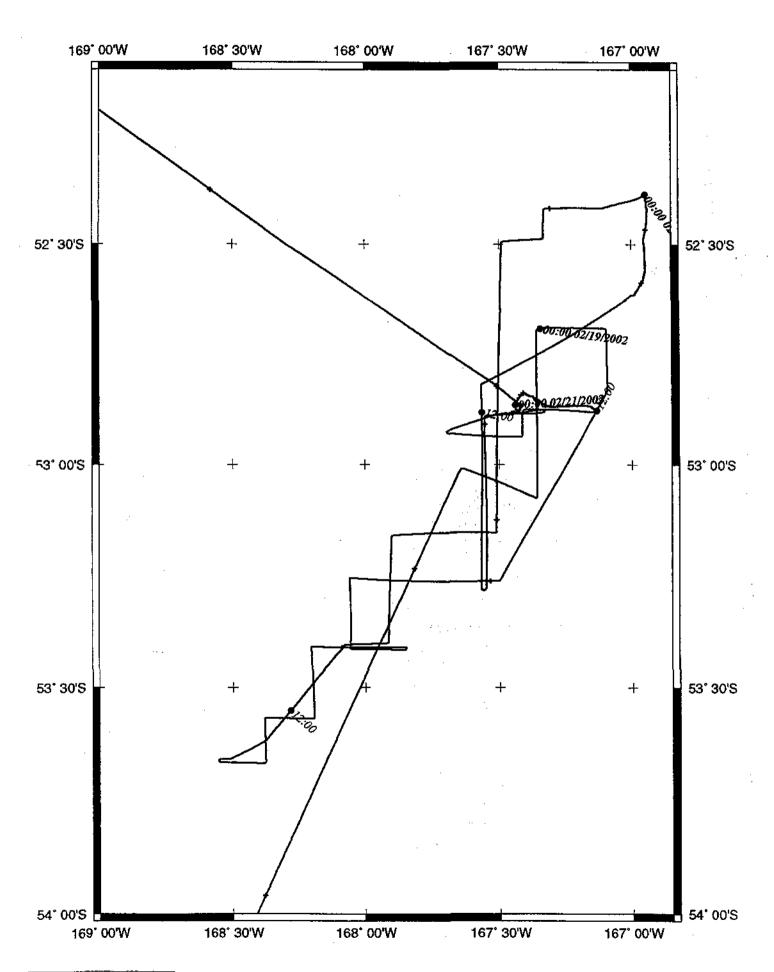
Sea Beam-5370 miles

Gravity-5531 miles

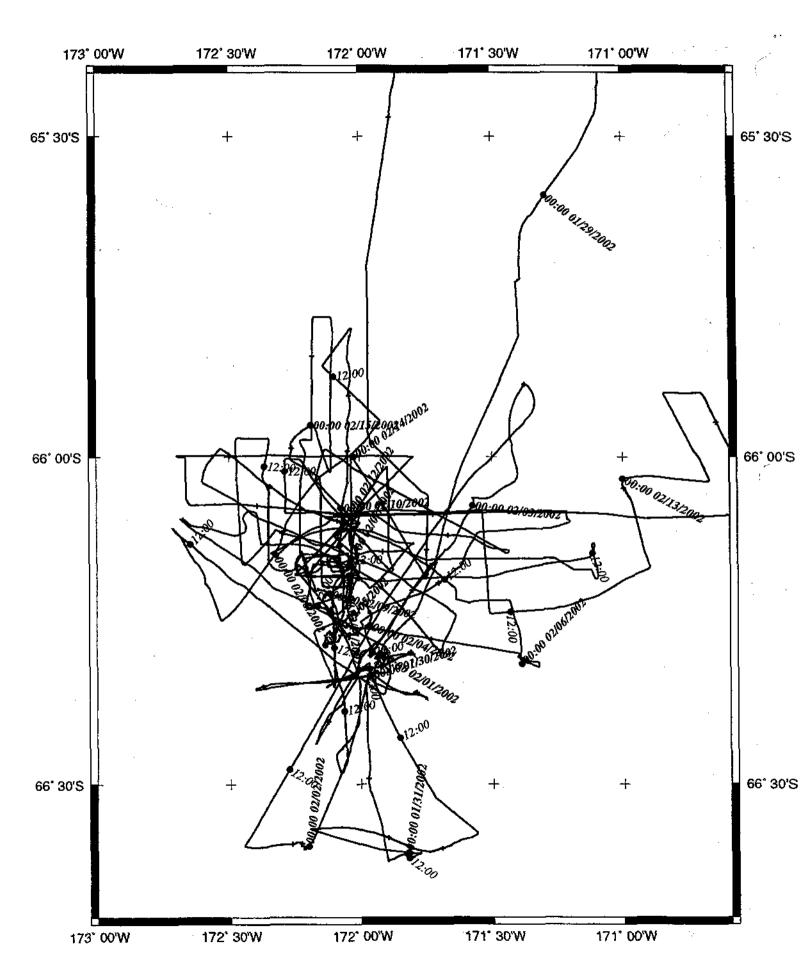
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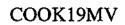


# COOK19MV.east.survey



# COOK19MV.southern.survey



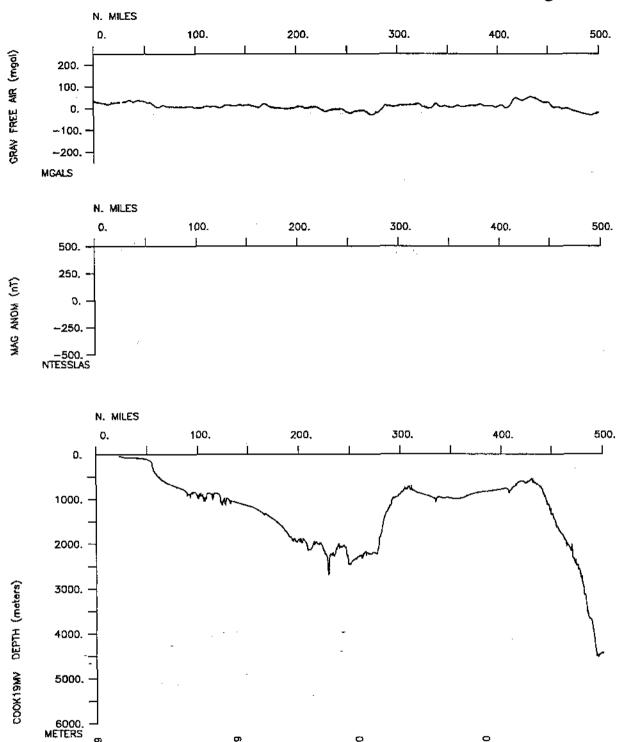


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0000/02JAN19

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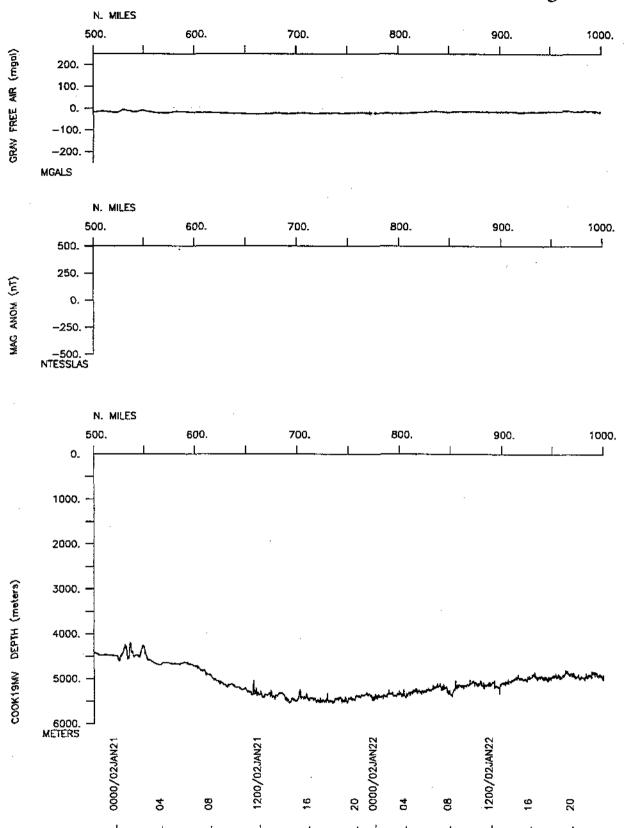
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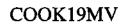
1200/02JAN19

