

NBP21902, 014 S

MOCNESS Tow Sheet (NBP02-04)

Net present
 $T = 2168$ $\theta = 1$
 Sensors $C = 1799$ $XM = 439$
 $P = 139$ $FL = 116$

St. Station No.: <i>CRYSTAL SOUND #</i>	Tow No.: <i>NADK-01-001</i>
Date: <i>7 AUG 2002</i>	
Filename (raw): <i>M-01-001.RAW</i>	Filename (processed): <i>M-01-001</i>

Net Information

Net Size: <i>7-m²</i>	Net Condition: <i>OK</i>
Net Mesh: <i>333</i>	

Start

End

Location (Lat/Lon): <i>-66 -63</i> <i>31.677 19.212</i>	Location (Lat/Lon): <i>-66 -67</i> <i>31.657 11.251</i>
Time (Local) <i>1346</i> Time (GMT) <i>1746</i>	Time (Local) <i>1558</i> Time (GMT) <i>1958.33</i>
MOCNESS Battery Voltage: <i>20.2</i>	MOCNESS Battery Voltage: <i>19.8V</i>

Environmental Parameters

Wind (Speed/Direction) <i>WSW (250)</i>	Sea State: <i>Calm / ICE Patch light</i>
Water Depth (m): <i>500-600 @ 3-6 Kts</i>	Light and Clouds: <i>Sunny - Foggy</i>
Air Temperature: <i>-9.4</i>	SST: <i>-1.835</i>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	<i>0-300</i>	<i>0</i>	<i>1740.28</i>	<i>300</i>	<i>182531</i>	<i>1761</i>	
1	<i>395-250</i>	<i>300</i>	<i>182534</i>	<i>250</i>	<i>184958</i>	<i>1204</i>	<i>Net 1 fish down to 395 m.</i>
2	<i>250-200</i>	<i>200</i>	<i>184958</i>	<i>200</i>	<i>185917</i>	<i>459.8</i>	<i>OK</i>
3	<i>200-150</i>	<i>200</i>	<i>185917</i>	<i>150</i>	<i>190638</i>	<i>397.9</i>	<i>OK</i>
4	<i>150-100</i>	<i>150</i>	<i>190638</i>	<i>100</i>	<i>191552</i>	<i>461.0</i>	<i>dropped down to 100m when ship slowed</i>
5	<i>100-75</i>	<i>100</i>	<i>191552</i>	<i>75</i>	<i>192049</i>	<i>261.1</i>	<i>OK</i>
6	<i>75-50</i>	<i>75</i>	<i>192049</i>	<i>50</i>	<i>192611</i>	<i>306.8</i>	<i>Went back down to 50 m</i>
7	<i>50-25</i>	<i>50</i>	<i>192611</i>	<i>25</i>	<i>193646</i>	<i>566.4</i>	
8	<i>25-0</i>	<i>25</i>	<i>193646</i>	<i>0</i>	<i>194207</i>	<i>242.1</i>	<i>OK - May have 1 e</i>
9	<i>0</i>	<i>0</i>	<i>194207</i>				

STROBE ON AT RECOVERY? ☐ YES ☐ NO

- No Pressure reading at start of tow
- Need to reboot which readout at 52m
- at 250 (180958)
- Strobe turned on at depth (182145)

Backed down 183058 - 10m
Hang on ice - Net 1 open
193453 - OPC knocked 555
off - but recovered

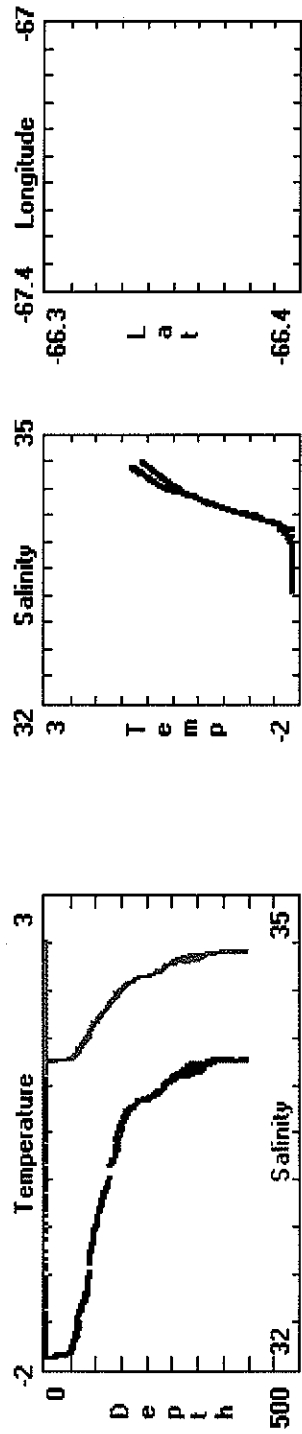
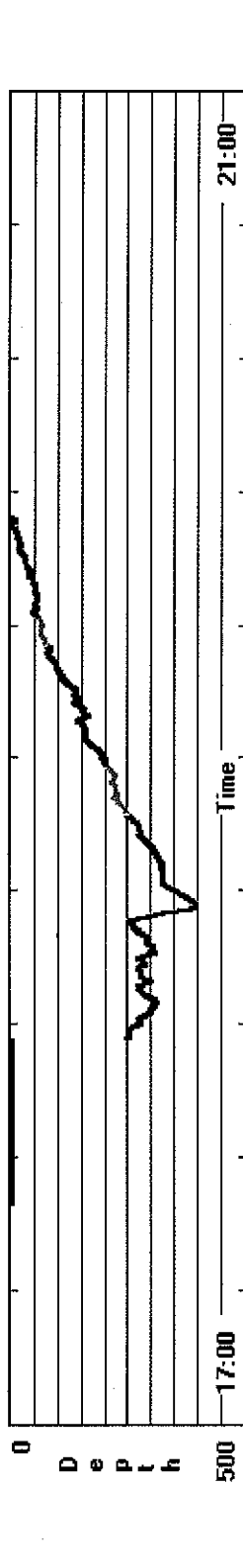
Revised

- Problem towing in the ice - hung upon ice
+ had to back down

Water depth = 700' m + 11400 = 491

- Net fell to 395 m + wire = 0

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	19:43:32	Net_Num	9	Latitude	66S 31.653	Preset	
Pressure	0.7 m	OpenTime	15 min	Longitude	67W 11.22	Baud Rate	2400
Temp	-1.85 C	Vol_Filtered	49.1 m3	Net_Dist	6.7 m	Sample Rate	4.0 sec
Salinity	33.96 o/oo	Angle	2 deg	Total_Dist	6197.0 m	Printer	Off
Density	27.341	Flow_Counts	9	Processed File Name	C:\MOCNESS\MOCDATA\AM_01_001.PRO		
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\AM_01_001.raw		
Fluoresc.		Vert_Vel	14.8 m/min	Acquisition Ended. trys = 1			
LightXmis		Battery	19.8 V				



MOCNESS TOW #: CRYSTAL SOUND # 1

Date: 8-7-02

Region: CRYSTAL SOUND, SO. OC.

People Processing Sample: (P.A.)

NET DEPTH

Taxonomic Composition

0	0-300	krill / furcilia, amphipods, copepods, chaetognaths
1	375-250	krill, ctenophore (1)
2	250-200	krill, ctenophore (furcilia)
3	200-150	krill, amphipods
4	150-100	krill, amphipod, copepods, chaetognaths
5	100-75	amphipod, copepods, krill
6	75-50	amphipod, krill, mostly gush.
7	50-25	copepods, fish parts ↳ Metridia lucens according to Phil, but not Kenbra
8	25-0	1 krill, 1 amphipod, few copepods. Sparse sample.

MOCNESS Tow Sheet (NBP02-04)

1/3 sheets

St. Station No.: ^{Near} 77	Tow No.: MOC-01-002
Date: 12 AUG 2002	
Filename (raw): M-01-002.Raw	Filename (processed): M-01-002. PRO

Net Information

Net Size: 1 m ²	Net Condition: GOOD
Net Mesh: 333 µm	

Start

End

Location (Lat/Lon):		Location (Lat/Lon):	
Time (Local)	Time (GMT)	Time (Local)	Time (GMT)
MOCNESS Battery Voltage:		MOCNESS Battery Voltage:	

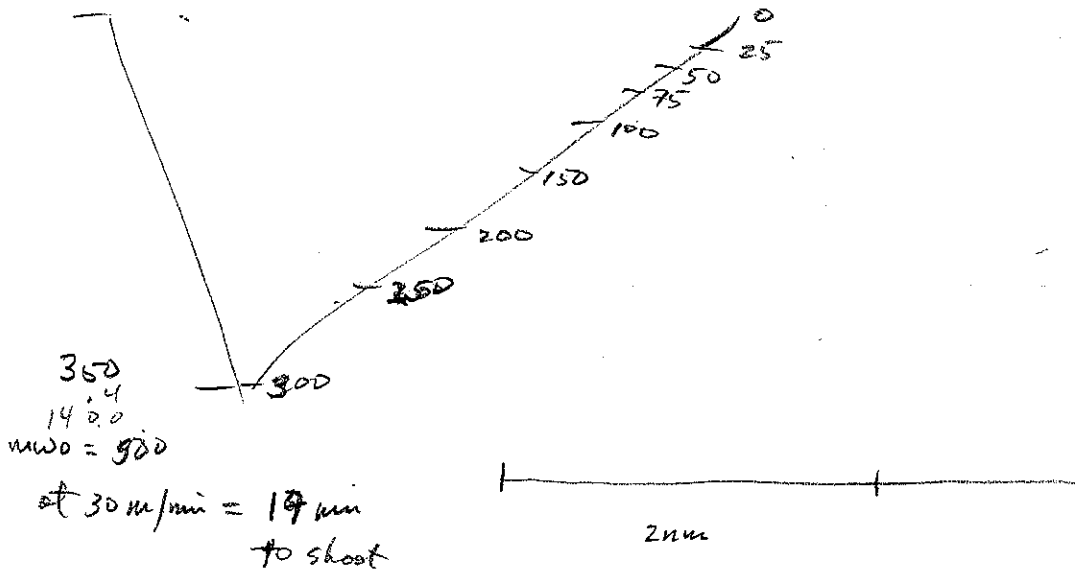
Environmental Parameters

Wind (Speed/Direction): WSW ~ 20 kts	Sea State: Ice Pack - flat
Water Depth (m): 577	Light and Clouds: NIGHT - cloudy
Air Temperature: -8.7	SST: -18.8

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0		100					
1							
2							
3							
4							
5							
6							
7							
8							

STROBE ON AT RECOVERY? ____ YES ____ NO



2/3 sheets

See next sheet!

MOCNESS Tow Sheet (NBP02-04)

St. Station No.:	Tow No.: MDC-01-002
Date: 8/12/12 (LT)	
Filename (raw): M-01-002.raw	Filename (processed): M-01-002.pro

Net Information

Net Size: 1 m ²	Net Condition: Good
Net Mesh: 333 μ m	

Start

End * lost com at 45.4m

Location (Lat/Lon): -68 50.71/-75 06.42	Location (Lat/Lon): -68 50.61/-75 10.8
Time (Local): 2042	Time (GMT): 0042
Time (Local): 2146	Time (GMT): 0146
MOCNESS Battery Voltage: 19.7 V	MOCNESS Battery Voltage: N/A 19.3 V

Environmental Parameters

Wind (Speed/Direction): 12 knts/210 True	Sea State: ICE / LEAD
Water Depth (m): 502 m	Light and Clouds: N - cloudy
Air Temperature: -10.0 C / -9.4 C	SST: -1.901 C / -1.814 C

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	*10m ² flow settings Volume Filtered	Comments
0	0 - 350	0	00:43:59	353 0:59:42	0:59:42	2233.5	+138.3m - Sal sensor back 472m wire out
1	350-275	350	00:59:42	275	1:08:00	3481.8	
2	275-200	275	01:08:00	200	1:16:18	3608	
3	200-150	200	01:16:18	150	1:23:19	2997	1:24:52 lost com
4	150-100	150	01:23:19	100	1:29:10	2850	1:25:49 Returned
5	100-75	100	01:29:10	75	1:34:07	2104	1:36:32 lost com
6	75-50	75	01:34:07	50	1:37:24	1350	1:38:08 lost 45.4m com. to govt
7	50-surf		01:37:24				turned off opc 01:23:18 into tow
8							

STROBE ON AT RECOVERY? ____ YES ____ NO

+ salinity low ~25‰ at start
* moc 10 mouth opening settings1:42:58 moc at surface sent out to -20m.
1:46:00 moc out of water - on back deck

3 Nets remaining

3/3 sheets.

MOCNESS Tow Sheet (NBP02-04)

Revised Sheet

8/13/2
0528 rdd

St. Station No.: 77	NBP 22402.0241.025	Tow No.: moc-01-002
Date: 8/12/2 (LT)		
Filename (raw): m-01-002.raw		Filename (processed): m-01-002.pro

Net Information

Net Size: 1m ²	Net Condition: good
Net Mesh: 333µm	

Start

End

Location (Lat/Lon): -68 50.77/-75 06.42		Location (Lat/Lon): -68 50.6/-75 10.8	
Time (Local) 2042	Time (GMT) 0042	Time (Local) 2146	Time (GMT) 0146
MOCNESS Battery Voltage: 19.7 V		MOCNESS Battery Voltage: N/A 19.3 V @ 45.5 m	

Environmental Parameters

Wind (Speed/Direction): 12 kts/210 True	Sea State: 1c / Lead
Water Depth (m):	Light and Clouds: Night / Cloudy
Air Temperature: -10.0 C / -9.4 C finish	SST: -1.801 C / -1.814 C

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered *	Comments
0	0-350	0	00:43:59	350	00:59:42	223.4	+ 138.3 m sal sensor returned 472 m wire out
1	350-200	350	00:59:42	200	01:16:18	709.0	Net inter. # hit instead of stepping motor (see raw file)
2	200-150	200	01:16:18	150	01:23:19	299.7	1:24:52 lost com.
3	150-100	150	01:23:19	100	01:29:10	285.0	
4	100-75	100	01:29:10	75	01:34:07	210.4	1:36:32 lost com.
5	75-50	75	01:34:07	50	01:37:24	135.0	
6	50-0	50	01:37:24	0	01:46:00	397.4 +	1:38:08 lost com. for rest of tow.
7							Turned off OPC
8							

STROBE ON AT RECOVERY? ☒ YES ☐ NO

+ Salinity at $\approx 25\%$ at start
 * moc 10 mouth opening settings selected; volume filtered x10 in *.pro file.

$$+ A \cos \theta \cdot d_{pps} = 1m^2 \cos 28 \cdot 450.1m = 397.4 m^3$$

another method

$$A \cos \theta \cdot \bar{h}_{vel} \cdot t_{open} = 1m^2 \cos 28 \cdot 1m/s \cdot 516s = 455.6 m^3$$

$$1m/s = 1.94 knts$$

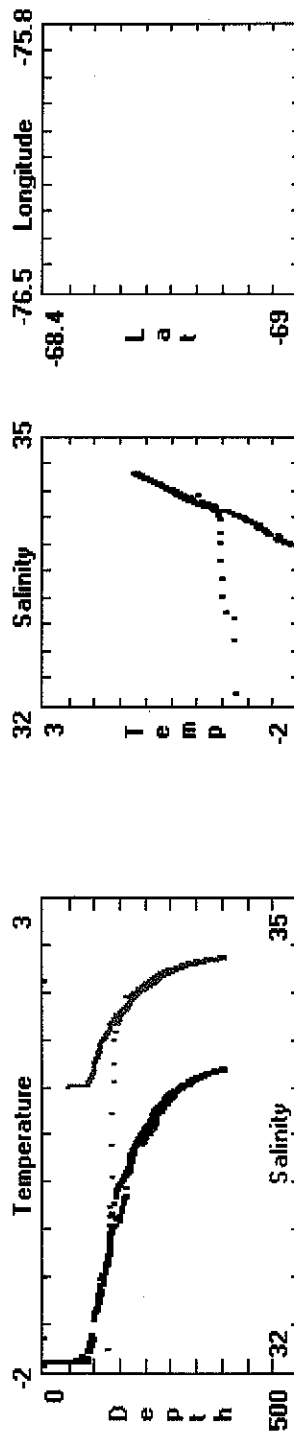
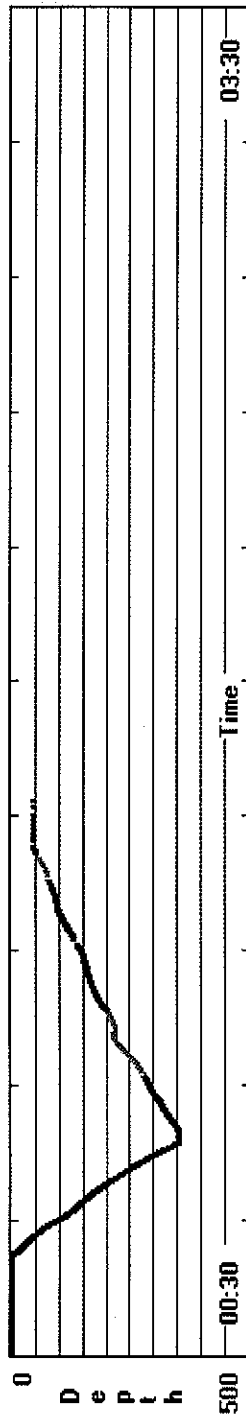
$$1.6 knts = .923 m/s \quad vol = 375 m^3$$

