

NOTE: FOR THIS CAST ONLY: PAR = V0  
CHIAM = V2  
FLUOR = V4

VESSEL		PROJECT & LEG		STATION DESIGNATION																	
NOAA Ship MILLER FREEMAN		MF98-05B																			
CONSC CAST #	LATITUDE	DEG	MIN	LONGITUDE	DEG	MIN	DATE	JD=	TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
01	5625.11N	160	12.71W	15	APR	98	1842	3.8	2.7	9727	180	048	2	26	1-1						
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS					
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header										PRIOR TO KC97-1 RECON					
PRESS SN 29972		START DOWN				CIDD1*										NOTE FILE NAME					
TEMP SN 1: 889, 2: 701		AT DEPTH																			
COND SN 1: 480, 2: 303		AT SURFACE														MAX. DEPTH = 22 m					
POS. TRIP DEPTH		CTD CONVERTED MONITOR VALUES		PAR		FLUOR(10)		CHIAM		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		WHIT'S NUTR.			
1		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY											SALINITY		19		SAL. NUTR. CHL. NUTR.	
2																		19			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

PG 2 OF 2

[illegible]

VESSEL		PROJECT & LEG		STATION DESIGNATION							
NOAA Ship MILLER FREEMAN		MF98-09B									
CONSC CAST #	LATITUDE DEG MIN	LONGITUDE DEG MIN	DATE JD= 105 DAY MO YR	TIME (GMT) HR MIN	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
0035630.03N	16059.88W	15479.88W	980822	1910.1	100	05	761		70	2-1	
CTD	TIMES	JD/TIME	DATA LOCATION			REMARKS					
TYPE & SN 9Plus 91660	DATA ON		Tape/Diskette ID			File Name/Header					
PRESS SN 29972	START DOWN					CTD003					
TEMP SN 1: 889, 2: 701	AT DEPTH										
COND SN 1: 480, 2: 303	AT SURFACE					MAX. DEPTH = 65 m					
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (10) <input checked="" type="checkbox"/> CHLOR <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve											
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES				SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER			
1		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY		SAL.	NUTR.	CHL.	WHIT'S NUTR.
2								15			
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											





[illegible]







[illegible]

VESSEL				PROJECT & LEG				STATION DESIGNATION													
NOAA Ship MILLER FREEMAN																					
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 10 6		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO													YR	HR	MIN
010	56	52.48 N	164	03.37 W	16	APR	98	17	46	1.9	963	6032	18	72	72	6-10					
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS					
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header				for 940-BTL file					
PRESS SN 29972				START DOWN																	
TEMP SN 1: 889, 2: 701				AT DEPTH																	
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = 30 m					
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (10) <input type="checkbox"/> CHLAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																					
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																			
1	30	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA												SAMPLE BOTTLE NUMBER			
2	30					SALINITY												SAL.	NUTR.	CHL.	WHIT'S NUTR.
3	19																				
4	14																				
5	8																				
6	5																				
7	0																				
8																					
9																					
10																					
11																					
12																					

VESSEL				PROJECT & LEG				STATION DESIGNATION									
NOAA Ship MILLER FREEMAN																	
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 106		TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR									
0115701104N	16	41	12	91	16	APR	98	18	58	11.6	963	6	030	16	872	70	7-1
CTD		TIMES		JD/TIME		DATA LOCATION											
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header									
PRESS SN 29972		START DOWN						CTD 011									
TEMP SN 1: 889, 2: 701		AT DEPTH															
COND SN 1: 480, 2: 303		AT SURFACE						MAX. DEPTH = 65 m									
POS. TRIP DEPTH		CTD CONVERTED MONITOR VALUES															
		PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		WHIT'S NUTR.	
1	65											SAL.		575		M 44	
2	60													574		M 45	
3	50													573		M 46	
4	40															M 47	
5	30													572		M 48	
6	20													571		M 49	
7	10													570		M 50	
8	0															M 51	
9																	
10																	
11																	
12																	

Cleaned air bleed valve

TRANSMISSOMETER

ChIAM

FLUOR (10)

PAR

[illegible]

VESSEL						PROJECT & LEG							STATION DESIGNATION								
NOAA Ship MILLER FREEMAN																					
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD=			TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN										
013	56	52.69	N	16	40	21.57	W	17	APR	2018	07	39	11.0	1.09	647	03	22	87	2	72	8-6
REMARKS																					
DATA LOCATION												Tape/Diskette ID File Name/Header									
CTD												CJD 013									
TIMES												CD 013									
TYPE & SN 9Plus 91660 DATA ON																					
PRESS SN 29972 START DOWN																					
TEMP SN 1: 889, 2: 701 AT DEPTH																					
COND SN 1: 480, 2: 303 AT SURFACE												MAX. DEPTH = 63 m									
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (10) <input type="checkbox"/> ChlAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																					
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER				WHIT'S NUTR.	
1	50	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY						SALINITY				SAL.	NUTR.	CHL.	WHIT'S NUTR.			
2	40														35		✓				
3	30																✓				
4	20																✓				
5	10																✓				
6	5																✓				
7	5																✓				
8	5																✓				
9	0																✓				
10																	✓				
11																	✓				
12																	✓				



VESSEL		PROJECT & LEG		STATION DESIGNATION															
NOAA Ship MILLER FREEMAN																			
CONSCAST #	LATITUDE		LONGITUDE		DATE JD=107		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
0155706.90N	16459.89W	17 APR 98	1141	0.1	0.09	646	015	23	872										9-1
CTD		TIMES		JD/TIME		DATA LOCATION													
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header													
PRESS SN 29972		START DOWN				CTD 015													
TEMP SN 1: 889, 2: 701		AT DEPTH																	
COND SN 1: 480, 2: 303		AT SURFACE				MAX. DEPTH = 65 m													
						<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHIAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve					
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER													
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY													
1	65					SAL. 13													
2	60					M52													
3	50					M53													
4	40					M54													
5	30					M55													
6	20					M56													
7	10					M57													
8	0					M58													
9						M59													
10																			
11																			
12																			

VESSEL						PROJECT & LEG							STATION DESIGNATION											
NOAA Ship MILLER FREEMAN																								
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD=			TIME (GMT)			DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN													
014	57	25	.03 N	165	51	.8 W	17	Apr	98	15	30	-0.5	-0.9	974	7	348	25	872					69	10-1
CTD		TIMES		JD/TIME		DATA LOCATION																		
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header																		
PRESS SN		29972		START DOWN		CTD016																		
TEMP SN		1: 889, 2: 701		AT DEPTH																				
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 63 m																		
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHLAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve														
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA	SAMPLE BOTTLE NUMBER				WHIT'S NUTR.							
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY							SALINITY	SAL.	NUTR.	CHL.									
1	63												20											
2	60																							
3	50																							
4	40																							
5	30																							
6	20																							
7	10																							
8	0																							
9																								
10																								
11																								
12																								



