

Consec. Cast # 001				Vessel MILLER FREEMAN				Proj. & Leg MF-89-04 FOCI 84				Event# 25		Vessel Sta. I.D.				Instructions										Sta. Designation						
Consec. Cast #		Latitude N or S			Longitude E or W			Date JD = 149 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.	
001		572935 N			1544243 W			29 MAY 89			1612		7.0		7.0		0935						0		4874		1.04				55			
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 16:05 at Surface 16:07 Start Down 16:07 at Bottom 16:10 / 93M Start Up 16:15 at Surface Data off 16:33				Data Location 163 31 CTD Tape/Diskette I.D. File Name/Header 29 MAY 1989										
								Press. T																Remarks Thermometer rack hung up - no Temp cal forgot to put at bottom										
Pos.		Bot.		T Rack		Trip Depth		Time @ Depth Trip		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		5		2		93		16:10 16:15		93.971 3.661 29.930 93.041								32.177				32-181				1		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 # 442		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 26		Vessel Sta. I.D.		Instructions										Sta. Designation										
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 149			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.																				
062	57	30	90	N	154	46	79	W	29	M	AY	89	16	53		7	P		7	0	09	38		4	4	8	7	2	219	56
CTD Type & SN 91220-B			Monitor Checks			Times			JD/Time			Data Location 249																		
Press. SN 26072			on Deck			at Surface			Data on 1643			Tape/Diskette I.D.										File Name/Header								
Temp. SN 710			Press. _____			_____			at Surface 1645			_____										29 MAY 1642								
Cond. SN 304			Temp. _____			_____			Start Down 1645			_____										_____								
_____			Cond. _____			_____			at Bottom 1652/212			_____										_____								
_____			Other _____			_____			Start Up 1653			Remarks										_____								
_____			_____			_____			at Surface 1701			_____										_____								
_____			_____			_____			Data off 1653			_____										_____								

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	54 <sub>2</sub>	6	100	1656	1701	100.926	3.800	30.139					32.284		3.795	32.297	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 # 003		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 27		Vessel Sta. I.D. 57		Instructions										Sta. Designation								
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 149			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.																		
003	57	33	04	N	154	52	55	W	29	M	A	Y	89	17	43		7	0		7	0	09	48	055	158	72	236	57
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location 236												
Press. SN 26072				on Deck								at Surface				Data on				Tape/Diskette I.D.				File Name/Header				
Temp. SN 710				Press. _____								Start Down _____				_____				29 May 1721								
Cond. SN 304				Temp. _____								at Bottom 1743				_____				_____								
				Cond. _____								Start Up 1744				_____				Remarks Line #8								
				Other _____								at Surface 1750				_____												
												Data off 18 1743																
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	✓		225	1743	1743	270.532	5.615	38.127						39.356			33.108	16	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 # 4		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 29		Vessel Sta. I.D.		Instructions										Sta. Designation																	
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 149			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.																										
004	57	36	N	155	00	W	29	M	A	Y	8	9	1	8	5	4	6	9	6	5	0	8	4	7	0	5	0	3	0	8	7	6	2	4	4	5	8
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location 244																					
Press. SN 26072				on Deck at Surface								Data on _____				Tape/Diskette I.D. File Name/Header																					
Temp. SN 710				Press. _____								at Surface _____				_____																					
Cond. SN 304				Temp. _____								Start Down _____				_____																					
				Cond. _____								at Bottom 1854 28				_____																					
				Other _____								Start Up _____				_____																					
												at Surface _____				Remarks																					
												Data off _____																									

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	✓		236	1854	1855	238.093	4.901	31.849	33.123				33.120			33.135	29		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 2		Event # 30		Vessel Sta. I.D.		Instructions										Sta. Designation																	
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 149			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.																											
005	57	38	N	155	04	17	W	29	M	A	Y	8	9	19	38	6	9	'	6	5	0	8	4	7	0	6	0	2	3	8	7	6	2	5	9	5	9
CTD Type & SN 91220-B			Monitor Checks										Times JD/Time			Data Location 259																					
Press. SN 26072			on Deck					at Surface					Data on			Tape/Diskette I.D.					File Name/Header																
Temp. SN 710			Press. _____					_____					at Surface 1928			_____					29 May 1924																
Cond. SN 304			Temp. _____					_____					Start Down 1929			_____					_____																
_____			Cond. _____					_____					at Bottom _____			_____					_____																
_____			Other _____					_____					Start Up _____			_____					_____																
_____			_____					_____					at Surface _____			_____					_____																
_____			_____					_____					Data off _____			_____					_____																
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			244	244	1938	246.134	5.072	32.055					33.183			33.197	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 ✓

Consec. Cast # <u>6</u>		Vessel <u>MILLER FREEMAN</u>		Proj. & Leg <u>MF-89-04 FOCI 2</u>		Event # <u>32</u>		Vessel Sta. I.D.		Instructions <u>Line 8 Sta 60</u>										Sta. Designation											
Consec. Cast #	Latitude <u>N</u> Deg. Min. S		Longitude <u>E</u> Deg. W		Date JD = <u>149</u> 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.										
<u>006</u>	<u>57</u>	<u>40</u>	<u>89</u>	<u>N</u>	<u>155</u>	<u>09</u>	<u>54</u>	<u>W</u>	<u>29</u>	<u>M</u>	<u>AY</u>	<u>89</u>	<u>20</u>	<u>51</u>	<u>6</u>	<u>5</u>	<u>6</u>	<u>2</u>	<u>07</u>	<u>4</u>	<u>7</u>	<u>0</u>	<u>4</u>	<u>8</u>	<u>20</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>2</u>	<u>93</u>	<u>6</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>203654</u>				Tape/Diskette I.D. File Name/Header																			
Temp. SN <u>710</u>				T. <u>6.102</u>				at Surface <u>204020</u>				<u>29 may 2034</u>																			
Cond. SN <u>304</u>				S. <u>.915</u>				Start Down <u>2040</u>																							
				D. <u>.013</u>				at Bottom <u>205058</u>																							
				A. <u>.002</u>				Start Up <u>2056</u>																							
				Other <u>.002</u>				at Surface																							
								Data off																							
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.															
<u>1</u>		<u>6</u>	<u>280</u>	<u>2051</u>	<u>2056</u>										<u>5.22</u>	<u>33.263</u>	<u>33</u>	<u>1</u>													
<u>2</u>																		<u>2</u>													
<u>3</u>																		<u>3</u>													
<u>4</u>																		<u>4</u>													
<u>5</u>																		<u>5</u>													
<u>6</u>																		<u>6</u>													
<u>7</u>																		<u>7</u>													
<u>8</u>																		<u>8</u>													
<u>9</u>																		<u>9</u>													
<u>10</u>																		<u>10</u>													
<u>11</u>																		<u>11</u>													
<u>12</u>																		<u>12</u>													

