

VESSEL		PROJECT & LEG				STATION DESIGNATION											
NOAA R/V MILLER FREEMAN		MF02-11															
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WET BULB (°C)	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									
0915828.59N	15101.25W	070	070	020	020	09	29	11	11	08	47	182	28	072	*	86	PX3
CTD		TIMES		JD/TIME		DATA LOCATION											
TYPE & SN		9+ SN 91220		DATA ON		File Name/Header											
PRESS SN		80020		START DOWN													
TEMP SN		710/884		AT DEPTH													
COND SN		915/530		AT SURFACE													
						MAX. DEPTH = 75 m											
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES				SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER							
		PRESSURE	PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.						
1	75																
2	60																
3	50																
4	40																
5	30																
6	20																
7	10																
8	0																
9																	
10																	
11																	
12																	

flVolts max = 0.4

$$f(V_{\text{olts}})_{\text{max}} = \Phi_{\text{J}}$$

VESSEL		PROJECT & LEG				STATION DESIGNATION																
NOAA RV MILLER FREEMAN		MF02-11																				
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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			
0935834	14	N	151	19	74	W	7	11	40	10	9	4	6	4	7	2	8	7	5	16	4	PX11
CTD				JD/TIME																REMARKS		
TYPE & SN		9+ S/N 91220		DATA ON																PX1		
PRESS SN		80020		START DOWN																		
TEMP SN		710/884		AT DEPTH																		
COND SN		915/530		AT SURFACE																MAX. DEPTH = 156 m		
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		PAR 4242		FLUOR 153		CHAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER				
1	156	PRESSURE	PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY															
2	125																					
3	100																					
4	75																					
5	60																					
6	50																					
7	40																					
8	30																					
9	20																					
10	10																					
11	0																					
12																						

Fl 10.45 max \approx 0.4

VESSEL		PROJECT & LEG		STATION DESIGNATION																	
NOAA RV MILLER FREEMAN		MF02-11																			
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)			
4945818	18	N	15056	93W	7	OCT	02	14	35	10.5		4947	219	226	72	69		UST1			
CTD	TIMES		JD/TIME		DATA LOCATION																
TYPE & SN	9+ SN 91220		DATA ON		File Name/Header																
PRESS SN	80020		START DOWN																		
TEMP SN	710/884		AT DEPTH																		
COND SN	915/530		AT SURFACE																		
				PAR 4242		FLUOR 153		CHAM 109		TRANSMISSOMETER		Cleared air bleed valve									
				CTD CONVERTED MONITOR VALUES																	
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	63													1120							
2	60													1121							
3	50													1122							
4	40													1123							
5	30													1124							
6	20													1125							
7	10													1126							
8	0													1127							
9																					
10																					
11																					
12																					

flths max = 0.45

VESSEL		PROJECT & LEG				STATION DESIGNATION												
NOAA RV MILLER FREEMAN		MF02-11																
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
0955	17.16	N	151.41	37W	07	10	02	15	22	14.2	09.3	7	2	2	1	3	6	2
REMARKS																		
UST 2																		
132 w/b																		
MAX. DEPTH = m																		
DATA LOCATION																		
Tape/Diskette ID File Name/Header																		
Cleaned air bleed valve																		
TRANSMISSOMETER																		
CHAM 109																		
CTD CONVERTED MONITOR VALUES																		
PAR 4242																		
FLUOR 153																		
SAMPLE BOTTLE DATA																		
SAMPLE BOTTLE NUMBER																		
POS.	TRIP DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY	SAL.	NUTR.	CHL.	WHIT'S NUTR.							
1	130								1128									
2	100								1129									
3	175								1130									
4	60								1131									
5	50								1132									
6	40								1133									
7	30								1134									
8	20								1135									
9	10								1136									
10	0								1137									
11	-																	
12																		