0000/02JAN20

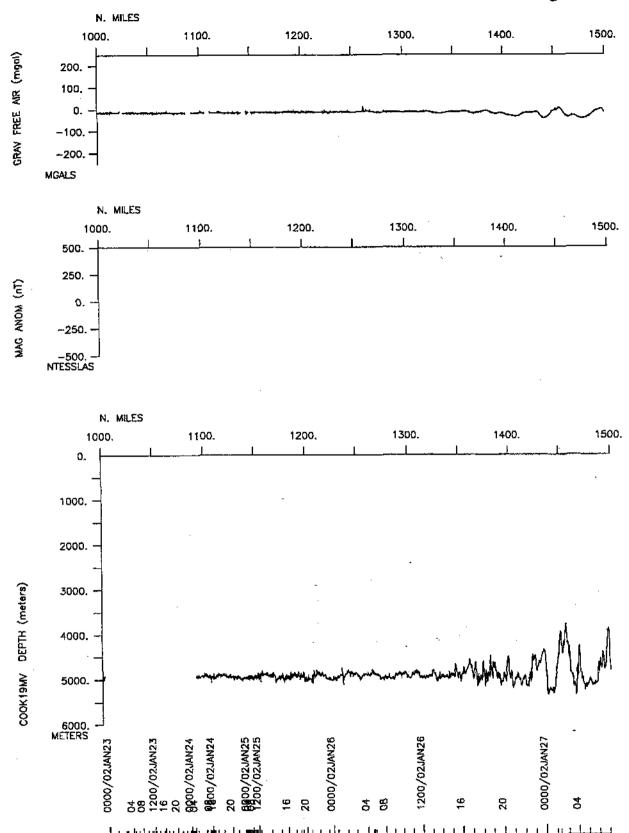
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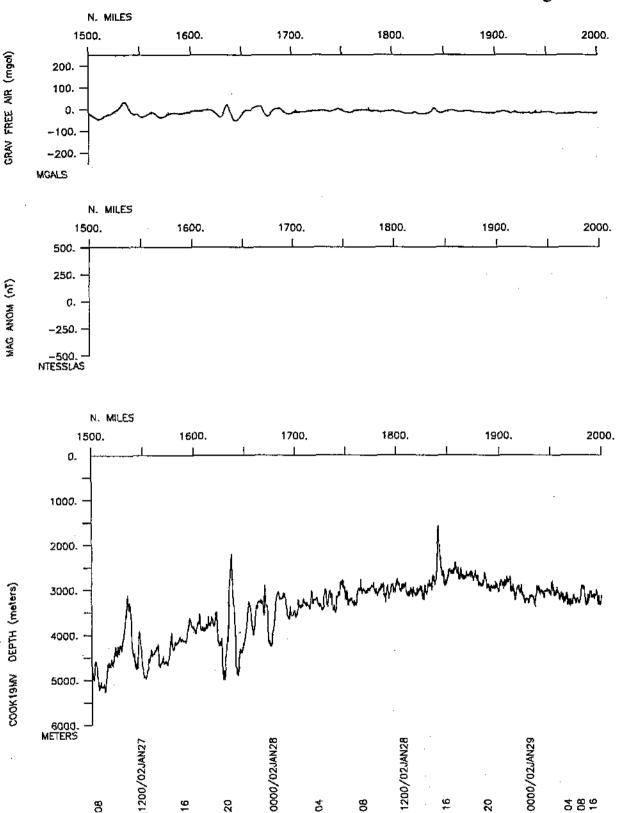
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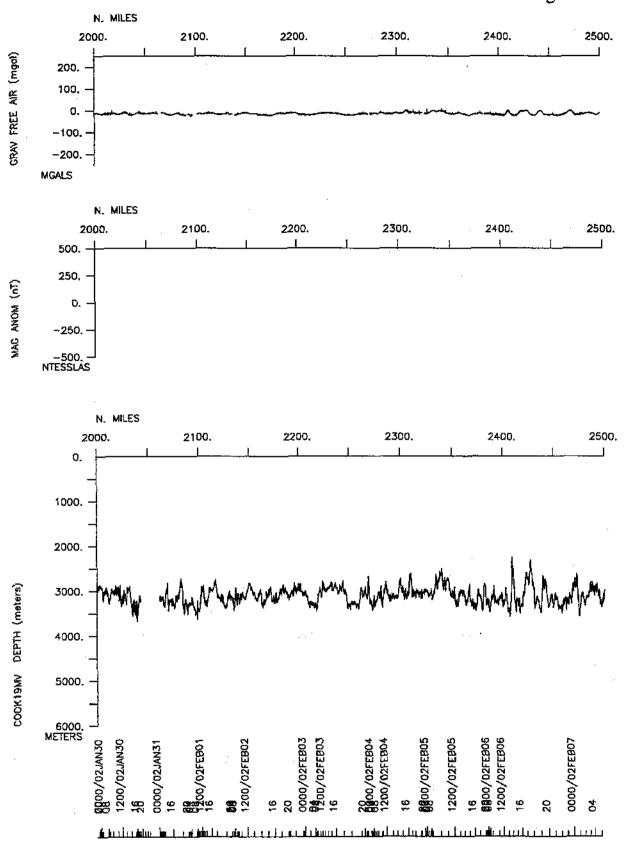