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Consec. Cast # <u>7</u>		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 34		Vessel Sta. I.D.		Instructions Line 8 Stn. 61										Sta. Designation																	
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = 149 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.															
007	57	42	91	N	155	15	52	W	29	M	A	Y	8	9	2	1	51	6	8	6	5	0	7	4	7	0	6	4	2	0	8	7	5	2	7	3	61
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 T Press. <u>6.25</u> S Temp. <u>.105</u> O Cond. <u>.007</u> A Other <u>.004</u>				Times JD/Time Data on <u>213630</u> at Surface <u>21412</u> Start Down <u>2141</u> at Bottom <u>215132</u> Start Up <u>2151</u> at Surface Data off				Data Location Tape/Diskette I.D. File Name/Header <u>29 May 2134</u> Remarks																									
Pos.	Bot.	T Rack	Trip Depth	Time @ Depth Trip		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			81.6	2156	21564	81.201	5.187	30.881					31.811				31.834	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 # 8		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 43		Vessel Sta. I.D.		Instructions 6007A H27										Sta. Designation													
Consec. Cast #		Latitude N or S			Longitude E or W			Date JD = 150 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1005.0		S.S.	Vis.	Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.		
008		570431 N			1545754 W			30 MAY 89			0452		62		62		5.0		48	130	108		72		143								
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																	
Press. SN 26072				on Deck				at Surface				Data on 044320				Tape/Diskette I.D.				File Name/Header													
Temp. SN 710				Press. _____				Temp. _____				at Surface 044815				_____				30 MAY 0441													
Cond. SN 304				Temp. _____				Cond. _____				Start Down 044835				_____				_____													
_____				Other _____				Start Up 045330				at Surface _____				Remarks				_____													
_____				Data off _____				_____				_____				_____				_____													
St. Bot.		T Rack		Trip Depth		Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #		Other Samp.		Pos.									
Depth		Trip		Depth		Trip		Press.		Temp.		Cond.		Other		Press.		Temp.		Cond.		Sal.		Therm-P		Avg Tw		Sal.		_____		_____	
1		✓		1023		0452 04152		103.443		7.014		30.316										32.280						32.292		3		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 # 9		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 48		Vessel Sta. I.D.		Instructions										Sta. Designation																											
Consec. Cast #	Latitude			N or S	Longitude			E or W	Date JD = 150			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.																																			
009	5	7	17	6	1	N	1	5	5	2	6	9	1	W	3	0	M	A	Y	8	9	0	8	0	5	7	0	6	8	0	6	3	8	1	3	0	1	0	8	8	2	2	6	0	D	2	7
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.				File Name/Header																											
Temp. SN 710				Press.								at Surface								30 May 0753																											
Cond. SN 304				Temp.								Start Down																																			
				Cond.								at Bottom 0804																																			
				Other								Start Up																																			
												at Surface																																			
												Data off 0804																																			
Remarks consecutive cast # used at Sta. Name or ID corresponds to D27 on master grid.																																															
Pos. 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	✓		100	0804	0804	101.829	3.398	29.676							32.130			32.145	23		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 # 10		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 54		Vessel Sta. I.D. D25		Instructions										Sta. Designation												
Consec. Cast #		Latitude N or S			Longitude E or W			Date JD = 150 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 700.5		S.S.	Vis.	Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
10		571003 N			1554097 W			30 MAY 89			1235		63		60		06		37	12	716		882		284		10					
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 _____ at Surface 12:30 Start Down 12:31 at Bottom 12:35 Start Up _____ at Surface _____ Data off 12:39				Data Location Tape/Diskette I.D. _____ File Name/Header 30 May 1221				Remarks				
St. ID	Bot.	T Rack	Trip Depth	Time @ Depth Trip		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	✓	6	102	12:35	12:40	103.269	3.838	30.029							32.115		3.821	32.125	6		1											
2																				2												
3																				3												
4																				4												
5																				5												
6																				6												
7																				7												
8																				8												
9																				9												
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12																				12												

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Consec. Cast # 11		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event# 57		Vessel Sta. I.D.		Instructions										Sta. Designation														
Consec. Cast #		Latitude N or S			Longitude E or W			Date JD = 150			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.	
11		57 03 07 N			155 26 22 W			30 MAY 89			14 22		7 0		6 0		0 7		3 7		1 0		5 1		4 8		8 2		2 7 1		F25			
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time 150				Data Location 271																		
Press. SN 26072				on Deck				at Surface				Data on 14:15				Tape/Diskette I.D.				File Name/Header														
Temp. SN 710				Press. _____				_____				at Surface _____				_____				30 May 1409														
Cond. SN 304				Temp. _____				_____				Start Down 14:18				_____				_____														
_____				Cond. 0.700				30.926				at Bottom 14 21				_____				_____														
_____				Other _____				_____				Start Up 14 22				_____				Remarks														
_____				_____				_____				at Surface _____				_____				_____														
_____				_____				_____				Data off 14 22				_____				_____														