Fluor max = 0.4

VESSEL		PROJECT & LEG				STATION DESIGNATION											
NOAA RV MILLER FREEMAN		MF02-11															
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WET BULB (°C)	SEA STATE	WIND DIRN. (deg)	WIND SPD. (m/s)	WIND TYPE	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR									MIN
4965	15.89	N	151.46	W	13	07	00	16	22	14.6	4	2	2	2	6	2	1064513
CTD		TIMES		JD/TIME		DATA LOCATION											
TYPE & SN		9+ SN 91220		DATA ON		Tape/Diskette ID											
PRESS SN		80020		START DOWN		File Name/Header											
TEMP SN		710/884		AT DEPTH													
COND SN		915/530		AT SURFACE													
						MAX. DEPTH = 103 m											
						REMARKS											
						0513											
						v/o 103											
						Cleaned air bleed valve											
						TRANSMISSOMETER											
						ChAM 109											
						FLUOR 153											
						PAR 4242											
						CTD CONVERTED MONITOR VALUES											
POS	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER	
1	103																
2	75																
3	60																
4	50																
5	40																
6	30																
7	20																
8	10																
9	0																
10																	
11																	
12																	

U - underway sample bottle
 F1 Volls (max) $\approx \phi.4$

$$fI_{V_{eff}(max)} = 0.38$$
$$fI_{V_{eff}(max)} = 0.38$$

VESSEL		PROJECT & LEG				STATION DESIGNATION																	
NOAA RV MILLER FREEMAN		MF02-11																					
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		
0985758	64	N	15030	35	W	07	01	02	19	56	10.6	12.582	41	21	172	155	nr	62					
CTD		JD/TIME		DATA LOCATION																			
TYPE & SN		9+ SN 91220		DATA ON		19:56:00 GMT																	
PRESS SN		80020		START DOWN		19:56:00 GMT																	
TEMP SN		710/884		AT DEPTH		20:01:00 GMT																	
COND SN		915/530		AT SURFACE		20:09:00 GMT																	
						PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve									
POS.		TRIP DEPTH		SAMPLE BOTTLE DATA																			
				PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	150															✓ 0250							
2	100																						
3	76																			✓			
4	50																			✓			
5	31																			✓			
6	15																			✓			
7	10																			✓			
8	3																	4263		✓			
9																							
10																							
11																							
12																							

0.5 max fl

VESSEL		PROJECT & LEG		STATION DESIGNATION												
NOAA RV MILLER FREEMAN		MF02-11														
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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								
0995755.31N	15636.66W	07	10	07	10	07	20	44	16.7	1258	242	26	172		125	7465
CTD				JD/TIME				DATA LOCATION				REMARKS				
TYPE & SN 9+ SN 91220				DATA ON 20:45:00 GMT				Tape/Diskette ID				File Name/Header				
PRESS SN 80020				START DOWN 20:45:00 GMT												
TEMP SN 710/884				AT DEPTH 20:50:00 GMT												
COND SN 915/530				AT SURFACE 20:56:00 GMT								MAX. DEPTH = 122 m				
				<input type="checkbox"/> PAR 4242 <input type="checkbox"/> FLUOR 153 <input type="checkbox"/> CHAM 109 <input type="checkbox"/> TRANSMISSOMETER <input type="checkbox"/> Cleaned air bleed valve				SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER				
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY		SAL.	NUTR.	CHL.	WHIT'S NUTR.			
1	122									✓	4264					
2	102										265					
3	75										266					
4	51										267	✓				
5	41										268	✓				
6	30										269	✓				
7	20										270	✓				
8	10										271	✓				
9	3										4272	✓				
10																
11																
12																

bot
100
75
50
40
30
20
10
0

0.5 max f1

VESSEL		PROJECT & LEG				STATION DESIGNATION													
NOAA RV MILLER FREEMAN		MF02-11																	
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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)		
1006752.43 N	156	41.99	W	07	O	C	T	02	21	45	11.0	1358	237	191	72	87	na64		
CTD		JD/TIME		REMARKS															
TYPE & SN		DATA ON		File Name/Header															
PRESS SN		START DOWN																	
TEMP SN		AT DEPTH																	
COND SN		AT SURFACE		MAX. DEPTH = 83 m															
TRIP DEPTH		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA							
POS	CTD CONVERTED MONITOR VALUES	PRESSURE		PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY	SAL	NUTR.	CHL.	WHIT'S NUTR.							
1	604	83							✓	4273									
2	50	51								274	✓								
3	30	30								275	✓								
4	20	20								276	✓								
5	10	10								277	✓								
6	0	3								4278	✓								
7																			
8																			
9																			
10																			
11																			
12																			