VESSEL				PROJECT & LEG				STATION DESIGNATION															
NOAA Ship MILLER FREEMAN																							
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 107		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID					
	DEG	MIN	DEG	MIN	DAY	MO													YR	HR	MIN		
017	57	32.15	N	166	43.76	W	17	APR	9	8	18	53	-2.0	-2.2	0.9	57	34	5	2.6	87	Z	20	11-1
CTD		TIMES		JD/TIME		DATA LOCATION																	
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header															
PRESS SN		29972		START DOWN				CTD017															
TEMP SN		1: 889, 2: 701		AT DEPTH																			
COND SN		1: 480, 2: 303		AT SURFACE				MAX. DEPTH = 63 m															
								<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHLOR		<input checked="" type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve							
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																					
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA													SAMPLE BOTTLE NUMBER				
						SALINITY													SAL.	NUTR.	CHL.	WHIT'S NUTR.	
1	65																		27			1568	
2	60																					169	
3	50																					170	
4	40																					171	
5	30																					172	
6	20																					173	
7	10																					174	
8	0																					175	
9																							
10																							
11																							
12																							

VESSEL				PROJECT & LEG				STATION DESIGNATION											
NOAA Ship MILLER FREEMAN																			
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 107		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO													YR
0185732.60	N	16643.26	W	17	APR	29	8	19	21	-2.1	-2.4	9957	350	24	872		69	11-2	
CTD		TIMES		JD/TIME		DATA LOCATION													
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID				File Name/Header									
PRESS SN 29972		START DOWN								CTD018									
TEMP SN 1: 889, 2: 701		AT DEPTH																	
COND SN 1: 480, 2: 303		AT SURFACE								MAX. DEPTH = m									
						<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHLOR		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve					
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES												SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER			
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY								SALINITY		SAL.	NUTR.	CHL.	WHIT'S NUTR.	
1	35														14				
2	19																		
3	12																		
4	9																		
5	5																		
6	3																		
7	0																		
8																			
9																			
10																			
11																			
12																			

VESSEL				PROJECT & LEG				STATION DESIGNATION													
NOAA Ship MILLER FREEMAN																					
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WET BULB	DRY BULB	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID					
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(deg)	(m/s)	* * *	(m)						
0195738.02N	16736.53W	17 APR 98	2247	-1.9	-2.4	016	355	358	72	69	12-1										
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS					
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header				PRI SYS USED UP					
PRESS SN 29972				START DOWN								CTD 019				HAD TO SOAK CTD FOR					
TEMP SN 1: 889, 2: 701				AT DEPTH												~5 MINS					
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = m					
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (10) <input type="checkbox"/> CHLAM <input checked="" type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve				CTD CONVERTED MONITOR VALUES																	
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.	CHL.	WHIT'S NUTR.	
1	666															24					1172
2	60																				1172
3	50																				1172
4	40																				1172
5	30																				1172
6	20																				1172
7	10																				1172
8	0																				1172
9																					1172
10																					1172
11																					1172
12																					1172

\* false spike in fluorescence

VESSEL				PROJECT & LEG				STATION DESIGNATION												
NOAA Ship MILLER FREEMAN																				
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 108		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID		
	DEG	MIN	DEG	MIN	DAY	MO													YR	HR
020	57	46.35N	168	28.00W	18	APR	98	03	38	2.4	3.20	46	7	348	26	872	70	13-1		
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS				
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header								
PRESS SN 29972				START DOWN								ST0020								
TEMP SN 1: 889, 2: 701				AT DEPTH																
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = 65 m				
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (10) <input type="checkbox"/> CHLAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve				CTD CONVERTED MONITOR VALUES																
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.	CHL.	WHIT's NUTR.
1	65															26		582		M84
2	60																			M85
3	50																			M86
4	40																			M87
5	30																			M88
6	20																			M89
7	10																			M90
8	0																			M91
9																				
10																				
11																				
12																				

[illegible]

VESSEL		PROJECT & LEG				STATION DESIGNATION																	
NOAA Ship MILLER FREEMAN																							
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID					
	DEG	MIN	DEG	MIN	DAY	MO													YR	HR	MIN	(deg)	(m/s)
022	57	55.31	N	169	18.94	W	18	APR	9	8	14	30	-4	0	-4	3	09	6	7	15-1			
CTD		TIMES		JD/TIME		DATA LOCATION																	
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header																	
PRESS SN		29972		START DOWN		CTD022																	
TEMP SN		1: 889, 2: 701		AT DEPTH																			
COND SN		1: 480, 2: 303		AT SURFACE																			
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHIAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve													
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES														SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER			
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY											SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.			
1	60																11	588					
2	50																	587					
3	40																	586					
4	30																						
5	20																	585					
6	10																	584					
7	0																	583					
8																							
9																							
10																							
11																							
12																							

MAX. DEPTH = 60 m

VESSEL		PROJECT & LEG				STATION DESIGNATION															
NOAA Ship MILLER FREEMAN																					
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 10 8		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	(deg)	(m/s)	*	(m)				
0235739.24	N	10901.27	W	18	APR	98	17	07	-3.1	-3.2	1057	340	24	87	S		71	16-1			
CTD		TIMES		JD/TIME		DATA LOCATION															
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header															
PRESS SN		29972		START DOWN		CTD023															
TEMP SN		1: 889, 2: 701		AT DEPTH																	
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 65 m															
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA										SAMPLE BOTTLE NUMBER	
1	65	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY															
2	60																				
3	50																				
4	40																				
5	30																				
6	20																				
7	10																				
8	0																				
9																					
10																					
11																					
12																					





VESSEL				PROJECT & LEG				STATION DESIGNATION																	
NOAA Ship MILLER FREEMAN																									
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 108		TIME (GMT)		WET BULB		WIND DIRN.		WIND SPD.		CLOUD (amt)		WEATHER		BOTTOM DEPTH		STA. NAME/ID				
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(deg)	(m/s)	*	*	*	*	(m)							
025	57	51.56	N	168	51.15	W	18	APR	9	8	19	14	4	3	5	1	16	73	40	20	87	2			
REMARKS																									
for Rho - BTL fl																									
1000000 1000000																									
MAX. DEPTH = 29 m																									
CTD				TIMES				JD/TIME				DATA LOCATION				Tape/Diskette ID				File Name/Header					
TYPE & SN 9Plus 91660				DATA ON																					
PRESS SN 29972				START DOWN																					
TEMP SN 1: 889, 2: 701				AT DEPTH																					
COND SN 1: 480, 2: 303				AT SURFACE																					
<input checked="" type="checkbox"/> PAR <input type="checkbox"/> FLUOR (10) <input type="checkbox"/> CHLAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																									
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																							
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA																SAMPLE BOTTLE NUMBER			
1	27					SALINITY																SAL.	NUTR.	CHL.	WHIT'S NUTR.
2	18																								
3	12																								
4	7																								
5	4																								
6	2																								
7	0																								
8																									
9																									
10																									
11																									
12																									

VESSEL		PROJECT & LEG				STATION DESIGNATION													
NOAA Ship MILLER FREEMAN																			
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= / /		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
026	58 04.34 N	168 46.69 W	19	APR	98	0525	-3.0	-3.5	15.5	330	188	1	8	1	70	18-1			
CTD		TIMES		JD/TIME		DATA LOCATION													
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header													
PRESS SN 29972		START DOWN				C1D026													
TEMP SN 1: 889, 2: 701		AT DEPTH																	
COND SN 1: 480, 2: 303		AT SURFACE																	
						<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHLAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve		MAX. DEPTH = 64 m			
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER					
1		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY						SALINITY		SAL.	NUTR.	CHL.	WHIT'S NUTR.			
2													30						
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