Stn. #	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	✓		101	1421	1422	101.681	3.724	29.760					32.146			32.158	26		1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
8																			8
9																			9
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Consec. Cast # 12		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 67		Vessel Sta. I.D.		Instructions										Sta. Designation																													
Consec. Cast #	Latitude			N or S	Longitude			E or W	Date JD = 150			Time GMT		Dry Bulb	Wet Bulb	Bar. mb 1007.2	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.																																					
	1	2	5	6	4	0	8	7	N	1	5	5	1	0	3	0	W	3	0	M	A	Y	8	9	1	9	0	8	7	0	6	5	0	7	3	8	1	1	0	1	4	8	7	2	7	6	J	Z	3
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location 76																																					
Press. SN 26072				on Deck				Data on				Tape/Diskette I.D.																																					
Temp. SN 710				at Surface				at Surface				File Name/Header																																					
Cond. SN 304				Press. _____				Start Down 1835				30 MAY 1989																																					
				Temp. 6. _____				at Bottom 1839																																									
				Cond. 1.001 30.624				Start Up _____				Remarks Internal Clock is off - time																																					
				Depth _____				at Surface _____																																									
				Other 0.000				Data off _____																																									
Stn. #	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	✓		66	1838	1838	67.403	4.322	30.336					32.021			32.049	11		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 # <u>13</u>		Vessel <u>MILLER FREEMAN</u>		Proj. & Leg <u>MF-89-04 FOCI 2</u>		Event # <u>68</u>		Vessel Sta. I.D.		Instructions <u>m 29</u>										Sta. Designation							
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = <u>150</u> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb	SS	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D.				
	<u>13</u>	<u>56</u>	<u>44</u>	<u>25</u>	N	<u>155</u>	<u>22</u>	<u>42</u>	W	<u>30</u>	M	<u>AY</u>	<u>89</u>	<u>20</u>	<u>08</u>		<u>80</u>		<u>75</u>	<u>07</u>	<u>58</u>	<u>104</u>	<u>138</u>	<u>82</u>	<u>205</u>	<u>m 29</u>	
CTD Type & SN <u>91220-B</u>				Monitor Checks								Times JD/Time				Data Location											
Press. SN <u>26072</u>				on Deck								Data on				Tape/Diskette I.D.								File Name/Header			
Temp. SN <u>710</u>				at Surface								at Surface <u>19:30:45</u>															
Cond. SN <u>304</u>				Press. <u>5.73</u>								Start Down <u>19:31</u>															
				Temp. <u>.135</u>								at Bottom <u>19:38:14</u>															
				Cond. <u>.003</u>								Start Up <u>19:38</u>															
				Other <u>.001</u>								at Surface															
												Data off <u>19:38:14</u>															
																Remarks <u>Internal clock is off-time</u>											

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		6	185	2009	2014	186.747	4.271	31.114					32.928		4.24	32.928	2		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																			
14		MILLER FREEMAN		MF-89-04 FOCI 2		70				M 26/27		M 26/27																			
Consec. Cast #		Latitude N or S		Longitude E or W		Date JD = 150		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.	
14		56 46 72 N		155 28 46 W		30 MAY 89		21 24		8 5		7 8		0 7		5 8		10 8		1 3		8 8		2		250					
CTD Type & SN		91220-B		Monitor Checks		20 39		Times JD/Time		Data on		20:43:06		Data Location		Tape/Diskette I.D.		File Name/Header		30 may 2039											
Press. SN		26072		on Deck		at Surface		Data on		20:45:26																					
Temp. SN		710		Press. 6.5				Start Down		20:45:50																					
Cond. SN		304		Temp. .001				at Bottom		20:53:55																					
				Cond. .001				Start Up		20:54																					
				Other .002				at Surface																							
								Data off		20:53:55																					
St. Bot.		T Rack		Trip Depth		Time @ Depth Trip		Monitor Values		Conv. Mon. Values-CTD		Sample Bot. Data		Sal. Bot. #		Other Samp.		Pos													
1								Press. Temp. Cond. Other		Press. Temp. Cond. Sal.		Therm-P Avg Tw Sal.		32.367 27				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 # 15		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 72		Vessel Sta. I.D.		Instructions pc clock 1 hr. slow				Sta. Designation M 28																						
Consec. Cast #	Latitude N or S Deg. Min.		Longitude E or W Deg.		Date JD = 150 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 20.78	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.																
015	56	51	05	N	155	30	03	W	30	M	A	Y	8	9	23	09	9	5	8	0	0	8	4	8	0	9	6	1	6	8	8	2	2	8	5	M 28
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 215820 at Surface 215947 Start Down 2200 at Bottom 220934 Start Up 2209 at Surface Data off 220934				Data Location Tape/Diskette I.D. File Name/Header 30 MAY 2152				Remarks								
St. No.	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		/	72	2130	221508	72.994	4.190	30.142					31.919			31.932	12		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 # 17		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 78		Vessel Sta. I.D.		Instructions										Sta. Designation m24															
Consec. Cast #		Latitude Deg. Min.		N or S		Longitude Deg.		E or W		Date JD = Day Mo. Yr.		Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1007.8		S.S.		Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
17		5655		40		N		1554641		W		31 MAY 89		0209		70		70		08		48		100		14882		301		m24					
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 015703 at Surface 0158131 Start Down 0159 at Bottom 0210950 Start Up 0209 at Surface Data off				Data Location Tape/Diskette I.D. File Name/Header 31 May 0153											
				Press. 6.35				Temp. .03				Cond. .007				Other .007								Remarks											
Pos		Bot.		T Rack		Trip Depth		Time @ Depth Trip		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		✓		190		02:12:00 02:12:26		192.828 3.547 30.005				32.328				32.319				31				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 # <u>18</u>		Vessel <u>MILLER FREEMAN</u>		Proj. & Leg <u>MF-89-04 FOCI 2</u>		Event # <u>80</u>		Vessel Sta. I.D.		Instructions										Sta. Designation <u>M23</u>																				
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = <u>151</u>			Time GMT		Dry Bulb	Wet Bulb	Bar. mb <u>1007.0</u>	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.																														
	<u>18</u>	<u>56</u>	<u>59</u>	<u>0</u>	<u>1</u>	<u>N</u>	<u>155</u>	<u>52</u>	<u>70</u>	<u>W</u>	<u>3</u>	<u>1</u>	<u>M</u>	<u>A</u>	<u>Y</u>	<u>8</u>	<u>9</u>	<u>03</u>	<u>35</u>	<u>07</u>	<u>1</u>	<u>0</u>	<u>7</u>	<u>0</u>	<u>0</u>	<u>7</u>	<u>4</u>	<u>7</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>1</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>1</u>	<u>3</u>	<u>1</u>	<u>6</u>	<u>M23</u>
CTD Type & SN <u>91220-B</u>				Monitor Checks								Times JD/Time				Data Location																								
Press. SN <u>26072</u>				on Deck								Data on <u>03:23:03</u>				Tape/Diskette I.D.				File Name/Header																				
Temp. SN <u>710</u>				Press. <u>6.412</u>								at Surface <u>03:25:04</u>																												
Cond. SN <u>304</u>				Temp. <u>-1.50</u>								Start Down <u>03:25:35</u>																												
				Cond. <u>-0.005</u>								at Bottom <u>03:35:51</u>																												
				Start Up <u>03:36</u>								at Surface				Remarks																								
				Data off <u>03:35:51</u>																																				
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			<u>307</u>	<u>03:35:51</u>	<u>03:36:11</u>	<u>309.685</u>	<u>4.667</u>	<u>31.707</u>					<u>33.153</u>			<u>33.188</u>	<u>21</u>		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 # 19		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 89		Vessel Sta. I.D.		Instructions										Sta. Designation m22					
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = 151 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1005.2	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weather	Bottom Depth, m	Sta. Name or I.D.		
19	57	02	60	N	156	02	74	W	31	M	A	Y	89	11	38	63	60	05	47	04	01	58	76	209	M22
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location 212									
Press. SN 26072				on Deck at Surface								Data on _____				Tape/Diskette I.D. File Name/Header									
Temp. SN 710				Press. _____								at Surface _____				Start Down 11:26									
Cond. SN 304				Temp. _____								at Bottom 11:34				Start Up 11:40									
				Cond. _____								at Surface _____				Remarks									
				Other _____								Data off _____													

