

Consec. Cast # 001		Vessel NOAA Ship MILLER FREEMAN		Proj. & Leg MF-93-04		Event # 142		Vessel Sta. I.D.		Instructions										Sta. Designation 005											
Consec. Cast #		Latitude N or S		Longitude E or W		Date JD = 094 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		15 74 11 16 N		155 12 48 W		04 APR 93		06 59 04		5		03 8		06		37		07 52		28 62		293		005							
CTD Type & SN 91220-				Monitor Checks on Deck at Surface				Times JD/Time Data on _____ at Surface _____ Start Down 0648 at Bottom 0659 Start Up 0659 at Surface _____ Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header CAST001-04 APR 0646				Remarks 313 wlo															
Press. SN 25084		Temp. SN 701		Cond. SN 303		Press. _____		Temp. _____		Cond. _____		Other _____																			
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				✓		228		07 01 20 07 06 20						240.906 4.603 30.776 32.172								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 _____
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Consec. Cast # 002		Vessel NOAA Ship MILLER FREEMAN		Proj. & Leg MF-93-04		Event # 143		Vessel Sta. I.D.		Instructions										Sta. Designation 006										
Consec. Cast #		Latitude N or S Deg. Min.		Longitude E or W Deg.		Date JD = 094 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.	
002		5738 89 N		15515 22 W		04 APR 93			07 42		04 50		03 80		06 37		07 02		08 62		301		006							
CTD Type & SN 91220-				Monitor Checks on Deck at Surface				Times JD/Time Data on _____ at Surface 0731 Start Down 0731 at Bottom 0742 Start Up _____ at Surface _____ Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header CAST002-04APR0730 Remarks w/o 305																		
Press. SN 25084		Temp. SN 701		Cond. SN 303		Press. _____		Temp. _____		Cond. _____		Other _____																		
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				35								35.670 4.375 30.313 31.959								01				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 # 005		Vessel MILLER FREEMAN		Proj. & Leg 2MF93 MF-93-04		Event#		Vessel Sta. I.D.		Instructions										Sta. Designation 023										
Consec. Cast #	Latitude			N or S	Longitude			E or W	Date JD = 096			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.																		
	00	55	73	29	4	N	15	45	21	1	W	06	A	P	R	9	3	01	36	05	00	38	06	47	05	52	93	61	226	023
CTD Type & SN <u>91220-A</u> Press. SN <u>25084</u> Temp. SN <u>701</u> Cond. SN <u>303</u>					Monitor Checks on Deck at Surface Press. _____ Temp. _____ Cond. _____ Other _____					Times JD/Time Data on _____ at Surface <u>0127</u> Start Down <u>0127</u> at Bottom <u>0138</u> Start Up <u>0138</u> at Surface _____ Data off _____					Data Location Tape/Diskette I.D. _____ File Name/Header <u>CAST005_06APR0126</u> Remarks <u>FOX57</u> <u>236 w/o</u> <u>FLUOROMETER, LIGHT METER, CHL, MZ</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	30	MZ	30		0144							30.871	3.723	29.617	31.778				1											
2	6	NUTS CHL	30		0144							30.087	3.708	29.606	31.779				2											
3		MZ	20		0145							19.921	3.724	29.615	31.778				3											
4		PINGER	LIGHT METER																4											
5	23	NUTS CHL	20		0146							20.015	3.727	29.617	31.778				5											
6	28	MZ	10		0146							9.684	3.731	29.616	31.778				6											
7	27	NUTS CHL	10		0147							9.917	3.734	29.619	31.778				7											
8	26	MZ	60		0141							60.456	3.701	29.682	31.860				8											
9	2	NUTS CHL	60 or (50)		0141							50.427	3.688	29.617	31.801				9											
10	29	MZ	50		0142							50.902	3.677	29.596	31.786				10											
11	25	MZ	40		0143							40.275	3.698	29.604	31.781				11											
12	22	NUTS CHL	40		0143							40.453	3.706	29.610	31.780			16	12											