MO2 1 m²

Environmental Parameters Net Operation Net - Ship Position Program Settings

Time	01:44:15	Net_Num	7	Latitude	68S 50.580	Reset
Pressure	45.4 m	OpenTime	5.8 min	Longitude	75W 10.43	Baud Rate
Temp	-1.87 C	Vol_Filtered	277.0 m3	Net_Dist	222.8 m	Sample Rate
Salinity	33.81 o/oo	Angle	25 deg	Total_Dist	2728.1 m	Printer
Density	27.217	Flow_Counts	5	Processed File Name	C:\MOCNES\MOCDATA\M_01_002.PRO	
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNES\MOCDATA\M_01_002.raw	
Fluoresc.		Vert_Vel	0.0 m/min	Acquisition Ended. tsys = 0		
LightXmis		Battery	18 V			

Step STBD Net Increment Net#



MOCNESS TOW #: 2

Date: 8-12-02

Region: 77

People Processing Sample: P.A. MDA gustano

NET DEPTH

Taxonomic Composition

0	0-350	<u>copep</u> , <u>ctenophores</u> , <u>chaetogneth</u>	LOTS
1	350-200	chaetogneth, amphipod, lots of krill, copepods furcilia	LOTS
2	200-150	copepods, chaetogneth, smaller krill = FURCRIA	V. little BIOMASS
3	150-100	Larger furcilia, copepods, OSTRACODS ctenophores, chaetogneths, copepods, krill	Little
4	100-75	ctenophores, chaetogneth, little krill + copep, little amphipods	V. little
5	75-50	small krill, hyperid amphipod, copepods (blue) - fish larvae	little
6	50-0	flotsam (black stuff) ^{few} krill, bioluminescent copepods, Salp copepods , krill , amphipods lots of small amphipods	V. little furcilia - THYAS.
7	X	Didn't open	
8	X	Didn't open	

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <i>NBP22602.001/1.002</i>	Tow No.: <i>MOC-01-03</i>
Date: <i>8/14/02</i>	
Filename (raw): <i>m-01-003.raw</i>	Filename (processed): <i>m-01-003.pro</i>

Net Information

Net Size: <i>1-m²</i>	Net Condition: <i>good</i>
Net Mesh: <i>333 um</i>	

Start

End

Location (Lat/Lon): <i>-68 48.29/-76 46 20</i>		Location (Lat/Lon): <i>-68 47.82/-76 49.51</i>	
Time (Local) <i>0310</i>	Time (GMT) <i>0710</i>	Time (Local) <i>0420</i>	Time (GMT) <i>0820</i>
MOCNESS Battery Voltage: <i>19.6 V</i>		MOCNESS Battery Voltage: <i>19.1</i>	

Environmental Parameters

Wind (Speed/Direction): <i>18 kts / 250 true</i>	Sea State: <i>1ce / 1recd (1.5m)</i>
Water Depth (m): <i>408</i>	Light and Clouds: <i>Night, show</i>
Air Temperature: <i>-11</i>	SST: <i>-1.832 C</i>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	<i>0-250</i>	<i>0</i>	<i>07:37:10</i>	<i>250</i>	<i>07:52:24</i>	<i>419 +</i>	<i>Sat sun 504t - 410 m out 07:39:06 lost com</i>
1	<i>250-200</i>	<i>250</i>	<i>07:52:24</i>	<i>200</i>	<i>07:56:27</i>	<i>195.5</i>	<i>* started MOC-01-03B</i>
2	<i>200-150</i>	<i>200</i>	<i>07:56:27</i>	<i>150</i>	<i>08:01:12</i>	<i>247</i>	
3	<i>150-100</i>	<i>150</i>	<i>08:01:12</i>	<i>100</i>	<i>08:09:14</i>	<i>401.2</i>	
4	<i>100-90</i>	<i>100</i>	<i>08:09:14</i>	<i>90</i>	<i>08:10:50</i>	<i>79.5</i>	
5	<i>90-75</i>	<i>90</i>	<i>08:10:50</i>	<i>75</i>	<i>08:12:02</i>	<i>61.4</i>	
6	<i>75-50</i>	<i>75</i>	<i>08:12:02</i>	<i>47</i>	<i>08:15:23</i>	<i>157.9</i>	
7	<i>50-25</i>	<i>47</i>	<i>08:15:23</i>	<i>25</i>	<i>08:17:14</i>	<i>94.4</i>	
8	<i>25-0</i>	<i>25</i>	<i>08:17:14</i>	<i>2</i>	<i>08:19:28</i>	<i>93.9</i>	

STROBE ON AT RECOVERY? ☒ YES ☐ NO

** Lost com too many times
capture screen, restarted software,
MOC-01-03B, PRO / RAW*

*turned
off
modem*

*losing com before deployment
bad gps strings*

Target Tow 75-125 m Sat at 12.7 m/s

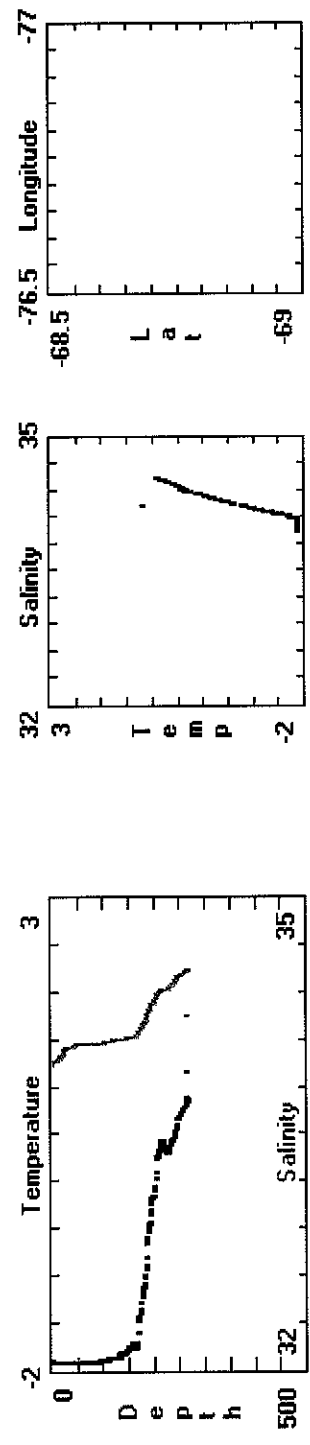
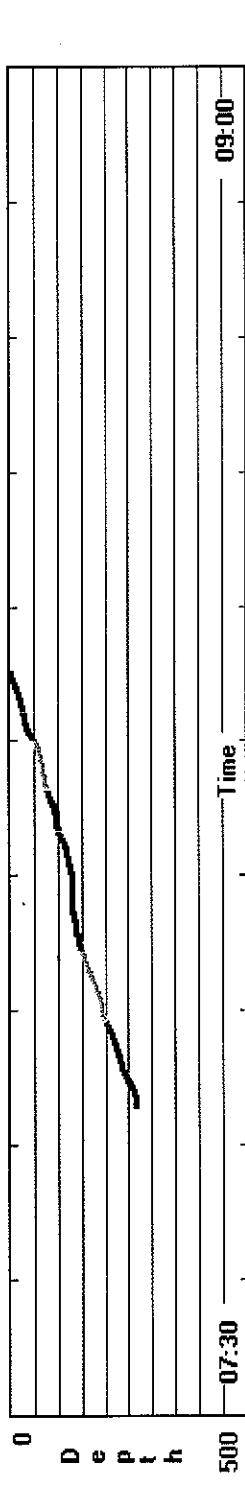
*lost com
07:43:00
7:44:17
7:46:06*

Turned off OPC

*+ add to Net 0
from*

170C 3
1/2

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	08:19:44	Net_Num	9	Latitude	68S 47.828	Reset	
Pressure	0.4 m	OpenTime	0.3 min	Longitude	76W 49.47	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	7.2 m3	Net_Dist	16.9 m	Sample Rate	4.0 sec
Salinity	0.54 o/oo	Angle	0.9 deg	Total_Dist	1595.7 m	Printer	Off
Density	-11.539	Flow_Counts	2	Processed File Name	C:\MOCNESS\M-01-03B.PRO		
Oxygen		Hor_Vel	1.1 kts	Raw File Name	C:\MOCNESS\M-01-03B.raw		
Fluoresc.		Vert_Vel	2.1 m/min	Acquisition Ended. tries = 0			
LightXmis		Battery	19.1 V				



MOCNESS TOW #: #3

Date: 8-14-02

Region: 82

People Processing Sample: (PA) etc.

NET DEPTH

Taxonomic Composition

0	KRILL, Ctenophores, copepods
1	Mostly copepods - few krill - small, - Siphonophore
2	LOTS of coxes, some krill. Furcilia
3	KRILL, furcilia, copepods
4	KRILL - lots!
5	KRILL - many!
6	Krill + copepods - lots!
7	mostly copepods + juvenile krill
8	small # of Krill few copepods

MOCNESS Tow Sheet (NBP02-04)

St. Station No.:	Tow No.: MOC-01-004
Date: 08/16/02	
Filename (raw): M_01-004.raw	Filename (processed): M-01-004.pro

Net Information

Net Size: 1m ²	Net Condition: good
Net Mesh: 333 μ m	

Start

End

Location (Lat/Lon): -68 34.64/-74 07.06		Location (Lat/Lon): -68 35.26/-74 01.27	
Time (Local) 0035	Time (GMT) 0435	Time (Local) 0154	Time (GMT) 0554
MOCNESS Battery Voltage: 19.2		MOCNESS Battery Voltage: 19.1	

Environmental Parameters

Wind (Speed/Direction): 7.5 knts / 235 true	Sea State: lead
Water Depth (m): 711	Light and Clouds: p.c.
Air Temperature: -7.0C	SST: -1.762

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-450m	0	04:39:50	450	05:00:39	426.8	high surface org cnts 4.53:11 com out
1	450-350	450	05:00:39	350	05:09:53	477.8	
2	350-202	350	05:09:53	202	05:29:59	1012.4	
3	202-128	202	05:29:59	128	05:34:35	245	entered ice had to bring in at 15 m/min
4	128-100	128	05:34:35	100	05:42:22	381.0	+
5	100-75	100	05:42:22	75	05:45:55	181.8	
6	75-50	75	05:45:55	50	05:47:51	97.8	
7	50-25	50	05:47:51	25	05:50:36	150.3	
8	25-0	25	05:50:36	0	05:53:07	72.1	Lost com at 18m

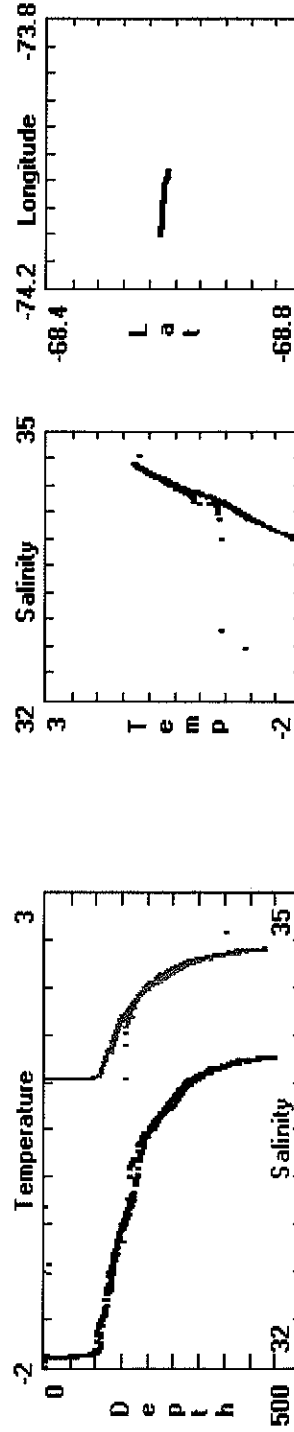
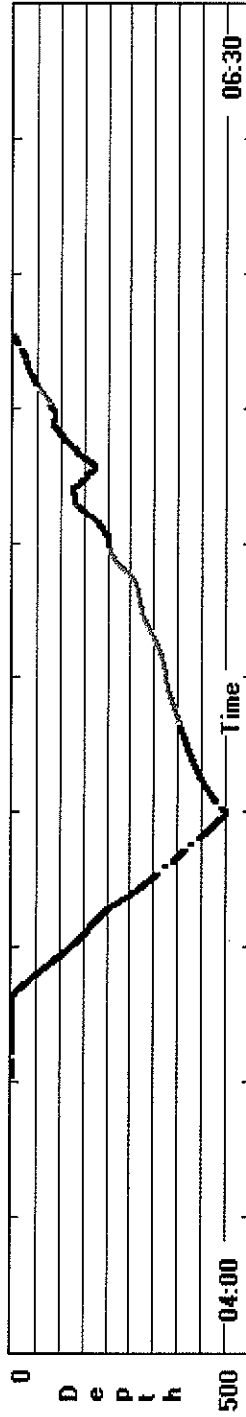
STROBE ON AT RECOVERY? ☒ YES ☐ NO

Still losing com
Net 0 - battery flashed red, returned
Net 1 - jumped V to 0.1, returned to 19.1
+ dropped to 175 m

Moc 01-004

MOC 1^{m2} #4

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	05:53:19	Net_Num	9	Latitude	68S 35.257	Reset	
Pressure	15 m	OpenTime	0.3 min	Longitude	74W 1.256		
Temp	50.0 C	Vol_Filtered	0.0 m3	Net_Dist	12.4 m	Baud Rate	2400
Salinity	50.0 o/oo	Angle	0 deg	Total_Dist	4118.1 m	Sample Rate	4.0 sec
Density	24.678	Flow_Counts	0	Processed File Name	C:\MOCNESS\MOCDATAM_01_004.PRO	Printer	Off
Oxygen		Hor_Vel	0.3 kts	Raw File Name	C:\MOCNESS\MOCDATAM_01_004.raw		
Fluoresc.		Vert_Vel	3.5 m/min	Acquisition Ended. trys = 9			
LightXmis		Battery	18.9 V				
Step STBD Net		Increment Netff		Pause Acqui		End Acqui	



SIMLAN - layers @ 300m
 broad cee 50 → 100m

MOCNESS TOW #: 4

Thick ice / ^{long} lead

Date: AUG. 16TH 12:45^{AM} local

Region: SOUTH SECTOR, STA. 72

People Processing Sample: P.A., M.A.

NET DEPTH

Taxonomic Composition

0	0-450m	krill, chaetognaths, copepods
1	450-350	amphipods, chaetognaths, ^{many} copepods
2	350-202	amphipods, chaetognaths, ^{many} copepods, a few krill (diff from net 1) high biomass
3	202-128	chaetognaths, copepods, a few krill - mixed stages
4	128 ¹⁰⁰ ↓ 170	chaetognaths, copepods, several krill, ^{a couple of} mysids, ^{little few} (small) amphipods
5	100-75	stenophores, ^{maybe} mysids, copepods, a ⁽²⁾ couple of krill (krill dark heads) low biomass
6	75-50	chaetognath, copepods possibly decayed krill from previous tow in nets 4-6
7	50-25	^{1 large} chaetognath, stenophore, ^{very} a few amphipods, furcilia, copepods
8	25-0	furcilia (superba) and/or copepods, 1 fish larvae, a couple of amphipods juv. krill

SIMRAD 1200m @ 350m

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 65	Tow No.: 5
Date: 8-17-02	
Filename (raw): M-01-005.raw	Filename (processed): M-01-005.pr

Net Information

Net Size: 1 m ²	Net Condition: good
Net Mesh: 333	

Start

End

Location (Lat/Lon): 68° 6.322 / 74° 41.530		Location (Lat/Lon): 68° 8.36 74° 39.10	
Time (Local) 12:42	Time (GMT) 16:42	Time (Local) 14:21	Time (GMT) 18:21
MOCNESS Battery Voltage: 19.3		MOCNESS Battery Voltage: 17.0 V	

Environmental Parameters

Wind (Speed/Direction): 10/140°	Sea State: 1CE
Water Depth (m): 400 m	Light and Clouds: overcast
Air Temperature: -2.9	SST: -1.8

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	600m haul Comments
0	0-375	0	16:42	375	17:08	847 m ³	STOP SHIP TO GET NET DOWN
1	375-325	375	17:08	325	17:24	453	Bottom with 25m/min. NO N.R.
2	325-200	325	17:24	200	17:37	573	NO N.R.
3	200-150	200	17:38	146	17:45	316	"
4	150-100	146	17:45	100	17:55	490	"
5	100-75	100	17:55	75	18:03	455	N.N.R.
6	75-50	75	18:03	50	18:10	285	N.N.R.
7	50-25	50	18:10	25	18:16	230	"
8	25-0	25	18:16	0	18:19	136	"