0.55 max #1

VESSEL		PROJECT & LEG		STATION DESIGNATION																			
NOAA RV MILLER FREEMAN		MF02-11																					
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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	SEC	TYPE					
101	57	49.32	N	156	48.44	W	07	OCT	02	22	47	18	72	84	09465								
CTD				TIMES		JD/TIME		DATA LOCATION								REMARKS							
TYPE & SN				DATA ON		22:50:00 GMT		Tape/Diskette ID								File Name/Header							
PRESS SN				80020		22:50:00 GMT																	
TEMP SN				710/884		22:53:00 GMT																	
COND SN				915/530		22:57:00 GMT										MAX. DEPTH = 81 m							
				<input type="checkbox"/> PAR 4242		<input type="checkbox"/> FLUOR 153		<input type="checkbox"/> CHIAM 109		<input type="checkbox"/> TRANSMISSOMETER		<input type="checkbox"/> Cleaned air bleed valve											
POS.				CTD CONVERTED MONITOR VALUES																			
TRIP DEPTH				SAMPLE BOTTLE DATA																			
				PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL		NUTR.		CHL		WHIT'S NUTR.	
1				81												4079							
2				50												280							
3				41												281							
4				31												282							
5				20												283							
6				9												284							
7				3												10285							
8																							
9																							
10																							
11																							
12																							

0.5 max fl

VESSEL		PROJECT & LEG				STATION DESIGNATION													
NOAA RV MILLER FREEMAN		MF02-11																	
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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									MIN		
102	27	46.54	N	156	54.33	W	07	O	C	T	02	23	43	17	2	81	7966		
CTD		TIMES		JD/TIME		DATA LOCATION		REMARKS											
TYPE & SN		9+ S/N 91220		DATA ON		23:45:00 GMT		Tape/Diskette ID		File Name/Header									
PRESS SN		80020		START DOWN		23:45:00 GMT													
TEMP SN		710/884		AT DEPTH		23:49:00 GMT													
COND SN		915/530		AT SURFACE		23:54:00 GMT													
																MAX. DEPTH = 76 m			
																Cleared air bleed valve			
																TRANSMISSOMETER			
																SAMPLE BOTTLE DATA			
																SAMPLE BOTTLE NUMBER			
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL		NUTR.			
1	76													✓		4286			
2	50															287 ✓			
3	41															288 ✓			
4	31															289 ✓			
5	20															290 ✓			
6	9															291 ✓			
7	7															4292 ✓			
8																			
9																			
10																			
11																			
12																			

0.55 max fl

$0, S_{\max}$ $0, S_{\max}$

VESSEL		PROJECT & LEG				STATION DESIGNATION																			
NOAA RV MILLER FREEMAN		MF02-11																							
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WET BULB (°C)	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	(mb)	(m/s)	(m)				
1045	740.77	N	15106.38	W	08	OCT	02	21	36	10.9	158	8237	22	172	715	19618									
CTD		TIMES		JD/TIME		DATA LOCATION																			
TYPE & SN		DATA ON		01: 38:00 GMT		File Name/Header																			
PRESS SN		80020		01: 38:00 GMT																					
TEMP SN		710/884		01: 40:00 GMT																					
COND SN		915/530		01: 45:00 GMT																					
						MAX. DEPTH = 70 m																			
						Cleaned air bleed valve																			
						TRANSMISSOMETER																			
						CHAM 109																			
						FLUOR 153																			
						PAR 4242																			
						CTD CONVERTED MONITOR VALUES																			
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	70																								
2	50																								
3	30																								
4	20																								
5	11																								
6	3																								
7																									
8																									
9																									
10																									
11																									
12																									

0.55 max f1

$$0.6 \times 10^6$$

VESSEL		PROJECT & LEG				STATION DESIGNATION																											
NOAA RV MILLER FREEMAN		MF02-11																															
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)							
1065733.22N		15120.01W		08 OCT 02		032710.5				175822519172																							
CTD		TIMES		JD/TIME		DATA LOCATION		Tape/Diskette ID		File Name/Header		MAX. DEPTH = 68 m		REMARKS		cb01																	
TYPE & SN		9+ SN 91220		DATA ON		03:29:00																											
PRESS SN		80020		START DOWN		03:29:00																											
TEMP SN		710/884		AT DEPTH		03:31:00																											
COND SN		915/530		AT SURFACE		03:35:00																											
POS.		TRIP DEPTH		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.		CHL.		WHIT'S NUTR.									
1		68																															
2		52																															
3		28																															
4		10																															
5		2																															
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

