

Consec.Cast # 001		Vessel MILLER FREEMAN		Proj. & Leg FOCI MF-89-084 Leg II		Event# 027	Vessel Sta. I.D.		Instructions <i>I,D</i>							Sta. Designation D35				
Consec. Cast #	Latitude Deg. Min. N or S		Longitude Deg. W or E		Date Day Mo. Yr.	JD = 129	Time Hr. Min. GMT		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
001	15	57	47	42	N	1543308W	09	MAY	89	18	24	06	8042	1838	19308221	226	D35			
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface				Times		JD/Time		Data Location								
Press. SN 26072				Press. 2.448				Data on	181952	Tape/Diskette I.D.	File Name/Header									
Temp. SN 710				Temp. 4.537				at Surface	1819	09 MAY 1812										
Cond. SN 304				Cond. 31.730				Start Down	1820											
								at Bottom	1824											
								Start Up	1829											
								at Surface	182408											
								Data off	182408	Remarks 100 M CAST GOO6A/B DATA LOGGING STARTED @ SURFACE NOT ON DECK										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1	252	A	101	182424	182920					101.932	3.916	100.953	32.187	101.77	3.89	32.196	23		1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
12																		12		

Initials CD✓

Consec. Cast # <u>002</u>		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event# <u>035</u>	Vessel Sta. I.D.			Instructions <u>I,D</u>						Sta. Designation <u>E34</u>			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = <u>129</u>	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.	S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	<u>002</u>	<u>57</u>	<u>41</u>	<u>33</u>	<u>N</u>	<u>15432</u>	<u>42</u>	<u>W</u>	<u>09</u>	<u>MAY</u>	<u>89</u>	<u>23</u>	<u>14</u>	<u>06</u>	<u>8050</u>	<u>1638</u>	<u>12309371</u>	<u>220</u>	<u>E34</u>
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>				Monitor Checks on Deck at Surface				Times JD/Time		Data Location									
								Data on <u>129</u>	<u>230800</u>	Tape/Diskette I.D.		File Name/Header							
								at Surface	<u>230950</u>			<u>09MAY2258</u>							
								Start Down	<u>2310</u>										
								at Bottom	<u>2314</u>										
								Start Up	<u>2314</u>										
								at Surface	<u>231405</u>										
								Data off	<u>231405</u>	Remarks <u>100 m CAST</u> <u>G009A</u>									
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	<u>503</u>	<u>82</u>		<u>231533</u>					<u>80.587</u>	<u>3.515</u>	<u>81.807</u>	<u>32.061</u>			<u>32.071</u>	<u>35</u>		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
12																		12	

Initials CD ✓

Initials _____

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Consec.Cast #		Vessel		Proj. & Leg			Event#	Vessel Sta. I.D.			Instructions						Sta. Designation				
<u>004</u>		MILLER FREEMAN		MF-89-04 FOCI I			<u>015</u>				<u>ID</u>						<u>533</u>				
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD = 130		Time	GMT	Dry	Wet	Bar.	S.	V.	Wind	Wind	Bottom	Sta. Name			
	Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Si	Vis	Dir.	Sp.	Cloud	Type	Weath.	Depth, m	or I.D
004	57	47	20	N	155	02	03	W	10 M A Y 89	04 35	60	40	14	18	23	5	16	22	1	277	533
CTD				Monitor Checks								Times		JD/Time		Data Location					
Type & SN 91220-B				on Deck				at Surface				Data on	0430			Tape/Diskette I.D.		File Name/Header			
Press. SN 26072												at Surface	0431					10 May 0420			
Temp. SN 710				Press. -0.002								Start Down	0431								
Cond. SN 304				Temp. 7.613								at Bottom	0435								
				SAL 0.094								Start Up	0435								
				Cond: 0.094								at Surface	0443								
				DEPTH -0.002								Data off	0435								
												Remarks 100 m CAST G012A									
P. S.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Depth	Sal.	Therm-P	Avg Tw	Sal.				
1	252	A	76	0431	0441					77.403	4.040	76.673	31.954	76.48	4.01	31.964	09		1		
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
11																		11			
12																		12			

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Consec. Cast # 005		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 047	Vessel Sta. I.D.			Instructions I,D							Sta. Designation FOCI 616		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D
Deg.		Min.	Deg.	Deg.	Day	Mo.	Yr.	Hr.	Min.											
00	55	743	02	N	155	15	62	W	10	MAY 89	06 15	75	601	318	220	10221	204	64A		
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time		Data Location						
				on Deck				at Surface				Data on	060514	Tape/Diskette I.D.		File Name/Header				
				Press. -0.023				2.049				at Surface	060530			10MBY 0558				
				Temp. 710				Cond. 304				Start Down	060750							
				Press. SN 26072				Temp. SN 304				at Bottom	061530							
				Cond. SN 304				SAL 0.038				Start Up	061600							
				DEPTH				3.480				at Surface	061539							
				Other				31.404				Data off								
				-0.022				2.030												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	1004		200	061638	061700					202.480	3.450	200.510	32.065			32.287	34	Nut.	1	
2	8		200	061638	061729					202.541	3.442	200.571	32.071					41	41	2
3	1005		150	061850	061914					151.234	3.943	149.781	32.144					42	42	3
*	4	1008	160	062047	062058					100.584	3.956	99.630	31.982					43	43	4
*	5	1007	75	062152	062208					76.119	4.041	75.101	31.874					44	44	5
*	6	1012	50	062302	062312					50.153	4.376	49.684	31.733					45	45	6
*	7	1013	30	062413	062433					29.946	4.473	29.667	31.704					46	46	7
*	8	1011	20	062510	062550					20.526	4.466	20.335	31.673					47	47	8
*	9	1006	10	062653	062715					10.333	4.630	10.238	31.619					48	48	9
10	503		10	062653	—												34	34	10	
11																			11	
12																			12	

* MZ BOTTLES

LOG
FILE
HAS
DEPTH
OF
201 m

Initials PJD

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Consec.Cast # <u>006</u>		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# <u>048</u>	Vessel Sta. I.D.			Instructions <u>JD</u>							Sta. Designation <u>61B</u>				
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD =		Time	GMT	Dry	Wet	Bar.	S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
Consec. Cast #	Deg. Min.	Deg.	Deg.	Deg.	Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	S.	Vis.	Dir.	Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
<u>006 5743 01 N</u>		<u>155 15 75 W</u>	<u>10MAY89</u>	<u>0651</u>	<u>50</u>	<u>40</u>	<u>13</u>	<u>18190</u>	<u>8221</u>	<u>161</u>	<u>61B</u>											
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>		Monitor Checks on Deck at Surface Press. <u>2.832</u> Temp. <u>4.880</u> <u>SAL</u> <u>COND</u> <u>DEPTH</u> <u>Other</u> <u>31.532</u> <u>2.845</u>							Times		JD/Time		Data Location									
									Data on <u>064700</u> at Surface <u>064805</u> Start Down <u>064830</u> at Bottom <u>065047</u> Start Up <u>0652</u> at Surface <u>065830</u> Data off <u>065138</u>			Tape/Diskette I.D. <u>10MAY0633</u> File Name/Header										
													Remarks <u>60 m CAST</u> <u>G013</u> <u>MICROZOOPLANKTON CAST</u>									
Pos.	Bot.	T	Rack	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.		
						Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.	
1	1008			60	065100	<u>065141</u>						61.296	4.276	60.721	31.829						MZ	1
2	1007			50	065200	<u>065227</u>	<u>065250</u>					50.369	4.354	49.897	31.759						MZ	2
3	1012			40	065300	<u>065323</u>	<u>065340</u>					40.886	4.362	40.504	31.733						MZ	3
4	1013			30	065400	<u>065423</u>	<u>065438</u>					30.204	4.387	30.204	31.704						MZ	4
5	1011			20	065500	<u>065510</u>	<u>065525</u>					20.494	4.428	20.304	31.666						MZ	5
6	1006			10	065600	<u>065600</u>	<u>065618</u>					10.472	4.891	10.375	31.551						MZ	6
7																					7	
8																					8	
9																					9	
10																					10	
11																					11	
12																					12	

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Consec.Cast # <u>007</u>		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# <u>51</u>	Vessel Sta. I.D.		Instructions <u>D,S,I</u>						Sta. Designation <u>60A</u>					
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD = <u>130</u>	Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	W.	Bottom Depth, m	Sta. Name or I.D	
	Deg. Min.		Deg.		Day	Mo. Yr.	Hr. Min.													
<u>0075374105</u>	<u>N</u>	<u>1550994</u>	<u>W</u>	<u>10</u>	<u>MAY 89</u>	<u>0852</u>	<u>55</u>	<u>4213</u>	<u>2824</u>	<u>005171</u>	<u>296</u>	<u>60A</u>								
CTD Type & SN <u>91220-B</u>				Monitor Checks on Deck at Surface				Times JD/Time		Data Location										
Press. SN <u>26072</u>				Press. <u>2.381</u>				Data on <u>084222</u>		Tape/Diskette I.D. File Name/Header										
Temp. SN <u>710</u>				Temp. <u>4.593</u>				at Surface <u>084250</u>		<u>10MAY0839</u>										
Cond. SN <u>304</u>				SAL <u>31.303</u>				Start Down <u>084350</u>												
				Cond. <u>DEPTH</u>				at Bottom <u>085232</u>												
				Other <u>2.356</u>				Start Up <u>0853</u>												
								at Surface <u>0907</u>												
								Data off <u>085945</u>												
								Remarks <u>G04A/G015A</u>												
								Nutrients + Chlorophyll												
P. S.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data				Sal.	Other	P.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1	<u>1005</u>		<u>250</u>	<u>085452</u>	<u>085510</u>				<u>250,726</u>	<u>4.720</u>	<u>250,237</u>	<u>33.052</u>					<u>49</u>	<u>1</u>		
2	<u>1000</u>		<u>200</u>	<u>085645</u>	<u>085656</u>				<u>202,994</u>	<u>3.753</u>	<u>201,019</u>	<u>32,468</u>					<u>50</u>	<u>2</u>		
*	<u>1008</u>		<u>150</u>	<u>085858</u>	<u>085908</u>				<u>150,106</u>	<u>4.068</u>	<u>150,645</u>	<u>32,204</u>					<u>51</u>	<u>3</u>		
*	<u>1007</u>		<u>100</u>	<u>090050</u>	<u>090100</u>				<u>101,783</u>	<u>4.138</u>	<u>100,818</u>	<u>32,056</u>					<u>52</u>	<u>4</u>		
*	<u>1002</u>		<u>75</u>	<u>090200</u>	<u>090217</u>				<u>76,635</u>	<u>4.103</u>	<u>75,913</u>	<u>32,006</u>					<u>53</u>	<u>5</u>		
*	<u>1013</u>		<u>50</u>	<u>090402</u>	<u>090420</u>				<u>51,200</u>	<u>4.024</u>	<u>50,720</u>	<u>31,957</u>					<u>54</u>	<u>6</u>		
*	<u>1011</u>		<u>30</u>	<u>090526</u>	<u>090539</u>				<u>30,934</u>	<u>4.225</u>	<u>30,646</u>	<u>31,815</u>					<u>55</u>	<u>7</u>		
*	<u>1006</u>		<u>20</u>	<u>090623</u>	<u>090632</u>				<u>20,813</u>	<u>4.253</u>	<u>20,619</u>	<u>31,757</u>					<u>56</u>	<u>8</u>		
9	<u>1015</u>		<u>280</u>	<u>0852</u>	<u>0853</u>				<u>4,757</u>	<u>4.759</u>	<u>280</u>	<u>33.062</u>					<u>26</u>	<u>57</u>		
10									<u>11</u>	<u>11</u>								<u>10</u>		
11																		<u>11</u>		
12																		<u>12</u>		

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Consec. Cast #		Vessel			Proj. & Leg			Event #		Vessel Sta. I.D.			Instructions							Sta. Designation	
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =			Time	GMT	Dry	Wet	Bar.	S.	S.	Wind	Wind	Bottom	Sta. Name	
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Si.	Vi.	Dir.	Sp.	Depth, m	or I.D.		
008		57 41	08 N	155 09	73 W	10 M	AY	89	09 39	55	50	13 28	2130	70	0	296		60B			

CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location			
Press. SN 26072				on Deck				Data on 093235				Tape/Diskette I.D.			
Temp. SN 710				at Surface				at Surface 093509				File Name/Header			
Cond. SN 304				Press. 3.011				Start Down 0935				10 may 0919			
				Temp. 4.663				at Bottom 0939							
				SAL 31.649				Start Up 0944							
				Cond. 31.649				at Surface 0949				Remarks 60 m CAST			
				DEPTH 2.983				Data off 0940				MICROZOOPLANKTON			
												GO1HA			

P.S.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	
1	1005		60	0939	094408					60.921	4.027	60.349	31.958					M2	1
2	1010		50	094444	094454					51.32	4.025	50.845	31.929					M2	2
3	1008		40	094545	094556					41.053	4.157	40.670	31.859					M2	3
4	1007		30	094630	094640					31.169	4.239	30.879	31.807					M2	4
5	1012		20	094720	094740	BOTTLE DID NOT TRIP (redo)				20.150	4.282	19.963	31.748					M2	5
6	1013		10	094821	094834					10.154	4.645	10.059	31.709					M2	6
*	503		10	094824	094833					10.162	4.649	10.068	31.710					NUT.	58
7																		8	
8	A		60	0939	094400					60.962	4.027	60.389	31.958	56.75	4.02				9
9																		10	
10																		11	
11																		12	
12																			

*nutrient sample

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8.361

57.0°76

18.107

18.277

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NO CTD DATA

Pg. 9 of

Consec. Cast # <u>009</u>		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# <u>053</u>	Vessel Sta. I.D.			Instructions <u>D</u>						Sta. Designation <u>60C</u>		
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD =	Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. si	V. si	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	Deg.		Day	Mo. Yr.	Hr. Min.													
009	57	41	03	N	155	09	73	W	1008	55	40	13	28	205	070	-0	295	60C		
CTD Type & SN <u>91220-B</u>				Monitor Checks				Times		JD/Time		Data Location								
Press. SN <u>26072</u>				on Deck		at Surface		Data on	—		Tape/Diskette I.D.		File Name/Header							
Temp. SN <u>710</u>				Press. <u>0.000</u>	<u>3.384</u>		at Surface	<u>1007</u>		<u>10MAY1003.LOG</u>										
Cond. SN <u>304</u>				Temp. <u>2.874</u>	<u>4.732</u>		Start Down	<u>1007</u>												
				SAL <u>0.000</u>	<u>31.651</u>		at Bottom	<u>1008</u>												
				Cond. <u>0.000</u>	<u>31.651</u>		Start Up	<u>1009</u>												
				DEPTH <u>0.000</u>	<u>3.353</u>		at Surface	<u>1010</u>												
				Other <u>0.000</u>	<u>3.353</u>		Data off	<u>—</u>												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	1008	20	1008	1009					20.355	4.280	20.166	31.758					MZ	1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials Pap

(C31)

Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 057	Vessel Sta. I.D.	Instructions D,S,I								Sta. Designation 59						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 130	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. W.	Bottom Depth, m	Sta. Name or I.D
010	057	38	53	N	15504	05	W	10MAY89	1208	50	40	12	12	22250	4671	261		59	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. 0.000 2.936 Temp. 3.528 5.072 Sal. 0.022 31.565 Cond. 0.000 2.948					Times JD/Time Data on 115540 at Surface 115720 Start Down 115810 at Bottom 120730 Start Up 120818 at Surface 1214 Data off 120827					Data Location Tape/Diskette I.D. File Name/Header 10 MAY 1149				

Data Location

Tape/Diskette I.D.

File Name/Header

Remarks GO16A/GO17A

Pos.	Bot.	T	Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	1004			120730	120730						255.513	4.537	252.996	32.987				32.422	19	1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials RPP

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Consec. Cast # 011		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# 060	Vessel Sta. I.D.			Instructions								Sta. Designation MRNG2									
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 130		Time	GMT	Dry	Wet	Bar.	S.	Wind	Wind	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D								
Deg.		Deg.		Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Si	Dir.	Sp.	Cloud	Type	Weath.										
011	15	5736	81	N	15505	84	W	10	MAY	89	135805004012	1820010471	261	MRNG2															
CTD				Monitor Checks								Times		JD/Time								Data Location							
Type & SN 91220-B				on Deck at Surface								Data on		134606								Tape/Diskette I.D.				File Name/Header			
Press. SN 26072				Press. -0.011 2.464								at Surface		134800												10MAY 1340			
Temp. SN 710				Temp. 3.255 5.377								Start Down		135000															
Cond. SN 304				SAL Cond. 0.000 31347								at Bottom		135800															
				DEPTH Other -0.011 2.441								Start Up		135837															
												at Surface																	
												Data off		135842															
Pos.	Bot.	T	Trip	Time @		Monitor Values					Conv. Mon. Values-CTD					Sample Bot. Data					Sal.	Other	Pos.						
				Depth	Trip	Press.	Temp.	Cond.	Other	DEPTH	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.										
1	101		225	135925	135943	227.175	4.345	32.906	224.954									32.941	3°	1									
2																					2								
3																					3								
4																					4								
5																					5								
6																					6								
7																					7								
8																					8								
9																					9								
10																					10								
11																					11								
12																					12								

Initials PP

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Consec. Cast # 012		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# 061	Vessel Sta. I.D.			Instructions								Sta. Designation 58A		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 130		Time	GMT		Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.												
0	12	57	36	34	N	155	00	48	W	10	MAY 89	1	44405004017	1820511471	244							58A
CTD Type & SN 91220-B				Monitor Checks								Times		JD/Time		Data Location						
				on Deck				at Surface				Data on	143437			Tape/Diskette I.D.		File Name/Header				
												at Surface	143610									
												Start Down	143650									
												at Bottom	144444									
												Start Up	1445									
												at Surface										
												Data off	144445									
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				DEPTH		Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	-Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.						
1																						
2																						
3																						
4	1015	235		144459	236.759	4.540	32.977	234.438													59	
5	1004	200		144633	202.545	3.995	32.728	200.576													50	
6	8	150		144829	151.962	4.019	32.279	150.504													61	
7	1010	100		145054	101.318	3.831	32.161	100.358													62	
8	1011	75		145210	75.866	3.922	32.118	75.152													63	
9	1006	50		145338	50.710	3.910	32.046	50.235													64	
10	1001	30		145441	30.564	4.264	31.903	30.280													961	
11	BLANK	20		145532	20.643	4.735	31.801	20.455													962	
12	1014	10		145647	10.666	5.056	31.770	10.568													963	

Initials CD

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Consec. Cast #		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event #	Vessel Sta. I.D.			Instructions								Sta. Designation 583		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 130		Time	GMT	Dry	Wet	Bar.	S.S.	VIS.	Wind	Wind	Cloud	Type	Weath.	Bottom	Sta. Name or I.D.
013		Deg.	Min.	Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb			Dir.	Sp.	Cloud	TYPE	WEATH.	Depth, m	583
013	57	36	46	N	15500	78	W	10	MAY	89	152205	0040	1718205	11471							245	245
CTD Type & SN 91220-B				Monitor Checks								Times		JD/Time		Data Location						
				on Deck				at Surface				Data on	151821			Tape/Diskette I.D.		File Name/Header				
Press. SN 26072												at Surface	151946					10 MAY 1504				
Temp. SN 710				Press. -0.021				2.033				Start Down	1520									
Cond. SN 304				Temp. 3.667				5.036				at Bottom	1522									
				Cond. 0.000				31.722				Start Up	1523									
				DEPTH Other -0.020				2.014				at Surface		152228								
												Data off										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.	
1																				1		
2																				2		
3																				3		
4	1015	60		152255	60.508	3.944	32.071	59.941												MZ 4		
5	1004	50		152341	50.829	4.115	32.062	50.353												5		
6	8	40		152431	40.852	4.158	32.049	40.471												6		
7	1010	30		152532	31.280	4.159	31.938	30.989												7		
8	1011	30		152556	31.255	4.165	31.936	30.964												8		
9	1006	20		152706	20.572	4.845	31.817	20.381												9		
10	1001	10		152805	10.712	5.053	31.773	10.613												MZ 10		
11																				11		
12																				12		

Initials CD

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(e31)