STROBE ON AT RECOVERY? ☒ YES ☐ NO

CPC off @ 5m

MOC-01-05

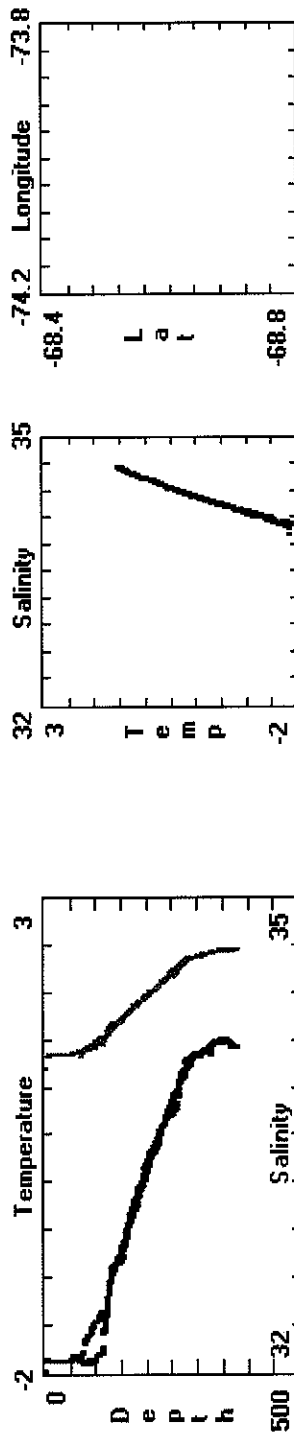
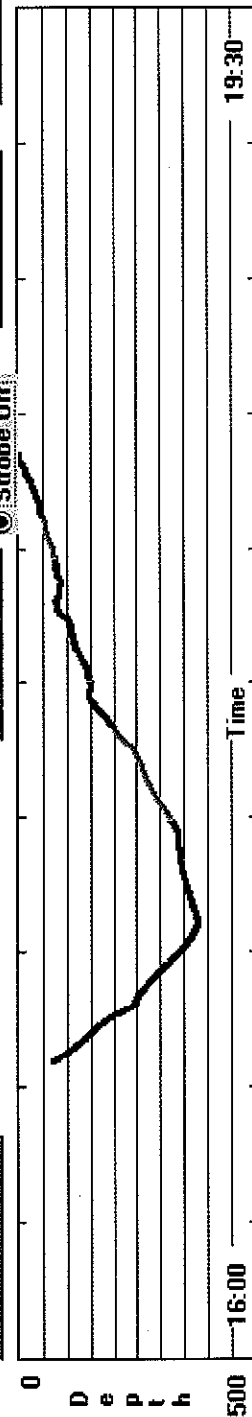
MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	18:21:05	Net_Num	9	Latitude	68S 8.3784'	Reset	
Pressure	0.8 m	OpenTime	0.2 min	Longitude	74W 39.06	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	2000 m8	Net_Dist	76.1 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	0 deg	Total_Dist	4151.6 m	Printer	Off
Density	24.678	Flow_Counts	9	Processed File Name	C:\MOCNESS\MOCDATA\M-01-005.PRO		
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\M-01-005.raw		
Fluoresc.		Vert_Vel	0.0 m/min				
LightXmis		Battery	19.0 V				

Step Net

Increment Net# ☐ Strobe On ☒ Strobe Off



MOCNESS TOW #: 5 (M-01-005)

Date: 8/17/02 1240-1420

Region: Station 65

People Processing Sample:

NET DEPTH

Taxonomic Composition

0	<u>Copepods</u> , Chaetognaths, Amphipods
1	Mostly copepods, w/ ① Thysanoessa small AMPHIPODS, Furcilia
2	Mostly copepods, amphipods, Thysanoessa furcilia
3	Metridia COPEP FORCILIA Thy. juvenile CHAETOG
4	medusa of sort sort Chaetognaths / chaetognaths Thysanoessa juvenile ↓ Krill, copepods
5	Euphausiids - many! ① Large Bore Ctenophore
6	Ctenophore - large, Copes, Chaetognaths Metridia NO KRILL LITTLE BIOM.
7	LITTLE BIOMASS Copep, large Chaet. → Metridia
8	Fish larvae ⁽²⁾ , copepods, chaetognaths

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 42	Tow No.: 6
Date: 19 AUGUST 2002	
Filename (raw): M-01-006.raw	Filename (processed): M-01-006.pro

Net Information

Net Size: 1-m	Net Condition: GOOD
Net Mesh: 335 μ m	

Start

End

Location (Lat/Lon): ⁻⁶⁷ 31.460 ⁻⁷¹ 26.744	Location (Lat/Lon): 67° 30.909 / 71° 31.92
Time (Local) 10:08	Time (GMT) 1416
Time (Local) 1146	Time (GMT) 1546
MOCNESS Battery Voltage: 18.9V	MOCNESS Battery Voltage: 18.8V

Environmental Parameters

Wind (Speed/Direction): 28-35kt ²⁴⁶ (WSW)	Sea State: Patchy/lead
Water Depth (m): 2450m	Light and Clouds: Cloudy-
Air Temperature: -11.7C	SST: -1.80C

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-400	0	1428	370	145018	622.5	start down at 20 m/min strobe on
1	384-300	370	14518	300	1500	412	
2	300-200	300	1500	200.3	1516:30	684	
3	200-150	200.3	151630	147.7	152610	419	
4	150-125	147.7	152610	125	1530	166.9	
5	125-75	125	1530	75.1	153736	306.2	
6	75-50	75.1	153736	49.8	154024	94.7	
7	50-0	49.8	154024	0	154513	189.3	
8							

STROBE ON AT RECOVERY? ☐ YES ☐ NO

Depth ranges were changed from 150-100, 100-75 to 150-125, 125-75 because there is a nice layer on the ADCP between 125 and 75m²

MOC-6

Also doing 50-0 and leaving one net
because we're in a hurry and that
range is sparse on the ADCP

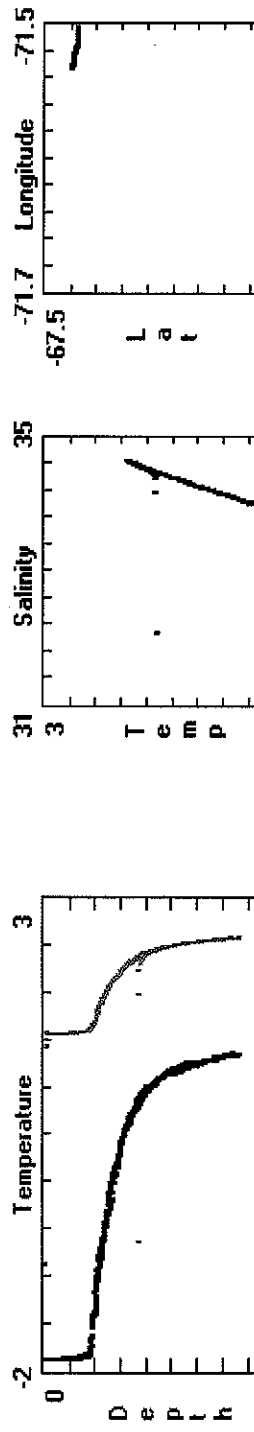
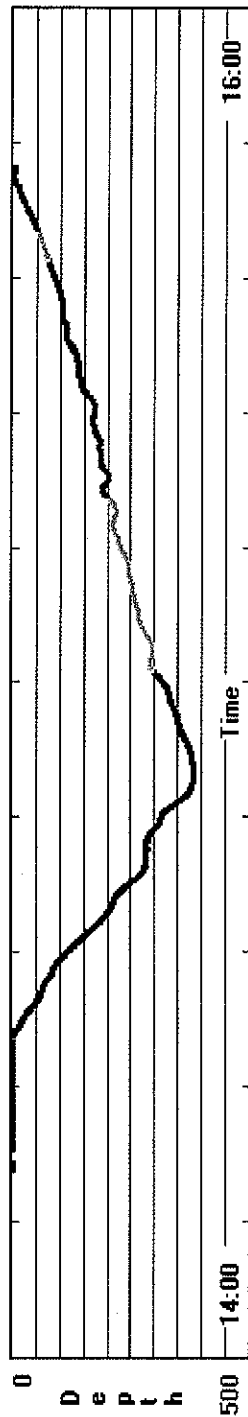
MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters Net Operation Net - Ship Position Program Settings

Time	15:46:06	Net_Num	9	Latitude	67S 30.909	Reset
Pressure	3.4 m	OpenTime	0.7 min	Longitude	71W 31.92	Baud Rate
Temp	-1.85 C	Vol_Filtered	15.4 m3	Net_Dist	17.4 m	Sample Rate
Salinity	33.75 o/oo	Angle	5 deg	Total_Dist	3527.6 m	Printer
Density	27.167	Flow_Counts	2	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-006.PRO	
Oxygen		Hor_Vel	0.3 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-006.raw	
Fluoresc.		Vert_Vel	-2.3 m/min	Acquisition Ended. trys = 3		
LightXmis		Battery	18.8 V			

Step STBD Net Increment Net# Pause Acqui End Acqui



MOCNESS TOW #: 6

Date: 19 Aug 02

Region: Stn. 42

People Processing Sample: (P.A.), (D.A.)

NET DEPTH

Taxonomic Composition

0	0-100	KRILL, COPEPODS, CHAETOGNATHS, SALPS	Abund.
1	384-300	salps, chaetognaths, copepods	Abund. BM
2	300-200	copepods, krill, chaetognaths, salps	Lot of biomass
3	200-150	COPEPODS - Most Furcilia + juveniles, THY. Furcilia, Tunicates, amphipods, Pteropods, Alveo Inae, Pluteoidea, Siphonophores	Mod. Biomass
4	150-125	Little biomass, krill (Thysanoessa), copepods, small siphonophores, amphipods	radiolarians
5	125-75	Mod. Amt. Biom. - mostly Thy. adults, Thysanoessa, salps, amphipod, stenophore	
6	75-50	very low biomass, Salp, copepods	Worms, LARVAE, RAD's
7	50-0	2 fish larvae, 1 copepod, salp	
8	X		

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 45	Tow No.: 7
Date: 22 August 2002	
Filename (raw): M-01-007.raw	Filename (processed): M-01-007.pro

Net Information

Net Size: 1-m ²	Net Condition: GOOD
Net Mesh: 335 μ m	

Start

End

Location (Lat/Lon): -67 11.22/-74 27.19		Location (Lat/Lon): -67 10.91/-74 29.79	
Time (Local) 0202	Time (GMT) 0602	Time (Local) 0446	Time (GMT) 0846
MOCNESS Battery Voltage: 19.9		MOCNESS Battery Voltage: 19.1V	

Environmental Parameters

Wind (Speed/Direction): 20 knts 222 true	Sea State: 1u/1lead
Water Depth (m): 2834	Light and Clouds: Night
Air Temperature: -23.4	SST: -1.836

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-1000	0	06:03:00 02:03:00	1000	06:44:00	735.3	lost comm @ beginning + Sat back @ 820 m
1	1000-800	1000	06:41:00	798	06:57:50	453.0	+ net response
2	800-600	798	06:57:50	600	07:08:37	538.0	caught lice, dropped, caught wire on pipe
3	600-495	600	07:08:37	600	07:57:35	1033.1	600 to 995 to 600
4	600-400	600	07:57:35	400	08:12:38	744.8	
5	400-200	400	08:12:38	200	08:46:45	1453.7	
6	200-100	200	08:46:45	100	08:52:00		08:44:33 lost com LOST COM For good, *
7	100-50	100	08:52:00	50	08:59:00	307.9	LOST com @ 08:55:15 Turned on OPC
8	50-0	50	08:59:00	1.2	09:05:38	223.0	

STROBE ON AT RECOVERY? YES NO

Net 0 + depth sensor not working until around 30 m
lost com @ beginning 2 times
+ 169.0

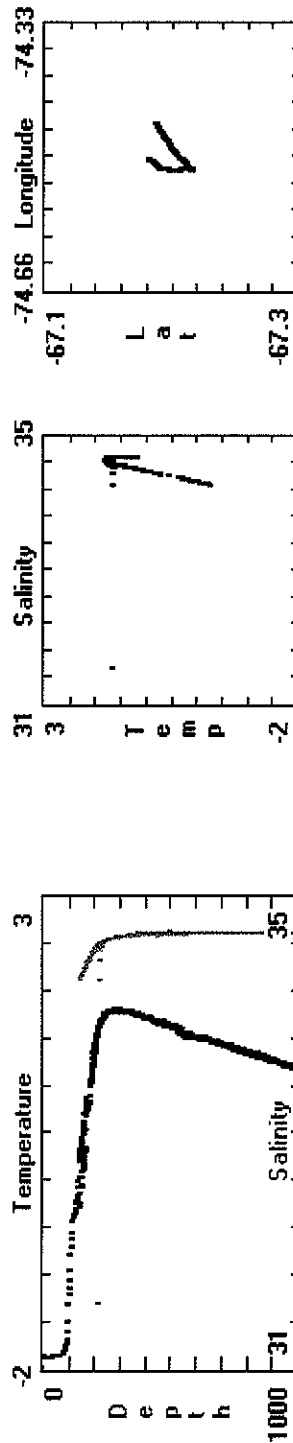
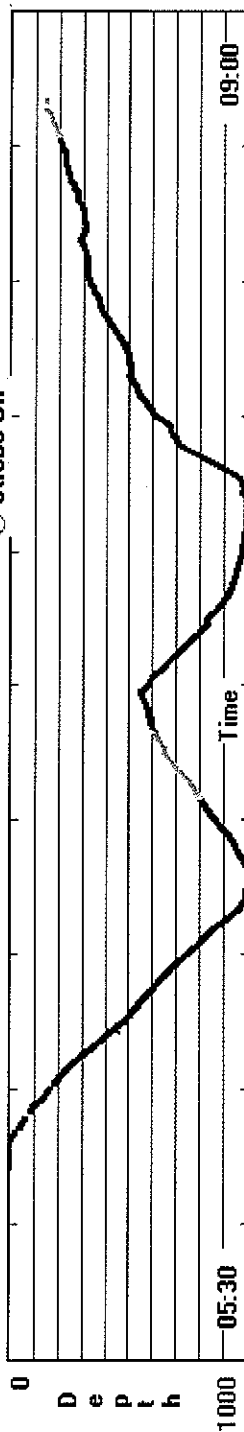
* Turned off OPC, restarted software
MOE M-01-07B
Screen Capt.

07:48:07
07:46:32
07:48:37

1 deg 994 m 1027 out
0 deg 995
3 deg, wire free!
V. vel of 48-50 m/min

MOC-01-007

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	08:46:20	Net_Num	6	Latitude	67S 10.905	Reset	
Pressure	142.8 m	OpenTime	5.7 min	Longitude	74W 29.79	Baud Rate	2400
Temp	-0.27 C	Vol_Filtered	192.3 m3	Net_Dist	184.2 m	Sample Rate	4.0 sec
Salinity	34.29 o/oo	Angle	27 deg	Total_Dist	7178.7 m	Printer	Off
Density	27.549	Flow_Counts	37	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M_01_007.PR		
Oxygen		Hor_Vel	0.9 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M_01_007.raw		
Fluoresc.		Vert_Vel	11.3 m/min	Checking for DeckBox...			
LightXmis		Battery	19.1 V	No GPS data - Check Input			
Step STBD Net		Increment Net#		Strobe On ☒ Strobe Off ☐		Pause Acqui End Acqui	



MOCNESS TOW #: 7

Date: 8.22.82

Region: STA. 45

People Processing Sample: Phil & Dicky & ?

NET DEPTH

Taxonomic Composition

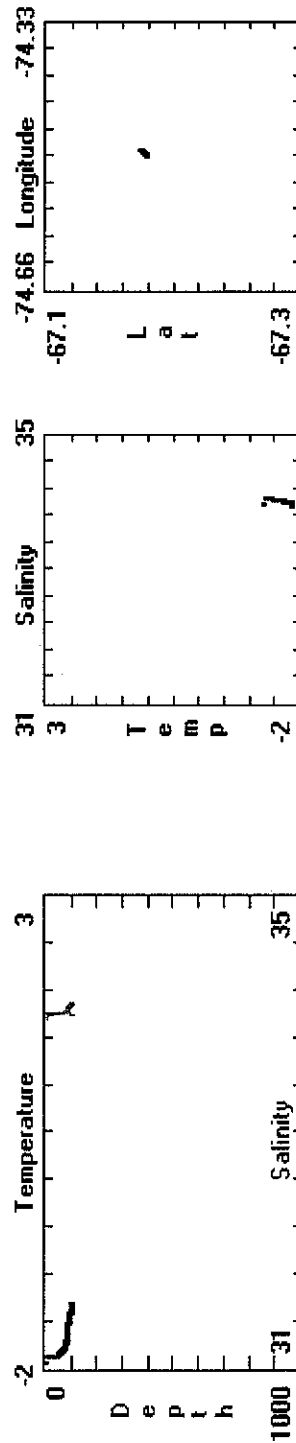
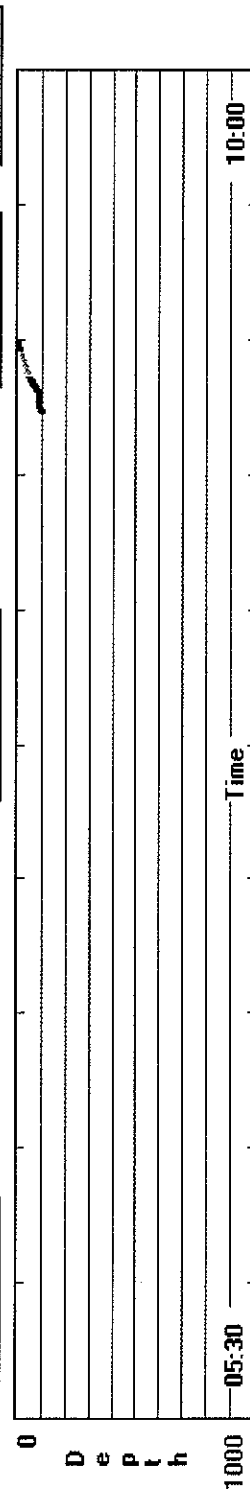
0	0-1000	fish, jellyfish, selp, pteropod (brown + big)
1	1000-800	large fish w/ big teeth, jellyfish - 8 cm ↑ needlefish Borostomias antarcticus (according to Tom)
2	800-600	same jellyfish as in ① brown "pteropod" (smaller than ①) + other (clear) jellyfish, a few krill
3	600- 400 ↓ 995	1 krill
4	600-200	Little biomass - krill + ice fish
5	400-200	myctophid + jellyfish + lot of krill ↑ gyanoscopus - probably braveri (according to Tom + Joe)
6	200- 100 100	krill + ice
7	100-50 50-25	krill + 1 selp
8	50-0 25-0	Little biomass - 2 krill + selp + ice