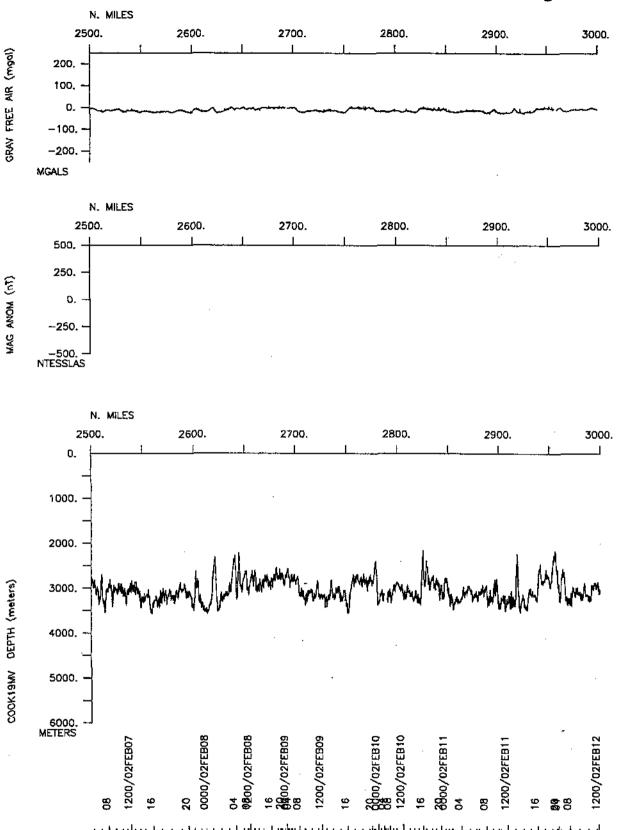


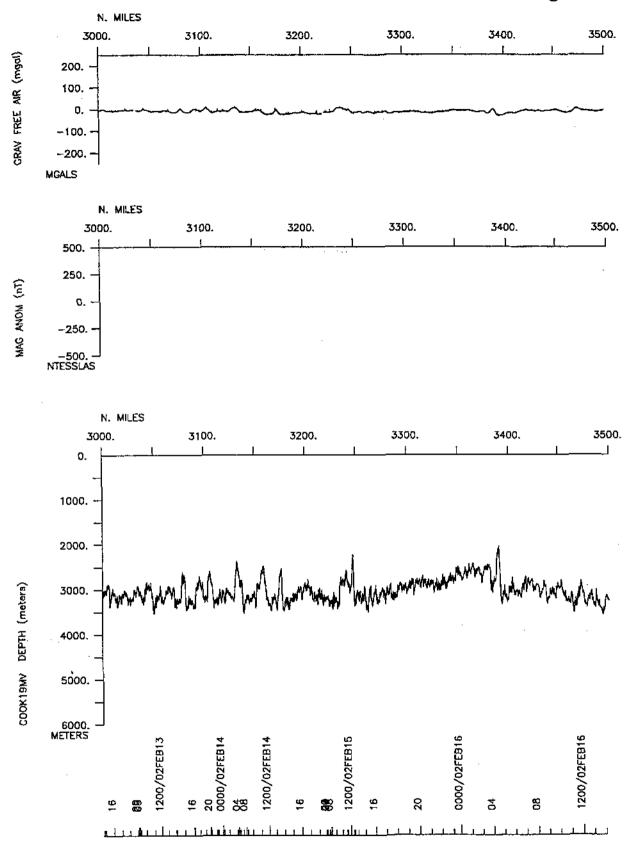
Page 03

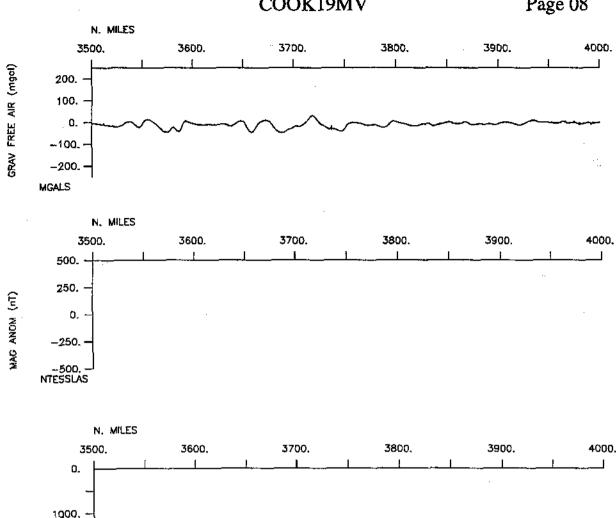


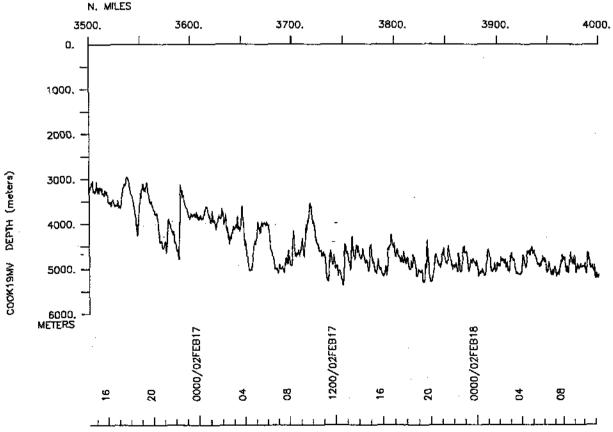


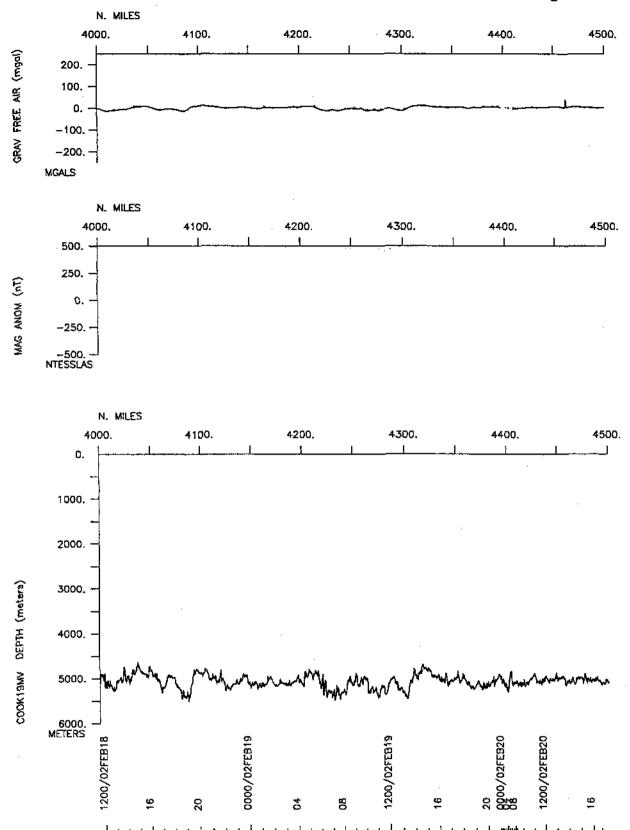


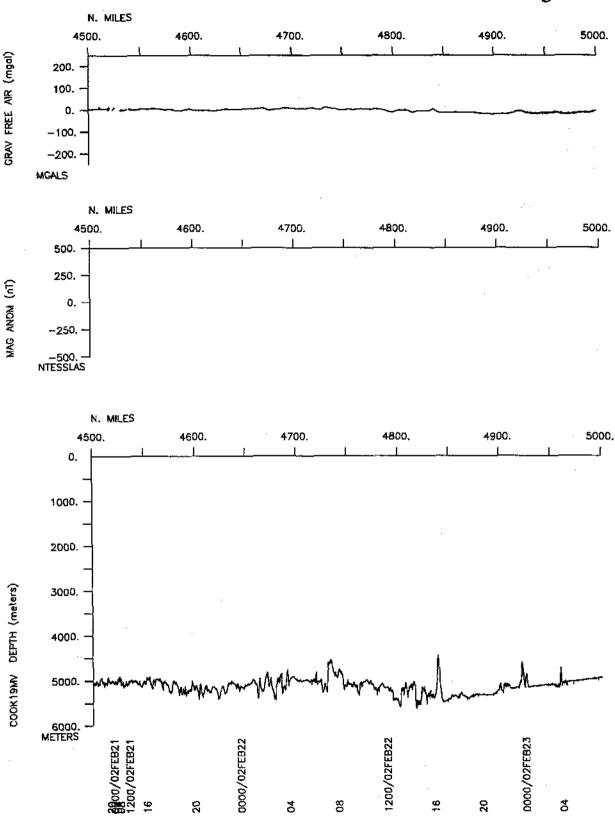


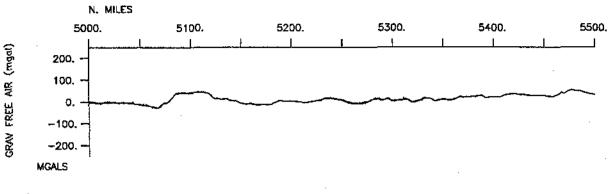


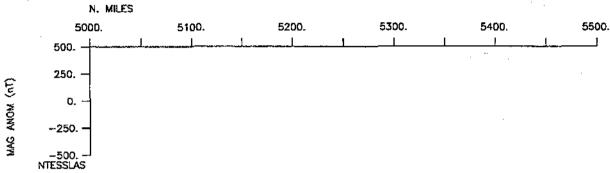


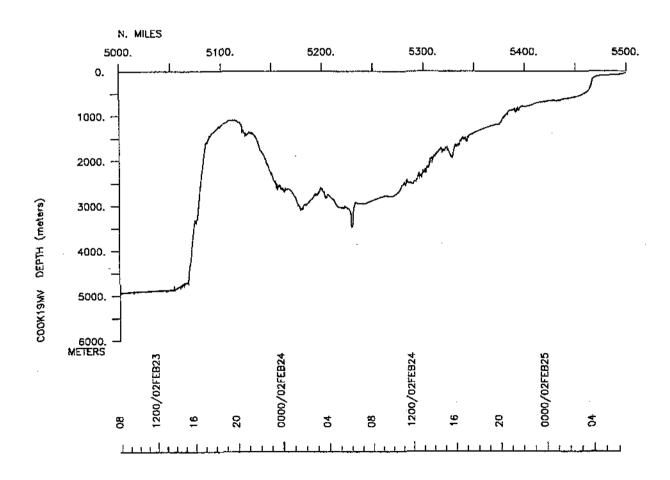


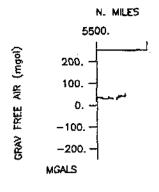


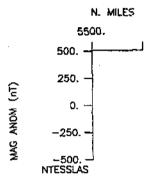


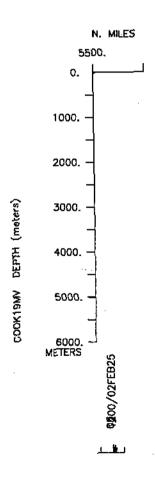












### S.I.O. Sample Index

**COOK Expedition** 

Leg 19

(COOK19MV)

R/V Melville

(Issued April 2002)

PORTS:

19

Lyttleton, New Zealand (25 January 2002) to Lyttleton, New Zealand (26 February 2002)

Chief Scientist: Kenneth Coale Moss Landing Marine Laboratory

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. Shipboard Technical Support Group 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 Shipboard Technical Support Group.)

GDC Cruise ID# 295

```
#*** Ports ***
                                                                     LGPT B Lyttleton, New Zealand 43-36.00S 172-43.00E f COOK19MV LGPT E Lyttleton, New Zealand 43-36.00S 172-43.00E f COOK19MV
  2318 180102
  1900 250202
   #*** Personnel ***
                                        ********NAME******* ******TITLE***** ****AFF1LIATION*** **CRID**
PECS MLML Coales, K. Chief Scientist Moss Land. Marine Lab COOK19MV PESP WHOI Andrews, J. Technician Woods Hole COOK19MV PEST SIO Apprill, A. Grad student Scripps Institution COOK19MV PESP SIX Bailey Scientist Virginia I.Marine S. COOK19MV PESP UHI Bidigare, B. Scientist Univ. of Hawaii COOK19MV PEST MLML Brewster, J. Grad student Moss Land. Marine Lab COOK19MV PESP UCSB Brzezinski, M. Scientist U.C. Santa Barbara COOK19MV PESP UMI Cabrera, A. Scientist Univ. of Miami COOK19MV PECT STS Charters, J. Computer engineer PESP WHOI Crossin. G. The Computer Scripps Institution COOK19MV PESP WHOI Crossin. G. The Computer Scripps Institution Cookies Cooki
                                               Scientist U.C. Santa Barbara COOK19MV
Computer engineer Technician Woods Hole COOK19MV
Scientist San Francisco S. U. COOK19MV
Scientist Moss Land.Marine Lab COOK19MV
Grad student U.C. Santa Barbara COOK19MV
Scientist Rutgers University COOK19MV
Grad student San Francisco S. U. COOK19MV
Grad student Virginia I.Marine S. COOK19MV
Grad student San Francisco S. U. COOK19MV
Grad student San Francisco S. U. COOK19MV
Scientist Duke University COOK19MV
Scientist Duke University COOK19MV
Scientist Univ. of Miami COOK19MV
Scientist Wass. Inst. Tech. COOK19MV
Scientist Univ. of Miami COOK19MV
Scientist Univ. of Hawaii COOK19MV
Scientist Univ. of Mass COOK19MV
Scientist Univ. of Miami COOK19MV
   PESP WHOI Crossin, G.
   PESP SIX Cochlan, W.
    PESP MLML Cooper, D.
    PEST UCSB Demarest, M.
    PEST SIX Delizo,L.
    PESP SIX Gorbunov, M.
    PESP MLML Gordon, M.
   PESP SIX Herndon, J.
PESP SIX Hilting, A.
PESP SIX Hiscock, M.
PESP UMI Hiscock, w.
PESP MIT Johnson, Z.
PESP UCSB Jones, J.
    PESP UMI Koehler, V.
    PESP SIX Koblizek,M.
   PEST MLML Ladizinsky, N.
PESP UHI Landry, M.
PEST SIX Oliver
    PEST SIX Oliver, J.
    PESP STS Palomares, R.
   PERT STS Pillard, G.
PESP SIX Roberts, A.
PESP UHI Selph, K.
PEST UHI Sheridan, C.
PESP MLML Smith, G.
     PESP MLML Tanner, S.
     PESP UMI Timothy, D.
     PESP MLML Wang, X.
      PESP UMI Zhu, A.
```