0.45max f1

$0.55 \times f$

69
50
30
10

VESSEL		PROJECT & LEG				STATION DESIGNATION												
NOAA RV MILLER FREEMAN		MF02-11																
CONSC CAST #	LATITUDE	LONGITUDE		DATE JD=		TIME (GMT)		WET BULB	DRY BULB	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)	(mb)	*	(deg)	(m/s)	*	*	(m)		
10	85729.49N	15130.42W	08	OCT	02	0446	10.5			1748	235	21	172	157		157	693	
CTD		TIMES		JD/TIME		DATA LOCATION												
TYPE & SN		DATA ON		04:48:00 GMT		File Name/Header												
PRESS SN		START DOWN		04:48:00 GMT														
TEMP SN		AT DEPTH		04:53:00 GMT														
COND SN		AT SURFACE		05:00:00 GMT														
		PAR 4242		FLUOR 153		CHAM 109		TRANSMISSOMETER		Cleaned air bleed valve								
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.	CHL.	WHIT'S NUTR.
1	153													✓ 480				
2	125															81		
3	102															82		
4	75															83		
5	50															84	✓	
6	40															85	✓	
7	31															86	✓	
8	10															87	✓	
9	3															488	✓	
10																		
11																		
12																		

bot
125
100
75
50
40
30
10
0

VESSEL		PROJECT & LEG				STATION DESIGNATION																																		
NOAA RV MILLER FREEMAN		MF02-11																																						
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)																						
109	57	27	63	N	15	13	4	8	1	W	08	O	C	T	0	2	0	52	9	10	6	1	8	4	8	2	4	5	2	2	1	7	1	1	0	7	C	6	a	4
CTD		TIMES		JD/TIME		DATA LOCATION														REMARKS																				
TYPE & SN		DATA ON		05:31:00 GMT		File Name/Header																																		
PRESS SN		80020		05:31:06 GMT																																				
TEMP SN		710/884		05:35:00 GMT																																				
COND SN		915/530		05:40:00 GMT																MAX. DEPTH = 100 m																				
TRIP DEPTH		PAR 4242		FLUOR 153		CNAM 109		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA										SAMPLE BOTTLE NUMBER																		
POS.	DEPTH	PRESSURE	PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY	SAL	NUTR.	CHL	WHIT'S NUTR.																													
1	100																																							
2	72																																							
3	52																																							
4	40																																							
5	30																																							
6	20																																							
7	2																																							
8																																								
9																																								
10																																								
11																																								
12																																								

0.5 max p1

θ, S_{\max}

667	40	20	10	0
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0.55 x 10¹¹

60 50 40 20 0

VESSEL		PROJECT & LEG		STATION DESIGNATION																											
NOAA RV MILLER FREEMAN		MF02-11																													
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)					
1125726.12N		15119.54W		80CT02		082316.2								1937		252		252		252		252		252		252		154		664	
CTD		TIMES		JD/TIME		DATA LOCATION		Tape/Diskette ID		File Name/Header		REMARKS																			
TYPE & SN		9+ SN 91220		DATA ON																											
PRESS SN		80020		START DOWN																											
TEMP SN		710/884		AT DEPTH																											
COND SN		915/530		AT SURFACE																											
POS		TRIP DEPTH		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL		NUTR.		CHL.		WHIT'S NUTR.							
1		150																													
2		125																													
3		100																													
4		75																													
5		60																													
6		40																													
7		30																													
8		20																													
9		0																													
10																															
11																															
12																															

Fluor (max) = 4.35

[illegible]