ML-01-0076

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	09:05:38	Net_Num	3	Latitude	67S 10.455	Reset	
Pressure	12 m	OpenTime	13 min	Longitude	74W 29.22	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	48 m3	Net_Dist	13.2 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	0 deg	Total_Dist	624.4 m	Printer	Off
Density	24.678	Flow_Counts	1	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M_01_07B.PR		
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M_01_07B.ra		
Fluoresc.		Vert_Vel	0.0 m/min	Acquisition Ended. tries = 3			
LightXmis		Battery	19.1 V				



MOCNESS TOW #: RING NET

468840
443456
25384

Date: 8/27/02 - local

Region: 400m cast - Depth ~430m

People Processing Sample:

443456 - start
(PM) 10:08 →
(PM) 10:45 - end

NET DEPTH

Taxonomic Composition @ 468840

0	COPEPODS, KRILL, AMPHIPODS, RADIOLARIANS, WORMS, PTERO. LARVAE NET Touched Bottom, acquiring Bristles, Worm
1	
2	
3	
4	
5	
6	
7	
8	

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <i>61w 62 and 48</i>	Tow No.: <i>MM-01-008</i>
Date: <i>8/24/02</i>	
Filename (raw): <i>M-01-008.raw</i>	Filename (processed): <i>M-01-008.pro</i>

Net Information

Net Size: <i>1-m²</i>	Net Condition: <i>good</i>
Net Mesh: <i>333 um</i>	

Start

End

Location (Lat/Lon): <i>-67 52.15/-73 09.86</i>	Location (Lat/Lon): <i>-67 53.22/-73 05.88</i>
Time (Local) <i>1920</i>	Time (GMT) <i>2320</i>
Time (Local) <i>1920</i>	Time (GMT) <i>2040</i>
MOCNESS Battery Voltage: <i>18.9</i>	MOCNESS Battery Voltage: <i>18.9</i>

Environmental Parameters

Wind (Speed/Direction): <i>10 km 10° true</i>	Sea State: <i>nic lead, ice</i>
Water Depth (m): <i>370</i>	Light and Clouds: <i>N, light snow</i>
Air Temperature: <i>-12 C</i>	SST: <i>-1.806 C</i>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-300	300	23:24:26	274	23:41:36	50.0	59.6 107.7 m T back Sal out until 185 m
1	274-250	274	23:41:36	248	23:42:52	300.2	
2	248-200	248	23:48:52	200	23:56:24	320.4	
3	200-150	200	23:25:26	150	00:04:16	-10.7-	flow cnts not adv, 192.6 m
4	150-100	150	00:04:16	98.7	00:12:56	-718.0-	Spike from 0 to 120 cnts when OPC turned off
5	100-75	98.7	00:12:56	75.1	00:17:29	-0-	
6	75-50	75	00:17:29	49.4	00:23:02	-0-	
7	50-25	49.4	00:23:02	22.2	00:29:10	-0-	
8	25-0	22.2	00:29:10	4.9	00:37:00	-0-	

STROBE ON AT RECOVERY? ☒ YES ☐ NO

OPC out at 160 m started 140-125 m Aborted.

Net 7 lost com when tripping net

Frame at surface w 2.0 m depth reading pres.

Net 0

23:20:56 Lost com back dock

59.6

23:26:53 Lost com shut off OPC 300 bd

134

Strobe turned on

234

OPC back on, 1001

Flow counts not adv.

Mooc - 01-008 8/24/02 JD 236.9554 - 237.0274

net	V _{gps}	V _{time}	V _{flow}	d _{ship}	t _{open}
0	832	876	50.0	908.2	17.01
1	375	355	300.3	427.3	7.26
2	411	362	320.4	469.0	7.43
3	428	378	10.7	491.4	7.80
4	442	417	718.0	505.5	8.57
5	263	215	0	306.5	4.48
6	298	264	0	347.2	5.55
7	305	294	0	350.3	6.07
8	363	392	0	401.3	7.70

$$V_{gps}_m = \sum_{i=1}^{n(m)} A \cos \theta_i \text{dist}_i \quad \text{dist}_i = \text{Ship's dist in 4 sec interval (using track dist. m) gps locs.}$$

$$V_{time} = 1.8 \text{ knots} \cdot .5144 \text{ m/s/knot} \cdot t_{open} \cdot A \cos \bar{\theta}_m$$

Note: Net 0 is a maximum estimate. The net travelled back 213m ($\sqrt{360^2 - 298^2} = 213\text{m}$ wire out). The corrected V_{time} would be 670 m³.

Nets 1-8 are minimum estimates. The true (corrected) values can be estimated by a correction to the net travelled distance based off of the wire angle and the pres. difference.

V_{corr.} for net 1 would be 416 m³. These also assume no currents are present.

8/26/02 rdd

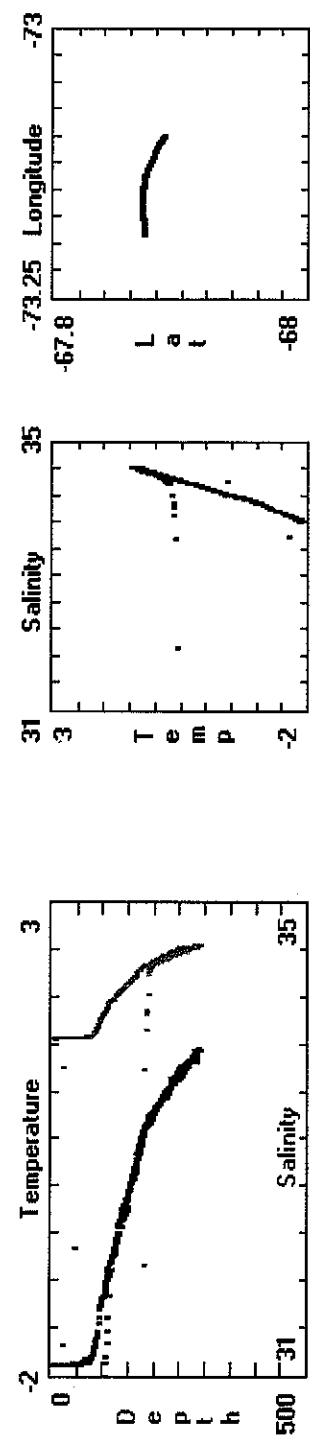
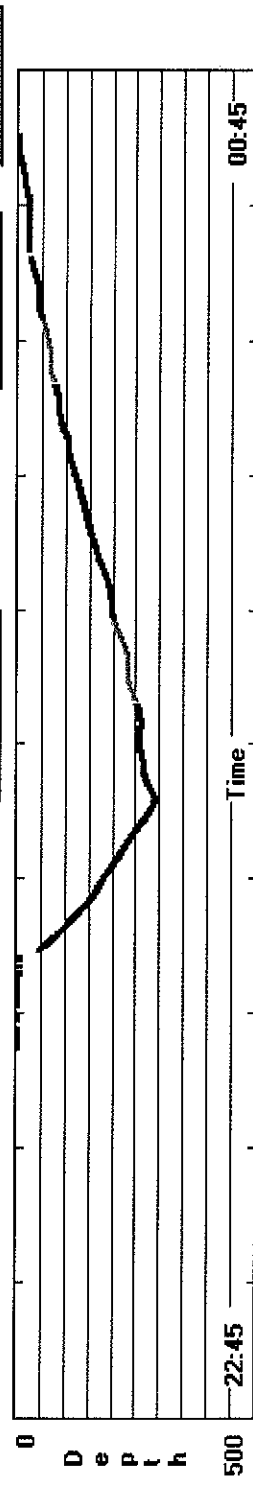
Moel-08

8/24/02 (LT)

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	00:39:24	Net_Num	9	Latitude	57S 53.218	Reset	
Pressure	0.5 m	OpenTime	2.4 min	Longitude	73W 5.884'	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	0.0 m/s	Net_Dist	65.7 m	Sample Rate	4.0 sec
Salinity	50.0 ‰	Angle	0 deg	Total_Dist	3441.2 m	Printer	Off
Density	24.678	Flow_Counts	0	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-008.PRO		
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-008.raw		
Fluoresc.		Vert_Vel	0.2 m/min	Acquisition Ended. tsys = 0			
LightXmis		Battery	18.9 V				



Step STBD Net Increment Net# Pause Acqui End Acqui

MOCNESS TOW #: (8)

Date: 24 Aug

Region:

People Processing Sample: Wiebe + Kondoa + Dicky

all nets
have segments
of previous catch

NET DEPTH

Taxonomic Composition

0	Electrona antarctica Self-bag amphipods gymnosome - pteropod - naked Nosty copepods (Abund/Richness)
1	Euphausia frigida copepods - paracuchaeta gelatinous bits Little Biom. BIG COPEP few krill, jellyfish
2	chaetognaths Little stuff a few euphausiids copepods Thysanura gelatinous material MOSTLY SMALL COPEP RAPS, CHNETS, OSTRACODS, PTEROPOD
3	putrid stuff left in net of bucket euphausiids copepods metridia c. propinquus amphipods paracuchaeta Thysanura juveniles dead euphausiids chaetognaths heteropod CHNET. COPEP OSTRACODS
4	E. superba dead euphausiids T, amphipods metridia Krill & Cope's
5	radiolarium - sparse sponges paracuchaeta amphipods dominant stuff - goo Large Cope's Radio - Chaetognaths? larvaceans? Ostracods
6	metridia celanus propinquus fish larvae paracuchaeta E. superba juveniles thysanura amphipods radiolaria pteropods, L. like Amphip etc
7	euphausiids amphipods Copepods 1 ctenophore (measured for Kari) cateagarda Furcilia (more than 8) necrotic euphausiids Large copepods
8	Salps (big/ amphipods small euphausiids large krill (2) - 4 Furcilia

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 26	Tow No.: MOC-01-009
Date: 8/29/06	
Filename (raw): MOC-01-009.raw	Filename (processed): MOC-01-009.pro

Net Information

Net Size: 1m ²	Net Condition: good
Net Mesh: 333µm	

Start

End

Location (Lat/Lon): -67 07.75 / -72 03.14		Location (Lat/Lon): -67 06.11 / -72 06.6	
Time (Local) 1010	Time (GMT) 1410	Time (Local) 1400?	Time (GMT)
MOCNESS Battery Voltage: 19.3 / 19.0		MOCNESS Battery Voltage: 18.9	

Environmental Parameters

Wind (Speed/Direction): 9 knts 27 true	Sea State: ice / leads
Water Depth (m): 400 m	Light and Clouds: cloudy day
Air Temperature: -8 C	SST: -1.8

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-55-0	0	15:01:00	395	15:37:43	981	
1	395-350	395	15:37:43	349	15:47:54	305	
2	350-200	349	15:47:54	198.1	16:05:25	734.8 (PRO) 728.8	
3	200-150	198.1	16:05:25	151	16:15	359	
4	150-100	151	16:15	100	16:22	299 (PRO) 295	
5	100-75	100	16:22	75	16:34:00	357	Turning - dip down to 100 m Really low net ang low haul.
6	75-50	75	16:34	50	16:38	138	
7	50-20	50	16:38	20	16:45:54	187 (PRO)	Running out of 100 - bad
8	20-2	20	16:46	2	16:50:50	102	lost com at 16:50:42

STROBE ON AT RECOVERY? ☒ YES ☐ NO

flowmeter replaced, files appended

Salinity sensor off during second deployment 25%
back at 140-150 m

325 440 m out

ADCP/Simrad band at 125-150 m and 375-425 m
Small - 60 db 'blips' near 300 m
.02 hrs x 1.7 knts

8/29/02

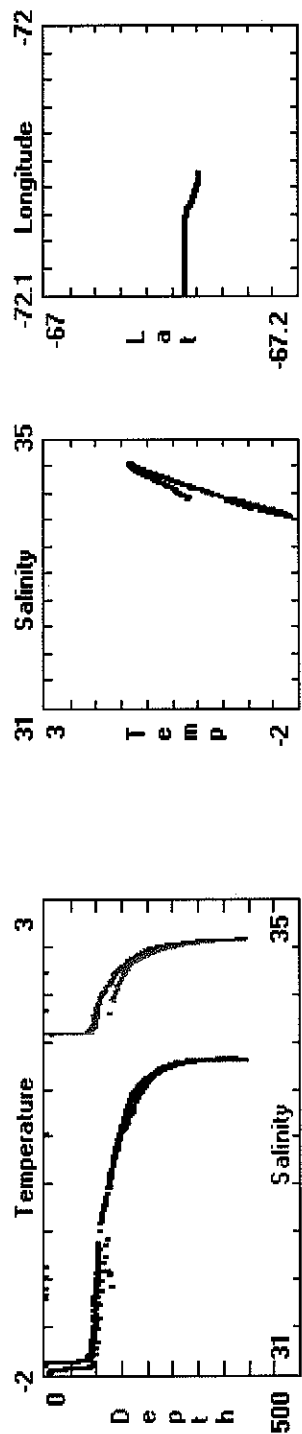
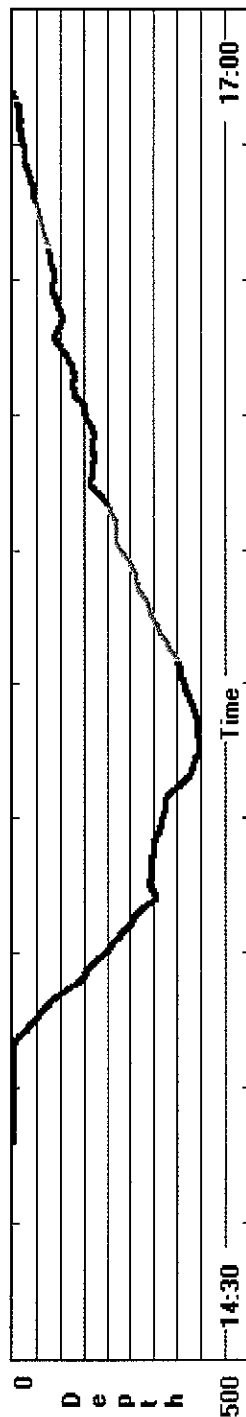
MOC-01-009

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	16:50:57	Net_Num	9	Latitude	67S 6.1233'	Reset	
Pressure	15 m	OpenTime	0.2 min	Longitude	72W 6.605'		
Temp	-1.85 C	Vol_Filtered	0.0 m3	Net_Dist	3.4 m	Baud Rate	2400
Salinity	33.88 o/oo	Angle	22 deg	Total_Dist	3916.6 m	Sample Rate	4.0 sec
Density	27.268	Flow_Counts	0	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-009.PRO	Printer	Off
Oxygen		Hor_Vel	0.6 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-009.raw		
Fluoresc.		Vert_Vel	0.6 m/min	Acquisition Ended. trys = 3			
LightXmis		Battery	10.9 V				

Step STBD Net



MOCNESS TOW #: 9

Date: Aug 29

Region: STA. 26

People Processing Sample: PA + Kendra + Dicky

NET DEPTH

Taxonomic Composition

0	0-395	Copepods, Krill/Furcilia/ Siphonophore	LARGE BIOMASS
1	375-350	para euclacta amphipods larger ostracods juvenile E. superba metridia chaetognaths Copes - most numerous Siphonoph. molt biomass Chaet + ostracods	LARGE BIOMASS
2	350-200	Copes, Krill-juvenile Ostracods + Limaculid pter's	LARGE BIOMASS
3	200-150	calanus (red eating) propinquus Pseudeuclacta (red heads) amphipods Thysanura adults + furcilia ostracods radiolaria 5900g	LITTLE BIOMASS
4	150-100	Thysanura adults + furcilia chaetognath copepods E. propinquus ostracods/pteropods (black dots at bottom)	LITTLE BIOMASS Krill, Radiolar.
5	75-100	copepods, furcilia, pteropod (swimming) amphipod Thysanura one crunched pteropods	LITTLE BIOMASS Furcilia, copepods and radi
6	50-75	LITTLE BIOMASS mostly copepods, larvaceans, copepods and ostracods	Ctenophore (6mm)
7	Top net 25-0	copepods → small Larvaceans polychaetes; few radiol.	Very little biomass Ctenophore (1cm)
8	0-25	E. superba furcilia, furcilia few copepods chaetognaths lots of ice 1 pteropod	100 m ³ water 25m 36 furcilia

Area to Kendra Dicky

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 4	Tow No.: MOC-01-010
Date: 01 Sept 2002	
Filename (raw): MOC-01-010.raw	Filename (processed): MOC-01-010.pro

Net Information

Net Size: 1m ²	Net Condition: good
Net Mesh: 333	

Start

End

Location (Lat/Lon): -66 09.2/-69 06.6		Location (Lat/Lon): -66 10.5/-69 04.5	
Time (Local): 0704	Time (GMT): 1104	Time (Local)	Time (GMT)
MOCNESS Battery Voltage: 19.1 V		MOCNESS Battery Voltage: 18.8 V	

Environmental Parameters

Wind (Speed/Direction): 132 true, 10.3 knts	Sea State: calm, grease ice
Water Depth (m): 351	Light and Clouds: dawn
Air Temperature: -1.0	SST: -1.8

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-325	0	11:24:00	325	11:26:00	342	inc net # manually
1	325-300	325	11:26:00	300	11:38:28	312.7	net # in step 2
2	300-200	300	11:38:28	200	11:48:38	407	N.R.
3	200-150	200	11:48:38	150	11:56:51	346	N.R.
4	150-100	150	11:57:12	99	12:03:41	271	
5	99-75	99	12:03:41	75	12:07:42	183.5	
6	75-50	75	12:07:42	50	12:14:19	303.9	
7	50-25	50	12:14:19	25	12:20:24	283.5	
8	25-0	25	12:20:24	8	12:23:22	94.8	all nets closed

STROBE ON AT RECOVERY? ☒ YES ☐ NO

Nice scattering @ 250-300m - smaller one @ 70m.