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

```
SAMP B SAMPLE
#GMT DDMMYY
                                          DISP
                                                                    p CRUISE
                                         CODE LATITUDE LONGITUDE c LEG-SHIP
#TIME DATE TZ CODE E IDENTIFIER
#*** Underway Data Curator - Shipboard Technical Support Group, ext.41899 ***
#*** Digital Data Curator - Geological Data Center, S.P. Miller, ext.41898 ***
#*** Log Books ***
0442 230102 0 LBUW B SOFeX Event Log MLML 55-23.89S 171-28.77W g COOK19MV 1333 210202 0 LBUW E SOFeX Event Log MLML 52-52.90S 167-25.53W g COOK19MV
#*** MultiBeam Data (vertical beam and side scan) ***
0142 190102 0 MBSR B v.beam&sidescan
                                          GDC 43-36.32S 172-43.18E g COOK19MV
0653 250202 0 MBSR E v.beam&sidescan
                                          GDC 43-44.47S 173-20.65E g COOK19MV
#*** Digital Gravity ***
                                        GDC 43-36.32S 172-43.18E g COOK19MV
GDC 43-36.51S 172-46.01E g COOK19MV
2348 180102 0 GVDD B Digital gravity
1900 250202 0 GVDD E Digital gravity
#*** Integrated Meteorological Acquisition System ***
2318 180102 0 IMET B Weather Measurements GDC 43-36.32S 172-43.18E g COOK19MV 1900 250202 0 IMET E Weather measurements GDC 43-36.51S 172-46.01E g COOK19MV
#*** Acoustic Doppler Current Profiler ***
#*** Atmospheric samples ***
0001 210202 0 ASXX E Atmospheric samples MLML 52-51.88S 167-26.43W g COOK19MV
#*** Continuous surface water samples ***
0001 210102 0 CSXX B Surface H20, SF6
                                           MLML 50-16.47S 179-22.07W g COOK19MV
0001 210202 0 CSXX E TSO
                                           MLML 52-51.88S 167-26.43W g COOK19MV
                              G
0424 230102 0 CSXX B PCO2, NO2, Si, Chloro MLML 55-24.06S 171-28.72W q COOK19MV
0001 210202 0 CSXX E BioSi, Hplc Pigments MLML 52-51.88S 167-26.43W g COOK19MV
0424 230102 0 CSXX B Stable N Isotopes
                                           MLML 55-24.06S 171-28.72W g COOK19MV
0001 210202 0 CSXX E TCO2
                                           MLML 52-51.88S 167-26.43W g COOK19MV
```

#GMT DDMMYY #TIME DATE T	SAMP B SAMPLE IZ CODE E IDENTIFIER	DISP CODE LATITUDE	LONGITUDE c LEG-SHIP	
#*** Hydrocas	sts GoFlow ***			
2321 210102	0 HCGF B COMMENCE GO FLOW H	MLML 53-33.38s	175-11.76W g COOK19MV	
0048 220102	0 HCGF E hydrocasts complet	MLML 53-31.99s	175-09.91W g COOK19MV	
2215 240102 2238 240102			171-45.51W g COOK19MV 171-45.57W g COOK19MV	
0537 250102	0 HCGF B GO FLO #2 2 btls	MLML 55-15.23s	171-44.74W g COOK19MV	
0547 250102	0 HCGF E trace metals 100m	MLML 55-15.31s	171-44.63W g COOK19MV	
0734 280102	0 HCGF B GO FLO #3 2 btls	MLML 63-04.22S	170-58.25W g COOK19MV	
0814 290102	0 HCGF E trace metals 50m	MLML 66-20.12S	171-57.59W g COOK19MV	
0208 300102 0245 300102			171-57.63W g COOK19MV 171-57.65W g COOK19MV	
0610 300102	0 HCGF B GOFLO #5 2 btls	MLML 66-20.04S	171-57.63W g COOK19MV	
0624 300102	0 HCGF E trace metals 150m	MLML 66-20.04S	171-57.63W g COOK19MV	
0210 310102	0 HCGF B Go Flo #6 2 btls	MLML 66-36.69S	171-49.13W g COOK19MV	
0240 310102	0 HCGF E trace metals 20m	MLML 66-36.69S	171-49.15W g COOK19MV	
1106 310102 1240 310102	0 HCGF B Go Flo #7 2 btls 0 HCGF E enrichment (S) 25m			
2050 310102	0 HCGF B Go Flo #8 2 btls	MLML 66-19.18s	171-54.89W g COOK19MV	r
2055 310102	0 HCGF E trace metals 25m	MLML 66-19.16s	171-54.86W g COOK19MV	r
0123 010202	0 HCGF B Go Flo #9 2 btls	MLML 66-18.23S	171-55.65W g COOK19MV	r
0147 010202	0 HCGF E trace metals 25m	MLML 66-18.23S	171-55.66W g COOK19MV	
2240 010202	0 HCGF B Go Flo #10 2 btls	MLMI 66-35.62S	172-12.05W g COOK19MV	r
2245 010202	0 HCGF E trace metals 25m	MLML 66-35.62S	172-12.04W g COOK19MV	r
0134 020202	0 HCGF B Go Flo #11 2 btls	: МІМІ 66-35.62S	172-13.29W g COOK19MV	;
0149 020202	0 HCGF E trace metals 25m	л МІМІ 66-35.60S	172-13.58W g COOK19MV	;
2000 020202 2020 020202			171-22.68W g COOK19MV 171-23.18W g COOK19MV	
2337 020202	0 HCGF B Go Flo#12 2 btls	: MLML 66-03.85s	171-34.31W g COOK19MV	7
2346 020202	0 HCGF E trace metals 20m	: MLML 66-03.86s	171-34.30W g COOK19MV	
0243 030202 0257 030202			171-40.62W g COOK19MV 171-40.74W g COOK19MV	
0530 030202 0534 030202			171-48.22W g COOK19MV 171-48.22W g COOK19MV	
			3 171~51.11W g COOK19M 3 171-51.11W g COOK19M	
1004 030202 1017 030202			: 171-54.01W g COOK19M : 171-54.23W g COOK19M	

#GMT DDMMYY #TIME DATE ?	SAMP TZ CODE	B SAMPLE E IDENTIFIER		DISP CODE LATITUDE	LONGITUDE	p CRUISE c LEG-SHIP
1230 030202 1237 030202		B Go Flo#18 E trace metals		MLML 66-18.02S MLML 66-18.02S		
0045 040202 0116 040202		B Go Flo #19 E trace metals		MLML 66-15.57s MLML 66-15.57s		
0558 040202 0616 040202		B GO FLO #20 E trace metals		MLML 66-14.44s MLML 66-14.42s		
0928 040202 0949 040202		B Go Flo #21 E trace metals	2 btls 150m	MLML 66-15.80s MLML 66-15.80s	172-05.55W 172-05.55W	g COOK19MV g COOK19MV
2153 040202 2157 040202		B Go Flo #22 E trace metals		MLML 66-16.53S MLML 66-16.53S		
0007 050202 0025 050202		B Go Flo #23 E trace metals		MLML 66-17.31S MLML 66-17.32S		
2048 050202 2101 050202		B Go Flo #24 E trace metals	2 btls 60π	MLML 66-18.685 MLML 66-18.685		
2255 050202 2315 050202		B Go Flo #25 E trace metals		: МЦМЦ 66-18.87S 1 МЦМЦ 66-19.07S		
0320 060202 0346 060202		B GOFLO #26 E trace metal:		: М <u>.М.</u> 66-19.07s n М.М. 66-19.07s		
0734 080202 0737 080202		B Go Flo #27 E trace metal:		s MLML 66-14.40S n MLML 66-14.40S		
2041 080202 2045 080202		B Go Flo #28 E trace metal:		s MLML 66-10.33S n MLML 66-10.33S		
2049 080202 2101 080202		B Go Flo #29 E trace metal:		s MLML 66-10.33S a MLML 66-10.33S		
2112 110202 2128 110202		B Go Flo #30 E trace metal:	2 btls 5 _60m	MLML 66-06.13S MLML 66-06.13S	172-03.90W 172-03.90W	g COOK19MV g COOK19MV
2330 110202 2358 110202		B Go Flo #31 E trace metal:		MLML 66-06.13S		
0326 120202 0350 120202		B GO FLO #32 E trace metal:		MLML 66-05.89S		
2104 120202 2119 120202		B Go Flo #33 E trace metal:		s MLML 66-01.985 n MLML 66-02.035		
2328 120202 2355 120202		B Go Flo #34 E trace metal		s MIML 66-02.03s m MIML 66-02.03s		
0403 130202 0424 130202		B GO FLO #35 E trace metal		s MLML 66-02.03S n MLML 66-02.03S		
1908 130202 1912 130202		B Go Flo #36 E trace metal		s MLML 65-59.925 m MLML 65-59.925		