VESSEL		PROJECT & LEG				STATION DESIGNATION																		
NOAA RV MILLER FREEMAN		MF02-11																						
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)	(°C)			(deg)	(m/s)	*	*	*	*		(m)			
114	57	22	15	12	4	6	8	0	2	1	0	1	2	3	7	2	7	2	7	2	1	3	9	C6664
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS								
TYPE & SN		DATA ON				Tape/Diskette ID										File Name/Header								
PRESS SN		START DOWN																						
TEMP SN		AT DEPTH																						
COND SN		AT SURFACE														MAX. DEPTH = m								
						<input type="checkbox"/> PAR 4242 <input type="checkbox"/> FLUOR 153 <input type="checkbox"/> CHIAM 109 <input type="checkbox"/> TRANSMISSOMETER <input type="checkbox"/> Cleaned air bleed valve										SAMPLE BOTTLE NUMBER								
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.				
1	132													4184										
2	100													4185										
3	75													4186										
4	40													4187										
5	20													4188										
6	0													4189										
7																								
8																								
9																								
10																								
11																								
12																								

0 20 40 75

$f1 \text{ Volt}_{(max)} \approx 2.5$

VESSEL		PROJECT & LEG				STATION DESIGNATION																								
NOAA RV MILLER FREEMAN		MF02-11																												
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)										
11	55	72	4	52	N	15	13	4	63	W	08	0	2	10	49	9	8	1	9	3	7	25	3	20	27	2	8	1	66	5
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS														
TYPE & SN		9+ SN 91220		DATA ON		Tape/Diskette ID										File Name/Header														
PRESS SN		80020		START DOWN																										
TEMP SN		710/884		AT DEPTH																										
COND SN		915/530		AT SURFACE												MAX. DEPTH = m														
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL		NUTR.		CHL.		WHIT'S NUTR.						
1	75																	u		190										
2	50																	u		191										
3	30																	u		192										
4	20																	u		193										
5	10																	u		194										
6	0																	u		195										
7																														
8																														
9																														
10																														
11																														
12																														

Fluor (max) = 4.5 / Cable jumped off forward side of winch when bring up, after dack int shot down, Gilly fixed

$$f1_{\text{Voll(max)}} = 4.6$$
$$f1_{\text{Voll(max)}} = 4.6$$

$$f_{\text{Volts(max)}} \approx \phi_{.6}^+$$

VESSEL		PROJECT & LEG				STATION DESIGNATION																					
NOAA R/V MILLER FREEMAN		MF02-11																									
CONSC CAST #	57 14	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)								
1	18	57	14	15	23	52	W	08	13	48	9.3	19	3	7	2	4	8	2	3	2	7	2	1	5	4		
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS											
TYPE & SN		9+ SN 91220		DATA ON		Tape/Diskette ID										File Name/Header											
PRESS SN		80020		START DOWN																							
TEMP SN		710/884		AT DEPTH																							
COND SN		915/530		AT SURFACE												MAX. DEPTH = m											
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	100																			u 205							
2	75																			u 206							
3	60																			u 207							
4	40																			u 208							
5	20																			u 209							
6	0																			u 210							
7																				u 211							
8																											
9																											
10																											
11																											
12																											

F1 Volt(max) = 0.5 / Seven bottles closed, 6 marked as fired
 Assume 2 fired at surface / bottle 6 looked like 20m from
 chl samples - Devalwisgarber

$$f(V_{\text{Hts}}(\text{max})) \leq \Phi.55$$
$$f(V_{\text{Hts}}(\text{max})) \leq \Phi.55$$

VESSEL		PROJECT & LEG		STATION DESIGNATION																					
NOAA RV MILLER FREEMAN		MF02-11																							
CONSC	57 12	151 14		DATE JD=		TIME (GMT)		WET BULB		SEA STATE		WIND DIRN.		WIND SPD.		CLOUD (amt)		WEATHER		BOTTOM DEPTH		STA. NAME/ID			
CASE #	DEG MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	(deg)	(m/s)	*	*	(m)								
1205712.47N	151 14.45W	151	14.45	08	10	02	15	33	9.2	.	194	7	26	4	27	57	2	13	5			2605			
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS									
TYPE & SN		DATA ON				Tape/Diskette ID		File Name/Header												c6c5					
PRESS SN		80020																							
TEMP SN		710/884																							
COND SN		915/530																		MAX. DEPTH = m					
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		FLUOR 153		CHAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	1304																								
2	1404																								
3	35																								
4	40																								
5	30																								
6	20																								
7	10																								
8	0																								
9																									
10																									
11																									
12																									