REDO OF CTD  
WHICH WAS ACCIDENTALLY  
ERASED - NE CORNER OF

VESSEL				PROJECT & LEG				STATION DESIGNATION											
NOAA Ship MILLER FREEMAN								19 Handed											
CONSC. CAST #	LATITUDE		LONGITUDE		DATE JD=109		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO													YR
02758	40.19	N	168	19.64	W	19	A	19	53	0.7	0.4	1637	255	7	8	72	52	19-2	
CTD		TIMES		JD/TIME		DATA LOCATION													
TYPE & SN 9Plus 91660		DATA ON				File Name/Header													
PRESS SN 29972		START DOWN				CTD027													
TEMP SN 1: 889, 2: 701		AT DEPTH																	
COND SN 1: 480, 2: 303		AT SURFACE				MAX. DEPTH = 49 m													
CTD CONVERTED MONITOR VALUES				TRANSMISSOMETER				Cleaned air bleed valve				SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER			
POS.	TRIP DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	SALINITY	WHIT'S NUTR.	
1	22																		
2	14																		
3	10																		
4	6																		
5	3																		
6	0																		
7																			
8																			
9																			
10																			
11																			
12																			

3 of 6 Rubber Bands were too cold to hold the sample. nearest cast (5228).

[illegible]

VESSEL				PROJECT & LEG				STATION DESIGNATION									
NOAA Ship MILLER FREEMAN								19 April 4									
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=109		TIME (GMT)		WET BULB	PRESSURE	SEA STATE	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR									
029	58	40.38 N	168	19.49 W	19	APR	9	8	20	40	0.4	0.2	1637	255	8	72	19-4
CTD		TIMES		JD/TIME		DATA LOCATION											
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header											
PRESS SN		29972		START DOWN													
TEMP SN		1: 889, 2: 701		AT DEPTH													
COND SN		1: 480, 2: 303		AT SURFACE													
						<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHLAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve			
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES														SAMPLE BOTTLE NUMBER	
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA				SAL.	NUTR.	CHL.	WHIT'S NUTR.				
1	49												M/23				
2	40												M/24				
3	30												M/25				
4	20												M/26				
5	10												M/27				
6	10																
7	0												M/28				
8																	
9																	
10																	
11																	
12																	

VESSEL				PROJECT & LEG				STATION DESIGNATION								
NOAA Ship MILLER FREEMAN								20 10-10-2								
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=109		TIME (GMT)		WET BULB (°C)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR								
030	58	38.17N	168	33.41W	19	APR	98	22	49	1.8	1.1	1637	285	8	57	20-2
CTD		TIMES		JD/TIME		DATA LOCATION										
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header								
PRESS SN 29972		START DOWN						CTD030								
TEMP SN 1: 889, 2: 701		AT DEPTH														
COND SN 1: 480, 2: 303		AT SURFACE						MAX. DEPTH = m								
CTD CONVERTED MONITOR VALUES				TRANSMISSOMETER				Cleaned air bleed valve								
POS.	TRIP DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.	NUTR.	CHL.	WHIT'S NUTR.			
1	53									4			.129			
2	40												.130			
3	30												.131			
4	20												.132			
5	10												.133			
6	0												.134			
7																
8																
9																
10																
11																
12																

[illegible]

[illegible]



VESSEL		PROJECT & LEG				STATION DESIGNATION																
NOAA Ship MILLER FREEMAN						23-2																
CONSCAST #	LATITUDE		LONGITUDE		DATE JD= 110		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	*	(deg)	(m/s)	*	*	(m)			
0335842.26N	16805.57W	20APR	98	0357	0.5	0.0	1837	260	049	23-2												
CTD		TIMES		JD/TIME		DATA LOCATION																
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header														
PRESS SN		29972		START DOWN																		
TEMP SN		1: 889, 2: 701		AT DEPTH																		
COND SN		1: 480, 2: 303		AT SURFACE																		
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> ChlAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve												
POS. TRIP DEPTH		CTD CONVERTED MONITOR VALUES																				
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA													SAMPLE BOTTLE NUMBER			
1																			SAL.	NUTR.	CHL.	WHIT'S NUTR.
2																			27			
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

MAX. DEPTH = 49 m

VESSEL		PROJECT & LEG				STATION DESIGNATION													
NOAA Ship MILLER FREEMAN																			
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	*	(deg)	(m/s)	*	*	(m)	
0345832.74N	16815.62W	20	APR	9	8	538	2.0	1.4	1837	285	8	972	56	24-2					
CTD		TIMES		JD/TIME		DATA LOCATION													
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header													
PRESS SN		29972		START DOWN		CTD 034													
TEMP SN		1: 889, 2: 701		AT DEPTH															
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 52 m													
						<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (10) <input type="checkbox"/> CHLAM <input checked="" type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve													
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER					
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY							SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.			
1													23						
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

VESSEL				PROJECT & LEG				STATION DESIGNATION														
NOAA Ship MILLER FREEMAN								25-2														
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID				
035	58	28.6	4	N	168	32.4	8	W	20	APR	9	8	07	06	0.9	0.2	1937	330	8	972	63	25-2
CTD				TIMES		JD/TIME		DATA LOCATION														
TYPE & SN				9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header												
PRESS SN				29972		START DOWN		CTD035														
TEMP SN				1: 889, 2: 701		AT DEPTH																
COND SN				1: 480, 2: 303		AT SURFACE																
				<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve										
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																				
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA													SAMPLE BOTTLE NUMBER			
1	58																		SAL.	NUTR.	CHL.	WHIT'S NUTR.
2	50																		22			M135
3	40																					M136
4	30																					M137
5	20																					M138
6	10																					M139
7	0																					M140
8																						M141
9																						
10																						
11																						
12																						

MAX. DEPTH = 58 m

2561

VESSEL		PROJECT & LEG				STATION DESIGNATION															
NOAA Ship MILLER FREEMAN																					
CONSC CAST #	LATITUDE	LONGITUDE		DATE JD= 111		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID			
	DEG MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	(deg)	(m/s)	*	*	(m)				
036	5837.94N	116	21.96W	21	APR	98	03	22	11.9	11.6	2237	2002	8	72	8	72	54	262			
CTD		TIMES		JD/TIME		DATA LOCATION															
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header															
PRESS SN 29972		START DOWN				C1D0036															
TEMP SN 1: 889, 2: 701		AT DEPTH																			
COND SN 1: 480, 2: 303		AT SURFACE				MAX. DEPTH = 50 m															
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHIAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve											
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																			
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA												SAMPLE BOTTLE NUMBER			
1						SALINITY												SAL.	NUTR.	CHL.	WHIT'S NUTR.
2																		13			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

VESSEL						PROJECT & LEG								STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																												
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD=			TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID						
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN										*	*	*	(m)				
0375819-81N	16	83	33.83	W	A	R	9	8	05	12	11.1	0.92	137	190	11	872	67	27-1										
REMARKS																												
CTD						DATA LOCATION																						
TYPE & SN    9Plus 91660						Tape/Diskette ID    File Name/Header																						
PRESS SN         29972																												
TEMP SN    1: 889, 2: 701																												
COND SN    1: 480, 2: 303												MAX. DEPTH = 60 m																
<input checked="" type="checkbox"/> PAR						<input checked="" type="checkbox"/> FLUOR (10) <input type="checkbox"/> CHLAM <input type="checkbox"/>						<input checked="" type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve w/o b5						SAMPLE BOTTLE NUMBER										
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES											SAMPLE BOTTLE DATA															
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY												SALINITY											
1	62																	WHIT'S NUTR.										
2	50																	M142 M143										
3	40																	M144 M145										
4	30																	M146 M147										
5	20																	M148										
6	10																											
7	0																											
8																												
9																												
10																												
11																												
12																												