Initials _____

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Consec. Cast #		Vessel		Proj. & Leg		Event #		Vessel Sta. I.D.		Instructions										Sta. Designation								
006		MILLER FREEMAN		MF-93-04		240														024								
Consec. Cast #	Latitude			N or S	Longitude			E or W	Date JD = 096			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.																
006	57	36	08	N	155	00	14	W	06	A	P	R	9	3	03	10	05	00	3	9	07	47	06	03	03	61	230	024
CTD Type & SN 91220-A				Monitor Checks										Times JD/Time		Data Location 230												
Press. SN 25084				on Deck at Surface										Data on		Tape/Diskette I.D. File Name/Header												
Temp. SN 701				Press.										at Surface 0301		CAST006-06APR0259												
Cond. SN 303				Temp.										Start Down 0301														
				Cond.										at Bottom 0309														
				Other										Start Up 0310														
														at Surface		Remarks FOX 58 w/o 247												
														Data off		FLUOROMETER, LIGHT METER, CHL, NUTS, MZ												
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	30	MZ	30		0319							29.865	4.352	30.363	32.042				1									
2	6	NUTS CHL	30		0319							29.995	4.354	30.365	32.042				2									
3		MZ	20		0320							20.188	4.277	30.274	32.016				3									
4		PINGER/LIGHT METER																	4									
5	23	NUTS CHL	20		0321							20.290	4.270	30.268	32.015				5									
6	28	MZ	10		0322							10.230	3.964	29.842	31.819				6									
7	27	NUTS CHL	10		0322							10.172	3.966	29.845	31.820				7									
8	26	MZ	60		0314							61.277	4.054	30.144	32.060				8									
9	2	NUTS CHL	60 or 50		0315							50.091	4.014	30.083	32.032				9									
10	29	MZ	50		0316							50.800	4.074	30.145	32.047				10									
11	25	MZ	40		0317							40.856	4.300	30.325	32.042				11									
12	22	NUTS CHL	40		0318							39.695	4.339	30.358	32.044				12									

Initials

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Consec. Cast # 007		Vessel MILLER FREEMAN		Proj. & Leg 2MF93 MF-93-04		Event # 243		Vessel Sta. I.D.		Instructions										Sta. Designation 025								
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 096			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.																	
007	57	38	14	N	155	03	83	W	06	A	P	R	9	3	04	32	05	1	04	1	08	47	06	22	63	61	248	025
CTD Type & SN 91220-A			Monitor Checks										Times JD/Time		Data Location 250													
Press. SN 25084			on Deck at Surface										Data on _____		Tape/Diskette I.D. File Name/Header													
Temp. SN 701			Press. _____										at Surface _____		_____ CAST007-06APR0422													
Cond. SN 303			Temp. _____										Start Down _____		_____													
			Cond. _____										at Bottom 0432		_____													
			Other _____										Start Up _____		Remarks FOX 59 (NIGHT)													
													at Surface _____		FLUOROMETER, LIGHT METER, CHL, PHOS, MZ													
													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	30	MZ	30							30.870	4.091	30.066	31.948					1	
2	6	NUTS CHL	30							29.519	4.097	30.080	31.959					2	
3		MZ	20		0444					20.214	4.073	30.044	31.945					3	
4		PINGER/LIGHT METER																4	
5	23	NUTS CHL	20		0444					20.856	4.072	30.044	31.945					5	
6	28	MZ	10		0446					10.243	4.086	30.053	31.947					6	
7	27	NUTS CHL	10		0446					10.399	4.095	30.061	31.948				10	7	
8	26	MZ	60		0437					60.545	4.052	30.152	32.071					8	
9	2	NUTS CHL	60 or (50)							50.032	4.008	30.087	32.044					9	
10	29	MZ	50							49.287	4.026	30.107	32.050					10	
11	25	MZ	40							39.787	4.074	30.071	31.966					11	
12	22	NUTS CHL	40							41.147	4.085	30.082	31.966					12	

Initials _____
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Consec. Cast # 008		Vessel MILLER FREEMAN		Proj. & Leg 2MF93 MF-93-04		Event # 246		Vessel Sta. I.D.		Instructions										Sta. Designation 026																				
Consec. Cast #	Latitude N or S			Longitude E or W			Date JD = 096 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.																	
	Deg.	Min.		Deg.																																				
	008	57	41	31	N	155	10	00	W	06	A	P	R	9	3	06	06	04	5	0	3	7	0	8	4	7	0	7	0	3	0	4	6	1	2	8	6	0	2	6
CTD Type & SN 91220-A				Monitor Checks				Times JD/Time				Data Location 290																												
Press. SN 25084				on Deck				Data on				Tape/Diskette I.D.																												
Temp. SN 701				at Surface				at Surface 0555				File Name/Header																												
Cond. SN 303				Press. _____				Start Down 0555				CAST008-06APR0554																												
				Temp. _____				at Bottom 0606																																
				Cond. _____				Start Up _____				Remarks FOX 60 (NIGHT) ↓																												
				Other _____				Data off _____				FLUOROMETER, LIGHT METER, CHL, NUTS, MZ																												