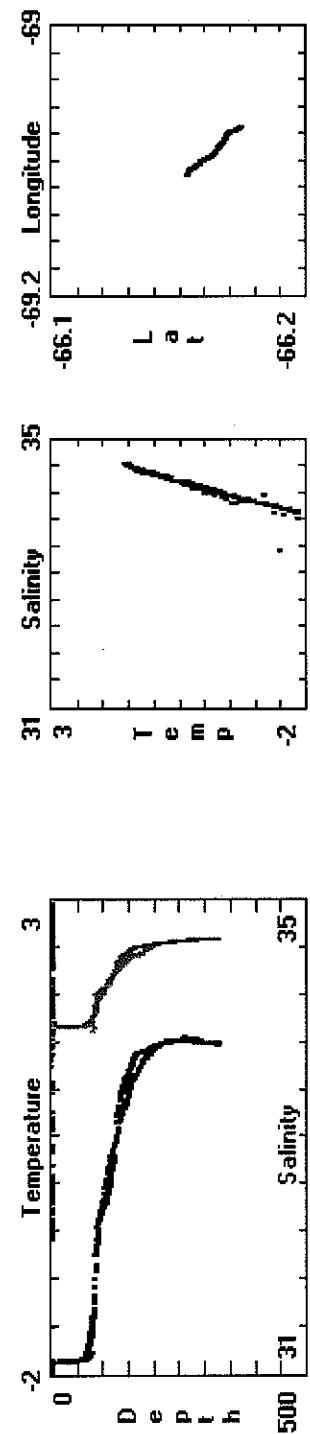
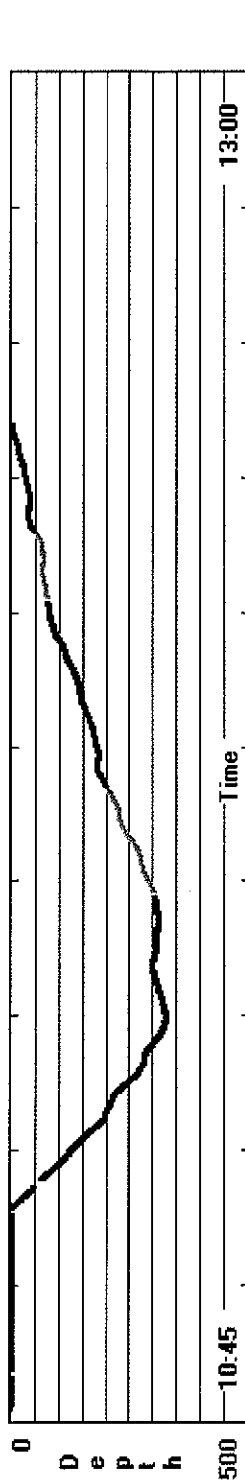
MOCS-01-b10

9/1/02

MOCSNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	12:25:06	Net_Num	9	Latitude	66S 10.511	Reset	
Pressure	0 m	OpenTime	1.9 min	Longitude	69W 4.462	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	26.3 m3	Net_Dist	52.0 m	Sample Rate	4.0 sec
Salinity	1.88 o/oo	Angle	15 deg	Total_Dist	2942.2 m	Printer	Off
Density	-10.554	Flow_Counts	15	Processed File Name	C:\MOCSNESS\MOCDATA\NBP0204\M-01-010.PRO		
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCSNESS\MOCDATA\NBP0204\M-01-010.raw		
Fluoresc.		Vert_Vel	0.0 m/min	Acquisition Ended. trys = 7			
LightXmis		Battery	88 V				



MOCNESS TOW #: 10

Date: 9-1-02, ~ noon sampling

Region:

People Processing Sample: Wiebe

NET DEPTH

Taxonomic Composition

0		✓ Ctenophores (several) ✓ Copepods → all sizes ✓ Euphausiids ✓ Chaetognaths	high biomass
1		- Copepods, amphipods (high amounts) - percheata (sp) - large chaetognath ✓ PTEROS ✓ PTERO ✓ OSTACODS - FORAMS ✓ RADIOLAR - SIPHONOPHORE	high biomass
2		✓ CHAET ✓ Copepods - small - percheata (sp) - Amphipods - radiolarians (sp?) (no euphausiids)	Small biomass
3		✓ Copepods 1 adult krill - Thysanessa - amphipod - low Bio, high Abund. - SIPH - bracts + gonopods - OSTACODS - AMPHI, RADS + large Terebratulid	low biomass
4		- Salps (3-4) - Euphausiids - juvenile - Copepods (tetrapods?) + ostacods	Salps + Rads low cope. Abund Eph - juv.
5	100-75	- Euphausiids - Thysanessa - few copepods - radiolarians - tetrapods (Salps?)	moderate biomass low
6	75-50	- Euphausiids, Radiolarians, Copepods (Suprabia Thysanessa juveniles)	low biomass
7	50-25	1 ctenophore ✓ several euphausiids - tetrapods - large ~ 6cm legs - gymnosoma - RAOS - v. few copepods	moderate biomass
8	25-8	2 euphausiids adults 1 furcilia, copepod - RAOS; PTEROS, 1 SIPHONOPHORE	Very little biomass low volume filtered

Similar

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <u>1211</u>	Tow No.: <u>MO-01-011</u>
Date: <u>3 Sept 2002</u>	
Filename (raw): <u>MO-01-011, Raw</u>	Filename (processed): <u>MO-01-011 Pro</u>

Net Information

Net Size: <u>1-M</u>	Net Condition: <u>Good</u>
Net Mesh: <u>335µm</u>	

Start

End

Location (Lat/Lon): <u>-66.13.5/-70.23.6</u>		Location (Lat/Lon): <u>-66.15.6/-70.19.53</u>	
Time (Local) <u>1830</u>	Time (GMT) <u>2230</u>	Time (Local) <u>2045</u>	Time (GMT) <u>0045</u>
MOCNESS Battery Voltage: <u>19.2</u>		MOCNESS Battery Voltage: <u>18.5</u>	

Environmental Parameters

Wind (Speed/Direction): <u>10-12Kts (198)</u>	Sea State: <u>Calm/Pack Ice continuous</u>
Water Depth (m): <u>467m</u>	Light and Clouds: <u>Cloudy Sunset</u>
Air Temperature: <u>-8.5C</u>	SST: <u>-1.775C</u>

Low Battery

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-425	0	22:32:37	425	23:00:18	375.6	
1	425-348	425	23:00:18	348	23:14:26	419.0	
2	348-249	348	23:14:26	249	23:32:13	612.8	
3	249-150	249	23:32:13	150	23:44:36	398 498	from #1 pro idd
4	150-100	150	23:44:36	100	00:00:49	691	
5	100-75	100	00:00:49	75	00:10:23	334.6	
6	75-50	75	00:10:23	49	00:21	360	
7	50-25	49	00:21	24	00:30	296.3	
8	25-0	24	00:30	4.1	00:40:16	312.7	lost com. could not re-est.

STROBE ON AT RECOVERY? YES X NO

This tow was delayed from sta 12 to 11 because of blown fuse in Battery case
Strobe batteries too low 19V
NO Strobe - Batt @ 19V, will recharge

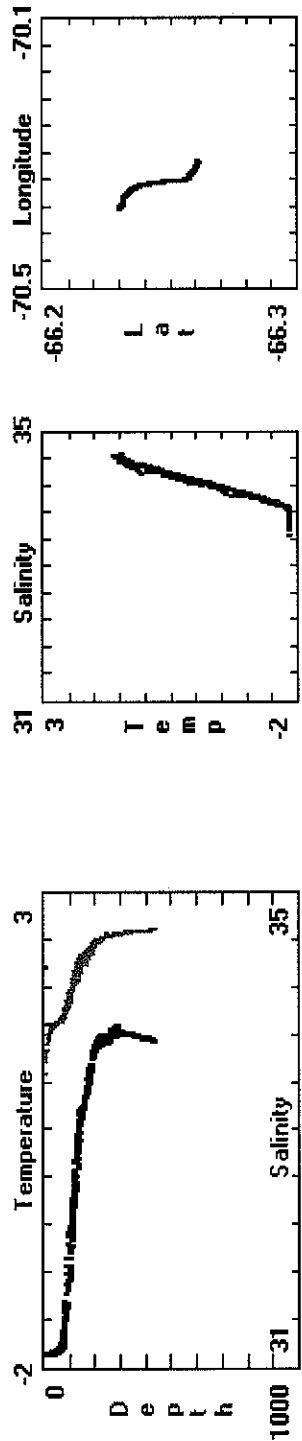
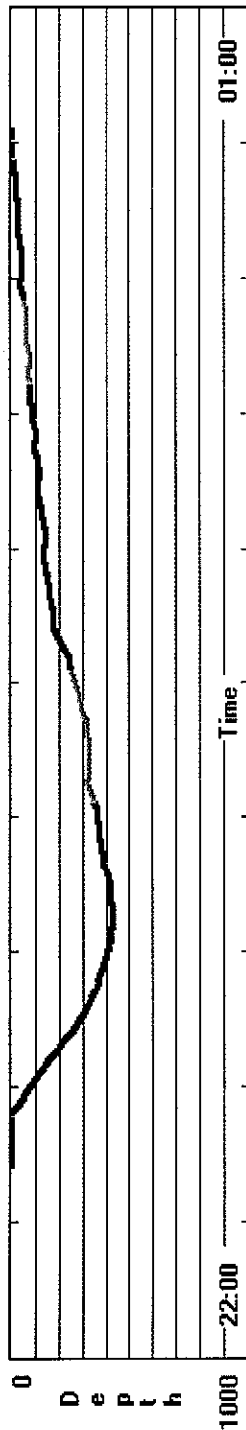
Mac-01-011 9/3/2. (-914/2 ent)

MOCNESS - (Data Acquisition and Control System)

Environmental Parameters Net Operation Net - Ship Position Program Settings

Time	00:43:47	Net_Num	8	Latitude	66S 15.636	Reset
Pressure	4.1 m	OpenTime	13.2 min	Longitude	70W 18.53	Baud Rate
Temp	-1.84 C	Vol_Filtered	312.7 m3	Net_Dist	372.4 m	Sample Rate
Salinity	33.9 o/oo	Angle	22 deg	Total_Dist	5010.9 m	Printer
Density	27.284	Flow_Counts	49	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-011.PRO	
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-011.raw	
Fluoresc.		Vert_Vel	0.0 m/min	Acquisition Ended	trys = 12	
LightXmis		Battery	16.5 V			

Step STBD Net	Increment Net#	Pause Acqui	End Acqui
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MOCNESS TOW #: //

Date: 9/3/2

Region: Station 11

People Processing Sample: Peter, Kendra?

NET DEPTH

Taxonomic Composition

0	0-425	Copepods cheatognaths euphausiids electrona	
1	425-350	Small copepods medusa no euphausiids	very low biomass
2	350-250	Electrona fish larvae Euphausiids (lg. thysanessa - 5) many small white/clump copepods	Cheatognaths moderate low biomass RAO'S - sm. Salps, ostracods
3	250-150	Euphausiids (Furcilia) copepods (paleocarpa) gymnosome cheatognaths pteropods	Low Biom.
4	150-100	Salps (many) Euphausiids lg. cheatognath	stenophore copepods pteropods + ostracods moderate to high biomass
5	100-50	Salps few euphausiids many copepods	gymnosome low-moderate copepod biomass actually not left cheatognaths
6	50-25	Copepods - 1st Euphausiids gymnosome → red ones	salps cheatognath (lg) moderate biomass
7	25-0	Feet fish Euphausiids (Jubini) few copepods - big ones	Gymnosome (Chio) Amphipod (big one) Salps pteropods OSTRACODS
8	0-25	lots of small Euphausiids Salps - fish larvae oncholophorids	Cheatognaths few copepods

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <i>16</i>	Tow No.: <i>MOC-01-012</i>
Date: <i>9/4/12 9/5/12 GNT</i>	
Filename (raw): <i>M-01-012.raw</i>	Filename (processed): <i>M-01-012.pso</i>

Net Information

Net Size: <i>1-M²</i>	Net Condition: <i>good</i>
Net Mesh: <i>300 μm</i>	

Start

End

Location (Lat/Lon): <i>-66 44.5/-70 09.9</i>		Location (Lat/Lon): <i>-66 44.7/-70 04.9</i>	
Time (Local) <i>2025</i>	Time (GMT) <i>0025</i>	Time (Local) <i>2226</i>	Time (GMT) <i>0226</i>
MOCNESS Battery Voltage: <i>19.3 V</i>		MOCNESS Battery Voltage: <i>18.9 V</i>	

Environmental Parameters

Wind (Speed/Direction): <i>8 knts / 200 true</i>	Sea State: <i>calm/ice</i>
Water Depth (m): <i>520 m</i>	Light and Clouds: <i>night, clear</i>
Air Temperature: <i>-16.5</i>	SST: <i>-1.79</i>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	<i>0 - 480</i>	<i>0</i>	<i>00:25:00</i>	<i>480</i>	<i>1:00:58</i>	<i>220.9</i>	<i>pressure sensor frozen returning no net incr. #</i>
1	<i>480-350</i>	<i>480</i>	<i>1:00:58</i>	<i>350</i>	<i>1:20:35</i>	<i>489.9</i>	<i>Xstop motor once to see if net deployed - no response</i>
2	<i>350-200</i>	<i>350</i>	<i>1:20:35</i>	<i>200</i>	<i>1:40:03</i>	<i>777.0</i>	
3	<i>200-150</i>	<i>200</i>	<i>1:40:03</i>	<i>145</i>	<i>1:49:13</i>	<i>384.0</i>	
4	<i>145-100</i>	<i>145</i>	<i>1:49:13</i>	<i>99</i>	<i>1:57:35</i>	<i>378.6</i>	
5	<i>100-75</i>	<i>99</i>	<i>1:57:35</i>	<i>74.2</i>	<i>2:03:50</i>	<i>272.4</i>	
6	<i>75-50</i>	<i>74.2</i>	<i>2:03:50</i>	<i>50.1</i>	<i>2:11:50</i>	<i>355.7</i>	
7	<i>50-25</i>	<i>50.1</i>	<i>2:11:50</i>	<i>25.0</i>	<i>2:18:21</i>	<i>262.0</i>	
8	<i>25-0</i>	<i>25.0</i>	<i>2:18:21</i>	<i>0</i>	<i>02:25:22</i>	<i>266.2</i>	

STROBE ON AT RECOVERY? ☒ YES ☐ NO

pressure -6.3 m on back deck
00:34:08 lost com.
Temp and sal out
temp returned ~100 m
00:44:11 sensors back ~180 m
00:48:40 lost com. Set to 300 m
00:49:36 " " twice

MOCNESS TOW #: 12

Date: 9/4/02 ~ 20:00 local

Region: STA. 16 ; MID SHALF, NO. SECTOR of GRID

People Processing Sample: Peter, Kember, Joe (Dicky scribbles)

NET DEPTH

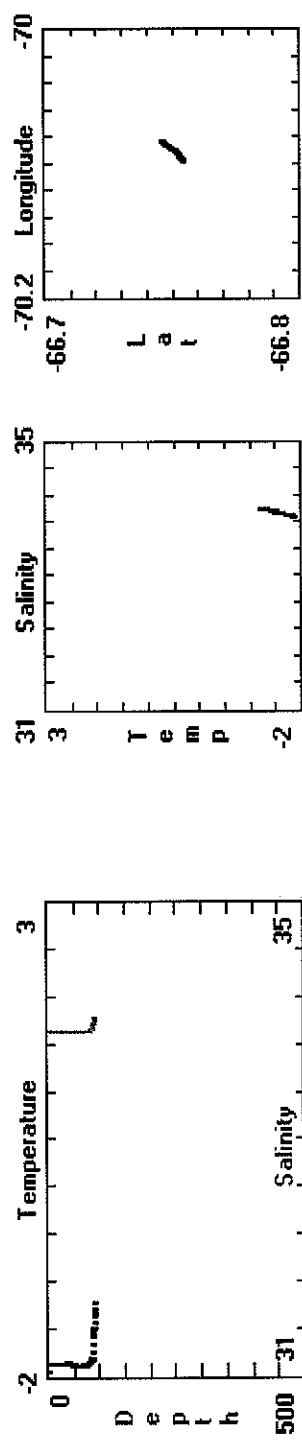
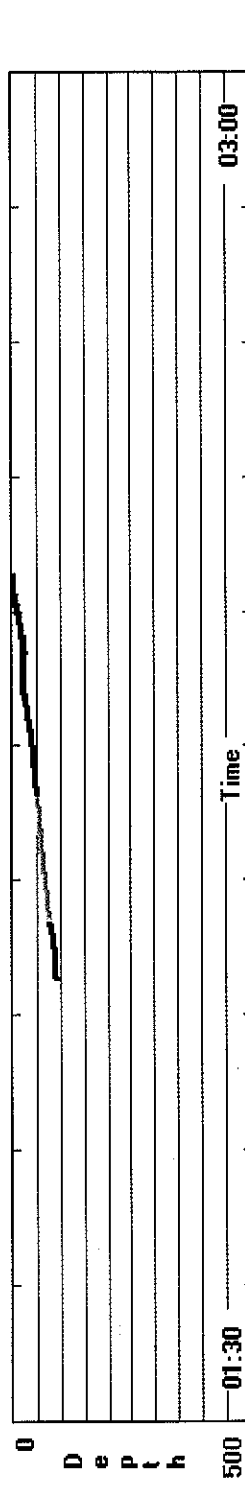
Taxonomic Composition