$$f_{Net(max)} = 0.6$$

VESSEL				PROJECT & LEG				STATION DESIGNATION													
NOAA R/V MILLER FREEMAN				MF02-11																	
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=			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												
121	57	24.76	N	150	32.64	W	08	0	21	18	21	9.6	1847	274	26	162	463	26x1			
CTD		TIMES		JD/TIME		DATA LOCATION															
TYPE & SN		9+ S/N 91220		DATA ON		File Name/Header															
PRESS SN		80020		START DOWN																	
TEMP SN		710/884		AT DEPTH																	
COND SN		915/530		AT SURFACE		MAX. DEPTH = 456 m															
TRIP DEPTH		CTD CONVERTED MONITOR VALUES																			
		PAR 4242		FLUOR 153		CHAM 109		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA							SAMPLE BOTTLE NUMBER		
		PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	436													4		219					
2	356													4		220					
3	256													4		221					
4	156													4		222					
5	100													4		223					
6	75													4		224					
7	50													4		225					
8	46													4		226					
9	20													4		227					
10	10													4		228					
11	6													4		229					
12																					

f1 Volt(max) = 0.6

[illegible]
$$F1_{V_{th}(max)} = 4.5$$

VESSEL		PROJECT & LEG		STATION DESIGNATION																					
NOAA R/V MILLER FREEMAN		MF02-11																							
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						
123	57	28	72	N	15	04	51	14	W	48	0	2	20	3	4	9	2	1	7	2	1	0	0	96	K3
CTD		TIMES		JD/TIME		DATA LOCATION																			
TYPE & SN		9+ SN 91220		DATA ON		File Name/Header																			
PRESS SN		80020		START DOWN		20:36:00 GMT																			
TEMP SN		710/884		AT DEPTH		20:41:00 GMT																			
COND SN		915/530		AT SURFACE		20:44:00 GMT																			
MAX. DEPTH =		96		m																					
REMARKS		a b x 3																							

POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES				SAMPLE BOTTLE DATA				SAMPLE BOTTLE NUMBER				WHIT'S NUTR.
		PRESSURE	PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY	SAL.	NUTR.	CHL.				
1	96													
2	75													
3	51													
4	31													
5	14													
6	4													
7														
8														
9														
10														
11														
12														

bot 45 50 30 15 0

Ran out of numbered labels - went
to plot using Cast - bot

0.6 max fl

VESSEL		PROJECT & LEG		STATION DESIGNATION																							
NOAA RV MILLER FREEMAN		MF02-11																									
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)									
12	45	34.78	N	150	55.46	W	08	0	21	47	9.1	18.48	2	2	2	2	5	1	72	86	261X4						
CTD		TIMES		JD/TIME		DATA LOCATION																					
						File Name/Header																					
TYPE & SN		9+ SN 91220		DATA ON		21:50:00 GMT Tape/Diskette ID																					
PRESS SN		80020		START DOWN		21:50:00 GMT																					
TEMP SN		710884		AT DEPTH		21:53:00 GMT																					
COND SN		915530		AT SURFACE		21:57:00 GMT																					
						PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve													
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES																							
				PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	43																			✓		124-1					
2	52																					124-2		✓			
3	30																					124-3		✓			
4	10																					124-4		✓			
5	2																					124-5		✓			
6																											
7																											
8																											
9																											
10																											
11																											
12																											

50
30
10
0

0.5 max & 1

[illegible]

0,55 max f1

[illegible]

0.65 max fl

VESSEL		PROJECT & LEG				STATION DESIGNATION														
NOAA RV MILLER FREEMAN		MF02-11																		
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	
1275750	61	N	151	21.4	W	09	OCT	02	08.4		19.5	7	30	5	31	1	72	61	a6x7	
CTD		TIMES		JD/TIME		DATA LOCATION														
TYPE & SN		DATA ON		01:30:00 GMT		File Name/Header														
PRESS SN		80020		01:30:00 GMT																
TEMP SN		710/884		01:32:00 GMT																
COND SN		915/530		01:34:00 GMT																
MAX. DEPTH =		58		m																
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER						
		PAR 4242	FLUOR 153	CHIAM 109	TRANSMISSOMETER	Cleaned air bleed valve														
		PRESSURE	PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY													
1	58																			
2	28																			
3	10																			
4	3																			
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