Consec.Cast # 014		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# 65	Vessel Sta. I.D.			Instructions							Sta. Designation 57		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 130	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
014		45 7 33	13 N	154 52 64 W		10	MAY 89	17 26	08	00 70	12	28	187	12772	236	236	57				
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface								Times		ID/Time		Data Location							
Press. SN 26072										Data on		171737		Tape/Diskette I.D.		File Name/Header					
Temp. SN 710										at Surface		171800				10MAY1710					
Cond. SN 304										Start Down		171825									
Temp. 3.759										at Bottom		1726									
SAL 0.000										Start Up		1727									
Cond. 31.718										at Surface		172559									
DEPTH 0.000										Data off						Remarks G020A/G021A					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Bot. #	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1			224		172654															1	
2			200		172855					201.633	4.291	199.673	32.882					32.894	16	2	
3			200		172931					201.633	4.291	199.673	32.882						16	3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials _____
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Consec. Cast # 015		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# 68	Vessel Sta. I.D.			Instructions								Sta. Designation 56A			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 130	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
0	15 57 30 93	N	154 47 30	W	10 M A Y 89	191609	0080	1208	19410772	216	56A												
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface								Times	JD/Time	Data Location											
Press. SN 26072										Data on	130 / 190630	Tape/Diskette I.D.	File Name/Header										
Temp. SN 710										at Surface	1908		10MAN1904										
Cond. SN 304										Start Down	1909												
										at Bottom	1916												
										Start Up	1916												
										at Surface	191618												
										Data off		Remarks Nutrients & Chlorophyll G022A/B//G023A											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.			
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.	Bot. #	Samp.
1	1004										DEPTH									1			
2																				2			
3																				Nut.	3		
4	25 ₂	A	200	191741	192240					201732	3.939	199.771	32.746	196.01	3.93					32	964	4	
5	10 ₁₅		200		192256					201777	3.940	199.816	32.747								965		5
6	8		150		192448					152.221	3.298	150.760	32.370								966		6
7	10 ₁₀		100		192658					101.192	2.976	100.233	32.747								967		7
8	10 ₁₁		75		192809					76.342	3.117	75.623	32.104								968		8
9	10 ₀₆		50		192932					50.970	3.670	50.493	32.055								969		9
10	10 ₀₁		30		193053					31.076	3.350	30.787	31.839								970		10
11	10 ₀₃		20		193146					20.899	4.115	20.705	31.858								971		11
12	10 ₁₄		10		193234					10.136	4.252	10.042	31.789								972		12

Initials CD

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Consec. Cast #		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event #	Vessel Sta. I.D.			Instructions								Sta. Designation 563			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =		Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. Si.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D		
Deg.		Deg.		Deg.		Day	Mo.	Yr.	Hr.	Min.										212	563		
016		05731	03 N	15447	40 W	10	MAY	89	20	03										212	563		
CTD				Monitor Checks								Times		JD/Time		Data Location							
Type & SN	91220-B	on Deck				at Surface				Data on	195801					Tape/Diskette I.D.	File Name/Header						
Press. SN	26072									at Surface	2000					10 MAY 1957							
Temp. SN	710	Press. 0.001				3.242				Start Down	2001												
Cond. SN	304	Temp. 4.701				4.687				at Bottom	2003												
		SAL 0.030				31.768				Start Up	2003												
		DEPTH 0.001				3.212				at Surface	200354												
		Other								Data off													
Remarks Microzooplankton 60 m. CAST																							
Pos.	Bot.	T. Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.			
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #						
1	1004		10	200858						11.007	4.321	10.905	31.774					mZ	1				
2																		2					
3																		3					
4																		4					
5																		5					
6																		6					
7																		7					
8	1011		60	200323						60.625	3.508	60.056	32.053					mZ	8				
9	1006		50	200431						51.052	3.462	50.574	32.018						9				
10	1015		40	200607						41.529	3.242	41.141	31.912						10				
11	1018		30	200656						30.601	3.560	30.316	31.865					✓	11				
12	1010		20	200861						19.801	4.161	19.618	31.820					mZ	12				

Initials _____

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Consec. Cast # 017		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 73	Vessel Sta. I.D.		Instructions								Sta. Designation 55				
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 130	Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
Deg.		Deg.		Deg.		Day	Mo. Yr.	Hr.	Min.													
0	17	57	28	52	N	154	41 97	W	10 M A Y 89	22 24	09 00 87	12 38	244	11	761	62		55				
CTD				Monitor Checks								Times	JD/Time	Data Location								
Type & SN 91220-B				on Deck				at Surface				Data on	222033	Tape/Diskette I.D.				File Name/Header				
Press. SN 26072												at Surface	2221									
Temp. SN 710				Press. 0.001				3.538				Start Down	2222									
Cond. SN 304				Temp. 5.853				4.735				at Bottom	2224									
				SAL Cond. 0.053				31.562				Start Up	2226									
				DEPTH Other 0.001				3.545				at Surface										
												Data off										
														Remarks Microzooplankton & Chlorophyll a Nutrients G024A								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.						
1	52		10		223241					10.157	4.511	10.063	31.789					975	N.C	1		
2	Pingen																			2		
3	High Water																			3		
4	1011		50																	4		
5	1006		50		222703					50.858	3.417	50.382	32.018							MZ	5	
6	1003		50		222733					50.859	3.416	50.383	32.018					32.029	15	N.C	6	
7	8		40		222834					40.479	3.459	40.102	32.010							MZ	7	
8	1004		30		222923					30.687	3.706	30.401	31.968							MZ	8	
9	99		30		222953					30.725	3.699	30.439	31.971							973	N.C	9
10	1015		20		223035					20.545	4.186	20.354	31.855							MZ	10	
11	1001		20		223103					20.498	4.207	20.308	31.850							N.C	11	
12	1010		10		223206					10.155	4.488	10.061	31.811							MZ	12	

Initials _____ ✓ _____

Consec. Cast # 018	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 081	Vessel Sta. I.D.	Instructions D, S, I, B	Sta. Designation D29													
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = Day 131 Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D				
018	57 25 15 N	155 13 97 W	11 PM MAY 89	04 16	55	50	1138225	08761					254	029					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on. 0411 at Surface. 0412 Start Down. 041225 at Bottom. 041545 Start Up. 041610 at Surface. 0424 Data off. 041559		Data Location Tape/Diskette I.D. File Name/Header 11 MAY 0408									
Remarks 100 m CAST GO27A																			
Pos.	Bot.	Tack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	252.792	72	041700	042210					72.704	3.439	72.021	32.057	74.02	3.39	32.067	11		1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials Pd

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Consec.Cast # <u>019</u>		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# <u>CBS</u>	Vessel Sta. I.D.			Instructions <u>DS, I.B</u>							Sta. Designation <u>B29</u>								
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD =	Time	GMT	Dry	Wet	Bar.	S.	S.	Wind	Wind	Cloud	Type	Bottom	Sta. Name or I.D								
	Deg. Min.	Deg.	Deg.		Day	Mo. Yr.	Hr. Min.	Bulb	Bulb	mb	Vis.	Vis.	Dir.	Sp.	Cloud	U.	Depth, m										
	<u>019</u>	<u>57</u>	<u>31</u>	<u>98</u>	<u>N</u>	<u>155</u>	<u>28</u>	<u>61</u>	<u>W</u>	<u>11</u>	<u>M</u>	<u>A</u>	<u>Y</u>	<u>89</u>	<u>06</u>	<u>49</u>	<u>50</u>	<u>45</u>	<u>11</u>	<u>38</u>	<u>21</u>	<u>21</u>	<u>28</u>	<u>61</u>	<u>31</u>	<u>%</u>	<u>B29</u>
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____						Times	JD/Time	Data Location															
						Data on	<u>064354</u>	Tape/Diskette I.D.	File Name/Header																		
						at Surface	<u>0645</u>		<u>11MAY0647</u>																		
						Start Down	<u>0646</u>																				
						at Bottom	<u>064855</u>																				
						Start Up	<u>064925</u>																				
						at Surface	<u>0653</u>																				
						Data off	<u>064908</u>																				
						Remarks <u>100 m CAST</u> <u>G029A</u>																					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.							
				Depth	Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond:	Sal.	Therm-P	Avg Tw	Sal.											
1	<u>252</u>		<u>30</u>	<u>065120</u>	<u>065135</u>					<u>33.19</u>	<u>3.933</u>	<u>32.811</u>	<u>31.805</u>			<u>31.820</u>	<u>25</u>		1								
2																			2								
3																			3								
4																			4								
5																			5								
6																			6								
7																			7								
8																			8								
9																			9								
10																			10								
11																			11								
12																			12								

Initials PJ ✓

Consec.Cast # 020		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# 103	Vessel Sta. I.D.			Instructions <i>I</i>							Sta. Designation H25	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 131	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	0 20 5 6 5 6	3 0	N	1 5 5 1 1 3 5	W	1 1	M A Y 8 9	2 0 5 2	0 5	0 0 4 5	1 1	3 8	2 3 4	0 8 7 7	1	2 2 6	H 25			
100																				
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on 131 204633 at Surface 204348 Start Down 2048 at Bottom 2052 Start Up 2052 at Surface 2055 Data off 2052				Data Location Tape/Diskette I.D. 11 MAY 2042 File Name/Header								
Remarks 100 m CAST G039A																				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values: CTD				Sample Bot.Data			Sal.	Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	99		102	205223					103.139	3.626	102.162	32.207			32.217	18		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

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Consec. Cast #	Vessel 021 MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 107	Vessel Sta. I.D.	Instructions F25 D.S.I	Sta. Designation F25										
Consec. Cast #	Latitude Deg.	N or S Deg.	Longitude Deg.	E or W Day	Date JD = Mo. Yr.	Time Hr. Min. GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
021	570294	N	1552671	W	11 M A Y 89	23 10	80	60	11	38225	10671	26.6			F25	

CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304	Monitor Checks on Deck at Surface Press. 8.965 Temp. Cond. Other	Times Data on 131/23 63 28 at Surface 23 05 28 Start Down 23 05 53 at Bottom 23 09 28 10 Start Up 23 09 50 at Surface Data off	Data Location Tape/Diskette I.D. File Name/Header 11 May 22 59 DAT
			Remarks 100 m CAST GO41A

Pos.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.	
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1	252	A	86.5	2311	2316						88.095	3.261	87.267	32.094	90.05	3.15	32.098	24	1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

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Consec.Cast # 22		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 111	Vessel Sta. I.D.		Instructions D,S,I,B						Sta. Designation E 25					
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 132	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. V.	Wind Dir.	Wind Sp.	Precip.	Bottom Depth, m	Sta. Name or I.D			
	Deg. Min. S	Deg.			Day Mo. Yr.	Hr. Min.														
	02 25	706	79	N	15533	65	W	12	MAY 89	01	33	75	65	11	38235	10671	276 E 25			
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location								
Press. SN 26072				on Deck at Surface				Data on 012407				Tape/Diskette I.D. 12 MAY 0122				File Name/Header				
Temp. SN 710				Press.				at Surface				at Surface 01 26:40								
Cond. SN 304				Temp.				Start Down 01 2708												
				Cond.				at Bottom 01 3051												
				Other				Start Up												
								at Surface												
								Data off												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1	501	—	334	01:34	013313					33.459	3.933	33.149	31.796		31.808	02		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

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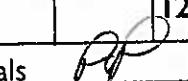
Consec. Cast # 023		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 114	Vessel Sta. I.D.		Instructions D,S,I,B						Sta. Designation D25						
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD = 132	Time	GMT	Dry	Wet	Bar.	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D.		
	Deg. Min. S	Deg.	Deg.		Day Mo. Yr.	Hr. Min.	Bulb	Bulb	mb	s	si	vs									
023	57 10 03 N		155 40 87 W		12 M AY 89	03 27	55	50	11	38	22	9	106	71	286	286	D25				
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location 286									
Press. SN 26072				on Deck		at Surface		Data on	032100	Tape/Diskette I.D. 18 MAY 0317						File Name/Header					
Temp. SN 710				Press. 0.002		3.352		at Surface	032300												
Cond. SN 304				Temp. 6.158		4.957		Start Down	032315												
				Sal. 0.028		31.809		at Bottom	032638												
				Cond. 0.002		3.321		Start Up	032725												
				Deck Other				at Surface	0331												
								Data off	032647												
										Remarks 100 m CAST G045A											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1	581		43	032902	032942				43.413	3.410	43.009	31.750				31.759	29		1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials *PW* ✓

Consec. Cast # <u>24</u>		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # <u>117</u>	Vessel Sta. I.D.	Instructions <u>D3, I, B</u>							Sta. Designation <u>C25</u>					
Consec. Cast #	Latitude <u>N</u> or Deg. Min. S		Longitude E or W Deg.		Date JD = <u>132</u> Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. Si.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D	
	024	571	328	N	1554814	W 12 M AY 89	0518	60	501	1382	1016671	262						
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>					Monitor Checks on Deck at Surface				Times	JD/Time		Data Location <u>262</u>						
					Press. <u>-0.006</u>	<u>2.585</u>	Data on. <u>0513</u>			Tape/Diskette I.D. <u>12 MAY 0509</u>								
					Temp. <u>4.435</u>	<u>5.268</u>	at Surface. <u>0514</u>			File Name/Header								
					Cond. <u>0.000</u>	<u>31.703</u>	Start Down. <u>051420</u>											
					Depth <u>-0.006</u>	<u>2.561</u>	at Bottom. <u>051742</u>											
					Other		Start Up. <u>0519</u>											
							at Surface <u>0522</u>											
							Data off <u>051754</u>											
							Remarks <u>100 m CAST</u>											
							<u>G047A</u>											
Pos.	Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values				Conv. Mon. Values, CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
1	504	/	101	051742	051840	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	
2																		1
3																		2
4																		3
5																		4
6																		5
7																		6
8																		7
9																		8
10																		9
11																		10
12																		11
																		12

Initials PJ✓

Consec. Cast # 25		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# 121	Vessel Sta. I.D.			Instructions 100 m Bongo G049A D, S, I, B								Sta. Designation B 25			
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 132		Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	U.S.	V.S.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D.		
		Deg.	Min.	Deg.		Day	Mo. Yr.	Hr. Min.												247	B 25		
0 2 5 5 7 1 6 6 8	N	1 5 5 5 5 2 1		W	1 2 M A Y 8 9	0 7 0 5	5 0	5 0	1 1 3 8	2 0 9	1 8 6 7 1	2 4 7								246			
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location											
Press. SN 26072				on Deck at Surface				Data on 060945				Tape/Diskette I.D.				File Name/Header							
Temp. SN 710				Press. 2.184				at Surface 0701								12 may 0655							
Cond. SN 304				Temp. 4.788				Start Down 070125															
				Sal. Cond. 31.658				at Bottom 070450															
				Depth 2.163				Start Up 070522															
				Other				at Surface 0714				Remarks				100 m. CAST Bongo G049A							
								Data off 070503															
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data				Sal.	Other	Pos.			
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.	Bot. #	Samp.
1	252	A	57	020715	071235					57.001	4.168	56.471	31.838	55.51	4.18	31.839	8		1				
2																			2				
3																			3				
4																			4				
5																			5				
6																			6				
7																			7				
8																			8				
9																			9				
10																			10				
II																			II				
I2																			I2				

Initials 

Consec. Cast # <u>26</u>		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # <u>125</u>	Vessel Sta. I.D.		Instructions <u>Bmng G052A D,S,I,</u>						Sta. Designation <u>G052A</u>					
Consec. Cast #	Latitude <u>57.02</u> Deg.	N or S	Longitude <u>156 07.6</u> Deg.	E or W	Date <u>132</u> Day	JD = <u>132</u>	Time <u>10:10</u> GMT Hr. Min.	Dry <u>60</u> Bulb	Wet <u>55</u> Bulb	Bar. <u>11</u> mb	S. <u>38</u>	V. <u>18</u>	Wind <u>3</u> Dir.	Wind <u>08</u> Sp.	Cloud <u>8</u> Type	Bottom <u>103</u> Depth, m	Sta. Name or I.D. <u>C22</u>			
026	57	01	99	N	156	07	93	W	12M	A Y 89										
CTD Type & SN <u>91220-B</u>				Monitor Checks				Times JD/Time				Data Location								
Press. SN <u>26072</u>				on Deck		at Surface		Data on <u>10:02</u>			Tape/Diskette I.D. <u>12 MAY 09 53</u>		File Name/Header							
Temp. SN <u>710</u>				Press. <u>0.961</u>				at Surface <u>10:04</u>	?											
Cond. SN <u>304</u>				Temp. <u>4.552</u>				Start Down <u>10:05</u>												
				Sel. <u>31.620</u>				at Bottom <u>10:09</u>												
				Cond. <u>0.952</u>				Start Up <u>100920</u>												
				Depth <u>101200</u>				at Surface <u>101200</u>												
				Other <u>100915</u>				Data off <u>100915</u>												
				Remarks CTD at surface (sensors wet) & <8> <u>G052A</u>																
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values ^{in CTD}				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	504	S2	10:08	10:08					92.805	3.611	91.932	31.816			31.829	12	1			
2																	2			
3																	3			
4																	4			
5																	5			
6																	6			
7																	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials RP ✓

Consec. Cast # 027		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 127	Vessel Sta. I.D.			Instructions D,S,I,B							Sta. Designation M21	
Consec. Cast #	Latitude N Deg. Min. S		Longitude E or W Deg.		Date JD = 132	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. Si	V. Vs	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D		
	0 2 7	5 7 0 3	7 7 N	1 5 6 0 4	4 2 W	1 2 M A Y 8 9	1 1 0 5	6 0	5 5	1 1	3 8	2 1 5	6 8	8 2	1 7 7	Y M Z 1			
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>				Monitor Checks on Deck at Surface Press. <u>-0.012</u> <u>3.029</u> Temp. <u>4.137</u> <u>4.604</u> ^{Sal} Cond. <u>0.000</u> <u>31.661</u> Depth Other <u>-0.012</u> <u>3.001</u>				Times		JD/Time		Data Location							
Data on <u>105635</u>		at Surface <u>105750</u>		Tape/Diskette I.D.		File Name/Header													
at Surface <u>105830</u>		Start Down <u>110500</u>				<u>12 May 1055</u>													
at Bottom <u>110530</u>		Start Up <u>110815</u>		Remarks															
Data off <u>110530</u>		at Surface <u>110815</u>		Cast in vicinity of 8821 - mooring															
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	504		170	110500	110517					171.898	3.927	170.248	32.304		32.309	33		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials RD

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Consec.Cast # 028	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 128	Vessel Sta. I.D.	Instructions D,S,I								Sta. Designation M22						
Consec. Cast # 028	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo.	JD = 132	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S _s	S _v	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
0 28	57 0 2	7 2 N	15 6 0 2	4 6 W	12 M A Y 89	1 1 3 3	5 8	5 2	1 0	3 8	2 1 0	9 8 8 2	2 1 2	MNG 22					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. 2.812 Temp. 4.664 Cond. 31.799 Depth 2.786				Times JD/Time Data on 112550 at Surface 112601 Start Down 112620 at Bottom 113320 Start Up 1134 at Surface 1138 Data off 1139				Data Location 12T2 Tape/Diskette I.D. File Name/Header 12 MAY 1122 Remarks Cast on mooring 8822						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #		
1	561		205	113320	113335					207.482	3.900	205.472	32.347				32.357	20	1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials AP

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Consec.Cast # 029		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 132	Vessel Sta. I.D.			Instructions P, S, I, B						Sta. Designation M23					
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = 132 Day Mo. Yr.	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D			
	029	56	58	85	N	155	52	61	W	12	M A Y 89	13	15	60	58	103	82	131	28	82	315	MNG23
CTD Type & SN 91220-B					Monitor Checks on Deck at Surface					Times		JD/Time		Data Location								
Press. SN 26072					Press. -0.012		2.709			Data on 1302				Tape/Diskette I.D.		File Name/Header						
Temp. SN 710					Temp. 4.727		4.949			at Surface 1304						12 MAY 1259						
Cond. SN 304					Sal. Cond. 0.000		31.672			Start Down 1305												
					Depth Other 0.000		2.684			at Bottom 1315												
										Start Up 1315												
										at Surface 1332												
										Data off 1315												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.		
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.	
1	504		251	1318	1318					253,585	4.781	251.102	33.060				33.104	17		1		
2																				2		
3																				3		
4																				4		
5																				5		
6																				6		
7																				7		
8																				8		
9																				9		
10																				10		
II																				II		
I2																				I2		

Initials PF

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Consec. Cast # 030		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 141	Vessel Sta. I.D.		Instructions								Sta. Designation m24		
Consec. Cast #	Latitude N or S		Longitude E or W		Date JD = 132	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S.S.	V.S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	S	Deg.	Day Mo. Yr.	Hr.	Min.												
0 3 0	5 6	5 5	N	1 5 5 4 6	1 8	W	1 2 M A Y 8 9	1 9	1 9 0 8 0 0 7 0 0 9	3 8	1 7 8 0 8 7 7 1	3 0 2	3 0 2	m24					
CTD		Monitor Checks								Times		JD/Time		Data Location					
Type & SN	on Deck at Surface								Data on	132	/190617			Tape/Diskette I.D.	File Name/Header				
Press. SN	Press. -0.003 1.746								at Surface		190936			12 MAY 1984					
Temp. SN	Temp. 6.565 5.023								Start Down		1910								
Cond. SN	SAL Cond. 0.000 31.753								at Bottom		191954								
	DEPTH Other 0.000 1.730								Start Up		1920								
									at Surface		191955								
									Data off					Remarks					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	✓	A	273	192105	192548					275.097	5.313	272.389	33.278	269.83	5.285	33.288	10		1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

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Consec.Cast # 031		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 143	Vessel Sta. I.D.		Instructions								Sta. Designation m25									
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 132	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D							
	031	5	6	5	2	30	N	155	40	30	W	12	M	A	Y	89	20	56	06	00	52	09	38	17509882	290	m25
CTD Type & SN		91220-B		Monitor Checks				Times	JD/Time		Data Location															
Press. SN		26072		on Deck		at Surface		Data on			Tape/Diskette I.D.															
Temp. SN		710		Press. 0.000				at Surface	204620		File Name/Header															
Cond. SN		304		Temp. 4.661				Start Down	2047		12MAY2035															
				SAL Cond. 0.000				at Bottom	2056																	
				DEPT# Other 0.000				Start Up	2056																	
								at Surface			Remarks															
								Data off	205620																	
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	P.S.						
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #				Samp.					
1	504				205705					274.061	5.347	271.365	33.296				33.306	27		1						
2																				2						
3																				3						
4																				4						
5																				5						
6																				6						
7																				7						
8																				8						
9																				9						
10																				10						
11																				11						
12																				12						