Biomass

0	0-480	midwater fish - gymnoscopus brown big amphipods - 163 Ctenophore for KS medusa COPS, CHAETS	up to 1000 mossy - some stuff	BM++
1	480-350	metridia + other cys. chaetognaths many in a variety of sizes big amphipods (6) - big Ctenophore (1 big medusa) pinnate	dominant biomass copepods pinnate chaetognaths pinnate chaetognaths	BM+T
2	350-200	Big amphipods (2) Thysanessa - copepodites per E. tricaenia (acc kill) c. cactus most + copepods - transparent s. propa small ostracods a few pinnate chaetognaths pinnate chaetognaths RADS small chaetognaths	pot power of copepodites small ostracods a few small chaetognaths	BM++
3	200-150	Big ctenophore (not KS) Thysanessa pteropods - limacinae gunga/munge	few euphausiids not too many a few pinnate pteropods in bottom	BM+
4	150-100	pretty stumpy some copepod euphausiids mix - mostly Thysanessa a few small amphipods chaetognaths	rob munge sauge small biomass RADS	BM+/o
5	100-75	quite a few euphausiids chaetognaths munge	if gymnosome a number of euphausiids pteropods in 100'	BM+/o
6	75-50	Calanus by far - selp propinquus Thysanessa mostly amphipods For KS euphausiids euphausiids a few amphipods + gymnosome pteropod (black)	by (Ctenophore) a few other euphausiids	BM+
7	50-25	2 Ctenophora - some amphipods Copepods - few Krill - quite a few pteropods (limacinae) selp amphipod CHAET	many CHAE	BM+/o
8	25-0	lots of copepods Thysanessa propinquus ctenophores big small gunk BIG CAL.	Euphausiids Thysanessa fish Thysanessa small amphipod chaetognaths	BM+/o

Joe's
net

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	02:26:35	Net_Num	9	Latitude	66S 44.739		Reset
Pressure	1.1 m	OpenTime	1.3 min	Longitude	70W 4.970	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	0.0 m3	Net_Dist	47.0 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	0 deg	Total_Dist	4689.8 m	Printer	Off
Density	24.678	Flow_Counts	0	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-012.PRO		
Oxygen		Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-012.raw		
Fluoresc.		Vert_Vel	0.0 m/min	Acquisition Ended. ttyps = 11			
LightXmis		Battery	18.9V				



MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 23	Tow No.: M-01-013
Date: 9/6/02	
Filename (raw): M-01-013_RAW	Filename (processed): M-01-013_PCB

Net Information

Net Size: 1-m ²	Net Condition:
Net Mesh: 335 μ m	good

Start

End

Location (Lat/Lon): -66 40.31 -71 51.73		Location (Lat/Lon): -66 42.51 -71 51.2	
Time (Local) 0555	Time (GMT) 0955	Time (Local) 0831	Time (GMT) 1231
MOCNESS Battery Voltage: 19.1 V		MOCNESS Battery Voltage: 18.5	

Environmental Parameters

Wind (Speed/Direction): 6 knts / 145 true	Sea State: ice, covered pancake
Water Depth (m): 1667 m	Light and Clouds: partly cloudy - dawn - clear in sec.
Air Temperature: -15.5 C	SST: -1.8 C

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-800	0	10:02:48	798	10:39:51	223.9	Sal. n.w. 220 net Pres. n.w. 149 net.
1	800-600	798	10:39:51	599	10:59:40	763.1	bad piece strings
2	600-400	599	10:59:40	401	11:19:48	921.8	
3	400-200	401	11:19:48	200	11:41:41	998.7	
4	200-100	200	11:41:41	100	11:53:45	523.1	
5	100-75	100	11:53:45	75	12:04:06	375.5	
6	75-50	75	12:04:06	50	12:14:42	421.8	
7	50-25						
8	25-0						

STROBE ON AT RECOVERY? ☐ YES ☐ NO

different T-S structure blew up/down cast

opc lost pwr/restart/ moc had to retract too but did so automatically (68m)

- at 25 m the MOCNESS lost communication with the underwater unit
+ could not get it back - Net 7 fish 50 to 30 and Net 8 did not fish (over)

ABCP - SURFAC SURF 95m
SURFAC - ~ 95m - 95.5m

Volume filtered for net 7 will have to be estimated from
Ship speed for time the net was fishing with No power.

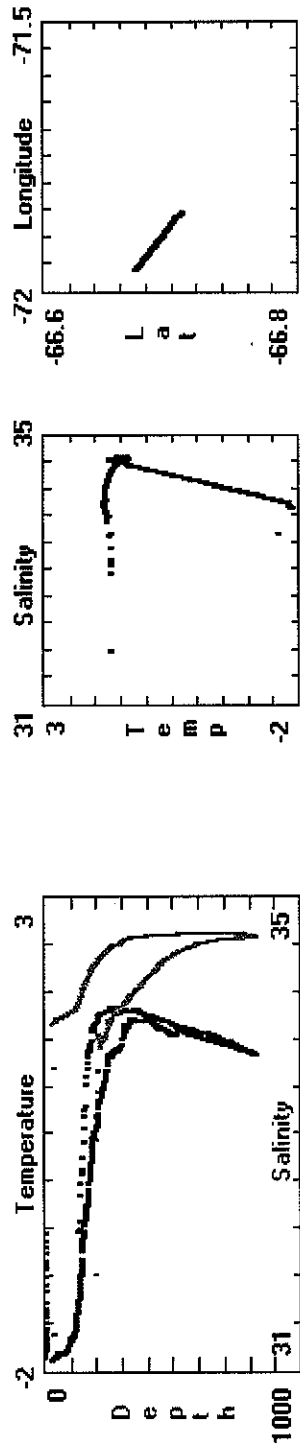
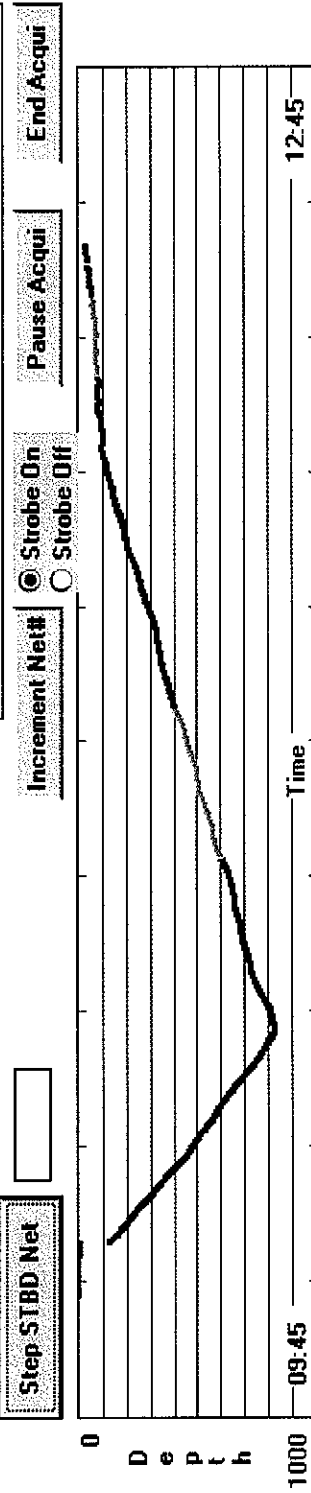
Net on board at 1233 04 (actually 1231)

MOC-01-013 9/6/2

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	12:21:23	Net_Num	7	Latitude	66S 42.546		Reset
Pressure	25.0 m	OpenTime	6.6 min	Longitude	71W 51.16	Baud Rate	2400
Temp	-1.87 C	Vol_Filtered	211.7 m3	Net_Dist	290.3 m	Sample Rate	4.0 sec
Salinity	33.93 o/oo	Angle	26 deg	Total_Dist	6265.9 m	Printer	Off
Density	27.314	Flow_Counts	35	Processed File Name	C:\MOCNESS\MOCDATA\NB0204\M-01-013_PRO		
Oxygen		Hor_Vel	0.6 kts	Raw File Name	C:\MOCNESS\MOCDATA\NB0204\M-01-013.raw		
Fluoresc.		Vert_Vel	6.2 m/min	Checking for DeckBox...			
LightXmis		Battery	18.5 V	No GPS data - Check Input			



Rapoids (Limnoids) in all water,
#7 up the most.

MOCNESS TOW #: 13

Date: 9/6/02

Region: SSA.23

People Processing Sample: Phil, Ryan.

NET DEPTH

Taxonomic Composition

0	0-800	LARGE RPD JELLYFISH KRILL, CHAETS.	RAPD SM/LG COPEP CHAET. KRILL OSTEOPODS, POLY, PLAT	BIOMASS ++
1	800-600	② clear jellyfish - large! ① small fish ① small large red krill/deep. shrimp	Copepods / Chaetognaths Clio.	BIOM ++
2	600-400	Copepods - RAPD + Large chaetognaths small krill - juvenile/adult	Many small cal./orth. rps " " med. chaetognaths " RAPD #3 SIPHONOPHORES + KRILL	BIOM +
3	400-200	Copepods, ① Fish larva Thysanoessa, Amphipods, Ostracods.	① "Accm" 1 cm.	BIOM +/-
4	200-100	Krill ✓✓✓ Thy. juv/adult C. propinquus	RAPD - ostracods - copepods - chaetognaths	BIOM +/-
5	100-75	Small krill ✓✓✓	RAPD	BIOM +/-
6	75-50	Small krill ✓✓✓ ① large SALP	(Few lrg rps) RAPD	BIOM +
7	50-0	CALANUS propinquus ① SALP / ① CHAET - large		BIOM ++
8	X			

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 21	Tow No.: MOC-01-014
Date: 9/7/2	
Filename (raw): M-01-014.raw	Filename (processed): M-01-014.pro

Net Information

Net Size: 1-M ²	Net Condition:
Net Mesh: 335 μ m	good

Start

End

Location (Lat/Lon): -67 02.9/-70 43.2		Location (Lat/Lon): -67 05.5/-70 43.2	
Time (Local) 0415	Time (GMT) 0815	Time (Local) 0625	Time (GMT) 1025
MOCNESS Battery Voltage: 18.9		MOCNESS Battery Voltage: 18.6	

Environmental Parameters

Wind (Speed/Direction): <1 knt	Sea State: lead
Water Depth (m): 668P 500	Light and Clouds: cloudy, night
Air Temperature: -12 C	SST: -1.9

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-424	0	31	424	08:52:46	459.9	Pres 66m Sal by 200m
1	424-460	424	08:59:46	350	09:13:06	366.7	40 accurate
2	350-200	350	09:13:06	200	09:29:26	681.4	
3	200-150	200	09:29:26	150	09:41:28	551.2	
4	150-100	150	09:41:28	95	09:52:10	445	
5	100-75	95	09:52:10	75	09:59:16	309.7	
6	75-50	75	09:59:16	50	10:07:24	341.1	
7	50-25	50	10:07:24	25	10:18:55	281.1	
8	25-0	25	10:13:55	3.6	10:22:44	335.7	Several shrimp petrels present

STROBE ON AT RECOVERY? ☒ YES ☐ NO

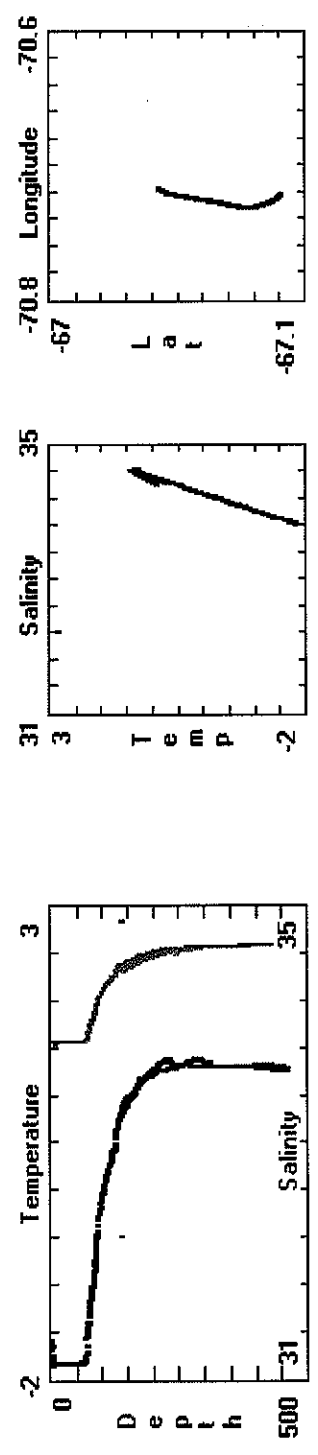
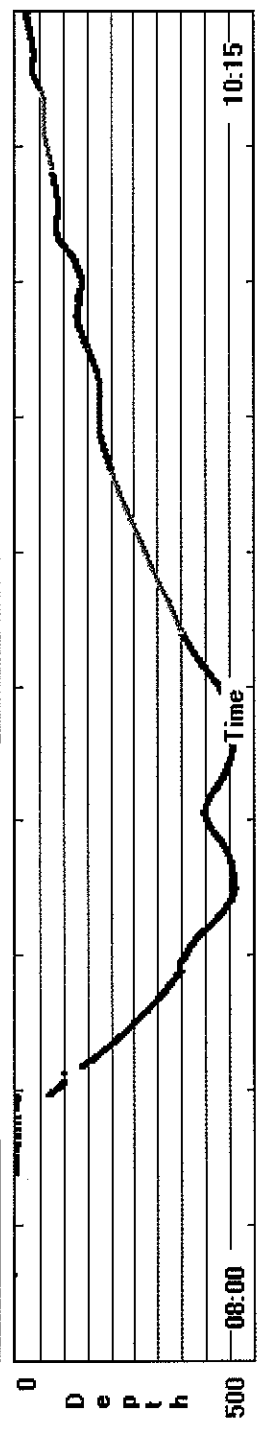
SIMRAD $\rightarrow$ layer ~ 300-350m and lower fishes
bad gps strings 272m

LOST COM WITH MOCNESS ON STEP 3 of lost net. Net fired
No net response.

lost APC at 50m
Tried a second trawl set 120m
failed
killed Strobe at 9m

YMC-01-014

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	10:22:44	Net_Num	8	Latitude	67S 5.4462	Reset	
Pressure	3.6 m	OpenTime	0.8 min	Longitude	70W 43.23	Baud Rate	2400
Temp	-1.81 C	Vol_Filtered	225.7 m3	Net_Dist	417.9 m	Sample Rate	4.0 sec
Salinity	33.86 o/oo	Angle	35 deg	Total_Dist	4819.2 m	Printer	Off
Density	27.252	Flow_Counts	56	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-014.PRO		
Oxygen		Hor_Vel	1.1 kts	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-014.raw		
Fluoresc.		Vert_Vel	4.7 m/min	Acquisition Ended. tries = 0			
LightXmis		Battery	100.0				



MOCNESS TOW #: 14

Date: Sept. 7, 02

Region: # 21

People Processing Sample: PA

NET DEPTH

Taxonomic Composition

0	0-424	SALP - 14th > ✓✓ Copeps - large Krill, ostracods	BIOMASS +++
1	460-350	✓✓ Copepods - large ③ large chaetognaths ① large large Myctophid fish ✓✓ Chaeto ✓✓ siphonophores No pteros @ bottom	BIOM ++
2	350-200	✓✓ Copeps - large, Ostracods ① L Chaetognaths - rare, polychaetes, siphonophores. Krill - few - red - <i>E. tricanthus</i> Lots of pteros @ bottom	BIOM +
3	200-150	✓✓ Copepods - small ✓✓ Krill - juvenile, ^{→ Thy.} <i>Thys.</i> <i>Thys.</i> ✓✓ Salps - small ✓ Amphipods pteros @ bottom ✓✓ small ostracods	BIOM +
4	150-100	✓✓ Copeps - small SALP ✓✓ Furchia, JUV. KRILL ✓✓ Pteropods w/ Gymnosomes AMPHIPODS rad few Copeps same as 3	BIOM -
5	100-75	✓✓ Small Krill - juvenile, furchia ✓✓ Pteropods salps/siphonophore - few cope AMPHIPODS rad	BIOM -
6	75-50	✓✓ Copeps - <i>C. propinquus</i> w/ a few krill ✓✓ Pteropods w/ Gymnosomes ① lar. chaetognath	BIOM -
7	50-25	✓✓ Copepods - <i>C. propinquus</i> + others ✓✓ Pteropods - Gymnos ✓✓ Amphipods ~ 4mm lineating, egg strands	BIOM 0/-
8	25-0	As above	BIOM 0/+

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 19	Tow No.: 15
Date: 9/08/02	
Filename (raw): M-01-015.raw	Filename (processed): M-01-015.pro

Net Information

Net Size: 1-m ²	Net Condition: good
Net Mesh: 355	

Start

End

Location (Lat/Lon): -67 22.54/-69 32.98		Location (Lat/Lon): -67 26.1669 33.1	
Time (Local) 0022	Time (GMT) 0422	Time (Local) 0234	Time (GMT) 0634
MOCNESS Battery Voltage: 20.0 V		MOCNESS Battery Voltage: 19.7	

Environmental Parameters

Wind (Speed/Direction): 180 true / 30 knts	Sea State: open water
Water Depth (m): 482 m	Light and Clouds: light
Air Temperature: -8.4	SST: -1.77 C