0.7 max f1

VESSEL		PROJECT & LEG				STATION DESIGNATION															
NOAA R/V MILLER FREEMAN		MF02-11																			
CONC. CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		WET BULB (°C)	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				
128	57	55.49	N	151	29.07	W	06	9	O	C	T	0	2	02	33	8.3	1958	3013	2172	70	96x8
CTD		TIMES		JD/TIME		REMARKS															
TYPE & SN		9+ S/N 91220		DATA ON		02:37:00 GMT		Tape/Diskette ID File Name/Header													
PRESS SN		80020		START DOWN		02:37:00 GMT															
TEMP SN		710/884		AT DEPTH		02:39:00 GMT															
COND SN		915/530		AT SURFACE		02:43:00 GMT		MAX. DEPTH = 66 m													
POS. TRIP DEPTH		1 66		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		CLEANED AIR BLEED VALVE		SAMPLE BOTTLE NUMBER							
		2 40												SAMPLE BOTTLE DATA							
		3 19												SALINITY							
		4 10												SEC. SALINITY							
		5 3												PRI. SALINITY							
		6												SEC. TEMP.							
		7												PRI. TEMP.							
		8												PRESSURE							
		9												WHIT'S NUTR.							
		10												NUTR.							
		11												CHL.							
		12												NUTR.							

0.7 max fl

0.45 max f/

VESSEL		PROJECT & LEG				STATION DESIGNATION														
NOAA R/V MILLER FREEMAN		MF02-11																		
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTOM DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	*	(deg)	(m/s)	*	*	(m)	
13058	06	01	15	38	72	W	09	04	09	7.7		21.58	3	1	2	3	1	172	107	a6x10
CTD		TIMES		JD/TIME		DATA LOCATION														
TYPE & SN		DATA ON		04:12:00 GMT		File Name/Header														
PRESS SN		START DOWN		04:12:00 GMT																
TEMP SN		AT DEPTH		04:16:00 GMT																
COND SN		AT SURFACE		04:20:00 GMT																
						MAX. DEPTH = 103 m														
POS.	TRIP DEPTH	CTD CONVERTED MONITOR VALUES										Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER				
		PAR 4242	FLUOR 153	CHIAM 109	TRANSMISSOMETER	SALINITY					SAL.		NUTR.		CHL.		WHIT'S NUTR.			
						PRI. TEMP.	SEC. TEMP.	PRI. SALINITY	SEC. SALINITY	SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.		
1	103											✓		130-1						
2	76													1-2						
3	50													1-3		✓				
4	30													1-4		✓				
5	3													130-5		✓				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

0.25 max fl

VESSEL		PROJECT & LEG				STATION DESIGNATION													
NOAA RV MILLER FREEMAN		MF02-11																	
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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									MIN		
13	158	01.21	N	151	41.71	W	09	0	C	10	2	04	47	7.8	2158	29628	172	130	96X11
CTD		TIMES		JD/TIME		DATA LOCATION													
TYPE & SN		9+ SN 91220		DATA ON		File Name/Header													
PRESS SN		80020		START DOWN		04:49:00 GMT													
TEMP SN		710/884		AT DEPTH		04:54:00 GMT													
COND SN		915/530		AT SURFACE		04:59:00 GMT													
POS.		TRIP DEPTH		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA					
														SAMPLE BOTTLE NUMBER					
														SAL. NUTR. CHL. WHIT'S NUTR.					
1	128													✓ 131-1					
2	101													-2					
3	75													-3					
4	50													-4 ✓					
5	20													-5 ✓					
6	11													-6 ✓					
7	3													131-7 ✓					
8																			
9																			
10																			
11																			
12																			

0.3 max fl

VESSEL		PROJECT & LEG				STATION DESIGNATION															
NOAA R/V MILLER FREEMAN		MF02-11																			
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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									MIN				
13258	03.58	N	15145.98	W	09	OCT	02	05	30	7.4	2158	293	281	72	166	916X12					
CTD		TIMES		JD/TIME		DATA LOCATION															
TYPE & SN		DATA ON		05:32:00		File Name/Header															
PRESS SN		80020		05:32:00 GMT																	
TEMP SN		710/884		05:39:00 GMT																	
COND SN		915/530		05:48:00 GMT																	
						MAX. DEPTH = 163 m															
TRIP DEPTH		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA									
POS.	TRIP DEPTH	PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	163													✓		132-1					
2	126															1-2					
3	101															1-3					
4	75															-4					
5	50															-5		✓			
6	30															-6		✓			
7	10															-7		✓			
8	2															132-8		✓			
9																					
10																					
11																					
12																					