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		6	175	11:34	11:39					177.360	3.723	30.063	32.2303		3.718	32.238	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

Consec. Cast # 20		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # 90		Vessel Sta. I.D.		Instructions										Sta. Designation												
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = 151 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1005.0		S.S.	Vis.	Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
20		5703.73 N			1560534 W			31 MAY 89			1210		62		60		054		7	0	45		18		876		120		M21			
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location 138																
Press. SN 26072				on Deck				at Surface				Data on				Tape/Diskette I.D.						File Name/Header										
Temp. SN 710				Press. _____				_____				at Surface 12:05				_____						31 May 1202										
Cond. SN 304				Temp. _____				_____				Start Down 12:05				_____						_____										
_____				Cond. _____				_____				at Bottom 12:09				_____						_____										
_____				Other _____				_____				Start Up 12:10				_____						_____										
_____				_____				_____				at Surface _____				_____						Remarks										
_____				_____				_____				Data off _____				_____						_____										
St. Bot.		T Rack		Trip Depth		Time @		Monitor Values				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #		Other Samp.		Pos								
1		✓		111		1209		1209		112.111		4.270		30.291		31.996		32.013		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 # <b>21</b>		Vessel MILLER FREEMAN		Proj. & Leg MF-89-04 FOCI 2		Event # <b>98</b>		Vessel Sta. I.D.		Instructions										Sta. Designation												
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = <b>151</b> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb <b>1005.3</b>		S.S.	Vis.	Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
<b>21</b>		<b>56 47 69 N</b>			<b>156 06 32 W</b>			<b>31 MAY 89</b>			<b>17 34</b>		<b>60</b>		<b>60</b>		<b>054</b>		<b>7</b>	<b>060</b>	<b>58</b>		<b>76</b>		<b>231</b>		<b>E20</b>					
CTD Type & SN <b>91220-B</b>				Monitor Checks								Times JD/Time				Data Location																
Press. SN <b>26072</b>				on Deck				at Surface				Data on _____				Tape/Diskette I.D.				File Name/Header												
Temp. SN <b>710</b>				Press. _____				_____				at Surface _____				_____				<b>31 May 1724</b>												
Cond. SN <b>304</b>				Temp. _____				_____				Start Down _____				_____				_____												
_____				Cond. _____				_____				Start Up _____				_____				Remarks												
_____				Other _____				_____				at Surface _____				_____				_____												
_____				_____				_____				Data off _____				_____				_____												
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.															
<b>1</b>		<b>✓</b>		<b>90</b>	<b>1734 1734</b>		<b>91.842</b>	<b>4.210</b>	<b>30.166</b>					<b>31.919</b>			<b>31.930</b>	<b>8</b>		<b>1</b>												
<b>2</b>																				<b>2</b>												
<b>3</b>																				<b>3</b>												
<b>4</b>																				<b>4</b>												
<b>5</b>																				<b>5</b>												
<b>6</b>																				<b>6</b>												
<b>7</b>																				<b>7</b>												
<b>8</b>																				<b>8</b>												
<b>9</b>																				<b>9</b>												
<b>10</b>																				<b>10</b>												
<b>11</b>																				<b>11</b>												
<b>12</b>																				<b>12</b>												