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	30	MZ	30		0616					30.812	4.026	30.049	31.991					1	
2	6	NUTS CHL	30		0617					30.868	4.027	30.054	31.996					2	
3		MZ	20		0618					20.897	3.998	29.909	31.859					3	
4		PINGER/LIGHT METER																4	
5	23	NUTS CHL	20		0618					20.226	4.001	29.911	31.859				07	5	
6	28	MZ	10		0619					9.655	3.999	29.906	31.861					6	
7	27	NUTS CHL	10							9.727	3.997	29.905	31.860					7	
8	26	MZ	60		0612					58.857	4.102	30.193	32.072					8	
9	2	NUTS CHL	60 or (50)		0613					51.163	4.087	30.166	32.059					9	
10	29	MZ	50		0614					51.581	4.086	30.169	32.063					10	
11	25	MZ	40		0615					40.567	4.058	30.124	32.043					11	
12	22	NUTS CHL	40		0615					40.207	4.055	30.120	32.042					12	

Initials _____
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Consec. Cast #		Vessel		Proj. & Leg		Event #		Vessel Sta. I.D.		Instructions										Sta. Designation					
Consec. Cast #		Latitude		Longitude		Date		Time		Dry Bulb		Wet Bulb		Bar. mb		Wind Dir.		Wind Sp.		Cloud Type		Bottom Depth, m		Sta. Name or I.D.	
Deg.		Min.		Deg.		Day Mo. Yr.		Hr. Min.																	
009		574256N		1551539W		06 APR 93		0741		52		42		0847		07023461		295		027					
CTD Type & SN <u>91220-A</u> Press. SN <u>25084</u> Temp. SN <u>701</u> Cond. SN <u>303</u>				Monitor Checks on Deck _____ at Surface _____ Press. _____ Temp. _____ Cond. _____ Other _____				Times JD/Time Data on _____ at Surface <u>0726</u> Start Down <u>0727</u> at Bottom <u>0740</u> Start Up _____ at Surface _____ Data off _____				Data Location Tape/Diskette I.D. _____ File Name/Header <u>CAS009-06APR0725</u> Remarks <u>FOX61 FLUOROMETER, LIGHT METER, CHL, NUTS, ME</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	30	MZ	30									30.257	4.292	30.183	31.890			1							
2	6	NUTS CHL	30									30.629	4.283	30.175	31.283			2							
3		MZ	20									18.725	4.022	29.871	31.792			3							
4		FINGER/LIGHT METER																4							
5	23	NUTS CHL	20									18.137	4.023	29.472	31.793			5							
6	28	MZ	10									9.434	3.767	29.575	31.615			6							
7	27	NUTS CHL	10									9.009	3.791	29.603	31.705			7							
8	26	MZ	60									58.304	4.378	30.305	31.935		08	8							
9	2	NUTS CHL	50									58.636	4.365	30.290	31.929			9							
10	29	MZ	50									49.232	4.343	30.258	31.918			10							
11	25	MZ	40									39.888	4.319	30.222	31.904			11							
12	22	NUTS CHL	40									40.916	4.321	30.225	31.906			12							

 Initials CP/WF/LL/m

Consec. Cast # 10		Vessel MILLER FREEMAN		Proj. & Leg MF9304		Event # 354		Vessel Sta. I.D.		Instructions										Sta. Designation																
Consec. Cast #	Latitude		N or S	Longitude		E or W	Date JD = 99			Time GMT		Dry Bulb	Wet Bulb	Bar. mb	S.S.	Vis.	Wind Dir.	Wind Sp.	Cloud Type	Weath.	Bottom Depth, m	Sea Name or I.D.														
	Deg.	Min.		Deg.	Day		Mo.	Yr.	Hr.	Min.																										
010	57	43	N	155	08	52	W	09	A	P	R	9	3	08	49	5	5	4	5	9	5	1	8	2	9	0	0	6	5	7	1	2	9	1	9	1

CTD
Type & SN 91220-
Press. SN 25084
Temp. SN 701
Cond. SN 303

Monitor Checks
on Deck at Surface
Press. _____
Temp. _____
Cond. _____
Other _____

Times JD/Time
Data on _____
at Surface _____
Start Down 8:41
at Bottom _____
Start Up _____
at Surface _____
Data off _____

Data Location
Tape/Diskette I.D. _____
File Name/Header
cast010-09APR
Remarks
At trawl site
max depth = 279.5
u/d = 280

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		✓	205							204.909	4.646	30.959	32.361					1	
2			205							204.976	4.650	30.965	32.363					2	
3			205							204.919	4.662	30.981	32.369					3	
4			205							204.969	4.667	30.987	32.372					4	
5			205							204.958	4.663	30.981	32.370					5	
6		✓	205	08:53						204.938	4.650	30.965	32.363					6	
7																		7	
8																		8	
9																		9	
10																		10	
11																		11	
12																		12	

Initials LL/MC
✓