0.3 max fl

VESSEL NOAA R/V MILLER FREEMAN				PROJECT & LEG MF02-11				STATION DESIGNATION																					
CONSC CAST #		LATITUDE		LONGITUDE		DATE JD=		TIME (GMT)		DRY BULB		WET BULB		SEA STATE		VISIBILITY		WIND DIRN.		WIND SPD.		CLOUD (amt)		WEATHER		BOTTOM DEPTH		STA. NAME/ID	
DEG	MIN	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	*	(deg)	(m/s)	*	*	(m)	*	*	*	*	(m)				
133	58	06	.33	N	151	48	.23	W	09	OCT	02	06	15			6.9			225	83	06	21	172			95	a	6	13
CTD		TIMES		JD/TIME		DATA LOCATION		Tape/Diskette ID		File Name/Header		REMARKS																	
TYPE & SN		9+ S/N 91220		DATA ON		06:17:00 GMT																							
PRESS SN		80020		START DOWN		06:17:00 GMT																							
TEMP SN		710/884		AT DEPTH		06:21:00 GMT																							
COND SN		915/530		AT SURFACE		06:25:00 GMT																							
MAX. DEPTH =		9/		m																									
POS.		TRIP DEPTH		CTD CONVERTED MONITOR VALUES		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA													
PRESSURE		PRI. TEMP.		SEC. TEMP.		PRI. SALINITY		SEC. SALINITY		SALINITY		SAL.		NUTR.		CHL.		WHIT'S NUTR.											
1	91																												
2	75																												
3	50																												
4	30																												
5	10																												
6	3																												
7																													
8																													
9																													
10																													
11																													
12																													

0.3 max fl

VESSEL NOAA RV MILLER FREEMAN				PROJECT & LEG MF02-11				STATION DESIGNATION																							
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	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(°C)	(mb)	*	*	*	(deg)	(m/s)	*	*	*	(m)									
134	58	08	39	N	151	50	48	W	09	O	C	T	02	06	46	6.9	.	22	58	3	12	20	172								
CTD		TIMES		JD/TIME		DATA LOCATION		Tape/Diskette ID		File Name/Header		REMARKS																			
TYPE & SN		9+ S/N 91220		DATA ON		06:47:00 GMT																									
PRESS SN		80020		START DOWN		06:47:00 GMT																									
TEMP SN		710/884		AT DEPTH		06:50:00 GMT																									
COND SN		915/530		AT SURFACE		06:53:00 GMT						MAX. DEPTH = 52 m																			
POS.		TRIP DEPTH		PAR 4242		FLUOR 153		CHAM 109		TRANSMISSOMETER		Cleared air bleed valve		SAMPLE BOTTLE DATA																	
1		52																													
2		31																													
3		3																													
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

0.3 max fl

VESSEL		PROJECT & LEG		STATION DESIGNATION																					
NOAA RV MILLER FREEMAN		MF02-11		Cruiser 0203-13																					
CONSC CAST #	LATITUDE		LONGITUDE		DATE JD=		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						
135	27	43.49	N	152	18.39	W	09	0	10	2	13	39	7.0	24.58	2	9	6	19	17	2	156	CB13			
CTD		TIMES		JD/TIME		DATA LOCATION										REMARKS									
TYPE & SN		9+ S/N 91220		DATA ON		13:41:00 GMT		Tape/Diskette ID		File Name/Header															
PRESS SN		80020		START DOWN		13:41:00 GMT																			
TEMP SN		710/884		AT DEPTH		13:45:00 GMT																			
COND SN		915/530		AT SURFACE		13:51:00 GMT														MAX. DEPTH = 151 m					
POS.		TRIP DEPTH		PAR 4242		FLUOR 153		CHIAM 109		TRANSMISSOMETER		Cleaned air bleed valve		SAMPLE BOTTLE DATA		SAMPLE BOTTLE NUMBER		SAL.		NUTR.		CHL.		WHIT'S NUTR.	
1	151																								
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
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