VESSEL						PROJECT & LEG								STATION DESIGNATION									
NOAA Ship MILLER FREEMAN																							
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD= / /			TIME (GMT)			DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/D
	DEG	MIN	N	DEG	MIN	E	DAY	MO	YR	HR	MIN	*								*	*	(m)	
0385	705	.85	N	169	19	.39	W	21	A	P	R	9	8	1.8	1.5	1837	170	10	872	* * *	74	28-1	
CTD		TIMES	JT/TIME	DATA LOCATION										REMARKS									
TYPE & SN		9Plus 91660		Data ON _____				File Name/Header _____															
PRESS SN		29972		START DOWN _____				_____															
TEMP SN		1 : 889, 2 : 701		AT DEPTH _____				_____															
COND SN		1 : 480, 2 : 303		AT SURFACE _____				_____				MAX. DEPTH = 69 m											
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHL AM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve													
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA	SAMPLE BOTTLE NUMBER										
1	69	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY				SALINITY				SAL.	NUTR.	CHL.	WHIT'S NUTR.							
2	60												29	606		M149							
3	50													605	✓	151							
4	40													604	✓	152							
5	30														✓	153							
6	20													603	✓	154							
7	10													602	✓	155							
8	0													601	✓	M156							
9																							
10																							
11																							
12																							

[illegible]

VESSEL		PROJECT & LEG				STATION DESIGNATION																
NOAA Ship MILLER FREEMAN																						
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID			
0405627.78N	16920.79W	21	APR	29	8	19	30	3.1	2.5	16.3	7	170	18	872	103	29-3						
CTD		TIMES		JD/TIME		DATA LOCATION																
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header																
PRESS SN 29972		START DOWN				CTDO 40																
TEMP SN 1: 889, 2: 701		AT DEPTH																				
COND SN 1: 480, 2: 303		AT SURFACE				MAX. DEPTH = 42 m																
POS. TRIP DEPTH		CTD CONVERTED MONITOR VALUES																				
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA													SAMPLE BOTTLE NUMBER			
																			SAL.	NUTR.	CHL.	WHIT'S NUTR.
1	42																					M158
2	27																					
3	19																					
4	11																					
5	6																					
6	0																					M163
7																						
8																						
9																						
10																						
11																						
12																						





VESSEL		PROJECT & LEG		STATION DESIGNATION								
NOAA Ship MILLER FREEMAN		MF-98-05B										
CONSC CAST #	LATITUDE	LONGITUDE	DATE JD=	TIME (GMT)	SEA STATE	WET BULB	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG MIN	DEG MIN	DAY MO YR	HR MIN		(°C)	(deg)	(m/s)	..	..	(m)	
0425617.65N	16920.40W	21	APR 98	2338	3.8	3.2	165	23	872	197	30-4	
CTD		TIMES		JD/TIME		DATA LOCATION						
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header						
PRESS SN 29972		START DOWN										
TEMP SN 1: 889, 2: 701		AT DEPTH										
COND SN 1: 480, 2: 303		AT SURFACE				MAX. DEPTH = 195 m						
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHIAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve		
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER						
1		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY		SAL.	NUTR.	CHL.	WHIT'S NUTR.	
2								1				
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

VESSEL		PROJECT & LEG				STATION DESIGNATION							
NOAA Ship MILLER FREEMAN													
CONSC CAST #	LATITUDE	LONGITUDE	DATE JD=		TIME (GMT)	WET BULB	SEA STATE	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG MIN	DEG MIN	DAY	MO	HR	(°C)	(mb)	(deg)	(m/s)	*	*	(m)	
04356	10.81N	16920.12W	22	APR	98	3.7	3.3	1247	155	18	872	626	31-1
CTD		TIMES		JD/TIME		DATA LOCATION							
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header							
PRESS SN		29972		START DOWN		CTD043							
TEMP SN		1: 889, 2: 701		AT DEPTH									
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 523 m							
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (10)		<input type="checkbox"/> CHAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve			
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES											
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA			SAMPLE BOTTLE NUMBER				
1	516								SAL.	NUTR.	CHL.	WHIT'S NUTR.	
2	100								14			M164	
3	80											M165	
4	50											M166	
5	40											M167	
6	30											M168	
7	20											M169	
8	10											M170	
9												M171	
10													
11													
12													



VESSEL		PROJECT & LEG				STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																				
CONSCAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												MIN
045	56	15.26	N	169	42.55	W	22	APR	98	08	24	3.8	3.2	0847	160	20	8	12	295	32-1
CTD		TIMES		JD/TIME		DATA LOCATION														
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header														
PRESS SN		29972		START DOWN		CSD045														
TEMP SN		1: 889, 2: 701		AT DEPTH																
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 285 m														
POS. TRIP DEPTH		CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER						
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY					SAL.	NUTR.	CHL.	WHIT'S NUTR.						
1	285										32			M172						
2	200													M173						
3	150													M174						
4	100													M175						
5	75													M176						
6	50												✓	M177						
7	40												✓	M178						
8	30												✓	M179						
9	20												✓	M180						
10	10												✓	M181						
11	0												✓	M182						
12																				

fluoro worked intermittently

VESSEL				PROJECT & LEG				STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																						
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 112		TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID					
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR										MIN				
4656	26	17	N	170	12	52	W	22	APR	98	11	37	3.4	2.9	06	47	140	21	87	2	112	33-1
CTD		TIMES		JD/TIME		DATA LOCATION												REMARKS				
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header														
PRESS SN 29972		START DOWN						CTD046														
TEMP SN 1: 889, 2: 701		AT DEPTH																				
COND SN 1: 480, 2: 303		AT SURFACE																MAX. DEPTH = 105 m				
PAR		FLUOR (3)		CHLAM		TRANSMISSOMETER		Cleared air bleed valve														
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																				
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA											SAMPLE BOTTLE NUMBER					
1	105					SALINITY											SAL.	NUTR.	CHL.	WHIT'S NUTR.		
2	75																71			M183		
3	50																		✓	M184		
4	40																		✓	M185		
5	30																		✓	M186		
6	20																		✓	M187		
7	10																		✓	M188		
8	0																		✓	M189		
9																			✓	M190		
10																						
11																						
12																						

\* fluoro worked properly

VESSEL		PROJECT & LEG				STATION DESIGNATION																	
NOAA Ship MILLER FREEMAN																							
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID				
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												MIN			
47	56	41.03	N	170	12.54	W	22	APR	98	13	42	3.1	2.9	0.6	4	1	2	2	1	02	34-1		
CTD		TIMES		JD/TIME		DATA LOCATION														REMARKS			
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header														Temp up 8° ~ 80m	
PRESS SN 29972		START DOWN						CTD 047															
TEMP SN 1: 889, 2: 701		AT DEPTH																					
COND SN 1: 480, 2: 303		AT SURFACE																				MAX. DEPTH = 95 m	
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR(3) <input type="checkbox"/> CHLAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																							
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																					
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA				SAL.	NUTR.	CHL	WHIT'S NUTR.										
1	95									15			M191										
2	75											✓	M192										
3	50											✓	M193										
4	40											✓	M194										
5	30											✓	M195										
6	20											✓	M196										
7	10											✓	M197										
8	0											✓	M198										
9																							
10																							
11																							
12																							