Initials _____

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Consec.Cast #		Vessel		Proj. & Leg		Event#	Vessel Sta. I.D.		Instructions							Sta. Designation			
032		MILLER FREEMAN		MF-89-04 FOCI I		144										m28			
Consec. Cast #	Latitude N or S		Longitude E or W		Date	JD = 132	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S.S.	V.V.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Depth, m	Sta. Name or I.D
	Deg.	Min.	S	Deg.	W	Day Mo. Yr.	Hr. Min.												
032	56	50	N	15	53	54	W	12	MAY 89	21	3206	2055	0938	17008882	284	284	m28		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304		Monitor Checks on Deck at Surface Press. 0.003 2780 Temp. 5.841 4.560 SAL Cond. 0.000 31.934 DEPTH Other 0.003 2754		Times JD/Time Data on 132 / 212123 at Surface 212232 Start Down 2122 at Bottom 212214 Start Up 2132 at Surface 213210 Data off 213210		Data Location Tape/Diskette I.D. 12 MAY 2119 File Name/Header													
Remarks																			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	F
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			150	213811					152.511	3.902	151.054	32.352				32.365	5	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____
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Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions						Sta. Designation									
33	MILLER FREEMAN	MF-89-04 FOCI I	150								Mal 10023									
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 133	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vs.	Wind Dir.	Wind Sp.	Cloud Type	Wheath. Weath.	Bottom Depth, m	Sta. Name or I.D		
33	56 46 98	N	155 28 32	W	13	MAY 89	00	1506005	50938	15504875	25026	/27								
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location 247								
Press. SN 26072				on Deck		at Surface		Data on 00:0340				Tape/Diskette I.D.				File Name/Header				
Temp. SN 710				Press. 2.893				at Surface 00:0648								13 May 0000				
Cond. SN 304				Temp. 4.891				Start Down 00:0710												
				Cond. SAL		31.859		at Bottom 00:15												
				DEPTH		2.866		Start Up												
				Other				at Surface												
								Data off 00:1515												
				Remarks SALINITY SAMPLE @ UNSTABLE SALINITY																
Pos.	Bot.	Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sat.	Bot. #			
1	504			002231					32.355	4.047	32.056	31.870			31.881	07	1			
2																	2			
3																	3			
4																	4			
5																	5			
6																	6			
7																	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials _____

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Consec.Cast # 034		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 152	Vessel Sta. I.D.		Instructions							Sta. Designation m29			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 133	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath. Weath.	Bottom Depth, m	Sta. Name or I.D	
	034564415	N	1552218	W	13	MAY 89	01	06	07	006	408	3817	009875	203	204	m29			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.005 2.882 Temp. 4.938 4.516 SAL Cond. 0.000 31.818 DEPTH Other 0.000 2.855				Times JD/Time Data on 133/005627 at Surface 005853 Start Down at Bottom 010610 Start Up 010615 at Surface Data off 010613				Data Location Tape/Diskette I.D. 13 MAY 0051 File Name/Header							
												Remarks G058A							
Pos.	Bot.	Rack	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1				010700					189.507	3.963	187.684	32.744			32.753	30	1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____

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Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event #	Vessel Sta. I.D.	Instructions G062A	D, S, I, B	Sta. Designation I20												
Consec. Cast #	Latitude N or S Deg.	Longitude E or W Deg.	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S. V.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D						
035	15 56 33 33 N	155 37 54 W	13 MAY 89	06 12 45	30 0 7	48 265	28 875					176	I20						
Monitor Checks				Times JD/Time				Data Location 176											
CTD Type & SN 91220-B	on Deck	at Surface	Data on 060640	Tape/Diskette I.D.	File Name/Header														
Press. SN 26072	Press. 0.001	2.557	at Surface 0608	13 May 0603															
Temp. SN 710	Temp. 3.554	4.527	Start Down 060825																
Cond. SN 304	Cond. 0.000	31.618	at Bottom 061205																
	Depth 0.001	2.531	Start Up 061245																
	Other		at Surface 0617	Remarks G062A															
			Data off 061222	100 m CAST															
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal.	Other	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1				061500	061525				67403	3.052	66.775	31.960				—	22*	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials Pg

* Bottle (rossette) didn't trip, no salinity sample

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Consec.Cast #		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event# 165	Vessel Sta. I.D.			Instructions G064A DS,I,C						Sta. Designation G20				
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 133	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
036	56	39	73	N	1555	1951	W	13 MAY 89	08 56	50	400	74	825	01	4681	282	G20			
CTD Type & SN 91220-B		Monitor Checks						Times JD/Time						Data Location						
Press. SN 26072		on Deck			at Surface			Data on	085030							Tape/Diskette I.D.	File Name/Header			
Temp. SN 710		Press.	- 0.008		3.255			at Surface	085125							13 MAY 0843				
Cond. SN 304		Temp.	4.378		4.713			Start Down	085220											
		Sal	0.057		31.523			at Bottom	085600											
		Cond.	0.057		31.523			Start Up	090120											
		Depth	- 0.008		3.226			at Surface	090340											
		Other						Data off	085618											
Remarks 100 m CAST Cast on Bongo station G064A																				
P. os.	Bot.	Rack	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	P. os.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	252	A	101	0856	0901					101.643	3.779	100.688	30.020	97.46	3.77	32.028	/	1		
2																	2			
3																	3			
4																	4			
5																	5			
6																	6			
7																	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials Pd ✓

Consec.Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions	Sta. Designation													
037	MILLER FREEMAN	MF-89-04 FOCI I	171	G067A DS,I,B				D21											
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 133	Time Hr.	Dry Bulb	Wet Bulb	Bar. mb	S S	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth,m	Sta. Name or I.D			
037	56 55 02	N	156 06 81	W	13	MAY 89	1312	40	40	0838	10507671	212	D21						
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface				Times JD/Time				Data Location							
Press. SN 26072				Press. -0.004	2.600	Data on 1306	Tape/Diskette I.D.				File Name/Header								
Temp. SN 710				Temp. 2.710	4.601	at Surface 1307					13 MAY 1301								
Cond. SN 304				Sal Cond. 0.000	31.606	Start Down 1308													
				Depth -0.004	2.576	at Bottom 1312													
				Other		Start Up 1312													
						at Surface 1315													
						Data off 1312													
						Remarks 100 m CAST													
						Cast on Bongo Station G067A													
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD			Sample Bot. Data			Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	
1	504	53	1314	1314						53.527	3.954	53.029	31.789				31.801	22	1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

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Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation														
038	MILLER FREEMAN	MF-89-04 FOCI I	184			F19														
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 133	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D.			
038	56 40 16	N	156 06 82	W	13 MAY 89	23 03 05	8 05 00	8 38	1 10 10 661	274							F19			
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location								
Press. SN 26072				on Deck		at Surface		Data on 133 / 225900				Tape/Diskette I.D.		File Name/Header						
Temp. SN 710				Press. -0.008		2.683		at Surface 225924						13 MAY 2257						
Cond. SN 304				Temp. 6.011		4.667		Start Down 2300												
				SAL Cond. 0.000		31.661		at Bottom 2303												
				DEPTH Other -0.008		2.659		Start Up 2304												
								at Surface 230336												
								Data off 230336												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1				102	230353					102.937	3.771	101.967	31.986				31.991	14		1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

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Consec. Cast # 039		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event # 197	Vessel Sta. I.D. 6016A	Instructions								Sta. Designation H17			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 134	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Wearth.	Bottom Depth, m	Sta. Name or I.D	
039		5625	11	N	1560508	W	14	MAY 89	0812	48	450	138045	19856	261				H17	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. 2.665 Temp. 4.820 Sal. 31.706 Cond. 31.706 Depth 2.641 Other				Times Data on 0805 at Surface 0807 Start Down 0808 at Bottom 0812 Start Up 0812 at Surface 0816 Data off 0812		JD/Time		Data Location Tape/Diskette I.D. 14 MAY 0758 File Name/Header						
													Remarks 100 m Cast on Bongo STATION G080A						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P			
1	504		100	0812	0812				No Log DATA							—	19		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials Pd

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Consec.Cast # 040		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 204	Vessel Sta. I.D.		Instructions Bongo G083A D.S.I							Sta. Designation E16			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 134	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	040563167	N	1543341	W	14	MAY 89	1158	35	35	00	37	34420	866	200	E16				
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface						Times JD/Time		Data Location									
Press. SN 26072		Press. -0.011		2.518		Data on 115238		Tape/Diskette I.D.		File Name/Header									
Temp. SN 710		Temp. 2.878		4.914		at Surface 115330				14MAY 1149									
Cond. SN 304		Cond. 0.003		31.724		Start Down 1154													
S. Depth		Other -0.011		2.495		at Bottom 115742													
Gond.		Start Up 115805				at Surface 1201													
Cleath		Data off 115810																	
Remarks 100 M CAST CAST on Bongo Station G083A																			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot.Data			Sal.	Other Samp.	P.S.	
				Depth	Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #		
1	584		101	115742	115802					101.843	3.943	100.887	32.262				32.272	35	1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials PD

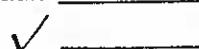


Consec.Cast #		Vessel			Proj. & Leg			Event #		Vessel Sta. I.D.			Instructions							Sta. Designation					
041		MILLER FREEMAN			MF-89-04 FOCI I			206		G084A										D17					
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date	JD =	Time		Dry		Wet		Bar.	S	S	Wind	Wind	Cloud	Type	Weath.	Bottom	Sta. Name	
	Deg.	Min.		Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	Si	Si	Dir.	Sp.	Cloud	Type	Weath.	Depth, m	or I.D.			
041	56	39	N	156	34	61	W	14	MAY	89	1321	25	25	01	37	320188	46	163	163	D17					
CTD Type & SN				Monitor Checks								Times JD/Time								Data Location					
91220-B				on Deck				at Surface				Data on 131720				Tape/Diskette I.D.				File Name/Header					
Press. SN 26072				Press. -0.023				2.454				at Surface 131738								14 MAY 309					
Temp. SN 710				Temp. 2.471				4.794				Start Down 1318													
Cond. SN 304				Sal. 0.000				31.458				at Bottom 132120													
				Depth -0.022				2.431				Start Up 132650													
												at Surface 132915													
												Data off 133228													
Remarks 100 m CAST												CAST ON Bongo G084A													
P.S.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values				CTD				Sample Bot. Data				Sal.	Bot. #	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.							
1	252	A	101	1321	1326					102.973	3.964	102.005	32.109	86.35	3.93	32.114	13					1			
2																						2			
3																						3			
4																						4			
5																						5			
6																						6			
7																						7			
8																						8			
9																						9			
10																						10			
11																						11			
12																						12			

Initials *pp*
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Consec. Cast # 042		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 241	Vessel Sta. I.D.		Instructions								Sta. Designation G12		
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 135	Time Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	S	Deg.	Deg.	W	Mo.	Yr.	Min.								85	G12	
042	56	09	N	156	40	93	W	15	MAY 89	14 49	06 00	0 06 0	15 58	29 43	06 61	83	84		
CTD	Monitor Checks										Times		JD/Time		Data Location				
Type & SN 91220-B	on Deck					at Surface					Data on	135 / 144300	Tape/Diskette I.D.	File Name/Header					
Press. SN 26072											at Surface	144540							
Temp. SN 710	Press. 0.004					2.766					Start Down	144650							
Cond. SN 304	Temp. 1.446					3.670					at Bottom	144929							
	SAL Cond. 0.000					31.593					Start Up	144942							
	267TH Other 0.000					2.741					at Surface	144926							
	Data off																		
Remarks G104A SALINITY BOUNCY																			
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond. 267TH	Sal.	Therm-P	Avg Tw	Sal.			
1			50		1450					52.369	3.433	51.883	31.759		31.770	18		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____



Consec. Cast # 043		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 254	Vessel Sta. I.D.		Instructions								Sta. Designation D11			
Consec. Cast #	Latitude	N or S	Longitude	E or W	Date	JD = 136	Time		Dry Bulb	Wet Bulb	Bar. mb	S. vs	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D			
	Deg.	Min.	Deg.		Day Mo. Yr.	Hr. Min.														
043	56	15	84	N	157 13 85	W	16	MAY 89	00 11 04	0 0 3 0 2	1 58 29	0 30 66	1	136	D11					
CTD Type & SN 91220-B		Monitor Checks						Times	JD/Time		Data Location									
Press. SN 26072		on Deck			at Surface			Data on	000337	Tape/Diskette I.D.		File Name/Header								
Temp. SN 710		Press. 0.002			2.638			at Surface	000620			16MAY0002								
Cond. SN 304		Temp. 1.844			3.715			Start Down	0006											
		Cond. 0.018			3.713			at Bottom	001123											
		Other 0.002			2.614			Start Up	0011											
								at Surface	001124											
								Data off	001124											
Pcs. Bot. Rack Trip Depth				Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Iw	Sal.				
1			80		001255					80716	2.665	79.962	31.888				31.898	28		1
2																				2
3																				3
4																				4
5																				5
6																				6
7																				7
8																				8
9																				9
10																				10
11																				11
12																				12

Initials _____

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Consec. Cast # 044		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 271	Vessel Sta. I.D.		Instructions								Sta. Designation 152		
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date Day Mo. Yr.	JD = 136	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
	044	45	55	37	1	N	155	59	93	W	16	MAY 89	1234	05	05	2358	31831661	90	152
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.042 3.906 Temp. 0.541 4.034 Sd Cond 0.000 31.988 Depth Other -0.041 3.870				Times JD/Time Data on 1227 at Surface 1229 Start Down 1231 at Bottom 1234 Start Up 1235 at Surface 1237 Data off 1234				Data Location Tape/Diskette I.D. 16 MAY 1219 File Name/Header							
Remarks																			
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	S. o
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	501		70	1235	1235					72.031	4130	71.362	32.204			32.228	11		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____



Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation													
045	MILLER FREEMAN	MF-89-04 FOCI I	274			153													
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	Si. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D				
045	55 54	N	156 10	W	136 16 MAY 89	13 53	10	10	24	58	3133	4661	202	153					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.005 3.548 Temp. 0.895 4.000 Cond. 1.184 31.679 Other -0.005 3.515				Times JD/Time Data on 1346 at Surface 134625 Start Down 1347 at Bottom 1353 Start Up 135 at Surface 1353 Data off 1353				Data Location 204 Tape/Diskette I.D. 16 MAY 13411 File Name/Header /							
Remarks																			
P.O.	Bot.	T Rack	Trip Depth	Time @ Depth	Trip	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	P.O.
1	584		149	1354	1354	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	9		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____
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Consec. Cast # 046	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 275	Vessel Sta. I.D.	Instructions								Sta. Designation 154						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 136	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
0 4 6 5 5 5 5 5 2 7 N	1 5 6 1 4 7 3 W		1 6 M A Y 8 9	1 4	4 2 0 1 5 0 1 2	2 4 5 8 3 1 0 2 0 6 7 1	2 2 9	1 5 4											
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.018 3.507 Temp. 0.284 4.009 Cond. 0.032 31.710 DEPTH Other -0.018 3.475				Times JD/Time Data on 143351 at Surface 1434 Start Down 1435 at Bottom 1442 Start Up 1443 at Surface 1443 Data off 1443				Data Location 230 Tape/Diskette I.D. File Name/Header 16MAY1432							
Remarks																			
P.s.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	P.s.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	
1				144419		4.304	32.896			186.981	4.304	185.185	32.896	101.77	389	32.888	12		1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials CC



Consec.Cast #		Vessel		Proj. & Leg		Event#	Vessel Sta. I.D.		Instructions						Sta. Designation						
047		MILLER FREEMAN		MF-89-04 FOCI I		277									155						
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date	JD = 136	Time		Dry	Wet	Bar.	S.	V.S.	Wind	Wind	Cloud	Type	Bottom	Sta. Name
	Deg.	Min.		Deg.		Day	Mo.	Yr.	Hr.	Min.	Bulb	Bulb	mb	si	/vs	Dir.	Sp.	W.	Weath.	Depth, m	or I.D
047	55	55	N	156	20	73	W	16	MAY	89	15	340	150	10	24	58	316	306	71	239	155
CTD	Monitor Checks										Times		ID/Time		Data Location						
Type & SN	on Deck										Data on 136		152435		Tape/Diskette I.D.						
91220-B	at Surface										at Surface		1525		File Name/Header						
Press. SN	Press. -0.003										Start Down		1526		16 MAY 1520						
26072	Temp. 0.577										at Bottom		1534								
Temp. SN	Cond. 0.000										Start Up		1535								
710	SAL										at Surface		1535								
Cond. SN	DEPTH										Data off		153448								
304	Other -0.003																				
P.s.	Bot.	T	Rack	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	%
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	p	
1	252	A	181	153622	154108						182.973	4.418	181.218	32.679	DEPTH	—	—	32.681	23		1
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials CD



Consec. Cast # 048	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04	Event# FOCI I 279	Vessel Sta. I.D.	Instructions								Sta. Designation 156					
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = 136 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	V.S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D 156				
	0 48 55 56 45 N	156 25 91 W	16 M A Y 89	16 29 01	15 01	0 25 58	30 02	4 67 1		216	216							
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.005 3.359 Temp. 0.342 3.876 Cond. 0.044 31.697 DEPTH Other 0.005 3.328				Times JD/Time Data on 136/162103 at Surface Start Down 1622 at Bottom 1629 Start Up 1629 at Surface Data off 162931				Data Location Tape/Diskette I.D. File Name/Header 16MAY1610						
												Remarks						
S. No.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Bot.	Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.			
1	A	181	163040	163546						182.642	4.399	DEPTH 180.890	32.719	172.49	4.41	32.728	02	1
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials CD



Consec.Cast # 049		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 281	Vessel Sta. I.D.		Instructions						Sta. Designation 157							
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 136	Time Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V/S	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D			
	049	55	55	57	37	N	15	630	77	W	16	MAY	89	17	21	01	00	05	25	58	29746671	206	157
CTD Type & SN		91220-B		Monitor Checks						Times		JD/Time		Data Location									
Press. SN		26072		on Deck			at Surface			Data on		136/171253		Tape/Diskette I.D.		File Name/Header							
Temp. SN		710		Press. 0.001			3.534			at Surface		1713				16 MAY 1710							
Cond. SN		304		Temp. -0.004			3.892			Start Down		171445											
				SAL Cond. 0.270			31.640			at Bottom		1721											
				DEPTH Other 0.001			3.501			Start Up		1722											
										at Surface		172114											
										Data off													
Pos.	Bot.	T	Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot.Data			Sal.	Other Samp.	Pos.				
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.			
1				123		172342				123.831	4.719	DEPTH 122.660	32.453		32.436	8		1					
2																	2						
3																	3						
4																	4						
5																	5						
6																	6						
7																	7						
8																	8						
9																	9						
10																	10						
11																	11						
12																	12						

Initials CD



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Consec. Cast # 050	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 282	Vessel Sta. I.D.	Instructions										Sta. Designation 158			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 136	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S. vs.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
050555807N	1563778W	16 MAY 89	1816010010265829936671	198														
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. 0.005 3.902 Temp. 0.013 3.672 Cond. 0.3168 31.720 DEPTH Other 0.005 3.866				Times JD/Time Data on 136/180642 at Surface 1808 Start Down 1808 at Bottom 1815 Start Up 1816 at Surface 1815 Data off 181527				Data Location Tape/Diskette I.D. File Name/Header 16MAY1800					
Remarks																		
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	P.O.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			48	181924					49.423	37.26	DEPTH 48.9168	31.746		31.758	03		1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials _____
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Consec. Cast #	Vessel	Proj. & Leg	Event #	Vessel Sta. I.D.	Instructions	Sta. Designation													
051	MILLER FREEMAN	MF-89-04 FOCI I	287			147													
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 136	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D.	
051	56 17 90	N	156 48 05	W	16 MAY 89	21 29 03	0 0 25	24 6 8	32 34 1	4 1 48	1	108	109	147					
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location							
Press. SN 26072				on Deck		at Surface		Data on		212303		Tape/Diskette I.D.		File Name/Header		16 MAY 2113			
Temp. SN 710				Press. -0.049		3.157		at Surface		2125									
Cond. SN 304				Temp. 2.257		3.778		Start Down		2126									
				SAL Cond. 0.053		31.728		at Bottom		2129									
				DEPTH Other -0.049		3.128		Start Up		2130									
								at Surface		2129									
								Data off		2129									
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1				213050					85.718	3.247	DEPTH 84.921	31.766			31.775	29	1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____



Consec. Cast # 052	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 289	Vessel Sta. I.D.	Instructions								Sta. Designation 148						
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg. W	Date JD = 136 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. W	Bottom Depth, m	Sta. Name or I.D				
	0 5 2 5 6 2 1 5 8 N	1 5 6 5 1 7 5 W	1 6 M A Y 8 9	2 2 2 7 0 0 8 0 0 5	2 5 6 8	3 0 6 3 3 4 8 1	1 3 8												
CTD Type & SN. 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.015 3.374 Temp. 0.807 3.940 Cond. 0.000 31.307 Depth Other 0.015 3.340				Times JD/Time Data on 2220 at Surface 2221 Start Down 2221 at Bottom 2227 Start Up 2227 at Surface 2227 Data off 222713				Data Location Tape/Diskette I.D. File Name/Header 16 MAY 2210							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
1				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