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-525	0	04:27:26		04:56:25	1441	pres out, back at 70m T.S. okay No NR +
1	525-350	525	04:56:25	350	05:11:29	534	N.R.
2	350-200	350	05:11:29	200	05:28:48	843	
3	200-150	200	05:28:48	150	05:38:58	531	
4	150-100	150	05:39	100	05:53:02	713.8	
5	100-75	100	05:53:02	75	06:03:42	532.4	
6	75-50	75	06:03:42	50	06:12:14	440	
7	50-25	50	06:12:14	25	06:21:04	449.8	
8	25-0	25	06:21:04	1	06:32:46	557.9	

STROBE ON AT RECOVERY? ☒ YES ☐ NO

Johnston Passage
Strobe off at 13 m + step meter once

ADCP currents < 7 cm/s E

Patches (-70 db - 60 db) on ADCP near 100 m

Bottom variable below 500-700 m

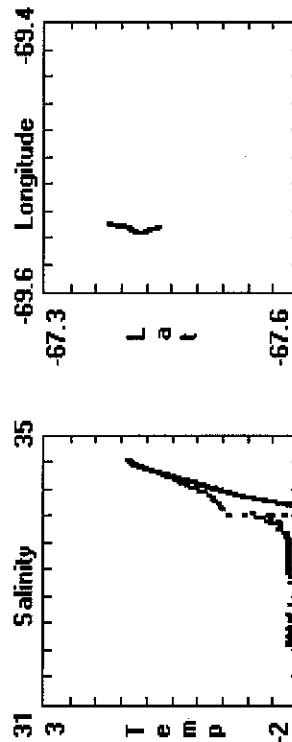
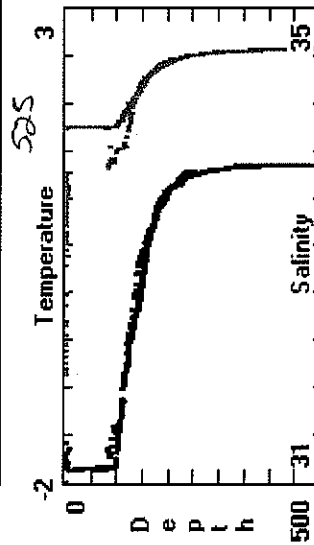
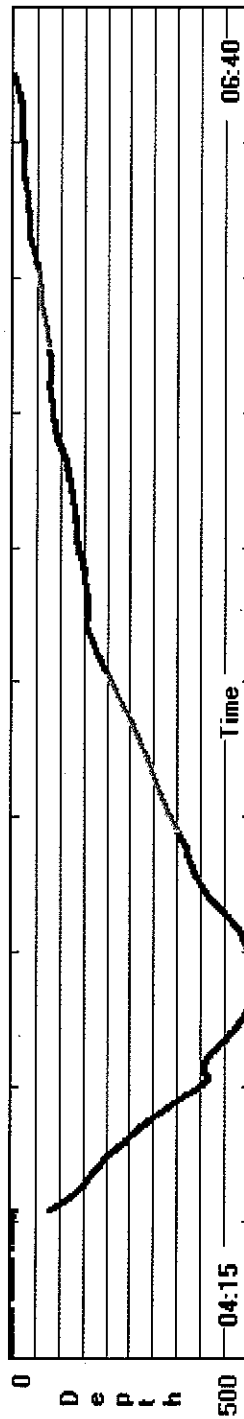
Simrad layer 38 KHz 350-400 m - also variable layer 50-125 m as well - At start of tow
05:21 - ADCP - layer @ 75 m.

MOC-01-015 9/18/02

Environmental Parameters Net Operation Net - Ship Position Program Settings

Time	06:32:54	Net_Num	9	Latitude	67S 26.130	Reset
Pressure	0.11 m	OpenTime	0.2 min	Longitude	69W 33.04	
Temp	50.0 C	Vol_Filtered	0.0 m3	Net_Dist	19.0 m	Baud Rate
Salinity	1.65 o/oo	Angle	6 deg	Total_Dist	6569.6 m	Sample Rate
Density	-10.722	Flow_Counts	0			Printer
Oxygen		Hor_Vel	0.9 kts	Processed File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-015.PRO	
Fluoresc.		Vert_Vel	4.3 m/min	Raw File Name	C:\MOCNESS\MOCDATA\MBP0204\M-01-015.raw	
LightXmis		Battery	19.7 V	Acquisition Ended. trys = 18		

Step STBD Net ☐ Increment Netff ☐ Pause Acqui End Acqui



MOCNESS TOW #: ~~14~~ 15

Date: 9/8/02

Region: STA. #19

People Processing Sample: (PA)

note sample labels = #14
but date/time is correct.

Low Diversity!

NET DEPTH

Taxonomic Composition

0	✓ <i>E. superba</i> ① salp - freeze some indiv. krill small salps - copepod-like CHAETS	Biom + + +
1	① krill, otolith copep + sev. large amphipods same orig. <i>Paraneuraster</i>? LARGE COPS - OUS <i>Paraneur.</i> SIPHONOS + OSTRACOS; few chat. PALANOST.	Biom + + + few pters
2	Copep + krill - all sizes sev. large AMPHIPODS	LAR COPS - but more smaller ones. T. max juveniles AMPHIPODS OSTRACOS SIPHONOS Biom + + more pters
3	All sizes Krill, pteropods, siph. pters very few copep, T. max, siph., radiolarians	Biom + few pters
4	✓ Krill - <i>E. superba</i>, Copep small copep - few Krill - T. max + <i>E. superba</i> - all sizes SIPHONOS	Biom + more pters
5	✓ Krill ① large chat. T. max + <i>E. superba</i> - large small copep - few	Biom + + pters
6	✓ Krill, (Copep), ② Chaetognaths ✓ <i>E. superba</i> - shelled pteropod (Chro?) - brown pigment Gymnascme	Biom + pters
7	✓ Small krill, lg. Chaets. ✓ both T. max, <i>E. sup.</i> - v. few copep, ostr	Biom + pters
8	Small krill, Salps, Chat. - large. ✓ T. max, <i>E. sup.</i>	Biom + 0 pters

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: 9	Tow No.: 16
Date: 9/09/02	
Filename (raw): M-01-016	Filename (processed): M-01-016

Net Information

Net Size: 1-m ²	Net Condition: good
Net Mesh: 335	

Start

End

Location (Lat/Lon): ⁻⁶⁶ 41.2114 ⁻⁶⁸ 54.302	Location (Lat/Lon): ⁻⁶⁶ 43.5215 ⁻⁶⁸ 51.4721
Time (Local) 1009	Time (GMT) 1409
Time (Local) 1203	Time (GMT) 1603
MOCNESS Battery Voltage: 19.8	MOCNESS Battery Voltage: 19.5

Environmental Parameters

Wind (Speed/Direction): 20-29Kts/ENE	Sea State: OK - patchy
Water Depth (m): 332	Light and Clouds: Cloudy daylight
Air Temperature: -4.5C	SST: -1.797

Net Tow Information

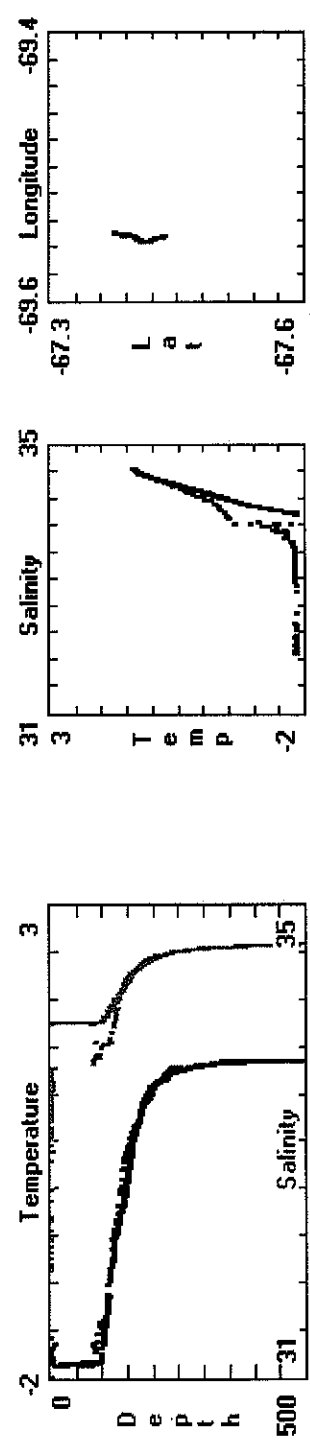
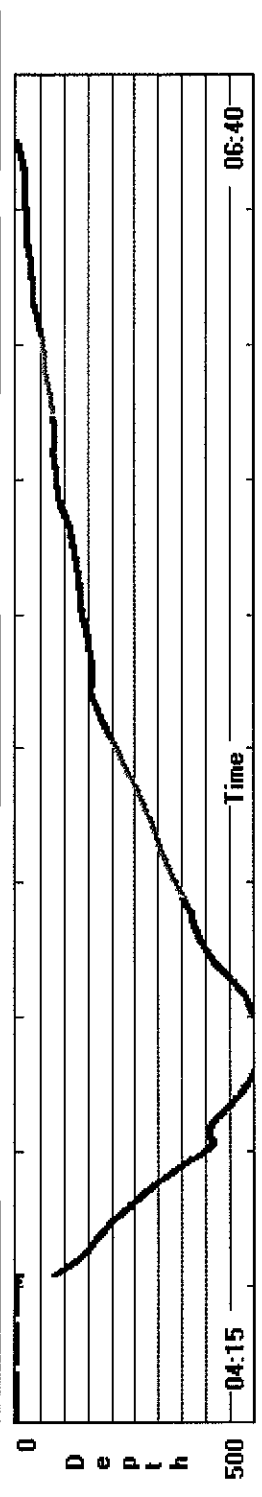
Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-300	0	start down 1413	296	14:37:49	490.7	
1	300-250	296	14:37:49	244.4	1453	556.4	
2	250-200	244.4	1453	199.3	1505	519.0	
3	200-150	199.3	1505	148.9	1517	530.8	
4	150-100	148.9	1517	98.6	1531	539	
5	100-75	98.6	1531	72.5	1536	198.2	
6	75-50	72.5	1536	50.4	1544	342.2	
7	50-25	50.4	1544	23.9	1552	321.1	
8	25-0	23.9	1552	3	1603	378	

STROBE ON AT RECOVERY? YES NO

- System lost com on deck
- Mac Strobe batteries drained down - they don't work on deck test! how come this was not checked?
- Acoustically - water column pretty clean at start of tow - thin layer near surface - No bottom layer to speak of

MOL-01-016 9/19/2

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	06:32:54	Net_Num	9	Latitude	67S 26.130	Reset	
Pressure	11.1 m	OpenTime	0.2 min	Longitude	69W 33.04	Baud Rate	2400
Temp	50.0 C	Vol_Filtered	0.0 m3	Net_Dist	19.0 m	Sample Rate	4.0 sec
Salinity	1.65 o/oo	Angle	6 deg	Total_Dist	6569.6 m	Printer	Off
Density	-10.722	Flow_Counts	0	Processed File Name	C:\MOCNESS\MOCDATA\ANBP0204\M-01-015.PRO		
Oxygen		Hor_Vel	0.9 kts	Raw File Name	C:\MOCNESS\MOCDATA\ANBP0204\M-01-015.raw		
Fluoresc.		Vert_Vel	4.3 m/min	Acquisition Ended. tries = 18			
LightXmis		Battery					



MOCNESS TOW #: 16

Overall
low BIOMASS

Date: 9 Sept

Region: Station 9

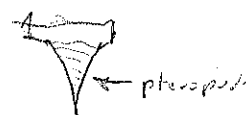
People Processing Sample: Phil + Peter + Kendra + Dicky!

NET DEPTH

Taxonomic Composition

0	0-300	✓ LARGE STATIONWORM ✓ COPEPODS KRILL	BIOM ++
1	300-250	✓ COPEPODS + 2 gymnosomans ✓ chaetognaths cope w/ blue egg parachute	BIOM +
2	250-200	✓ copepods ✓ amphipods - 2 spec large chaetognaths paracantho more propinquus 1 Salp Thysanura tomopterid worm then paracantho ostracods + pteropod	BIOM +
3	200-150	Copepods + siphonophore bits + amphipods mostly Krill + Chaetognaths gymnosoma small euphausiids a few pteropods	BIOM +/0
4	150-100	ctenophore - 8 cm long - given to K.S. copepods few amphipods, gymnosoma 1 chaetognath Krill - Thysanura - big	BIOM +/0 mostly Euphausiids a few pteropods radiation most biomass is Euphausiids
5	100-75	Chaetognath - large ones ++ Krill + 1st chaetogn. krill - Thysanura + E. Superba (adults) - mostly detrital material	BIOM +/0 big pteropods essentially krill
6	75-50	Chaetognaths - 1st Krill - Thysanura + E. Superba detrital material	Bio +/0 small copepods gymnosoma big pteropod radiation munge
7	50-25	Fish larva amphipods ++ copepods → propinquus tiny copepods paracantho	BIOM +/0 (sparse) chaetognath 1 or 2 small euphausiids a few pteropods
8	25-0	Chaetognath - 1st fish larvae - 2+ Salp	BIOM + krill copepods propinquus pteropods - big pile amphipods (big ones) Superba red small copepods gymnosoma

NOTE 8-cm
ctenophore
to K.S.



MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <u>5</u>	Tow No.: <u>17</u>
Date: <u>9/10/12</u>	
Filename (raw): <u>M-01-017.raw</u>	Filename (processed): <u>M-01-017.pro</u>

Net Information

Net Size: <u>1-M²</u>	Net Condition:
Net Mesh: <u>335 μm</u>	<u>good</u>

Start

End

Location (Lat/Lon): <u>66°55.9, 68°30.6</u>		Location (Lat/Lon): <u>-66 23.3/-68 27.1</u>	
Time (Local) <u>0408</u>	Time (GMT) <u>0808</u>	Time (Local) <u>0547</u>	Time (GMT) <u>0947</u>
MOCNESS Battery Voltage: <u>19.7</u>		MOCNESS Battery Voltage: <u>19.4</u>	

Environmental Parameters

Wind (Speed/Direction): <u>7knts 325-taw</u>	Sea State:
Water Depth (m): <u>670m</u>	Light and Clouds: <u>cloudy, snow</u>
Air Temperature: <u>-0.2</u>	SST: <u>-1.8</u>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-500	0	<u>08:08</u> <u>0408</u>	500	<u>08:27:14</u>	<u>149.7</u>	<u>08:32 PROBE OUT TEMP</u>
1	500-350	500	<u>08:27:14</u>	350	<u>08:40:48</u>	<u>552.7</u>	
2	350-200	350	<u>08:40:48</u>	200	<u>08:59:24</u>	<u>918.7</u>	
3	200-150	200	<u>08:59:24</u>	150	<u>09:05:56</u>	<u>332.2</u>	<u>tripped on step 2</u>
4	150-100	150	<u>09:05:56</u>	100	<u>09:15:08</u>	<u>510.4</u>	<u>step 2</u>
5	100-75	100	<u>09:15:08</u>	75	<u>09:21:49</u>	<u>351.1</u>	<u>step 2</u>
6	75-50	75	<u>09:21:49</u>	50	<u>09:30:11</u>	<u>434.1</u>	<u>step 2</u>
7	50-25	50	<u>09:30:11</u>	25	<u>09:38:33</u>	<u>411.3</u>	
8	25-0	25	<u>09:38:33</u>	0	<u>09:45:42</u>	<u>359.2</u>	

STROBE ON AT RECOVERY? ☒ YES ☐ NO

Net angle 45°

ADCP - Surf to 100m
38 kHz Simrad 300-350m layer

Environmental Parameters

Net Operation

Net - Ship Position

Program Settings

Time 12:11:22
Pressure 1.3 m
Temp -1.4 C
Salinity 0.37 o/oo
Density 0.037
Oxygen
Fluoresc.
LightXmis

Net_Num 12
OpenTime 1.5 min
Vol_Filtered 70.3 m3
Angle 13 deg
Flow_Counts 14
Hor_Vel 0.0 kts
Vert_Vel 0.4 m/min
Battery 10.5 V