VESSEL NOAA Ship MILLER FREEMAN				PROJECT & LEG				STATION DESIGNATION												
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 112		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
495652055N	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	3.0	2.8	0547	*	*	130	18	872	*	72	36-1
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS				
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header								
PRESS SN 29972				START DOWN								CTD049								
TEMP SN 1: 889, 2: 701				AT DEPTH																
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = 65 m				
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (3) <input type="checkbox"/> CHLAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																				
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.	CHL.	WHIT'S NUTR.
1	65													35						m206
2	50																			207
3	40																			208
4	30																			209
5	20																			210
6	10																			211
7	0																			212
8																				
9																				
10																				
11																				
12																				

VESSEL		PROJECT & LEG				STATION DESIGNATION												
NOAA Ship MILLER FREEMAN																		
CONSC CAST #	LATITUDE	LONGITUDE		DATE JD= 112		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
505702.99 N	17008.73 W	22	08	19	98	19	23	3.0	2.8	0.3	4	7	130	18	8	72	64	37-1
CTD		TIMES		JD/TIME		DATA LOCATION												
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header										
PRESS SN 29972		START DOWN						CTD 050										
TEMP SN 1: 889, 2: 701		AT DEPTH																
COND SN 1: 480, 2: 303		AT SURFACE						MAX. DEPTH = 62 m										
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.	CHL.	WHIT'S NUTR.
1	60													03				M213
2	50																✓	M214
3	40																✓	M215
4	30																✓	M216
5	20																✓	M217
6	10																✓	M218
7	0																✓	M219
8																		
9																		
10																		
11																		
12																		

VESSEL						PROJECT & LEG							STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																											
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD=			TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt) TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID							
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN										(°C)	(mb)	*	*	*	*	
515702.61N	17009.11W	22APR	98	1945	2.1	2.10346	130	21	872	65	37-2																
CTD			JD/TIME			DATA LOCATION															REMARKS						
TYPE & SN 9Plus 91660			DATA ON			Tape/Diskette ID			File Name/Header															MAX. DEPTH = 30 m			
PRESS SN 29972			START DOWN						CTDOSI																		
TEMP SN 1: 889, 2: 701			AT DEPTH																								
COND SN 1: 480, 2: 303			AT SURFACE																								
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (3) <input type="checkbox"/> CHAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve						CTD CONVERTED MONITOR VALUES																					
POS.	TRIP DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY	SAMPLE BOTTLE DATA															SAMPLE BOTTLE NUMBER					
1	28																					SAL. NUTR. CHL. WHIT'S NUTR.					
2	18																										
3	13																										
4	7																										
5	4																										
6	0																										
7																											
8																											
9																											
10																											
11																											
12																											

VESSEL		PROJECT & LEG		STATION DESIGNATION								
NOAA Ship MILLER FREEMAN												
CONSC CAST #	LATITUDE	LONGITUDE	DATE JD=	TIME (GMT)	WET BULB	SEA STATE	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG MIN	DEG MIN	DAY MO YR	HR MIN	(°C)	(mb)	(deg)	(m/s)	* * *	* * *	(m)	
525322.19 N	16842.0 W	23 APR 98	1646	4.3	3.6954	7	200	14	872	317	38-1	
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS				
TYPE & SN 9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header						
PRESS SN 29972		START DOWN				CTD052						
TEMP SN 1: 889, 2: 701		AT DEPTH										
COND SN 1: 480, 2: 303		AT SURFACE								MAX. DEPTH = 310 m		
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		TRANSMISSOMETER		Cleansed air bleed valve		SAMPLE BOTTLE DATA		
						<input checked="" type="checkbox"/> PAR <input type="checkbox"/> FLUOR (3) <input type="checkbox"/> CHLOR		<input checked="" type="checkbox"/>				
1	310	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY					SAL. NUTR. CHL. WHIT'S 9		
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

- \* too deep for know
- \* marginally deep for par

VESSEL				PROJECT & LEG				STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																		
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
053	53	26.33 N	168	46.45 W	23	APR	98	173	9	4.9	3.9	953	7	230	14	47	1183	39-1
CTD		TIMES		JD/TIME		DATA LOCATION												
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header												
PRESS SN		29972		START DOWN		CTD053												
TEMP SN		1: 889, 2: 701		AT DEPTH														
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 1003 m												
VESSEL				PROJECT & LEG				STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																		
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
053	53	26.33 N	168	46.45 W	23	APR	98	173	9	4.9	3.9	953	7	230	14	47	1183	39-1
CTD		TIMES		JD/TIME		DATA LOCATION												
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header												
PRESS SN		29972		START DOWN		CTD053												
TEMP SN		1: 889, 2: 701		AT DEPTH														
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 1003 m												
VESSEL				PROJECT & LEG				STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																		
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
053	53	26.33 N	168	46.45 W	23	APR	98	173	9	4.9	3.9	953	7	230	14	47	1183	39-1
CTD		TIMES		JD/TIME		DATA LOCATION												
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header												
PRESS SN		29972		START DOWN		CTD053												
TEMP SN		1: 889, 2: 701		AT DEPTH														
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 1003 m												
VESSEL				PROJECT & LEG				STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																		
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
053	53	26.33 N	168	46.45 W	23	APR	98	173	9	4.9	3.9	953	7	230	14	47	1183	39-1
CTD		TIMES		JD/TIME		DATA LOCATION												
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header												
PRESS SN		29972		START DOWN		CTD053												
TEMP SN		1: 889, 2: 701		AT DEPTH														
COND SN		1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 1003 m												
VESSEL				PROJECT & LEG				STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																		
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
053	53	26.33 N	168	46.45 W	23	APR	98	173	9	4.9	3.							

VESSEL		PROJECT & LEG		STATION DESIGNATION						
NOAA Ship MILLER FREEMAN		MF 98-05B								
CONSC CAST #	LATITUDE	LONGITUDE	DATE JD=	TIME (GMT)	WIND DIRN.	WIND SPD.	WIND TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG MIN	DEG MIN	DAY MO YR	HR MIN	(deg)	(m/s)			(m)	
545324.54 N	168 51.78 W	24 APR 98	02 17	4.5	3.6	9.5	3.7	2.1	5.1	39-4
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS		
TYPE & SN 9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header		w/01098		
PRESS SN 29972		START DOWN				CTD054				
TEMP SN 1: 889, 2: 701		AT DEPTH								
COND SN 1: 480, 2: 303		AT SURFACE						MAX. DEPTH = 1000 m		
POS. TRIP DEPTH		CTD CONVERTED MONITOR VALUES		TRANSMISSOMETER		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		
		PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		WHIT'S NUTR.
1 1000								33		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

[illegible]

[illegible]