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Consec.Cast # 053	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 290	Vessel Sta. I.D.	Instructions								Sta. Designation 149						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 136	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. W.	Bottom Depth, m	Sta. Name or I.D	
053562406 N	1565491 W		16 M A Y 89		231100	500226	6829628581										129	149	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.015 3.582 Temp. 1.089 3.715 Cond. 0.020 31.702 Other 0.014 3.549				Times JD/Time Data on 230454 at Surface 2307 Start Down 2307 at Bottom 231137 Start Up 2311 at Surface 231138 Data off 231138				Data Location 132 Tape/Diskette I.D. 16MA42301 File Name/Header							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
1			52	231605	232055	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

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Consec. Cast # 054		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 291	Vessel Sta. I.D.			Instructions								Sta. Designation M4						
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 137	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
	0	5	4	5	6	2	7	53	N	15	6	58	18	W	17	MAY	89	00	02	01	000	526	66829022461	79	M4
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. 0.000 2.935 Temp. 3.153 3.609 SAL Cond. 0.000 31.667 Other 0.000 2.909					Times		JD/Time		Data Location Tape/Diskette I.D. File Name/Header 16MAY2355											
										Data on	2358														
										at Surface	2359														
										Start Down	0000														
										at Bottom	0002														
										Start Up															
										at Surface															
										Data off	000256														
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.					
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.							
1			42		000415					42.403	3.588	42.011	31.671				31.683	15		1					
2																				2					
3																				3					
4																				4					
5																				5					
6																				6					
7																				7					
8																				8					
9																				9					
10																				10					
11																				11					
12																				12					

Initials _____
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Consec.Cast # 055		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 292	Vessel Sta. I.D.			Instructions								Sta. Designation 151		
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.	E or W	Date Day	JD = 137	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.	S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D
	055	55	630	08	N	15700	14	W	13	MAY 89	00 4002301726	58	21	21	18561	53	52	151			
CTD Type & SN 91220-B				Monitor Checks					Times		JD/Time		Data Location								
				on Deck			at Surface		Data on	003455		Tape/Diskette I.D.				File Name/Header					
				Press.	0.000		3.236		at Surface	0037						17 May 0032					
				Temp.	3.475		3.516		Start Down	0038											
				Cond.	0.000		31.650		at Bottom	004045											
				Other	0.000		3.206		Start Up	0041											
									at Surface												
									Data off	004046											
Pos.	Bot.	T	Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond:	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
1				33		004146				33.481	3.470	33.172	31.654				31.667	24	1		
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
11																		11			
12																		12			

Initials CD✓

Consec.Cast #		Vessel		Proj. & Leg			Event #	Vessel Sta. I.D.		Instructions							Sta. Designation				
	56	MILLER FREEMAN		MF-89-04 FOCI I			300			P, S, B											
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = Mo.	Yr.	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.	S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
05	16	57	03	37	9	15604	87	W	17	MAY 89	0526	29	1923	4	8340	22671	164	M21			
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location 1617									
Press. SN 26072				on Deck at Surface				Data on 051706				Tape/Diskette I.D.				File Name/Header 17 MAY 0511					
Temp. SN 710				Press. -0.008 2.767				at Surface 051957													
Cond. SN 304				Temp. 2.813 4.589				Start Down 0520													
				Sal. Cond. 0.472 31.649				at Bottom 0526													
				Depth Other -0.008 2.742				Start Up 0526													
								at Surface 0536													
								Data off 052611													
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot.Data				Sal.	Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1	252	A	110	052820	053333					111.295	3.362	110.242	31.857	111.03	3.33	31.867	34			1	
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials P.P



Consec.Cast # 057	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 301	Vessel Sta. I.D.	Instructions D.S.B	Sta. Designation M22														
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 137	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D		
0 5 7	5 7 0 2	7 7 N	1 5 6 0 2 0 1	W	1 7 M A Y 8 9	0 6 0 0	3 0	2 0 2 3	4 8	3 3 0	2 0 6 7 1	2 2 5					M 2 2			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.009 3.751 Temp. 1.780 4.598 Cond. 0.032 31.752 depth -0.009 3.717				Times JD/Time Data on 054920 at Surface 055145 Start Down 055216 at Bottom 055945 Start Up 055955 at Surface 0607 Data off 060005				Data Location Tape/Diskette I.D. 17 MAY 0547 File Name/Header								
												Remarks Cast on mooring M22								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot.Data			Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1	504		17P	060233	660245					178.957	3.391	177.236	32.106				32.119	6		1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials P.P.

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Consec.Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 302	Vessel Sta. I.D.	Instructions D, S, B								Sta. Designation m23						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. Si.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. W.	Bottom Depth, m	Sta. Name or I.D
058	56 58 58	N	155 52 68	W	17	MAY 89	0702	35	25	23	38	315	186	71	316		m23		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time				Data Location 317						
					Press. 0.004	3.285	Data on 064830					Tape/Diskette I.D. 17 may 0646							
					Temp. 1.431	4.447	at Surface 0651												
					Cond. 0.054	31.796	Start Down 0651												
					depth Other 0.004	3.254	at Bottom 0702:17												
							Start Up 070240												
							at Surface 0712												
							Data off 070236												
Remarks Cast on morning M23																			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	504		285	070315	070356					289.056	5.271	285.212	33.264			33.273	26	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials PCH

V

Consec.Cast #	Vessel	Proj. & Leg	Event#	Vessel Sta. I.D.	Instructions							Sta. Designation								
059	MILLER FREEMAN	MF-89-04 FOCI I	303		D,S,B							M24								
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S _s	S _v	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
059	56 55 70	N	155 46 39	W	17	MAY 89	0758	50	35	23	48	32011882	303	303	m24					
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location								
				on Deck		at Surface		Data on 074642												
				Press. 0.002		3.175		at Surface 074700												
				Temp. 1.704		4.161		Start Down 074800												
				Cond. 0.047		31.081		at Bottom 0758												
				Sal.				Start Up 0758												
				Cond.				at Surface 08104050												
				Depth				Data off 0758												
				Other	0.002	3.146								Remarks						
				Cast on mooring m24																
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Bot.	Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1	252		285	0759	0804					289.233	5.341	286.378	33.291			33.303	16		1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials Pd

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Consec.Cast # 060		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 304	Vessel Sta. I.D.			Instructions D,S,B						Sta. Designation m25				
Consec. Cast #	Latitude N or S		Longitude E or W		Date Day	JD = 137		Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	S	Deg.	W	Day	Mo.	Yr.													
060	56	52	N	155	40	31	W	17	MAY 89	0854	50	35	23	48	21	509	88	2	292	m25	
CTD Type & SN 91220-B				Monitor Checks						Times JD/Time		Data Location 292-285									
				on Deck			at Surface			Data on	084335	Tape/Diskette I.D.		File Name/Header							
				Press. 0.003			3.535			at Surface	084420			17MAY0838							
				Temp. 710						Start Down	0845										
				Cond. 304						at Bottom	085430										
				Sol. 0.572			4.350			Start Up	085430										
				Cond. 0.572			31.657			at Surface	090136										
				Depth 0.003			3.502			Data off	085514	Remarks		Cast on mooring m25							
Pos.	Bot.	T	Rack	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	504			275	085510	085520					278.225	51.258	275.537	33.258			33.268	21		1	
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
II																			II		
12																			12		

Initials Pd

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Consec.Cast # 061		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event# 305	Vessel Sta. I.D.		Instructions D, S, B							Sta. Designation m28					
Consec. Cast #	Latitude Deg. Min. N or S		Longitude Deg. E or W		Date Day Mo. Yr.	JD = 137	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	0 61	5 6 5 1	1 2 6	N	1 5 5 3 7	8 2 W	1 7 M A Y 8 9	0 9 3 2	6 0	4 0	2 3	4 8	1 9 5	0 9 8 7 2	2 2 8 6		m28				
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface				Times		JD/Time		Data Location									
Press. SN 26072				Press.	3.258			Data on	0 9 2 2 1 5		Tape/Diskette I.D. File Name/Header										
Temp. SN 710				Temp.	4.434			at Surface	0 9 2 2 3 0		17 May 0921										
Cond. SN 304				Cond.	31.794			Start Down	0 9 2 3 0 0												
				Depth	3.228			at Bottom	0 9 3 2 2 0												
				Other				Start Up	0 9 3 3 1 2												
								at Surface	0 9 4 1		Remarks										
								Data off	0 9 3 3		Cast on mooring m28										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Bot. #	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				
1	504		165	093636	0937				167.119	3.510	165.519	32.349				32.359	33			1	
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7																				7	
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials PQ



Consec. Cast # 062	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 307	Vessel Sta. I.D. D.S., B	Instructions	Sta. Designation m26/27													
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	W/eath.	Bottom Depth, m	Sta. Name or I.D	
0 6 2	2 5 6	4 7	0 4	N	1 5 5 2	8 5 0 W	1 7 M A Y 8 9	1 0 3 7	5 0	3 5 2 2	4	8	2 7 0	1 2 8	7 2	2 5 1	m26/27		
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface				Times JD/Time Data on 102624				Data Location 253							
Press. SN 26072				Press. -0.005 3.879				at Surface 102800				Tape/Diskette I.D. 17 May 1018							
Temp. SN 710				Temp. 3.973 4.321				Start Down 102845											
Cond. SN 304				Cond. 0.024 31.763				at Bottom 103645											
				Solv. Depth -0.005 3.843				Start Up 103753											
								at Surface 1043											
								Data off 103709											
												Remarks Cast @ moorings m26/27							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	
1	504		242	103645	103728					244.201	4.103	241.820	32.851				32.864	27	1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

max depth 243

Initials RDP

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Consec.Cast # <u>063</u>	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# <u>309</u>	Vessel Sta. I.D.	Instructions <u>D.S., B</u>								Sta. Designation <u>M29</u>							
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = Day <u>137</u> Mo. <u>17</u> Yr. <u>89</u>	Time GMT Hr. <u>11</u> Min. <u>30</u>	Dry Bulb <u>50</u>	Wet Bulb <u>35</u>	Bar. mb <u>22</u>	S. Si <u>48</u>	V. Vis <u>250</u>	Wind Dir. Wind Sp. <u>16882</u>	Cloud Type Weath. <u>203</u>	Bottom Depth, m <u>203</u>	Sta. Name or I.D <u>M29</u>					
0 6 3 5 6 4 3 9 8 N	1 5 5 2 2 2 5 W																			
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>				Monitor Checks on Deck <u>3.605</u> at Surface <u>4.247</u> Press. <u>-0.001</u> Temp. <u>2.397</u> Cond. <u>0.000</u> Depth <u>31.882</u> Other <u>3.572</u>				Times JD/Time Data on <u>111715</u> at Surface <u>1122</u> Start Down <u>112320</u> at Bottom <u>113020</u> Start Up <u>1131</u> at Surface <u>1142</u> Data off <u>113121</u>				Data Location Tape/Diskette I.D. <u>17 MAY 1115</u> File Name/Header								
												Remarks <u>G118A</u> <u>Cast @ mooring M29</u>								
Pos.	Bot.	T	Rack	Trip	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #		
1	502	6	183	113120	113215						184.605	3.620	182.882	32.541	180.66	3.61	32.554	32		1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials _____

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Consec. Cast # 64A	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 316	Vessel Sta. I.D. STATION #1	Instructions								Sta. Designation Z64							
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = 137 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D							
64A	56 37 14 N	155 36 56 W	17 MAY 89	15 51	04 00	40 17	38 200	03 28 82	220			220	Z64							
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304 DEPTH Other -0.024				Monitor Checks on Deck at Surface Press. -0.024 3.004 Temp. 3.988 4.204 SAL Cond. 0.000 31.715 Other -0.024 2.976				Times JD/Time Data on 153857 at Surface 1543 Start Down 1544 at Bottom 1551 Start Up 1551 at Surface Data off 155110				Data Location Tape/Diskette I.D. File Name/Header 17MAY1536								
												Remarks L.M. HAD CAP ON TOP OF IT DURING DEPLOYMENT NUTRIENTS → CHLOROPHYLLS G122A								
Pos.	Bot.	T	Rack	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.	
1	1010					Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #			
2	PINGER																	1		
3	L.M.																	2		
4	504			200	155214					202.645	4.149	200.690	32.866			32.877	30	976	4	
5	99			150	155407					151.801	3.597	150.355	32.528						977	5
6	503			100	155603					101.300	3.537	100.347	32.160						978	6
7	NB			75	155718					76.873	3.460	76.155	32.085						979	7
8	1011			50	155854					50.215	3.758	49.749	31.912						980	8
9	1006			30	160032					31.348	4.136	31.059	31.739						981	9
10	8			20	160203					20.601	4.240	20.411	31.738						982	10
11	1004			10	160304					10.820	4.268	10.720	31.737						983	11
12	1015																		12	

Initials CD

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Consec. Cast # 64B		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 317	Vessel Sta. I.D.		Instructions STATION #1								Sta. Designation Z64			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	VIS.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D		
	643563686	N	1553695	W	17	MAY 89	16 24	040040	173820032882	220								220	Z64		
CTD Type & SN 91220-B		Monitor Checks						Times		JD/Time		Data Location									
Press. SN 26072		on Deck			at Surface			Data on	162051	Tape/Diskette I.D. File Name/Header											
Temp. SN 710		Press. 0.002			3.230			at Surface	1622	13 MAY 1989											
Cond. SN 304		Temp. 3.683			4.209			Start Down	1622												
		SAL Cond. 0.276			31.669			at Bottom	1624												
		DEPTH Other 0.002			3.200			Start Up	1625												
								at Surface													
								Data off	162455												
Remarks MICROZOOPLANKTON 60 m CAST G122A																					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.	
	Rack		Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.			
1	10	10		163010						10.638	4.195	10.541	31.726						mZ	1	
2	PINGER																			2	
3	L.M.																			3	
4	504																			4	
5	99																			5	
6	503																			6	
7	1001																			7	
8	1011	60		162540						61.044	3.545	60.476	32.016							mZ	8
9	1006	50		162635						51.217	3.593	50.741	31.984							mZ	9
10	8	40		162715						41.449	3.934	41.066	31.813							mZ	10
11	1004	30		162824						31.471	4.179	31.180	31.729							mZ	11
12	1015	20		162927						20.698	4.192	20.507	31.726							mZ	12

Initials CD

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Consec.Cast # 065		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 320	Vessel Sta. I.D. STATION #2		Instructions						Sta. Designation Z65				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137		Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	55 64 21 9	N	155 47 43	W	17	MAY 89	18 40 04	00 03 51	14 48	23 02 48 85	27 9							Z65		
CTD Type & SN 91220-B		Monitor Checks						Times		ID/Time		Data Location 278								
Press. SN 26072		on Deck			at Surface			Data on 137 / 182825				Tape/Diskette I.D.		File Name/Header						
Temp. SN 710		Press. -0.004			3.192			at Surface		1830				17 MAY 1818						
Cond. SN 304		Temp. 3.566			4.634			Start Down		1831										
		SAL			31.762			at Bottom		1840										
		Cond. 0.000			31.762			Start Up		1841										
		DEPTH			3.163			at Surface												
		Other -0.004			3.163			Data off		184035										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Bot. #	Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P				
1	10		10		190327				10.605	4.559	10.507	31.765						992	1	
2	PINGER																		2	
3	h.m.																		3	
4	504		265		184118													NOT SAMPLED	4	
5	99		250		184218				252.258	5.109	249.795	33.190						984	5	
6	503		200		184422				202.286	4.134	200.335	32.772						985	6	
7	1001		150		184630				151.298	3.695	149.857	32.313						986	7	
8	1011		100		184930				102.569	3.448	101.604	32.116						987	8	
9	1006		75		185149				76.380	3.757	75.666	32.098						988	9	
10	8		50		185314				51.234	3.351	50.759	31.943						989	10	
11	1004		30		185419				30.611	4.294	30.328	31.765						990	11	
12	1015		20		190201				21.339	4.525	21.142	31.768						991	12	

Initials CD

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Consec.Cast # 65B		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 322	Vessel Sta. I.D. STATION #2		Instructions							Sta. Designation 765				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
65	35	N	155	48	12	W	17	MAY 89	19 59	04 50	40	14	47	260	17	882	280	765			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface Press. 0.004 1.729 Temp. 3.352 4.558 Cond. 0.000 31.766 Other 0.004 1.713					Times JD/Time Data on 195458 at Surface 1956 Start Down 1956 at Bottom 1958 Start Up 1959 at Surface 195850 Data off 195850					Data Location Tape/Diskette I.D. File Name/Header 17MAY1985						
															Remarks MICROZOOPLANKTON G123A						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Bot. #	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1	10		10		200317					10.623	4.614	10.526	31.768						MZ	1	
2	PINGER				✓															2	
3	L.M.				✓															3	
4	504		10		200442					10.943	4.614	10.842	31.768					31.781	23	4	
5	99																			5	
6	503																			6	
7	1001																			7	
8	1011		60		195854					61.441	3.914	60.869	32.061							MZ	8
9	1006		50		200002					50.480	3.672	50.011	31.998							MZ	9
10	8		40		200059					40.248	3.779	39.875	31.796							MZ	10
11	1004		30		200143					29.800	4.570	29.535	31.768							MZ	11
12	1015		20		200226					20.492	4.598	20.303	31.770							MZ	12

Initials SD

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Consec.Cast # 66A		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 325	Vessel Sta. I.D.		Instructions STATION # 3								Sta. Designation 766		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D	
	0 6 6 5 6 4 7 3 5 N		1 5 5 5 9 2 9 W		17	MAY 89	21 14 70	0 4 0 0 3 5 1	1 4 4 4 8 2 4 5 0 9 4 8 2	292								290	766	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.002 3.240 Temp. 3.395 4.699 SAL Cond. 0.000 31.727 DEPTH Other -0.002 3.211				Times JD/Time Data on 213506 at Surface 2137 Start Down 2138 at Bottom 2147 Start Up 2147 at Surface 214715 Data off 214715				Data Location Tape/Diskette I.D. 17MAY2129 File Name/Header								
												Remarks G124A NUTRIENTS & CHLOROPHYLLS								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	10			215826					9.635	4.645	9.546	31.737			33.229	05	1001	1		
2	PINGER																		2	
3	L.M.																		3	
4	504	280		214720					283.156	5.191	280.369	33.229							993	4
5	99	250		214836					251.995	4.890	249.534	33.102							994	5
6	503	200		215032					202.477	4.064	200.524	32.705							995	6
7	1001	150		215215					151.636	3.981	150.192	32.272							996	7
8	1011	100		215353					100.698	3.534	99.752	32.084							997	8
9	1006	75		215455					74.794	3.799	74.095	32.000							998	9
10	8	50		215600					49.973	4.196	49.509	31.781							999	10
11	1004	30		215702					30.383	4.271	30.103	31.772							1000	11
12	1015	20		215747					19.902	4.368	19.719	31.770							1000	12

Initials CC

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Consec.Cast # 66B		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event# 327	Vessel Sta. I.D. STATION #3		Instructions							Sta. Designation Z66					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 137	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D			
	0 6 6	5 6	4 7	3 9	N	1 5 5	5 9	4 3	W	1 7	M A Y 8 9	2 2	4 6	0 4	0 0	3 5	1 4 4 8	2 4 5 0 9 4 8 2	2 2 9 2	Z66	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304 DEPTH										Monitor Checks on Deck at Surface Press. 3.553 → Temp. 4.683 → Cond. 31.336 → Other 3.520 →				Times JD/Time Data on 224210 at Surface 2243 Start Down 2243 at Bottom 2246 Start Up 2248 at Surface 224617 Data off 224617				Data Location Tape/Diskette I.D. File Name/Header 17 MAY 2236			
100 PINGER L.M. 504 99 503 1001 1011 1006 8 1004 1015	Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.	
					Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
											19.639	4.318	19.458	31.770				MZ		1	
																				2	
																				3	
																				4	
																				5	
																				6	
											10.338	4.606	10.243	31.755				MZ		7	
																				8	
																				9	
											61.160	4.060	60.591	31.792				MZ		10	
										51.471	4.180	50.993	31.785				MZ		11		
										40.946	4.221	40.567	31.777				MZ		12		
										30.634	4.262	30.351	31.773				MZ				