#GMT DDMMYY #TIME DATE TZ	SAMP B SAMPLE Z CODE E IDENTIFIER	DISP CODE	LATITUDE	LONGITUDE	p CRUISE c LEG-SHIP
1915 130202 (	0 HCGF B Go Flo #37 0 HCGF E trace metals			172-41.56W 172-41.57W	
	O HCGF B Go Flo #38 O HCGF E trace metals	2 btls MLML 60m MLML		172-11.25W 172-11.26W	
	0 HCGF B Go Flo #39 0 HCGF E trace metals	2 btls MLML 100m MLML		172-11.33W 172-11.33W	
		2 btls MLML 150m MLML			
	0 HCGF B Go Flo #41 0 HCGF E trace metals	2 btls MLML 40m MLML		166-56.82W 166-56.82W	
	0 HCGF B Go Flo #42 0 HCGF E trace metals	2 btls MLML 100m MLML		166-56.55W 166-56.33W	
	0 HCGF B GO FLO #43 0 HCGF E trace metals	2 btls MLML 150m MLML		166-56.90W 166-56.80W	
	0 HCGF B Go Flo #44 0 HCGF E trace metals	2 btls MLML 40m MLML		167-27.17W 167-26.94W	
	0 HCGF B Go Flo #45 0 HCGF E trace metals	2 btls MLML 100m MLML	52~51.90S 52-51.64S	167-26.43W 167-26.20W	g COOK19MV g COOK19MV
	0 HCGF B GOFLO #41 0 HCGF E trace metals	2 btls MLML 50m MLML			g COOK19MV g COOK19MV
**** Pumps ** #*** Data sha	* red between UHI and WHO	OI ***	·		
0529 240102 0745 240102	0 PMXX B THORIUM/BIOMAR 0 PMXX E Lipid Biomarke	RKER #1 WHOI ers 65m WHOI	55-23.63S 55-19.99S	171-24.80W 171-24.53W	g COOK19MV g COOK19MV
0829 250102 1055 250102	0 PMXX B THOR/BIO PUMP 0 PMXX E Lipid Biomarke	#02 UHI ers 65m UHI	55-14.21S 55-11.28S	171-41.28W 171-38.53W	g COOK19MV g COOK19MV
0927 290102 1104 290102	0 PMXX B THOR/BIO PUMP 0 PMXX E Lipid Biomark	#03 WHOI ers 75m WHOI	66-20.125 66-20.125	171-57.59W 171-57.59W	g COOK19MV g COOK19MV
2230 290102 0105 300102	0 PMXX B THOR/BIO PUMP 0 PMXX E Lipid Biomark	#04 UHI ers 55m UHI	66-20.10S 66-20.22S	171-57.80W 171-57.72W	g COOK19MV g COOK19MV
0808 310102 1043 310102	0 PMXX B THOR/BIO PUMP 0 PMXX E Lipid Biomark	#05 WHOI ers 70m WHOI	66-36.69s 66-36.69s	171-49.14W 171-49.14W	g COOK19MV g COOK19MV
0220 010202 0457 010202	0 PMXX B THOR/BIO PUMP 0 PMXX E Lipid Biomark	#06 UHI ers 70m UHI	66-18.23S 66-18.23S	171-55.64W 171-55.65W	g COOK19MV g COOK19MV
0308 020202 0533 020202	0 PMXX B THOR/BIO PUMP 0 PMXX E Lipid Biomark	#07 WHOI ers 55m WHOI	66-35.36s 66-35.29s	172-13.69W 172-14.02W	g COOK19MV g COOK19MV

#GMT DDMMYY #TIME DATE T	SAMP E Z CODE E	SAMPLE IDENTIFIER	DISP CODE LATITUDE	LONGITUDE C	CRUISE LEG-SHIP
π					
0239 040202 0516 040202	0 PMXX E 0 PMXX E	THOR/BIO PUMP #08 Lipid Biomarkers 67m	UHI 66-15.21S UHI 66-13.55S	171-57.65W g 171-59.66W g	COOK19MV
		THOR/BIO PUMP #09 Lipid Biomarkers 70m			
		THOR/BIO PUMP #10 Lipid Biomarkers 85m			
		THOR/BIO PUMP #11 Lipid Biomarkers 70m			
		B THOR/BIO PUMP #12 C Lipid Biomarkers 70m	UHI 66-12.15S UHI 66-10.95S	172-05.42W g 172-04.05W g	
0014 120202 0250 120202	0 PMXX E	B THOR/BIO PUMP #13 E Lipid Biomarkers 80m	WHOI 66-06.13S WHOI 66-05.89S	172-03.90W (	g COOK19MV
		B THOR/BIO PUMP #14 E Lipid Biomarkers 80m			
0026 150202 0255 150202	0 PMXX I 0 PMXX I	B THOR/BIO PUMP #15 E Lipid Biomarkers 75m	WHOI 65-57.08S WHOI 65-57.08S	172-11.34W 172-11.33W	g COOK19MV g COOK19MV
0316 200202 0603 200202	0 PMXX 1 0 PMXX 1	B THOR/BIO PUMPS #16 E Lipid Biomarkers 80m	UHI 52-26.64S UHI 52-31.67S	166-56.41W 166-56.90W	g COOK19MV g COOK19MV
0145 210202 0437 210202	0 PMXX 1 0 PMXX 1	B THOR/BIO PUMPS #17 E Lipid Biomarkers 50m	MLML 52-50.74s MLML 52-50.39s	167-25.42W 167-24.18W	g COOK19MV g COOK19MV
#*** Surface	Nets **	•			
		3 22 v plankton 3 diversity 10m	MLML 55-15.30s MLML 55-15.31s		
1118 290102 1123 290102		3 22 v plankton 3 diversity 10m	MLML 66-20.129 MLML 66-20.129	171-57.59W 171-57.59W	g COOK19MV g COOK19MV
0933 310102 0937 310102		B 22 v plankton B diversity 10m	MLML 66-36.698 MLML 66-36.698	3 171-49.14W 3 171-49.15W	g COOK19MV g COOK19MV
		3 22 v plankton E diversity 10m	MIML 66-35.629 MIML 66-35.629	3 172-13.29W 3 172-13.28W	g COOK19MV g COOK19MV
0403 050202 0410 050202		B 22 v plankton E diversity 10m	MLML 66-17.118 MLML 66-17.118		
0518 060202 0523 060202	0 SNXX 0 SNXX		MLML 66-19.049 MLML 66-19.019		

#GMT #TIME #	DDMMYY DATE	TZ 	SAMP CODE	B E	SAMP IDEN	LE TIFIER			DISP CODE	LATITUDE	LONGITUDE	р с -	CRUISE LEG-SHIP
	090202 090202	0	SNXX SNXX	E	22 dive	v plank rsity	ton	10m	MLML MLML	66-11.485 66-11.458	172-04.28W 172-04.25W	g	COOK19MV -
	120202 120202	0	SNXX SNXX	B E	22 dive	v plank rsity	ton	10m	MLML MLML	66-06.13S 66-06.13S	172-03.91W 172-03.91W	a a	COOK19MV COOK19MV
	130202 130202										170-59.92W 170-59.92W		
_	200202 200202	0	SNXX SNXX	B E	22 dive	v plank rsity	ton	10m	MLML MLML	52-23.96S 52-24.05S	166-56.67W 166-56.60W	g	COOK19MV COOK19MV
0335 0345	210202 210202	0	SNXX SNXX	B E	22 dive	v plan) rsity	ton	10m	MLML	52-50.36s 52-50.31s	167-24.86W 167-24.79W	g	COOK19MV COOK19MV
#***	Conduct	132	itv. '	Ter	mera	ture 1	)enth	***					
			_		_		_			_			
	210102 210102					Test 12					175-13.56W 175-12.25W		
	230102 230102		TDCT TDCT								171-28.72W 171-29.11W		
	230102 240102		TDCT TDCT								171-31.90W		
-	240102 240102	0	TDCT TDCT	B E	CTD TSO	#04 12 PQ	btl	200m B	MLML MLML	55-18.96S 55-18.43S	171-26.33W	g Ig	COOK19MV COOK19MV
	240102 240102	0	TDCT TDCT	B E	CTD TSO	#05 12 C & N :	2 btl [soto	200m pes	MLML MLML	55~19.989 55~19.989	171-23.17W	lg Ig	COOK19MV COOK19MV
	240102 250102	0	TDCT	B E	CTD TSO	#06 13	2 btl	300m B	MLML MLML	55-17.01s 55-16.36s	: 171-45.39W : 171-45.52W	ig Ig	COOK19MV COOK19MV
42 <b>E</b> A	250102										171-45.98W		
	250102	Ö	TDCT	E	TSO	PQ	2 001	В	MLML	55-15.418	171-45.89W	7 g	COOK19MV
	250102 250102	0	TDCT TDCT	B E	CTD TSO	#08 1: C & N :	2 btl Isoto	100m pes .	MLMI.	55-15.138 55-14.498	3 171-42.45W 3 171-41.80W	īg īg	COOK19MV COOK19MV
	290102 290102		TDCT								5 171-57.51W 5 171-57.52W		
	290102 290102		TDCT			#10 1: PQ	2 btl				5 171-57.58V 5 171-57.58V		
	290102 290102		TDCT			#11 1. PQ	2 btl				5 171-57.590 5 171-57.590		
	290102 290102		TDCT								3 171-57.80V 3 171-57.79V		