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Consec. Cast # 22		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 146		Vessel Sta. I.D.		Instructions										Sta. Designation J15															
Consec. Cast #		Latitude N or S			Longitude E or W			Date JD = 152			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.		
522		5609 94 N			15604 79 W			01 JUN 89			22 20		90		80		21		48		08		01		36		71		244		J15				
CTD Type & SN 91220-B		Monitor Checks										Times JD/Time				Data Location 244																			
Press. SN 26072		on Deck					at Surface					Data on 22:10				Tape/Diskette I.D.					File Name/Header														
Temp. SN 710		temp										at Surface 22:12																							
Cond. SN 304		Press. cond										Start Down 22:12																							
		Temp. depth										at Bottom 22:20																							
		Cond.										Start Up 22:20																							
		press										at Surface																							
		Other										Data off																							
218																																			
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		152		6		218.3		22:21 2227		220.691		4.952		31.986										33.236				4.93		33.249		35		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 # 24		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 299		Vessel Sta. I.D.		Instructions BKG calibration cast to 200m						Sta. Designation							
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 157			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.															
24	56	45	59	N	155	51	25	W	06	JUN	89	16	27	80	70	37	38	215	05	77	1	299	
CTD Type & SN 91220-B Press. SN 26072 Temp. SN 710 Cond. SN 304				Monitor Checks				Times JD/Time				Data Location											
				on Deck at Surface				Data on 16:13:51				Tape/Diskette I.D. File Name/Header											
				temp Press. cond Temp. depth Cond. press Other				at Surface 16:18:14				06 Jun 1609											
								Start Down at Bottom 16:27:18															
								Start Up at Surface				Remarks											
								Data off 16:27:18															
Stn No.	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		6	200	16:26	16:31:24										3.52	32.462	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 # 26		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 313		Vessel Sta. I.D.		Instructions M 26/27										Sta. Designation																																					
Consec. Cast #		Latitude Deg. Min.		N or S		Longitude Deg.		E or W		Date JD = Day Mo. Yr.		Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1024.8		S.S.		Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.																							
26		56		47		05		N		155		28		04		W		07		JUN		89		08		18		6		0		5		5		25		48		25		6		08		8		8		2		25		0		m 2627	
CTD Type & SN 91220-B				Press. SN 26072				Temp. SN 710				Cond. SN 304				<b>Monitor Checks</b> on Deck                      at Surface temp _____ Press. _____ cond _____ Temp. _____ depth _____ Cond. _____ press _____ Other _____								<b>Times JD/Time</b> Data on 08:08:27 at Surface 08:09:59 Start Down _____ at Bottom 08:18:25 Start Up 08:18:45 at Surface _____ Data off 08:18:25								<b>Data Location</b> Tape/Diskette I.D. _____ File Name/Header 07 Jun 0804 _____ _____ _____ Remarks _____																									
Pos.		Bot.		T Rack		Trip Depth		Time @ Depth Trip		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						122		08:21 08:21.5		123.303 3.622 29.956 122.082								32.231				32.241		20		1																															
2										DEPTH																2																															
3																										3																															
4																										4																															
5																										5																															
6																										6																															
7																										7																															
8																										8																															
9																										9																															
10																										10																															
11																										11																															
12																										12																															

Initials LF

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Consec. Cast #		Vessel		Proj. & Leg		Event #		Vessel Sta. I.D.		Instructions										Sta. Designation																
27		Miller Freeman		MF-89-04, Leg 2		315																														
Consec. Cast #		Latitude			Longitude			Date			Time		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. S			Deg. W			Day Mo. Yr.			Hr. Min.						1024.8																			
27		56 51 29 N			155 37 63 W			07 JUN 89			09 17		5 5		5 0		25		48		210		118		82				286		m28					
CTD Type & SN 91220-B				Monitor Checks								Times				Data Location																				
Press. SN 26072				on Deck at Surface								Data on JD/Time				Tape/Diskette I.D. File Name/Header																				
Temp. SN 710				temp								at Surface				09:04:58																				
Cond. SN 304				Press. cond								Start Down				09:07:40																				
				Temp. depth								at Bottom				09:17:34																				
				Cond. press								Start Up				09:23																				
				Other								at Surface																								
												Data off				09:17:34																				
																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		6		270m		09:18 09:23:05		269.629 4.827 31.919				33.259				4.81 33.272 14						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 # 27		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 316		Vessel Sta. I.D.		Instructions										Sta. Designation																												
Consec. Cast #		Latitude Deg. Min.		N or S		Longitude Deg.		E or W		Date JD = 158 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1024.8		S.S.		Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.													
28		56		52		87		N		155		40		66		W		07 JUN 89			09		58		55		5		5		0		25		48		220		11		88		2		291		m25	
CTD Type & SN 91220-B				Monitor Checks										Times JD/Time				Data Location																														
Press. SN 26072				on Deck at Surface										Data on 09:44:02				Tape/Diskette I.D. File Name/Header																														
Temp. SN 710				temp Press. cond 09:43:36										at Surface 09:47:27				07 Jun 0941																														
Cond. SN 304				Temp. depth Cond. press Other										Start Down 09:47																																		
														at Bottom 09:57:55																																		
														Start Up 09:58																																		
														at Surface																																		
														Data off 09:57:55				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			83	10:03	10:04:10	82.730	3.688	29.912					32.134			32.145	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 WFE

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Consec. Cast # 29		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 317		Vessel Sta. I.D.		Instructions m 24										Sta. Designation																										
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = 158 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1024.2	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D.																							
29	5	6	5	5	3	8	N	1	5	5	4	6	5	7	W	0	7	J	U	N	8	9	1	0	4	7	5	0	4	5	2	4	4	8	2	2	0	1	0	8	8	2	3	0	4	m 24
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																														
Press. SN 26072				on Deck								Data on 10:33:14				Tape/Diskette I.D.																														
Temp. SN 710				at Surface								at Surface 10:36:07				File Name/Header																														
Cond. SN 304				temp								Start Down				at Bottom 10:46:59																														
				Press. 10:31:30								Start Up 10:47				at Surface																														
				Cond.								Data off 10:46:59				Remarks																														
				Temp.																																										
				depth																																										
				Cond.																																										
				press																																										
				Other																																										

Stn. No.	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		✓	210	10:49	10:50:02	211.711	4.198	30.978	269.666				32.821			32.829	25		1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials HP

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Consec. Cast # 30		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 318		Vessel Sta. I.D.		Instructions										Sta. Designation m 23														
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = 158 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1024.0		SS		Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
30		5658 66 N			15553 26 W			07 JUN 89			11 40		50		45		24		48		215		13882		318		m 23							
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																		
Press. SN 26072				on Deck at Surface								Data on 11:24:41				Tape/Diskette I.D. File Name/Header																		
Temp. SN 710				temp 11:23:10								at Surface 11:28:53				07 Jun 1119																		
Cond. SN 304				Press. cond								Start Down																						
				Temp.								at Bottom 11:39:43																						
				depth								Start Up																						
				Cond.								at Surface																						
				press								Data off 11:39:43																						
				Other												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		6	298	11:40:20	11:45:20	301.465	5.178	32.207	298.486				32.225		5.16	33.237	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 WJF