Initials CD✓

Consec. Cast # 67A		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 330	Vessel Sta. I.D.		Instructions STATION #4							Sta. Designation Z67				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vs.	Wind Dir.	Wind Sp.	Cloud Type	Weather.	Bottom Depth, m	Sta. Name or I.D		
	0 6 7 5 6 5 2	8 6 N	1 5 6 0 9 9 2	W	1 8 M	A Y 8 9	0 0 2 4	0 4 2	0 4 0	1 2	4 8 2 4 0	1 6 7 8 1	1 9 2					Z 67			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times	JD/Time		Data Location ¹⁹⁹² Tape/Diskette I.D. File Name/Header ^{18 MAY 0010}										
				Press. -0.002	3.027	Start Down	001506														
				Temp. 4.344	4.778	at Bottom	0013														
				SAL Cond. 0.000	31.705	Start Up	0017														
				DEPTH Other -0.002	3.000	at Surface	0024														
						Data off	0029														
							0024														
										Remarks NUTRIENTS AND CHLOROPHYLLS G125A											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.		
				Bot.	Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.				Therm-P	Avg Tw
1	10											DEPTH								1	
2	PINGER																			2	
3	L.M.																			3	
4	✓	180	002414	002905					180758	3.442	179.023	32.450	179.89	3.40	32.436	25	1003			4	
5	99	150		003030					151.301	3.373	149.860	32.237								1004	5
6	503	100		003233					102.245	3.591	101.283	32.092								1005	6
7	1001	75		003340					75.868	3.347	75.159	31.983								1006	7
8	1011	50		003501					51.752	3.144	51.271	31.859								1007	8
9	1006	30		003608					31.151	3.629	30.863	31.749								1008	9
10	8	20		003722					21.291	4.559	21.095	31.744								1009	10
11	1004	10		003819					11.156	4.865	11.053	31.714								1010	11
12	1015																			12	

Initials CJ✓

Consec. Cast # 673	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 334	Vessel Sta. I.D.	Instructions								Sta. Designation Z67						
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD = 138	Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S. vs	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D					
	Deg. Min. S	Deg. W	Day Mo. Yr.	Hr.	Min.														
0 6 7 5 6 5 2 8 6 N	15 6 0 9 9 8 W	18 M A Y 8 9	0 1 4 5 0 4 2 0 4 0 1 2 4 8 2 4 0 1 6 7 8 1										1 9 4	Z67					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304 DEPTH Other 0.001				Monitor Checks on Deck at Surface Press. 0.001 2.440 Temp. 4.292 4.849 SAL Cond. 0.084 31.719 DEPTH Other 0.001 2.413				Times JD/Time Data on 138/014101 at Surface 0143 Start Down 0143 at Bottom 0145 Start Up at Surface Data off				Data Location Tape/Diskette I.D. 18 MAY 0135 File Name/Header							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
	Rack		Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	1010		10	015128						10.488	4.916	10.392	31.714					MZ	1
2	PINGER																		2
3	L.M.																		3
4	504																		4
5	995																		5
6	503																		6
7	1001		60	014634						60.730	3.274	60.165	31.903					MZ	7
8	1011	NB	✓	✓															8
9	1006		50	014735						51.034	3.204	50.561	31.832					MZ	9
10	8		40	014831						40.537	3.440	40.161	31.804					MZ	10
11	1004		30	014924						30.648	4.140	30.365	31.822					MZ	11
12	1015		20	015026						21.062	4.592	20.868	31.763					MZ	12

Initials CS

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Consec.Cast # 68A		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 338	Vessel Sta. I.D.			Instructions D, S, B, I							Sta. Designation 768	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S _s	V _s	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	0 6 8 5 6 5 7	8 9 N	1 5 6 2 0 9 1 W	1 8	M A Y 8 9	0 3 1 5	6 0	5 0 1 2 3 8	2 3 3 1 6 7 8 1	9 4								9 4	768
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.001 2.614 Temp. 4.820 4.422 Cond. 0.000 31.679 Depth 0.001 2.590 Other				Times		JD/Time		Data Location							
								Data on 0 3 0 2 0 0	at Surface 0 3 0 9 0 0	Start Down 0 3 1 0 1 4 *	at Bottom 0 3 1 5 2 5	Start Up 0 3 1 5 4 0	at Surface 0 3 0 2	Data off 0 3 1 5 3 9	Tape/Diskette I.D.	File Name/Header			
																		18 May 0304	
																		Remarks G126A. Nutrient + chlorophyll Cast	
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	504		175	0 3 1 6 0 5	0 3 1 6 2 0					76.034	3.676	75.322	30.056			30.062	1	NUT. 1011	1
2	99		50	0 3 1 7 2 0	0 3 1 7 3 9					57.251	3.161	50.774	31.847					1012	2
3	503		30	0 3 1 8 4 0	0 3 1 8 5 6					30.581	3.936	30.298	31.706					1013.	3
4	1001		20	0 3 1 9 3 5	0 3 1 9 4 5					20.524	4.115	20.335	31.695					1014	4
5	1011		10	0 3 2 0 4 5	0 3 2 1 0 0					10.311	4.370	10.212	31.672					1015	5
6	100		10															6	
7																		7	
8																		8	
9																		9	
10	1010																	10	
11																		11	
12																		12	

*Pause @ 5m to note Temp + Sal.

Initials Pd ✓

Consec.Cast # 0688		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 342	Vessel Sta. I.D.			Instructions D,S,B,I							Sta. Designation 268		
Consec. Cast #	Latitude Deg.		N or S	Longitude Deg.		E or W	Date Day	JD = 138	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. s.	Wind Dir.	Wind Sp.	Cloud Type	W. eath.	Bottom Depth, m	Sta. Name or I.D
	068	56	57	80	N	156	21	08	W	18	M A Y 89	0359	60	50	12	38	233	16781	98	268
CTD Type & SN 91220-B				Monitor Checks					Times		JD/Time		Data Location							
				on Deck			at Surface		Data on	035100		Tape/Diskette I.D.			File Name/Header					
				Press. SN 26072			Press. -0.008		2.955	035600		18 Mayo 345								
Temp. SN 710				Temp. 4.358			4.416		Start Down 035645											
Cond. SN 304				Cond. 0.000			31.657		at Bottom 035850											
				Depth -0.008			2.928		Start Up 035940											
				Other					at Surface 0404											
									Data off 035906											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
1	100			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1	100			035900	035920					60.921	3.413	60.353	31.945							1
2	100			040000	040015					49.817	3.177	49.354	31.872							2
3	8			040045	040100					40.201	3.264	39.828	31.809							3
4	100			040127	040143					30.434	3.444	30.152	31.757							4
5	105			040210	040226					19.834	4.123	19.651	31.693							5
6	1010			040252	040308					10.239	4.339	10.145	31.664							6
7																				7
8																				8
9																				9
10																				10
11																				11
12																				12

Initials PDP

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Consec.Cast # 069		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 348	Vessel Sta. I.D.		Instructions D.S.B.I							Sta. Designation 269			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138	Time GMT Mo.	Dry Bulb Hr.	Wet Bulb Min.	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	0 6 9	5 6 5 3	1 3	N	1 5 6	1 6 0 4	W	1 8	M A Y 8 9	0 7 4 5	6 0	5 5	1 2	3 8	2 4 0	1 8 8 8 1	1 8 2	2 6 9	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.000 3.166 Temp. 5.426 4.547 Cond. 0.043 31.687 Depth Other 0.000 3.137				Times JD/Time Data on 073026 at Surface 0738 Start Down 0739 at Bottom 074450 Start Up 074512 at Surface 0750 Data off 074508				Data Location Tape/Diskette I.D. File Name/Header 18MAY0728							
												Remarks G127A							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	504		124	074655	074710					125.528	3.541	124.338	32.223			32.234	22	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials AP

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Consec.Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 352	Vessel Sta. I.D.	Instructions D,S,B,I								Sta. Designation 770							
Consec. Cast #	Latitude Deg. Min. S	Longitude Deg. W	Date Day Mo. Yr.	JD = 138	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. W.	Bottom Depth, m	Sta. Name or I.D				
070	56 55 33 N	15 61 620 W	18 MAY 89	0938	45	40	11	48	255	18481	181				270					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.008 3.391 Temp. 3.507 4.482 Cond. 0.097 31.678 Depth Other -0.008 3.360				Times JD/Time Data on 092940 at Surface 093150 Start Down 093205 at Bottom 093820 Start Up 093855 at Surface 0952 Data off 093837				Data Location Tape/Diskette I.D. 18 MAY 0925 File Name/Header								
												Remarks G128A chlorophyll @ 10m.								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.	
				Bot. Depth	Trip Depth	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	252	A	142	094050	094550					143.715	3.336	142.346	32.228	139.36	3.33	32.341	20	NOT 10	1	
2	504		10	094940	095000					10.947	4.473	10.846	31.679					1016	CHL	2
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials PD

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56 55.34 156 15.9W

Consec.Cast # 071		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 359	Vessel Sta. I.D.			Instructions P.S., B.I.						Sta. Designation 271		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. S.	V.V. Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
071		56 55 34	N	156 15 71	W	18	MAY 89	1209	45	45	13	38	07013681	181	271				
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.003 3.126 Temp. 4.238 4.936 Cond. 0.025 31.637 Depth -0.003 3.097				Times JD/Time Data on 1200 at Surface 1202 Start Down 1203 at Bottom 120910 Start Up 121008 at Surface 121400 Data off 120955		Data Location Tape/Diskette I.D. 18MPY1158 File Name/Header									
										Remarks G129A									
Pos. Bot.	Rack	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	504		172	120910	120945					174.267	3.825	172.594	32.397			32.409	7	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials Pg

Consec.Cast # 072		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 364	Vessel Sta. I.D.			Instructions							Sta. Designation 272			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is	Wind Dir.	Wind Sp.	Cloud Type	W. eath.	Bottom Depth, m	Sta. Name or I.D	
072		56	55	39	N	156	15	61	W	18	M A Y 89	14	24	04	00	38	1	3	3825020661	183	272
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.003 2.654 Temp. 3.617 4.433 SAL Cond. 0.714 31.609 Other -0.003 2.629				Times JD/Time Data on 138 141535 at Surface 141738 Start Down 1418 at Bottom 1424 Start Up 1425 at Surface 1437 Data off 142436				Data Location Tape/Diskette I.D. 18 MAY 1410 File Name/Header									
												Remarks TEMP & SALINITY UNSTABLE @ SAMPLE SITE G131A									
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.		
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.						
1	252	A	104	143010	143450					104.761	3.277	103.773	32.016	102.39	3.28	32.028	35	1			
2																	2				
3																	3				
4																	4				
5																	5				
6																	6				
7																	7				
8																	8				
9																	9				
10																	10				
11																	11				
12																	12				

Initials SD

Consec. Cast # 073		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 367	Vessel Sta. I.D.			Instructions							Sta. Designation 773				
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. si	V. vis	Wind Dir.	Wind Sp.	Cloud Type	Wearh. Type	Bottom Depth, m	Sta. Name or I.D			
073		56	55	29	N	156	15	65	W	18	M	A Y	89	15	18	04	00	35	14	3827019661	181	773
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304										Monitor Checks on Deck at Surface				Times JD/Time Data on 138 / 1510 at Surface 1512 Start Down 1512 at Bottom 1518 Start Up 1519 at Surface 1518 Data off 151848				Data Location Tape/Diskette I.D. 18 MAY 1506 File Name/Header				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.		
1				25		152257	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			Not.	1	
2				10		152418					10.124	4.400	10.031	31.681				31.695	14	1017	2	
3																				3		
4																				4		
5																				5		
6																				6		
7																				7		
8																				8		
9																				9		
10																				10		
11																				11		
12																				12		

Initials

Consec. Cast # 074	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 372	Vessel Sta. I.D.	Instructions								Sta. Designation Z74						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis	Wind Dir.	Wind Sp.	Cloud Type	W eath.	Bottom Depth, m	Sta. Name or I.D	
074	56 55 25	N	156 15 60	W	18	MAY 89	17	46	05 0 0 4 0	16	3827020661						181	Z74	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time		Data Location								
									Data on 138 / 173843	Tape/Diskette I.D. File Name/Header									
									at Surface 173936	18 MAY 1734									
									Start Down 1740										
									at Bottom 1746										
									Start Up 1749										
									at Surface 1751										
									Data off 174626										
									Remarks										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1					174644					174968	3.826	173.289	32.397				32.410	18	1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

Consec. Cast # 075	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 376	Vessel Sta. I.D.	Instructions								Sta. Designation Z75					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 138	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Wearth. Y	Bottom Depth, m	Sta. Name or I.D	
075	55	55	39 N	156 16 W	18	MAY 89	2006055050	16	48	26910681	178	178	178	178	178	178		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time Data on 138 / 195347 at Surface 2000 Start Down 2000 at Bottom 2006 Start Up 2007 at Surface Data off 200639				Data Location Tape/Diskette I.D. 18 MAY 1950 File Name/Header					
													Remarks					
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1		171		200709						172.277	3.815	170.624	32.396		32.408	28	1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials SD

Consec. Cast # 036		Vessel MILLER FREEMAN		Proj. & Leg. MF-89-04 FOCI I			Event # 379	Vessel Sta. I.D.		Instructions								Sta. Designation 7746					
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 138	Time		Dry	Wet	Bar.	S.	S.	Wind	Wind	Cloud	Type	Bottom	Sta. Name or I.D.			
		Deg.	Min.	Deg.		Day	Mo. Yr.	GMT	Bulb	Bulb	mb	vis	vis	Dir.	Sp.	Cloud	Wearh.	Depth, m					
0	7	6	5	6	5	5	28 N	156 15 98 W	18 M A Y 89	21 39 07 00 60	17 48 26 01 25 81	181							181	776			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304										Monitor Checks on Deck at Surface				Times JD/Time Data on 138 213020 at Surface				Data Location Tape/Diskette I.D. File Name/Header 18 MAY 2125					
PoS.	Bot.	T	Rack	Trip Depth	Time @ Depth	Trip	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	pg.		
1	99			10		214827	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	31.695	19	1018	1		
2																					2		
3																					3		
4																					4		
5																					5		
6																					6		
7	100b			60		214221					61.281	3.443	60.710	31.951								mz	7
8	8			50		214345					50.878	3.523	50.405	31.890								mz	8
9	1001			40		214448					40.401	3.601	40.026	31.856								mz	9
10	1015			30		214604					30.971	3.821	30.684	31.772								mz	10
11	1004			20		214702					20.337	4.341	20.149	31.682								mz	11
12	1011			10		214801					9.831	4.398	9.741	31.681								mz	12

Initials CD

Consec. Cast # 077	Vessel MILLER FREEMAN	Proj. & Leg. MF-89-04 FOCI I	Event # 385	Vessel Sta. I.D.	Instructions								Sta. Designation Z77									
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 139	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. vis	Wind Dir.	Wind Sp.	Cloud Type	Wind Weath.	Bottom Depth, m	Sta. Name or I.D			
077	56 55 35	N	156 15 95	W	19 MAY 89	00 11 09	00 07	0 18	38 295	156 71	182							181	Z77			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time		Data Location											
									Data on 139 000248	Tape/Diskette I.D. File Name/Header												
									at Surface 000501	18MAY1989												
									Start Down 0006													
									at Bottom 001126													
									Start Up 0011													
									at Surface 001127													
									Data off 001127													
									Remarks MICROZOOPLANKTON													
P.O.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.			
				Depth	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.			
1																				1		
2																				2		
3																				3		
4																				4		
5																				5		
6	1005	129		0013							130.226	3.402	128.991	32.192				32.202	11		6	
7	1006	60		001528							61.046	3.479	60.477	31.919							MZ	7
8	8	50		001622							50.561	3.439	50.091	31.903							MZ	8
9	1001	40		001702							40.879	3.556	40.500	31.863							MZ	9
10	1015	30		001751							30.995	3.701	30.708	31.847							MZ	10
11	1004	20		001840							20.465	4.383	20.276	31.680							MZ	11
12	1011	10		001934							9.876	4.453	9.785	31.680							MZ	12

Initials _____

Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event#	Vessel Sta. I.D.	Instructions D.S., B.I.	Sta. Designation 278													
Consec. Cast #	Latitude Deg. Min. N or S	Longitude Deg. E or W	Date Day Mo. Yr.	Time Hr. Min. GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Wind Weath.	Bottom Depth, m	Sta. Name or I.D.					
078	56 55 31 N	156 58 51 W	139 08 18 M A Y 89	02 08	74	61 20 38	29 01 9561		181				181	278					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface			Times JD/Time		Data Location 181										
				Press. 0.002	3.148	Data on 015935	Tape/Diskette I.D. 19 MAY 0152												
				Temp. 4.914	4.664	at Surface 02030													
				Cond. 0.074	31.770	Start Down 020105													
				Depth 0.062	3.119	at Bottom 020755													
				Other		Start Up 020800													
						at Surface 0221													
						Data off 020807													
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	2	A	110	021235	021750					111.676	3.706	110.621	32.075	109.79	3.70	32.087	10	1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials Pd

Consec.Cast # 079		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 391	Vessel Sta. I.D.			Instructions DS,B,I							Sta. Designation 279		
Consec. Cast #	Latitude N or S		Longitude E or W		Date ID = 139			Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S.	VIS	Wind Dir.	Wind Sp.	Cloud Type	Wearh.	Bottom Depth, m	Sta. Name or I.D	
	Deg.	Min.	S.	Deg.	W.	Day	Mo.	Yr.	Hr. Min.											
079	56	55	N	156	15	09	W	19	MAY 89	0351	70	50	20	38	2701	0661	180	279		
CTD Type & SN 91220-B				Monitor Checks						Times JD/Time		Data Location 18.0								
				on Deck			at Surface			Data on 034252		Tape/Diskette I.D.		File Name/Header						
				Press. 0.002			3.001			at Surface 034440		19MAY0342								
				Temp. 710			4.651			Start Down 034500										
				Cond. 304			31.683			at Bottom 035045										
				SAL	Cond. 0.095		2.973			Start Up 035140										
				DEPTH	Other 0.002				at Surface 0358											
									Data off 035105											
Remarks 10m. chlorophyll sample																				
P.O.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	504		163	035145	035158					165.180	3.660	163.599	32.391			32.401	12	1		
2	99		10	035626	035643					10.090	4.623	9.997	31.681					nut 1019	2	
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 396	Vessel Sta. I.D. QSB	Instructions	Sta. Designation 280														
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. Si	V. Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath. W.	Bottom Depth, m	Sta. Name or I.D.			
680565521	N		1561618	W	19 MAY 89	0539	57	4522	3827012661							180	280			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time				Data Location								
				Press. -0.008	2402	Data on 052940					Tape/Diskette I.D.				File Name/Header					
				Temp. 5.208	4.594	at Surface 053135									19 MAY 0527					
				Sal. 0.000	31.692	Start Down 053225														
				Cond. 0.000	31.692	at Bottom 053845														
				Depth -0.008	2.380	Start Up 053950														
				Other		at Surface 0546														
						Data off 053908														
P. o. s.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1	509		69	054310	054320				70.080	3.551	69.425	32.001			30.012	13	1			
2																	2			
3																	3			
4																	4			
5																	5			
6																	6			
7																	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials Pd

Consec.Cast #		Vessel		Proj. & Leg			Event#	Vessel Sta. I.D.		Instructions							Sta. Designation		
081		MILLER FREEMAN		MF-89-04 FOCI I			399										281		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD =	Time	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
Deg.		Deg.		Deg.		Day	Mo.	Hr.	Min.										
081		56 55	33 N	156 15	84 W	19	MAY	07	38	50	40	23	33	82	650	4361	181	281	
CTD				Monitor Checks						Times		Data Location							
Type & SN 91220-B				on Deck			at Surface			JD/Time		Tape/Diskette I.D.			File Name/Header				
Press. SN 26072				Press. -0.002			3.442			Data on 072930					19MAY0724				
Temp. SN 710				Temp. 2.533			4.542			at Surface 073130									
Cond. SN 304				Cond. 0.048			31.679			Start Down 073200									
				Depth -0.002			3.410			at Bottom 073250									
				Other						Start Up 073240									
										at Surface 0743									
										Data off 073238									
P.o.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	99		175	073800	073821					177.547	3.594	175.842	32.414			30.431	49	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
12																		12	

Initials

Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg. MF-89-04 FOCI I	Event #	Vessel Sta. I.D.	Instructions D.S. B								Sta. Designation 282							
Consec. Cast #	Latitude Deg. Min. S	N or S Longitude Deg. W	Longitude E or W	Date Day Mo. Yr.	JD = 139	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D				
082	25 6 55 30 N	156 15 81 W	19 M A Y 89	09 43	50	35	24	48	29020491		182	282								
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.000 2.838 Temp. 3.945 4.462 Cond. 0.035 31.681 Depth Other 0.000 2.812				Times JD/Time Data on 093300 at Surface 093620 Start Down 093700 at Bottom 094250 Start Up 094315 at Surface 0950 Data off 094310				Data Location 182 Tape/Diskette I.D. 19MAY0931 File Name/Header								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.	
1	504	"	71	094636	094640					70.203	3.880	71528	30.079				32.092	39		1
2	99	"	10	094850	094909					10.270	4.464	10.176	31.685						NUT 1020	2
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials

Consec. Cast #	Vessel	Proj. & Leg.	Event #	Vessel Sta. I.D.	Instructions								Sta. Designation						
083	MILLER FREEMAN	MF-89-04 FOCI I	409	P,S,B									283						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 139	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si	S. vis	Wind Dir.	Wind Sp.	Wind Cloud Type	Bottom Depth, m	Sta. Name or I.D	
083	56 55 44	N	156 16 18	W	19	MAY 89	11	23	50	35-24	1829020481						180	283	
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location 180							
Press. SN 26072				on Deck		at Surface		Data on 111600						170/160 Hu					
Temp. SN 710				Press. -0.002		3.315		at Surface 111615						File Name/Header 19MAY1109					
Cond. SN 304				Temp. 3.917		4.496		Start Down 111730											
				Sal. Cond. 0.019		31.667		at Bottom 112315											
				Depth Other -0.002		3.285		Start Up 112345											
								at Surface 1130											
								Data off 112458											
Pos.	Bot.	Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	504		141	112520	113545					142.847	3.586	141.487	32.268		32.283	H7	1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials

Consec. Cast # 084		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 424	Vessel Sta. I.D.		Instructions							Sta. Designation Z84		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 139	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Wind Weath.	Bottom Depth, m	Sta. Name or I.D
084		56 58	37 N	156 19 39 W		19 MAY 89	1604055040	28	2826006271	96								96	Z84
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.009 3.043 Temp. 4.209 4.300 Cond. 0.000 31.699 DEPTH Other 0.000 3.015				Times JD/Time Data on 139 155602 at Surface 160102 Start Down 1601 at Bottom 1604 Start Up 1605 at Surface 1609 Data off 160437				Data Location Tape/Diskette I.D. 19 MAY 1529 File Name/Header							
																Remarks CHLOROPHYLL @ 10 m			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1																		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10	504																	10	
11	99	10		160826				10.528	4.309	10.431	31.714					31.728	37 1021	11	
12																		12	

Initials S D

Consec. Cast # 085	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 431	Vessel Sta. I.D.	Instructions								Sta. Designation Z85					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 139	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si	V. vis	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D.
085565336	N		1561100	W	19 M A Y 89	185705004028	2803006271	200									Z85	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. -0.004 2.737 Temp. 7.054 4.502 SAL Cond. 0.000 31.890 DEPTH Other -0.004 2.711				Times JD/Time Data on 139 / 184910 at Surface 184957 Start Down 1850 at Bottom 1853 Start Up 1858 at Surface 185715 Data off 185715				Data Location Tape/Diskette I.D. 19 MAY 1827 File Name/Header						
P.o. Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values Press. Temp. Cond. Other				Conv. Mon. Values-CTD Press. Temp. Cond. Sal.				Sample Bot. Data Therm-P Avg Tw Sal.			Sal. Bot. #	Other Samp.	Pos.	
1																	1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10	A. 2	183	185840	190326				184.887	3.741	183.108	32.375	144.91	3.69	32,389	55		10	
11	504			190835				9.447	4.494	9.360	31.718						1022	11
12	99																12	

Initials CSD

Consec.Cast # 086	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 437	Vessel Sta. I.D.	Instructions								Sta. Designation 786							
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 139	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. si	V. is	Wind Dir.	Wind Sp.	Cloud Type	Wearh. V.	Bottom Depth,m	Sta. Name or I.D		
	Min.				Mo.	Yr.	Min.													
086564807 N	1555993 W		19 M A Y 89	21	380980793038	16506571	281										281	786		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time Data on 139 212630 at Surface 212821 Start Down 2128 at Bottom 213810 Start Up 2138 at Surface 213811 Data off 213811				Data Location Tape/Diskette I.D. 19 MAY 2115 File Name/Header							
																	Remarks			
P.o. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal. Bot. #	Other Samp.	Pos.	
			Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1		248		213935					250.469	5.043	248.019	33.168				33.172	48	1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD

Consec. Cast # OR7		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 444	Vessel Sta. I.D.			Instructions							Sta. Designation 787	
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 140	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S.S. vis	Wind Dir.	Wind Sp.	Cloud Type	Wheath. Type	Bottom Depth, m	Sta. Name or I.D	
087	564228	N	1554914	W	20	MAY 89	00520810703	02819004371	284	287									
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time		Data Location									
				Press. 0.002	2.572	Data on 140	Tape/Diskette I.D. File Name/Header												
				Temp. 3.468	4.981	at Surface 004227	20 MAY 89039												
				SAL Cond. 0.134	32.133	Start Down 0042													
				DEPTH Other 0.002	2.548	at Bottom 0052													
						Start Up 0052													
						at Surface 005218													
						Data off 005218													
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			276	005237					278.211	4.678	275.471	33.126		33.157	38		1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____

Consec. Cast # 088	Vessel MILLER FREEMAN	Proj. & Leg. MF-89-04 FOCI I	Event # 457	Vessel Sta. I.D.		Instructions D, S, B								Sta. Designation Z88						
Consec. Cast #	Latitude Deg. Min. N or S	Longitude Deg. W	Date Day Mo. Yr.	JD = 140	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. V.	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D				
	088 56 37 15 N	155 38 12 W	20 MAY 89	03 12	80	703	128	15004	371		226	Z88								
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface Press. 0.000 3.317 Temp. 6.237 4.890 Sal. Cond. 0.022 31.778 Depth Other 0.000 3.286				Times JD/Time Data on 030000 at Surface 030330 Start Down 030350 at Bottom 031150 Start Up 031140 at Surface 0319 Data off 031147		Data Location Tape/Diskette I.D. 20 MAY 0252 File Name/Header										
Remarks																				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values, CTD				Sample Bot. Data			Sal.	Other	Pos.	
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1	504		208	031220	031235					210.732	4.183	208.697	32.886				32.902	36		1
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials

Consec.Cast # 089		Vessel MILLER FREEMAN			Proj. & Leg. MF-89-04 FOCI I			Event# 461	Vessel Sta. I.D.			Instructions								Sta. Designation 289	
Consec. Cast #	Latitude 56 43.5 Deg.	N or S	Longitude 155 50.4 Deg.	E or W	Date 140 Day	JD = Mo.	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. Si	V. Vis	Wind Dir.	Wind Sp.	Cloud Type	W. Weath.	Bottom Depth, m	Sta. Name or I.D			
	56 43.5 Min.		155 50.4 Deg.			140 Yr.	07 43	70	60	32	38	255	07681			294	289				
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface								Times JD/Time		Data Location									
Press. SN 26072										Data on 073020	Tape/Diskette I.D. File Name/Header										
Temp. SN 710										at Surface 073220	20 may 0728										
Cond. SN 304										Start Down 073325											
										at Bottom 074240											
										Start Up 074300											
										at Surface 075608											
										Data off 074303											
										Remarks											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.	
				Bot.	Rack	Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1	2	A	257	074400	074953				259.999	5.157	257.457	33.216			33.222	45		1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
11																		11			
12																		12			

Initials PP

Consec.Cast #	Vessel MILLER FREEMAN	Proj. & Leg. MF-89-04 FOCI I	Event #	130	Vessel Sta. I.D.	Instructions								Sta. Designation					
Consec. Cast #	Latitude N or S	Longitude E or W	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D.						
090564350 N	1555020 W	20 MAY 89	09 42 070	6 23 238	255 104 81	294	290												
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location							
				on Deck	at Surface	Data on	093040					Tape/Diskette I.D.	File Name/Header						
				Press. 0001	2.904	at Surface	093135						20MAY0928						
				Temp. 710	5.043	Start Down	093200												
				Cond. 304	4.607	at Bottom	094133												
				Temp. 4.607	5.043	Start Up	094200												
				Cond. 0.000	31.785	at Surface	0949												
				Depth 0.000	2.878	Data off	094151												
				Remarks															
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values, CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1	501		129	094542	094605					130.983	3.237	129.742	32.211		32.218	41	1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials

Consec.Cast # 091		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 469	Vessel Sta. I.D.			Instructions D.S.							Sta. Designation E 91			
Consec. Cast #	Latitude N or S		Longitude E or W		Date ID = 140		Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.	S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D				
	Deg.	Min.	S	Deg.	W	Day Mo. Yr.	Hr. Min.				Vis.										
091	56	43	N	155	50	25	W	20 M A Y 89	1200	65	6532	28235	10471	292	291						
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location									
				on Deck		at Surface		Data on 14938		Tape/Diskette I.D.					File Name/Header						
				Press. -0.005		2.827		at Surface 115000							20 MAY 145						
				Temp. 5.185		5.021		Start Down 115035													
				Cond. 0.034		31.750		at Bottom 120000													
				Other -0.005		2.801		Start Up 120030													
								at Surface 1208													
								Data off 120014													
P.s.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.					
1	99		260	120125	120146					262.729	5.255	260.157	33.258			33.270	40		1		
2																			2		
3																			3		
4																			4		
5																			5		
6																			6		
7																			7		
8																			8		
9																			9		
10																			10		
11																			11		
12																			12		

Initials _____

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Consec.Cast # <u>092</u>		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# <u>474</u>	Vessel Sta. I.D.			Instructions							Sta. Designation <u>292</u>		
Consec. Cast #	Latitude N or S		Longitude E or W		Date Day	JD = <u>140</u>	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D	
<u>092</u>	Deg.	Min.	S	Deg.																
	56	43	N	155	50	19	W	20	MAY 89	14	27	07	206	532	28	230	03671	290	292	
CTD Type & SN <u>91220-B</u>				Monitor Checks				Times JD/Time				Data Location								
				on Deck		at Surface		Data on <u>140</u>		<u>141400</u>		Tape/Diskette I.D. <u>291</u>				File Name/Header <u>20MAY1408</u>				
				Press. <u>-0.071</u>		<u>3.140</u>		at Surface		<u>141319</u>										
				Temp. <u>5.093</u>		<u>4.898</u>		Start Down		<u>141350</u>										
				Cond. <u>0.000</u>		<u>31.817</u>		at Bottom		<u>142327</u>										
				SAL <u>0.000</u>		<u>31.817</u>		Start Up		<u>1428</u>										
				Depth <u>0.000</u>		<u>3.112</u>		at Surface		<u>142730</u>										
				Other				Data off												
P.O.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.				
1			282		142806					284.314	5.264	281.515	33.261				33.276	50	1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
II																		II		
12																		12		

Initials CD

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Consec. Cast # 093	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 476	Vessel Sta. I.D.	Instructions								Sta. Designation 293						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 140	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Weath.	Depth, m	Sta. Name or I.D
093	56 43 38	N	155 50 26	W	20 M A Y 89	15 22 06	50 6 0 3 3	28 2 1	50 8 6 7 1	290	293								
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304 DEPTH					Monitor Checks on Deck at Surface Press. 0.005 3.084 Temp. 4.889 4.879 Cond. 0.025 31.873 Other 0.005 3.056				Times JD/Time Data on 140 150957 at Surface 151220 Start Down 151253 at Bottom 152229 Start Up 1523 at Surface 152230 Data off 152230				Data Location Tape/Diskette I.D. File Name/Header 20 MAY 1507						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.	Bot. #		
1	99		282		153257					283.899	5.365	281.105	33.263				33,276	43	1
2	504		25		153343					25.788	4.563	25.550	31.375						2
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

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Consec.Cast # <u>094</u>		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I		Event# <u>H82</u>	Vessel Sta. I.D.			Instructions							Sta. Designation <u>794</u>										
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 140	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S. vis	V. vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D							
	<u>094</u>	<u>56</u>	<u>43</u>	<u>52</u>	<u>N</u>	<u>155</u>	<u>50</u>	<u>26</u>	<u>W</u>	<u>20</u>	<u>M</u>	<u>A</u>	<u>Y</u>	<u>18</u>	<u>9</u>	<u>17</u>	<u>27</u>	<u>07</u>	<u>00</u>	<u>70</u>	<u>34</u>	<u>28</u>	<u>190</u>	<u>10771</u>	<u>290</u>	<u>794</u>
CTD Type & SN <u>91220-B</u>					Monitor Checks					Times JD/Time					Data Location											
Press. SN <u>26072</u>					on Deck		at Surface			Data on <u>140</u>		<u>131518</u>			Tape/Diskette I.D.		File Name/Header									
Temp. SN <u>710</u>					TEMP <u>6.533</u>		<u>4.826</u>			at Surface		<u>131342</u>					<u>20MAY1309</u>									
Cond. SN <u>304</u>					SAL <u>0.737</u>		<u>31.911</u>			Start Down		<u>1318</u>														
					DEPTH <u>0.003</u>		<u>2.806</u>			at Bottom		<u>1727</u>														
					ATTEN <u>29.910</u>		<u>17.798</u>			Start Up		<u>1727</u>														
										at Surface		<u>172726</u>														
										Data off																
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.						
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #				Samp.					
1																							1			
2																							2			
3																							3			
4																							4			
5																							5			
6																							6			
7																							7			
8																							8			
9																							9			
10	502	6	248	172846	173345					5.253	33.257	248.634	0.000					33.270	54				10			
11	504																						11			
12	99																						12			

Initials _____



264-8

284-8

65-69

Consec.Cast # 095		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 486	Vessel Sta. I.D.		Instructions								Sta. Designation 795	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 140	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
	55 56 43 45	N	155 50 25	W	20	MAY 89	2012070065	33 38 23	41 28 82	291							291	795
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface TEMP 6.231 4.957 SAL 0.000 31.898 DEPTH 0.000 3.125 ATTEN 105.243 3.154				Times ID/Time Data on 140 / 200114 at Surface 200211 Start Down 2003 at Bottom 201209 Start Up 201222 at Surface 201210 Data off 201210				Data Location Tape/Diskette I.D. File Name/Header 20 MAY 1955						
Pos. Bot.	T Rack	Trip Depth	Time @ Depth	Monitor Values Press. Temp. Cond. Other				Conv. Mon. Values-CTD TEMP SAL DEPTH ATTEN				Sample Bot.Data Therm-P Avg Tw Sal.				Sal. Bot. #	Other Samp.	Pos.
1																		1
2																		2
3																		3
4																		4
5																		5
6																		6
7																		7
8																		8
9																		9
10																		10
11	504	102	201702					3.582	32.183	102.184	0.000					32.210	56	11
12	99																	12

Initials _____



Consec. Cast # 096	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 489	Vessel Sta. I.D.	Instructions								Sta. Designation 796							
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 140	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D		
096	56 43 38	N	155 50 07	W	20	MAY 89	21 42 06	80 65	33 37	2351	0882			291	291	291	291			
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time				Data Location								
								Data on _____					Tape/Diskette I.D.				File Name/Header			
								at Surface _____	213226								20mawalab			
								Start Down _____												
								at Bottom _____	214249											
								Start Up _____												
								at Surface _____												
								Data off _____												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #			
1			223		214501					4.706	33.061	222959	0.000				33.074	42	1	
2			60		215020					3.380	31.985	59.840	0.000						2	
3			50		215108					3.533	31.849	49.515							3	
4			40		215150					4.219	31.780	40.588							4	
5			30		215242					4.691	31.760	30.314							5	
6			20		215336					4.816	31.766	20.376							6	
7			10		215426					5.071	31.763	10.386	10.041							7
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials _____



Consec. Cast # 097	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 494	Vessel Sta. I.D.	Instructions								Sta. Designation 797					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 141	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
097	564353	N	1555023	W	21	MAY 89	00 11 06	5060	333823515862	292					292	797		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time		Data Location							
					TE:IP 5.129	4.989		Data on 141 000023		Tape/Diskette I.D.	File Name/Header							
					SAL 0.000	31.792		at Surface 000125			20 MAY 2359							
					DEPTH 0.000	2.749		Start Down 0002										
					ATTEN 64.104	2.774		at Bottom 0011										
								Start Up 0011										
								at Surface 001122										
								Data off 001122										
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1																	1	
2																	2	
3																	3	
4	504	165		001455					3.332	32.346	165.171	0.000			32.358	46	4	
5	1015	60		001805					3.287	31.989	60.364	0.000					5	
6	1006	50		001856					3.411	31.868	50.380						6	
7	8	40		001944					4.073	31.781	39.860						7	
8	1001	30		002032					4.736	31.759	29.684						8	
9	1011	20		002113					4.931	31.763	19.477	3.652					9	
10	1004	10		002159					5.023	31.761	9.707	14.300					10	
11																	11	
12																	12	

Initials _____



Consec. Cast # 098		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 498	Vessel Sta. I.D.		Instructions								Sta. Designation 798	
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 141	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D
098	564357	N	1555014	W	21	MAY 89	0212	59	563238	21512862	291	798							
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface								Times JD/Time		Data Location							
Press. SN 26072		TEIP 5.085		SAL 0.000		DEPTH 0.000		ATTEM 81.812		Data on 020030		Data on 020030		Tape/Diskette I.D.		File Name/Header			
Temp. SN 710				5.043		31.776		31.139		at Surface 020132		at Surface 020132		21MAY0159					
Cond. SN 304										Start Down 020240		Start Down 020240							
										at Bottom 021130		at Bottom 021130							
										Start Up 021220		Start Up 021220							
										at Surface 021936		at Surface 021936							
										Data off 021211		Data off 021211							
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	Pos
			Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.				
1	99	282	021150	021206					5.259	33,260	282,473	0.000			33.872	51	1		
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials



Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # <u>501</u>	Vessel Sta. I.D.	Instructions								Sta. Designation <u>799</u>					
Consec. Cast #	Latitude Deg. Min. S	N or S Deg.	Longitude or W	E or W Day Mo. Yr.	JD =	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S S	S S	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
<u>099</u>	<u>5643</u>	<u>54</u>	<u>N</u>	<u>15550</u>	<u>12</u>	<u>W 21 M A Y 89</u>	<u>0401</u>	<u>55</u>	<u>55</u>	<u>32</u>	<u>38</u>	<u>205</u>	<u>168</u>	<u>62</u>	<u>290</u>	<u>299</u>		
CTD Type & SN <u>91220-B</u> Press. SN <u>26072</u> Temp. SN <u>710</u> Cond. SN <u>304</u>				Monitor Checks on Deck at Surface TEMP <u>4.830</u> <u>4.944</u> SAL <u>0.547</u> <u>31.773</u> DEPTH <u>-0.003</u> <u>2.401</u> ATTEN <u>49.771</u> <u>17.030</u>				Times JD/Time Data on <u>035030</u> at Surface <u>035100</u> Start Down <u>035130</u> at Bottom <u>040030</u> Start Up <u>040100</u> at Surface <u>040100</u> Data off <u>040053</u>				Data Location <u>291</u> Tape/Diskette I.D. File Name/Header <u>21maya349</u>						
Remarks																		
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1	Z	A	189	040415	040911					3.838	32.649	188.987	0.000		32.655	44	1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials _____

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Consec. Cast # 100	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 506	Vessel Sta. I.D. D.S., B	Instructions	Sta. Designation 2100												
Consec. Cast #	Latitude Deg.	N or S Deg.	Longitude or W	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D.				
	100564340	N	1555035	W 21 MAY 89	0541	55	50	31	38	2001	2862	291	2100					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time		Data Location								
				TE:IP 4.823	4.962	Data on 053000	Tape/Diskette I.D.	File Name/Header										
				SAL 0.000	31.781	at Surface 053040		21MAY0528										
				DEPTH -0.002	2.630	Start Down 053100												
				ATTEN 13.019	6.200	at Bottom 054036												
						Start Up 054100												
						at Surface 054900	Remarks											
						Data off 054043												
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1	99	259	054150	054159				5.253	33.257	258.724	0.000		33.272	52		1		
2																2		
3																3		
4																4		
5																5		
6																6		
7																7		
8																8		
9																9		
10																10		
11																11		
12																12		

Initials _____

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Consec.Cast # 101		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 509	Vessel Sta. I.D.			Instructions							Sta. Designation Z101	
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = Mo.	Time GMT Yr.	Dry Bulb	Wet Bulb	Bar. mb	S. vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	101 5643	72 N	155 49 84 W		21	MAY 89	0742	60	5531	38	1801	6862	291	Z	101				
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface TEMP 4.874 4.921 SAL 0.033 31.770 DEPTH 0.002 0.279 ATTEN 0.306 0.000				Times JD/Time Data on 073135 at Surface 073225 Start Down 073255 at Bottom 074214 Start Up 074230 at Surface 075030 Data off 074230				Data Location 291 Tape/Diskette I.D. File Name/Header 21MAY0725							
Remarks																			
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1	504		81	074750	074802					3.372	32.070	81.382	0.000		32.084	53		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
II																		II	
I2																		I2	

Initials _____



Consec.Cast # 102	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 513	Vessel Sta. I.D. D.S.	Instructions	Sta. Designation 2102												
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D. 2102					
102564354 N	1555007 W	21 M A Y 89	1025	50 - 45 28 47	220218-6	292	2102											
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time Data on 101340 at Surface 101420 Start Down 101520 at Bottom 102445 Start Up 102502 at Surface 103230 Data off 102450		Data Location Tape/Diskette I.D. 21MAY1012 File Name/Header								
										Remarks								
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1	99	260	102550	102612				4.651	33.147	260.347	0.000		33.162	57		1		
2																2		
3																3		
4																4		
5																5		
6																6		
7																7		
8																8		
9																9		
10																10		
11																11		
12																12		

Initials



Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event #	Vessel Sta. I.D.	Instructions								Sta. Designation 2103						
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. ✓/s	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D						
103	56 43 60 N	155 50 22 W	21 MAY 89	12 11	51	50 26 47	22 51 68	83	294	293	1293/273	2103							
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time		Data Location									
				TEMP 5.230	SAL 0.000	DEPTH -0.008	ATTEN 0.395	Data on 115930	at Surface 120048	Start Down 120100	at Bottom 121035	Start Up 121100	at Surface 121945	Data off 121052	Tape/Diskette I.D. 21m94 1156	File Name/Header			
													Remarks						
Po. Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.
1	504		41	121800	121819					4.119	31.810	41.193	0.000			31.822	58		1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials



Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event #	Vessel Sta. I.D.	Instructions STATION #5	Sta. Designation Z104											
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = 141 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D				
104	45 637 80 N	155 3622 W	21 MAY 89	15 39 05	00 50	26 48	270 18561	223	2104								
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface			Times JD/Time		Data Location								
				TEMP 5.159 4.499	SAL 0.000 31.769	DEPTH -0.007 2.124	Start Down 1532	at Surface 1531	Start Up 1540	at Surface 1539	Data off 153949	Tape/Diskette I.D.	File Name/Header	21MAY1520			
				ATTEN 22.128 3.481							Remarks Nutrients and Chlorophyll Ship not able to get the sun on the CTD side)						
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD			Sample Bot. Data			Sal. Bot. #	Other Samp.	P S
			Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw			
1	PINGER														NUT.	1	
2																2	
3	L.P.M.															3	
4	2 ✓	200	154114 154607					4.142	32.862	195.752 0.000			32.874	59		4	
5	501	200	154718					4.141	32.861	199.122 0.000					833	5	
6	504	150	154901					3.549	32.345	150.052					834	6	
7	1011	100	155056					3.673	32.125	100.266					835	7	
8	1001	75	155214					3.735	32.069	75.578					836	8	
9	1004	50	155328					3.628	31.967	50.276					837	9	
10	8	30	155441					4.377	31.784	297.46					838	10	
11	1006	20	155544					4.442	31.778	20.441	✓				839	11	
12	1015	10	155631					4.472	31.772	10.400 0.000					840	12	

Initials C.S. ✓

Consec.Cast # 10475		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 526	Vessel Sta. I.D.		Instructions								Sta. Designation Z104						
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 141	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
104	56	36	86	N	155	36	70	W	21 M A Y 89	171	1050	050	26	48	2701	18561	217	Z104					
CTD Type & SN 91220-B		Monitor Checks								Times		JD/Time		Data Location									
Press. SN 26072		on Deck				at Surface				Data on	170820							Tape/Diskette I.D.	File Name/Header				
Temp. SN 710		TEMP	5.335			4.498			at Surface	170920							21MAY1659						
Cond. SN 304		SAL	0.000			31.827			Start Down	1709													
		DEPTH	0.000			2.433			at Bottom	1711													
		ATTEN	22.785			10.686			Start Up	1712													
									at Surface														
									Data off	171200													
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.			
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #				Samp.		
1	PINGER																				1		
2																					2		
3	L.M.																					3	
4	2																					4	
5	501																					5	
6	504																					6	
7	1011	60		171216						3.708	32.027	60.467	0.000									MZ	7
8	1001	50		171318						3.613	31.979	50.145	0.000									MZ	8
9	1004	40		171416						3.563	31.918	39.390	0.000									MZ	9
10	8	30		171515						4.058	31.799	30.049	0.099									MZ	10
11	1006	20		171610						4.456	31.772	19.837	0.678									MZ	11
12	1015	10		171705						4.484	31.768	9.552	2.896									MZ	12

Initials



Consec.Cast # 105		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event# 529	Vessel Sta. I.D.		Instructions STATION #4								Sta. Designation Z105		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 141		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si	V/si	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	105 5641	51 N	155 46 97 W	21 M	AY 89	18 44	060 055	28 38	27522 261	273	273									
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface						Times	JD/Time	Data Location 273										
Press. SN 26072								Data on	183340	Tape/Diskette I.D. File Name/Header										
Temp. SN 710		TEMP 4.952 4.796						at Surface	183524	21MAY1828										
Cond. SN 304		SAL 0.000 31.367						Start Down	183558											
		DEPTH 0.000 2.429						at Bottom	1844											
		ATTEN 21.019 10.349						Start Up	1845											
								at Surface	184443	Remarks Nutrients, chlorophyll and floatices (20,30)										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	P#
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #			
1	PINGER																		1	
2																			2	
3	L.M.																		3	
4	503	250		184554					4.613	33.136	249.169	0.000							1023	4
5	501	200		184742					4.259	32.911	199.349								1024	5
6	504	150		184935					3.724	32.275	149.956								841	6
7	1011	100		185130					3.851	32.157	100.213								842	7
8	1001	75		185251					3.677	32.067	74.458								843	8
9	1004	50		185408					3.983	31.831	50.061								844	9
10	8	30		185522					4.404	31.789	29.266								845	10
11	1006	20		185609					4.809	31.763	20.657	0.000							846	11
12	1015	10		185701					4.816	31.763	9.851	3.264							847	12

Initials CD



Consec. Cast # 1053		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 533	Vessel Sta. I.D.		Instructions								Sta. Designation Z105		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 141	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S _s S _v	V _s	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
1055	64241	N	1554691	W	21	MAY 89	2002075065	2848	29506381	277	278							277	Z105	
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time		Data Location										
Press. SN 26072				on Deck		at Surface		Data on 141 195139		Tape/Diskette I.D.				File Name/Header						
Temp. SN 710				TEMP 5.100		4.829		at Surface 195248						21 MAY 1943						
Cond. SN 304				SAL 0.000		31.784		Start Down 1953												
				DEPTH -0.004		3.159		at Bottom 2002												
				ATTEN 316.745		125.487		Start Up 200216												
								at Surface 200217												
								Data off 200217												
PoS.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	g
	Rack	Depth	Depth	Press.	Temp.	Cond.	Other	TEMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Po			
1	PINGER																1			
2																	2			
3	L.M.																3			
4	503																4			
5	501																5			
6	504	60	200742					3.545	32.001	59.610	0.000				32.065	31	6			
7	501	60	200810					3.541	32.002	59.653							MZ	7		
8	501	50	200902					3.820	31.902	50.583							MZ	8		
9	504	40	200951					3.874	31.841	40.372							MZ	9		
10	8	30	201034					4.437	31.777	30.308	0.000						MZ	10		
11	506	20	201114					4.748	31.765	19.503	10.994						MZ	11		
12	505	10	201209					4.805	31.768	9.997	37.802						MZ	12		

Initials _____



Consec. Cast # 106A		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event # 536	Vessel Sta. I.D.			Instructions STATION #3								Sta. Designation Z106
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 141	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D
106	56	46	81	N	15559	10 W	21 MAY 89	21 145	065	050	295	8290	14481	299	299	Z106		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304						Monitor Checks on Deck at Surface			Times JD/Time Data on 213458 at Surface 213540 Start Down 2136 at Bottom 214554 Start Up 2146 at Surface 2202 Data off 214555			Data Location 299 Tape/Diskette I.D. 21MAY2130 File Name/Header						
												Remarks In the shade Nutrients and chlorophylls						

Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	P.O.	
				Bot. Depth	Trip Depth	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1	PINGER																		1	
2	UNMARKED			290		214605				5.248	33.226	290.534	0.000			33.264	24	858	2	
3	L.M.	L.M				214736													3	
4	503		200			214918				3.743	32.611	199.984							859	4
5	501		250			215254				4.855	33.095	250.784							860	5
6	504		150			215540				3.682	32.291	150.032							861	6
7	1011		100			215722				3.869	32.193	100.757							862	7
8	1001		75			215823				3.558	32.069	75.474							863	8
9	1004		50			215925				3.791	31.878	50.309							864	9
10	8		30			220032				4.614	31.809	29.920							865	10
11	1006		20			220110				4.679	31.790	19.828	0.000						866	11
12	1015		10			220151				5.031	31.759	10.381	8.746						867	12

Forgot to trip the rosette twice @ depth (to skip light water) 200m, then went back down to 250m for #501, then up to 150m for #504

Initials CD

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Consec. Cast # 106B		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 540	Vessel Sta. I.D.		Instructions STATION #3								Sta. Designation Z106		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 141	Time GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D.		
106	56 47 52 N	15 55 59 08 W	21	M A Y 89	23 01 06 50 50 29 58 29 01 44 81	293	Z106													
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time Data on 141/225708 at Surface 225835 Start Down 225911 at Bottom 230116 Start Up 230117 at Surface 230117 Data off 230117				Data Location Tape/Diskette I.D. 21MAY2245 File Name/Header								
																Remarks MICROZOOPLANKTON sunny & good light => good cast unstable temp @ depth				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #			
1																			1	
2																			2	
3																			3	
4																			4	
5																			5	
6	2	A	60	230116	230607				3.485	32.022	60.537	0.000				32.022	15	6		
7	1011		60	230644					3.525	32.024	60.406	0.000					MZ	7		
8	1001		50	230735					3.465	31.936	50.044	0.000					MZ	8		
9	1004		40	230819					4.065	31.816	39.627	0.000					MZ	9		
10	8		30	230856					4.621	31.792	30.247	0.360					MZ	10		
11	1006		20	230940					4.671	31.784	20.237	2.087					MZ	11		
12	1015		10	231033					5.065	31.753	10.442	15.919					MZ	12		

Initials 

Consec. Cast # 107A		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 543	Vessel Sta. I.D.		Instructions STATION #2								Sta. Designation Z107				
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D			
107	5652	35	N	15608	31	W	22	MAY 89	00 46	08	006	22958	28009541	196	2107							
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface				Times JD/Time		Data Location												
Press. SN 26072								Data on 003906	Tape/Diskette I.D. File Name/Header													
Temp. SN 710				TEHP 3.250 5.076				at Surface 0039	22 MAY 0035													
Cond. SN 304				SAL 0.165 31.791				Start Down 0040														
				DEPTH 0.000 3.510				at Bottom 0046														
				ATTEN 224.559 69.644				Start Up 0046														
								at Surface 0046														
								Data off 004606														
								Remarks Noticeable chlorophyll + fluorister (20,30,40) Sunny														
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.		
				Bot. Depth	Trip Depth	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #				Samp.	
1																					1	
2																					2	
3																					3	
4	503	184	004614						3.872	32.610	186.519	0.000						32.623	06	868	4	
5	UNMARKED	150	004744						3.351	32.285	150.467										869	5
6	501	100	004937						3.402	32.085	100.663										870	6
7	1011	75	005053						3.256	31.950	75.535										871	7
8	1001	50	005203						4.481	31.848	50.684										872	8
9	1004	40	005255						4.553	31.803	40.279										—	9
10	8	30	005340						4.726	31.769	29.983	0.000									873	10
11	1006	20	005434						4.865	31.770	20.491	4107									874	11
12	1015	10	005523						5.075	31.770	10.626	22.320									875	12

Initials _____
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Consec. Cast # 1073		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 547	Vessel Sta. I.D.		Instructions D, S, B, I								Sta. Designation Z107			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S S	V/S	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	107565282	N	1560976	W	22	MAY 18 9	0159	79	602948	285	13461						194	Z107		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time Data on 142 015410 at Surface 015625 Start Down 015710 at Bottom 0159 Start Up 0200 at Surface 0209 Data off 0209				Data Location Tape/Diskette I.D. File Name/Header 22 MAY 0148								
												Remarks (CTD in the sun) Sun is on port side of ship								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pg.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #			
1																			1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7	1011	60	075910	075943					3.604	31.876	60.399	0.000							7	
8	1001	50	020200	020230					4.068	31.814	51.158	0.000							8	
9	1004	40	020410	020427					4.464	31.776	40.355	0.000							9	
10	8	30	020510	020555					4.641	31.765	30.487	0.085							10	
11	1006	20	020610	020716					4.866	31.758	20.594	3.639							11	
12	1015	10	020806	020820					5.160	31.770	10.378	20.417							12	

Initials _____



Consec. Cast # 108	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 550	Vessel Sta. I.D.	Instructions D.S.B										Sta. Designation Z108A				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S S	V/S	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D	
108 56 58 18 N	156 19 34 W		22 M A Y 89	03 33 38 0 56 29 38 29 01 24 61													106 27 08 ea		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time		Data Location								
					TEMP			Data on 032725			Tape/Diskette I.D. File Name/Header								
					SAL			at Surface 032826			22 MAY 0326								
					DEPTH			Start Down 0329											
					ATTEN			at Bottom 033240											
								Start Up 033315											
								at Surface 034000											
								Data off 033318			Remarks								
											CTD in the sun (Port S100)								
P.s. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #	Other Samp.	P.s.
			Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.				
1	Pingers																	1	
2	-																	2	
3	L11																	3	
4	503	95	033240	03255				3.538	32.162	97.376	0.000					32.115	8	4	
5	?	75	033430	033445				3.789	32.028	76.211	0.000							876	5
6	501	50	033605	033617				4.129	31.878	50.090	0.000							877	6
7	1011	40	033649	032202				4.176	31.158	40.251	0.000							X	7
8	1001	30	033728	033740				4.395	31.809	30.259	0.000							878	8
9	1004	20	033820	033830				4.604	31.734	20.012	0.000							879	9
10	8	10	033858	035909				4.886	31.732	9.496	8.533							880	10
11	1006																		11
12	105																	I2	

Initials

Consec. Cast # 108b	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 554	Vessel Sta. I.D.	Instructions								Sta. Designation Z108B						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V/V	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
	108 56 57	N	156 20 68	W	22	MAY 19	04 29	75	60 29	38	280	16361	110	2208B					
CTD Type & SN 91220-B					Monitor Checks				Times JD/Time				Data Location 110						
Press. SN 26072					on Deck	at Surface			Data on	0426 23	Tape/Diskette I.D.					File Name/Header			
Temp. SN 710					TEMP 4.609	4.602			at Surface	0426 52						22MAY 0422			
Cond. SN 304					SAL 0.000	31.800			Start Down	0427 23									
					DEPTH -0.002	2.933			at Bottom	0429 20									
					ATTEN 71.210	24 268			Start Up	0429 40									
									at Surface	0434									
									Data off	0430 06									
Remarks Sun on CTD SIDE (Port)																			
Pos.	Bot.	T Rack	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	P
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1																	1		
2																	2		
3																	3		
4																	4		
5																	5		
6	50																6		
7	1011	60	0429 40	0429 56					3.807	31.834	10.219	0.000						7	
8	1001	50	0430 34	0430 42					4.288	31.802	49.498	0.000						8	
9	1004	40	0431 02	0431 17					4.547	31.752	40.175	0.000						9	
10	8	30	0431 42	0431 55					4.559	31.742	30.411	0.283						10	
11	1006	20	0432 16	0432 31					4.566	31.739	19.931	1.493						11	
12	1015	10	0432 46	0433 03					4.564	31.740	9.960	7.131						12	

Initials _____



200, 220, 250

Consec. Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 558	Vessel Sta. I.D.	Instructions								Sta. Designation Z109						
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = 142 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D						
109	56 43 63 N	155 49 93 W	22 MAY 89	0737	70	55	29	38	330	8361	292	2109							
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface TEMP 5.305 4.904 SAL 0.152 31.774 DEPTH 0.000 2.711 ATTEN 0.000 0.000				Times JD/Time Data on 072646 at Surface 072740 Start Down 0728 at Bottom 073706 Start Up 073740 at Surface 0730 Data off 073735		Data Location 291 Tape/Diskette I.D. File Name/Header 22MAY0707									
Remarks Beginning diel STATION																			
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	P
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1	2A																1		
2																	2		
3																	3		
4	2 A 217	073900	074400													32.978	26	4	
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____



Consec. Cast # 110	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04	Event# FOCI I 561	Vessel Sta. I.D.	Instructions										Sta. Designation 2110			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. ci.	Vis	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.
	110564376	N	1555083	W	22	MAY 89	0941	65	55	28	48	275	0416	81	293	2110		
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface TEMP 4.018 4.818 SAL 0.000 31.775 DEPTH 0.062 3.967 ATTEN 0.000 0.000				Times JD/Time Data on 093101 at Surface 093105 Start Down 093150 at Bottom 094055 Start Up 094120 at Surface 094830 Data off 094105				Data Location 29 3/28D/27B Tape/Diskette I.D. 22may0927 File Name/Header					
Remarks																		
Pos. Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
			Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1																	1	
2																	2	
3																	3	
4																	4	
5	0	20	094725	094747													5	
6																	6	
7																	7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials _____

N



80,260

Consec.Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 567	Vessel Sta. I.D.	Instructions D.S.B.								Sta. Designation Z111						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S vis	S vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D		
111	56 43 42	N	155 50 40	W	22	MAY 89	1209	60	50	27	38	350	8781	293	Z111				
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time Data on 115905 at Surface 115922 Start Down 115950 at Bottom 120910 Start Up 120940 at Surface 121740 Data off 120913				Data Location 293 09/073 Tape/Diskette I.D. 22 MAY 156 File Name/Header						
													Remarks						
Pos	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	P
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1																		1	
2																		2	
3																		3	
4																		4	
5																		5	
6	504	79	121505	121526				3.894	32.098	79.930	0.000			32.111	35			6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____



Consec. Cast # <u>112</u>		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event# <u>572</u>	Vessel Sta. I.D.			Instructions							Sta. Designation <u>Z112</u>						
Consec. Cast #	Latitude N or S		Longitude E or W		Date Day	JD = <u>142</u>	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S. /S.	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D									
	Deg.	Min.	Deg.	W	Mo.	Yr.																			
	<u>112</u>	<u>56</u>	<u>43</u>	<u>40</u>	<u>N</u>	<u>155</u>	<u>50</u>	<u>30</u>	<u>W</u>	<u>22</u>	<u>MAY</u>	<u>89</u>	<u>14</u>	<u>26</u>	<u>06</u>	<u>10</u>	<u>49</u>	<u>26</u>	<u>38</u>	<u>17</u>	<u>00</u>	<u>37</u>	<u>81</u>	<u>291</u>	<u>2112</u>
CTD Type & SN <u>91220-B</u>					Monitor Checks					Times JD/Time		Data Location <u>292</u>													
					on Deck		at Surface			Data on		Tape/Diskette I.D.	File Name/Header												
					TEMP <u>5.109</u>		<u>4.811</u>			at Surface	<u>141621</u>		<u>22MAY1410</u>												
					SAL <u>0.034</u>		<u>31.784</u>			Start Down	<u>1416</u>														
					DEPTH <u>-0.007</u>		<u>2.628</u>			at Bottom	<u>1426</u>														
					ATTEN <u>0.000</u>		<u>0.636</u>			Start Up	<u>1427</u>														
										at Surface															
										Data off	<u>142627</u>														
Remarks																									
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.						
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.				Bot. #	Samp.				
1																			1						
2																			2						
3																			3						
4																			4						
5	?	282	142621							4.663	33.179	282.507	0.000				33.192	05		5					
6																			6						
7																			7						
8																			8						
9																			9						
10																			10						
11																			11						
12																			12						

Initials CD

Consec.Cast # 113		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 1514	Vessel Sta. I.D.		Instructions							Sta. Designation 7113					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Mo.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis	Wind Dir.	Wind Sp.	Cloud Type	Bottom Depth, m	Sta. Name or I.D					
	11 3 5 6 4 3 3 0	N	15 5 5 0 2 7	W	22	1521	06 00 49	25 38	2551 2781	291						291					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304																Monitor Checks on Deck at Surface TEMP 3.510 4.814 SAL 0.032 32.043 DEPTH 0.005 3.323 ATTEM 7.404 3.542		Times JD/Time Data on 142 / 151126 at Surface 151155 Start Down at Bottom 1521 Start Up 1522 at Surface Data off 152145		Data Location Tape/Diskette I.D. File Name/Header 22MAY1510	
																Remarks					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	P		
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.				Bot. #	Samp.
1			249		152312					4.649	33.162	248.335	0.000						1		
2			25		152909					4.744	31.784	24.688	0.000						2		
3																		3			
4																		4			
5																		5			
6																		6			
7																		7			
8																		8			
9																		9			
10																		10			
II																		II			
12																		I2			

Initials CD



Consec.Cast # 114		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I		Event# 580	Vessel Sta. I.D.			Instructions							Sta. Designation Z114		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time GMT Hr.	Dry Bulb	Wet Bulb	Bar. mb	S. si.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	W. eath.	Bottom Depth, m	Sta. Name or I.D	
114	5643	34	N	15550	07	W	22 M A Y 89	17	15060050	25	3829006781	288						289	Z114	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time		Data Location										
				TEMP 5.835	4.868		Data on 170357								Tape/Diskette I.D.	File Name/Header				
				SAL 0.753	31.488		at Surface 170537									220941658				
				DEPTH 0.001	2.962		Start Down 170558													
				ATTEN 49.606	16.144		at Bottom 1715													
							Start Up 1715													
							at Surface 1722													
							Data off 171508													
Remarks "baran" meter was "down" for ≈3 min. (≈1713Z-1718Z) - overcast.																				
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data				Sal.	Other	Pos.
				Bot. Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #			
1				278	171517					4.600	33.153	277.680	0.000				33.165	03	1	
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD



Consec.Cast #	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04	Event# FOCI I 585	Vessel Sta. I.D.	Instructions								Sta. Designation Z115						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath. Weath.	Bottom Depth, m	Sta. Name or I.D	
115	56 43 82	N	155 50 23	W	22	MAY 89	20	12	10 20 90	23 48 04 00 86 81	293						293	Z115	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times	JD/Time	Data Location 293								
					TEMP	6.711	4.806	Data on	200013	Tape/Diskette I.D.	File Name/Header 22MAY1945								
					SAL	0.000	31.910	at Surface	200240										
					DEPTH	-0.003	3.395	Start Down	200305										
					ATTEN	52.476	29.440	at Bottom	201233										
								Start Up	2013										
								at Surface	2023										
								Data off	201234										
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1																	1		
2																	2		
3																	3		
4	2	A	260	201341	201827				4.674	33.155	259.549	0.000				33.167	33	4	
5	1015		60		2022				3.601	32.001	59.529							5	
6	1006		50		202420				3.526	31.936	49.667							6	
7	8		40		202584				3.669	31.824	40.152							7	
8	1004		30		202554				4.245	31.779	29.896							8	
9	1001		20		202635				4.682	31.783	20.451	0.000						9	
10	1011		10		202718				4.789	31.783	10.560	8.408						10	
11																	11		
12																	12		