VESSEL		PROJECT & LEG				STATION DESIGNATION													
NOAA Ship MILLER FREEMAN																			
CONSC CAST #	LATITUDE	DEG	MIN	LONGITUDE	DEG	MIN	DATE JD=	TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
58	34 01.87 N	16	9	34.20 W	24	APR	98	1324	4.0	2.9	9327	330	6	361	DEEP	43-1			
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS											
TYPE & SN 9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header													
PRESS SN 29972		START DOWN		CTD058															
TEMP SN 1: 889, 2: 701		AT DEPTH																	
COND SN 1: 480, 2: 303		AT SURFACE																	
				MAX. DEPTH = 1500 m															
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES		PAR		FLUOR		CHAM		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		WHIT'S NUTR.	
1	1500	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY														
2	500																		
3	300																		
4	200																		
5	100																		
6	50																		
7	20																		
8	0																		
9																			
10																			
11																			
12																			

[illegible]



[illegible]

VESSEL						PROJECT & LEG							STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																							
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD= 115			TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt) * * *	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN												
06215458-40 N	169	44	-55 W	215	ATP	9	8	00	58	3.8	3.2	943	70	30	16	86	12235	46-1					
CTD		TIMES		JD/TIME		DATA LOCATION																REMARKS	
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header																	
PRESS SN		29972		START DOWN		CTDO62																	
TEMP SN		1: 889, 2: 701		AT DEPTH																			
COND SN		1: 480, 2: 303		AT SURFACE																		MAX. DEPTH = 1500 m	
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES																		SAMPLE BOTTLE NUMBER	
				PAR		FLUOR		CHLAM		TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve		SAMPLE BOTTLE DATA		SALINITY		SAL.	NUTR.	CHL.	WHIT'S NUTR.		
1	1500																	25			M279		
2	500																				M280		
3	300																				M281		
4	200																				M282		
5	100																				M283		
6	50																				M284		
7	20																				M285		
8	0																				M286		
9																							
10																							
11																							
12																							

VESSEL				PROJECT & LEG				STATION DESIGNATION												
NOAA Ship MILLER FREEMAN																				
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID				
	DEG	MIN	DEG	MIN	DAY	MO											YR	HR	MIN	
063	55	06.75 N	168	29.06 W	25	APR	98	03	48	5.1	4.6	96	37	040	16	8622339	47-1			
CTD		TIMES		JD/TIME		DATA LOCATION														
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header														
PRESS SN		29972		START DOWN																
TEMP SN		1: 889, 2: 701		AT DEPTH																
COND SN		1: 480, 2: 303		AT SURFACE																
						MAX. DEPTH = 1501 m														
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES											SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER			
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY								SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.			
1	1500																M287			
2	500													22			M288			
3	300																M289			
4	200																M290			
5	100																M291			
6	50																M292			
7	20																M293			
8	0																M294			
9																				
10																				
11																				
12																				

VESSEL				PROJECT & LEG				STATION DESIGNATION																				
NOAA Ship MILLER FREEMAN																												
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=115		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID									
	DEG	MIN	DEG	MIN	DAY	MO														YR	HR	MIN						
064	55	21.9	2	N	168	13.3	2	W	25	APR	9	8	11	24	4.2	3.3	0.5	4	8	02.0	17	3	41	9	6	2	48	-1
CTD		TIMES		JD/TIME		DATA LOCATION																						
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header																				
PRESS SN		29972		START DOWN		CTD064																						
TEMP SN		1: 889, 2: 701		AT DEPTH																								
COND SN		1: 480, 2: 303		AT SURFACE																								
						MAX. DEPTH = 955 m																						
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		PAR		FLUOR		CHLOR		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER										
		PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.										
1	955																	M295										
2	500																	M296										
3	300																	M297										
4	200																	M298										
5	100																	M299										
6	75																	M300										
7	50																	M301										
8	40																	M302										
9	30																	M303										
10	20																	M304										
11	10																	M305										
12	0																	M306										

bucket  
sample



VESSEL				PROJECT & LEG				STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																						
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 115		TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID					
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR										MIN				
65	55	22.17 N	168	10.73 W	25	APR	98	12	51	4.1	3.1	05	47	3	5	1	526	49-1				
CTD		TIMES		JD/TIME		DATA LOCATION												REMARKS				
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID												File Name/Header				
PRESS SN		29972		START DOWN																		
TEMP SN		1: 889, 2: 701		AT DEPTH																		
COND SN		1: 480, 2: 303		AT SURFACE														MAX. DEPTH = 500 m				
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (3) <input type="checkbox"/> CHIAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve				CTD CONVERTED MONITOR VALUES																		
POS.	TRIP DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA													SAMPLE BOTTLE NUMBER			
1	500					SALINITY													SAL.	NUTR.	CHL.	WHIT'S NUTR.
2	300																		23	625		M307
3	200																			624		308
4	100																			623		309
5	75																			622		710
6	50																			621		311
7	40																			620		312
8	30																			619	✓	313
9	20																				✓	314
10	10																			618	✓	75
11	0																			617	✓	316
12																				607	✓	317

VESSEL				PROJECT & LEG				STATION DESIGNATION												
NOAA Ship MILLER FREEMAN																				
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=115		TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID		
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											MIN	
66	55	25.48	N	168	04.26	W	25	APR	9	8	13	59	4.0	3.1	06	47	00	0	222	50-1
CTD		TIMES		JD/TIME		DATA LOCATION														
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID File Name/Header														
PRESS SN		29972		START DOWN																
TEMP SN		1: 889, 2: 701		AT DEPTH																
COND SN		1: 480, 2: 303		AT SURFACE																
		<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR (3)		<input type="checkbox"/> CHIAM		<input type="checkbox"/> TRANSMISSOMETER		<input checked="" type="checkbox"/> Cleaned air bleed valve										
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES																
				PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		WHIT'S NUTR.		
1	2.15															20 634		M318		
2	15.0															633		M319		
3	100															632		M320		
4	75															631		M321		
5	50															630		M322		
6	40															629		M323		
7	30																	M324		
8	20															628		M325		
9	10															627		M326		
10	0															626		M327		
11																				
12																				

MAX. DEPTH = 215 m

VESSEL NOAA Ship MILLER FREEMAN				PROJECT & LEG				STATION DESIGNATION											
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 115		TIME (GMT)		WET BULB (°C)	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID				
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR								MIN			
67	55	33.09	N	167	45.79	W	25	APR	29	8	15	40	139	51-1					
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS											
TYPE & SN 9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header													
PRESS SN 29972		START DOWN		CTD067															
TEMP SN 1: 889, 2: 701		AT DEPTH																	
COND SN 1: 480, 2: 303		AT SURFACE		MAX. DEPTH = 130 m															
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES		FLUOR (a)		CHIAM		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER			
1	100	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY							SAL.	NUTR.	CHL.	WHIT'S NUTR.				
2	75											27			M324				
3	50														M330				
4	40														M331				
5	20														M332				
6	10														M333				
7	0														M334				
8	130											27			M335				
9															M328				
10																			
11																			
12																			

VESSEL							PROJECT & LEG						STATION DESIGNATION																							
NOAA Ship MILLER FREEMAN																																				
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD=			TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH  (m)	STA. NAME/ID													
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN																									
6855	39.05	N	167	30.02	W	25 APR 98	17	10	3.8	3.4	0.847	*	*	*	-	* * *	0	17	0	-	0	136	52-1													
CTD		TIMES	JD/TIME	DATA LOCATION										REMARKS																						
TYPE & SN		9Plus 91660 DATA ON		Tape/Diskette ID				File Name/Header																												
PRESS SN		29972						crd068																												
TEMP SN		1: 889, 2: 701																																		
COND SN		1: 480, 2: 303																																		
																		MAX. DEPTH = 130 m																		
																		Cleaned air bleed valve																		
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA										SAMPLE BOTTLE NUMBER														
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY																														
1	100																																			
2	75																																			
3	50																																			
4	40																																			
5	20																																			
6	10																																			
7	0																																			
8	130																																			
9																																				
10																																				
11																																				
12																																				