#GMT DDMMYY #TIME DATE TZ	SAMP B SAME	PLE VTIFIER	DISP CODE LATITUDE LONGITUDE	p CRUISE c LEG-SHIP
		#13 12 btl 84m PQ B	MLML 66-20.10S 171-57.80V MLML 66-20.10S 171-57.80V	
	TDCT B CTD TDCT E TSO		MLML 66-36.235 171-46.970 MLML 66-36.375 171-47.350	
0350 310102 0 0438 310102 0	TDCT B CTD TDCT E TSO	#15 12 bt1 200m PQ B	MIML 66-36.69S 171-49.14V MIML 66-36.69S 171-49.14V	V g COOK19MV V g COOK19MV
0643 310102 0 0723 310102 0	TDCT B CTD TDCT E TSO	#16 12 btl 100m C & N Isotopes	MLML 66-36.69S 171-49.14V MLML 66-36.69S 171-49.14V	N g COOK19MV N g COOK19MV
			MLML 66-19.21S 171-54.92V MLML 66-19.21S 171-54.93V	
	TDCT B CTD TDCT E TSO		MLML 66-19.17S 171-54.89W MLML 66-18.67S 171-54.51W	
			MLML 66-18.23S 171-55.667 MLML 66-18.23S 171-55.657	
	TDCT B CTD TDCT E TSO	#20 12 btl 300m I G B	MLML 66-35.60S 172-12.000 MLML 66-35.60S 172-12.010	N g COOK19MV N g COOK19MV
2134 010202 0 2226 010202 0	TDCT B CTD TDCT E TSO	#21 12 btl 200m PQ B	MLML 66-35.60S 172-12.009 MLML 66-35.60S 172-12.009	N g COOK19MV N g COOK19MV
			MLML 66-35.62S 172-12.05 MLML 66-35.62S 172-12.04	
	TDCT B CTD TDCT E TSO		MLML 65-53.27S 171-22.68 MLML 65-53.27S 171-22.68	
	TDCT B CTD TDCT E TSO		MLML 66-03.85S 171-34.31 MLML 66-03.85S 171-34.31	
	TDCT B CTD TDCT E TSO		MLMI: 66-08.57S 171-40.63 MLML 66-08.57S 171-40.62	
	TDCT B CTD TDCT E TSO		MLML 66-12.32S 171-48.22 MLML 66-12.32S 171-48.23	
* · · · · · · · · · · · · · · · · · · ·	TDCT B CTD TDCT E TSO		MLML 66-14.29S 171-51.11 MLML 66-14.27S 171-51.11	
	TDCT B CTD		MLML 66-16.16S 171-54.01 MLML 66-16.17S 171-54.01	
	TDCT B CTD TDCT E TSO		MLMI, 66-18.02S 171-57.23 MLMI, 66-18.02S 171-57.24	W g COOK19MV W g COOK19MV
_	TDCT B CTD TDCT E TSO		MLML 66-17.76S 171-57.46 MLML 66-18.27S 171-56.97	

#GMT DDMMYY #TIME DATE #	SAMP TZ CODE	B SAMP E IDEN	LE Tifier	DISP CODE LATITUDE	LONGITUDE	p CRUISE c LEG-SHIP
2350 030202 0034 040202				m MLML 66-15.58S MLML 66-15.57S		
0626 040202 0724 040202				m MLML 66-14.43s MLML 66-14.42s		
1950 040202 2056 040202	0 TDCT 0 TDCT			m MLML 66-16.26S MLML 66-16.52S		
2214 040202 2315 040202				m MLML 66-16.53S MLML 66-16.95S		
0606 050202 0712 050202				m MIML 66-16.47s MIML 66-16.43s		
1906 050202 2007 050202				m MLMI 66-18.68S MLML 66-18.68S		
2115 050202 2210 050202	0 TDCT 0 TDCT		#37 12 btl 200 PQ 1	m MLML 66-18.68S MLML 66-18.68S	171-22.41W 171-22.41W	g COOK19MV g COOK19MV
0353 060202 0445 060202	0 TDCT 0 TDCT	B CTD E TSO	#38 12 btl 200 C & N Isotopes	m MLML 66-19.07s MLML 66-19.06s	171-23.36W 171-23.36W	g COOK19MV g COOK19MV
0755 060202 0926 060202				m MLML 66-18.69S MLML 66-18.68S		
2302 060202 2334 060202			#40 12 btl 30	m MLML 66-13.66S MLML 66-11.40S		
0543 080202 0649 080202				0m MLML 66-14.008 3 MLML 66-14.358		
0748 080202 0848 080202				m MLML 66-14.40s 3 MLML 66-14.47s		
0926 080202 1020 080202				om MLMI, 66-14.475 MLML 66-14.275		
1903 080202 1957 080202		E TSO	#44 12 btl 30 I G	om MiML 66-10.438 3 MiML 66-10.348	172-13.00W 172-12.80W	g COOK19MV g COOK19MV
2155 080202 2248 080202			#45 12 btl 20 PQ	m MLML 66-12.275 B MLML 66-12.285	172-09.83W 172-09.80W	g COOK19MV g COOK19MV
1941 090202 2040 090202				Om MLML 66-10.065 B MLML 66-10.065		
2223 090202 2314 090202				5m MLML 66-07.579 B MLML 66-07.569		
0020 100202 0104 100202				5m MIMI 66-04.769 3 MIMI 66-04.769		
0158 100202 0242 100202				5m MLMI, 66-02.329 B MLML 66-02.329		

#GMT DDMMYY #TIME DATE TZ #	SAMP B SAMI	PLE NTIFIER	DISP CODE LATITUDE	LONGITUDE d	CRUISE LEG-SHIP
0352 100202 0	TDCT B CTD TDCT E TSO		MLML 65-59.48S MLML 65-58.69S		
	TDCT B CTD TDCT E TSO		n MLML 66-08.32S MLML 66-08.32S		
	TDCT B CTD TDCT E TSO		n MIML 66-10.98S MIML 66-10.98S		
	TDCT B CTD TDCT E TSO		n MLMI, 66-16.13S MLML 66-15.93S		
	TDCT B CTD TDCT E TSO		mimi 66-06.13s Mimi 66-06.13s		
	TDCT B CTD TDCT E TSO		n MLML 66-06.13s MLML 66-06.13s		
0354 120202 0 0459 120202 0	TDCT B CTD TDCT E TSO	#56 12 btl 200 C & N Isotopes	m MIML 66-05.898 MIML 66-05.898	172-05.27W ( 172-05.25W (	g COOK19MV g COOK19MV
	TDCT B CTD TDCT E TSO		n MIMI 66-01.988 MIMI 66-01.988		
	TDCT B CTD TDCT E TSO	#58 12 btl 200 PQ B	m MIML 66-02.035 MIML 66-02.035	170-59.92W 170-59.92W	g COOK19MV g COOK19MV
		#59 12 btl 150 C & N Isotopes			
	TDCT B CTD TDCT E CTD		m MLML 65-59.93s m MLML 65-59.92s		
2017 130202 0 2057 130202 0	TDCT B CTD TDCT E TSO	#61 12 btl 150 I PQG B	m MIML 65-59.935 MIML 65-59.935	172-28.27W 172-28.25W	g COOK19MV g COOK19MV
2154 130202 0 2244 130202 0	TDCT B CTD TDCT E TSO	#62 12 btl 150 I PQG E	m MLML 65-59.948 MLML 65-59.948	172-14.91W 172-14.90W	g COOK19MV g COOK19MV
2337 130202 0 0041 140202 0	TDCT B CTD TDCT E TSO	#63 12 btl 150 I PQG B	m MIMI 66-01.00s MIMI 66-01.00s	172-01.33W 172-01.33W	g COOK19MV g COOK19MV
		#64 12 btl 150 I PQG E			
0730 140202 0 0819 140202 0	TDCT B CTD TDCT E TSO	#65 12 btl 150 I PQG E	m MLML 66-07.078 MLML 66-07.078	3 172-17.89W 3 172-17.89W	g COOK19MV g COOK19MV
	TDCT B CTD TDCT E TSO	#66 12 btl 300 I G E	m MIML 65-57.098 MIML 65-57.098	3 172-11.24W 3 172-11.25W	g COOK19MV g COOK19MV
	TDCT B CTD TDCT E TSO	#67 12 btl 075	m MIML 65-57.098 MIML 65-57.078		
		#68 12 btl 200 C & N Isotopes			

#GMT DDMMYY #TIME DATE T2	SAMP B	SAMPLE IDENTIFIER	DISP CODE LATITUDE	p CRUISE LONGITUDE c LEG-SHIP	
0500 150202	TDCT B	CTD #69 12 btl 200m	MLML 65-57.08s	172-11.34W g COOK19MV 172-11.34W g COOK19MV	
	TDCT B	CTD #70 12 bt1 300m TSO I G B	MLML 52-23.12S MLML 52-23.12S	166-56.82W g COOK19MV 166-56.82W g COOK19MV	• .
	TDCT B	CTD #71 12 bt1 210m TSO PQ B	MLML 52-23.12S MLML 52-23.16S	166-56.82W g COOK19MV 166-56.79W g COOK19MV	,
0641 200202 ( 0737 200202 (	TDCT E	CTD #72 12 bt1 200m TSO I PQG B	MLML 52-32.93S MLML 52-34.62S	166-56.80W g COOK19MV 166-57.18W g COOK19MV	, ·
				167-27.17W g COOK19MV 167-27.17W g COOK19MV	
	TDCT B			167-26.65W g COOK19MV 167-25.45W g COOK19MV	
0520 210202 0628 210202	O TDCT E	CTD #75 12 btl 200m TSO C & N Isotopes	MLML 52-50.62S MLML 52-50.77S	167-23.52W g COOK19MV 167-22.64W g COOK19MV	r
0804 210202 1000 210202	TDCT E	CTD #76 12 btl 1500m Thorium control	MLML 52-51.44s MLML 52-52.12s	167-21.25W g COOK19MV 167-19.10W g COOK19MV	r 7
				167-09.01W g COOK19MV 167-07.90W g COOK19MV	
	O TDCT E	CTD #78 12 bt1 300m	MLML 52-52.87S MLML 52-52.14S	167-25.51W g COOK19MV 167-25.23W g COOK19MV	r 7 -
				167-24.98W g COOK19MV 167-25.22W g COOK19MV	
2159 210202 2250 210202	O TDCT E			169-05.16W g COOK19MV 169-17.87W g COOK19MV	
#*** Conducti	vity, Te	emperature, Depth ***	•		
0145 240102 0217 240102	0 TDXX I 0 TDXX I	3 TM #1 8 btls 152m E TSON QGH AN 15	MLML 55-19.76S MLML 55-19.61S	171-29.55W g COOK19MV 171-28.64W g COOK19MV	I I
	0 TDXX I		MLML 55-19.22S MLML 55-19.49S	171-24.76W g COOK19MV	I I
	0 TDXX I			171-22.99W g COOK19MV 171-23.00W g COOK19MV	
	0 TDXX I			171-45.59W g COOK19MN 171-45.70W g COOK19MN	
	0 TDXX 1		MLML 55-15.358 MLML 55-15.228	: 171-45.72W g COOK19M : 171-45.57W g COOK19M	V
	0 TDXX 1	3 TM #6 8 btls 28m E TSO I	MLML 55-15.31s MLML 55-15.36s	: 171-44.36W g COOK19M : 171-43.32W g COOK19M	V V