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Consec. Cast # <u>31</u>		Vessel <u>Miller Freeman</u>		Proj. & Leg <u>MF-89-04, Leg 2</u>		Event # <u>320</u>		Vessel Sta. I.D.		Instructions										Sta. Designation <u>m 22</u>	
Consec. Cast #	Latitude <u>N</u> Deg. Min.		Longitude <u>E</u> Deg.		Date JD = <u>158</u> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb <u>1023.0</u>	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D.
	<u>31</u>	<u>57</u> <u>02</u> <u>71</u> <u>N</u>	<u>156</u> <u>02</u> <u>17</u> <u>W</u>	<u>07</u> <u>JUN</u> <u>89</u>	<u>12</u> <u>43</u>		<u>4</u> <u>5</u>	<u>4</u> <u>5</u>	<u>2</u> <u>3</u>	<u>4</u> <u>7</u>	<u>2</u> <u>0</u> <u>5</u>	<u>1</u> <u>2</u> <u>8</u> <u>8</u> <u>2</u>								<u>2</u> <u>2</u> <u>2</u>	<u>m 22</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>12:32:16</u>			-Tape/Diskette I.D. File Name/Header										
Temp. SN <u>710</u>			temp <u>12:30:44</u>					at Surface <u>12:34:29</u>			<u>07 Jun 1229</u>										
Cond. SN <u>304</u>			Press. cond					Start Down													
			Temp.					at Bottom <u>12:42:37</u>													
			depth					Start Up <u>12:43</u>													
			Cond.					at Surface													
			press					Data off <u>12:42:37</u>													
			Other								Remarks										

  

Stn. No.	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		<u>160</u>	<u>12:44</u>	<u>12:45:40</u>	<u>161.585</u>	<u>4.169</u>	<u>30.339</u>	<u>159.985</u>				<u>32.126</u>			<u>32.136</u>	<u>4</u>		<u>1</u>
2																	<u>2</u>	
3																	<u>3</u>	
4																	<u>4</u>	
5																	<u>5</u>	
6																	<u>6</u>	
7																	<u>7</u>	
8																	<u>8</u>	
9																	<u>9</u>	
10																	<u>10</u>	
11																	<u>11</u>	
12																	<u>12</u>	

Initials WF

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Consec. Cast # <b>32</b>		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # <b>322</b>		Vessel Sta. I.D.		Instructions										Sta. Designation <b>m 21</b>			
Consec. Cast #	Latitude <b>N</b> Deg. Min. S			Longitude <b>E</b> Deg. or W			Date <b>JD = 158</b> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb <b>1023.0</b>	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sta. Name or I.D.	
	<b>32</b>	<b>57</b>	<b>03</b>	<b>74</b>	<b>N</b>	<b>156</b>	<b>04</b>	<b>93</b>	<b>W</b>	<b>07</b>	<b>JUN</b>	<b>89</b>	<b>13</b>	<b>11</b>	<b>43</b>	<b>42</b>	<b>23</b>	<b>44</b>	<b>20</b>	<b>51</b>	<b>38</b>	<b>82</b>	<b>156</b>
CTD Type & SN <b>91220-B</b>				Monitor Checks				Times JD/Time				Data Location											
Press. SN <b>26072</b>				on Deck at Surface				Data on <b>13102156</b>				Tape/Diskette I.D. File Name/Header											
Temp. SN <b>710</b>				temp Press. <b>13102131</b>				at Surface <b>13105121</b>				_____											
Cond. SN <b>304</b>				cond _____				Start Down <b>13105155</b>				_____											
_____				Temp. _____				at Bottom <b>13111155</b>				_____											
_____				depth _____				Start Up <b>13111</b>				_____											
_____				Cond. _____				at Surface _____				Remarks											
_____				press _____				Data off <b>13111155</b>				_____											
_____				Other _____																			

Stn. #	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				13:14	13:14:17	37.689	5.674	31.055	56.524				31.560			31.570	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 WF  
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Consec. Cast # <u>33</u>				Vessel <u>Miller Freeman</u>				Proj. & Leg <u>MF-89-04, Leg 2</u>				Event # <u>323</u>		Vessel Sta. I.D.				Instructions								Sta. Designation <u>Peggy RD</u>					
Consec. Cast #		Latitude <u>N</u> Deg. Min. S			Longitude <u>E</u> Deg. W			Date <u>JD = 158</u> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb <u>1022.5</u>		SS	Vis.	Wind Dir.		Wind Sp.		Cloud	Type	Weath.	Bottom Depth, m		Sta. Name or I.D.	
33		5659.68 N			15605.68 W			07 JUN 89			14 04		52		50		23		45	195	10882				200	PEGRD					
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>13:54:25</u>				Tape/Diskette I.D. File Name/Header															
Temp. SN <u>710</u>				temp <u>13:53:49</u>								at Surface <u>13:56:35</u>				Start Down															
Cond. SN <u>304</u>				Press. <u>                    </u>								at Bottom <u>140353</u>				Start Up															
				Temp. <u>                    </u>								at Surface <u>                    </u>				Data off <u>1403:53</u>															
				depth <u>                    </u>								Remarks																			
				Cond. <u>                    </u>																											
				press <u>                    </u>																											
				Other <u>                    </u>																											

Stn	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			141	05:40	14:06:06	142.705	5.192	30.953	141.292				31.858			31.872	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 WF

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Consec. Cast # <u>34</u>				Vessel <u>Miller Freeman</u>				Proj. & Leg <u>MF-89-04, Leg 2</u>				Event # <u>342</u>		Vessel Sta. I.D. <u>    </u>				Instructions <u>Topmast 1</u>								Sta. Designation <u>    </u>						
Consec. Cast #		Latitude <u>N</u> Deg. Min. S			Longitude <u>E</u> Deg. W			Date <u>JD = 159</u> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb <u>1009.4</u>		S.S.	Vis.	Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
<u>034</u>		<u>5435.76 N</u>			<u>15835.02 W</u>			<u>08 JUN 89</u>			<u>06 57</u>		<u>60</u>		<u>50</u>		<u>09</u>		<u>5</u>	<u>6</u>	<u>135</u>		<u>25</u>		<u>876</u>		<u>332</u>		<u>TOP-1</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>06:46:33</u>				Tape/Diskette I.D.				File Name/Header												
Temp. SN <u>710</u>				temp <u>06:40:10</u>								at Surface <u>06:46:18</u>								<u>8 Jun 0639</u>												
Cond. SN <u>304</u>				Press. cond								Start Down																				
				Temp.								at Bottom <u>06:56:59</u>																				
				depth								Start Up																				
				Cond.								at Surface																				
				press								Data off <u>06:56:59</u>																				
				Other												Remarks <u>To - 316m</u>																