[illegible]

[illegible]

VESSEL						PROJECT & LEG								STATION DESIGNATION								
NOAA Ship MILLER FREEMAN																						
CONSC CAST #	LATITUDE	LONGITUDE		DATE JD= 115			TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID			
	DEG MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	*	(deg)	(m/s)	* * *		(m)				
7155	54.12 N	166	54.05 W	25	AUG	98	20	46	4.0	3.3	11.48	3	5	5	17	22	1	134	54-1			
CTD	TIMES	JT/TIME	DATA LOCATION																			
TYPE & SN	9Plus 91660	Data ON	File Name/Header																			
PRESS SN	29972	START DOWN	CTD071																			
TEMP SN	1: 889, 2: 701	AT DEPTH																				
COND SN	1: 480, 2: 303	AT SURFACE																				
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR(%) <input type="checkbox"/> ChlAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																						
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES																				
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SAMPLE BOTTLE DATA												SAMPLE BOTTLE NUMBER				
1	130																					
2	100																					
3	75																					
4	50																					
5	40																					
6	20																					
7	10																					
8	0																		M359			
9																						
10																						
11																						
12																						
		MAX. DEPTH = 130 m																				

VESSEL						PROJECT & LEG								STATION DESIGNATION							
NOAA Ship MILLER FREEMAN																					
			LATITUDE	LONGITUDE		DATE JD=115		TIME (GMT)					SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPF	WEATHER	BOTTOM DEPTH	STA. NAME/ID
#	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	*	*	(deg)	(m/s)	* * *	*	(m)		
725603.25 N	166	19.76 W	25 APR	9 8	23	03	4.1	3.4	114	8350	15210								121	55-1	
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS													
TYPE & SN		9Plus 91660 DATA ON				Tape/Diskette ID		File Name/Header													
PRESS SN		29972 START DOWN						CTD072													
TEMP SN		1: 889, 2: 701 AT DEPTH																			
COND SN		1: 480, 2: 303 AT SURFACE																			
<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/>	FLUOR (3)	<input type="checkbox"/>	CHAM	<input type="checkbox"/>	TRANSMISSOMETER	<input checked="" type="checkbox"/>	Cleaned air bleed valve												
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER													
1	30	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY						SAL.	NUTR.	CHL.	WHIT'S NUTR.							
2	20																				
3	14																				
4	8																				
5	5																				
6	0																				
7																					
8																					
9																					
10																					
11																					
12																					



4116

PG 33 OF

VESSEL				PROJECT & LEG				STATION DESIGNATION								
NOAA Ship MILLER FREEMAN																
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 116		TIME (GMT)		WET BULB (°C)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR								
0735603.32	N	16619.76	W	26	19	8	0	13	4.9	3.8	1248	160	0	0	121	55-4
CTD		TIMES		JD/TIME		DATA LOCATION										
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header								
PRESS SN 29972		START DOWN						CTDOE3								
TEMP SN 1: 889, 2: 701		AT DEPTH														
COND SN 1: 480, 2: 303		AT SURFACE						MAX. DEPTH = 116 m								
POS	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.						
1	115										4					
2	100													769		M360
3	75													640		M361
4	50													639		M362
5	40													638		M363
6	30													—		M364
7	20													637		M365
8	11													—		M366
9	11													—		M367
10	11													636		
11	0													635		M368
12																

Cleaned air bleed valve

TRANSMISSOMETER

CHAM

FLUOR (3)

PAR



VESSEL		PROJECT & LEG				STATION DESIGNATION																	
NOAA Ship MILLER FREEMAN																							
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WET BULB (°C)	DRY BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR													MIN		
075	55	59.0	11	N	166	35.1	2	W	26	17	9	8	06	09	4.8	4.0	14	38	320	10	0	130	57-1
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS															
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header															
PRESS SN 29972		START DOWN				CTD075																	
TEMP SN 1: 889, 2: 701		AT DEPTH																					
COND SN 1: 480, 2: 303		AT SURFACE																					
																				MAX. DEPTH = 125 m			
																				Cleaned air bleed valve			
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES		TRANSMISSOMETER		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER															
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY																		
1	125																						
2	100																						
3	75																						
4	50																						
5	40																						
6	30																						
7	20																						
8	10																						
9	0																						
10																							
11																							
12																							

VESSEL		PROJECT & LEG				STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																				
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=116				TIME (GMT)		WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN											
07656	12.56	N	16630	112W	26	APR	98	08	12	3.2	3.1	1538	306	8	321	113	58-1			
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS				
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID		File Name/Header												
PRESS SN 29972		START DOWN				CTD076														
TEMP SN 1: 889, 2: 701		AT DEPTH																		
COND SN 1: 480, 2: 303		AT SURFACE																MAX. DEPTH = 109 m		
PAR		FLUOR(3)		CHIAM		TRANSMISSOMETER		Cleaned air bleed valve												
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER						
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY						SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.					
1	109											16	792		M 387					
2	100												791		M 388					
3	75												790		M 389					
4	50												789		M 390					
5	40												788		M 391					
6	30												787		M 392					
7	20												786		M 393					
8	10												785		M 394					
9	0														M 395					
10																				
11																				
12																				

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VESSEL						PROJECT & LEG							STATION DESIGNATION														
NOAA Ship MILLER FREEMAN																											
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID								
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	(deg)	(m/s)	*	*	(m)									
79	56	23	54	N	16	5	23	17	W	26	APR	98	13	48	2	5	2	4	12	37	277	7	7	7	1	87	61-1
CTD																											
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID		File Name/Header		REMARKS																	
PRESS SN		29972		START DOWN				CTD079																			
TEMP SN		1: 889, 2: 701		AT DEPTH																							
COND SN		1: 480, 2: 303		AT SURFACE						MAX. DEPTH = 83 m																	
POS.				TRIP DEPTH				CTD CONVERTED MONITOR VALUES				SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER											
1				83																							
2				75																							
3				50																							
4				40																							
5				20																							
6				10																							
7				0																							
8																											
9																											
10																											
11																											
12																											

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VESSEL						PROJECT & LEG								STATION DESIGNATION										
NOAA Ship MILLER FREEMAN																								
CONSC CAST #	LATITUDE			LONGITUDE			DATE JD=			TIME (GMT)			DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
	DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN													
825652.53N	16402.65W	26 APR 98	1928	2.0	2.0	0833	230	13	894	73	64-1													
CTD												REMARKS												
TYPE & SN 9Plus 91660 DATA ON												for Rho												
PRESS SN 29972 START DOWN																								
TEMP SN 1: 889, 2: 701 AT DEPTH																								
COND SN 1: 480, 2: 303 AT SURFACE												MAX. DEPTH = 45 m												
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR(3) <input type="checkbox"/> CHLAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																								
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER								
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY					SALINITY														
1	32																							
2	21																							
3	15																							
4	8																							
5	5																							
6	0																							
7																								
8																								
9																								
10																								
11																								
12																								