#GMT DDMMYY #TIME DATE TZ #		CODE LATITUDE LONGITUDE	
		MLML 66-20.10S 171-57.80W MLML 66-20.10S 171-57.81W	
		MLML 66-20.22S 171-57.72W MLML 66-20.12S 171-57.64W	
-		MEML 66-20.04s 171-57.64W MEML 66-20.04s 171-57.64W	
		MLML 66-20.04s 171-57.64W MLML 66-20.04s 171-57.64W	
	TDXX B TM #11 8 btls 160m TDXX E TSON QGH AN 15	MLMI 66-36.69S 171-49.14W MLMI 66-36.69S 171-49.14W	
•	TDXX B TM #12 8 btls 042m TDXX E TSO PQGH	MLML 66-36.69S 171-49.14W MLML 66-36.69S 171-49.14W	g COOK19MV g COOK19MV
		MLML 66-36.69s 171-49.14W MLML 66-36.69s 171-49.14W	
	TDXX B TM #14 8 btls 132m TDXX E TSON QGH AN 15		g COOK19MV g COOK19MV
<u> </u>		MLML 66-18.16s 171-55.51W MLML 66-18.17s 171-55.52W	
		MLML 66-19.51s 171-59.57W MLML 66-19.51s 171-59.57W	
<del>_</del>	TDXX B TM #17 8 btls TDXX E TSON QGH AN 15	MLML 66-35.60S 172-12.01W MLML 66-35.60S 172-12.00W	g COOK19MV g COOK19MV
_	) TDXX B TM #18 8 btls 033m ) TDXX E TSO PQGH	MLML 66-35.62s 172-12.05W MLML 66-35.62s 172-12.05W	g COOK19MV g COOK19MV
•	TDXX B TM #19 8 btls 023m TDXX E TSO L	MLML 66-35.36S 172-13.70W MLML 66-35.36S 172-13.69W	g COOK19MV g COOK19MV
		MLML 65-53.27s 171-22.68W MLML 65-53.27s 171-22.69W	
<b>-</b>		MIML 66-02.15s 171-24.57W MIML 66-03.85s 171-34.30W	
-	D TDXX B TM #22 8 btls 150m D TDXX E TSON QGH AN 15	MLML 66-08.57S 171-40.62W MLML 66-08.57S 171-40.63W	g COOK19MV g COOK19MV
	D TDXX B TM #23 8 btls 150m D TDXX E TSON QGH AN 15	MLML 66-12.32S 171-48.21W MLML 66-12.32S 171-48.22W	g COOK19MV g COOK19MV
	O TDXX B TM #24 8 btls 152m O TDXX E TSON QGH AN 15	MLML 66-14.24S 171-51.04W MLML 66-14.29S 171-51.10W	g COOK19MV g COOK19MV
	0 TDXX B TM #25 8 btls 150m 0 TDXX E TSON QGH AN 15	MLML 66-16.16S 171-54.01W MLML 66-16.17S 171-54.01W	g COOK19MV g COOK19MV

#GMT DDMMYY #TIME DATE TO	SAMP B SAMPLE Z CODE E IDENTIF	IER	DISP CODE LATITUDE	LONGITUDE	p CRUISE c LEG-SHIP
1100 030202 (	D TDXX B TM #26 D TDXX E TSON	8 btls 150m QGH AN 15	MLML 66-18.02S MLML 66-18.02S	171-57.24W 171-57.24W	g COOK19MV g COOK19MV
<b>-</b>	O TDXX B TM #27 O TDXX E TSON		MLML 66-15.51S MLML 66-15.51S		
	O TDXX B TM #28 O TDXX E TSO	8 btls 070m PQGH	MLML 66-15.57S MLML 66-15.57S		
	O TDXX B TM #29 O TDXX E TSON		MEML 66-16.53S MEML 66-16.53S		
	O TDXX B TM #30 O TDXX E TSO	8 btls 076m PQGH	MLML 66-17.31S MLML 66-17.32S	172-08.06W 172-08.04W	g COOK19MV g COOK19MV
·	O TDXX B TM #31 O TDXX E TSO		MLML 66-17.31S MLML 66-17.32S		
	0 TDXX B TM #32 0 TDXX E TSON	8 btls 035m QGH AN 15	MLML 66-18.68S MLML 66-18.68S	171-22.40W 171-22.40W	g COOK19MV g COOK19MV
	0 TDXX B TM #33 0 TDXX E TSO	8 btls 129m PQGH	MLML 66-18.71S MLML 66-18.71S	171-22.39W 171-22.40W	g COOK19MV
<b>-</b>	0 TDXX B TM #34 0 TDXX E TSO	8 btls 040m L	MLML 66-19.07S MLML 66-19.07S	171-23.37W 171-23.36W	g COOK19MV
	0 TDXX B TM #35 0 TDXX E TSON		MLML 66-14.40S MLML 66-14.40S		
	0 TDXX B TM #36 0 TDXX E TSO	8 btls 018m PQGH	MLML 66-14.48S MLML 66-14.47S	172-07.34W 172-07.34W	g COOK19MV g COOK19MV
	0 TDXX B TM #37 0 TDXX E TSON		MLML 66-10.33S MLML 66-10.33S		
	0 TDXX B TM #38 0 TDXX E TSO	8 btls 027m PQGH	MLML 66-12.578 MLML 66-12.598	5 172-07.10W 5 172-07.13W	g COOK19MV g COOK19MV
0322 090202 0333 090202	0 TDXX B TM #39 0 TDXX E TSO	8 btls 025m L	MIML 66-10.818 MIML 66-10.728	5 172-04.03W 5 172-04.01W	g COOK19MV g COOK19MV
	0 TDXX B TM #40 0 TDXX E TSON	8 btls 075m QGH AN 15	MLML 66-10.065 MLML 66-10.065	3 172-05.25W 3 172-05.25W	g COOK19MV g COOK19MV
	0 TDXX B TM #41 0 TDXX E TSON	8 btls 100m QGH AN 15	MLML 65-56.618 MLML 65-56.618	3 172-02.82W 3 172-02.82W	g COOK19MV g COOK19MV
0952 100202 1015 100202	0 TDXX B TM #42 0 TDXX E TSON		MLML 65-48.839 MLML 65-48.829		
2040 110202 2101 110202	0 TDXX B TM #43 0 TDXX E TSON		MLML 66-06.138 MLML 66-06.138		
2310 110202 2326 110202	0 TDXX B TM #44 0 TDXX E TSO	8 btls 021m	MLML 66-06.138 MLML 66-06.138	S 172-03.90V S 172-03.90V	v g COOK19MV v g COOK19MV

#GMT DDMMYY #TIME DATE TZ #	SAMP B SAMPLE CODE E IDENTIFIER	DISP CODE	LATITUDE LO	p ONGITUDE c	CRUISE LEG-SHIP
	TDXX B TM #45 8	btls 050m MLMI. L MLMI.	66-05.89s 13		
<b>-</b> •	TDXX B TM #46 8 TDXX E TSON QG	btls 124m MLML H AN 15 MLML			
	TDXX B TM #47 8 TDXX E TSO PQG	btls 033m MLML H MLML	66-02.03S 1 66-02.03S 1	70-59.92W g 70-59.92W g	COOK19MV COOK19MV
• •	TDXX B TM #48 8 TDXX E TSO	btls 050m MLML L MLML	66-02.03S 1		
	TDXX B TM #49 8 TDXX X TSON QG	btls 100m MLML H AN 15 MLML			
	TDXX B TM #50 8 TDXX E TSO	btls 076m MIML L MLML	66-02.03S 1 66-02.03S 1		
	TDXX B TM #51 TDXX E TSON QG	8 btls MLML 3H AN 15 MLML	65-57.09s 1 65-57.09s 1	72-11.26W g 72-11.25W g	COOK19MV COOK19MV
	TDXX B TM #52 8 TDXX E TSO PQG	btls 075m MLML H MLML	65-57.08s 1 65-57.08s 1	72-11.34W g 72-11.33W g	COOK19MV COOK19MV
	TDXX B TM #53 8 TDXX E TSO	B btls 020m MLML L MLML	65-57.08S 1 65-57.08S 1		
	TDXX B TM #54 TDXX E TSON QG		52-23.12S 1 52-23.12S 1		
	TDXX B TM #55 8 TDXX E TSO PQG	B btls 042m MLML SH MLML	52-23.26S 1 52-23.82S 1	66-56.76W g 66-56.69W g	COOK19MV COOK19MV
	TDXX B TM #56 8 TDXX E TSO	B btls 028m MLML L MLML	52-25.84S 1 52-26.36S 1		
		B btls 096m MLML CH AN 15 MLML	52-53.06s 1 52-53.05s 1	L67-27.16W g L67-27.15W g	COOK19MV COOK19MV
	TDXX B TM #58 8 TDXX E TSO PQG	B btls 024m MLML GH MLML			
	) TDXX B TM #59 8 ) TDXX E TSO	B btls 030m MLML L MLML	52-51.36S 1 52-51.17S 1		