St. No.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Depth	Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	St. No.
				Depth	Trip	Press.	Temp.	Cond.	Other		Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.			
1			<u>296</u>	<u>06:57</u>	<u>06:58:00</u>	<u>300.065</u>	<u>4.975</u>	<u>32.476</u>	<u>297.094</u>					<u>33.737</u>			<u>33.750</u>	<u>19</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 WF  
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Consec. Cast # 35		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event# 343		Vessel Sta. I.D.		Instructions Topmast-2										Sta. Designation												
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = 159 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1008.5		S.S. Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
35		5 4 3 2 4 0 N			15 8 3 2 2 6 W			0 8 JUN 8 9			0 8 1 9		6 0		5 0		0 9		6 6		1 3 9		2 6		8 7 6		1 0 6 0		TOP-2			
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																
Press. SN 26072				on Deck at Surface								Data on 07:41:24				Tape/Diskette I.D. File Name/Header																
Temp. SN 710				temp Press. 07:39:21								at Surface 07:47:24				08 Jun 0736																
Cond. SN 304				cond								Start Down 07:47																				
				Temp.								at Bottom 08:19:06																				
				depth								Start Up 08:19																				
				Cond.								at Surface				Remarks																
				press								Data off 08:19:06				To-1640m																
				Other																												

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.	Depth	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw				Sal.
1		6	980	08:20:40	08:25:41	989.133	3.118	31.625	979.348					34.304		3.09	34.318	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 WF

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Consec. Cast # 36		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 345		Vessel Sta. I.D.		Instructions Top mast - 3										Sta. Designation														
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = 159 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1007.5		SS		Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
36		542745 N			1582835 W			08 JUN 89			1028		70		68		08		66		139		208		76		1600		TOP		3			
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																		
Press. SN 26072				on Deck at Surface								Data on 09:35:55				Tape/Diskette I.D. File Name/Header																		
Temp. SN 710				temp 09:31:59 (Log)								at Surface 09:38:15				08 Jun 0929																		
Cond. SN 304												Start Down 09:38																						
												at Bottom 10:27:05																						
												Start Up																						
												at Surface																						
												Data off 10:27:17				Remarks To 1500 meters																		

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		✓	1498	70:26	10:27:05	1511.035	2.298	31.289	1496.074					34.488			34.500	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 WJF



Consec. Cast # <u>37</u>		Vessel <u>Miller Freeman</u>		Proj. & Leg <u>MF-89-04, Leg 2</u>		Event # <u>347</u>		Vessel Sta. I.D.		Instructions <u>Topmast-4</u>										Sta. Designation			
Consec. Cast #	Latitude <u>N</u> Deg. Min. S		Longitude <u>E</u> Deg. W		Date JD = <u>159</u> Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb <u>1004.5</u>	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D.		
<u>37</u>	<u>54</u>	<u>25</u>	<u>15</u>	<u>N</u>	<u>15</u>	<u>82</u>	<u>49</u>	<u>W</u>	<u>08</u>	<u>JUN</u>	<u>89</u>	<u>12</u>	<u>54</u>	<u>68</u>	<u>68</u>	<u>05</u>	<u>65</u>	<u>150</u>	<u>17</u>	<u>87</u>	<u>62</u>	<u>150</u>	<u>TOP4</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>1159:33</u>				Tape/Diskette I.D. File Name/Header										
Temp. SN <u>710</u>			temp <u>1159:19</u> <u>0</u>						at Surface <u>12:01:44</u>				<u>08 Jun 1156</u>										
Cond. SN <u>304</u>			Press. cond						Start Down														
			Temp.						at Bottom <u>12:54:33</u>														
			depth						Start Up														
			Cond.						at Surface														
			press						Data off <u>12:54:33</u>				Remarks										
			Other										<u>To: 1500 meters depth</u>										

Stn. No.	Bot. 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		<u>692</u>	<u>13:16</u>	<u>13:17:02</u>	<u>697.567</u>	<u>3.321</u>	<u>31.633</u>	<u>690.660</u>					<u>34.244</u>			<u>34.253</u>	<u>50</u>		<u>1</u>
2																		<u>2</u>	
3																		<u>3</u>	
4																		<u>4</u>	
5																		<u>5</u>	
6																		<u>6</u>	
7																		<u>7</u>	
8																		<u>8</u>	
9																		<u>9</u>	
10																		<u>10</u>	
11																		<u>11</u>	
12																		<u>12</u>	

Initials WF

Consec. Cast # 38		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 349		Vessel Sta. I.D.		Instructions Top mast - 5										Sta. Designation						
Consec. Cast #	Latitude Deg. Min.		N or S	Longitude Deg.		E or W	Date JD = 159 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1003.4	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D.			
038	5	4	21	05	N	158	17	89	W	08	JUN	89	15	28	70	70	03	55	170	108	76	2048	TOP 5			
CTD Type & SN 91220-B			Press. SN 26072			Temp. SN 710			Cond. SN 304			<b>Monitor Checks</b> on Deck at Surface temp 14:42:14 @ Press. cond Temp. depth Cond. press Other					<b>Times JD/Time</b> Data on 14:42:26 at Surface 14:44:41 Start Down 14:45 at Bottom 15:28:04 Start Up at Surface Data off 15:28:04					<b>Data Location</b> Tape/Diskette I.D. File Name/Header 08 Jun 1440 Remarks Bottom depth too deep to register on ship's sounder. (To: 1500 meters) DEPTH TAKEN FROM CHART				
Pos.	Bot.	T Rack	Trip Depth	Time @		Monitor Values				Depth Other	Conv. Mon. Values-CTD				Sample Bot. Data			Sal. Bot. #	Other Samp.	Pos.						
				Depth	Trip	Press.	Temp.	Cond.	Press.		Temp.	Cond.	Sal.	Therm-P	Avg Tw	Sal.										
1			1202	15:34	15:35:03	1214.407	2.529	31.321	1202.383					34.434				34.447	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 WF