Latitude 65S 11.990
Longitude 65W 39.18
Net_Dist 6282073.0
Total_Dist 6286303.0

Baud Rate 2400
Sample Rate 4.0 sec
Printer Off
Reset

Processed File Name
Raw File Name

C:\MOCNESS\MOCDATA\NBP0204\M-01-018.PRO
C:\MOCNESS\MOCDATA\NBP0204\M-01-018.raw

##MN-16 00 13 0685 01884 0589 853876 837821 195M-I
\$GPGLL,6511.9902,S,06539.1833,W,121055.359

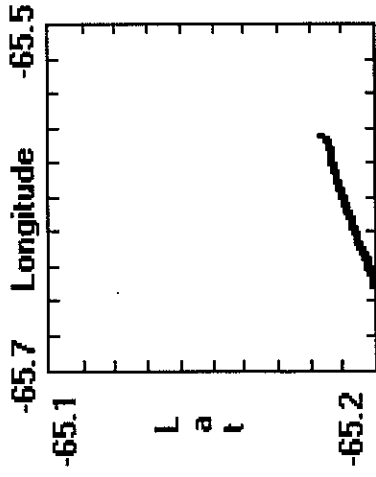
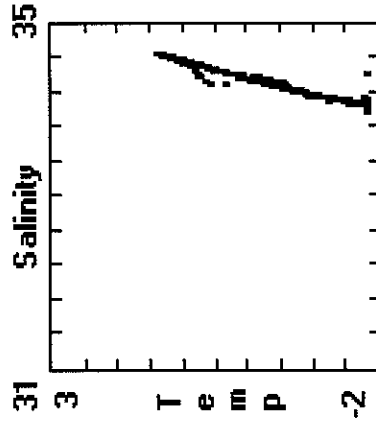
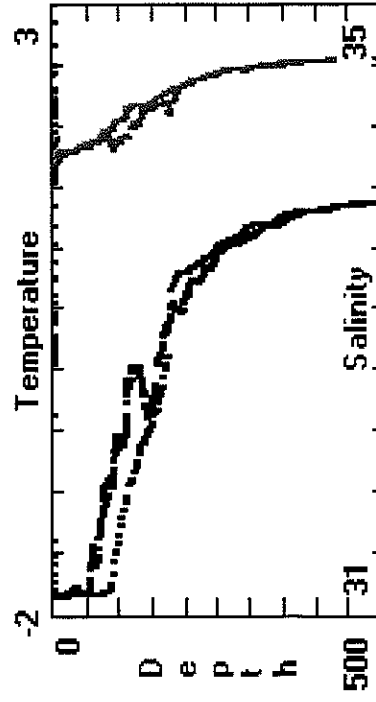
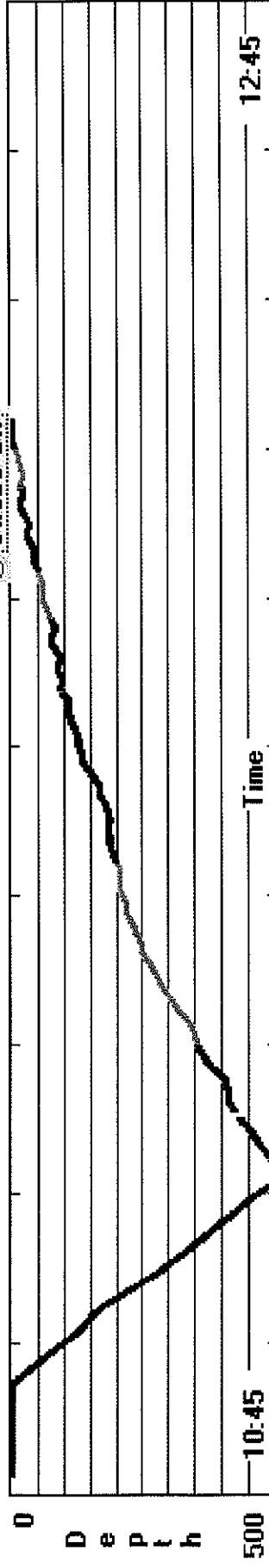
Step 5 TBD Net

Increment Net#

☐ Strobe On
☒ Strobe Off

Pause Acqui

End Acqui



MOCNESS TOW #: 17

Date: SEPT. 10, 02

Region: STA 5

People Processing Sample: (P.A.) + Scott Gallagher

NET DEPTH

Taxonomic Composition

0	DID NOT FISH - ended up inside itself		
1	chaetognaths copepods ①	lg. amphipods krill	2 orange seps Biomass +
2	1 orange sep lots of copep krill - E. crustaceophorus (red)		Biom +
3	juvenile krill ctenophore - 4.5 cm copepods	pteropods	Biom +/-
4	pteropods krill sep		Biom +/-
5	chaetognath - big amphipod krill #1	Sep - lg	Biom +
6	mostly juvenile krill		Biom +
7	mostly krill ctenophore - 1.5 cm	gymnosoma - 2 species black eurytemora ① ②	C. propinquus Biom +/-
8	monster chaetognath krill gymnosoma (big)	C. propinquus	Biom +

#17, STA. 5

MOONNESS TOW #17 @ STA. 5 ~~parallel~~
~~Followed close behind the~~

Sampled the shelf waters along the first transect towed line. This
tow was conducted near dawn on Sept. 19th ~~and~~ in water 670 m deep.

Copepods continued to remain ^{dominant} ~~deep~~ water ~~and were replaced by~~
while krill provided most of the biomass above 200 m and below 50 m.

Large Calanoid copepods joined krill in the upper 50 m as dominant taxa.
While not contributing much in biomass, pteropods were found in
increasing #s at all depths. The scattering layer ^{detected by the ADCP} ~~between 0-100 m~~

was likely a result of krill, copepods, + pteropods. The SIMRAD scattering layer
between 200-350 m ~~was apparent to~~ could be attributed to high d of
small copepods. Net 2 did not capture any plankton due to net fouling
and the OPC functioned well.

The deepest nets contained high abundances of copepods, chaetognaths,
siphonophores, + ostracods. Copepods were much smaller in Net 2 (350-200 m). Here
also was found ^{specimens of} *Euphausia crystallorhiza* (sp?). Biomass decreased ~~markedly~~
~~between~~ ^{above} 200 m, and ~~100 m~~; ~~pteropods (Limacina sp.), radiolarians, + ostracods~~

~~Thysanoessa~~ ~~all stages~~

Thysanoessa provided the bulk of the biomass between 200 and 50 m. All stages
were present. *E. superba* ^{juveniles} was found in the top 25 m, along w/ large
(*Calanus propinquus*) copepods. ~~In addition to~~ Pteropods were found everywhere,
especially between 150 + 100 m, and about 50 m. Salps, Radiolarians, ostracods,
amphipods, + gymnoschole pteropods were noted at several depths.

Sheet II/II

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: RI-1	Tow No.: 18
Date: 9/11/02	
Filename (raw): M-01-D18.100	Filename (processed): M-01-D18.100

Net Information

Net Size: 1-m ²	Net Condition:
Net Mesh: 835 μ m	good

Start

End

Location (Lat/Lon): -65.11.04/-65.33.93		Location (Lat/Lon): -65.1990/-65.6531	
Time (Local) 0645	Time (GMT) 1045	Time (Local) 08 10	Time (GMT) 1210
MOCNESS Battery Voltage: 19.7		MOCNESS Battery Voltage:	

Environmental Parameters

Wind (Speed/Direction): 7 kts 270 true	Sea State: calm
Water Depth (m): 558 m	Light and Clouds: dawn, cloudy
Air Temperature: -1.0 C	SST: -1.74

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-500	0	10:54:10	500	11:11:42	140.9	All sensors working no net res.
1	500-350	500	11:11:42	350	11:24:38	374.5	434.1 m lost com OPC. restart
2	350-200	350	11:24:38	200	11:35:51	747.6	stopped on step 2
3	200-150	200	11:35:51	146	11:43:20	374.5	
4	150-100	146	11:43:20	95	11:49:37	346.0	
5	100-75	95	11:49	74	11:55	306	
6	75-50	74	11:55	49	11:59:16	297	all 7
7	50-25	49	11:59:16	22	12:04	251.4	38 m bad peak 8 NR, but Net # 910
8	25-0	22	12:04	2	12:10:32	1.5	11 12

STROBE ON AT RECOVERY? ____ YES ____ NO

high angle on down cast ~ 30°, decreased to 20°
very little on ADCP ~ Simrad about 300 m.

Sheet #/II

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <i>RI-1</i>	Tow No.: <i>M-01-018</i>
Date: <i>9/11/02</i>	
Filename (raw): <i>M-01-018.raw</i>	Filename (processed): <i>M-01-018.pro</i>

Net Information

Net Size: <i>1-m²</i>	Net Condition:
Net Mesh: <i>335 μm</i>	<i>good</i>

Start

End

Location (Lat/Lon): <i>-65 11.02 / -65 33.93</i>		Location (Lat/Lon): <i>-65 11.94 / -65 37.19</i>	
Time (Local) <i>0645</i>	Time (GMT) <i>1045</i>	Time (Local) <i>0810</i>	Time (GMT) <i>1210</i>
MOCNESS Battery Voltage: <i>19.7</i>		MOCNESS Battery Voltage: <i>19.5</i>	

Environmental Parameters

Wind (Speed/Direction): <i>7 knts 270 true</i>	Sea State: <i>aa/m</i>
Water Depth (m): <i>558 m (670 m end)</i>	Light and Clouds: <i>dawn, cloudy</i>
Air Temperature: <i>-1.0 C</i>	SST: <i>-1.74</i>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0 - 500	0	10:54:02	497	11:11:37	122.7	<i>all sensors working No NR</i>
1	500-350	497	11:11:37	352	11:21:23	412.7	<i>434.7 m lost com - DRG Net 1 stopped on stop 2</i>
2	350-200	352	11:21:23	198	11:35:59	747.6	<i>DR okay</i>
3	200-150	198	11:35:59	148	11:43:11	384.5	
4	150-100	148	11:43:11	95	11:49:32	346.0	
5	100-75	95	11:49:32	73	11:55:26	306.0	
6	75-50	73	11:55:26	50	11:59:19	211.7	
7	50-25	50	11:59:19	22	12:03:53	251.4	<i>net numbers not correct in pro file, check raw files.</i>
8	25-0	22	12:03:53	2	12:09:50	286.7	

STROBE ON AT RECOVERY? ☒ YES ☐ NO

*All values from Raw and pro
files. 27 steps in raw file (1st deck test)*

*Very little on Simrad - ADCP start of tow. Some below 300m.
Large patches < 50m) near mid-end of tow
Good net angle entire tow.*

moc1_18.dat

254.466319
254.466366
254.466412
254.473090
254.473137
254.473183
254.483218
254.483213
254.483322
254.488241
254.488287
254.488333
254.492650
254.492697
254.492743
254.496748
254.496794
254.496840
254.499444
254.499491
254.499537
254.502604
254.502650
254.502697
254.506736
254.506782
254.506829

MOCNESS TOW #: 18

Date: 9/11/02

Region: Renard Island 24-hr. Dp's

People Processing Sample: Wiebe

NET DEPTH

Taxonomic Composition

0	0-500	Some removed for COSTA Some removed for Bucklin - (11) frozen not much Thysanessa	copepods mostly Euphausia amphipods Chaetognaths
1	500-350	Some Euphausiids - Euphausia + Thysanessa Some copepods amphipods ostracods small chaetognaths	radiolarian = munge
2	350-200	little biomass no euphausiids copepods	
3	200-150	Euphausia a few ostracods Thysanessa E. propinquus - few copepods Sm. chaetognaths	radiolarian munge
4	150-100	euphausiids pteropods chaetognaths - big propinquus Beroë? in bad shape - medusa?	
5	100-75	small euphausiids & dominant biomass a few Eupropinquus lots of pteropods chaetognaths - 3 or 4	ostracod
6	75-50	almost nothing small copepods big amphipod 2 euphausiids green sunge	
7	50-25	Euphausiids amphipods	
8	25-Ø	Euphausiids - mostly E. superba	

MOCNESS Tow Sheet (NBP02-04)

St. Station No.: <i>RI-2</i>	Tow No.: <i>19</i>
Date: <i>9/11/02</i>	
Filename (raw): <i>M-01-019.raw</i>	Filename (processed): <i>M-01-019.pro</i>

Net Information

Net Size: <i>1-m²</i>	Net Condition: <i>good</i>
Net Mesh: <i>335 μm</i>	

Start

End

Location (Lat/Lon): <i>-65 08.74 / -65 31.88</i>		Location (Lat/Lon): <i>-65 10.6 / -65 33.2</i>	
Time (Local) <i>1915</i>	Time (GMT) <i>2315</i>	Time (Local) <i>2037</i>	Time (GMT) <i>0037</i>
MOCNESS Battery Voltage: <i>19.6</i>		MOCNESS Battery Voltage: <i>19.5</i>	

*9/12/2
rd4*

Environmental Parameters

Wind (Speed/Direction): <i>3 knts, 300 time</i>	Sea State: <i>calm</i>
Water Depth (m): <i>550 m</i>	Light and Clouds: <i>night cloudy</i>
Air Temperature: <i>-0.2</i>	SST: <i>-1.74</i>

Net Tow Information

Net #	Depth Interval	Depth Open	Time Open	Depth Close	Time Close	Volume Filtered	Comments
0	0-400	0	23:15:00	400	23:33:47	132.3	
1	400-325	400	23:33:47	325 ³²³	23:40:53	256.7	
2	325-200	325 ³²²	23:40:53	200	23:52:47	595.9	step 2
3	200-150	200	23:52:47	150 ¹⁵¹	00:04:24	608.2	step 2
4	150-100 ¹⁰²	150 ¹⁵¹	00:04:24	100	00:14:54	400.4	net caught on ice dropped to 208
5	100-75	100	00:14:54	75 ⁷⁴	00:19:19	234.3	
6	75-50	75 ⁷⁴	00:19:19	50 ⁵¹	00:25:54	341.0	
7	50-25	50	00:25:54	24	00:32:10	322.0	
8	25-0	24	00:32:10	2 ³	00:38:47	342.9	cleared all 3 step

STROBE ON AT RECOVERY? X YES NO

*Some scattering in upper 50m ADCP
300-350 Simrad 38 kHz*

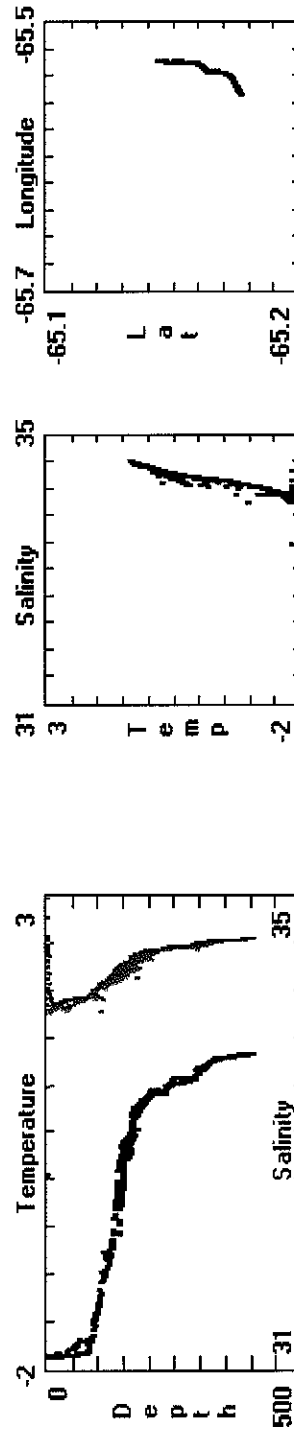
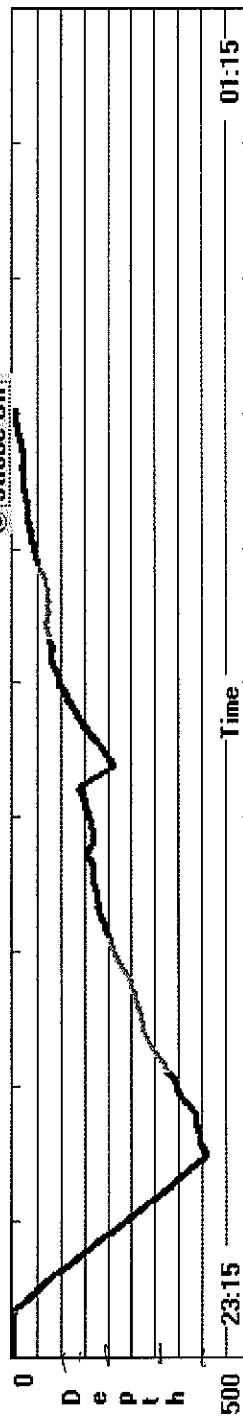
*Raw string at MN*09 on Net 2*

9/17/12 M-01-019

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	00:39:24	Net_Num	9	Latitude	65S 10.626	Reset	
Pressure	2.4 m	OpenTime	0.6 min	Longitude	65W 33.21	Baud Rate	2400
Temp	-1.85 C	Vol_Filtered	26.0 m3	Net_Dist	35.7 m	Sample Rate	4.0 sec
Salinity	34.03 o/oo	Angle	36 deg	Total_Dist	4025.9 m	Printer	Off
Density	27.393	Flow_Counts	8	Processed File Name	C:\MOCNESS\MOCDATA\NBP0204\M-01-019.PRO		
Oxygen		Hor_Vel	2.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\NBP0204\M-01-019.raw		
Fluoresc.		Vert_Vel	0.0 m/min				
LightXmis		Battery	18.5 V				
				Increment Net#	☐ Strobe On ☒ Strobe Diff	Pause Acqui	End Acqui
Step STBD Net		Step 3					



MOCNESS TOW #: 19

Date: 11 Sept 02

Region: RI-2

People Processing Sample: P. Wiske

NET DEPTH

Taxonomic Composition

0	Frozen for COSTA + Bucklin	Big stenophore - fell apart - ks Euphausiids - almost all Eupha
1		lots of little things radiolarian gunge 3-4 euphausiids reddish copes little transparent copes paraenchaeta for sure Chaetognaths - little ones maybe pteropods if any
2		a few euphausiids amphipods ostracods radiolarian gunge several black gymnosome Thysanoessa translucent copes gelatinous stuff paraenchaeta probably colonies sp chaetognaths pteropods
3		Euphausiids - Thysanoessa few if any pteropods chaetognath ostracods a few copes - paraenchaeta + a colonoid
4		radiolarian gunge stenophore Euphausiids of a variety of sizes gymnosome chaetognaths Big amphipod + sm amphipod Thysanoessa pteropods ostracods
5		Thysanoessa Salp not a lot of biomass E. superba - even big ones chaetognath small copes c. propinquus ostracod or 2 pteropods
6		euphausiids - E. superba stenophore best up at least 1 amphipod - 1 a few pteropods on bottom a few copes a few ostracod
7		essentially pure Euphausiids - maybe superba, maybe some tricanthe pteropods at bottom
8	300 m ³ 0-25 m? 2.5 gdw	Budaks of euphausiids - Euphausia sp not much else