#GMT DDMMYY #TIME DATE TZ	SAMP B S	SAMPLE IDENTIFIER		CODE	LATITUDE	LONGITUDE	p c	CRUISE LEG-SHIP
#*** Open Nets								
-								
1549 230102 0 1609 230102 0	ONIM E I	202 o Biomass	138m	UHI	55-24.41S 55-24.34S	171-34.99W 171-35.42W	ā	COOK19MV
1615 230102 0 1631 230102 0	ON1M B 2	202 o Biomass,Grazing	100m	UHI UHI	55-24.32S 55-24.26S	171-35.52W 171-35.85W	g	COOK19MV COOK19MV
1432 240102 0 1438 240102 0	ONIM B I	202 o Biomass,Grazing	100m	UHI UHI	55-19.99S 55-19.99S	171-23.09W 171-23.09W	g	COOK19MV COOK19MV
1258-290102 0 1314 290102 0	ONIM E	202 o Biomass	112m	UHI UHI	66-20.12S 66-20.17S	171-57.81W 171-58.31W	ā	COOK19MV COOK19MV
1320 290102 0 1333 290102 0	ONIM B	202 o Grazing	100m	UHI IHU		171-58.49W 171-59.12W		
1318 310102 0	ONIM B	202 o Biomass		UHI	66-36.63S 66-36.55S	171-49.29W 171-49.57W	g	COOK19MV COOK19MV
	ON1M B :	202 o Biomass	34m	UHI	66-36.52S 66-36.38S	171-49.68W 171-50.07W	g g	COOK19MV COOK19MV
	ON1M B	202 o Biomass	<i>m</i> 00	UHI IHU	66-36.35S 66-36.36S	171-50.18W 171-50.67W	ā	COOK19MV COOK19MV
	ONIM B :	202 o Biomass	90m	UHI UHI	66-36.40s 66-36.46s	171-50.85W 171-51.40W		
	ONIM B	202 o Biomass	90m	UHI	66-36.538 66-36.648	171-51.68W 171-52.25W	g	COOK19MV COOK19MV
	ON1M B ON1M E	Biomass	90m	UHI UHI	66-36.77S	171-52.46W 171-52.68W	g	COOK19MV
	ON1M B	202 o Biomass	107m	UHI UHI	66-35.25s 66-35.35s	172-14.54W 172-15.33W	g	COOK19MV COOK19MV
0746 040202 0 0758 040202 0	ON1M B	333 v Grazing	50m	UHI IHU	66-14.53S 66-14.60S	172-02.35W 172-02.53W	g	COOK19MV COOK19MV
0821 040202 0 0826 040202 0	ONIM B	333 v Grazing	50m	UHI	66-14.86S 66-14.93S	172-03.04W 172-03.19W	ĝ	COOK19MV COOK19MV
	ON1M B	333 v Grazing	50m	UHI	66-15.07s 66-15.20s	172-03.48W 172-03.73W	g g	COOK19MV COOK19MV
0854 040202 ( 0906 040202 (	ON1M B	202 o Biomass	10 <b>4</b> m			172-04.10W 172-04.79W		
	ON1M B	202 o Biomass	105m			172-02.86W 172-02.64W		
0721 060202 ( 0733 060202 (	ON1M B	22 v plankton diversity	10m	MLMI. MLML	66-18.98s 66-18.92s	171-23.18W 171-23.37W	lg Ig	COOK19MV COOK19MV

#GMT #TIME	DDMMYY DATE	TZ	SAMP E	SAMPLE IDENTIFIER		DISP CODE	LATITUDE	LONGITUDE	p c	CRUISE LEG-SHIP
1048 1058	080202 080202	0	ONIM E	333 o Grazing	90m	UHI UHI	66-14.00S 66-14.00S	172-08.08W 172-08.19W	g a	COOK19MV COOK19MV
1110	080202 080202			333 o Grazing				172-08.43W 172-08.56W	g	COOK19MV
	080202 080202			202 c Biomass	106m	UHI	66-13.92s 66-13.90s	172-08.76W 172-09.03W	ā	COOK19MV COOK19MV
	090202 090202	0 0	ON1M E	333 o Grazing	90m	UHI UHI	66-09.67s 66-09.69s	172-06.14W 172-06.67W	g	COOK19MV COOK19MV
	090202 090202	0	ONIM E	333 o Grazing	90m	UHI UHI	66-09.66S 66-09.68S	172-07.07W 172-07.56W	g	COOK19MV COOK19MV
	090202 090202			202 o Biomass			66-09.68S	172-08.34W 172-08.76W		
	120202 120202			333 o Grazing	100m	UHI	66-05.87s 66-05.89s	172-05.44W 172-05.60W	g	COOK19MV COOK19MV
-	120202 120202	0	ONIM F	333 o Grazing	m001	UHI	66-05.90s 66-05.87s	172-05.58W 172-05.89W	ā	COOK19MA COOK16MA
	120202 120202	0 0	ON1M F	202 o Biomass	109m	UHI UHI	66-05.87 <i>s</i> 66-05.85 <i>s</i>	172-06.03W 172-06.31W	g	COOK19MV COOK19MV
	120202 120202			202 o Biomass	50m	UHI	66-05.85s 66-05.80s	172-06.39W 172-06.71W		
	130202 130202	0	ONIM I	3 202 o Biomass	- 300m	UHI	66-02.19s 66-02.53s	171-00.04W 171-00.13W		
	130202 130202			3 202 c Biomass	50m	UHI	66-02.63S 66-02.74S	171-00.12W 171-00.02W	g	COOK19MV COOK19MV
	130202 130202			3 202 o E Biomass	_ 52m	UHI UHI	66-02.90S 66-03.02S	170-59.83W 170-59.67W	i g	COOK19MV
	130202 130202			3 202 o 3 Biomass	98m	UHI	66-03.25S 66-03.44S	170-59.24W 170-58.98W		
	130202 130202	0	ON1M I	333 o Grazing	100m	UHI	66-03.56s 66-03.73s	170-58.85W 170-58.58W	i g	COOK19MV
	130202 130202			333 o Grazing				170-58.48W	I g	COOK19MV

#GMT DDMMYY SAMP : #TIME DATE TZ CODE : #	IDENTIFIER	DISP CODE LATITUDE LONGITUDE	p CRUISE c LEG-SHIP					
0619 150202 0 ON1M 0634 150202 0 ON1M	3 202 o	UHI 65-57.19S 172-11.74W	g COOK19MV					
	E Biomass 95m	UHI 65-57.37S 172-12.38W	g COOK19MV					
0639 150202 0 ON1M 0647 150202 0 ON1M	3 202 o	UHI 65-57.43S 172-12.63W	g COOK19MV					
	Biomass 50m	UHI 65-57.52S 172-12.99W	g COOK19MV					
0651 150202 0 ON1M 0703 150202 0 ON1M	3 333 o	UHI 65-57.578 172-13.13W	g COOK19MV					
	E Grazing 100m	UHI 65-57.748 172-13.57W	g COOK19MV					
0707 150202 0 ON1M 0718 150202 0 ON1M	3 333 o	UHI 65-57.80S 172-13.75W	g COOK19MV					
	3 Grazing 100m	UHI 65-57.98S 172-14.38W	g COOK19MV					
		UHI 52-34.98S 166-57.41W UHI 52-35.67S 166-58.03W						
0825 200202 0 ONIM	3 202 c	UHI 52-35.828 166-58.17W	g COOK19MV					
0832 200202 0 ONIM	E Biomass 50r		g COOK19MV					
0842 200202 0 ON1M	3 202 o	UHI 52-36.18S 166-58.53W	V g COOK19MV					
0854 200202 0 ON1M	3 Biomass 95r	UHI 52-36.43S 166-58.80W	V g COOK19MV					
0902 200202 0 ON1M	3 333 o	UHI 52-36.598 166-58.960	√g COOK19MV					
0914 200202 0 ON1M	E Grazing 100r	UHI 52-36.858 166-59.130	√g COOK19MV ·					
0643 210202 0 ON1M	3 202 o	UHI 52-50.748 167-22.500	V g COOK19MV					
0656 210202 0 ON1M	E Biomass 107	UHI 52-50.918 167-22.390	V g COOK19MV					
		UHI 52-50.968 167-22.320 UHI 52-51.118 167-22.190						
#*** Expendable Bathythermographs ***								
2005 180202 0 BTXP 0102 220202 0 BTXP 0114 220202 0 BTXP 2136 220202 0 BTXP 2114 200102 0 BTXP 0048 220102 0 BTXP 0303 230102 0 BTXP 1955 230102 0 BTXP 0005 280102 0 BTXP 0010 280102 0 BTXP	MK21 # 18 T-1 MK21 # 19 T-1 MK21 # 20 T-1 MK21 # 21 T-1 MK21 # 8 Fast_Deep MK21 # 9 Fast_Deep MK21 # 10 Fast_Deep MK21 # 11 Fast_Deep MK21 # 12 Fast_Deep MK21 # 13 Fast_Deep MK21 # 17 Fast_Deep	GDC 53-31.97S 175-09.889 GDC 55-27.15S 171-35.939 GDC 55-24.54S 171-35.219 GDC 61-42.01S 170-46.279 GDC 61-42.86S 170-46.209 GDC 53-14.74S 167-49.409	W g COOK19MV					
#	End Sample In	dex	COOK19MV					