Initials SC

Consec. Cast # 116		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 588	Vessel Sta. I.D.		Instructions							Sta. Designation Z116		
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 142		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
	116 56 43 64	N	155 50 20	W	22	MAY 89	21 44 08	00 70 22	47 30 50	07 88 2	29						29	Z116	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface TEMP 6.125 4.801 SAL 0.255 31.798 DEPTH -0.044 3.182 ATTEN 81.677 28.916				Times Data on 213245 at Surface 2133 Start Down 2134 at Bottom 2143 Start Up 2143 at Surface 214332 Data off 214332		Data Location Tape/Diskette I.D. 22 MAY 2124 File Name/Header									
Pos.	Bot.	T	Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
1				282	214335	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10
11																			11
12																			12

Initials _____

Consec.Cast # 117		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 594	Vessel Sta. I.D.		Instructions								Sta. Designation 7117		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 143	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D
117	564358	N	1555018	W	22	MAY 89	000907	106020	3828509581	293	7117								
CTD Type & SN 91220-B		Monitor Checks								Times	JD/Time	Data Location 293							
Press. SN 26072		on Deck				at Surface				Data on	142/235827	Tape/Diskette I.D.	File Name/Header						
Temp. SN 710		TEMP	6.904		4.461		at Surface	235941		22MAY2356									
Cond. SN 304		SAL	0.000		31.859		Start Down	0000											
		DEPTH	0.000		2.835		at Bottom	0009											
		ATTEN	86.746		72.724		Start Up	0009											
							at Surface												
							Data off	000940		Remarks									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P			
1			180		001246				3.407	32.352	180.010	0.000				32.365	27	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

Consec.Cast # 118	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 597	Vessel Sta. I.D.	Instructions								Sta. Designation 7118						
Consec. Cast #	Latitude Deg. Min. S	N or S Deg.	Longitude Deg. W	E or W	Date Day Mo. Yr.	JD = 143	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
118	564342	N	1555018	W	23	MAY 89	0224	72	5518	38	25520581	292	293			7118			
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location							
				on Deck		at Surface		Data on 021257		Tape/Diskette I.D.		File Name/Header							
				TEMP 6.659		4.594		at Surface 021337		23MAY0211									
				SAL 0.097		31.842		Start Down 021430											
				DEPTH -0.001		3.194		at Bottom 022339											
				ATTEN 97.835		68.314		Start Up 022400											
								at Surface 0231		Remarks									
								Data off 022349		CTD in the sun (Port side)									
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1																		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7	503	217	022338	02543				21660	33.153	243.108	0.000				33.166	19	79	7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

80 265

Consec.Cast # 119		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 600	Vessel Sta. I.D.		Instructions							Sta. Designation Z119			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 143	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. si	S. vis.	Wind Dir.	Wind Sp.	Cloud Type	Wheath.	Bottom Depth, m	Sta. Name or I.D
119	56	43	N	155	50	19	W	23	MAY 89	03 57	80	50	17	38295	15381	292	293	Z119	
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface						Times JD/Time		Data Location									
Press. SN 26072		TEMP 7.211		4.641		Data on 034615		Tape/Diskette I.D. File Name/Header											
Temp. SN 710		SAL 0.000		31.733		at Surface 034640		23MAY0342											
Cond. SN 304		DEPTH 0.000		3.261		Start Down 034700													
		ATTEN 338.495		57.814		at Bottom 035630													
						Start Up 035650													
						at Surface 040930													
						Data off 035645													
								Remarks CTD in sun (Port side)											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Bot. Depth	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P			
1																		1	
2																		2	
3																		3	
4																		4	
5	2	A	260	035740	040309				4.694	33.190	260.180	0.000			33.204	7		5	
6																		6	
7	2	A	260	035740	040309													7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

Consec. Cast # 120	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 611	Vessel Sta. I.D.	Instructions								Sta. Designation M21					
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 143	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D M21	
120	570389	N	1560505	W	23	MAY 89	0947	60	38	13.48	29	119671	128					
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface TEMP 5.506 5.108 SAL 0.571 31.751 DEPTH 0.002 3.30 ATTEN 0.447 0.000				Times JD/Time Data on 094015 at Surface 0942 Start Down 094314 at Bottom 094719 Start Up 094750 at Surface Data off 094746				Data Location Tape/Diskette I.D. File Name/Header 23 MAY 0988						
												Remarks Cast @ mooring 8821						
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values			Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw			
1																	1	
2																	2	
3																	3	
4																	4	
5																	5	
6																	6	
7	503	89	094835	094900													7	
8																	8	
9																	9	
10																	10	
11																	11	
12																	12	

Initials _____

Consec. Cast # 121		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I			Event # 613	Vessel Sta. I.D.		Instructions							Sta. Designation m22				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 143		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	121	57	02	97	N	156	02	41	W	23	M	A	Y	89	1058	55	50	13	4830508781	213	m22
CTD Type & SN 91220-B		Monitor Checks						Times		JD/Time		Data Location 207									
Press. SN 26072		on Deck			at Surface			Data on	104901	Tape/Diskette I.D. File Name/Header											
Temp. SN 710		TEMP	4.559		4.956			at Surface	105100	23MAY1042											
Cond. SN 304		SAL	0.885		31.725			Start Down	105140												
		DEPTH	0.003		2.721			at Bottom	105803												
		ATTEN	0.006		0.025			Start Up	105827												
								at Surface	1013												
								Data off	105817												
Remarks Cast @ mooring 8822																					
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other	Pos.		
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.				Bot. #	Samp.
1																		1			
2																		2			
3																		3			
4																		4			
5																		5			
6																		6			
7	503	100	1100	110130					9.603	31.894	99.859	0.000				31.908		22	7		
8																		8			
9																		9			
10																		10			
11																		11			
12																		12			

Initials _____

Consec.Cast # 122		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 616	Vessel Sta. I.D.		Instructions						Sta. Designation M23						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 143	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D				
	122565865	N	1555276	W	23	MAY 89	12 36	60	50	11	4929606771	318					M23				
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface						Times JD/Time		Data Location											
Press. SN 26072		TEMP 4.506		4.875		Data on 122225		Tape/Diskette I.D.		File Name/Header											
Temp. SN 710		SAL 0.000		31.768		at Surface 122500				23 MAY 1218											
Cond. SN 304		DEPTH -0.001		2.594		Start Down 122600															
		ATTEN 0.418		0.000		at Bottom 1236															
						Start Up 123710															
						at Surface 1245															
						Data off 123635		Remarks													
Time @				Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.				
Pos.	Bot.	T	Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	Pos.	
1																				1	
2																				2	
3																				3	
4																				4	
5																				5	
6																				6	
7	503	308	123200	123618							5.286	33.261	208.399	0.000				33.281	28	28	7
8																				8	
9																				9	
10																				10	
11																				11	
12																				12	

Initials _____

Consec. Cast # 123		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 618	Vessel Sta. I.D.		Instructions							Sta. Designation m24				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 143	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
	1 2 3 5 6 5 5	2 5	N	1 5 5 4 6 4 8	W	2 3	M A Y 8 9	1 3 5 8	5 8	4 9	1	1	4 8	3 0 5	1 2 6 8 1	3 0 3	m24			
CTD Type & SN 91220-B		Monitor Checks						Times		JD/Time		Data Location 304								
Press. SN 26072		on Deck			at Surface			Data on	1346			Tape/Diskette I.D.		File Name/Header 23may1341						
Temp. SN 710		TEMP	4.495		4.697			at Surface	1347											
Cond. SN 304		SAL	0.104		31.734			Start Down	134715											
		DEPTH	0.001		2.927			at Bottom	135745											
		ATTEN	0.000		0.356			Start Up	1358:30											
								at Surface	140645											
								Data off	135803											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw			
1																		1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7	503	65	4405	440454					4.308	31.779	64.814	0.000				31.790	25	7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials CD

Consec. Cast # 124	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 621	Vessel Sta. I.D.	Instructions								Sta. Designation m25			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date JD = 143	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Wearth.	Bottom Depth, m	Sta. Name or I.D
124	5652	47 N	1554059	W	23 M A Y 89	15 17 05 50 48	10 48 31 01 43 81	291	m25							
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location				
				on Deck		at Surface		Data on 143		150046		Tape/Diskette I.D.		File Name/Header		
				TEMP 4.823		4.741		at Surface		1506		23 MAY 1458				
				SAL 0.006		31.774		Start Down		1507						
				DEPTH 0.000		3.279		at Bottom		1517						
				ATTEN 132.627		4.564		Start Up		1513						
								at Surface		151718						
								Data off								
Pos.	Bot.	T	Rack	Trip Depth	Time @ Depth	Trip	Monitor Values	Conv. Mon. Values-CTD	Sample Bot. Data				Sal.	Other	Pos.	
1				262	151826	152332	Press. Temp. Cond. Other	4.601 33.126 262.259 0.000	Therm-P	Avg Tw	Sal.	Bot. #	Samp.	1		
2														2		
3														3		
4														4		
5														5		
6														6		
7														7		
8														8		
9														9		
10														10		
11														11		
12														12		

Initials _____

Consec.Cast # 125		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 623	Vessel Sta. I.D.		Instructions							Sta. Designation m28			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 143	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D m28	
125	5651	17	N	1553745	W	23	MAY 89	1625048039	104827020381	285									
CTD Type & SN 91220-B		Monitor Checks								Times	JD/Time	Data Location							
Press. SN 26072		on Deck				at Surface				Data on	161407	Tape/Diskette I.D.		File Name/Header					
Temp. SN 710		TEMP	2.698		4.442				at Surface	1615			23 MAY 1610						
Cond. SN 304		SAL	0.049		31.391				Start Down	1616									
		DEPTH	0.014		3.435				at Bottom	1623									
		ATTEN	18.340		5.837				Start Up	1626									
									at Surface										
									Data off	162554	Remarks								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1				276	162610				4.503	33.060	275.516	0.000				33.071	09	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

Consec. Cast # 126		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I			Event # 625	Vessel Sta. I.D.		Instructions							Sta. Designation m2627		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 143		Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.	
126		65 64 68	N	155 28 53	W	23	MAY 89	17 50 06	0 0 50	1038 280	1047 1	248	m2627							
CTD Type & SN 91220-B		Monitor Checks								Times	JD/Time	Data Location 248								
Press. SN 26072		on Deck				at Surface				Data on	173535	Tape/Diskette I.D.			File Name/Header					
Temp. SN 710		TEMP 4.353				4.451				at Surface	1742				23 MAY 1733					
Cond. SN 304		SAL 0.000				31.392				Start Down										
		DEPTH -0.004				2.906				at Bottom	175049									
		ATTEN 83.943				17.338				Start Up	1751									
										at Surface										
										Data off	175050	Remarks								
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Bot. Rack	Trip Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw			
1				17520					4.317	32.944	239.492	0.000				32.958	34	1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

Consec. Cast # 127	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event# 623	Vessel Sta. I.D.	Instructions								Sta. Designation m29						
Consec. Cast #	Latitude N or S Deg. Min. S	Longitude E or W Deg.	Date JD = 143 Day Mo. Yr.	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D m29				
127	56 44 14 N	155 22 29 W	23 M A Y 89	19 06 05 00 40 09	38270	12371	202												
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time Data on 143 at Surface 1905 Start Down 1906 at Bottom 1906 Start Up 1912 at Surface 191216 Data off				Data Location 203 Tape/Diskette I.D. File Name/Header 23 MAY 1856							
												Remarks							
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P			
1				192	191238					3.901	32.727	194.459	0.000			32.741	04	1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____

Consec. Cast # 128		Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I			Event# 696	Vessel Sta. I.D.		Instructions						Sta. Designation m21				
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 144	Time Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D	
128		57	03	67	N	156	04 95	W 24 M A Y 89	16 48 06	50 51	1328	31006271	166					m21	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304		Monitor Checks on Deck at Surface						Times	JD/Time	Data Location 155 165									
		TEMP	4.882		5.055		Data on	164008		Tape/Diskette I.D. 24 MAY 1625						File Name/Header			
		SAL	0.247		31.760		at Surface	1642											
		DEPTH	-0.075		2.699		Start Down	1643											
		ATTEN	19.014		10.809		at Bottom	1648											
							Start Up	1649											
							at Surface	164833											
							Data off			Remarks									
P.O.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1					164948					3.928	32.042	156.557	0.000			32.051	35	1	
2																	2		
3																	3		
4																	4		
5																	5		
6																	6		
7																	7		
8																	8		
9																	9		
10																	10		
11																	11		
12																	12		

Initials _____

Consec. Cast #		Vessel MILLER FREEMAN			Proj. & Leg MF-89-04 FOCI I		Event #	Vessel Sta. I.D.			Instructions							Sta. Designation m22		
Consec. Cast #		Latitude	N or S	Longitude	E or W	Date	JD = 144	Time	GMT	Dry	Wet	Bar.	S.S.	Wind	Wind	Bottom	Sta. Name or I.D.			
		Deg.	Min.	Deg.		Day	Mo.	Hr.	Min.	Bulb	Bulb	mb	Vis.	Dir.	Sp.	Cloud	Weath.	Depth, m		
129		129 57 02	N	156 02 12	W	24	MAY 89	17	22	09	00	60		132833002271	223	m22				
CTD Type & SN 91220-B				Monitor Checks on Deck at Surface					Times	JD/Time	Data Location 222									
Press. SN 26072				TEMP	4.435		4.932	Data on	170805	Tape/Diskette I.D. File Name/Header										
Temp. SN 710				SAL	0.002		31.791	at Surface	1715	24 MAY 1705										
Cond. SN 304				DEPTH	0.000		2941	Start Down	1715											
				ATTEN	323.642		51.641	at Bottom	1722											
								Start Up	1722											
								at Surface		Remarks										
								Data off	172224											
Pos.	Bot.	T	Trip	Time @		Monitor Values					Conv. Mon. Values-CTD				Sample Bot. Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.				
1				40	172658					4.904	31.760	41.991	0.000			31.774	24	1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

Consec. Cast # 130		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 678	Vessel Sta. I.D.		Instructions							Sta. Designation m23				
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 144	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.	
	130565873	N	1555305	W	24	MAY 89	18	2207	0060	1428320	10171	315						315	m23	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times		JD/Time		Data Location								
				TEMP 3.573	4.795		Data on 1810		Tape/Diskette I.D.		File Name/Header									
				SAL 0.095	31.911		at Surface 1811				24 MAY 1805									
				DEPTH -0.001	2.602		Start Down 1812													
				ATTEN 32.653	84.758		at Bottom 1822													
							Start Up 1823													
							at Surface 182211				Remarks Shady									
Pos.				Trip	Time @	Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
Bot.	Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.			
1		294	182321	182803					5.289	33.269	294.471	0.000				33.027	29	1		
2																		2		
3																		3		
4																		4		
5																		5		
6																		6		
7																		7		
8																		8		
9																		9		
10																		10		
11																		11		
12																		12		

Initials _____

Consec. Cast # 131		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 679	Vessel Sta. I.D.		Instructions								Sta. Designation m24			
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 144	Time Hr.	GMT Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	V. is.	Wind Dir.	Wind Sp.	Cloud Type	Weather	Bottom Depth, m	Sta. Name or I.D m24
131	56 55 13 N	155 46 50 W	24	MAY 89	19 23 05 50 45	14 28	320	16 17 1	30 1	301										
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks on Deck at Surface				Times JD/Time Data on 144 / 191212 at Surface 191250 Start Down 1913 at Bottom 1923 Start Up 1924 at Surface 192325 Data off 192325				Data Location Tape/Diskette I.D. 24 MAY 1902 File Name/Header								
												Remarks								
P.S.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TFMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.	Bot. #	Samp.		
1				292	192344					4.608	33.121	291.447	0.000				33.137	33	1	
2																			2	
3																			3	
4																			4	
5																			5	
6																			6	
7																			7	
8																			8	
9																			9	
10																			10	
11																			11	
12																			12	

Initials _____

Consec. Cast # 132	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04 FOCI I	Event # 680	Vessel Sta. I.D.	Instructions								Sta. Designation m25						
Consec. Cast #	Latitude N or S Deg. 132 56 52	Longitude E or W Deg. 155 40 79	Date JD = 144 Day Mo. Yr. 24 M AY 89	Time GMT Hr. Min. 20 09 06	Dry Bulb 50 55	Wet Bulb 50 55	Bar. mb 144	S.S. Vis. 448337	Wind Dir. 17281	Wind Sp. 289	Cloud Type 291	Weather m25	Bottom Depth, m 289	Sta. Name or I.D m25					
132 56 52 63 N 155 40 79 W 24 M AY 89 20 09 06 50 55 144 448337 17281 289 m25				Monitor Checks on Deck at Surface								Times JD/Time	Data Location						
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Data on 144/195909 at Surface 195949 Start Down 000024 at Bottom 200946 Start Up 201004 at Surface 200947 Data off 200947	Tape/Diskette I.D. 24 MAY 1954	File Name/Header 24 MAY 1954	Remarks												
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P			
1				199	201246				3.667	32426	198,970	0.000			32.438	23		1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

Consec. Cast # 133		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event # 681	Vessel Sta. I.D.		Instructions								Sta. Designation m28			
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 144	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S. S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D m28		
	133	565110	N	1553769	W	24	MAY 89	204706	0050	14	48	33509381	283							
CTD Type & SN 91220-B		Monitor Checks						Times JD/Time		Data Location										
Press. SN 26072		on Deck			at Surface			Data on	144/203653	Tape/Diskette I.D. File Name/Header										
Temp. SN 710		TEMP	3.886		4.678			at Surface	203814	24 MAY 2032										
Cond. SN 304		SAL	0.221		31.774			Start Down	2039											
		DEPTH	-0.015		3.481			at Bottom	204755											
		ATTEN	24.651		7.664			Start Up	2048											
								at Surface		Remarks										
								Data off	204756											
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal.	Other Samp.	Pos.
				Rack	Depth	Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw			
1				275	20481				4.515	33.061	275.174	0.000			33.077	20	1			
2																	2			
3																	3			
4																	4			
5																	5			
6																	6			
7																	7			
8																	8			
9																	9			
10																	10			
11																	11			
12																	12			

Initials _____

Consec.Cast # 134	Vessel MILLER FREEMAN	Proj. & Leg MF-89-04	Event# FOCI I 682	Vessel Sta. I.D.	Instructions								Sta. Designation M2627						
Consec. Cast #	Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day	JD = 144	Time GMT Hr. Min.	Dry Bulb	Wet Bulb	Bar. mb	S.S. Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D		
134	56	46	78	N	15528	94	W 24 M A Y 89	21 48 07	0058	14	48	250	10371	250	M2627				
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304					Monitor Checks on Deck at Surface				Times JD/Time Data on 144 / 213853 at Surface 213956 Start Down 2140 at Bottom 2148 Start Up 2148 at Surface 214811 Data off 214811				Data Location Tape/Diskette I.D. 24 MAY 2139 File Name/Header						
													Remarks						
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAL	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1				242	24816					4.269	32.920	242.029	0.000			30.933	26	1	
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials _____

Consec.Cast # 135		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI I		Event# 684	Vessel Sta. I.D.		Instructions								Sta. Designation m29		
Consec. Cast #		Latitude Deg.	N or S	Longitude Deg.	E or W	Date Day Mo. Yr.	JD = 144	Time Hr. Min.	GMT	Dry Bulb	Wet Bulb	Bar. mb	S.I. S.I.	Wind Dir.	Wind Sp.	Cloud Type	Wearh.	Bottom Depth, m	Sta. Name or I.D m29
135	55 44 02 N	155 22 31 W	24 M A Y 89	22 34 06	50 55 14 48	29 00 93 81	202												
CTD Type & SN 91220-B		Monitor Checks on Deck at Surface				Times JD/Time Data on 144 / 222611		Data Location 203											
Press. SN 26072	TEMP 4.132	4.788	at Surface 222305	Tape/Diskette I.D.	File Name/Header 24MAY2222														
Temp. SN 710	SAL 0.000	31.826	Start Down 2223																
Cond. SN 304	DEPTH 0.003	3.315	at Bottom 22.34																
	ATTEN 18.785	9.523	Start Up 22.34	Remarks	.														
			Data off 223410																
Pos.	Bot.	T	Trip	Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot.Data			Sal.	Other Samp.	Pos.
				Depth	Trip	Press.	Temp.	Cond.	Other	TEMP	SAI	DEPTH	ATTEN	Therm-P	Avg Tw	Sal.			
1	/	186	223440 223931					3.928	32.743	185.603	0.000			32.748	15	1			
2																2			
3																3			
4																4			
5																5			
6																6			
7																7			
8																8			
9																9			
10																10			
11																11			
12																12			

Initials _____