[illegible]

VESSEL NOAA Ship MILLER FREEMAN				PROJECT & LEG				STATION DESIGNATION												
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
84	56	52.39 N	164	02.95 W	27	APR 2	9	808	3.9	3.6	984	7	290	21	862			72	64-16	
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS				
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header								
PRESS SN 29972				START DOWN								CTD084								
TEMP SN 1: 889, 2: 701				AT DEPTH																
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = 69 m				
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR (3) <input type="checkbox"/> CHAM <input type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve																				
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.	CHL.	WHIT'S NUTR.
1	69															5		805		M437
2	50																	804		M438
3	40																	803		M439
4	30																			M440
5	20																	802		M441
6	10																	801		M442
7	5																			M443
8	5																			
9	5																			
10	0	bux																800		M444
11																				
12																				





VESSEL NOAA Ship MILLER FREEMAN				PROJECT & LEG				STATION DESIGNATION														
CONSC CAST #		LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WIND DIRN.		WIND SPD.		STATION NAME/ID								
DEG	MIN	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	SEC	DIRN.	SPD.	TYPE	WEATHER							
87	54	41	71	N	166	14	26	W	28	APR	98	18	44	1.5	1.0	186	73	10	22	741	285	72-1
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS						
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header				no fluorescence						
PRESS SN 29972				START DOWN								CTD087				check of -OK!						
TEMP SN 1: 889, 2: 701				AT DEPTH																		
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = 280 m						
<input checked="" type="checkbox"/> PAR <input checked="" type="checkbox"/> FLUOR(10) <input type="checkbox"/> CHIAM <input checked="" type="checkbox"/> TRANSMISSOMETER <input checked="" type="checkbox"/> Cleaned air bleed valve				CTD CONVERTED MONITOR VALUES				SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER										
POS.	TRIP DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY	SALINITY	SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.											
1	275							32	806		M 448											
2	250								807		M 446											
3	200								808		M 447											
4	150								809		M 448											
5	100								810		M 449											
6	75								812		M 450											
7	50								813		M 451											
8	40								814		M 452											
9	30										M 453											
10	20								815		M 454											
11	10								816		M 455											
12	0	bucket							817		M 456											

Yes! No 811 used

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VESSEL		PROJECT & LEG				STATION DESIGNATION											
NOAA Ship MILLER FREEMAN																	
CONSC CAST #	LATITUDE	LONGITUDE	DATE JD=			TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID
0885442.42N	146615.81W	28 APR 98	1955	1.8	0.9	20.6	7330	23	781	274	72-3						
CTD		TIMES		JD/TIME		DATA LOCATION				REMARKS							
TYPE & SN 9Plus 91660		DATA ON				Tape/Diskette ID File Name/Header				for 2wo							
PRESS SN 29972		START DOWN				CJD088											
TEMP SN 1: 889, 2: 701		AT DEPTH															
COND SN 1: 480, 2: 303		AT SURFACE								MAX. DEPTH = 43 m							
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										Cleansed air bleed valve					
		PAR	FLUOR (10)	CHIAM	TRANSMISSOMETER	SAMPLE BOTTLE DATA					SAMPLE BOTTLE NUMBER						
						SALINITY					SAL.	NUTR.	CHL.	WHIT'S NUTR.			
1	38																
2	25																
3	18																
4	10																
5	6																
6	0																
7																	
8																	
9																	
10																	
11																	
12																	





VESSEL NOAA Ship MILLER FREEMAN				PROJECT & LEG				STATION DESIGNATION											
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD= 118		TIME (GMT)	DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD. (m/s)	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO													
090	54	28.46 N	166	01.94 W	28	APR	98	23	30	3.2	2.7	22	6	7	3	5	2	3	74-1
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS			
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header				w/o = 590			
PRESS SN 29972				START DOWN								CTD090							
TEMP SN 1: 889, 2: 701				AT DEPTH															
COND SN 1: 480, 2: 303				AT SURFACE												MAX. DEPTH = 504 m			
POS	TRIP DEPTH	CTD CONVERTED MONITOR VALUES		PAR		FLUOR (10)		CHAM		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER			
1	400	PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY									SAL.		NUTR.	CHL.	WHIT'S NUTR.	
2	300													21		818			M461
3	200															829			
4	100															830			
5	75															831			M462
6	50															832			
7	40															1601	✓		
8	30															1602	✓		
9	20															—	✓		M463
10	10															1603	✓		
11	0															1604	✓		
12																1604	✓		M464

[illegible]

[illegible]

VESSEL				PROJECT & LEG				STATION DESIGNATION											
NOAA Ship MILLER FREEMAN																			
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=119		TIME (GMT)		WET BULB	DRY BULB	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTOM DEPTH	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	(°C)	(°C)	(deg)	(m/s)	* * *	* * *	(m)				
09354	22.53	N	165	16.17	W	29	APR	9 8	632	3.2	2.1	2367	310	206	1	166	77-1		
CTD				TIMES				JD/TIME				DATA LOCATION				REMARKS			
TYPE & SN 9Plus 91660				DATA ON				Tape/Diskette ID				File Name/Header							
PRESS SN 29972				START DOWN															
TEMP SN 1: 889, 2: 701				AT DEPTH															
COND SN 1: 480, 2: 303				AT SURFACE															
				<input checked="" type="checkbox"/> PAR				<input checked="" type="checkbox"/> FLUOR				<input type="checkbox"/> CHIAM				<input type="checkbox"/> TRANSMISSOMETER			
																<input checked="" type="checkbox"/> Cleaned air bleed valve			
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		WHIT's NUTR.			
1																			
2	150																		
3	100																		
4																			
5	50																		
6	40																		
7	30																		
8	20																		
9	10																		
10	0																		
11																			
12																			

MAX. DEPTH = 156 m

VESSEL						PROJECT & LEG							STATION DESIGNATION								
NOAA Ship MILLER FREEMAN																					
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB (°C)	WET BULB (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (m/s)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID		
094	DEG	MIN	DEG	MIN	DAY	MO	HR	MIN													
	54	25.14	N	165	08.14	W	29	APR	98	755	2.9	1.1	236	7	340	13	431	134	78-1		
CTD		TIMES		JD/TIME		DATA LOCATION														REMARKS	
TYPE & SN		9Plus 91660		DATA ON		Tape/Diskette ID														File Name/Header	
PRESS SN		29972		START DOWN																CTD094	
TEMP SN		1: 889, 2: 701		AT DEPTH																	
COND SN		1: 480, 2: 303		AT SURFACE																MAX. DEPTH = 126 m	
POS.	TRIP DEPTH	<input checked="" type="checkbox"/> PAR		<input checked="" type="checkbox"/> FLUOR	<input type="checkbox"/> CHLOR	<input type="checkbox"/> TRANSMISSOMETER	<input checked="" type="checkbox"/> Cleaned air bleed valve														
		CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER							
		PRESSURE	PRI. TEMP.	SEC. TEMP.	SALINITY											SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.	
1	126																24	1635			M477
2	100																	1634			
3																					
4	50																	1633		✓	M478
5	40																	1632		✓	M479
6	30																			✓	
7	20																			✓	
8	10																	1631		✓	
9	0																	1630		✓	M480
10																					
11																					
12																					