Consec. Cast # 39				Vessel Miller Freeman				Proj. & Leg MF-89-04, Leg 2				Event # 351		Vessel Sta. I.D.				Instructions								Sta. Designation Topmast 6										
Consec. Cast #		Latitude N or S			Longitude E or W			Date JD = 159			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.	
039		541642 N			1581205 W			08 JUN 89			1739		70		70		1002.5		47		08		0048		71		3290		TOP 6							
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																				
Press. SN 26072				on Deck at Surface								Data on 16:44:04				Tape/Diskette I.D.								File Name/Header												
Temp. SN 710				temp 16:43:41 @								at Surface 16:57:51												08 Jun 1641												
Cond. SN 304												Start Down 16:58																								
												at Bottom 17:39																								
												Start Up																								
												at Surface																								
												Data off 17:40:09												Remarks												
																								cast To 1500 meters												

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		6	1500	17:39	17:44:36	1511.720	2.240	31.249	1496.752					34.501		2.23	34.512	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 WT

Consec. Cast # 40		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 354		Vessel Sta. I.D.		Instructions										Sta. Designation Topmast 7																	
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = 159 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1002.8		S.S. Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.						
40		54 11 37 N			158 04 49 W			08 JUN 89			19 43		80		72		0348		2600		6871		3266		TOP 7												
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																					
Press. SN 26072				on Deck at Surface								Data on 19:01:23				Tape/Diskette I.D. File Name/Header																					
Temp. SN 710				temp 19:01:08								at Surface 19:03:12				08 Jun 1859																					
Cond. SN 304				Cond.								Start Down																									
				Temp.								at Bottom 19:43:25																									
				depth								Start Up 19:43																									
				Cond.								at Surface				Remarks																					
				press								Data off 19:43:25				cast To 1500 meters																					
Pos.		Bot.		T Rack		Trip Depth		Time @		Monitor Values				Depth				Conv. Mon. Values-CTD				Sample Bot. Data				Sal. Bot. #		Other Samp.		Pos.							
1				143		20:00		20:01:28		746.320				3.06				31.481				738.98				34.309				34.322				37		1	
2																														2							
3																														3							
4																														4							
5																														5							
6																														6							
7																														7							
8																														8							
9																														9							
10																														10							
11																														11							
12																														12							

Initials WF





Consec. Cast # 41		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 357		Vessel Sta. I.D.		Instructions										Sta. Designation Topmast 8						
Consec. Cast #	Latitude Deg. Min. S		Longitude Deg. E or W		Date JD = 159 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb	Wet Bulb	Bar. mb 1002.0	SS	Vis.	Wind Dir.	Wind Sp.	Cloud	Type	Weath.	Bottom Depth, m	Sta. Name or I.D.					
041	54	06	80	N	158	00	18	W	08	JUN	89	21	37	10	0	90	02	58	24	71	58	82	48	78	TOP 8	
CTD Type & SN 91220-B			Monitor Checks						Times JD/Time						Data Location											
Press. SN 26072			on Deck at Surface						Data on 20:54:15						Tape/Diskette I.D.						File Name/Header					
Temp. SN 710			temp 20:53:36						at Surface 20:55:39												08 Jun 2050					
Cond. SN 304			Press. cond						Start Down																	
			Temp. depth						at Bottom 21:36:14																	
			Cond.						Start Up																	
			press						at Surface																	
			Other						Data off 21:36:14												Remarks					
																					Cast To 1500 meters					

Stn. No.	Bot. Rack	T	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			250	22:06	22:07:30	253.015	3.815	31.673	258.518				34.010			34.025	55		1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials W F

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Consec. Cast # 42		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 364		Vessel Sta. I.D.		Instructions To 9 mast mooring #1 BPR 17										Sta. Designation														
Consec. Cast #		Latitude N or S Deg. Min.			Longitude E or W Deg.			Date JD = 160 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1000.6		S.S.		Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
42		532560 N			1571333 W			09 JUN 89			0435		70		60		01		48		250		10771		4583		BPR 17							
CTD Type & SN 91220-B				Monitor Checks								Times JD/Time				Data Location																		
Press. SN 26072				on Deck at Surface								Data on 04:18:38				Tape/Diskette I.D. File Name/Header																		
Temp. SN 710				temp Press. 04:18:17								at Surface 04:21:02				09 Jun 0412																		
Cond. SN 304				Temp. cond								Start Down 04:21:20																						
				Temp. depth								at Bottom 04:35:36																						
				Cond. Start Up								Start Up				Remarks																		
				press at Surface								Data off 04:35:36				CTD To 500 meters																		
				Other																														

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.	Depth	Other	Press.	Temp.	Cond.	Sal.	Therm-P	Avg Tw			
1			146	04:44	04:44:30	146.878	3.645	31.173	145.424				33.646			33.658	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 LF

Consec. Cast # 43		Vessel Miller Freeman		Proj. & Leg MF-89-04, Leg 2		Event # 379		Vessel Sta. I.D.		Instructions RPR 13/19										Sta. Designation										
Consec. Cast #		Latitude N or S		Longitude E or W		Date JD = 160 Day Mo. Yr.			Time GMT Hr. Min.		Dry Bulb		Wet Bulb		Bar. mb 1000.0		SS Vis.		Wind Dir.		Wind Sp.		Cloud Type		Weath.		Bottom Depth, m		Sta. Name or I.D.	
43		5 20 16 8 N		155 43 57 W		09 JUN 89			18 43		70		60		00		48		248		14		37		14572		BPR 13			
CTD Type & SN 91220-B				Monitor Checks				Times JD/Time				Data Location																		
Press. SN 26072				on Deck				Data on 18:26:24				Tape/Diskette I.D.																		
Temp. SN 710				at Surface				at Surface 18:28:18				File Name/Header																		
Cond. SN 304				temp				Start Down				18:43:42																		
				Press. 18:26:06				at Bottom				Remarks																		
				Cond.				Start Up																						
				depth				at Surface																						
				Cond.				Data off 18:43:42																						
				press																										
				Other																										

Stn. #	Bot. 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		501	43:42	18:49:15	505.331	3.453	31.618	500.328					34.188		3.45	34.201	43		1
2																		2	
3																		3	
4																		4	
5																		5	
6																		6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials WF